ANNEX-VII

DATA OF RADIO TESTS

Description

The Study Team conducted HF Data Transmission Test and VHF Radio Interference Measurement in period of Second Works in Bangladesh. The component, the procedure and the data of the test are shown in this section.

1. HF Data Transmission Test

1) Outline of Test

a. Outline of Test

Text data was transmitted from one test site to another test site alternately under 16 transmission conditions, which are various frequencies, data size and baud rate. The data transmission was tried 3 times per one condition. And test was conducted in the morning time, daytime and nighttime.

Test items are as follows:

-Checking the success or failure of data transmission

-Checking the time when data was transmitted

b. Component of Test Equipment

The component of HF data transmission test mainly consists of antenna, cable, HF transceiver and laptop PC. Laptop PC is used for operating HF transceiver and checking the success or failure of data transmission. The component of the equipment and the list of the equipment are shown in **Figure1.1** and **Table 1.1 (1).**

c. Test Condition

Test was conducted under the following conditions.

Condition of HF data transmission test

Item	Condition	Note
Radio power	125 W	Same as BWDB's radio equipment
Antenna location		
Dhaka	Top of temporary antenna pole on roof of BWDB Green Road Office	Antenna height :approx.GL+23m
Sylhet	Top of temporary antenna pole on roof of BWDB Sylhet Office	Antenna height :approx.GL+12m
Antenna	V-type dipole antenna	
Test frequency	3.305/4.442/5.089/8.188 MHz	4 of the existing BWDB's 6 frequencies (3.305/4.442/4.490/5.089/ 8.157/8.188MHz) are selected
Transmitted text data size	100kbyte/1kbyte	Assuming
Baud rate	1200baud/2400baud	Assuming

The 16 transmission conditions are set in combination of the test frequency, the transmitted data size and the baud rate as shown in the table of the next page. The selection of the test frequency, the transmitted data size and the baud rate is based on the following concept.

Frequency:

BWDB has 6 frequencies (3.305MHz, 4.442MHz, 4.490MHz, 5.089MHz, 8.157MHz and 8.188MHz) so that these 6 frequencies can be used for the test. However, the test at 4.490MHz and 8.157MHz was omitted for the reason that characteristics of 4.442MHz and 4.490MHz are considered almost same and 8.157MHz is used for the regular operation of voice communication. Therefore 3.305MHz, 4.442MHz, 5.089MHz and 8.188MHz were set as the test frequencies.

Data size:

Data size transmitted from the regional office to the central FFWC is assumed to be approximately a capacity from 100byte to 1kbyte on assumption that the number of the channel is about 25 to 250 and the data size for one channel is 4byte. Therefore Data size to be transmitted is set as 100byte and 1kbyte.

Baud rate:

At preliminary test in Dhaka prior to conducting actual test, it was found that data transmission at a baud rate less than 1200 baud was prone to be affected by the noise. Therefore 1200 baud and 2400 baud are set as the test condition.

Transmission Conditions

Transmission condition No.	Frequency [MHz]	Baud Rate / Data Size
1	3.305	2400Baud / 100byte
2		2400Baud / 1kbyte
3		1200Baud / 100byte
4		1200Baud / 1kbyte
5	4.442	2400Baud / 100byte
6		2400Baud / 1kbyte
7		1200Baud / 100byte
8		1200Baud / 1kbyte
9	5.089	2400Baud / 100byte
10		2400Baud / 1kbyte
11		1200Baud / 100byte
12		1200Baud / 1kbyte
13	8.188	2400Baud / 100byte
14		2400Baud / 1kbyte
15		1200Baud / 100byte
16		1200Baud / 1kbyte

2) Test Procedure

The following is procedure for conducting HF data transmission test.

1. Dhaka site transmitted the data to Sylhet site under each of 16 transmission conditions through the laptop PC. The data transmission was conducted 3 times per one condition.
2. Every transmission, Sylhet site checked whether the data was completely received or

not. If some garbled data were found in the display of the laptop PC of Sylhet site, Sylhet site counted the number of the garbled data.

3. In the same way, Sylhet site transmits the data to Dhaka site under each of 16 transmission conditions and checks whether some garbled data appear.

3) Test Result

Result of HF data transmission test is summarized in **Table 1.2**. Data which are actually measured are attached in **Table 1.3**.

2 VHF Radio Interference Measurement

1) Outline of Test

a. Outline of Test

The Study Team measured the electric field strength of the existing BWDB's 2 frequencies (149.250MHz and 166.075MHz) at the test sites, which are shown in the sub-clause "c", by using the measuring receiver.

b. Component of Test Equipment

The component of VHF radio interference measurement mainly consists of antenna, cable, measuring receiver and recorder. The component of the equipment and the list of the equipment are shown in **Figure2.1** and **Table 1.1 (2).**

c: Test Condition

Test was conducted under the following condition.

Item	Condition	Note
Antenna location		
Amalshid	Top of temporary antenna pole installed near existing telemeter station	Antenna height :approx. GL+10m
Kanaighat	Top of existing HF antenna for wireless station	Antenna height :approx. GL+14m
Sarighat	ditto	Antenna height :approx. GL+14m
Durgapur	ditto	Antenna height :approx. GL+14m
Nakuagaon	ditto	Antenna height :approx. GL+14m
Kurigram	ditto	Antenna height :approx. GL+14m
Noonkhawa	ditto	Antenna height :approx. GL+14m
Dalia	ditto	Antenna height :approx. GL+14m
Panchagarh	ditto	Antenna height :approx. GL+14m
Pankha	ditto	Antenna height :approx. GL+14m
Comilla	ditto	Antenna height :approx. GL+14m
Laurergarh	ditto	Antenna height :approx. GL+14m
Bhairab Bazar	ditto	Antenna height :approx. GL+14m
Antenna	Broadband dipole antenna	
Test frequency	149.250 / 166.075 MHz	
Duration of measurement	3 hours	

2) Test Procedure

The electric field strength was measured by the measuring receiver at each frequency and recorded by the graphic recorder. Measurement of the electric field strength was continued for 3 hours every frequency.

3) Test Result

Result of VHF radio interference measurement is summarized in **Table 2.1**. Data which are actually measured are attached in **Table 2.2**.

Table1.1 Equipment List of Radio Test

(1) Equipment List of HF Data Transmission Test

Item	Model	Manufacturer	Q'ty
1) HF transceiver	JSB-912AM	Japan Radio Co., LTD	1set x 2
2) Antenna tuner	NFC-196	Japan Radio Co., LTD	1set x 2
3) Antenna	730V-1	Creative Design Corp.	1set x 2
4) Laptop PC	Latitude	DELL	1set x 2
5) Coaxial cable 5D-2V		Japan Radio Co., LTD	50m x 2
6) Control cable		Japan Radio Co., LTD	50m x 2
7) RS-232C cable		Japan Radio Co., LTD	1set x 2
8) Data cable (flat cable)		Japan Radio Co., LTD	1set x 2
9) USB Hub		I-O Data	1set x 2
10) USB Interface adapter between USB and RS232C		I-O Data	3sets x 2
11) Antenna pole (height 5m)			1set x 2

(2) Equipment List of VHF Data Transmission Test

Item	Model	Manufacturer	Q'ty
1) Broadband Dipole Antenna	BD150	Japan Radio Co., LTD	1set
2) Coaxial Cable, 8D-2V		OCC Corporation	40m
3) Basement for Pole	BS-78	Nippon Antenna	1set
4) Expandable Pole	AP-10	Nippon Antenna	1set
5) Measuring Receiver	ML-524B	Anritsu	1set
6) Graphic Recorder	OR300E	Yokokawa	1set

Table 1.2 Summary of Test Result for HF Data Transmission Test

Data	Time	Transmitter	Receiver	Frequency [MHz]														Note
				3.305			4.442			5.089			8.188			8.157 (tested for reference)			
				Successful Trial	Number of Trial	Ratio of Success	Successful Trial	Number of Trial	Ratio of Success	Successful Trial	Number of Trial	Ratio of Success	Successful Trial	Number of Trial	Ratio of Success	Successful Trial	Number of Trial	Ratio of Success	
July 22, 2003	12:24-13:59	Dhaka	Sylhet										12	12	100%	12	12	100%	*1
	11:27-12:19	Sylhet	Dhaka										9	12	75%	12	12	100%	*1
	15:12-15:48	Dhaka	Sylhet										11	12	92%	11	12	92%	*1
	14:24-15:03	Sylhet	Dhaka										6	12	50%	5	12	42%	*1
	20:47-21:57	Dhaka	Sylhet	0	7	0%	5	12	42%	8	12	67%	10	12	83%				*2
July 26, 2003	5:26-6:04	Dhaka	Sylhet	0	7	0%	0	12	0%	0	12	0%	0	12	0%				*2
	6:37-7:22	Sylhet	Dhaka				0	12	0%	2	12	17%	7	12	58%				*2
	8:32-9:04	Dhaka	Sylhet				0	12	0%	0	12	0%	4	12	33%				*2
	7:47-8:29	Sylhet	Dhaka				0	12	0%	0	12	0%	6	12	50%				*2
	9:59-10:31	Dhaka	Sylhet				0	12	0%	0	12	0%	11	12	92%				*2
	10:34-11:08	Sylhet	Dhaka				0	12	0%	0	12	0%	0	12	0%				*2
	20:12-21:02	Sylhet	Dhaka				0	12	0%	0	12	0%	0	12	0%				*2
Total				0	14	0%	5	96	5%	10	96	10%	76	144	53%	40	48	83%	

*1: Voice was not communicated at 3.305, 4.442, 5.089MHz so that data was not considered to be transmitted.
Therefore, data transmission test at these 3 frequencies was omitted.

*2: Due to trouble of test equipment, data transmission test at 3.305MHz was not carried out.
However, voice was not communicated at 3.305MHz so that data was not considered to be transmitted.

**:The successful trial in the above table is summed up at every frequency by the reason
that the success and failure of data transmission does not depend on baud rate and data size.

Table1.3 (1) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 22-07-2003 (Morning)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka (KOUEI No.1)	Sylhet (KOUEI No.2)	1-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		1-2		2400Baud / 1kbyte	*1		*1		*1		
		1-3		1200Baud / 100byte	*1		*1		*1		
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442 (CH 1)	2400Baud / 100byte	*1		*1		*1		
		1-6		2400Baud / 1kbyte	*1		*1		*1		
		1-7		1200Baud / 100byte	*1		*1		*1		
		1-8		1200Baud / 1kbyte	*1		*1		*1		
		1-9'	8.157 (CH 4)	2400Baud / 100byte	12:24:13	0	13:34:13	0	13:36:25	0	100%
		1-10'		2400Baud / 1kbyte	13:37:16	0	13:37:55	0	13:38:32	0	100%
		1-11'		1200Baud / 100byte	13:39:43	0	13:40:16	0	13:40:49	0	100%
		1-12'		1200Baud / 1kbyte	13:41:34	0	13:42:16	0	13:42:57	0	100%
		1-13	8.188 (CH 5)	2400Baud / 100byte	13:45:57	0	13:46:32	0	13:47:07	0	100%
		1-14		2400Baud / 1kbyte	13:53:17	0	13:53:57	0	13:54:35	0	100%
		1-15		1200Baud / 100byte	13:56:06	0	13:56:45	0	13:57:15	0	100%
		1-16		1200Baud / 1kbyte	13:57:58	0	13:58:38	0	13:59:16	0	100%
Sylhet (KOUEI No.2)	Dhaka (KOUEI No.1)	2-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		2-2		2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442 (CH 1)	2400Baud / 100byte	*1		*1		*1		
		2-6		2400Baud / 1kbyte	*1		*1		*1		
		2-7		1200Baud / 100byte	*1		*1		*1		
		2-8		1200Baud / 1kbyte	*1		*1		*1		
		2-9'	8.157 (CH 4)	2400Baud / 100byte	11:27:37	0	11:32:57	0	11:33:56	0	100%
		2-10'		2400Baud / 1kbyte	11:34:36	0	11:35:34	0	11:36:13	0	100%
		2-11'		1200Baud / 100byte	11:41:13	0	11:42:22	0	11:45:19	0	100%
		2-12'		1200Baud / 1kbyte	11:46:05	0	11:46:49	0	11:47:34	0	100%
		2-13	8.188 (CH 5)	2400Baud / 100byte	11:50:53	0	11:51:40	0	11:52:16	0	100%
		2-14		2400Baud / 1kbyte	11:53:16	x	11:54:34	x	11:58:45	0	33.33%
		2-15		1200Baud / 100byte	12:10:35	0	12:12:37	0	12:13:54	0	100%
		2-16		1200Baud / 1kbyte	12:14:48	0	12:15:52	x	12:19:09	0	66.67%
Note *1	Voice was not communicated at 3.305, 4.442 and 5.089MHz so that data was not considered to be transmitted. Therefore, data transmission test at these 3 frequencies was omitted.										

Table1.3 (2) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:22/07/2003 (Morning)
Antenna Height : 5m
Roof Height : 12 m

Test No.1-9'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		12:23:43	13:33:42	13:35:54		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	37	18	43		33

Test No. 1-10'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:36:45	13:37:25	13:38:01		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	42	47	41		43

Test No. 1-11'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:39:14	13:39:47	13:40:20		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	47	43	44		45

Test No. 1-12'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:41:05	13:41:47	13:42:28		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	40	42	40		41

Table1.3 (3) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:22/07/2003 (Morning)
Antenna Height : 5m
Roof Height : 12 m

Test No.1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:45:26	13:46:02	13:46:36		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	41	48	48		46

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:52:46	13:53:26	13:54:05		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	17	39	46		34

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:55:37	13:56:16	13:56:46		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	40	34	34		36

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		13:57:29	13:58:09	13:58:47		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	37	46	40		41

Table1.3 (4) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:22/07/2003 (Morning)
Antenna Height : 5m
Roof Height : 23 m

Test No.2-9'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:27:37	11:32:57	11:33:56		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 13.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	37	33	37		36

Test No. 2-10'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:34:36	11:35:34	11:36:13		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 13.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	38	38	40		39

Test No. 2-11'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:41:13	11:42:22	11:45:19		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 13.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	43	36	34		38

Test No. 2-12'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:46:05	11:46:49	11:47:34		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 13.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	41	42	42		42

Table1.3 (5) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:22/07/2003 (Morning)
Antenna Height : 5m
Roof Height : 23 m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:50:53	11:51:40	11:52:16		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	36	36	34		35

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:53:16	11:54:34	11:58:45		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	35		35

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		12:10:35	12:12:37	12:13:54		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	40	36	36		37

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		12:14:48	12:15:52	12:19:09		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	X	0		0
Antenna Input Level	dBμV	36	X	34		35

Table1.3 (6) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 22-07-2003(Afternoon)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka (KOUEI No.1)	Sylhet (KOUEI No.2)	1-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		1-2		2400Baud / 1kbyte	*1		*1		*1		
		1-3		1200Baud / 100byte	*1		*1		*1		
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442 (CH 1)	2400Baud / 100byte	*1		*1		*1		
		1-6		2400Baud / 1kbyte	*1		*1		*1		
		1-7		1200Baud / 100byte	*1		*1		*1		
		1-8		1200Baud / 1kbyte	*1		*1		*1		
		1-9'	8.157 (CH 4)	2400Baud / 100byte	15:12:35	x	15:13:17	0	15:14:14	0	66.67%
		1-10'		2400Baud / 1kbyte	15:17:07	0	15:17:54	0	15:18:43	0	100%
		1-11'		1200Baud / 100byte	15:19:58	0	15:20:32	0	15:21:10	0	100%
		1-12'		1200Baud / 1kbyte	15:22:10	0	15:22:54	0	15:23:38	0	100%
		1-13	8.188 (CH 5)	2400Baud / 100byte	15:34:35	0	15:35:08	0	15:35:54	0	100%
		1-14		2400Baud / 1kbyte	15:36:45	0	15:37:21	x	15:38:06	0	66.67%
		1-15		1200Baud / 100byte	15:45:40	0	15:46:15	0	15:46:51	0	100%
		1-16		1200Baud / 1kbyte	15:47:38	0	15:48:18	0	15:48:56	0	100%
Sylhet (KOUEI No.2)	Dhaka (KOUEI No.1)	2-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		2-2		2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442 (CH 1)	2400Baud / 100byte	*1		*1		*1		
		2-6		2400Baud / 1kbyte	*1		*1		*1		
		2-7		1200Baud / 100byte	*1		*1		*1		
		2-8		1200Baud / 1kbyte	*1		*1		*1		
		2-9'	8.157 (CH 4)	2400Baud / 100byte	14:24:39	x	14:25:37	x	14:28:40	0	33.33%
		2-10'		2400Baud / 1kbyte	14:29:57	x	14:30:35	0	14:32:21	x	33.33%
		2-11'		1200Baud / 100byte	14:36:52	x	14:37:23	0	14:38:03	x	33.33%
		2-12'		1200Baud / 1kbyte	14:40:32	x	14:41:35	0	14:42:17	0	66.67%
		2-13	8.188 (CH 5)	2400Baud / 100byte	14:45:03	0	14:46:35	x	14:47:02	0	66.67%
		2-14		2400Baud / 1kbyte	14:57:29	x	14:52:08	x	14:52:50	x	0%
		2-15		1200Baud / 100byte	14:53:48	0	14:56:34	x	15:00:05	x	33.33%
		2-16		1200Baud / 1kbyte	15:02:07	0	15:02:50	0	15:03:37	0	100%
Note *1	Voice was not communicated at 3.305, 4.442 and 5.089MHz so that data was not considered to be transmitted. Therefore, data transmission test at these 3 frequencies was omitted.										

Table1.3 (7) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet ✔
Date:22/07/2003(Afternoon)
Antenna Height : 5m
Roof Height : 12 m

Test No.1-9 '

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:12:35	15:12:46	15:13:33		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	0	0		0
Antenna Input Level	dBμV	X	44	39		42

Test No. 1-10'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:16:36	15:17:24	15:18:12		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	42	40	39		40

Test No. 1-11'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:19:29	15:20:03	15:20:41		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	38	43	38		40

Test No. 1-12'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:21:41	15:22:25	15:23:08		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	39	41	41		40

Table1.3 (8) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:22/07/2003(Afternoon)
Antenna Height : 5m
Roof Height : 12 m

Test No.1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:34:04	15:34:38	15:35:24		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	37	40	39		39

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:36:15	15:37:21	15:37:36		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	X	0		0
Antenna Input Level	dBμV	42	X	41		42

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:45:11	15:45:46	15:46:22		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	42	38	38		39

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:47:09	15:47:49	15:48:27		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	39	37	37		38

Table1.3 (9) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:22/07/2003(Afternoon)
Antenna Height : 5m
Roof Height : 23m

Test No.2-9 '

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:24:39	14:25:37	14:28:40		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	34		34

Test No. 2-10'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:29:57	14:30:35	14:32:21		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	0	X		0
Antenna Input Level	dBμV	X	43	X		43

Test No. 2-11'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:36:52	14:37:23	14:38:03		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	O	X		
Antenna Input Level	dBμV	X	34	X		

Test No. 2-12'

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:40:32	14:41:35	14:42:17		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / (8.157) / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	O	O		
Antenna Input Level	dBμV	X	39	42		

Table1.3 (10) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:22/07/2003(Afternoon)
Antenna Height : 5m
Roof Height : 23m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:45:03	14:46:35	14:47:02		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	O	X	O		
Antenna Input Level	dBμV	39	X	36		

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:57:29	14:52:08	14:52:50		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		14:53:48	14:56:34	15:00:05		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	O	X	X		
Antenna Input Level	dBμV	38	X	X		

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		15:02:07	15:02:50	15:03:37		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	O	O	O		
Antenna Input Level	dBμV	42	43	44		

Table1.3 (11) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 22-07-2003 (night)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka (KOUEI No.1)	Sylhet (KOUEI No.2)	1-1	3.305 (CH 0)	2400Baud / 100byte	20:47:36	x	20:48:00	x	20:48:31	x	0%
		1-2		2400Baud / 1kbyte	20:56:02	x	20:57:43	x	20:58:17	x	0%
		1-3		1200Baud / 100byte	21:02:35	x	*1		*1		0%
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442 (CH 1)	2400Baud / 100byte	21:07:07	0	21:08:22	0	21:10:12	x	66.67%
		1-6		2400Baud / 1kbyte	21:11:09	0	21:11:50	0	21:12:32	x	66.67%
		1-7		1200Baud / 100byte	21:14:38	x	21:15:09	x	21:15:40	0	33.33%
		1-8		1200Baud / 1kbyte	21:16:39	x	21:17:25	x	21:18:03	x	0%
		1-9	5.089 (CH 3)	2400Baud / 100byte	21:22:38	x	21:23:20	x	21:23:52	0	33.33%
		1-10		2400Baud / 1kbyte	21:25:02	0	21:25:40	0	21:26:26	x	66.67%
		1-11		1200Baud / 100byte	21:39:39	0	21:40:11	0	21:40:44	0	100%
		1-12		1200Baud / 1kbyte	21:41:35	0	21:42:15	0	21:42:57	x	66.67%
		1-13	8.188 (CH 5)	2400Baud / 100byte	21:47:04	x	21:47:39	0	21:48:15	0	66.67%
		1-14		2400Baud / 1kbyte	21:49:31	0	21:50:08	0	21:50:48	x	66.67%
		1-15		1200Baud / 100byte	21:53:42	0	21:54:17	0	21:54:50	0	100%
		1-16		1200Baud / 1kbyte	21:55:40	0	21:56:25	0	21:57:05	0	100%
Sylhet (KOUEI No.2)	Dhaka (KOUEI No.1)	2-1	3.305 (CH 0)	2400Baud / 100byte							
		2-2		2400Baud / 1kbyte							
		2-3		1200Baud / 100byte							
		2-4		1200Baud / 1kbyte							
		2-5	4.442 (CH 1)	2400Baud / 100byte							
		2-6		2400Baud / 1kbyte							
		2-7		1200Baud / 100byte							
		2-8		1200Baud / 1kbyte							
		2-9	5.089 (CH 3)	2400Baud / 100byte							
		2-10		2400Baud / 1kbyte							
		2-11		1200Baud / 100byte							
		2-12		1200Baud / 1kbyte							
		2-13	8.188 (CH 5)	2400Baud / 100byte							
		2-14		2400Baud / 1kbyte							
		2-15		1200Baud / 100byte							
		2-16		1200Baud / 1kbyte							

Tested on July 26, 2003

Note *1	Due to trouble of test equipment, some trials of data transmission test at 3.305MHz was not carried out.

Table1.3 (12) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:22/07/2003 (Night)
Antenna Height : 5m
Roof Height : 12 m

Test No.1-1

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:47:36	20:48:00	20:48:31		
Frequency	MHz	(3.303) / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-2

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:56:02	20:57:43	20:58:17		
Frequency	MHz	(3.303) / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-3

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:02:35	*1	*1		
Frequency	MHz	(3.303) / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X				
Antenna Input Level	dBμV	X				

Test No. 1-4

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		*1	*1	*1		
Frequency	MHz	(3.303) / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters					
Antenna Input Level	dBμV					

Note *1:Due to trouble of test equipment, data transmission test was not carried out.

Table1.3 (13) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet ✔
Date:22/07/2003 (Night)
Antenna Height : 5m
Roof Height : 12m

Test No.1-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:06:36	21:07:52	21:10:12		
Frequency	MHz	3.306 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	40	37	X		39

Test No. 1-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:10:39	21:11:21	21:12:32		
Frequency	MHz	3.306 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	37	36	X		37

Test No. 1-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:14:38	21:15:09	21:15:12		
Frequency	MHz	3.306 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	35		35

Test No. 1-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:16:39	21:17:25	21:18:03		
Frequency	MHz	3.306 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (14) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:22/07/2003 (Night)
Antenna Height : 5m
Roof Height : 12m

Test No.1-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:22:38	21:23:20	21:23:21		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	34		34

Test No. 1-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:24:33	21:25:09	21:26:26		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	36	41	X		39

Test No. 1-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:39:10	21:39:42	21:40:14		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	38	38	35		37

Test No. 1-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:41:05	21:41:46	21:42:57		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	34	36	X		35

Table1.3 (15) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet ✔
Date:22/07/2003 (Night)
Antenna Height : 5m
Roof Height : 12m

Test No. 1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:47:04	21:47:08	21:47:44		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	0	0		0
Antenna Input Level	dBμV	X	34	41		38

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:49:00	21:49:39	21:50:48		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	43	36	X		40

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:53:13	21:53:48	21:54:21		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	46	44	39		43

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:55:11	21:55:56	21:56:35		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	39	40	41		40

Table1.3 (16) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 26-07-2003 (Early Morning)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka	Sylhet	1-1	3.305	2400Baud / 100byte	05:26:30	x	05:27:05	x	05:27:38	x	0%
(KOUEI No.1)	(KOUEI No.2)	1-2	(CH 0)	2400Baud / 1kbyte	05:28:16	x	05:28:51	x	05:29:27	x	0%
		1-3		1200Baud / 100byte	05:30:22	x	*1		*1		0%
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442	2400Baud / 100byte	05:35:37	x	05:36:28	x	05:37:00	x	0%
		1-6	(CH 1)	2400Baud / 1kbyte	05:38:14	x	05:38:48	x	05:39:17	x	0%
		1-7		1200Baud / 100byte	05:40:56	x	05:41:22	x	05:41:46	x	0%
		1-8		1200Baud / 1kbyte	05:42:49	x	05:43:22	x	05:43:55	x	0%
		1-9	5.089	2400Baud / 100byte	05:47:02	x	05:47:34	x	05:48:03	x	0%
		1-10	(CH 3)	2400Baud / 1kbyte	05:48:40	x	05:49:18	x	05:49:51	x	0%
		1-11		1200Baud / 100byte	05:51:16	x	05:51:52	x	05:52:24	x	0%
		1-12		1200Baud / 1kbyte	05:53:04	x	05:53:47	x	05:54:37	x	0%
		1-13	8.188	2400Baud / 100byte	05:56:27	x	05:57:00	x	05:57:31	x	0%
		1-14	(CH 5)	2400Baud / 1kbyte	05:58:28	x	05:59:09	x	05:59:48	x	0%
		1-15		1200Baud / 100byte	06:01:07	x	06:01:39	x	06:02:13	x	0%
		1-16		1200Baud / 1kbyte	6:02:59	x	06:03:40	x	06:04:23	x	0%
Sylhet	Dhaka	2-1	3.305	2400Baud / 100byte	*1		*1		*1		
(KOUEI No.2)	(KOUEI No.1)	2-2	(CH 0)	2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442	2400Baud / 100byte	6:51:36	x	6:52:12	x	6:53:00	x	0%
		2-6	(CH 1)	2400Baud / 1kbyte	6:53:48	x	6:54:31	x	6:55:12	x	0%
		2-7		1200Baud / 100byte	6:56:43	x	6:57:17	x	6:57:57	x	0%
		2-8		1200Baud / 1kbyte	6:58:46	x	6:59:54	x	7:00:37	x	0%
		2-9	5.089	2400Baud / 100byte	6:37:37	x	6:38:22	x	6:38:59	x	0%
		2-10	(CH 3)	2400Baud / 1kbyte	6:39:57	x	6:40:48	x	6:41:30	x	0%
		2-11		1200Baud / 100byte	6:45:05	x	6:45:41	0	6:46:31	0	66.67%
		2-12		1200Baud / 1kbyte	6:47:23	x	6:49:25	x	6:50:13	x	0%
		2-13	8.188	2400Baud / 100byte	7:06:17	0	7:06:54	x	7:07:32	x	66.67%
		2-14	(CH 5)	2400Baud / 1kbyte	7:08:13	x	7:08:50	x	7:09:35	0	33.33%
		2-15		1200Baud / 100byte	7:16:18	x	7:16:52	0	7:17:26	0	66.67%
		2-16		1200Baud / 1kbyte	7:20:36	0	7:21:22	0	7:22:13	0	100%
Note *1	Due to trouble of test equipment, data transmission test at 3.305MHz was not carried out.										

Table1.3 (17) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 12m

Test No.1-1

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:26:30	5:27:05	5:27:38		
Frequency	MHz	(3.305) / 4442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-2

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:28:16	5:28:51	5:29:27		
Frequency	MHz	(3.305) / 4442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-3

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:30:22	*1	*1		
Frequency	MHz	(3.305) / 4442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X				
Antenna Input Level	dBμV	X				

Test No. 1-4

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		*1	*1	*1		
Frequency	MHz	(3.305) / 4442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters					
Antenna Input Level	dBμV					

Note *1:Due to trouble of test equipment, data transmission test was not carried out.

Table1.3 (18) Test Record

Test Record of Received Data

✔

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 12m

Test No.1-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:35:37	5:36:28	5:37:00		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:37:14	5:38:48	5:39:17		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:40:56	5:41:22	5:41:46		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:42:49	5:43:22	5:43:55		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (19) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 12m

Test No.1-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:47:02	5:47:34	5:48:03		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:48:40	5:49:18	5:49:51		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:51:16	5:51:52	5:52:24		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:53:04	5:53:47	5:54:37		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (20) Test Record

Test Record of Received Data ✔

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 12m

Test No.1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:56:27	5:57:00	5:57:31		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		5:58:28	5:59:09	5:59:48		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		6:01:07	6:01:39	6:02:13		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		6:02:59	6:03:40	6:04:23		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (21) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26-/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 23m

Test No.2-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:51:36	06:52:12	06:53:00		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:53:48	06:54:31	06:55:12		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:56:43	06:57:17	06:57:51		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:58:46	6:59:54	07:00:37		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (22) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26-/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 23m

Test No.2-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:37:37	06:38:22	06:38:59		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:39:57	06:40:48	06:41:30		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:45:05	06:45:41	06:46:31		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	0	0		0
Antenna Input Level	dBμV	X	38	38		38

Test No. 2-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		06:47:26	06:49:25	06:50:13		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (23) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26-/07/2003 (Early Morning)
Antenna Height : 5m
Roof Height : 23m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:06:17	07:06:54	07:07:32		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	71	40		37
Antenna Input Level	dBμV	38	40	40		39

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:08:13	07:08:50	07:09:35		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	40		40

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:16:18	07:16:52	07:17:26		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	0	0		0
Antenna Input Level	dBμV	X	36	32		34

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:20:36	07:21:22	07:22:13		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	35	33	33		34

Table1.3 (24) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 26-07-2003 (Morning1)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka (KOUEI No.1)	Sylhet (KOUEI No.2)	1-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		1-2		2400Baud / 1kbyte	*1		*1		*1		
		1-3		1200Baud / 100byte	*1		*1		*1		
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442 (CH 1)	2400Baud / 100byte	08:32:34	x	08:33:06	x	08:33:37	x	0%
		1-6		2400Baud / 1kbyte	08:34:14	x	08:34:51	x	08:35:26	x	0%
		1-7		1200Baud / 100byte	08:37:15	x	08:37:52	x	08:38:55	x	0%
		1-8		1200Baud / 1kbyte	08:39:37	x	08:40:17	x	08:41:02	x	0%
		1-9	5.089 (CH 3)	2400Baud / 100byte	08:42:21	x	08:42:57	x	08:43:33	x	0%
		1-10		2400Baud / 1kbyte	08:44:40	x	08:45:17	x	08:45:56	x	0%
		1-11		1200Baud / 100byte	08:46:50	x	08:47:28	x	08:48:09	x	0%
		1-12		1200Baud / 1kbyte	08:49:02	x	08:49:49	x	08:50:38	x	0%
		1-13	8.188 (CH 5)	2400Baud / 100byte	08:52:14	0	08:53:46	x	08:54:14	0	66.67%
		1-14		2400Baud / 1kbyte	08:55:36	0	08:56:42	x	08:57:19	x	33.33%
		1-15		1200Baud / 100byte	08:58:57	x	08:59:30	x	09:00:05	x	0%
		1-16		1200Baud / 1kbyte	09:00:54	0	09:03:59	x	09:04:44	x	33.33%
Sylhet (KOUEI No.2)	Dhaka (KOUEI No.1)	2-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		2-2		2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442 (CH 1)	2400Baud / 100byte	7:47:27	x	7:48:16	x	7:48:52	x	0%
		2-6		2400Baud / 1kbyte	7:49:32	x	7:50:16	x	7:51:46	x	0%
		2-7		1200Baud / 100byte	7:54:55	x	7:56:21	x	7:57:06	x	0%
		2-8		1200Baud / 1kbyte	7:58:03	x	7:59:05	x	8:00:06	x	0%
		2-9	5.089 (CH 3)	2400Baud / 100byte	8:09:10	x	8:10:08	x	8:10:45	x	0%
		2-10		2400Baud / 1kbyte	8:11:23	x	8:12:12	x	8:12:50	x	0%
		2-11		1200Baud / 100byte	8:13:54	x	8:14:27	x	8:15:27	x	0%
		2-12		1200Baud / 1kbyte	8:16:12	x	8:16:56	x	8:17:38	x	0%
		2-13	8.188 (CH 5)	2400Baud / 100byte	8:18:46	x	8:19:19	0	8:19:58	0	66.67%
		2-14		2400Baud / 1kbyte	8:22:20	x	8:32:02	0	8:23:43	x	33.33%
		2-15		1200Baud / 100byte	8:25:27	0	8:26:06	0	8:26:40	x	66.67%
		2-16		1200Baud / 1kbyte	8:28:00	x	8:28:50	x	8:29:44	0	33.33%
Note *1	Due to trouble of test equipment, data transmission test at 3.305MHz was not carried out.										

Table1.3 (25) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 12m

Test No.1-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:32:34	8:33:06	8:33:37		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5.089 / 8.157 / 8.818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:34:14	8:34:51	8:35:26		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5.089 / 8.157 / 8.818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:37:15	8:37:52	8:38:55		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5.089 / 8.157 / 8.818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:39:37	8:40:17	8:41:02		
Frequency	MHz	3.305 / (4.442) / 4.490 / 5.089 / 8.157 / 8.818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (26) Test Record

Test Record of Received Data

✔

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 12m

Test No.1-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:42:21	8:42:57	8:43:33		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:44:40	8:45:17	8:45:56		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:46:50	8:47:28	8:48:09		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:49:02	8:49:49	8:50:38		
Frequency	MHz	3.305 / 4442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (27) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 15m

Test No.1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:51:38	8:53:46	8:53:42		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	X	0		0
Antenna Input Level	dBμV	32	X	32		32

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:55:00	8:56:42	8:57:19		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	X	X		0
Antenna Input Level	dBμV	34	X	X		34

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		8:58:57	8:59:30	9:00:05		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		9:00:10	9:03:59	9:04:44		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	X	X		0
Antenna Input Level	dBμV	30	X	X		30

Table1.3 (28) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 23m

Test No.2-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:47:27	07:48:16	07:48:52		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:49:32	07:50:16	07:51:46		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:54:55	07:56:21	07:57:06		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		07:58:03	07:59:05	08:00:06		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (29) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 23m

Test No.2-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:09:10	08:10:08	08:10:45		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:11:23	08:12:12	08:12:50		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:13:54	08:14:27	08:15:27		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:16:12	08:16:56	08:17:38		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (30) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning1)
Antenna Height : 5m
Roof Height : 23m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:18:46	08:19:19	08:19:58		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	0	0		0
Antenna Input Level	dBμV	X	34	38		36

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:22:20	08:23:02	08:23:43		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	0	X		
Antenna Input Level	dBμV	X	45	X		45

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:25:27	08:26:06	08:26:40		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	X		0
Antenna Input Level	dBμV	41	40	X		41

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		08:28:00	08:28:50	08:29:44		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	0		0
Antenna Input Level	dBμV	X	X	41		41

Table1.3 (31) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 26-07-2003 (Morning2)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka	Sylhet	1-1	3.305	2400Baud / 100byte	*1		*1		*1		
(KOUEI No.1)	(KOUEI No.2)	1-2	(CH 0)	2400Baud / 1kbyte	*1		*1		*1		
		1-3		1200Baud / 100byte	*1		*1		*1		
		1-4		1200Baud / 1kbyte	*1		*1		*1		
		1-5	4.442	2400Baud / 100byte	09:59:13	x	09:59:51	x	10:00:08	x	0%
		1-6	(CH 1)	2400Baud / 1kbyte	10:01:20	x	10:01:55	x	10:02:28	x	0%
		1-7		1200Baud / 100byte	10:03:51	x	10:04:27	x	10:04:58	x	0%
		1-8		1200Baud / 1kbyte	10:06:02	x	10:06:41	x	10:07:21	x	0%
		1-9	5.089	2400Baud / 100byte	10:08:34	x	10:09:12	x	10:09:43	x	0%
		1-10	(CH 3)	2400Baud / 1kbyte	10:10:21	x	10:11:00	x	10:11:38	x	0%
		1-11		1200Baud / 100byte	10:12:45	x	10:13:16	x	10:13:52	x	0%
		1-12		1200Baud / 1kbyte	10:14:40	x	10:15:20	x	10:15:59	x	0%
		1-13	8.188	2400Baud / 100byte	10:18:36	0	10:19:38	x	10:20:22	0	66.67%
		1-14	(CH 5)	2400Baud / 1kbyte	10:22:25	0	10:24:13	0	10:24:54	0	100%
		1-15		1200Baud / 100byte	10:25:57	0	10:26:40	0	10:27:27	0	100%
		1-16		1200Baud / 1kbyte	10:29:09	0	10:30:04	0	10:31:01	0	100%
Sylhet	Dhaka	2-1	3.305	2400Baud / 100byte	*1		*1		*1		
(KOUEI No.2)	(KOUEI No.1)	2-2	(CH 0)	2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442	2400Baud / 100byte	10:34:06	x	10:34:29	x	10:35:01	x	0%
		2-6	(CH 1)	2400Baud / 1kbyte	10:35:28	x	10:35:58	x	10:36:41	x	0%
		2-7		1200Baud / 100byte	10:37:25	x	10:37:46	x	10:38:07	x	0%
		2-8		1200Baud / 1kbyte	10:38:42	x	10:39:17	x	10:39:47	x	0%
		2-9	5.089	2400Baud / 100byte	10:41:35	x	10:42:14	x	10:42:49	x	0%
		2-10	(CH 3)	2400Baud / 1kbyte	10:43:30	x	10:44:06	x	10:44:43	x	0%
		2-11		1200Baud / 100byte	10:47:16	x	10:47:34	x	10:48:06	x	0%
		2-12		1200Baud / 1kbyte	10:48:50	x	10:49:36	x	10:50:19	x	0%
		2-13	8.188	2400Baud / 100byte	10:51:23	x	10:52:54	x	10:57:31	x	0%
		2-14	(CH 5)	2400Baud / 1kbyte	10:58:12	x	10:58:50	x	10:59:28	x	0%
		2-15		1200Baud / 100byte	11:04:50	x	11:05:29	x	11:06:03	x	0%
		2-16		1200Baud / 1kbyte	11:06:47	x	11:07:32	x	11:08:30	x	0%
Note *1	Due to trouble of test equipment, data transmission test at 3.305MHz was not carried out.										

Table1.3 (32) Test Record

Test Record of Received Data

✔

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 12m

Test No.1-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		9:59:13	9:59:51	10:00:08		
Frequency	MHz	3.306 / (4.442) / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:01:20	10:01:55	10:02:28		
Frequency	MHz	3.306 / (4.442) / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:03:51	10:04:27	10:04:58		
Frequency	MHz	3.306 / (4.442) / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:06:02	10:06:41	10:07:21		
Frequency	MHz	3.306 / (4.442) / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Table1.3 (33) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 12m

Test No.1-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:08:34	10:09:12	10:09:43		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:10:21	10:11:00	10:11:38		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:12:45	10:13:16	10:13:52		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 1-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:14:40	10:15:20	10:15:59		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8818				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Table1.3 (34) Test Record

Test Record of Received Data

✔

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 12m

Test No.1-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:17:58	10:19:38	10:19:45		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	X	0		0
Antenna Input Level	dBμV	41	X	40		41

Test No. 1-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:21:48	10:23:36	10:24:22		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	44	41	42		42

Test No. 1-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:25:21	10:26:05	10:26:51		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	40	40	43		41

Test No. 1-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:28:32	10:29:28	10:30:25		
Frequency	MHz	3.305 / 4442 / 4.490 / 5.089 / 8.157 / (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	0	0	0		0
Antenna Input Level	dBμV	41	43	42		42

Table1.3 (35) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 23m

Test No.2-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:34:06	10:34:29	10:35:01		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:35:28	10:35:58	10:36:41		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:37:25	10:37:46	10:38:07		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:38:42	10:39:16	10:39:47		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (36) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 23m

Test No.2-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:41:35	10:42:14	10:42:49		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:43:30	10:44:06	10:44:43		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:47:16	10:47:34	10:48:06		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:48:50	10:49:36	10:50:19		
Frequency	MHz	3.305 / 4.442 / 4.490 / (5.089) / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Table1.3 (37) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Morning2)
Antenna Height : 5m
Roof Height : 23m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:56:23	10:56:59	10:57:31		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		10:58:12	10:58:50	10:59:28		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:04:50	11:05:29	11:06:03		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		11:06:47	11:07:32	11:08:30		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	x	x	x		
Antenna Input Level	dBμV	x	x	x		

Table1.3 (38) Test Record

SUMMARY OF TEST RESULT OF HF PROPAGATION TEST 26-07-2003 (Night)

Transmitter	Receiver	Test No.	Frequency (MHz)	Test Condition	Transmitted time (hh.mm.ss) Remarks X: Transmission Failed						Ratio of Successes
					First trial		Second trial		Third trial		
Dhaka (KOUEI No.1)	Sylhet (KOUEI No.2)	1-1	3.305 (CH 0)	2400Baud / 100byte							
		1-2		2400Baud / 1kbyte							
		1-3		1200Baud / 100byte							
		1-4		1200Baud / 1kbyte							
		1-5	4.442 (CH 1)	2400Baud / 100byte						
		1-6		2400Baud / 1kbyte	Tested on July 22, 2003						
		1-7		1200Baud / 100byte							
		1-8		1200Baud / 1kbyte							
		1-9	5.089 (CH 3)	2400Baud / 100byte						
		1-10		2400Baud / 1kbyte							
		1-11		1200Baud / 100byte							
		1-12		1200Baud / 1kbyte							
		1-13	8.188 (CH 5)	2400Baud / 100byte						
		1-14		2400Baud / 1kbyte							
		1-15		1200Baud / 100byte							
		1-16		1200Baud / 1kbyte							
Sylhet (KOUEI No.2)	Dhaka (KOUEI No.1)	2-1	3.305 (CH 0)	2400Baud / 100byte	*1		*1		*1		
		2-2		2400Baud / 1kbyte	*1		*1		*1		
		2-3		1200Baud / 100byte	*1		*1		*1		
		2-4		1200Baud / 1kbyte	*1		*1		*1		
		2-5	4.442 (CH 1)	2400Baud / 100byte	20:12:13	x	20:12:40	x	20:13:16	x	0%
		2-6		2400Baud / 1kbyte	20:31:41	x	20:36:07	x	20:36:34	x	0%
		2-7		1200Baud / 100byte	20:37:19	x	20:37:38	x	20:37:57	x	0%
		2-8		1200Baud / 1kbyte	20:38:24	x	20:38:49	x	20:39:20	x	0%
		2-9	5.089 (CH 3)	2400Baud / 100byte	20:40:39	x	20:41:07	x	20:41:42	x	0%
		2-10		2400Baud / 1kbyte	20:42:21	x	20:43:00	x	20:43:51	x	0%
		2-11		1200Baud / 100byte	20:48:40	x	20:49:14	x	20:49:44	x	0%
		2-12		1200Baud / 1kbyte	20:50:31	x	20:51:19	x	20:52:06	x	0%
		2-13	8.188 (CH 5)	2400Baud / 100byte	20:55:00	x	20:55:32	x	20:56:06	x	0%
		2-14		2400Baud / 1kbyte	20:56:43	x	20:57:22	x	20:57:59	x	0%
		2-15		1200Baud / 100byte	20:59:02	x	20:59:35	x	21:00:13	x	0%
		2-16		1200Baud / 1kbyte	21:00:56	x	21:01:37	x	21:02:23	x	0%
Note *1	Due to trouble of test equipment, data transmission test at 3.305MHz was not carried out.										

Table1.3 (39) Test Record

Test Record of Received Data

Receiver: Dhaka / Sylhet
Date:26/07/2003 (Night)
Antenna Height : 5m
Roof Height : 23m

Test No.2-5

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:12:13	20:12:40	20:13:16		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-6

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:13:41	20:36:07	20:36:34		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-7

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:37:19	20:37:38	20:37:57		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-8

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:38:24	20:38:49	20:39:20		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (40) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Night)
Antenna Height : 5m
Roof Height : 23m

Test No.2-9

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:40:39	20:41:07	20:41:42		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-10

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:42:21	20:43:00	20:43:51		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-11

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:48:40	20:49:14	20:49:44		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-12

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:50:31	20:51:19	20:52:06		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 / 8.188				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table1.3 (41) Test Record

Test Record of Received Data

✔
Receiver: Dhaka / Sylhet
Date:26/07/2003 (Night)
Antenna Height : 5m
Roof Height : 23m

Test No.2-13

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:55:00	20:55:32	20:56:06		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-14

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:56:43	20:57:22	20:57:59		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 (8.188)				
Output Level	W	125				
Baud Rate	bps	2400				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-15

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		20:59:09	20:59:35	21:00:13		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$100byte.txt				
Data size	byte	100				
Number of text data	letters	100	100	100	100	100
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Test No. 2-16

Item	Unit	Result				
		First Trial	Second Trial	Third Trial		Average
Transmitted Time (hh.mm.ss)		21:00:56	21:01:37	21:02:23		
Frequency	MHz	3.305 / 4.442 / 4.490 / 5.089 / 8.157 (8.188)				
Output Level	W	125				
Baud Rate	bps	1200				
Data File Name		$1kbyte.txt				
Data size	byte	1k				
Number of text data	letters	1000	1000	1000	1000	1000
Number of garbled text data	letters	X	X	X		
Antenna Input Level	dBμV	X	X	X		

Table2.1 Summary of Test Result for VHF Interference Measurement

No.	Place	Latitude (N) / Longitude (E)	Frequency 149.250 [MHz]					Frequency 166.075 [MHz]				
			Date	Time	The presence or absence of interference radio	Number of presence of interference radio	Average signal level [dBμV]	Date	Time	The presence or absence of interference radio	Number of presence of interference radio	Average signal level [dBμV]
1	Amalshid	24°52'370"/092°22'002"	23-Jul-2003	12:15-15:15	presence / (absence)			23-Jul-2003	15:16-18:16	presence / (absence)		
2	Kanaighat	24°59'842"/092°15'699"	24-Jul-2003	10:38-13:38	presence / (absence)			24-Jul-2003	13:39-16:39	presence / (absence)		
3	Sarighat	25°05'767"/092°07'253"	25-Jul-2003	10:17-13:17	presence / (absence)			25-Jul-2203	13:20-16:20	presence / (absence)		
4	Nakuagaon	25°11'393"/090°10'115"	30-Jul-2003	12:53-14:23	presence / (absence)			30-Jul-2003	14:24-15:54	presence / (absence)		
5	Durgapur	25°07'108"/090°40'787"	31-Jul-2003	10:40-13:10	presence / (absence)			31-Jul-2003	13:12-15:42	presence / (absence)		
6	Noonkhawa	25°50'716"/089°43'632"	4-Aug-2003	07:25-10:25	presence / (absence)			4-Aug-2003	11:40-14:40	presence / (absence)		
7	Kurigram	25°48'519"/089°38'011"	5-Aug-2003	08:58-11:58	presence / (absence)			5-Aug-2003	12:00-15:00	presence / (absence)		
8	Dalia	26°09'451"/089°02'211"	6-Aug-2003	09:17-12:17	presence / (absence)			6-Aug-2003	12:19-15:19	presence / (absence)		
9	Panchagarh	26°20'293"/088°33'442"	7-Aug-2003	10:04-13:04	presence / (absence)			7-Aug-2003	13:06-16:06	presence / (absence)		
10	Pankha	24°38'376"/088°09'836"	9-Aug-2003	09:49-12:49	presence / (absence)			9-Aug-2003	12:50-15:50	presence / (absence)		
11	Comilla	23°27'839"/091°11'710"	12-Aug-2003	10:55-13:55	presence / (absence)			12-Aug-2003	13:56-16:56	presence / (absence)		
12	Laurergarh	25°11'492"/091°15'224"	15-Aug-2003	11:20-14:20	presence / (absence)			15-Aug-2003	14:21-17:21	presence / (absence)		
13	Bhairab Bazar	25°11'486"/091°15'219"	17-Aug-2003	12:18-15:18	presence / (absence)			17-Aug-2003	15:20-18:20	(presence / absence)		

Table 2.2 (1) Test Record

Table Radio Interference Measurement (Amalshid, 149.250MHz)

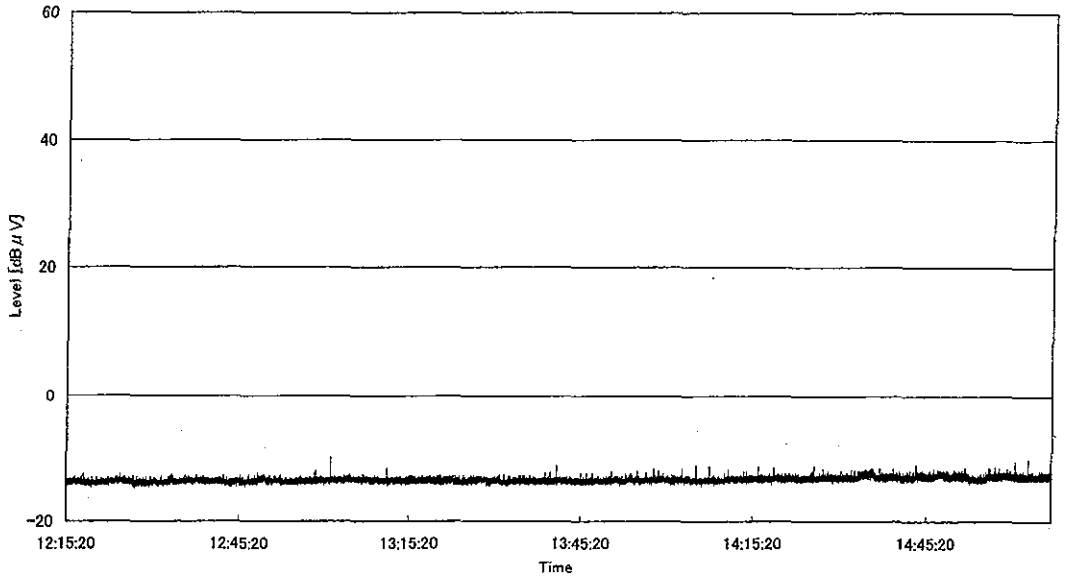


Table Radio Interference Measurement (Amalshid, 166.075MHz)

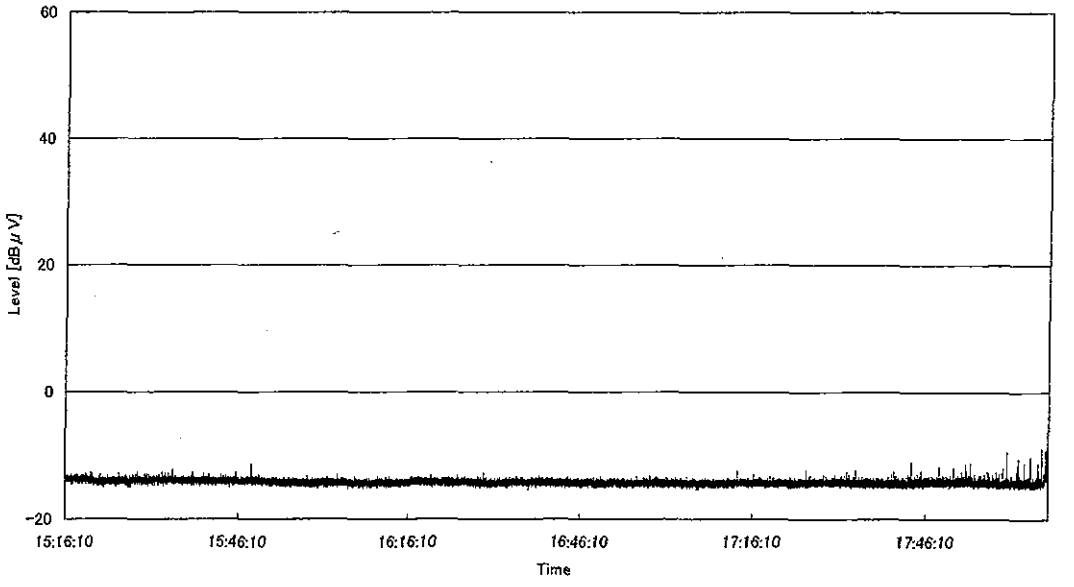


Table 2.2 (2) Test Record

Table Radio Interference Measurement (Kanaighat, 149.250MHz)

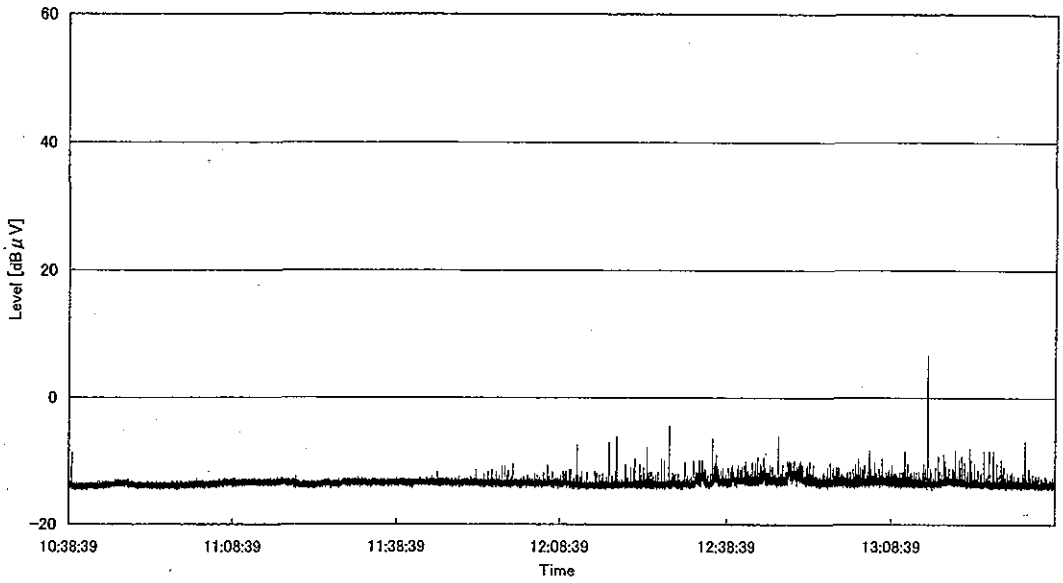


Table Radio Interference Measurement (Kanaighat, 166.075MHz)

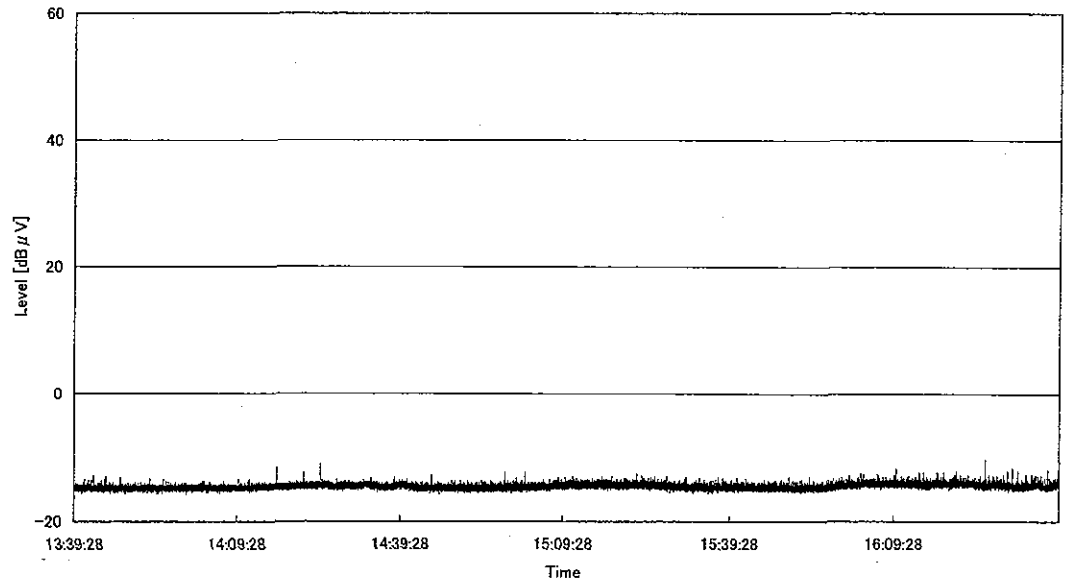


Table 2.2 (3) Test Record

Table Radio Interference Measurement (Sarighat, 149.250MHz)

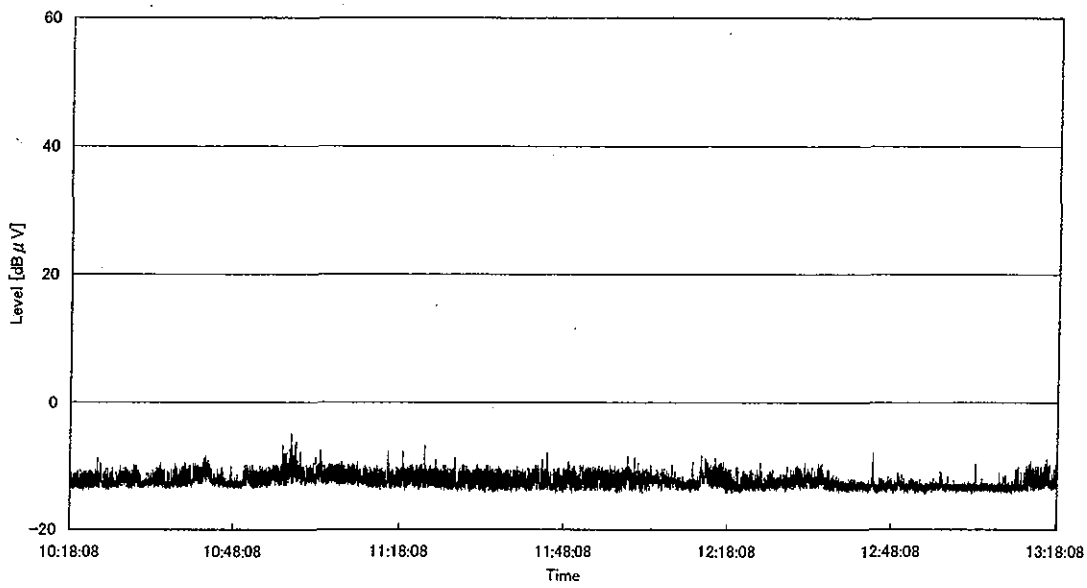


Table Radio Interference Measurement (Sarighat, 166.075MHz)

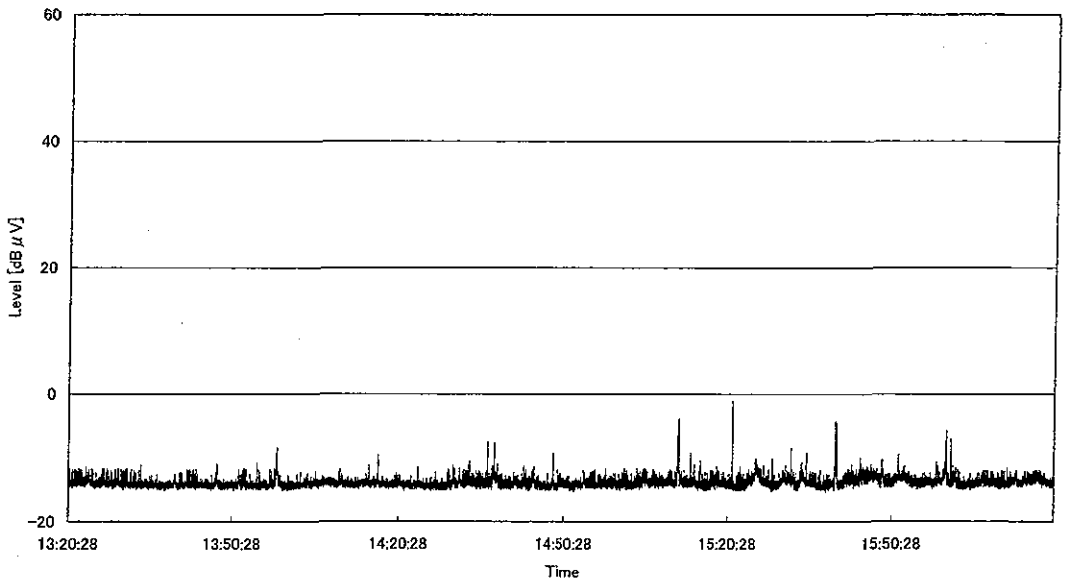


Table 2.2 (4) Test Record

Table Radio Interference Measurement (Nakuagaon, 149.250MHz)

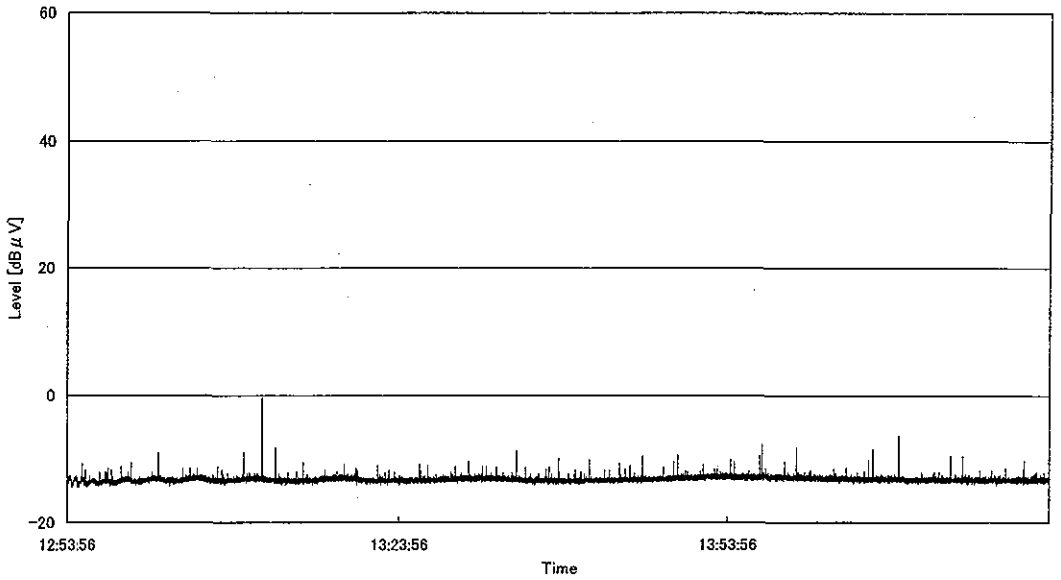
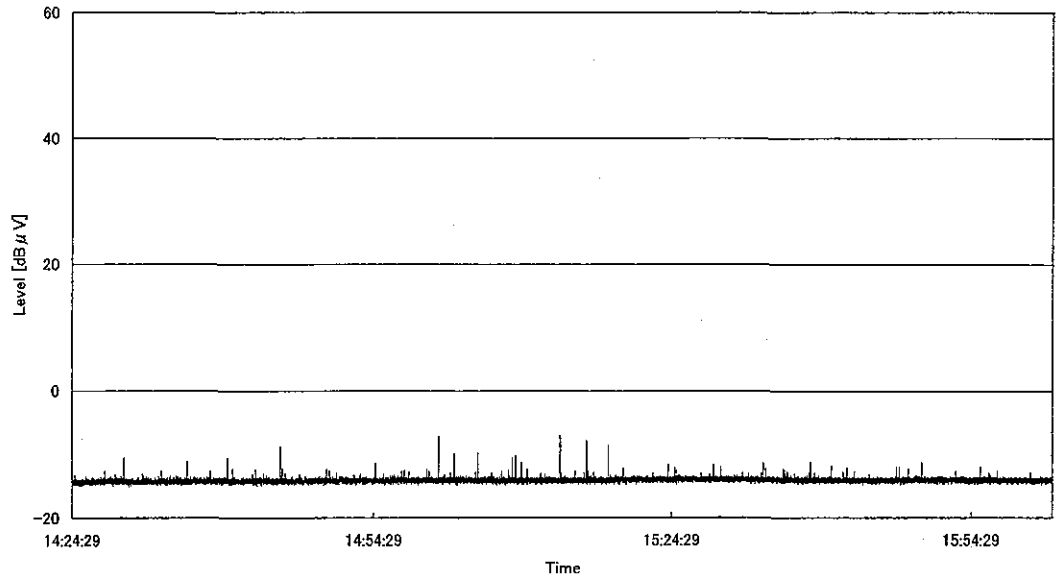


Table Radio Interference Measurement (Nakuagaon, 166.075MHz)



Note: Due to bad weather, time of measurement was reduced to 1.5 hours from 3hours.

Table 2.2 (5) Test Record

Table Radio Interference Measurement (Durgapur, 149.250MHz)

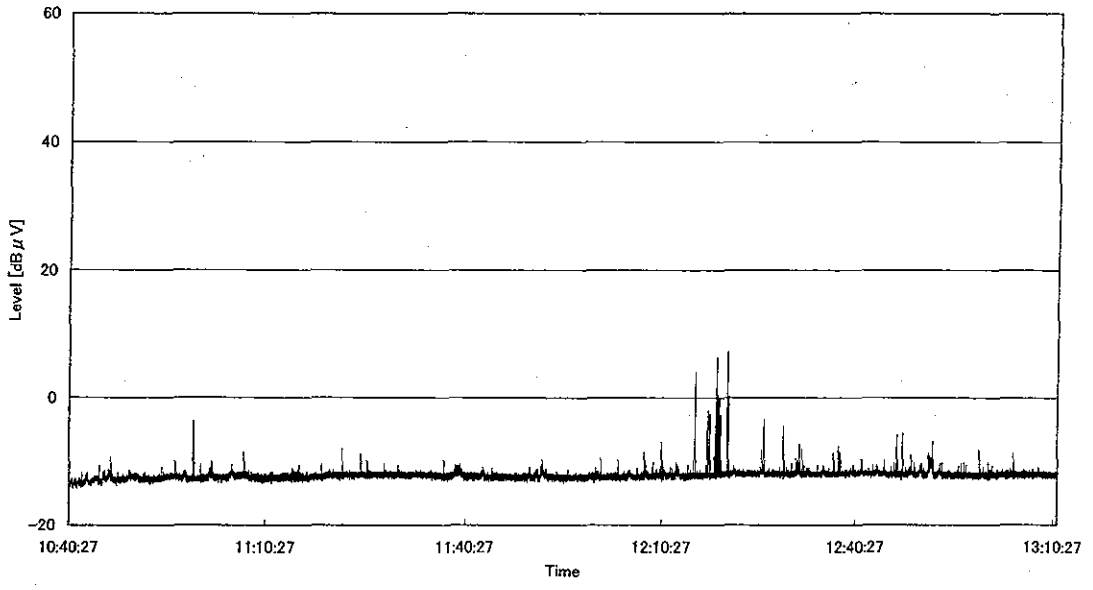
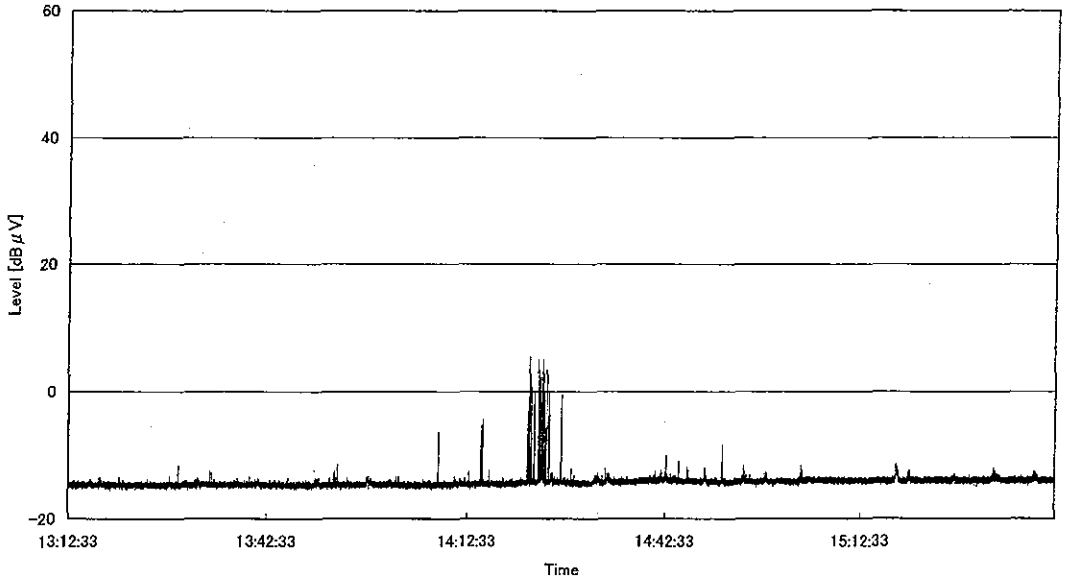


Table Radio Interference Measurement (Durgapur, 166.075MHz)



Note: Due to bad weather, time of measurement was reduced to 2.5 hours from 3hours.

Table 2.2 (6) Test Record

Table Radio Interference Measurement (Noonkhawa, 149.250MHz)

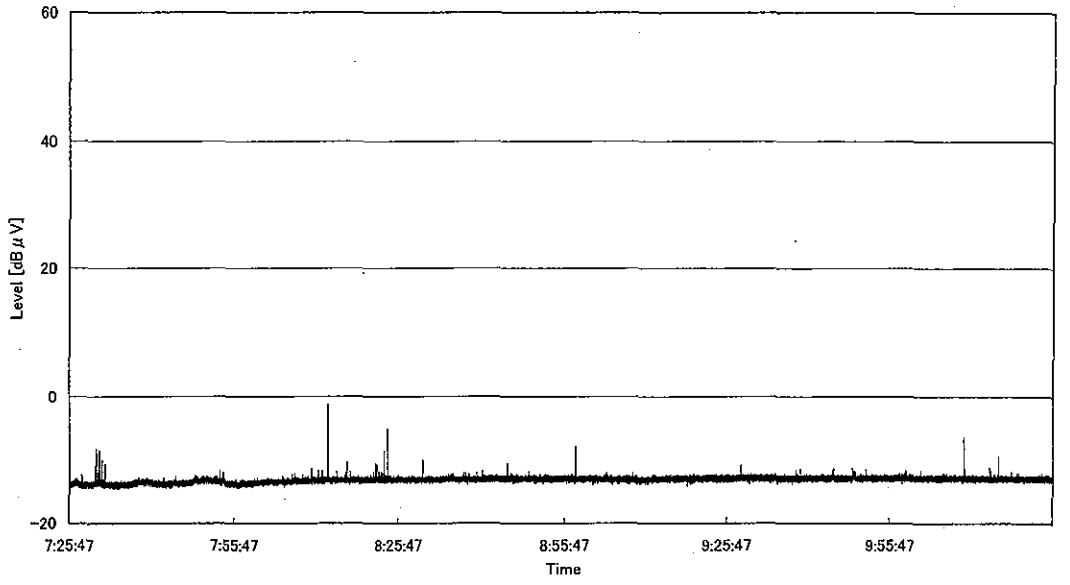


Table Radio Interference Measurement (Noonkhawa, 166.075MHz)

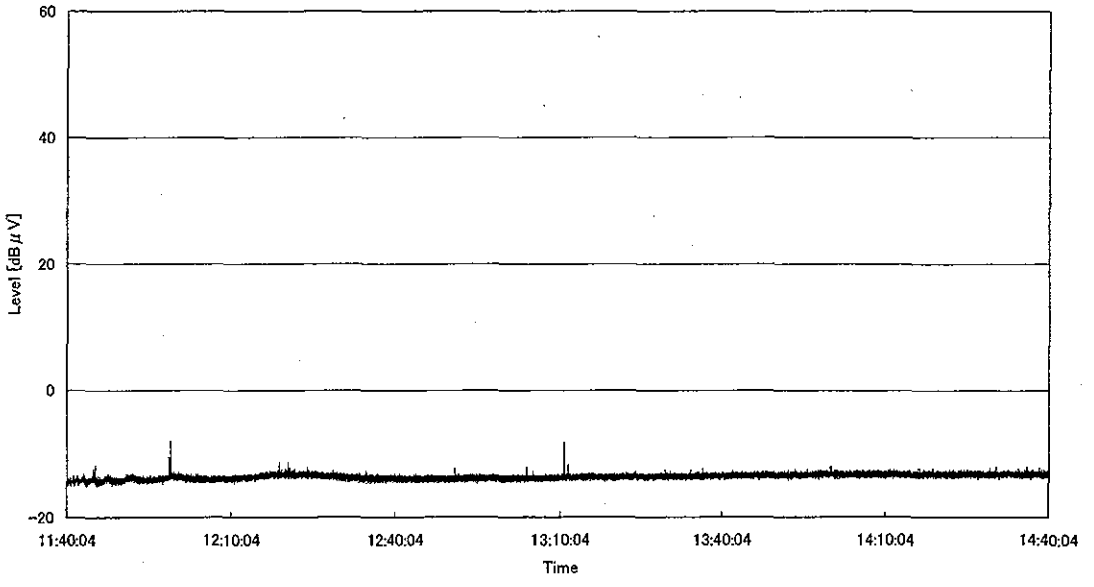


Table 2.2 (7) Test Record

Table Radio Interference Measurement (Kurigram, 149.250MHz)

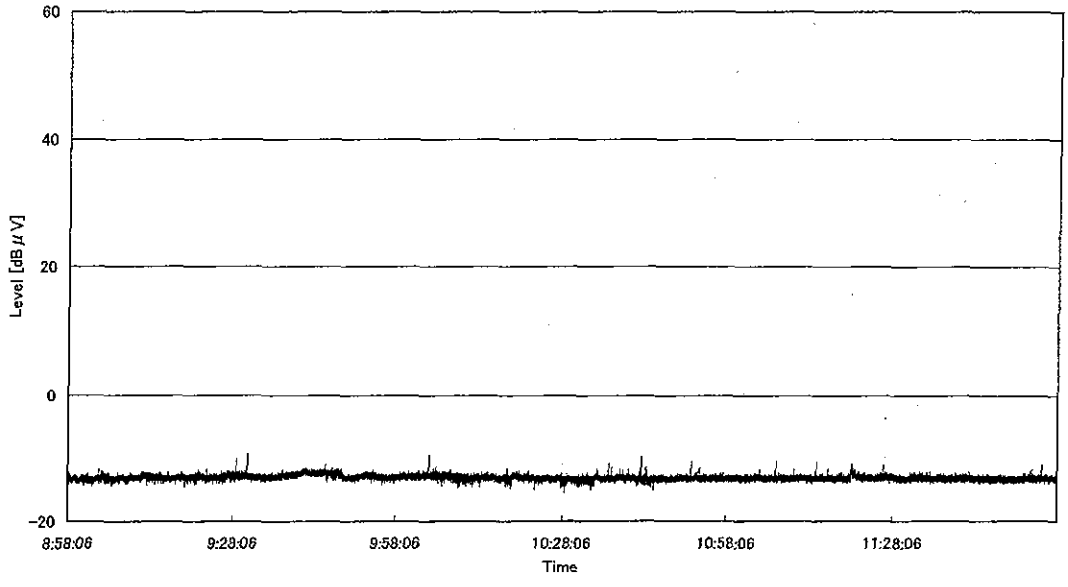


Table Radio Interference Measurement (Kurigram, 166.075MHz)

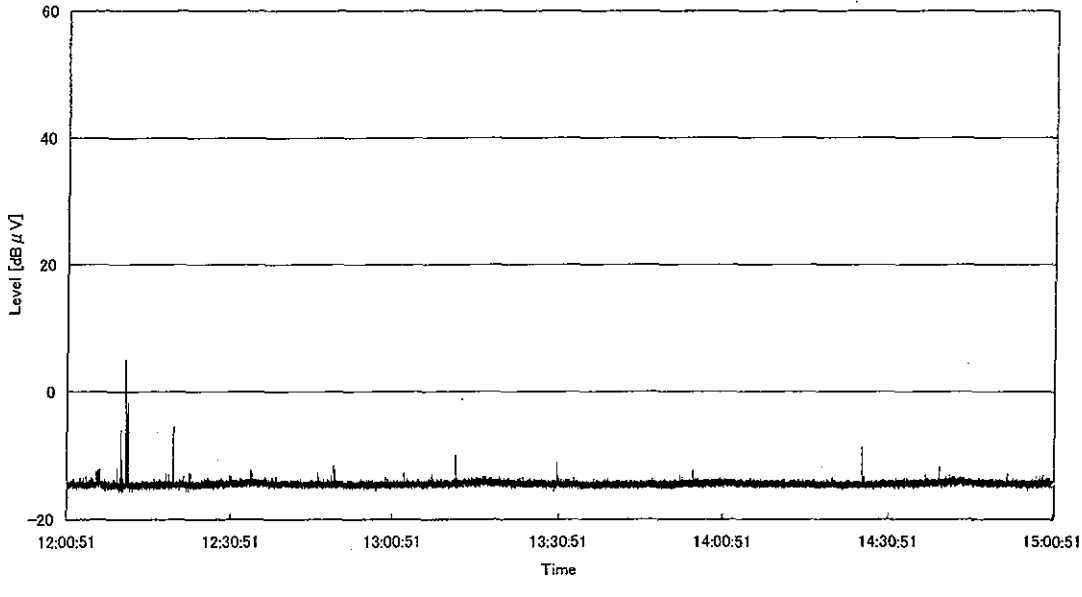


Table 2.2 (8) Test Record

Table Radio Interference Measurement (Dalia, 149.250MHz)

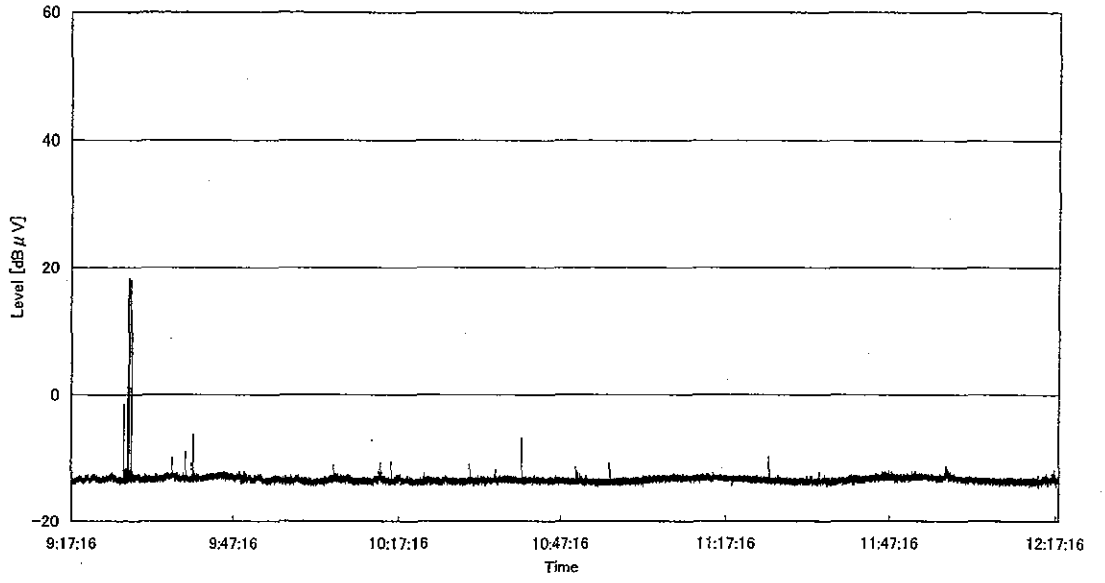


Table Radio Interference Measurement (Dalia, 166.075MHz)

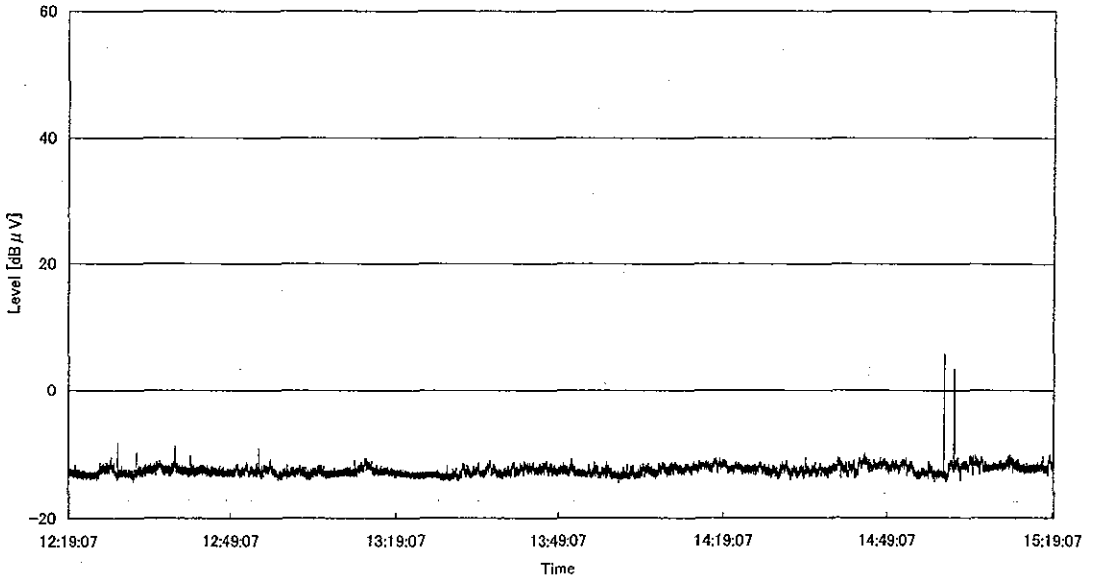


Table 2.2 (9) Test Record

Table Radio Interference Measurement (Panchagarh, 149.250MHz)

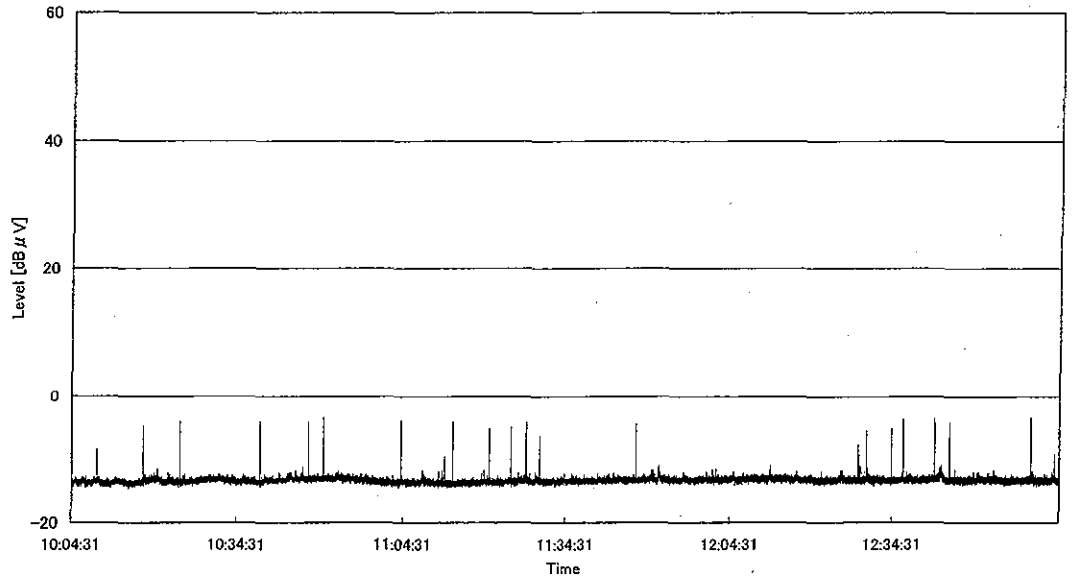


Table Radio Interference Measurement (Panchagarh, 166.075MHz)

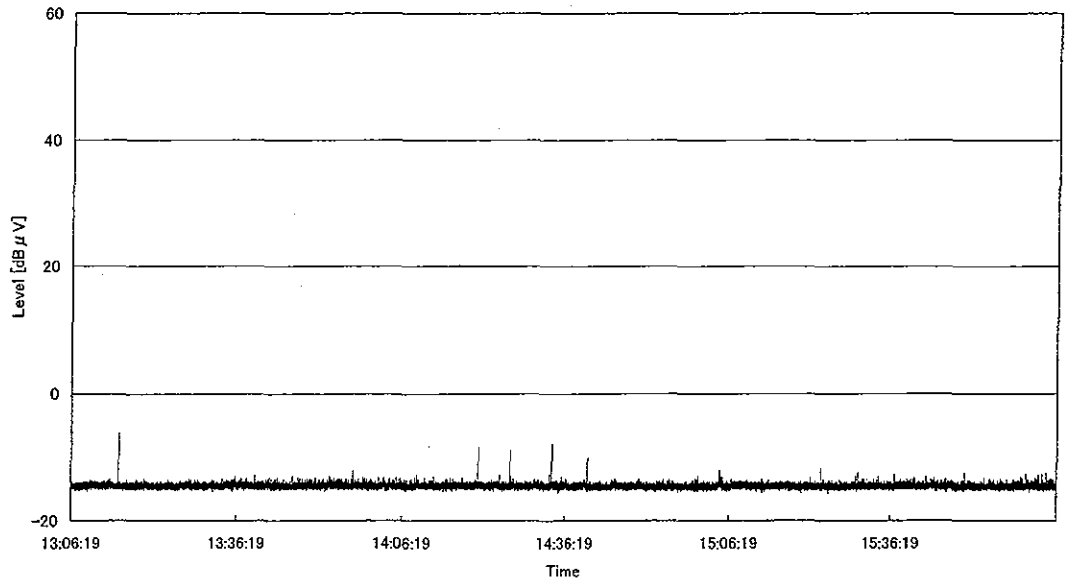


Table 2.2 (10) Test Record

Table Radio Interference Measurement (Pankha, 149.250MHz)

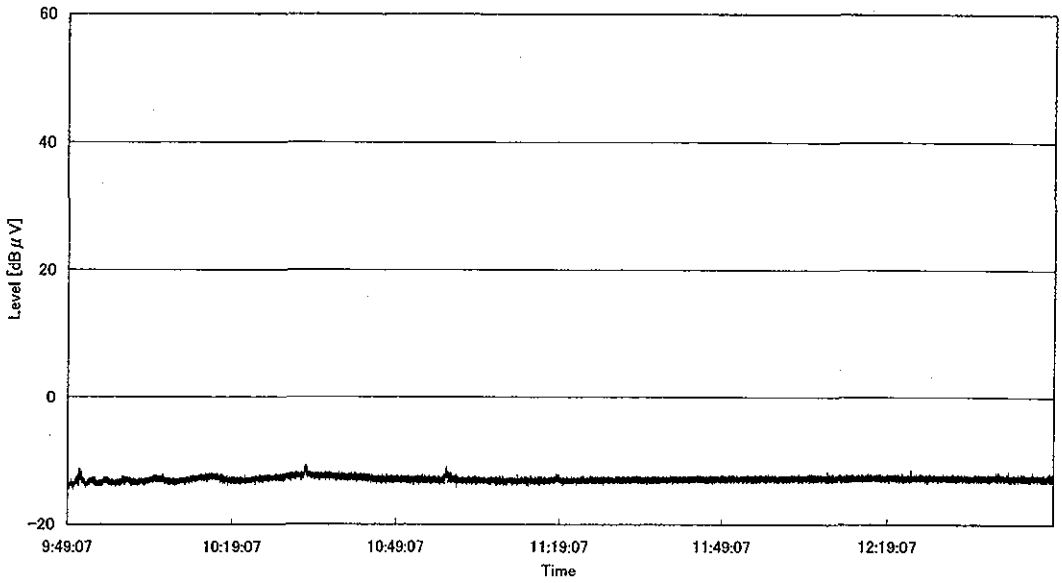


Table Radio Interference Measurement (Pankha, 166.075MHz)

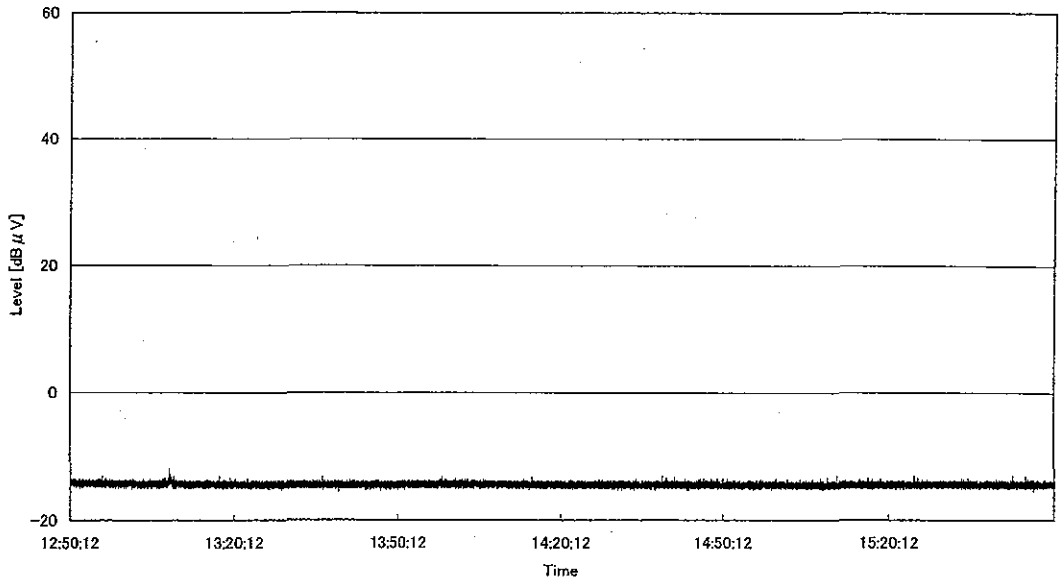


Table 2.2 (11) Test Record

Table Radio Interference Measurement (Comilla, 149.250MHz)

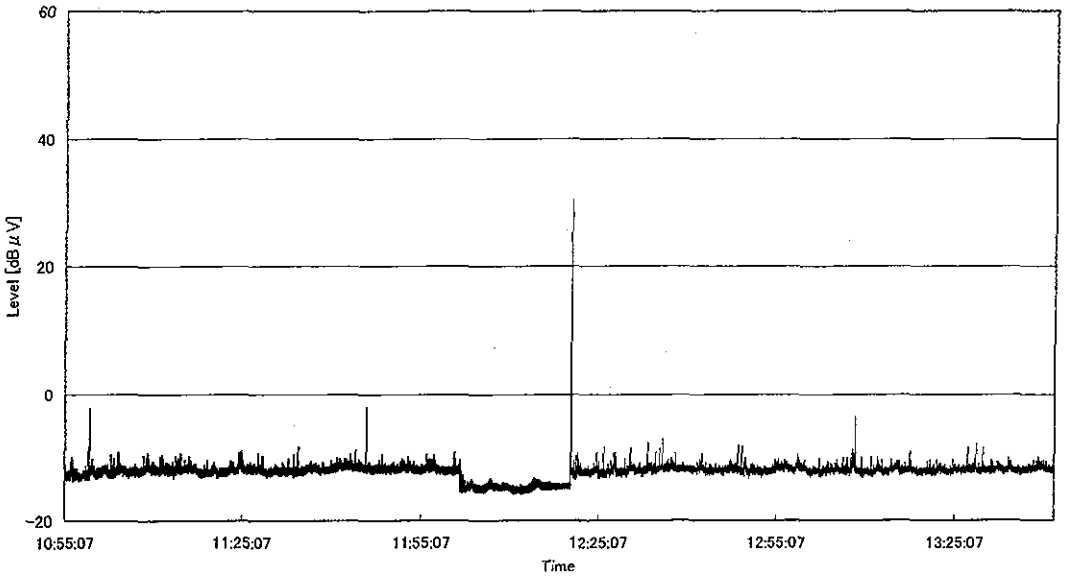


Table Radio Interference Measurement (Comilla, 166.075MHz)

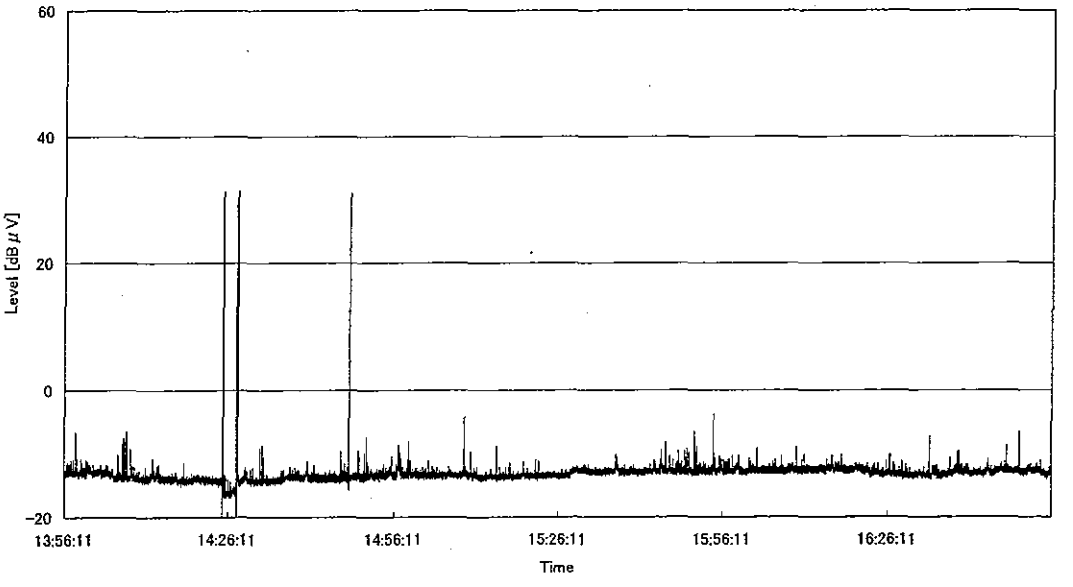


Table 2.2 (12) Test Record

Table Radio Interference Measurement (Laurergarh, 149.250MHz)

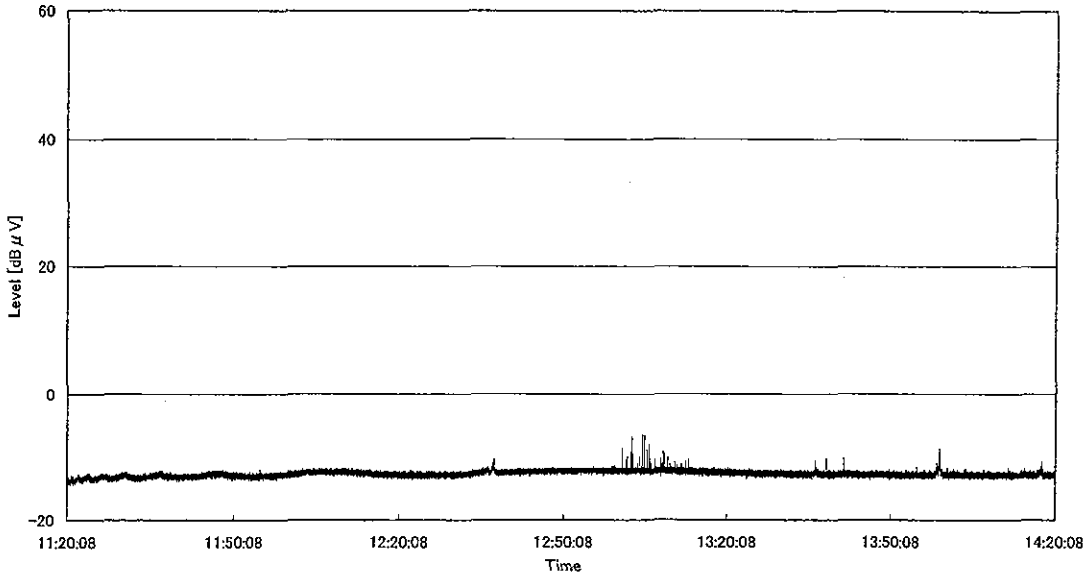


Table Radio Interference Measurement (Laurergarh, 166.075MHz)

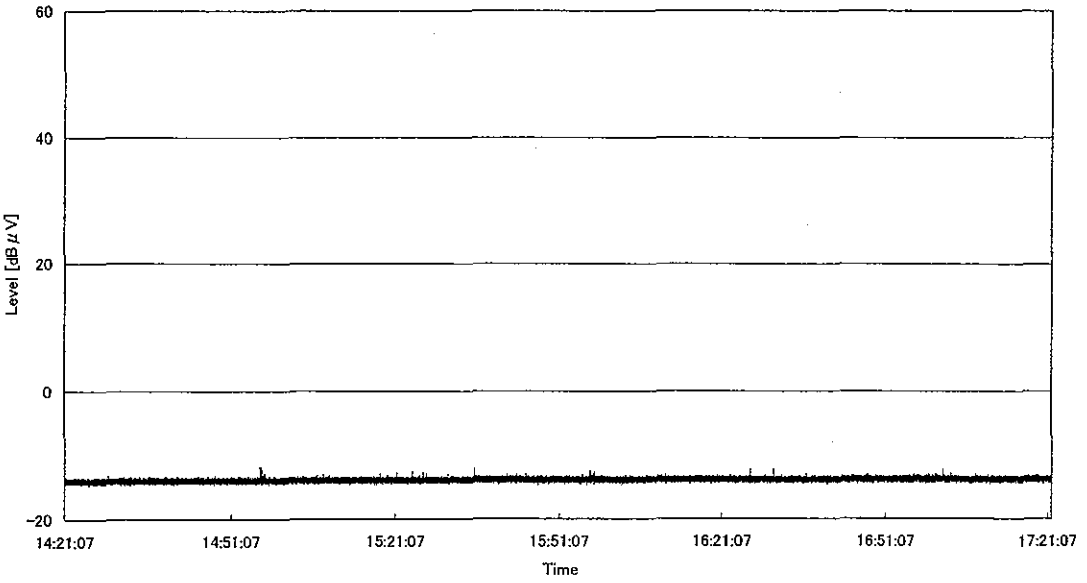


Table 2.2 (13) Test Record

Table Radio Interference Measurement (Bhairab Bazar, 149.250MHz)

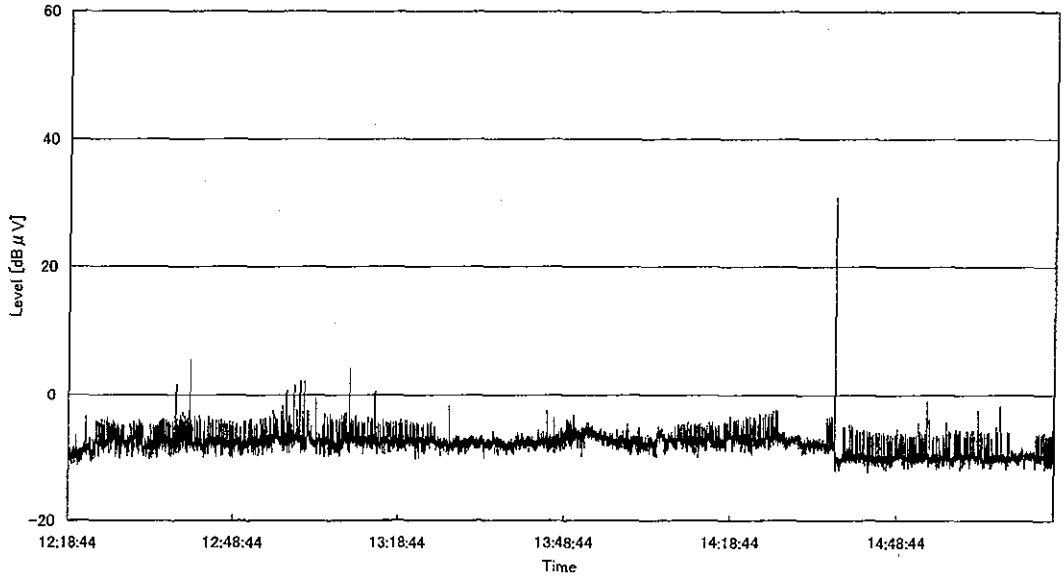
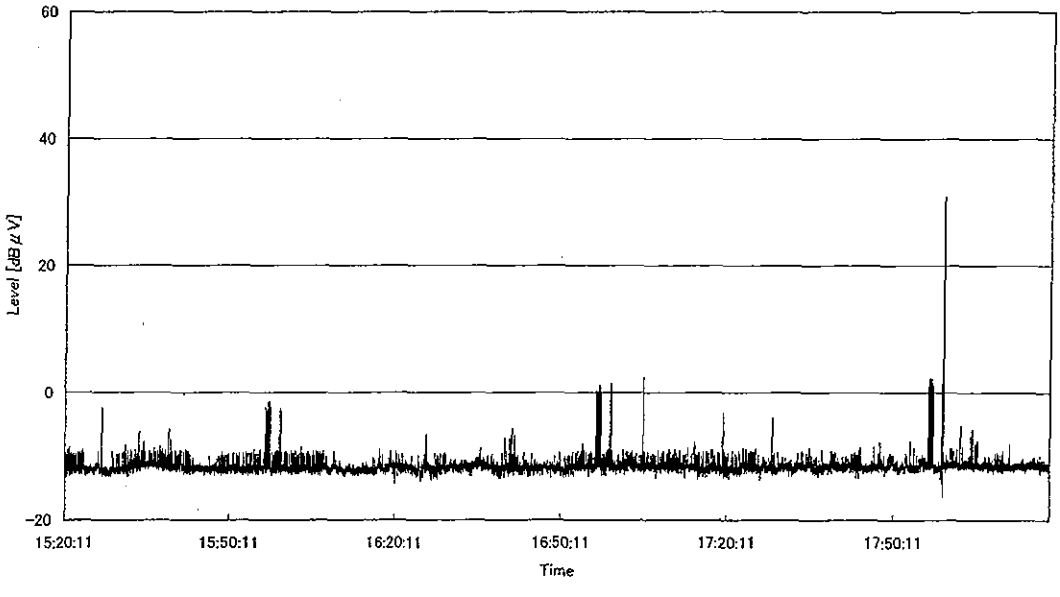
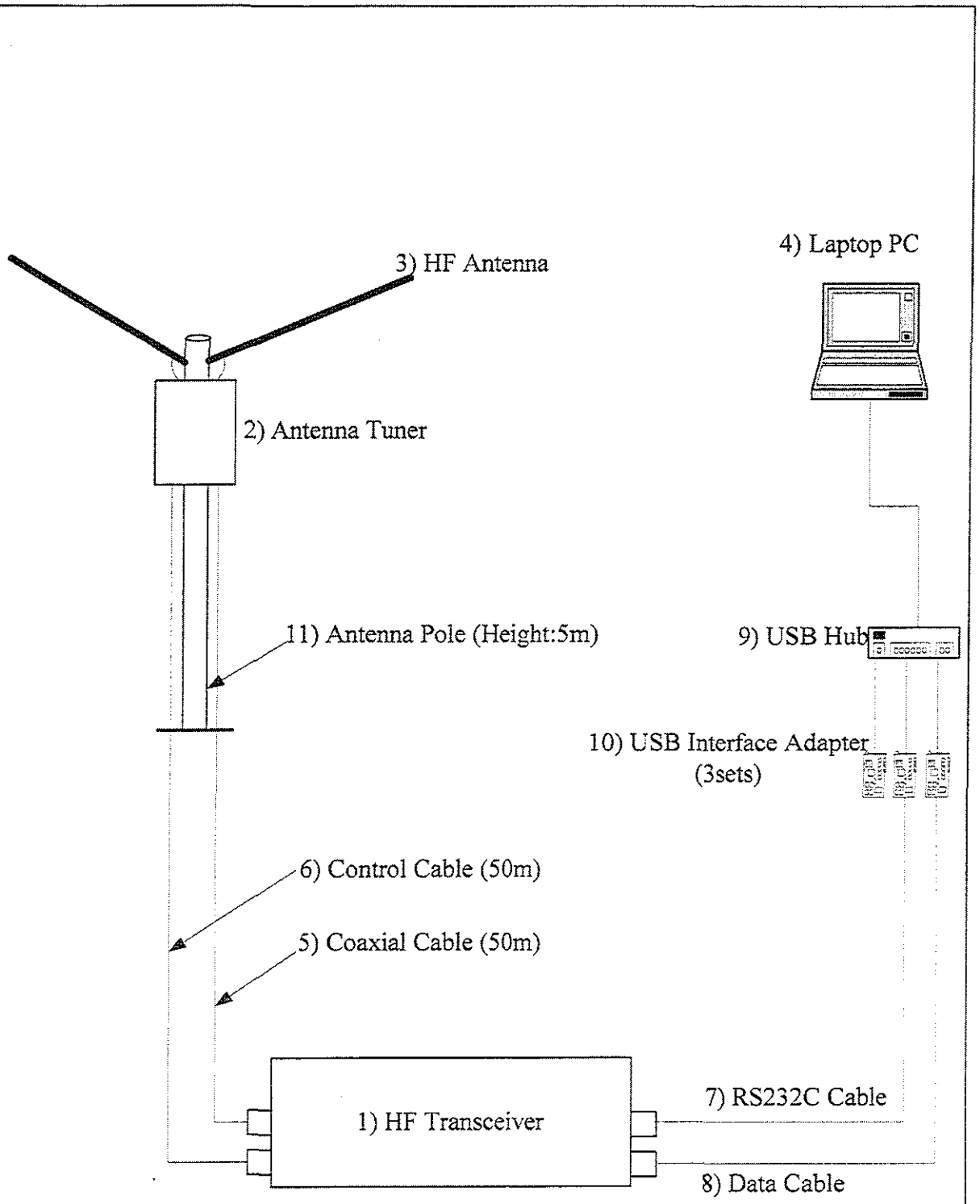
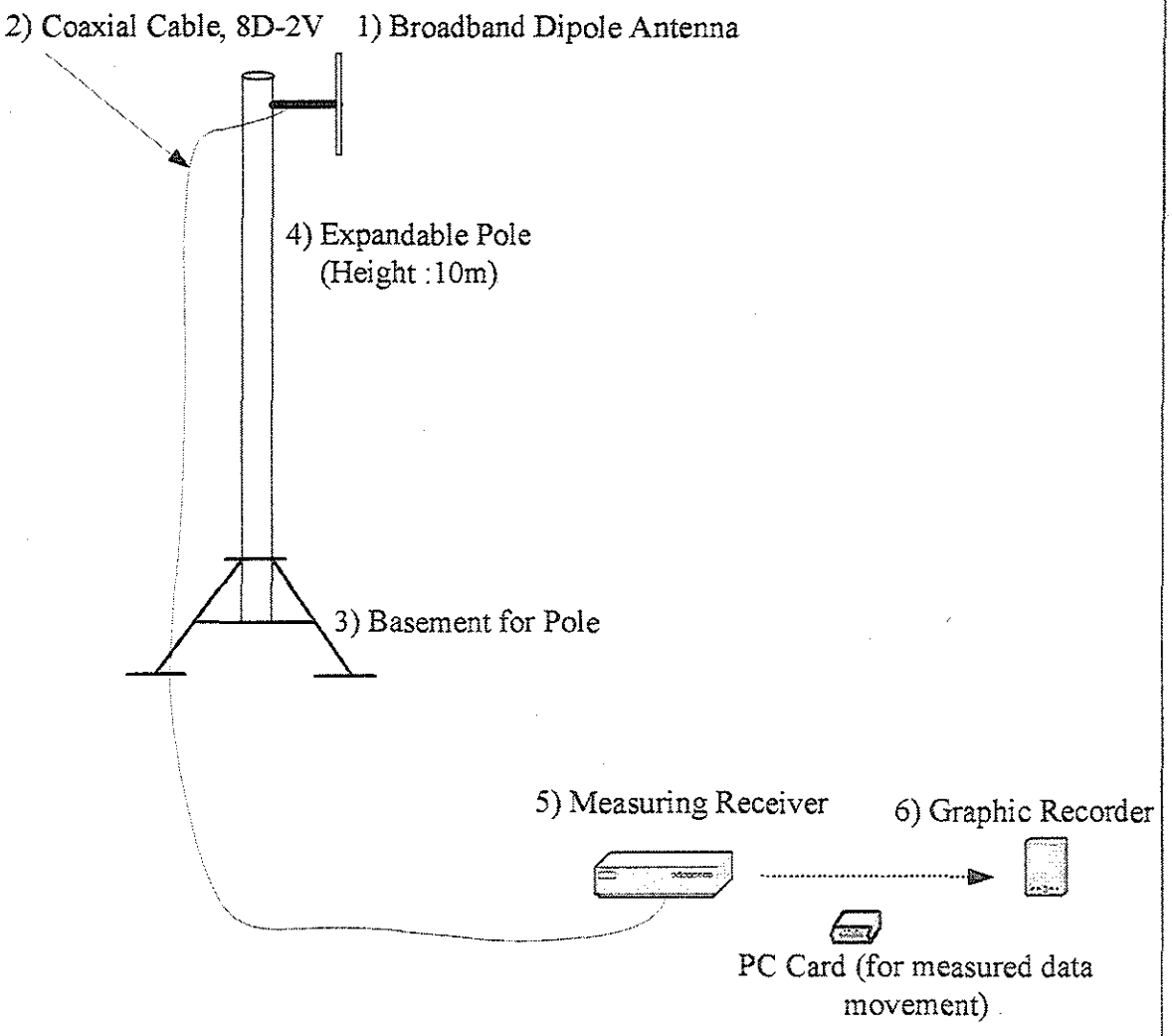


Table Radio Interference Measurement (Bhairab Bazar, 166.075MHz)





Feasibility Study for Improvement of Flood Forecasting and Warning Services in the People's Republic of Bangladesh JAPAN INTERNATIONAL COOPERATION AGENCY	Figure 1.1 Equipment Component for HF Data Transmission Test



Feasibility Study for Improvement of Flood Forecasting and Warning Services in the People's Republic of Bangladesh	Figure 2.1 Equipment Component for VHF Interference Radio Measurement
JAPAN INTERNATIONAL COOPERATION AGENCY	

ANNEX-VIII

RADIO DESIGN SHEET OF VHF TELEMETER

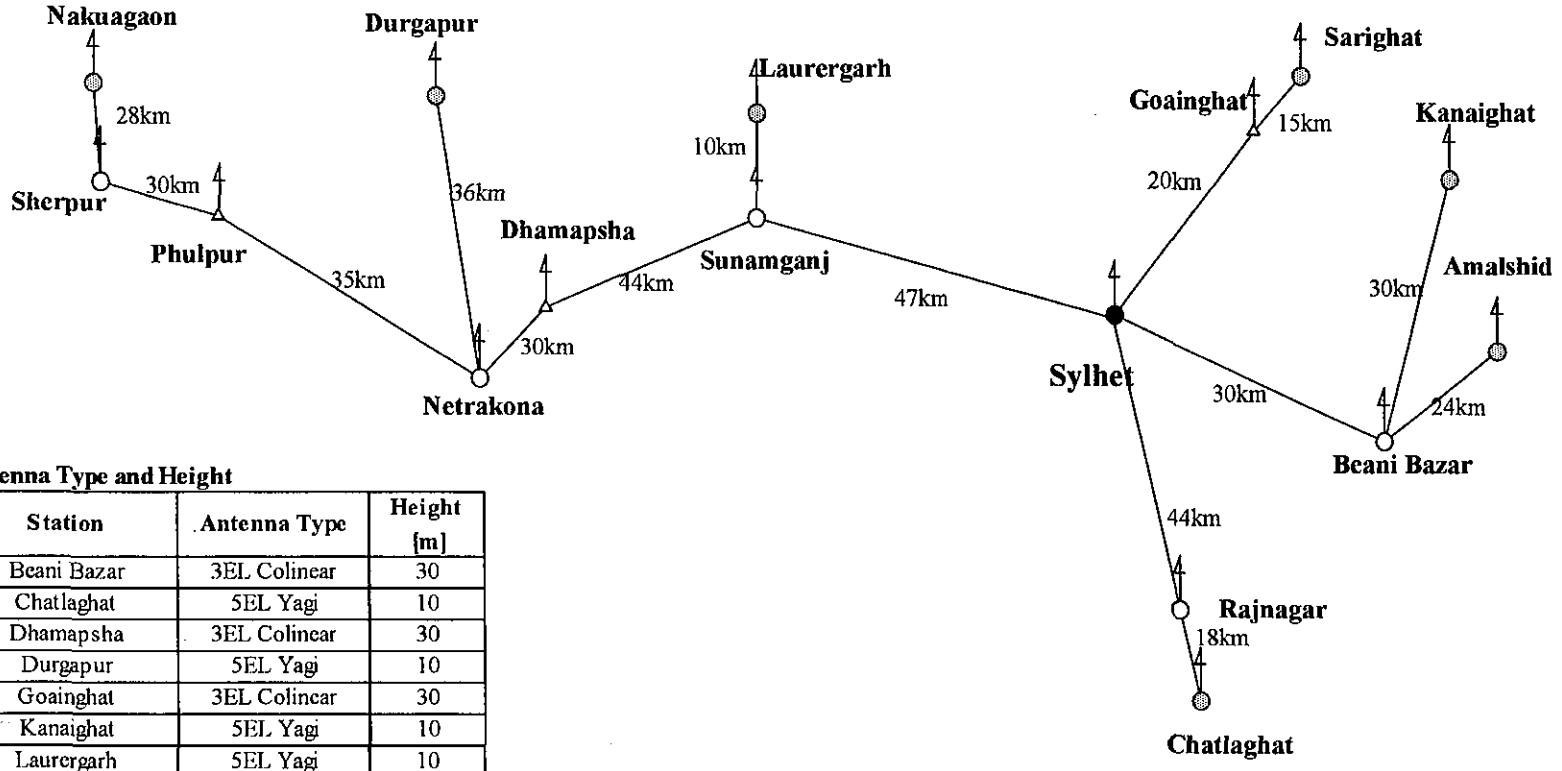
1. REGION –NE (SYLHET)

JAPAN INTERNATIONAL COOPERATION AGENCY

Feasibility Study for Improvement of Flood Forecasting and Warning Services in the People's Republic of Bangladesh

Figure 1

Telemeter Network Diagram (Region-NE)



Antenna Type and Height

Station	Antenna Type	Height [m]
Beani Bazar	3EL Colinear	30
Chatlaghat	5EL Yagi	10
Dhamapsha	3EL Colinear	30
Durgapur	5EL Yagi	10
Goainghat	3EL Colinear	30
Kanaighat	5EL Yagi	10
Laurergarh	5EL Yagi	10
Nakuagaon	5EL Yagi	10
Netrakona	3EL Colinear	30
Phulpur	3EL Colinear	30
Rajnagar	3EL Colinear	30
Sarighat	5EL Yagi	10
Sherpur	3EL Colinear	30
Sunamganj	3EL Colinear	30
Sylhet	3EL Colinear	40
Amalshid	5EL Yagi	10

Legend

●	Divisional Office
○	Repeater Station (O&M Office)
△	Repeater Station (Upazila)
◎	Telemetric Gauging Station
———	BWDB VHF Link

Table 1.1: Radio Design Sheet
Amalshid To Beani Bazar

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
							24.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-104.4	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure1.1)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 element colinear*
7	Receiving Power		Pr	dBm	-67.0				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	46.0				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	48.2				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	57.3		37.9		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	5.4				
16	**S/N at Fading**		S/Nfd	dB	**51.9**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	27.3				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	21.9				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.2: Radio Design Sheet
Kanaighat To Beani Bazar

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
							30.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-106.3	f	166.1	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.2)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB	-3.5				Filter, distributor,etc
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 element colinear*
7	Receiving Power		Pr	dBm	-72.4				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	40.6				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pmi	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pme	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Pmi)+1/(Pme)		Pm	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	42.8				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	51.9		38.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.0				
16	**S/N at Fading**		S/Nfd	dB	**45.9**				No.14-15
17	Threshold Level : Pm+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	21.9				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	15.9				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.3: Radio Design Sheet
Beani Bazar to Sylhet

No	Design item		Abb.	Unit	Distance 30.0 km Design value		Value	Unit	Remark
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		10	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-106.3	f	166	MHz	
3	Adds Loss	Diffraction Loss	Lps	dB	0				From Profile (Figure 1.3)
		Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant. sys. Loss	Feeder Loss(T)	Lft	dB	-1.7		40	m	10D-2V: 0.041dB
		Feeder Loss(R)	Lfr	dB	-2.1		50	m	10D-2V: 0.041dB
		Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	5.0				3 element colinear
6	Antenna Gain(R)		Gar	dB	5.0				3 element colinear
7	Receiving Power		Pr	dBm	-74.6				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	38.4				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pne	dBm			10	dB	Noise deterioration
11	Receiver Noise Power: 1/(Pni)+1/(Pne)		Pn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	40.6				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	49.7		38.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.0				
16	**S/N at Fading**		S/Nfd	dB	**43.7**				No.14-15
17	Threshold Level : Pn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	19.7				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	13.7				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.4: Radio Design Sheet
Sarighat To Goainghat

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
							15.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-100.3	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.4)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 element colinear*
7	Receiving Power		Pr	dBm	-62.9				*Sum of No.1 to 6.*
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	50.1				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	*Receiver Noise Power: 1/(Prni)+1/(Prne)*		*Prn*	*dBm*	-115.2				
12	S/N at High Frequency		C/N	dB	52.3				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	61.4		37.0		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	4.5				
16	**S/N at Fading**		S/Nfd	dB	**56.9**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	31.4				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	26.9				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.5: Radio Design Sheet
Goainghat to Sylhet

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					Distance		*20.0*	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-102.8	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.5)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		*40*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-2.1		*50*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*5.0*				*3 element colinear*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 element colinear*
7	Receiving Power		Pr	dBm	-71.1				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	41.9				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Pni)+1/(Pne)		Pn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	44.1				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	53.2		37.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	5.0				
16	**S/N at Fading**		S/Nfd	dB	**48.2**				No.14-15
17	Threshold Level : Pn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	23.2				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	18.2				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.6: Radio Design Sheet
Chatlaghat to Rajnagar

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					18.0 km				
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-101.9	f	166	MHz	
3	Adds. Loss	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.6)**
		Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant. sys. Loss	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
		Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
		Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB	-9				
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 element Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 element colinear*
7	Receiving Power		Pr	dBm	-73.5				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	39.5				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	41.7				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	50.8		37.3		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	4.8				
16	**S/N at Fading**		S/Nfd	dB	**46.0**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	20.8				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	16.0				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.7: Radio Design Sheet
Rajnagar to Sylhet

No	Design item		Abb.	Unit	Distance 44.0 km Design value		Value	Unit	Remark
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		10	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-109.7	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	0				**From Profile (Figure 1.7)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		40	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-2.1		50	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	5.0				3 element colinear
6	Antenna Gain(R)		Gar	dB	5.0				3 element colinear
7	Receiving Power		Pr	dBm	-78.0				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	35.0				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			10	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	37.2				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	46.4		39.9		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	7.4				
16	**S/N at Fading**		S/Nfd	dB	**39.0**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	16.4				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	9.0				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.8: Radio Design Sheet
Sunamganj to Sylhet

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
							47.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-110.2	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.8)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		*40*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-2.1		*50*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*5.0*				*3 elements Colinear*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 elements Colinear*
7	Receiving Power		Pr	dBm	-78.5				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	34.5				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	36.7				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	45.8		40.2		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	7.7				
16	**S/N at Fading**		S/Nfd	dB	**38.1**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	15.8				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	8.1				No.18-15
20	Result				**OK**				**No.16>34.5dB**

Table 1.9: Radio Design Sheet
Laurergarh To Sunamganj

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					Distance		*10.0*	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-96.8	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.9)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 elements colinear*
7	Receiving Power		Pr	dBm	-59.4				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	53.6				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	55.8				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	64.9		36.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	4.0				
16	**S/N at Fading**		S/Nfd	dB	**60.9**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	34.9				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	30.9				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.10: Radio Design Sheet
Dhamapsha To Sunamganj

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					Distance		*44.0*	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-109.7	f	166	MHz	
3	Adds Loss	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.10)**
		Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant. sys. Loss	Feeder Loss(T)	Lft	dB	-1.7		*40*	m	10D-2V: 0.041dB
		Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
		Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*5.0*				*3 elements colinear*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 elements colinear*
7	Receiving Power		Pr	dBm	-77.6				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	35.4				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pmi	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Pmi)+1/(Pne)		Pn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	37.6				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	46.8		39.9		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	7.4				
16	**S/N at Fading**		S/Nfd	dB	**39.4**				No.14-15
17	Threshold Level : Pn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	16.8				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	9.4				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.11: Radio Design Sheet
Netrakona to Dhamapsha

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					30.0			km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-106.3	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.11)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	*tf*	*dB*	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		*40*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	*5.0*				*3 elements colinear*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 elements colinear*
7	Receiving Power		Pr	dBm	-74.2				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	38.8				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	41.0				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	50.1		38.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.0				
16	**S/N at Fading**		S/Nfd	dB	**44.1**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	20.1				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	14.1				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.12: Radio Design Sheet
Durgapur To Netrakona

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					Distance		*36.0*	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		*10*	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-107.9	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	*0*				**From Profile (Figure 1.12)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		*20*	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		*40*	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB	-7.5				RX Antenna
5	Antenna Gain(T)		Gat	dB	*9.5*				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	*5.0*				*3 elements colinear*
7	Receiving Power		Pr	dBm	-78.0				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	35.0				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pmi	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pne	dBm			*10*	dB	Noise deterioration
11	Receiver Noise Power: 1/(Pmi)+1/(Pne)		Pn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	37.2				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	46.3		39.1		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.6				
16	**S/N at Fading**		S/Nfd	dB	**39.7**				No.14-15
17	Threshold Level : Pm+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	16.3				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	9.7				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.13: Radio Design Sheet
Phulpur to Netrakona

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
					Distance		35.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		10	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-107.7	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	0				From Profile (Figure 1.13)
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	*tf*	*dB*	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		40	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		40	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	*Antenna Gain(T)*		Gat	dB	5.0				*3 elements colinear*
6	Antenna Gain(R)		Gar	dB	5.0				*3 elements colinear*
7	Receiving Power		Pr	dBm	-75.6				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	37.4				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			10	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	39.6				No.7-11
13	*S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3*		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	48.7		39.0		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.5				
16	**S/N at Fading**		S/Nfd	dB	**42.2**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	18.7				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	12.2				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.14: Radio Design Sheet
Sherpur to Phulpur

No	Design item		Abb.	Unit	Distance / Design value		Distance / Value	Unit	Remark
							30.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		10	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-106.3	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	0				**From Profile (Figure 1.14)**
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	tf	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-1.7		40	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		40	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	5.0				*3 elements colinear*
6	Antenna Gain(R)		Gar	dB	5.0				*3 elements colinear*
7	Receiving Power		Pr	dBm	-74.2				*Sum of No.1 to 6.*
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	38.8				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Pni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Pne	dBm			10	dB	Noise deterioration
11	*Receiver Noise Power: 1/(Pni)+1/(Pne)*		*Pn*	*dBm*	-115.2				
12	S/N at High Frequency		C/N	dB	41.0				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	50.1		38.5		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	6.0				
16	**S/N at Fading**		S/Nfd	dB	**44.1**				No.14-15
17	Threshold Level : Pn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	20.1				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	14.1				No.18-15
20	Result				OK				**No.16>34.5dB**

Table 1.15 : Radio Design Sheet
Nakugaon to Sherpur

No	Design item		Abb.	Unit	Distance / Design value		Value	Unit	Remark
							28.0	km	
1	Power Output: 10log"P"(W)+30		Pt	dBm	40		10	W	
2	Free Space Loss: 20log"f"(MHz)+20log"d"(km)+32.4		Lpf	dB	-105.7	f	166	MHz	
3	Adds	Diffraction Loss	Lps	dB	0				From Profile (Figure 1.15)
	Loss	Reflection Loss	LAL	dB					
		Topographic Coefficient	*tf*	dB	-10.0				Adjusted by the test
		Supplment value by Test	Z	dB					
4	Ant.	Feeder Loss(T)	Lft	dB	-0.9		20	m	10D-2V: 0.041dB
	sys.	Feeder Loss(R)	Lfr	dB	-1.7		40	m	10D-2V: 0.041dB
	Loss	Coaxial Arrester Loss	Lfa	dB	-1.0				0.5 x 2
		Other Loss	Ld	dB	-3.5				Filter, distributor,etc
		Antenna directivity	La	dB					
5	Antenna Gain(T)		Gat	dB	9.5				*5 elements Yagi*
6	Antenna Gain(R)		Gar	dB	5.0				*3 elements colinear*
7	Receiving Power		Pr	dBm	-68.3				Sum of No.1 to 6.
8	Receiving Input Voltage (Open end): 0dbμV=-113dBm			dBμV	44.7				No.7+113
9	Internal Noise Power: 10log"B"+NF-144		Prni	dBm	-125.2	B	12	kHz	
						NF	8	dB	
10	External Noise Power: dBμV-113		Prne	dBm			10	dB	Noise deterioration
11	Receiver Noise Power: 1/(Prni)+1/(Prne)		Prn	dBm	-115.2				
12	S/N at High Frequency		C/N	dB	46.9				No.7-11
13	S/N Improvement coefficient: 10log3"fd"^2x B/2"fm"^3		I	dB	9.1	fd:	3.5	kHz	Max 70% distortion
						fm:	3	kHz	
14	S/N at Normal Condition		S/N	dB	56.0		38.3		No12+13
15	Fading Value Presumed: 0.1dB/km+3dB		fd	dB	5.8				
16	**S/N at Fading**		S/Nfd	dB	**50.2**				No.14-15
17	Threshold Level : Prn+(S/NL-I)		PL	dBm	-94.3				No.11+30-9.1
18	Fading margin relative to threhold level: Pr-PL		ML	dB	26.0				No.7-17
19	Magin relative to threshold level while a fading: ML-Lfd		Mf	dB	20.2				No.18-15
20	Result				OK				**No.16>34.5dB**