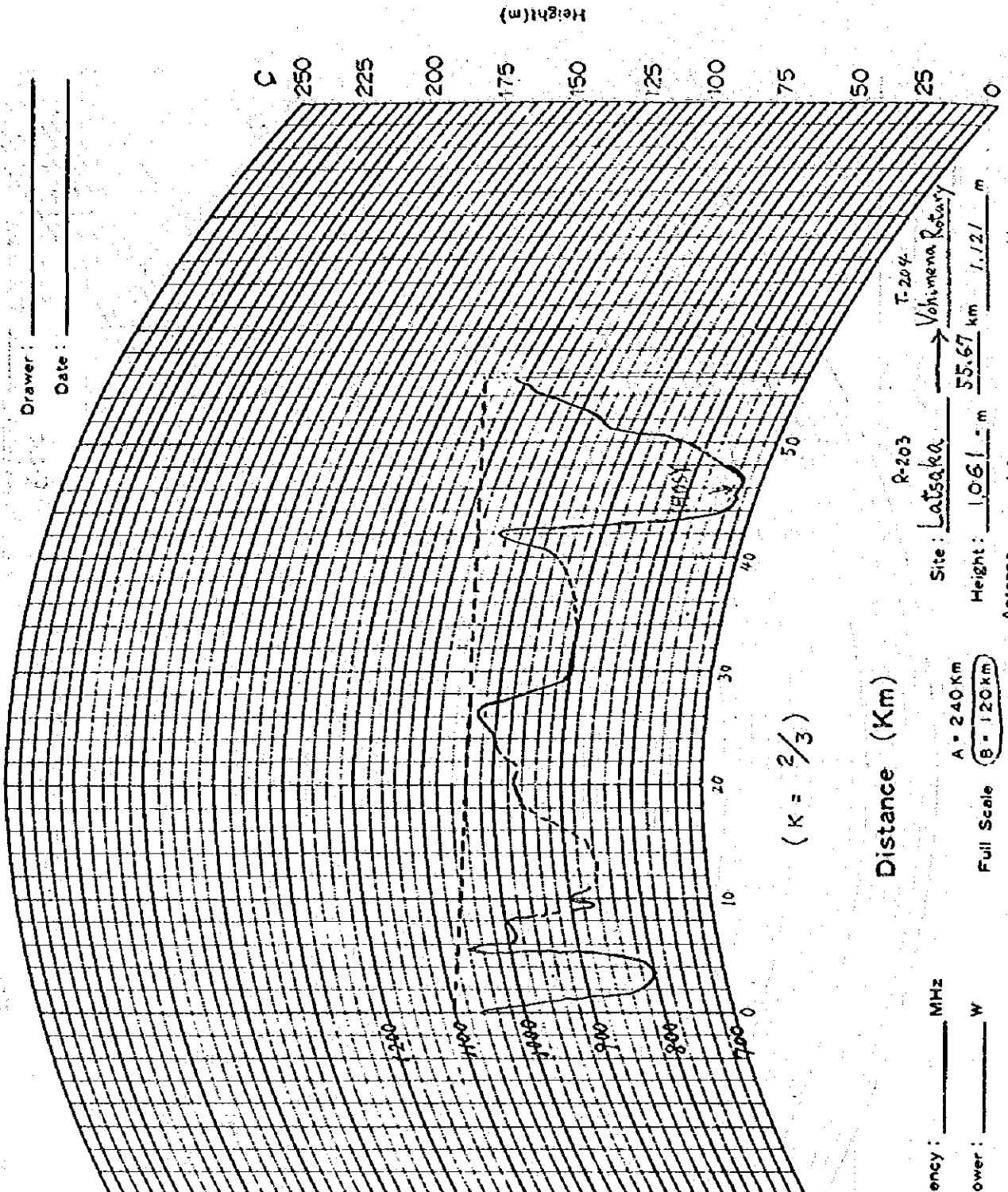


PATH PROFILE

Name of Route: _____
 No.: (12)
 Drawer: _____
 Date: _____



R-203	Latsaka
0 km	1061 m
3.7	800
5.6	1060
7.8	980
10.0	900
20.0	970
24.0	1000
26.3	1030
28.4	900
31.0	895
35.0	950
41.9	1050
45.0	925
50.0	830
55.7	1121
T-204	Vohimena Rotary

$(K = \frac{2}{3})$

Distance (Km)

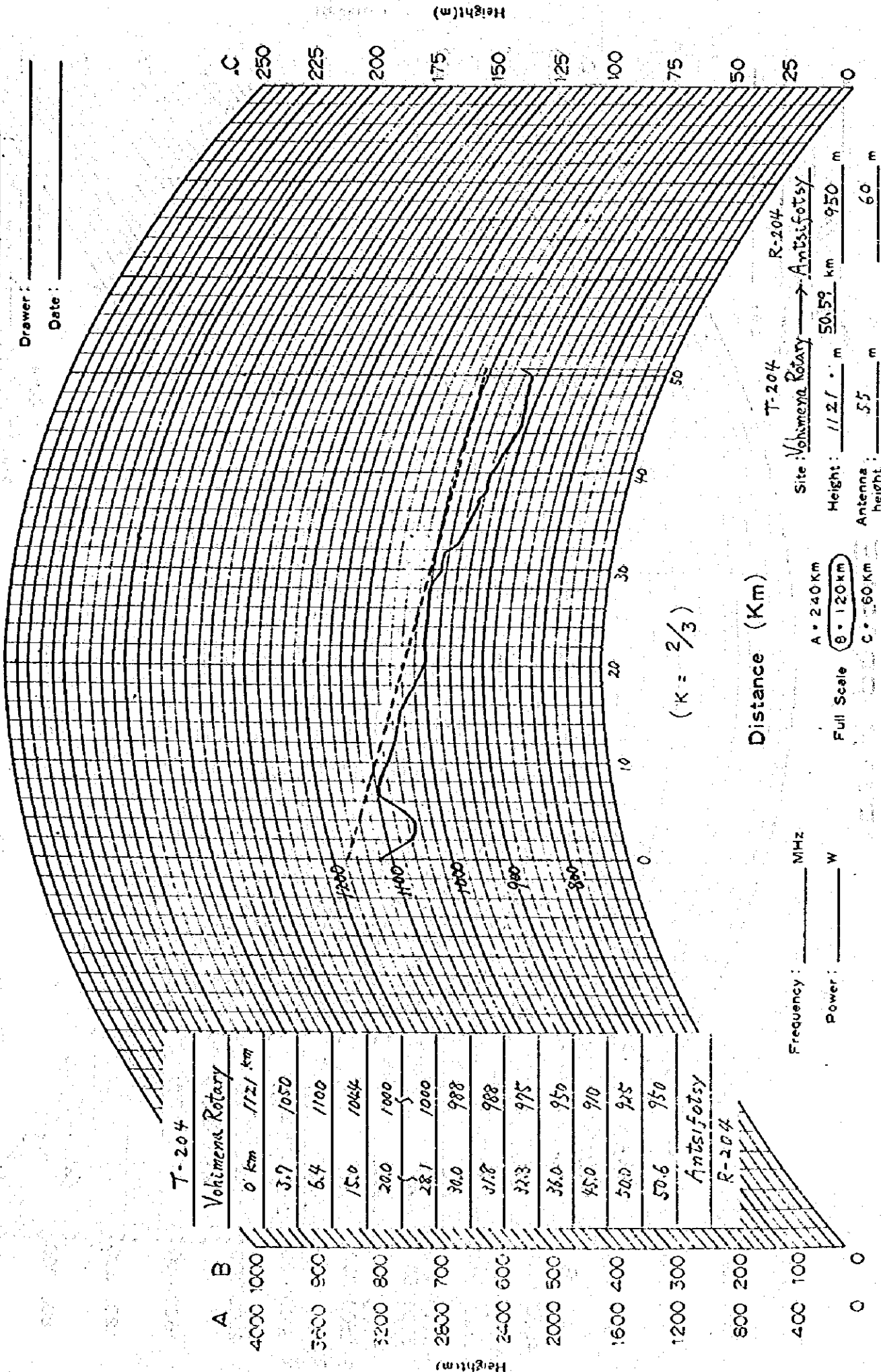
Frequency: _____ MHz
 Power: _____ W

Full Scale
 A = 240 Km
 B = 120 Km
 C = 60 Km

R-203
 Site: Latsaka
 Height: 1061 m
 Antenna height: 40 m
 T-204
 Site: Vohimena Rotary
 Height: 1121 m
 Antenna height: 45 m

PATH PROFILE

Name of Route: _____
 No.: (13)
 Drawer: _____
 Date: _____



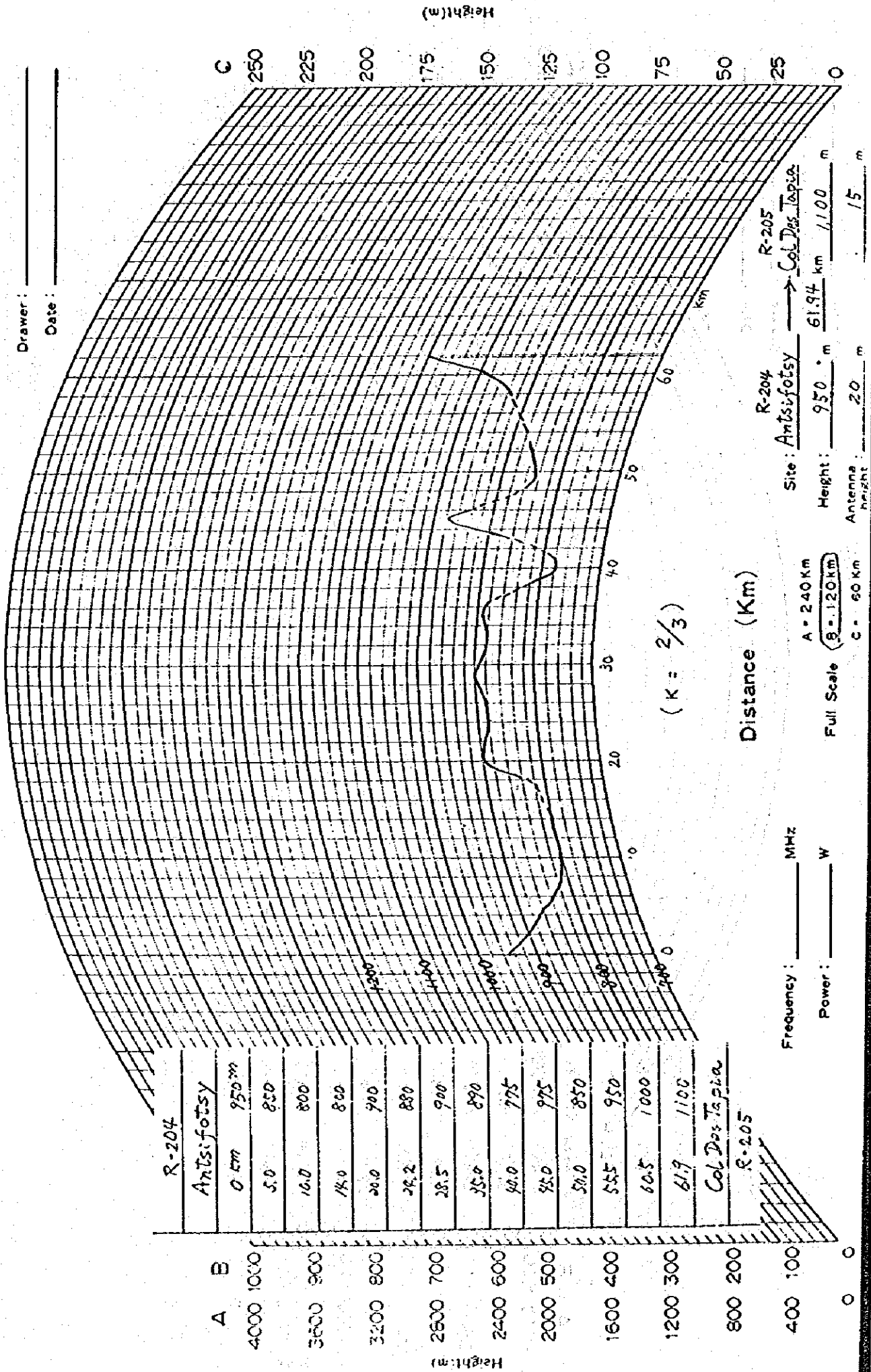
A	B	T-204	
4000	1000	Vohimena Rotary	
3600	900	0 km	1121 km
3200	800	3.7	1050
2800	700	6.4	1100
2400	600	15.0	1064
2000	500	20.0	1000
1600	400	28.1	1000
1200	300	30.0	988
800	200	31.8	988
400	100	32.3	975
0	0	36.0	950
		45.0	910
		50.0	925
		50.6	950
		Antsifotsy	
		R-204	

$(K = \frac{2}{3})$

Frequency: _____ MHz
 Power: _____ W
 Distance (Km): _____
 A = 240 Km
 Full Scale 8 = 120 km
 C = 60 Km
 Site: Vohimena Rotary → Antsifotsy
 T-204 R-204
 Height: 1121 m 50.59 km 950 m
 Antenna height: 55 m 60 m

PATH PROFILE

Name of Route: _____
 No.: (14)
 Drawer: _____
 Date: _____



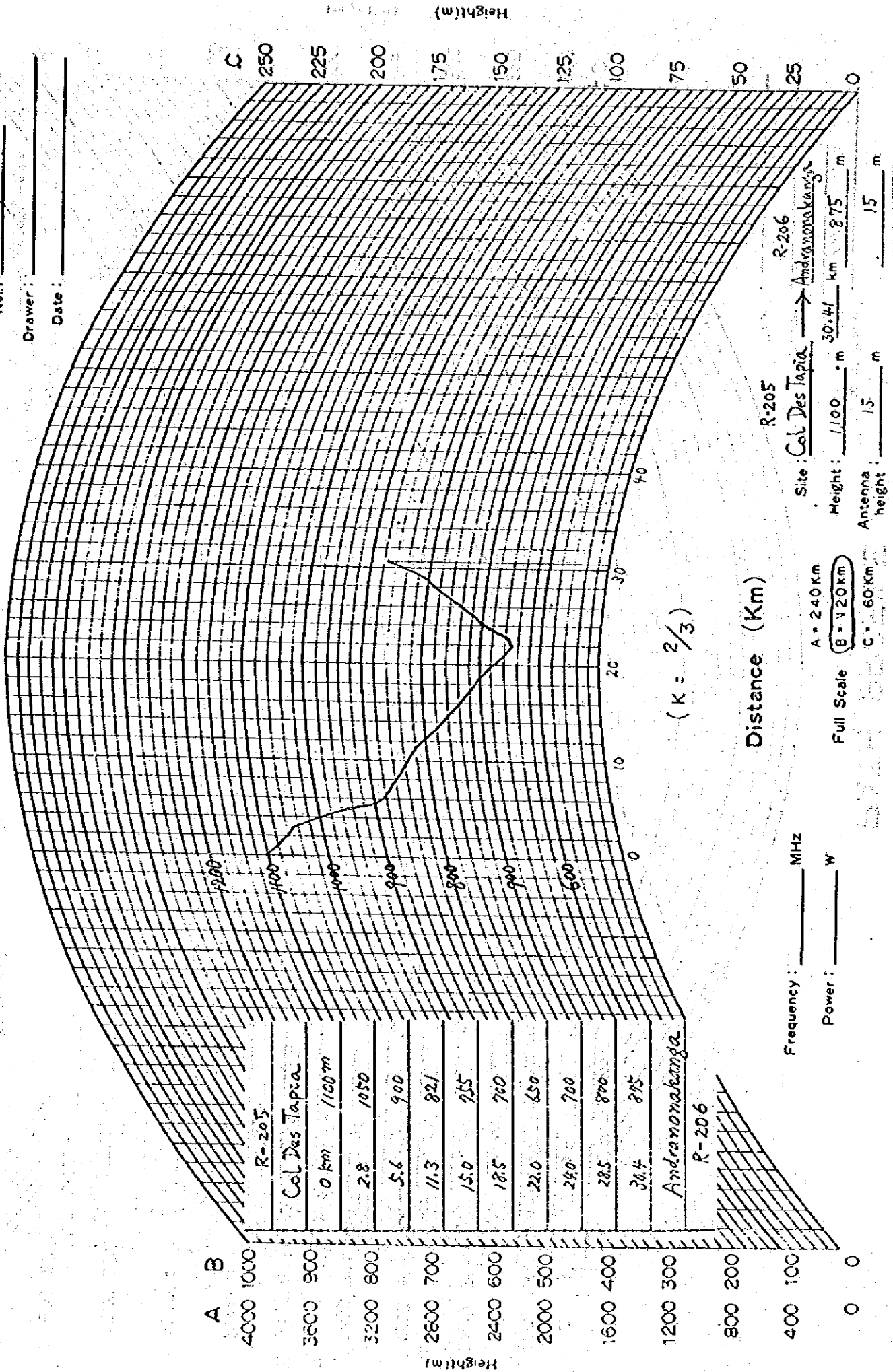
R-204 Site: Antsifotsy → Col. Des. Tapia R-205
 Height: 950 m 61.94 km 1100 m
 Antenna height: 20 m 15 m

A = 240 Km
 Full Scale $(S = 120 Km)$
 C = 60 Km

Frequency: _____ MHz
 Power: _____ W

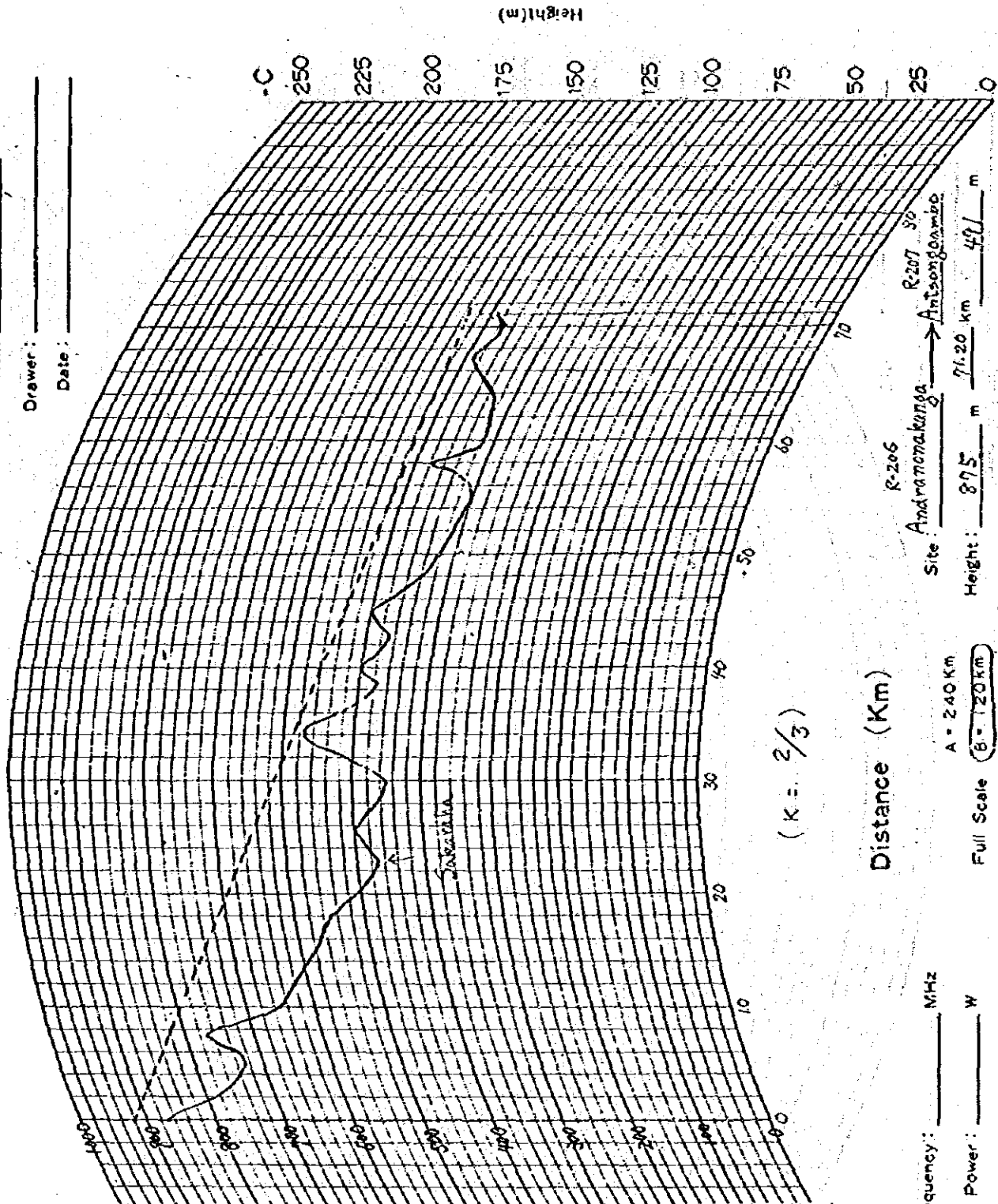
PATH PROFILE

Name of Route: _____
 No.: (15)
 Drawer: _____
 Date: _____



PATH PROFILE

Name of Route: _____
 No.: (16)
 Drawer: _____
 Date: _____



A	f	R-206
4000	10x	Andranonakanga
		0 km 895m
3500	9x	5.0 225
		7.5 770
		10.0 650
		13.3 600
		18.0 550
3200	8x	22.5 470
		25.5 500
		30.0 450
		36.3 575
		38.0 625
		40.0 500
		42.5 620
		45.0 500
		48.0 425
2000	50	55.0 400
		58.0 500
		61.0 415
		65.0 550
		67.5 470
		70.3 475
		71.2 491
1200	30	Antsongoambo
800	20	R-207
400	100	

(K = 2/3)

Distance (Km)

Frequency: _____ MHz
 Power: _____ W

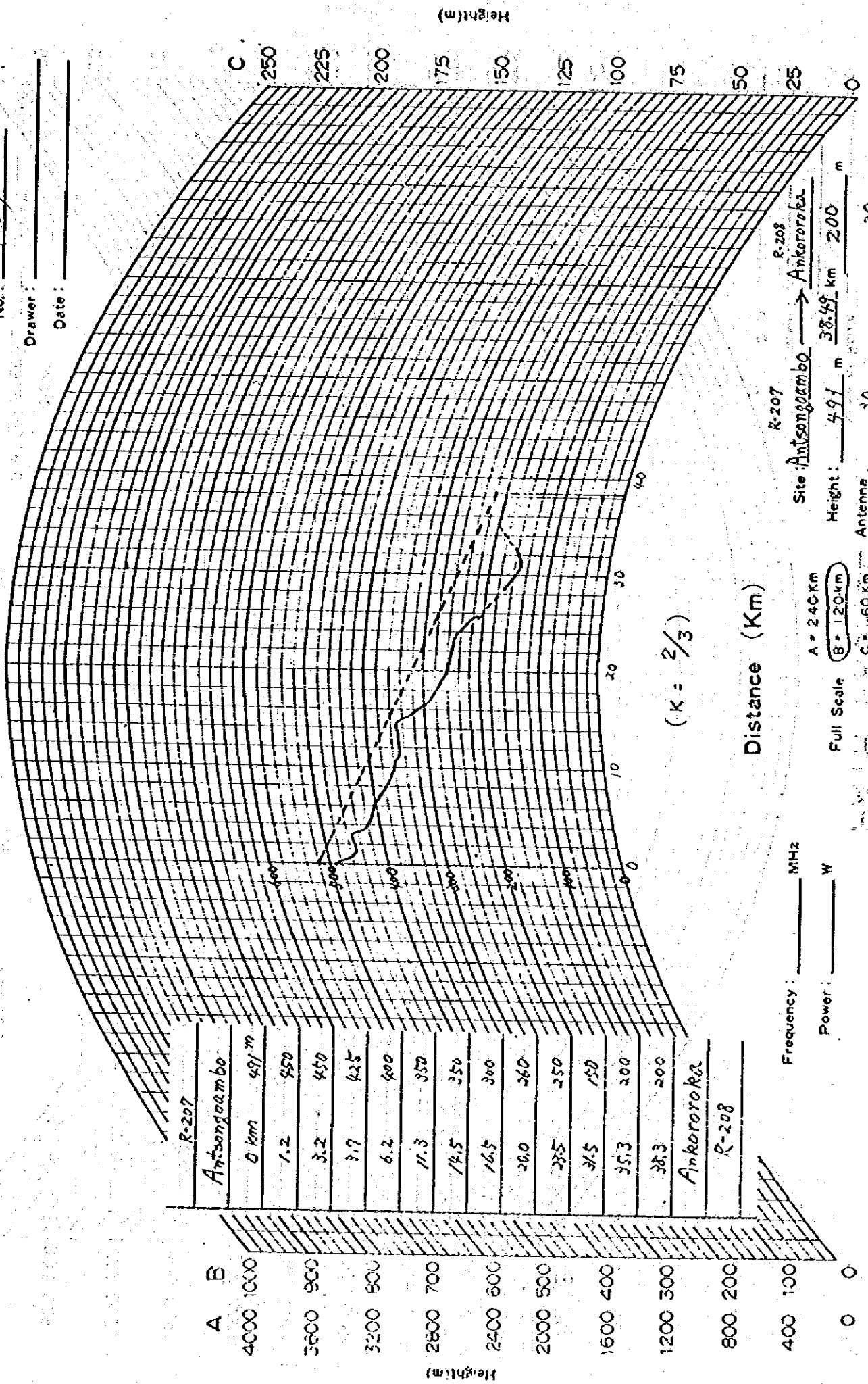
A = 240 Km
 Full Scale (B = 120 Km)
 C = 60 Km

R-206
 Site Andranonakanga → Antsongoambo R-207
 Height: 875 m 71.20 km 49.1 m
 Antenna height: 45 m 45 m

DATUM PROFILE

PATH PROFILE

Name of Route: _____
 No.: (17)
 Drawer: _____
 Date: _____



A	B	Distance (km)	Height (m)
4000	1000	0	491
3600	900	1.2	450
3200	800	3.2	450
2800	700	7.7	425
2500	600	16.2	400
2200	500	28.5	350
2000	400	36.5	350
1800	300	38.3	300
1600	200	40.0	260
1400	100	38.5	250
1200	0	36.5	150
1000	0	35.3	200
800	0	38.3	200

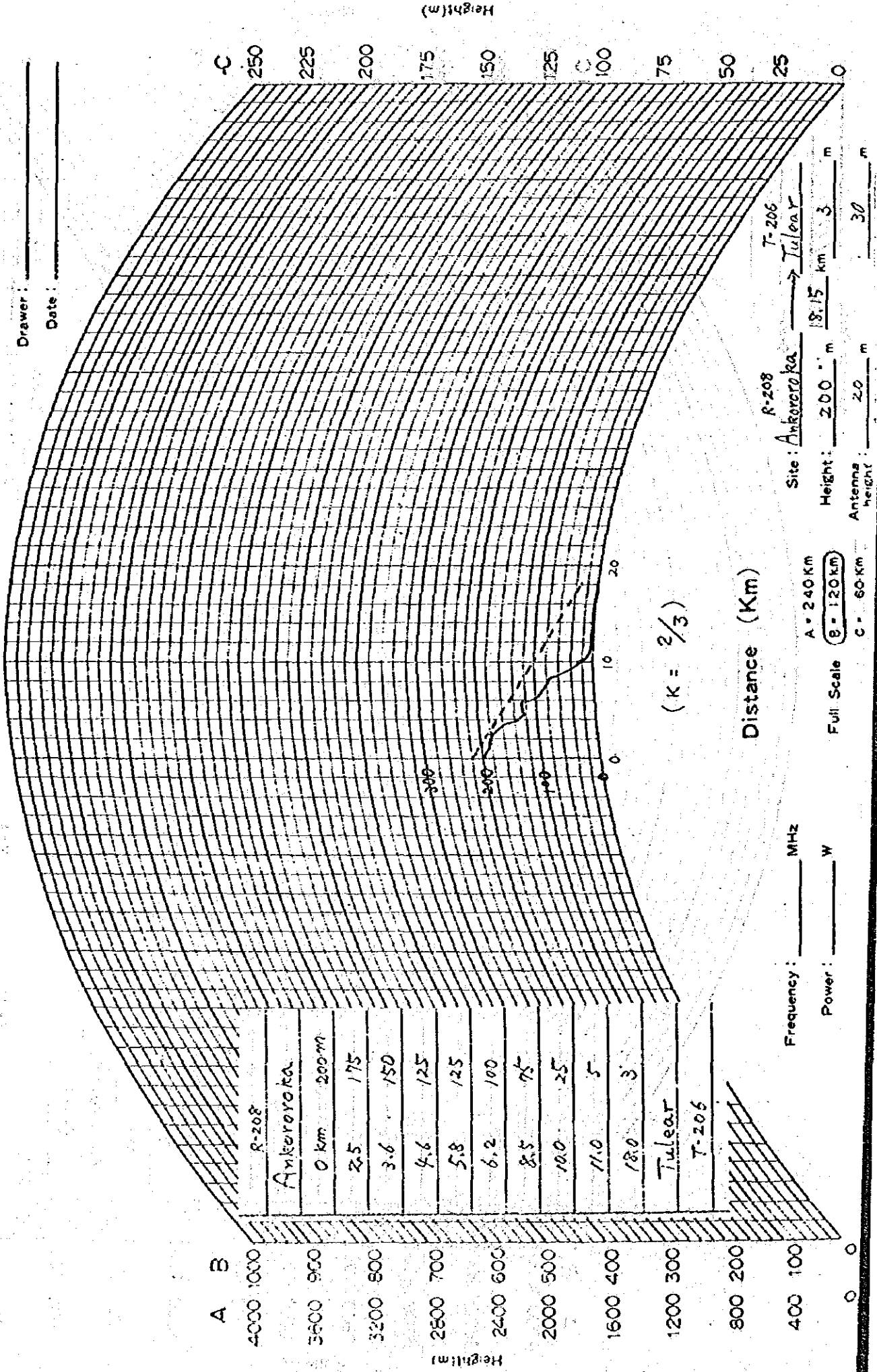
$(K = \frac{2}{3})$

Site: Antsongambo → Ankororoka
 R-207 R-208
 Height: 491 m 38.49 km 200 m
 Antenna height: 30 m 20 m

Frequency: _____ MHz
 Power: _____ W
 A = 240 Km
 Full Scale B = 120 km
 C = 60 Km

PATH PROFILE

Name of Route: _____
 No.: 118
 Drawer: _____
 Date: _____



$(K = \frac{2}{3})$

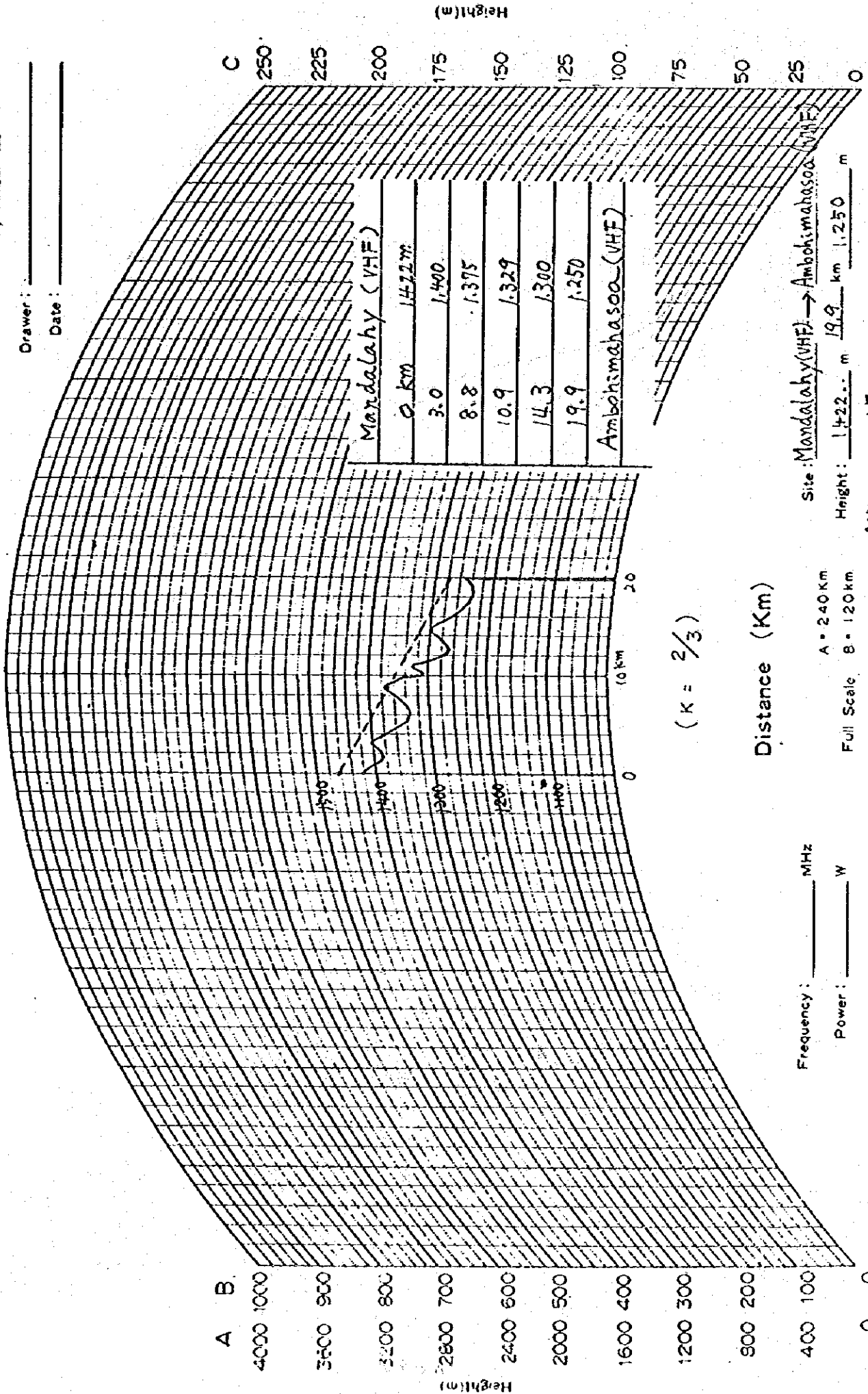
Frequency: _____ MHz
 Power: _____ W

A = 240 Km
 Full Scale B = 120 Km
 C = 60 Km

Site: R-208 Ankeroroka → T-206 Tulear
 Height: 200 m 30.15 km 3 m
 Antenna height: 20 m 30 m

PATH PROFILE

Name of Route: _____
 No.: 17
 Drawer: _____
 Date: _____

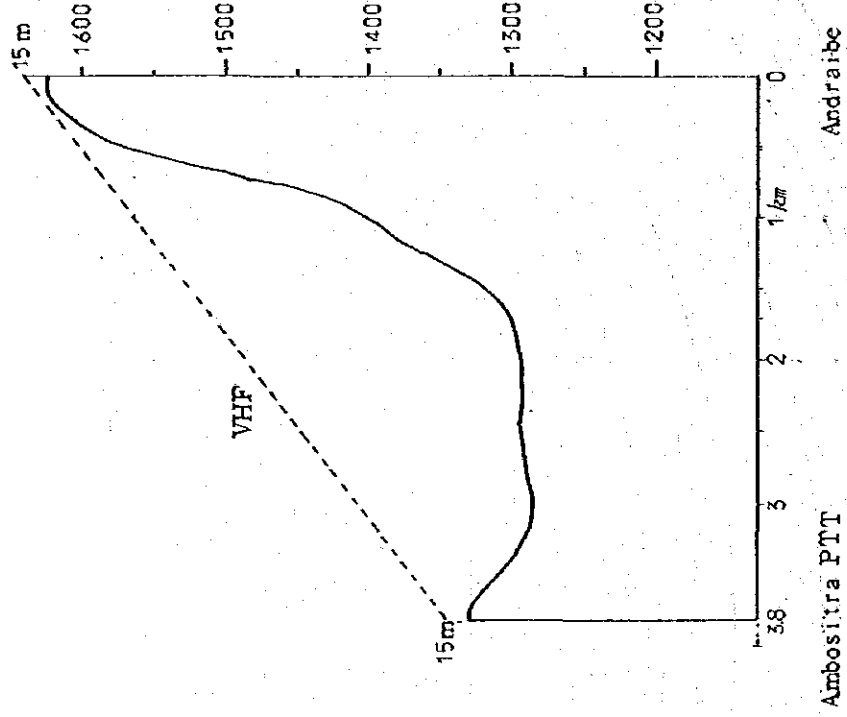


$(K = 2/3)$

Site: Mandalahy(VHF) → Ambohimahasoa (VHF)
 Height: 1422 m 19.9 km 1250 m
 Antenna height: 45 m 30 m

Frequency: _____ MHz
 Power: _____ W
 A = 240 Km
 Full Scale B = 120 km
 C = 60 km

- 1700



R-104
Andraibe

0	km	...	1	6	2	5	m
0.5	...	1	5	7	5		
1.0	...	1	4	0	0		
1.7	...	1	3	0	0		
3.8	...	1	3	3	0		

Ambohitra PTT
T-106

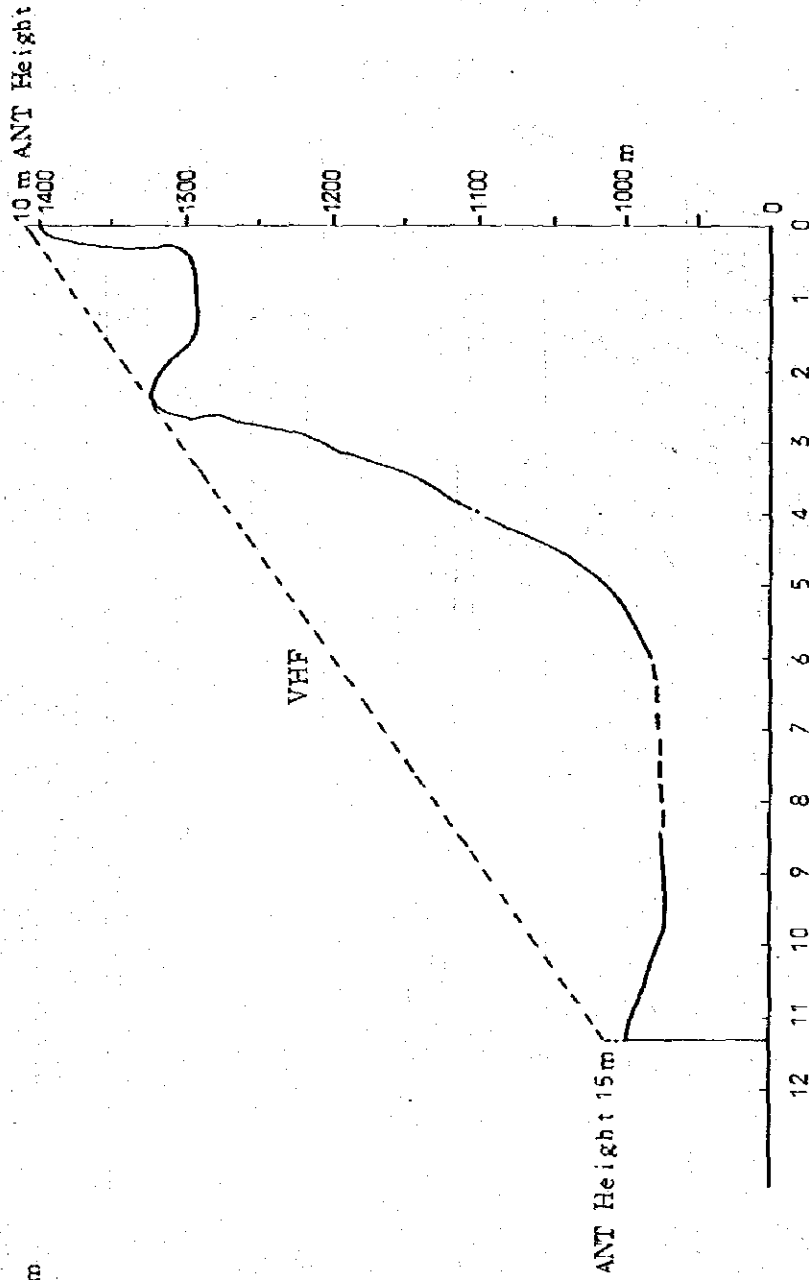
R-201

Tsimandremana Pass (≡ Andohariana)

0	Am	...	1400	m
0.3	...	...	1300	
2.4	...	...	1325	
3.0	...	...	1200	
4.0	...	...	1100	
5.4	...	...	1000	
10.0	...	...	975	
11.3	...	...	1000	

Ambalavao

T-203



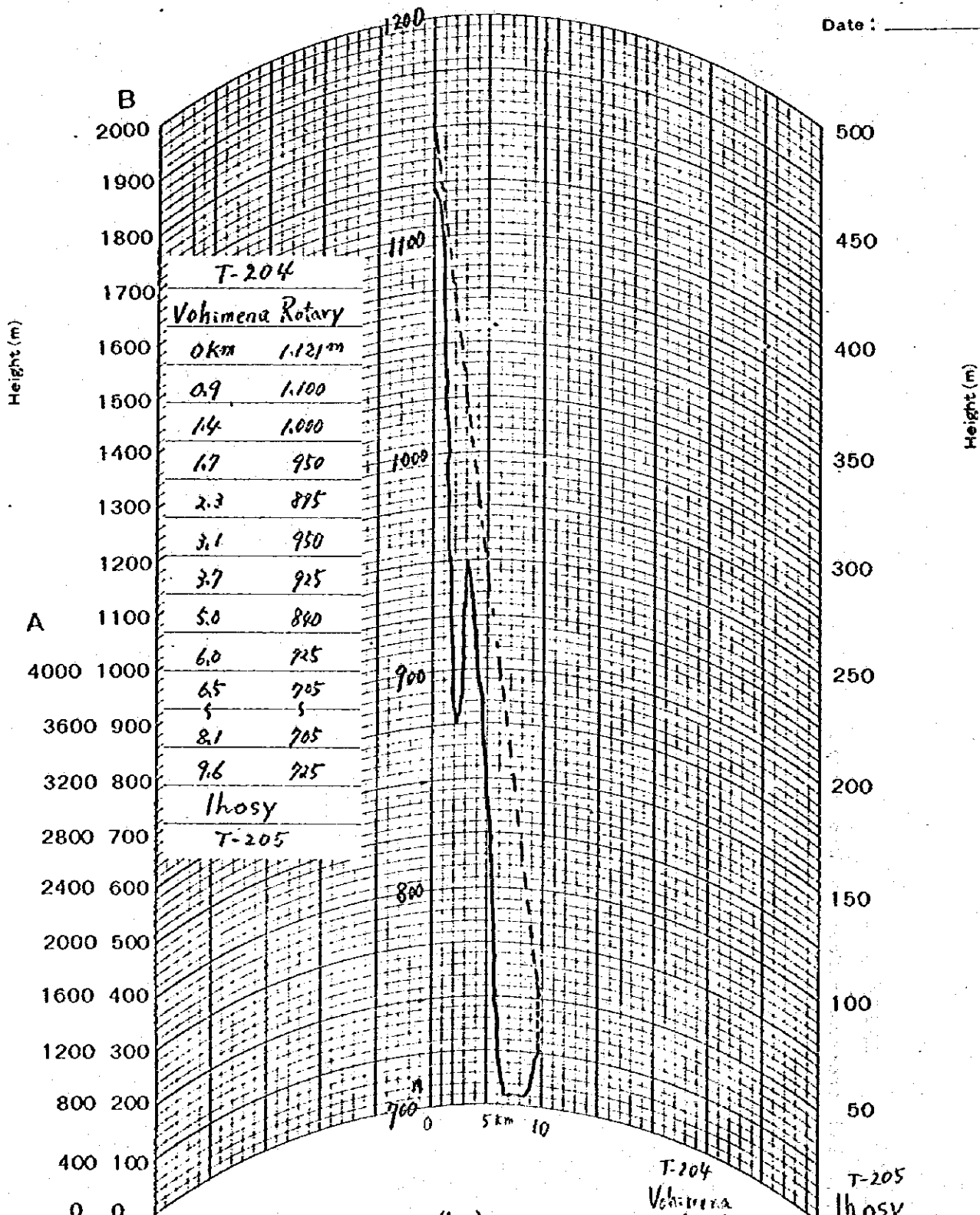
Tsimandremana Pass
(≡ Andohariana)

Ambalavao

PATH PROFILE

(K = 4/3)

Name of Route : _____
 No. : (32)
 Drawer : _____
 Date : _____



Distance (km) T-204 Vohimena Rotary Site: Rotary height: 1121 m 9.6 km T-205 Ihosy height: 725 m

Frequency : _____ MHz Antenna Height: 40 m 30 m

Power : _____ W Full Scale A=240km B=120km C=60km

PATH PROFILE

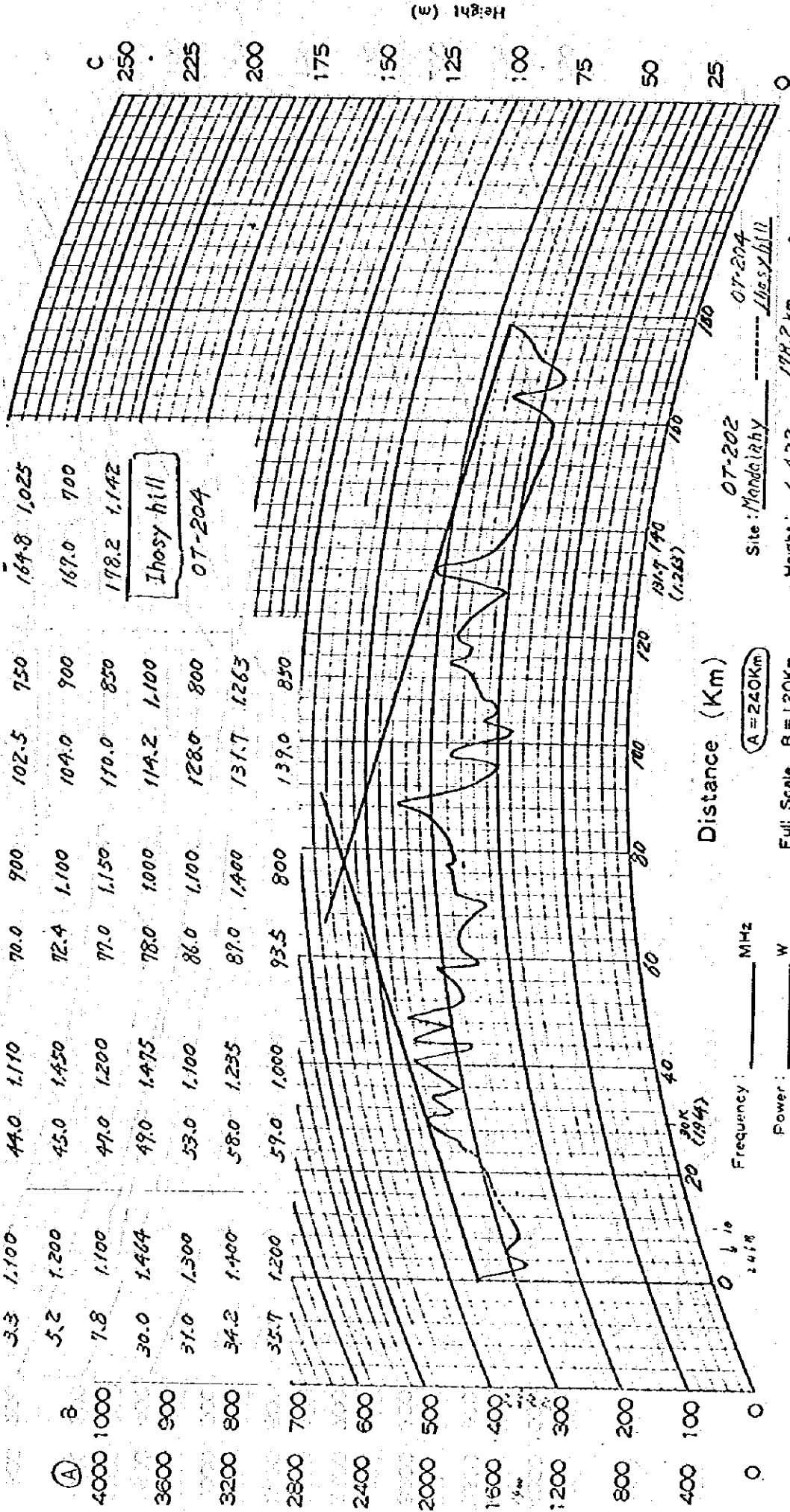
Name of Route: (33)
 No.: _____
 Drawer: _____
 Date: _____

07-202

Mandalahy

(K=4/3)

0 KM	1.422 m	41.0 Km	1.475 m	64.5 Km	1.100 m	97.5 Km	1.100 m	159.0 Km	714 m
3.3	1.100	44.0	1.110	70.0	900	102.5	750	164.8	1,025
5.2	1.200	45.0	1.450	72.4	1.100	104.0	900	169.0	700
7.8	1.100	47.0	1.200	77.0	1.150	110.0	850	178.2	1,142
30.0	1.464	49.0	1.475	78.0	1.000	114.2	1,100	Ihoasy hill 07-204	
31.0	1.500	53.0	1.100	86.0	1.100	128.0	800		
34.2	1.400	58.0	1.235	89.0	1.400	131.7	1,263		
35.7	1.200	59.0	1.000	93.5	800	139.0	850		



07-202
 Site: Mandalahy
 Height: 1.422 m
 Antenna height: _____ m

07-204
 Site: Ihoasy hill
 Height: 1.422 m
 Antenna height: _____ m

Frequency: _____ MHz
 Power: _____ W
 Full Scale B = 120 Km
 C = 60 Km

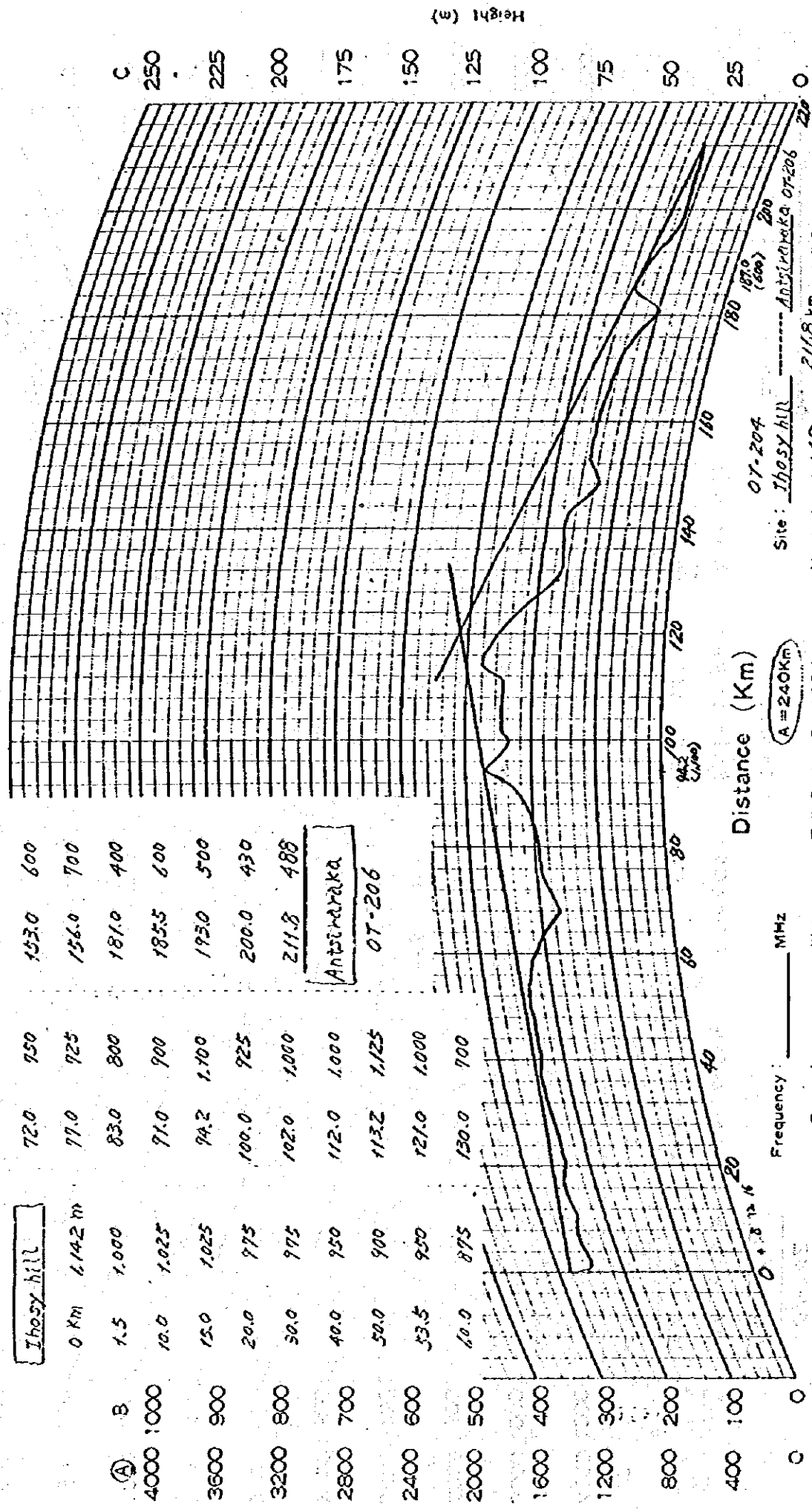
PATH PROFILE

Name of Route: _____
 No.: (34)
 Drawer: _____
 Date: _____

(K=4/3)

OT-204	67.5 km	700 m	149.0 km	516 m
<u>Ihosi Hill</u>	72.0	950	153.0	600
0 km	1.142 m	925	156.0	700
B	1.5	1.000	181.0	400
A	10.0	1.025	185.5	600
	15.0	1.025	193.0	500
	20.0	975	200.0	430
	30.0	975	211.8	488
	40.0	950	112.0	1.000
	50.0	900	113.2	1.125
	53.5	950	121.0	1.000
	60.0	875	130.0	700

Antsiraraka
OT-206



Distance (Km)

Site: Ihosi Hill OT-204
 Height: 1.142 m 211.8 km 488 m
 Antenna height: _____ m
 Full Scale B = 120 Km
 C = 60 Km
 A = 240 Km

Frequency: _____ MHz
 Power: _____ W

PATH PROFILE

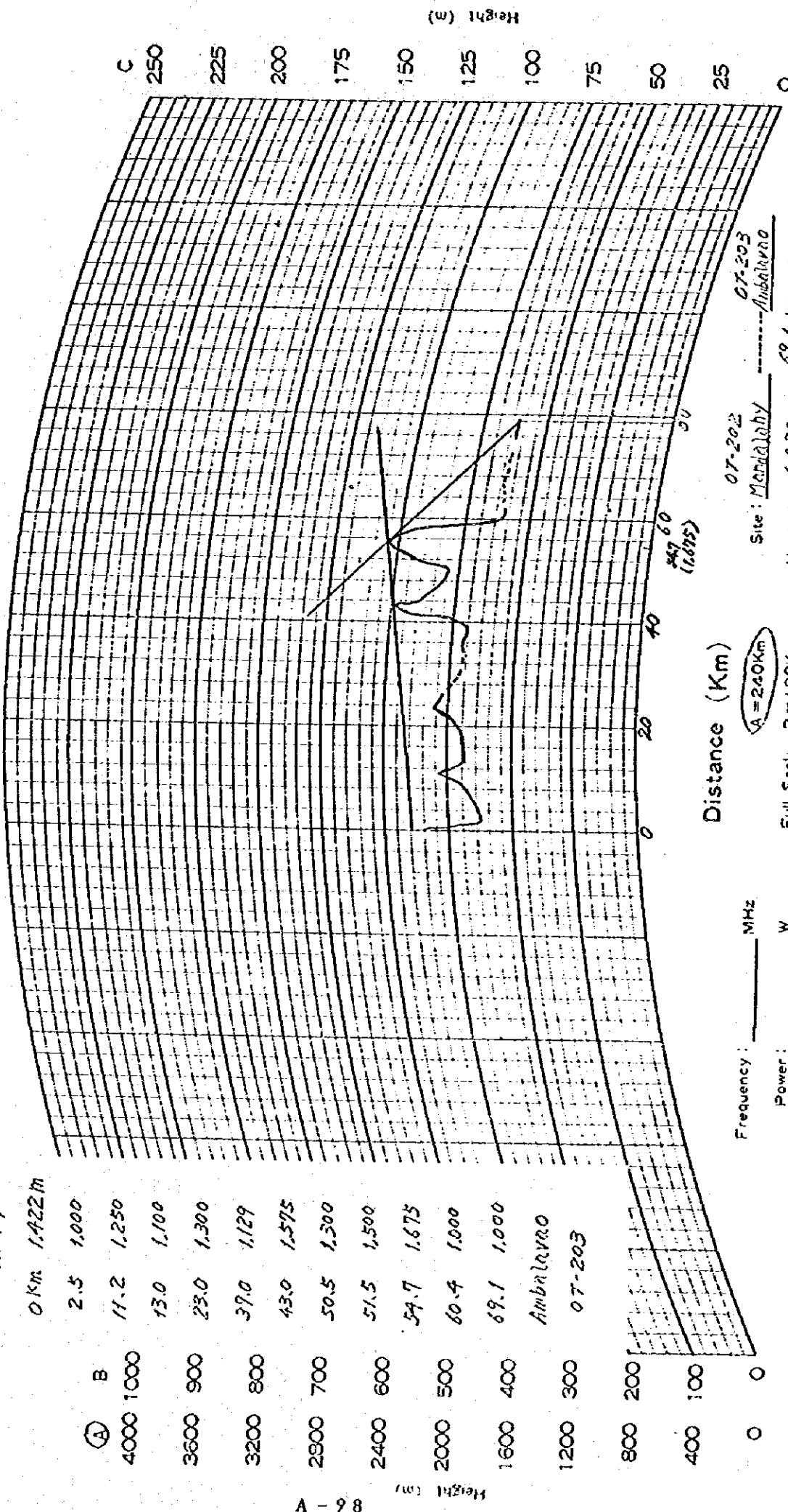
Name of Route: _____
 No.: (35)
 Drawer: _____
 Date: _____

(K=4/3)

07-202
 Mandalahy
 0 Km 1,922 m

2.5	1,000
11.2	1,250
13.0	1,100
23.0	1,300
39.0	1,129
43.0	1,575
50.5	1,300
51.5	1,500
59.7	1,675
60.4	1,000
69.1	1,000

Ambarvno
 07-203



07-202
 Site: Mandalahy ----- Ambarvno
 Height: 1,922 m ----- 69.1 km 1,000 m
 Antenna height: _____ m
 Frequency: _____ MHz
 Power: _____ W
 A = 240 Km
 Full Scale B = 120 Km
 C = 60 Km

Appendix 4-3

Transmission Performance Data

Attached Table 4-3-1 Noise Performance (Short Periods of Time) (LOS)

Prob. 47500 pwop (+)

Site								
Notation	T-102	R-101	R-102	T-104				
Topographic feature	Field	Field	Field					
Height of path (m)								
Distance (km)	50.7	40.3	31.9				(122.9)	
Prob. of Occurrence of RLF	4.73×10^{-3}	2.12×10^{-3}	0.94×10^{-3}					
Prob. of Occurrence of ERLF	-	-	-					
Mean noise power (pwop)	22.4	30.2	22.9					
Excess time ratio	2.23×10^{-6}	1.35×10^{-6}	0.45×10^{-6}					
Total	~	0.04×10^{-4}	~					
Objective	~	1.12×10^{-4}	~					
Judgement	No problem							

Attached Table 4-3-2 Noise Performance (Short Periods of Time) (LOS)

Prob. 47500 pwop

	T-104	R-103	R-104	R-105	R-106	T-108	
Topographic feature	Field	Field	Field	Field	Rock & field	Field	
Height of path (m)							
Distance (km)	42.5	38.1	28.3	54.7	25.3	(188.9)	
Prob. of Occurrence of RLF	2.55×10^{-3}	1.74×10^{-3}	0.61×10^{-3}			0.42×10^{-3}	
Prob. of Occurrence of ERLF	-	-	-	118×10^{-3}	-		
Mean noise power (pwop)	25.7 30.2	30.2	26.3	22.9	15.1		
Excess time ratio	1.38×10^{-6}	1.11×10^{-6}	0.34×10^{-6}	56.89×10^{-6}	0.13×10^{-6}		
Total			0.60×10^{-4}				
Objective		~	1.12×10^{-4}	~			
Judgement		No problem					

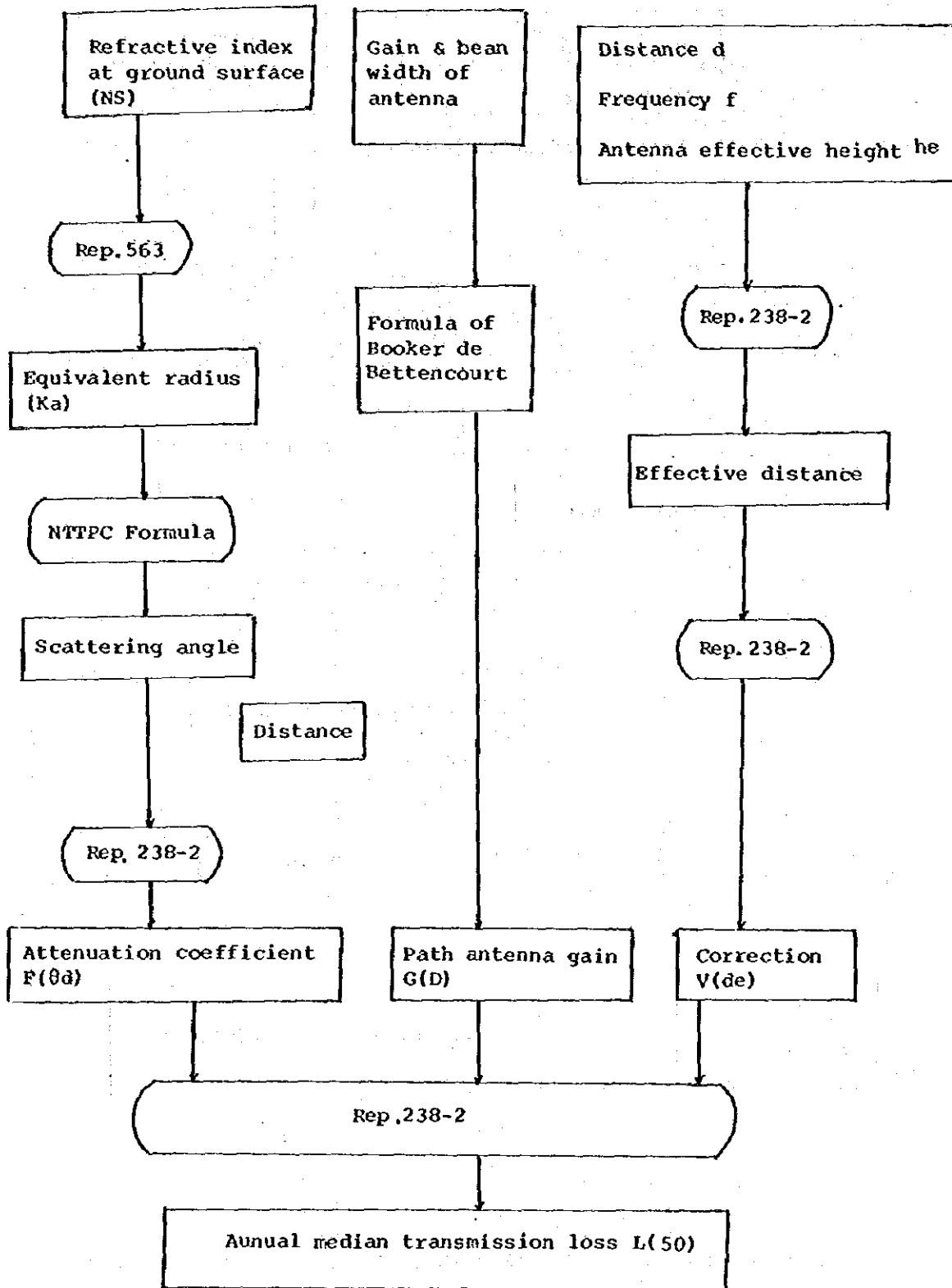
Attached Table 4-3-3 Noise Performance (Short Periods of Time)

	T-202	R-201	R-202	R-203	T-204		
Topographic feature	Field	Field	Field	Field			
Height (m) of path							
Distance (km)	34.2	34.2	35.6	55.7		(159.7)	
Prob. of occurrence of RL·F	1.19×10^{-3}	1.19×10^{-3}	1.37×10^{-3}	6.58×10^{-3}			
Prob. of occurrence of E·RL·F							
Mean (p _{Wop}) noise power	26.3	24.5	21.9	34.7			
Excess time ratio	0.66×10^{-6}	0.61×10^{-6}	0.63×10^{-6}	4.81×10^{-6}			
Total	0.07×10^{-4}						
Objective	1.12×10^{-4}						
Judge	Satisfactory						

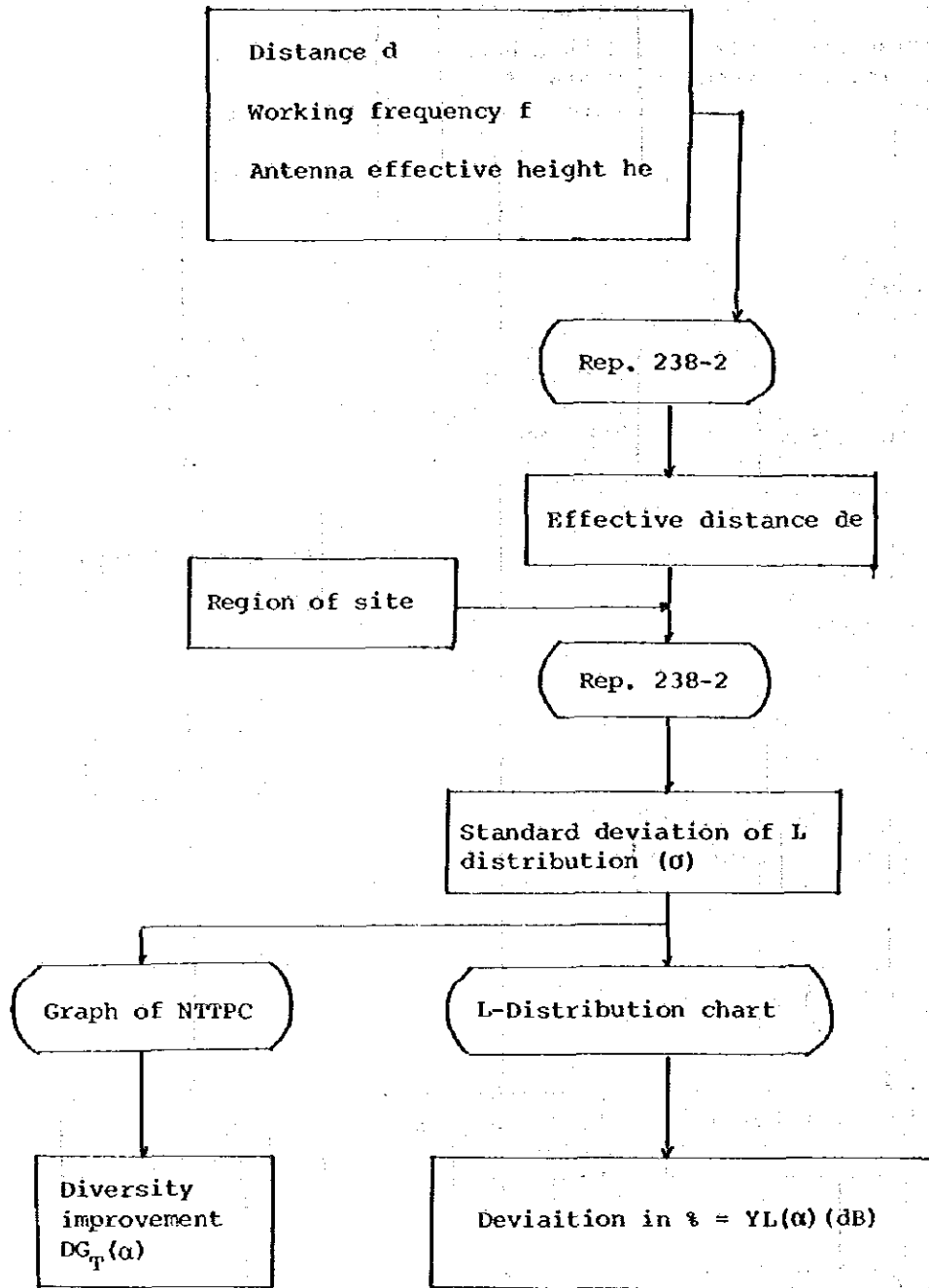
Attached Table 4-3-4 Noise Performance (Short Periods of Time) (LOS)

Prob. 47500 pwop

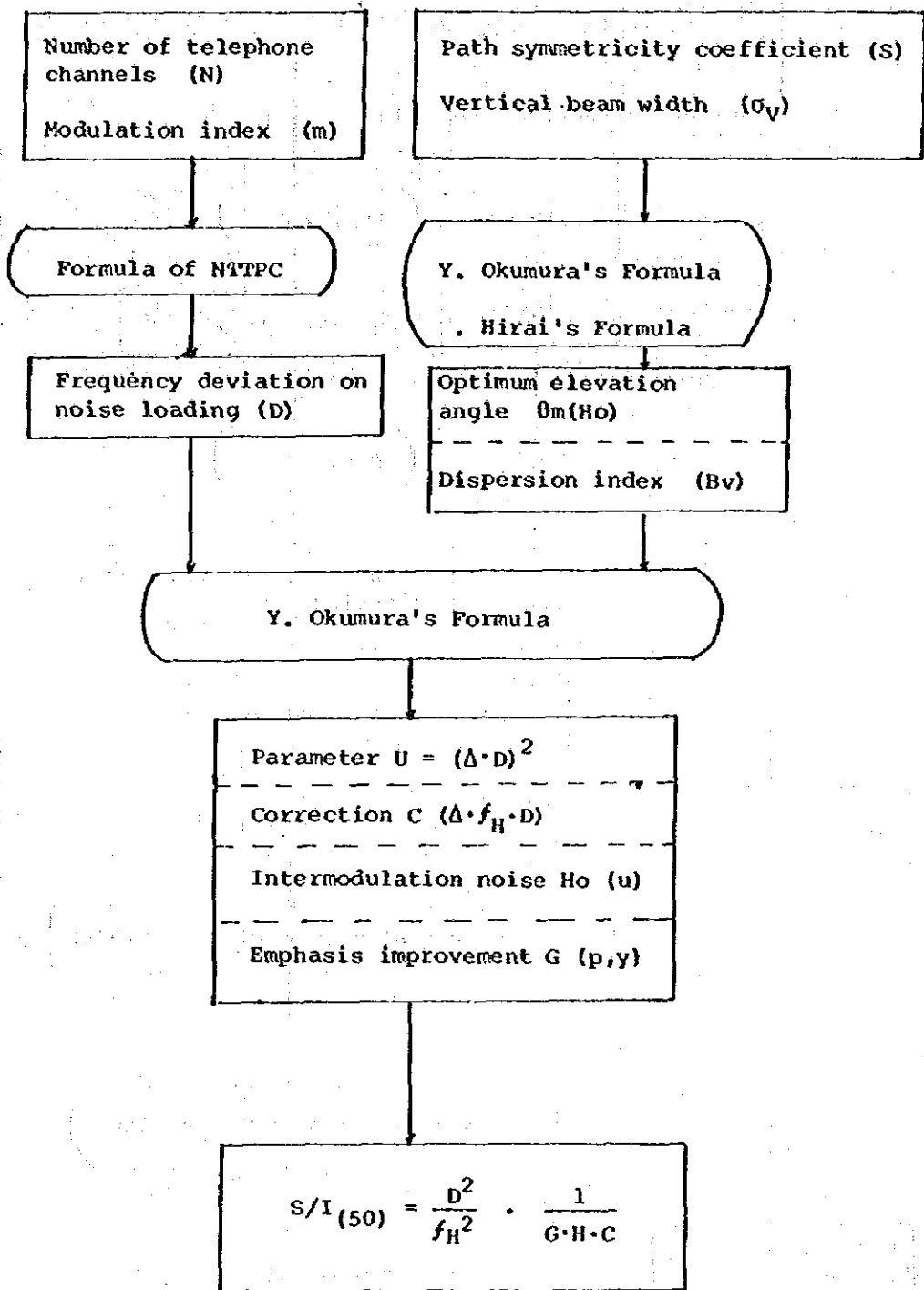
	T-204	R-204	R-205	R-206	R-207	R-208	T-206
Topographic feature		Flat pampas	Field	Field	Field & pampas	Field	Field
Height of path (m)							
Distance (km)		50.6	61.9	30.4	71.2	38.5	18.2 270.8
Prob. of Occurrence of RLF			9.52×10^{-3}	0.79×10^{-3}		1.81×10^{-3}	0.13×10^{-3}
Prob. of Occurrence of ERLF		225×10^{-3}	-	-	262×10^{-3}	-	-
Mean noise power (pwop)		33.1	28.2	20.9	26.9	24.0	8.5
Excess time ratio		156.79×10^{-6}	5.65×10^{-6}	0.35×10^{-6}	148.37×10^{-6}	0.91×10^{-6}	0.02×10^{-6}
Total				3.12×10^{-4}			
Objective				1.12×10^{-4}			
SD Improvement		29			31		
Excess time ratio with SD		5.41×10^{-6}			5.49×10^{-6}		
Total with SD				0.02×10^{-4}			
Judgement				OK !			



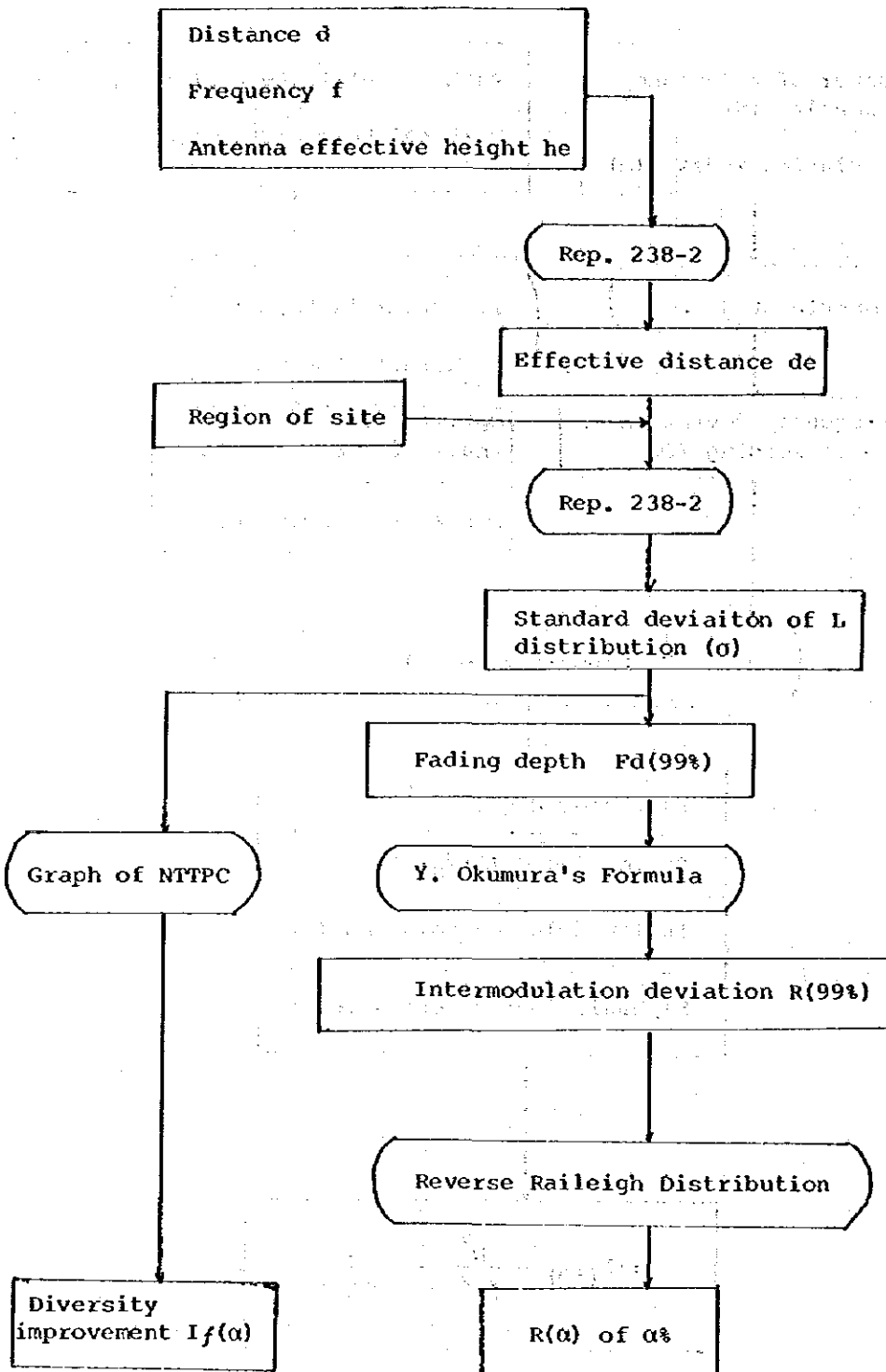
Attached DWG. 4-3-1 Calculation Sequence of $L(50)$



Attached DWG. 4-3-2 Calculation Sequence of $DG(\alpha)$, $YL(\alpha)$



Attached DWG. 4-3-3 Calculation Sequence of S/I(50)



Attached DWG. 4-3-4 Calculation Sequence of $R(\alpha)$, $I_f(\alpha)$

Attached Table 4-3-5 Estimated $S/N_T(\alpha)$ (OH System)

Section (): as per Rec. 397-2	Mandalahy	Ihosal Hill	Antsiraraka
	OT-202	OT-204	OT-206
50%		72.5	73.0
(20%) 80%		67.5	67.0
(5%) 95%		62.0	61.0
(1%) 99%		56.5	56.0
(0.1%) 99.9%		51.0	50.0
(0.01%) 99.99%		45.5	44.0

Attached Table 4-3-6 Parameters used for Calculation of $S/N_T(\alpha)$

Station		Mandalahy		Ihosal Hill		Antsiraraka	
Code		OT-202		OT-204		OT-206	
Dropagation mode		Scatter		Scatter			
Distance d (km)		178.2		211.8			
Antenna effective height h_e (m)		0m	200m	200m	0m		
Antenna size (m)		16m		19m			
Frequency (GHz)		1.8		1.8			
Gain (dB)		47	47	48.5	48.5		
Circuit loss	Filter system (dB)	2.4	2.4	2.4	2.4		
	Feeder system (dB)	3.6	3.6	1.6	1.6		
Beam width (mrad)		12		10			
Refractive index on ground surface		301		301			
Zone		Continental Subtropical					
θ (mrad)		20		21			

Appendix 5

Meteorological Data

Attached Table 4-3-7 Estimated $S/N_I(\alpha)$ (OH System)

Section	Mandalahy	Ihosa Hill	Antsiraraka
	OT-202	OT-204	OT-206
50%		685 ^{dB}	70.0
(20%) 80%		65.0	66.0
(5%) 95%		61.0	61.5
(1%) 99%		57.0	57.5
(0.1%) 99.9%		52.0	52.5
0.01% 99.99%		47.0	47.5

Attached Table 4-3-8 Parameters used for Calculation of $S/N_I(\alpha)$

		Mandalahy	Ihosa Hill	Antsiraraka
		OT-202	OT-204	OT-206
Distance	d km		178,2	211,8
Scattering point	d_1		75	120
	d_2		103,2	91,8
	s		1,38	0,8
Vertical beam width	σ_v		12 mrad	10 mrad
	Number of channel N		300	300
	Modulation index m		0,3 rad/ch	0,3 rad/ch
	Deviation D ()		468 KHz	468 KHz

STATION DE : TANANARIVE - SERVICE CENTRAL METEOROLOGIQUE

Latitude : 18 54' Sud - Longitude : 47 32' Est - Altitude : 1.310 metres.

Périodes Mois	Pression barométrique en millibars et dixièmes		TEMPERATURE EN C ET 1/10E			PLUIE EN MILLIMETRES ET DIXIEMES			V E N T			Evaporation en millimè- tres et dixièmes					
	1953-1965		1938-1967			1953-1965			1953-1965				1956-1965				
	Moyenne	Extremes	Moyenne	Max.	Min.	Humidité relative en %	Nombre de jours	Max. en 24 heures	Vitesse dominante en Km/h de 8	Calme en %	Durée inco- nulation en heures et dixièmes						
Max.	Min.	Max.	Min.														
JANVIER	25.4	16.4	30.4	11.7		82	255.4	427.2	57.7	19	83.5	7	E	13	7	203.6	91.5
FEBVIER	25.6	16.4	30.4	11.3		81	186.9	316.1	53.9	14	88.5	6	E	16	6	205.1	81.6
MARS	24.8	16.1	29.1	11.5		83	263.5	603.5	101.8	19	134.3	7	E	14	6	194.1	80.3
AVRIL	24.2	14.5	29.7	8.6		80	41.6	109.6	4.1	7	67.2	7	SE	15	5	236.4	80
MAI	22.1	11.8	27.9	3.0		78	8.3	88.4	1.1	5	19.1	7	E	13	4	231.3	89.
JUIN	20.7	10.2	25.8	3.1		79	9.0	38.6	0.5	7	31.8	7	SE	11	4	212.4	79.6
JUILLET	19.7	9.5	25.4	3.1		78	16.5	52.5	0.9	9	29.5	7	SE	9	5	216.1	82.4
AOUT	20.4	9.6	28.9	1.6		76	12.6	64.0	1.0	7	33.1	7	SE	8	4	239.3	99.7
SEPTEMBRE	22.3	10.7	29.4	3.0		73	15.7	113.1	0.0	5	32.7	7	SE	8	4	246.9	117.6
OCTOBRE	24.8	12.4	31.6	5.6		71	46.9	152.3	0.3	5	67.8	7	E	11	3	272.4	143.4
NOVEMBRE	26.0	14.7	30.6	8.0		75	169.9	361.5	61.3	14	91.0	7	E	12	6	224.3	123.8
DECEMBRE	25.5	16.1	30.3	10.0		81	366.3	503.9	252.0	22	105.4	6	E	19	6	207.7	94.
ANNEE	23.5	13.2	31.6	1.6		78	1398.6	238.4	44.6	133	105.4- XII/ 1966	7	-	12	5	224.3	97.7

STATION DE : FIANARANTSOA

Latitude : 21° 26' Sud - Longitude : 47° 07' Est - Altitude : 1.106 mètres.

Périodes Mois	Pression barométrique en millibars et dixièmes		TEMPERATURE EN C ET 1/10E.			PLUIE EN MILLIMETRES ET DIXIEMES			V E N T			M O Y E N N E					
	Moyenne	Extremé	Max.	Min.	Humidité relative en %	Moyenne	Max.	Min.	Nombre de jours	Max. en 24 heures	Vitesse en Km/h	Direction dominante en rose de 8	Calme en %	Nébulosité en Octas	Dirée insolation en heures et dixièmes	Evaporation en millimètres et dixièmes	
	1951-1965	1951-1965	1951-1965	1951-1965	1957-1965	1951-1965	1951-1965	1951-1965	1957-1965	1957-1965	1957-1965	1957-1965	1957-1965	1957-1965	1957-1965	1957-1965	
JANVIER	890.8	25.9	16.9	34.1	11.5	83	290.6	610.6	70.5	22	127.9	7	E	50	6	225.6	80.5
FEBVIER	890.8	26.0	16.7	32.0	11.1	84	205.5	582.7	71.4	20	166.6	7	E	49	6	232.1	70.8
MARS	891.5	24.8	16.2	31.0	8.5	86	173.7	424.9	46.0	21	79.0	7	E	52	6	200.4	63.7
AVRIL	893.5	24.3	14.7	30.0	9.0	84	44.3	191.8	8.8	13	45.6	5	E	56	5	214.9	67.4
MAI	895.4	21.9	11.9	28.8	3.8	83	26.7	97.6	0.0	11	47.0	5	E	58	5	236.2	64.4
JUIN	896.9	20.1	10.1	27.0	0.0	84	20.3	77.8	2.0	11	33.8	5	E	60	5	209.8	59.4
JUILLET	897.6	19.5	9.5	26.4	1.2	85	18.5	42.3	2.6	11	19.3	6	E	56	5	201.0	56.7
AOUT	897.5	20.4	9.7	30.0	1.2	82	17.4	62.8	0.0	10	26.1	7	E	47	4	239.3	67.0
SEPTEMBRE	896.5	22.5	10.9	31.1	3.3	78	23.8	91.3	0.0	8	36.0	8	E	48	4	229.6	93.4
OCTOBRE	895.2	25.0	13.0	35.0	6.0	77	33.8	127.5	3.6	7	69.7	9	E	47	4	251.5	115.5
NOVEMBRE	893.4	26.2	14.8	36.7	5.8	79	130.5	246.6	13.3	14	100.5	8	E	56	5	232.5	103.8
DECEMBRE	891.8	26.1	16.4	35.0	10.6	83	236.7	467.8	106.9	19	95.6	7	E	57	5	230.0	80.1
ANNEE	894.2	23.6	13.4	36.7	0.0	82	1227.8	1804.0	825.0	167	166.6-1227.8 1945	7	-	53	5	225.1	76.9

STATION DE : TULEAR

Latitude: 23 23' Sud - Longitude : 43 44' Est - Altitude : 9 metres.

Périodes Mois	Pression barométrique en millibars et dixièmes			TEMPERATURE EN C. ET 1/10E.				Humidité relative en %	PLUIE EN MILLIMETRES ET DIXIEMES				VENT			MOYENNE			
	Moyenne		Max.	Min.	Max.	Min.	Extremes		Moyenne	Max.	Min.	Nombre de jours	Max. en 24 heures	Vitesse en Km/h	Direction dominante en rose de 8	Calme en %	Nébulosité en Octas	Durée insolation en heures et dixièmes	Evaporation en millimètres et dixièmes
	1955-1965	1932-1967																	
JANVIER	1010.0	31.8	22.7	39.5	16.0	78	70.5	337.8	5.5	7	103.6	14	W	13	4	305.3	161.7		
FEBVIER	1009.7	32.4	22.8	40.4	16.2	78	71.3	191.0	2.4	6	70.0	13	W	22	4	285.0	159.5		
MARS	1011.3	31.9	21.7	39.0	13.7	76	42.3	359.6	0.0	5	57.9	14	W	18	3	295.8	150.6		
AVRIL	1013.5	30.6	19.6	36.5	10.3	75	6.5	39.2	0.0	1	29.9	15	W	15	3	301.5	142.5		
MAI	1016.7	28.8	16.6	36.2	8.3	74	17.9	139.0	0.0	2	66.7	13	E	12	2	305.7	147.9		
JUIN	1019.2	27.0	14.7	32.9	7.0	75	10.7	44.8	0.0	2	25.9	13	E	9	2	276.7	134.5		
JUILLET	1020.3	26.7	14.1	32.3	6.1	74	4.0	21.0	0.0	1	19.5	13	E	8	2	291.0	154.3		
AOUT	1019.1	27.3	14.7	35.5	6.0	74	3.1	51.5	0.0	1	48.0	14	E	8	2	297.8	152.4		
SEPTEMBRE	1017.6	23.7	16.4	37.8	8.0	74	9.5	47.6	0.0	1	31.0	15	W	7	1	307.1	159.3		
OCTOBRE	1015.6	29.3	18.4	38.9	10.0	76	13.5	102.9	0.0	1	102.3	15	W	12	2	323.6	150.1		
NOVEMBRE	1013.4	30.1	20.2	39.8	12.0	75	34.4	127.4	0.0	2	83.4	15	W	17	3	312.8	161.2		
DECEMBRE	1011.3	31.0	21.9	37.5	12.0	79	57.1	192.7	0.0	5	105.1	14	W	20	4	305.9	144.9		
ANNEE	1014.8	29.6	18.7	40.4	8.0	76	241.5	665.9	129.4	34	105.1- XII/ 1945	14	-	14	3	300.7	151.5		

HINISFRE DES TRINSPORTS DU RAVITAILLEMENT
ET DU TOURISUE

REOBLIKA DEOERATEKA MALAGASY
Tan indrezana-Tolompiavotana-Fahafahana

SERVICE DE LA NETEOROLOGIE NATIONALE

(註) 主な風、平均風速、最大風速の順で記入されている。

STATION	JANV.	FEN.	MARS.	AVR.	MAI.	JUIN.	JUIL.	AOUT.	SEPT.	OCT.	NOV.	DEC.	ANNEE
TANANARIVE													
1961-1965	DD	E	E	E	E	E	E	E	E	E	E	E	E
1953-1970	Vm	7	6	7	6	9	7	7	7	7	7	6	7 km/h
1947-1972	Vmax	76	78	76	61	63	70	72	82	67	101	74	101 km/h
ANTSIRABE													
1960-1969	DD	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
1952-1970	Vm	9	8	8	7	8	8	9	11	11	10	9	9 km/h
1964-1972	Vmax	83	54	68	47	58	40	54	54	65	47	61	83 km/h
FIANARANTSOA													
1961-1969	DD	EE	E	E	E	E	E	E	E	E	E	E	E
1952-1970	Vm	8	8	8	6	5	6	7	8	9	8	7	7 km/h
1958-1972	Vmax	76	130	79	68	76	61	58	48	115	115	97	130 km/h
RANOHIRA (between Tulear and Ibohy)													
1960-1969	DD	NW	NW	ENE	ENE	NE	ENE	ENE	ENE	ENE	NE	NW	ENE-NE
1956-1970	Vm	12	11	11	9	9	10	10	11	12	13	11	11 km/h
1964-1972	Vmax	83	108	180	130	56	140	90	104	180	180	180	180 km/h
TULEAR													
1951-1970		SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW
1955-1970		14	13	14	13	13	13	14	15	15	15	14	14 km/h
1957-1972		169	119	112	148	86	72	83	76	86	104	104	169 km/h

TRAJECTOIRES DES CYCLONES TROPICAUX DE 1958 à 1969

