

B A B V

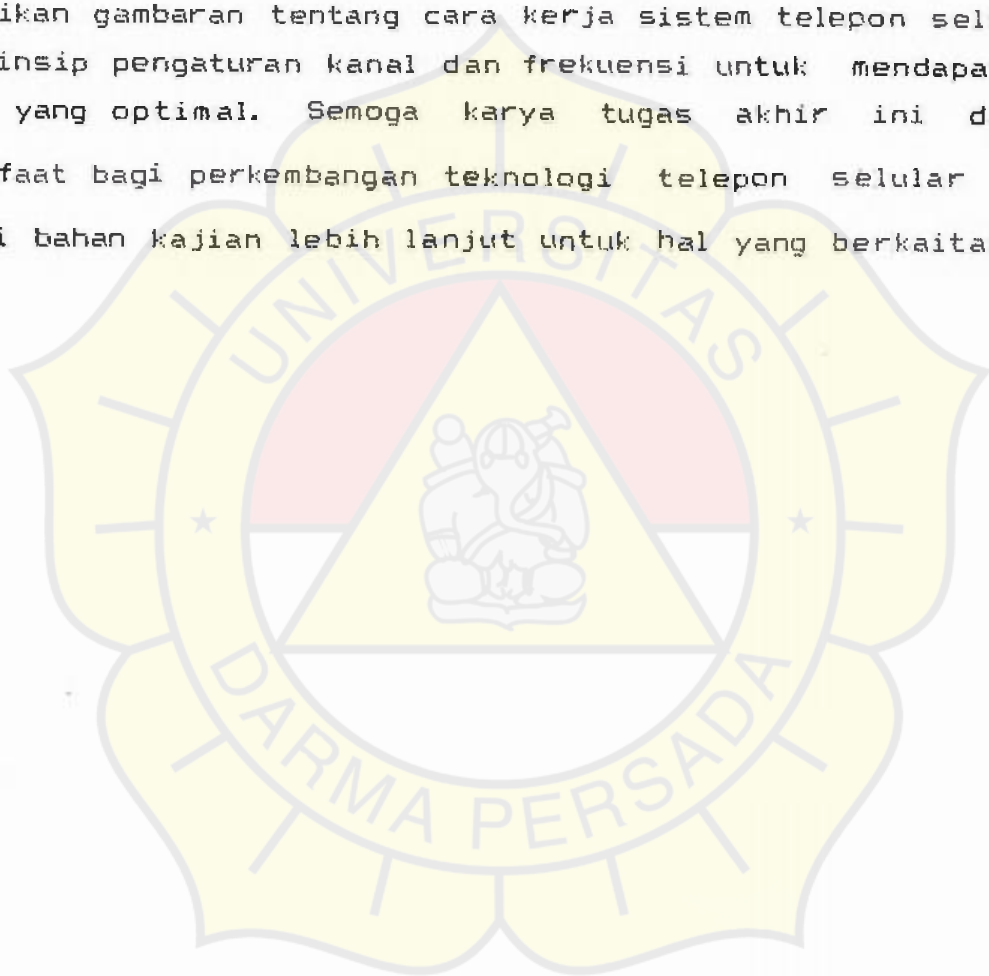
KESIMPULAN DAN PENUTUP

5.1. Kesimpulan

- a. Keistimewaan yang paling menguntungkan adalah bahwa sistem selular telah menempatkan penggunaan frekuensi secara efektif dengan sejumlah kanal-kanal yang tersedia. Dalam hal ini frekuensi dapat dipergunakan secara serentak dan berulang (frekuensi reuse) di beberapa sel radio yang terpisah.
- b. Secara teknis (kualitas) pengelolaan frekuensi dan kanal dapat memberikan alternatif yang baik guna dapat menggunakan frekuensi dan kanal secara tepat dan benar. Dengan sistem selular telah dicapai tujuan untuk mampu melayani pelanggan dengan kapasitas yang tinggi, yang didapat dengan cara pengaturan radius/ukuran sel, sehingga bisa didapat jumlah kanal yang lebih banyak, untuk dapat memenuhi kebutuhan jumlah pelanggan yang makin meningkat.
- c. Dengan tersedianya kanal yang cukup dapat mengurangi waktu tunggu bagi pelanggan yang ingin menggunakan teleponnya.
- d. Dengan digunakannya frekuensi dan kanal ini secara baik dan benar diharapkan komunikasi dapat disampaikan berlangsung dengan lebih efektif dan efisien.

5.2. Penutup

Demikian tugas akhir ini, saya susun agar dapat memberikan gambaran tentang cara kerja sistem telepon selular dan prinsip pengaturan kanal dan frekuensi untuk mendapatkan sistem yang optimal. Semoga karya tugas akhir ini dapat bermanfaat bagi perkembangan teknologi telepon selular dan sebagai bahan kajian lebih lanjut untuk hal yang berkaitan.



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GENERAL

Frequency Range	824.040 - 848.970 MHz (RX) 869.040 - 893.970 MHz (TX)
Channel Spacing	30 kHz (630 kHz minimum per junction)
Channels (maximum per base station bay)	10 (8 voice, 2 signaling or 9 voice, 1 signaling or 10 voice)
Duplex Spacing	45 MHz
Frequency Stability	± 1.0 ppm per year
Input Voltage	+25 V dc to +30 V dc, negative ground (+27 V dc nominal)
Dimensions	90" H x 25.5" W x 2.5" D (229 cm H x 65 cm W x 64 cm D)
Weight	600 lbs. (273 kg) for 10-channel base station, fully equipped 350 lbs. (159 kg) for omni site filter rack, fully equipped 700 lbs. (318 kg) for sector site filter rack, fully equipped
Environmental	-22° F to 140° F (-30° C to +60° C) 5% to 95% R.H. not to exceed .024 grams of water per gram of dry air (non-condensing)

RECEIVER

Sensitivity	≤ -116 dBm (12 dB SINAD, C-message weighted w/o LNAs) ≤ -122 dBm (with LNAs)
Intermodulation & Image Rejection	≥ 80 dB @ ≥ ± 120 kHz ≥ 75 dB @ r.f. - 910 kHz
Selectivity (EIA) Adjacent Channel Alternate Channel	≥ 45 dB @ 30 kHz (25° C ± 10° C) ≥ 80 dB @ 60 kHz
Dynamic Range & Noise (Voice Transceiver)	≤ -50 dB (compandor disabled, C-message weighted @ 25° C)
Distortion (EIA)	≥ 70 dB (65 dB with LNAs)
Harmonic Distortion (Voice Transceiver)	≤ 2.5% (C-message weighted) @ 1 kHz
Frequency Response (Voice Transceiver)	De-emphasized -6 dB/octave, 300-3000 Hz, +1, -2 dB

TRANSMITTER

Output Power (High Power Voice Channel) Antenna connector, per channel, 10 channels combined	Non-stepping: 3.5 to 22 W adjustable @ 25° C @ 25-30 V dc. Nominal variation over temperature = +1, -1.5 dB from set value Stepping (at Step 0): 6.0 to 22 W adjustable @ 25° C @ 25-30 V dc. Nominal variation over temperature = +1, -1.5 dB from set value for power level 0, (with seven step levels below Step 0 in -4 dB increments)
Output Power (Low Power Voice Channel) Antenna connector, per channel	0.3 to 4 W adjustable @ 25° C @ 25-30 V dc. Nominal variation over temperature = +1, -1.5 dB from set value
Frequency Deviation Limiting	± 12 kHz (voice)
Frequency Response	Pre-emphasized 6 dB/octave, 300-3000 Hz, +1, -3 dB
Modulation AM	5% max
Modulation Distortion	2.5% max @ 1 kHz
Band Noise	Less than -80 dBc @ ± 60 kHz from carrier (30 kHz bandwidth) Less than -90 dBm @ RX band
Spurious Emissions	≤ -13 dBm (-43 dB + 10 log P out)
Dynamic Range & Noise	≤ -45 dB (compandor disabled, C-message weighted @ 25° C)
Intermodulation & Transmit Isolation	≤ -50 dB at telephone interface

Specifications subject to change without notice

INDEX 1.1

Blocked-Calls-Cleared
(ing B)

A, erlangs												
B												
1.0%	1.2%	1.5%	2%	3%	5%	7%	10%	15%	20%	30%	40%	50%
.0101	.0121	.0152	.0201	.0309	.0526	.0753	.111	.176	.250	.429	.667	1.00
.153	.163	.190	.223	.282	.381	.470	.595	.796	1.30	1.45	2.00	2.73
.465	.489	.535	.602	.715	.899	1.06	1.27	1.60	1.93	2.63	3.48	4.59
.869	.922	.992	1.09	1.26	1.52	1.75	2.05	2.50	2.95	3.99	5.02	6.50
1.36	1.43	1.52	1.66	1.88	2.22	2.50	2.88	3.45	4.01	5.19	6.60	8.44
1.91	2.00	2.11	2.28	2.54	2.90	3.30	3.76	4.44	5.11	6.51	8.19	10.4
2.50	2.60	2.74	2.94	3.25	3.74	4.14	4.67	5.46	6.23	7.86	9.80	12.4
3.13	3.25	3.40	3.63	3.99	4.54	5.00	5.60	6.60	7.37	9.21	11.4	14.3
3.78	3.92	4.09	4.34	4.75	5.37	5.88	6.55	7.55	8.52	10.6	13.0	16.3
4.46	4.61	4.81	5.08	5.53	6.22	6.78	7.51	8.62	9.68	12.0	14.7	18.3
5.16	5.32	5.54	5.84	6.33	7.08	7.69	8.49	9.69	10.9	13.3	16.3	20.3
5.89	6.05	6.29	6.61	7.14	7.95	8.61	9.47	10.8	12.0	14.7	18.0	22.2
6.61	6.80	7.05	7.40	7.97	8.83	9.54	10.5	11.9	13.2	16.1	19.6	24.2
7.35	7.56	7.82	8.20	8.80	9.73	10.5	11.5	13.0	14.4	17.5	21.2	26.2
8.11	8.33	8.61	9.01	9.65	10.6	11.4	12.5	14.1	15.6	18.9	22.9	28.2
8.88	9.11	9.41	9.83	10.5	11.5	12.4	13.5	15.2	16.8	20.3	24.5	30.2
9.65	9.89	10.2	10.7	11.4	12.5	13.4	14.5	16.3	18.0	21.7	26.2	32.2
10.4	10.7	11.0	11.5	12.2	13.4	14.3	15.5	17.4	19.2	23.1	27.8	34.2
11.2	11.5	11.8	12.3	13.1	14.3	15.3	16.6	18.5	20.4	24.5	29.5	36.2
12.0	12.3	12.7	13.2	14.0	15.2	16.3	17.6	19.6	21.6	25.9	31.2	38.2

Table 1.1: Blocked-Calls-Cleared (ing B)

12.8	13.1	13.5	14.0	14.9	16.2	17.3	18.7	20.8	22.8	27.3	32.8	40.2
13.7	14.0	14.3	14.9	15.8	17.1	18.2	19.7	21.9	24.1	28.7	34.5	42.1
14.5	14.8	15.2	15.8	16.7	18.1	19.2	20.7	23.0	25.3	30.1	36.1	44.1
15.3	15.6	16.0	16.6	17.6	19.0	20.2	21.8	24.2	26.5	31.6	37.8	46.1
16.1	16.5	16.9	17.5	18.5	20.0	21.2	22.8	25.3	27.7	33.0	39.4	48.1
17.0	17.3	17.8	18.4	19.4	20.9	22.2	23.9	26.4	28.9	34.4	41.1	50.1
17.8	18.2	18.6	19.3	20.3	21.9	23.2	24.9	27.6	30.2	35.8	42.8	52.1
18.6	19.0	19.5	20.2	21.2	22.9	24.2	26.0	28.7	31.4	37.2	44.4	54.1
19.5	19.9	20.4	21.0	22.1	23.8	25.2	27.1	29.9	32.6	38.6	46.1	56.1
20.3	20.7	21.2	21.9	23.1	24.8	26.2	28.1	31.0	33.8	40.0	47.7	58.1
21.2	21.6	22.1	22.8	24.0	25.8	27.2	29.2	32.1	35.1	41.5	49.4	60.1
22.0	22.5	23.0	23.7	24.9	26.7	28.2	30.2	33.3	36.3	42.9	51.1	62.1
22.9	23.3	23.9	24.6	25.8	27.7	29.3	31.3	34.4	37.5	44.3	52.7	64.1
23.8	24.2	24.8	25.5	26.8	28.7	30.3	32.4	35.6	38.8	45.7	54.4	66.1
24.6	25.1	25.6	26.4	27.7	29.7	31.3	33.4	36.7	40.0	47.1	56.0	68.1
25.5	26.0	26.5	27.3	28.6	30.7	32.3	34.5	37.9	41.2	48.6	57.7	70.1
26.4	26.8	27.4	28.3	29.6	31.6	33.3	35.6	39.0	42.4	50.0	59.4	72.1
27.3	27.7	28.3	29.2	30.5	32.6	34.4	36.6	40.2	43.7	51.4	61.0	74.1
28.1	28.6	29.2	30.1	31.5	33.6	35.4	37.7	41.3	44.9	52.8	62.7	76.1
29.0	29.5	30.1	31.0	32.4	34.6	36.4	38.8	42.5	46.1	54.2	64.4	78.1
29.9	30.4	31.0	31.9	33.4	35.6	37.4	39.9	43.6	47.4	55.7	66.0	80.1
30.8	31.3	31.9	32.8	34.3	36.6	38.4	40.9	44.8	48.6	57.1	67.7	82.1
31.7	32.2	32.8	33.8	35.3	37.6	39.5	42.0	45.9	49.9	58.5	69.3	84.1
32.5	33.1	33.7	34.7	36.2	38.6	40.5	43.1	47.1	51.1	59.9	71.0	86.1
33.4	34.0	34.6	35.6	37.2	39.6	41.5	44.2	48.2	52.3	61.3	72.7	88.1
34.3	34.9	35.6	36.5	38.1	40.5	42.6	45.2	49.4	53.6	62.8	74.3	90.1
35.2	35.8	36.5	37.5	39.1	41.5	43.6	46.3	50.6	54.8	64.2	76.0	92.1
36.1	36.7	37.4	38.4	40.0	42.5	44.6	47.4	51.7	56.0	65.6	77.7	94.1
37.0	37.6	38.3	39.3	41.0	43.5	45.7	48.5	52.9	57.3	67.0	79.3	96.1
37.9	38.5	39.2	40.3	41.9	44.5	46.7	49.6	54.0	58.5	68.5	81.0	98.1

APPENDIX 1.1

Blocked-Calls-Cleared
 Erlang B) (Continued)

V	A, erlangs												
	B												
	1.0%	1.2%	1.5%	2%	3%	5%	7%	10%	15%	20%	30%	40%	50%
31	39.8	39.4	40.1	41.2	42.9	45.5	47.7	50.6	55.2	59.7	69.9	82.7	100.1
32	39.7	40.3	41.0	42.1	43.9	46.5	48.8	51.7	56.3	61.0	71.3	84.3	102.1
33	40.6	41.2	42.0	43.1	44.8	47.5	49.8	52.8	57.5	62.2	72.7	86.0	104.1
34	41.5	42.1	42.9	44.0	45.8	48.5	50.8	53.9	58.7	63.5	74.2	87.6	106.1
35	42.4	43.0	43.8	44.9	46.7	49.5	51.9	55.0	59.8	64.7	75.6	89.3	108.1
36	43.3	43.9	44.7	45.9	47.7	50.5	52.9	56.1	61.0	65.9	77.0	91.0	110.1
37	44.2	44.8	45.7	46.8	48.7	51.5	53.9	57.1	62.1	67.2	78.4	92.6	112.1
38	45.1	45.8	46.6	47.8	49.6	52.6	55.0	58.2	63.3	68.4	79.8	94.3	114.1
39	46.0	46.7	47.5	48.7	50.6	53.6	56.0	59.3	64.5	69.7	81.3	96.0	116.1
40	46.9	47.6	48.4	49.6	51.6	54.6	57.1	60.4	65.6	70.9	82.7	97.6	118.1
41	47.9	48.5	49.4	50.6	52.5	55.6	58.1	61.5	66.8	72.1	84.1	99.3	120.1
42	48.8	49.4	50.3	51.5	53.5	56.6	59.1	62.6	68.0	73.4	85.6	101.0	122.1
43	49.7	50.4	51.2	52.5	54.5	57.6	60.2	63.7	69.1	74.6	87.0	102.8	124.1
44	50.6	51.3	52.2	53.4	55.4	58.6	61.2	64.8	70.3	75.9	88.4	104.3	126.1
45	51.5	52.2	53.1	54.4	56.4	59.6	62.3	65.8	71.4	77.1	89.8	106.0	128.1
46	52.4	53.1	54.0	55.3	57.4	60.6	63.3	66.9	72.6	78.3	91.2	107.6	130.1
47	53.4	54.1	55.0	56.3	58.4	61.6	64.4	68.0	73.8	79.6	92.7	109.3	132.1
48	54.3	55.0	55.9	57.2	59.3	62.6	65.4	69.1	74.9	80.8	94.1	111.0	134.1
49	55.2	55.9	56.9	58.2	60.3	63.7	66.4	70.2	76.1	82.1	95.5	112.6	136.1
50	56.1	56.8	57.8	59.1	61.3	64.7	67.5	71.3	77.3	83.3	96.9	114.3	138.1
51	57.0	57.8	58.7	60.1	62.3	65.7	68.5	72.4	78.4	84.6	98.4	115.9	140.1
52	58.0	58.7	59.7	61.0	63.2	66.7	69.6	73.5	79.6	85.8	99.8	117.6	142.1
53	58.9	59.6	60.6	62.0	64.2	67.7	70.6	74.6	80.8	87.0	101.2	119.3	144.1
54	59.8	60.6	61.6	62.9	65.2	68.7	71.7	75.6	81.9	88.3	102.7	120.9	146.1
55	60.7	61.5	62.5	63.9	66.2	69.7	72.7	76.7	83.1	89.5	104.1	122.6	148.0
56	61.7	62.4	63.4	64.9	67.2	70.8	73.8	77.8	84.2	90.8	105.5	124.3	150.0
57	62.6	63.4	64.4	65.8	68.1	71.8	74.8	78.9	85.4	92.0	106.9	125.9	152.0
58	63.5	64.3	65.3	66.8	69.1	72.8	75.9	80.0	86.6	93.3	108.4	127.6	154.0
59	64.4	65.2	66.3	67.7	70.1	73.8	76.9	81.1	87.7	94.5	109.8	129.3	156.0
60	65.4	66.2	67.2	68.7	71.1	74.8	78.0	82.2	88.9	95.7	111.2	130.9	158.0
61	66.3	67.1	68.2	69.6	72.1	75.8	79.0	83.3	90.1	97.0	112.6	132.6	160.0
62	67.2	68.0	69.1	70.6	73.0	76.9	80.1	84.4	91.2	98.2	114.1	134.3	162.0
63	68.2	69.0	70.1	71.6	74.0	77.9	81.1	85.5	92.4	99.5	115.5	135.9	164.0
64	69.1	69.9	71.0	72.5	75.0	78.9	82.2	86.6	93.6	100.7	116.9	137.6	166.0
65	70.0	70.9	71.9	73.5	76.0	79.9	83.2	87.7	94.7	102.0	118.3	139.3	168.0
66	70.9	71.8	72.9	74.5	77.0	80.9	84.3	88.8	95.9	103.2	119.8	140.9	170.0
67	71.9	72.7	73.8	75.4	78.0	82.0	85.3	89.9	97.1	104.5	121.2	142.6	172.0
68	72.8	73.7	74.8	76.4	78.9	83.0	86.4	91.0	98.2	105.7	122.6	144.3	174.0
69	73.7	74.6	75.7	77.3	79.9	84.0	87.4	92.1	99.4	106.9	124.0	145.9	176.0
70	74.7	75.6	76.7	78.3	80.9	85.0	88.5	93.1	100.6	108.2	125.5	147.6	178.0
71	75.6	76.5	77.6	79.3	81.9	86.0	89.5	94.2	101.7	109.4	126.9	149.3	180.0
72	76.6	77.4	78.6	80.2	82.9	87.1	90.5	94.2	101.7	109.4	126.9	149.3	180.0
73	77.5	78.4	79.6	81.2	83.9	88.1	91.6	95.3	102.9	110.7	128.3	150.9	182.0
74	78.4	79.3	80.5	82.2	84.9	89.1	92.7	96.4	104.1	111.9	129.7	152.6	184.0
75	79.4	80.3	81.5	83.1	85.8	90.1	93.7	97.5	105.3	113.2	131.2	154.3	186.0
76	80.3	81.2	82.4	84.1	86.8	91.1	94.8	98.6	106.4	114.4	132.6	155.9	188.0
77	81.2	82.2	83.4	85.1	87.8	92.2	95.8	100.8	107.6	115.7	134.0	157.6	190.0
78	82.2	83.1	84.3	85.9	88.8	93.2	96.9	101.9	108.8	116.9	135.5	159.3	192.0
79	83.1	84.1	85.3	87.0	89.8	94.2	97.9	103.0	109.9	118.2	136.9	160.9	194.0
80	84.1	85.0	86.2	88.0	90.8	95.2	99.0	104.1	112.3	120.6	139.7	164.3	198.0