

## LAMPIRAN-LAMPIRAN

### A. Sebelum optimasi/penambahan BTS

Parameter-parameter yang digunakan adalah:

- $h_m = 1,5$  m
- $K_0 = 0$
- $K_1 = 69,55$
- $K_2 = 26,16$
- $a(h_m) = 0,011278099$
- $f = 800$  MHz

Parameter ( <i>Forward link budget</i> )	Unit	Values
Maximum Transmitter Power per Traffic Channel	dBm	28.5
Loss feeder, loss connector	dB	3
Body Loss	dB	2
Receiver Antenna Gain	dB	3
Transmitter Antenna Gain	dB	15
Receiver Sensitivity (without Interference )	dBm	-105
Parameter ( <i>Reverse link budget</i> )	Unit	Values
Maximum Transmitter Power per Traffic Channel	dBm	23
Loss feeder, loss connector	dB	0
Body Loss	dB	2
Transmitter Antenna Gain	dB	3
Receiver Antenna Gain	dB	15
Receiver Sensitivity	dBm	-105

BTS Name	(d) km	Lp ( dB )	Rx (Forward) (dBm)	Rx (Reverse) (dBm)
<b>Simpanglima</b> hb: 48 m	1	122,25	-83.75	-83.25
	2	132,45	-93.95	-93.45
	3	138,41	-99.91	-99.41
	4	142,65	-104.15	-103.65
	4,1	143,01	-104.51	-104.01
	4,2	143,37	-104.87	-104.37
	4,3	143,7	-105.2	-104.7
<b>Johar</b> hb: 40 m	1	122,74	-84.24	-83.74
	2	133,7	-95.2	-94.7
	3	139,76	-101.26	-100.76

	3,8	143,3	-104,8	-104,3
	3,9	143,7	-105,2	-104,7
<b>Majapahit</b>	1	122,74	-84,24	-83,74
hb : 40 m	2	133,7	-95,2	-94,7
	3	139,76	-101,26	-100,76
	3,8	143,3	-104,8	-104,3
	3,9	143,7	-105,2	-104,7
<b>Gombel</b>	1	122,74	-84,24	-83,74
hb : 40 m	2	133,7	-95,2	-94,7
	3	139,76	-101,26	-100,76
	3,8	143,3	-104,8	-104,3
	3,9	143,7	-105,2	-104,7
<b>Tugu</b>	1	123,34	-84,84	-84,34
hb : 35 m	2	133,81	-95,31	-94,81
	3	139,94	-101,44	-100,94
	3,7	143,1	-104,6	-104,1
	3,8	143,5	-105,01	-104,5
<b>Genuk</b>	1	124,31	-85,81	-85,31
hb : 34 m	2	134,81	-95,73	-95,81
	3	140,95	-101,83	-101,95
	3,6	143,3	-104,98	-104,3
	3,6	143,72	-105,22	-104,72
<b>Grand Candi (Teuku Umar)</b>	1	123,81	-85,31	-84,81
	2	134,23	-95,73	-95,23
hb : 37 m	3	140,33	-101,83	-101,33
	3,7	143,5	-104,83	-104,5
	3,8	143,89	-105,4	-104,89
<b>Banyumanik</b>	1	120,52	-82,02	-81,52
hb : 64 m	2	130,47	-91,97	-91,47
	3	136,3	-97,8	-97,3
	4	140,43	-101,93	-101,43
	4,5	143,35	-104,85	-104,35
	5	143,64	-105,14	-104,64
<b>Tambakaji</b>	1	123,34	-84,84	-84,34
hb : 35 m	2	133,81	-95,31	-94,81
	3	139,94	-101,44	-100,94
	3,7	143,1	-104,6	-104,1
	3,8	143,5	-105,01	-104,5
<b>Sampang</b>	1	123,97	-85,47	-84,97
hb : 36 m	2	134,42	-95,92	-95,42
	3	140,53	-102,03	-101,53
	3,8	143,3	-104,8	-104,3
	3,7	143,7	-105,2	-104,7
<b>Ungaran</b>	1	123,97	-85,47	-84,97
hb : 36 m	2	134,42	-95,92	-95,42
	3	140,53	-102,03	-101,53
	3,6	143,3	-104,8	-104,3

| 3,7 | 143,7 | -105.2 | -104.7

## B. Sesudah optimasi/penambahan BTS

Parameter-parameter yang digunakan adalah:

- *Gain antenna Tx* = 15 dBm (standart)
- *Gain antenna Rx* = 3 dBm (standart)
- *Loss feeder = loss connector* = 3 dB
- *Body Loss* = 2 dB

$$K_0 = 0$$

$$K_1 = 69,55$$

$$K_2 = 26,16$$

- $h_m = 1,5m(s \text{ tan dart})$
- $h_b = 40m(s \text{ tan dart})$
- $R_{x(ideal)} = -105dBm$
- $a(h_m) = 0,011278099$

No.	BTS-Name	Loss-Path (dB)	Power Tx (dBm)	Jarak jangkauan (d) (km)	Orientasi Antena		
					Alpha	Beta	Gamma
1	Tembalang	138	23	2,67	140	100	120
2	Ngaliyan	139,76	24,76	3	100	110	150
3	Mijen	144	29	4	90	180	90
4	Gunung Pati	146,37	31,37	4,67	90	180	90
5	Pudak Payung	141,32	26,32	3,33	120	120	120

