

Attachment-2

1) Process gain data at 11Mbps and 2Mbps

- Tests were performed at Spreading gain 10.4 dB. Engineering took extra margin.
- At 11Mbps S/N may be 18 dB, 2Mbps S/N may be 15 dB.
- SIR (Signal Interference Ratio) = S/N + Spreading gain + Lsys. (= -Mj)
 We take only 1 dB Lsys for 11Mb/s or 0 dB Lsys for 2Mb/s into account so that :
 11Mbps SIR = 18 dB - 10.4 dB + 1 = 8.6 (round of f upwards to 9) dB = (-)Mj
 With this 9 dB SIR (= -9 dB Mj) we test unit and check for less than 20% errors
 (Acutually 18.57%),

 2Mbps SIR = 15 dB - 10.4 dB + 0 = 4.6 (round of f upwards to 5) dB = (-)Mj
 With this 5 dB SIR (= -5 dB Mj) we test unit and check for less than 20% errors,
 (Acutually 3.21%).

Thus in principle exact calculations in this case are :

Processing gain for **11Mbps** = S/N + Mj + Lsys = 18 + (-)8.6 + 1 = **10.4** dB

Processing gain for **2Mbps** = S/N + Mj + Lsys = 15 + (-)4.6 + 0 = **10.4** dB

2) Chip/symbol rate, the symbol/bit rate and the Chip/bit

Bit rate	Chip/symbol rate	Bit/symbol rate	Chip/bit rate
1 Mbit/sec	11	1, DBPSK	11
2 Mbit/sec	11	2, DQPSK	5.5
5.5 Mbit/sec	8	4, CCK	2
11 Mbit/sec	8	8, CCK	1

Note) As for how to meet the 10 dB requirement of Processing Gain is explained in 1).

Measurement file output name is: 2mbit.cnd

Input command file name is: INPUT.CMD

Input CW correction level: 6 dB

Lowcount is: 1000 messages

Highcount is: 50000 messages

Note: 2 Mbit, 5 dB SIR tested for (15 dB SNR - 10.4 -0 impl. losses).

Takes not into account allowed usage of 2 dB SIR implementation losses margin.

Attention: Input the red cells for correct spreadsheet calculations!

Rx level DUT is: -55 dBm

total errors 9
percentage 3.21%
OK?

Number of received data errors as a function of frequency and interference level																				
Not measured combinations listed as ".1."																				
J/S ratio (dB)	Uncorrected Interference level dialled at CW generator										True CW interference level at receiver Input (dBm)									
	-60	-59	-58	-57	-56	-55	-54	-53	-52	-51	-60	-59	-58	-57	-56	-55	-54	-53	-52	
Frequency (Hz)	-11	-10	-9	-8	-7	-6	-5	-4	-3	#PDA	-11	-10	-9	-8	-7	-6	-5	-4	-3	#PDA
	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA	#PDA
2409000000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409050000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409100000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409150000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409200000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409250000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409300000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409350000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409400000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409450000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409500000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409550000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409600000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409650000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409700000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409750000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409800000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409850000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409900000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2409950000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410000000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410050000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410100000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410150000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410200000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410250000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410300000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410350000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410400000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410450000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410500000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410550000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410600000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410650000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410700000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000
2410750000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	1000	0	50000

Rx Errors detected full test range	PDA missing full test range	Rx Errors detected up to CW =< -60 dBm (J/S = -5 dB)	PDA missing up to CW =< -60 dBm (J/S = -5 dB)	Both error Rx and PDA =< -60 dBm	time
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	5:14:58
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	5:11:49
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	5:08:41
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	5:05:34
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	5:02:25
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:59:17
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:56:08
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:53:00
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:49:52
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:46:43
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:43:35
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:40:26
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:37:18
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:34:10
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:31:01
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:27:52
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:24:44
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:21:35
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:18:27
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:15:18
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:12:10
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:09:01
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:05:53
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	4:02:44
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:59:36
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:56:27
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:53:19
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:50:11
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:47:02
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:43:54
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:40:46
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:37:37
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:34:28
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:31:20
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:28:11
OK, 0 Rx/D errors	OK, No PDA errors	0	0	0	3:25:03

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