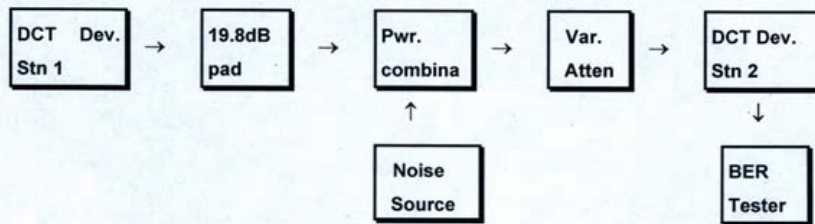


900MHz DSSS DIGITAL CORDLESS TELEPHONE MODEL : IS-903

USA VERSION

Processing Gain Measurement



TEST METHOD

THE PROCESSING GAIN MAY BE MEASURED USING THE **CW** JAMMING MARGIN METHOD.

FIGURE 1 SHOWS THE TEST CONFIGURATION. THE TEST CONSIST OF STEPPING A SIGNAL GENERATOR IN 50 KHz INCREMENTS ACROSS THE PASSBAND OF THE SYSTEM (UP TO 960 KHz AWAY IN RI,S DCT).

AT EACH POINT, THE GENERATOR LEVEL REQUIRED TO PRODUCE THE RECOMMENDED BIT ERROR RATE (**BER**) (SET AT **BER = 10e-3**) IS RECORDED.

THE LEVEL IS JAMMING LEVEL. THE OUTPUT POWER OF THE TRANSMITTING UNIT IS MEASURED AT THE SAME POINT. THE JAMMER TO SIGNAL (**J/S**) RATIO IS THEN CALCULATED. DISCARD THE WORST 20 % OF THE **J/S** DATA POINTS. THE LOWEST REMAINNING **J/S** RATIO IS USED TO CALCULATE THE PROCESSING GAIN.

THE MAXIMUM IMPLEMENTATION LOSS A SYSTEM CAN CLAIM IN CALCULATING PROCASSING GAIN IS 2 dB . THE EQUATION TO CALCULATE THE PROCESSING GAIN (**Gp**) IS THE FOLLOWING.

Gp	= $(S/N)_0 + Mj + Lsys$
(S/N)₀	= Signal to Noise Ratio reqd @ BER of 8dB for DBPSK
Mj	= Jamming Marjin (J/S) in dB
Lsys	= system implementation Losses = 2dB
S	= Signal power - Attn - comb loss - cable loss = 4.0 - 19.8 - 3.6 - 0.5 -27.9 = -28.2dB
J	= Sig Gen O/PLvl(N) - Cal factor - Comb loss = N - 0.3 - 3.6 dB

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TEST DATA

Jammer Freq.(MHz)	Signal Lvl dB	CW Noise N dB	Mj J / S dB	Proc. Gain dB
915.6	- 27.9	- 15.1	8.8	19
915.65	- 27.9	- 15	8.9	19.1
915.7	- 27.9	- 22.9	1	11.2
915.75	- 27.9	- 19.9	4	14.2
915.8	- 27.9	- 19.6	4.3	14.5
915.85	- 27.9	- 20.3	3.6	13.8
915.9	- 27.9	- 21.3	2.6	12.8
915.95	- 27.9	- 19.3	4.6	14.8
916.0	- 27.9	- 21	2.9	13.1
916.05	- 27.9	- 11.8	12.1	22.3
916.1	- 27.9	- 19.5	4.4	14.6
916.15	- 27.9	- 11.8	12.1	22.3
916.2	- 27.9	- 17	6.9	17.1
916.25	- 27.9	- 14.2	9.7	19.9
916.3	- 27.9	- 12.5	11.4	21.6
916.35	- 27.9	- 10	13.9	24.1
916.4	- 27.9	- 6	17.9	28.1
916.45	- 27.9	- 4	19.9	30.1
916.5	- 27.9	- 1.2	22.7	32.9
916.55	- 27.9	- 1.8	22.1	32.3