Electrical test report

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Test equipment and materials:

1. E5071B Network Analyzer (full calibration).
2. Test fixture Ref.967

Electrical Tests procedure:

1. The antenna was tested for VSWR and Gain.
2. A matching circuit was design for the frequency bands optimization
3. The VSWR was tested with an appropriate band chokes.
4. The test setup introduced in figure 1.

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Matching circuit layout:

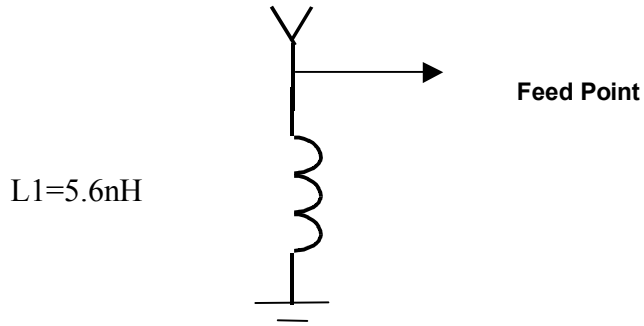

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Figure 1

GALTRONICS

Test report

PART No. : 020252076-3070

PROJECT No.: 0307000

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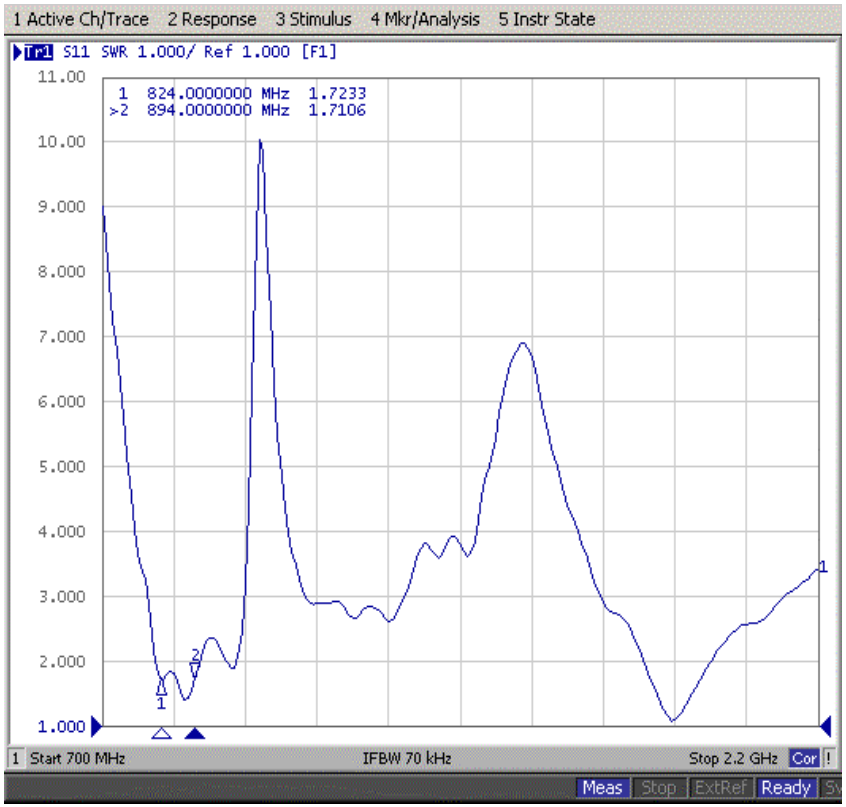
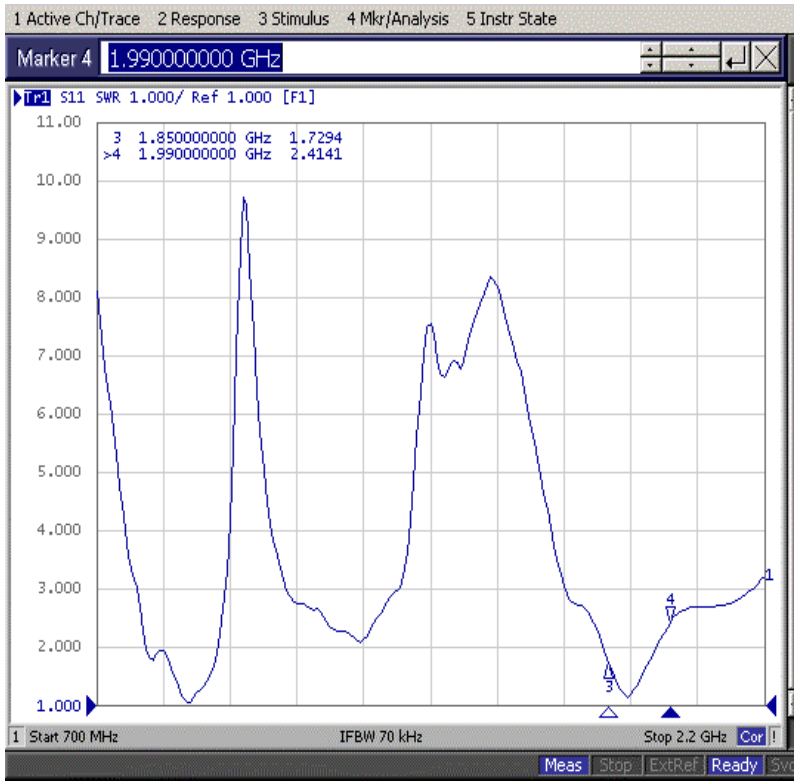
VSWR RESULTS:



CDMA CHOKE



PCS CHOKE

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Gain results

AZIMUTH			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	824MHz	849MHz	869MHz	894MHz	824MHz	849MHz	869MHz	894MHz
		FREE SPACE	-4.80	-3.41	-4.15	-4.04	-7.18	-6.95	-8.49	-6.98

FRONT BACK			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	824MHz	849MHz	869MHz	894MHz	824MHz	849MHz	869MHz	894MHz
		FREE SPACE	-4.46	-3.95	-5.76	-5.70	-9.43	-10.71	-12.38	-12.43

SIDE-SIDE			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	824MHz	849MHz	869MHz	894MHz	824MHz	849MHz	869MHz	894MHz
		FREE SPACE	-2.28	0.03	2.39	2.71	-9.37	-6.50	-4.38	-3.92

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AZIMUTH			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	1850MHz	1910MHz	1930MHz	1990MHz	1850MHz	1910MHz	1930MHz	1990MHz
		FREE SPACE	0.44	-0.71	-1.30	-2.76	-3.26	-4.66	-5.15	-5.38

FRONT BACK			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	1850MHz	1910MHz	1930MHz	1990MHz	1850MHz	1910MHz	1930MHz	1990MHz
		FREE SPACE	-2.71	-2.07	-2.44	-2.68	-7.17	-6.94	-7.25	-8.24

SIDE SIDE			GAIN TEST RESULTS (dBi)							
File	Position	Phone position	1850MHz	1910MHz	1930MHz	1990MHz	1850MHz	1910MHz	1930MHz	1990MHz
		FREE SPACE	2.57	2.95	2.52	0.99	-4.50	-3.96	-4.04	-4.37