



Test & Certification Center (TCC) - Dallas

FCC ID: GMLNPW-3
Test Report #: 01-RF-0626
Amendment B
March 1, 2002

Ver 1.0

CFR 47 Part 2, 22, and 24 Test Report

Test Report Number: 01-RF-0626 Amendment B

Terminal device:FCC ID: GMLNPW-3, Model 8265, HW: 3.1, SW: 3.0
(Detailed information is listed in section 4 of the original test report).

Originator: Randy Leenerts
Function: TCC - Dallas - EMC
Version/Status: 1.0 Approved
Location: TCC Directories
Date: March 1 2002

Change History:

Version	Date	Status	Handled By	Comments
0.1	February 28, 2002	Draft	Randy Leenerts	In Process
0.2	February 28, 2002	Draft	Elizabeth Parish	Updated
1.0	March 1, 2002	Approved	Alan C. Ewing	Approved

Testing laboratory:

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Client:

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Date and signatures:

March 1, 2002

For the contents:

Randy Leenerts, EMC Engineer
Technical ReviewAlan C. Ewing, General Manager
Manager Review

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1. GENERAL

1.1 Quality System

The quality system in place for TCC-Dallas conforms to ISO/IEC 17025 and has been audited to the standard by A2LA (American Association of Laboratory Accreditation). The appendix of the original report contains the scope of accreditation for A2LA. TCC – Dallas has also been audited using the ISO 9000 Quality System, as part of Nokia Mobile Phones, Inc., by ABS (American Bureau of Shipping) Quality Evaluations Inc.

TCC-Dallas is a recognized laboratory with the Federal Communications Commission in filing applications for Certification under Parts 15 and 18, Registration Number 100060, and Industry Canada, Registration Number IC 661.

1.2 Objective

The objective of this test report amendment is to supplement or amend information provided in the original test report, Test Report No. 01-RF-0626, and Test Report No 01-RF-0626 Amendment A.

The following information are comments/questions from and responses to the Federal Communication Commission.

EMC

A) Regarding your answers to question 2.

- Please explain why all plots do not show a clear noise floor, some have a corresponding dotted line. Provide additional plots as appropriate.

We use an EMC receiver (HP8546A as shown in the equipment list) for these measurements. The receiver attenuation auto adjusts for large signals (such as the carrier frequency). With the small BWs required by the CFRs, large attenuation settings due to the carrier, high EMC receiver ref. level settings, the noise floor is below the line shown on the graph (at least 30 dB below limit line). If signals are present, they will be displayed.

- Please provide two additional plots for TDMA for both bands to show the maximum power equal to the reference power line. The desired plots correspond to the one provided for the AMPS mode on page 6 of 46.

TDMA cellular max. power is shown on page 20 (01-RF-0626 Amendment A). TDMA PCS max. power is shown on page 23 (01-RF-0626 Amendment A). See section 11 and 13 of this 01-RF-0626 Amendment B report for plots.

- Please state the BW for the out-of-band plots on pages 25-36 of 46.

See CFR rule - 22.917(h)(1)(i)(ii) and (2)(i)(ii); 300Hz and 30KHz.
See CFR rule - 24.238(b), 1% of modulation BW, which is 300Hz.

- Please provide plots showing compliance with CFR 47 section 22.917(f) for both 800 band emissions.

All plots are shown, low and high RF power, AMPS and TDMA, see pages 55 - 61 in original report #01-RF-0626.

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- Please point out the occupied BW plot associated with the F1D emission.

F1D modulation is Wideband Data – see page 27 of 85 in original report #01-RF-0626.

B) Regarding your answer to question 3. Please discuss the type of measurement your EMI receiver makes while slow scanning, for example peak hold, or average.

All data measured for this test was performed using peak hold. All plots shown are displayed in peak hold.

C) Regarding your answer to question 4. Please provide a statement describing the test setup and procedure, a sample calculation of how the result was determined, additional setup photographs clearly showing the substitution antenna in place, and additional calculations showing the result in dBc (dB below the carrier power).

The substitution test and calculations are performed according to "Substitution method according to ANSI/TIA/EIA 603-1" as stated on page 38 of test report addendum. See picture provided in this 01-RF-0626 Amendment B report for substitution antenna. Calculations for dBc are as follows: ERP measurements – levels measured during substitution tests = dBc.

The emission limits for harmonics are in CFR 22.917(e), out of band emissions, $43+10 \log P$ and CFR 24.238(a), $43+10 \log P$. Values reported indicate compliance with the CFR's. The dBc values are provided in section 15 of this 01-RF-0626 Amendment B report.

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11. OCCUPIED BANDWIDTH (EMISSIONS MASKS)

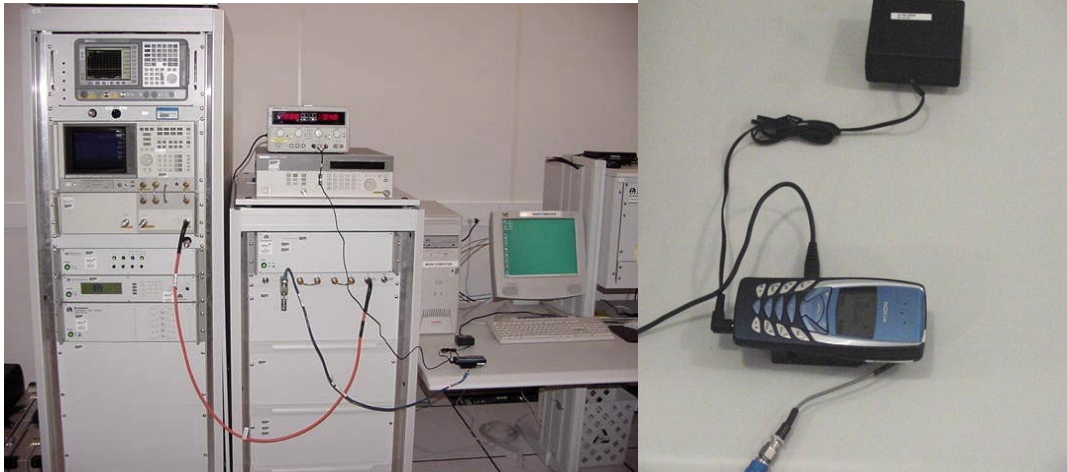
Specification: FCC Part 2.1049(c)(1), 24.238(a)(b)

11.1 Setup

Testing was performed with the EUT connected to a 6dB splitter, 6dB attenuator, filter bank and then to the EMI receiver. The base station simulator was connected to the other port of the splitter to establish a call.

For EUTs supporting audio modulation, the audio signal generator was adjusted to the frequency of maximum response and with the output level set for $\pm 2.5\text{kHz}$ deviation (or 50% modulation). With level constant, the signal level was increased 16dB.

For EUTs supporting digital modulation, the digital modulation mode was operated to its maximum extent.



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11.2 Pass/Fail Criteria

Modulation	Low Limit (kHz)	High Limit (kHz)
Voice	10.8	13.2
Wideband Data	7.2	8.8

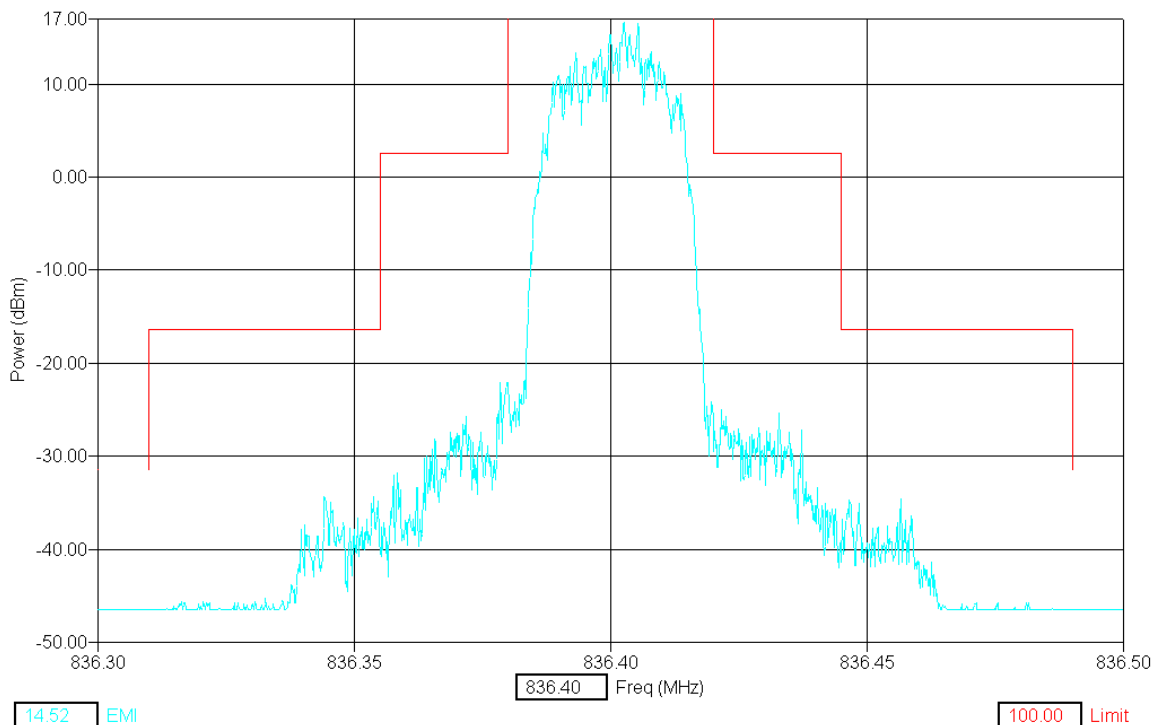
11.3 Detailed Test Results

Test Technician / Engineer	Byron Holz/ Mark Severson	
Date of Measurement	December 05, 2001	
Temperature / Humidity	22°C	56%RH
Test Result	FCC ID: GMLNPW-3 complies with FCC Part 2.1049(c)(1), 24.238(a)(b)	

TDMA Min and Max Power – Modulation is TDMA, Mask is FID

200 kHz Span, 300 Hz RBW/VBW, ref to power level

Max Power, TDMA Random Data



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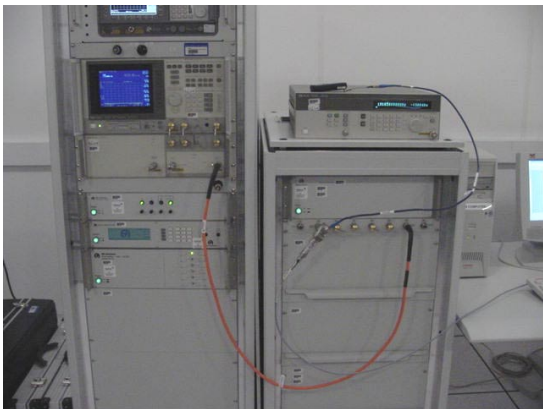
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12. OCCUPIED BANDWIDTH (TRANSMITTER CONDUCTED MEASUREMENTS)

Specification: FCC Part 2.1049(c)(1), 24.238(a)(b)

12.1 Setup

Testing was performed with the EUT connected to a 6dB splitter, 6dB attenuator, filter bank and then to the EMI receiver. The base station simulator was connected to the other port of the splitter to establish a call.



12.2 Pass/Fail Criteria

Band	Frequency Range (MHz)	FCC Limits (dBm)
Cellular 800 Low Channel	< 824	-13
Cellular 800 High Channel	> 849	-13
PCS 1900 Low Channel	< 1850	-13
PCS 1900 High Channel	> 1910	-13

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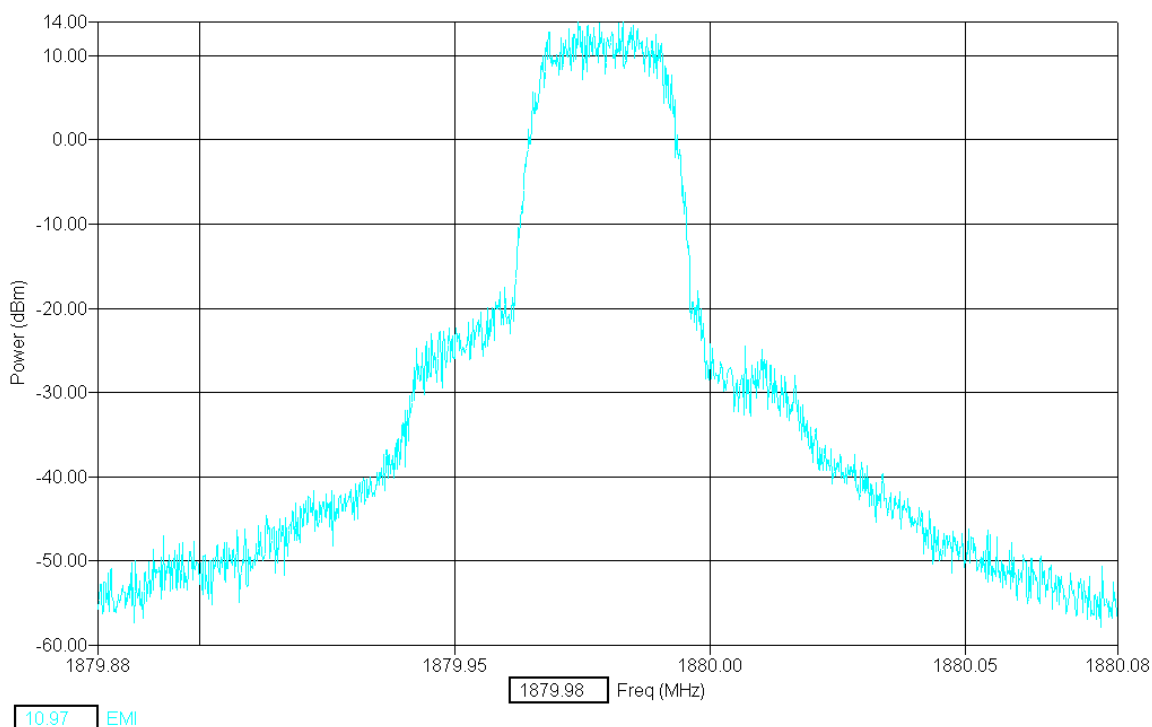
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12.3 Detailed Test Results

Test Technician / Engineer	Mark Severson	
Date of Measurement	November 28, 2001	
Temperature / Humidity	23°C	29%RH
Test Result	FCC ID: GMLNPW-3 complies with FCC Part 2.1049(c)(1), 24.238(a)(b)	

PCS Band, Call mode, Max Power. Channel 999



12.4 Measurement Uncertainty

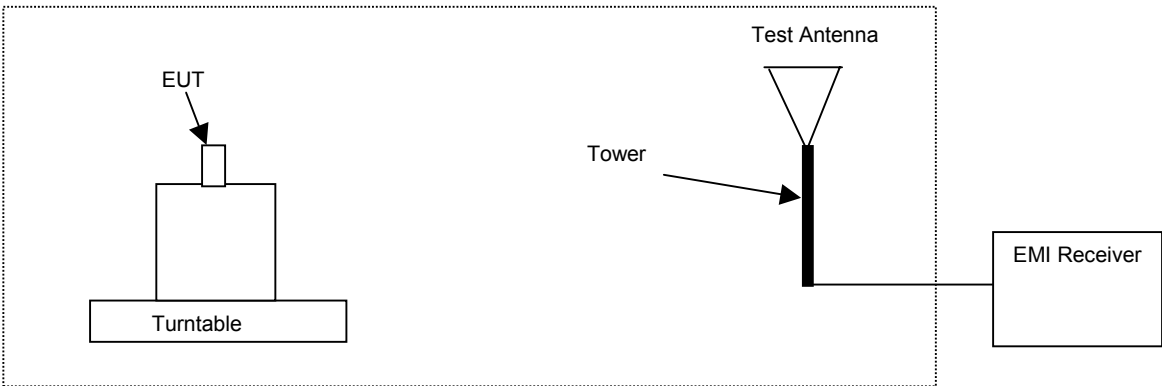
The measurement uncertainty for this test is +/- 3.7dB for 100kHz - 1000MHz and +/- 5.3dB for 1 - 20GHz.

15. FIELD STRENGTH OF SPURIOUS RADIATION

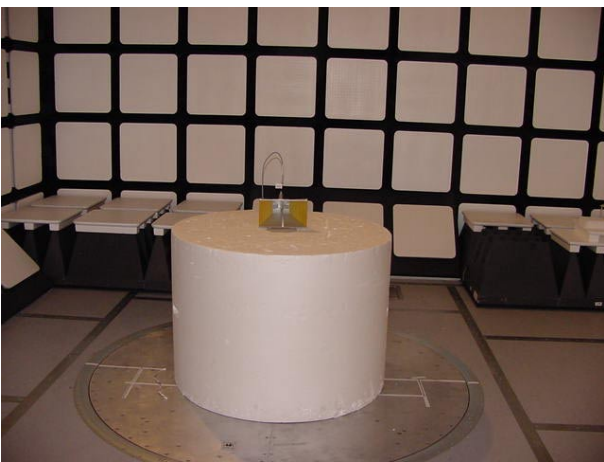
Specification: FCC Part 2.1053

15.1 Setup

Test equipment set-up.



Test Setup



Substitution Antenna

15.2 Pass/Fail Criteria

Band	Frequency Range (MHz)	FCC Limit (dBm)
Cellular / PCS	30 – 20000*	-13

* Frequency to be investigated up to the 10th harmonic of the highest clock or frequency used.

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15.3 Detailed Test Results

Test Technician / Engineer	Michael Sundstrom	
Date of Measurement	November 28, 2001, Feb. 11, 2002	
Temperature / Humidity	23°C, 24°C	29%RH, 23%RH
Test Result	FCC ID: GMLNPW-3 complies with FCC part 2.1053	

Substitution method according to ANSI/TIA/EIA 603-1 was used for final measurements.

Amps Channel 991:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
824.04	1648.3	-35.5	-13	H	58.2
824.04	1648.3	-33.4	-13	V	56.1
824.04	2472.3	-38.0	-13	H	60.7
824.04	2472.5	-34.6	-13	V	57.3
824.04	3296.1	-35.6	-13	H	58.3
824.04	3296.0	-35.1	-13	V	57.8
824.04	4120.3	-34.1	-13	H	56.8
824.04	4120.2	-33.6	-13	V	56.3
824.04	4944.1	-27.8	-13	H	50.5
824.04	4944.2	-28.3	-13	V	51.0
824.04	5768.3	-28.3	-13	H	51.0
824.04	5768.1	-27.3	-13	V	50.0
824.04	6592.4	-39.5	-13	H	62.2
824.04	6592.5	-40.2	-13	V	62.9
824.04	7415.9	-41.8	-13	H	64.5
824.04	7416.5	-42.0	-13	V	64.7
824.04	8240.9	-40.0	-13	H	62.7
824.04	8240.3	-39.9	-13	V	62.6

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Amps Channel 384:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
836.52	1673.3	-39.6	-13	H	64.0
836.52	1673.3	-36.4	-13	V	60.8
836.52	2509.5	-34.7	-13	H	59.1
836.52	2509.6	-35.0	-13	V	59.4
836.52	3345.9	-34.8	-13	H	59.2
836.52	3346.0	-35.8	-13	V	60.2
836.52	4182.6	-32.9	-13	H	57.3
836.52	4182.5	-33.4	-13	V	57.8
836.52	5019.2	-25.2	-13	H	49.6
836.52	5019.1	-30.0	-13	V	54.4
836.52	5855.7	-26.5	-13	H	50.9
836.52	5855.7	-26.4	-13	V	50.8
836.52	6692.2	-38.2	-13	H	62.6
836.52	6691.3	-39.9	-13	V	64.3
836.52	7528.5	-41.8	-13	H	66.2
836.52	7527.9	-39.6	-13	V	64.0
836.52	8365.3	-41.1	-13	H	65.5
836.52	8365.1	-40.5	-13	V	64.9

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Amps Channel 799:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
849.0	1698.4	-35.8	-13.0	H	61.4
849.0	1698.3	-35.0	-13.0	V	60.6
849.0	2547.3	-37.7	-13.0	H	63.3
849.0	2547.4	-35.4	-13.0	V	61.0
849.0	3395.9	-34.1	-13.0	H	59.7
849.0	3396.0	-35.2	-13.0	V	60.8
849.0	4244.8	-32.3	-13.0	H	57.9
849.0	4244.8	-32.6	-13.0	V	58.2
849.0	5093.8	-25.4	-13.0	H	51.0
849.0	5093.8	-27.9	-13.0	V	53.5
849.0	5942.8	-26.7	-13.0	H	52.3
849.0	5942.6	-25.6	-13.0	V	51.2
849.0	6792.3	-38.6	-13.0	H	64.2
849.0	6791.7	-38.5	-13.0	V	64.1
849.0	7641.2	-40.0	-13.0	H	65.6
849.0	7640.6	-41.3	-13.0	V	66.9
849.0	8489.9	-38.5	-13.0	H	64.1
849.0	8489.2	-39.6	-13.0	V	65.2



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TDMA Cellular Channel 991:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
824.0	1648.3	-36.8	-13.0	H	63.6
824.0	1648.3	-34.7	-13.0	V	61.5
824.0	2472.6	-37.4	-13.0	H	64.2
824.0	2472.6	-36.5	-13.0	V	63.3
824.0	3296.2	-35.3	-13.0	H	62.1
824.0	3296.2	-35.1	-13.0	V	61.9
824.0	4120.2	-33.2	-13.0	H	60.0
824.0	4120.3	-31.8	-13.0	V	58.6
824.0	4944.2	-26.3	-13.0	H	53.1
824.0	4944.4	-29.2	-13.0	V	56.0
824.0	5768.4	-26.7	-13.0	H	53.5
824.0	5768.4	-26.6	-13.0	V	53.4
824.0	6593.1	-45.1	-13.0	H	71.9
824.0	6592.1	-44.1	-13.0	V	70.9
824.0	7415.4	-42.8	-13.0	H	69.6
824.0	7417.1	-42.4	-13.0	V	69.2
824.0	8239.5	-40.3	-13.0	H	67.1
824.0	8239.9	-38.8	-13.0	V	65.6

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TDMA Cellular Channel 384:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
836.5	1673.3	-36.7	-13.0	H	65.6
836.5	1673.3	-35.2	-13.0	V	64.1
836.5	2509.8	-33.6	-13.0	H	62.5
836.5	2509.9	-34.8	-13.0	V	63.7
836.5	3346.1	-34.8	-13.0	H	63.7
836.5	3346.0	-34.9	-13.0	V	63.8
836.5	4182.5	-32.7	-13.0	H	61.6
836.5	4182.6	-33.1	-13.0	V	62.0
836.5	5019.2	-23.8	-13.0	H	52.7
836.5	5019.1	-27.7	-13.0	V	56.6
836.5	5855.7	-26.8	-13.0	H	55.7
836.5	5855.5	-26.9	-13.0	V	55.8
836.5	6692.2	-41.0	-13.0	H	69.9
836.5	6692.1	-37.0	-13.0	V	65.9
836.5	7527.8	-42.0	-13.0	H	70.9
836.5	7529.5	-42.7	-13.0	V	71.6
836.5	8366.1	-39.9	-13.0	H	68.8
836.5	8365.7	-39.7	-13.0	V	68.6

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TDMA Cellular Channel 799:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
849.0	1698.3	-37.9	-13.0	H	67.1
849.0	1698.3	-37.6	-13.0	V	66.8
849.0	2546.8	-37.6	-13.0	H	66.8
849.0	2546.9	-35.3	-13.0	V	64.5
849.0	3359.9	-34.4	-13.0	H	63.6
849.0	3359.9	-35.0	-13.0	V	64.2
849.0	4245.0	-32.1	-13.0	H	61.3
849.0	4244.9	-33.7	-13.0	V	62.9
849.0	5093.9	-25.6	-13.0	H	54.8
849.0	5093.8	-27.9	-13.0	V	57.1
849.0	5942.8	-26.5	-13.0	H	55.7
849.0	5942.8	-26.4	-13.0	V	55.6
849.0	6791.8	-41.3	-13.0	H	70.5
849.0	6791.5	-43.3	-13.0	V	72.5
849.0	7641.1	-40.8	-13.0	H	70.0
849.0	7641.5	-39.2	-13.0	V	68.4
849.0	8489.7	-40.3	-13.0	H	69.5
849.0	8490.2	-38.8	-13.0	V	68.0



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TDMA PCS Channel 02:

Tuned Freq (MHz)	Freq (Max) (MHz)	(PK) EMI (dBm)	FCC Limit (dBm)	Pol.	dBc
1850.0	3700.1	-34.4	-13.0	H	66.7
1850.0	3699.9	-31.9	-13.0	V	64.2
1850.0	5550.0	-26.6	-13.0	H	58.9
1850.0	5550.1	-27.5	-13.0	V	59.8
1850.0	7400.1	-35.3	-13.0	H	67.6
1850.0	7400.2	-38.0	-13.0	V	70.3
1850.0	9250.0	-29.5	-13.0	H	61.8
1850.0	9250.0	-28.3	-13.0	V	60.6
1850.0	11100.0	-31.5	-13.0	H	63.8
1850.0	11100.8	-36.3	-13.0	V	68.6
1850.0	12950.3	-33.2	-13.0	H	65.5
1850.0	12951.0	-33.6	-13.0	V	65.9
1850.0	14801.0	-30.2	-13.0	H	62.5
1850.0	14800.9	-31.0	-13.0	V	63.3
1850.0	16649.6	-31.5	-13.0	H	63.8
1850.0	16650.3	-30.1	-13.0	V	62.4

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TDMA PCS Channel 1001:

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1880.0	3760.4	-34.0	-13.0	H	65.6
1880.0	3760.4	-34.0	-13.0	V	65.6
1880.0	5640.0	-33.2	-13.0	H	64.8
1880.0	5640.0	-33.7	-13.0	V	65.3
1880.0	7520.2	-31.7	-13.0	H	63.3
1880.0	7520.1	-29.4	-13.0	V	61.0
1880.0	9400.0	-27.2	-13.0	H	58.8
1880.0	9400.7	-31.1	-13.0	V	62.7
1880.0	11280.1	-34.4	-13.0	H	66.0
1880.0	11280.1	-36.0	-13.0	V	67.6
1880.0	13159.9	-35.2	-13.0	H	66.8
1880.0	13161.4	-32.9	-13.0	V	64.5
1880.0	15041.1	-30.6	-13.0	H	62.2
1880.0	15041.5	-31.6	-13.0	V	63.2
1880.0	16921.0	-28.4	-13.0	H	60.0
1880.0	16920.5	-28.7	-13.0	V	60.3

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TDMA PCS Channel 1998:

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1909.9	3819.9	-29.4	-13.0	H	60.1
1909.9	3819.8	-29.9	-13.0	V	60.6
1909.9	5729.6	-29.2	-13.0	H	59.9
1909.9	5729.8	-30.6	-13.0	V	61.3
1909.9	7639.6	-18.4	-13.0	H	49.1
1909.9	7639.8	-22.8	-13.0	V	53.5
1909.9	9549.6	-26.6	-13.0	H	57.3
1909.9	9549.0	-28.7	-13.0	V	59.4
1909.9	11460.5	-35.6	-13.0	H	66.3
1909.9	11458.6	-36.0	-13.0	V	66.7
1909.9	13369.0	-31.3	-13.0	H	62.0
1909.9	13369.5	-31.2	-13.0	V	61.9
1909.9	15279.3	-32.9	-13.0	H	63.6
1909.9	15280.1	-32.3	-13.0	V	63.0
1909.9	17189.4	-28.9	-13.0	H	59.6
1909.9	17189.2	-27.4	-13.0	V	58.1

15.4 Measurement Uncertainty

The measurement uncertainty for this test is +/- 5.2dB for 30-300MHz, +/- 5.2dB for 300-1000MHz, +/- 5.6dB for 1-6GHz, and +/-6.8dB for 6 to 18GHz.