

RADIATED SPURIOUS EMISSION TEST REPORT

**ACCORDING TO: FCC 47 CFR PART 90 §90.210(b)(3) and
RSS-119 issue 10, section 5.8**

FOR:

Motorola Israel Ltd.

APX6000 Rugged two way radio

Models: H98QDH9PW7AN,

H98QDF9PW6AN,

H98QDD9PW5AN

FCC ID: AZ489FT4899

IC: 109U-89FT4899

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1 Applicant information

Client name: Motorola Israel Ltd.
Address: 3 Kremenetski street, P.O.B. 25016, Tel Aviv 67899, Israel
Telephone: +972 3565 9229
Fax: +972 3565 9968
E-mail: alexb@motorola.com
Contact name: Mr. Gaby Bitton

2 Equipment under test attributes

Product name: APX6000 Rugged two way radio
Product type: Transceiver
Model(s): H98QDH9PW7AN
Serial number: NUE1010A0140
Hardware version: P1
Software release: D04.30.03
Receipt date: 4/27/2010

3 Manufacturer information

Manufacturer name: Motorola Israel Ltd.
Address: 3 Kremenetski street, P.O.B. 25016, Tel Aviv 67899, Israel
Telephone: +972 3565 9229
Fax: +972 3565 9968
E-Mail: alexb@motorola.com
Contact name: Mr. Gaby Bitton

4 Test details

Project ID: 20745
Location: Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started: 4/27/2010
Test completed: 7/26/2010
Test specification(s): FCC 47 CFR part 90, §90.210(b)(3); RSS-119 section 5.6

5 Tests summary

Test	Status
Transmitter characteristics	
Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	Pass

The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

	Name and Title	Date	Signature
Tested by:	Mr. S. Samokha, test engineer	July 26, 2010	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	July 27, 2010	
Approved by:	Mr. M. Nikishin, EMC and Radio group manager	July 28, 2010	

6 EUT description

6.1 General information

The EUT, model numbers H98QDH9PW7AN, H98QDF9PW6AN, H98QDD9PW5AN, is a rugged two way radio, operating in 380-470 MHz and powered by 7.5 V lithium rechargeable battery, model NNTN7038A.

According to customer declaration all the EUT models have the same radio part, the difference between models is detailed in the table below.

EUT Model	Description of differences
H98QDH9PW7AN	Full keypad, full display
H98QDF9PW6AN	Limited keypad, full display
H98QDD9PW5AN	No keypad, no display

Therefore only the EUT model H98QDH9PW7AN as the worst case was tested.

6.2 Ports and lines

Port type	Port description	Conn. from	Conn. to	Qty.	Cable type	Cable length	Indoor / outdoor
RF	Antenna	EUT	Antenna	1	NA	NA	Outdoor
Control*	Control interface	EUT	Control unit	1	Shielded	1m	Indoor

* - used only for testing and maintenance purposes

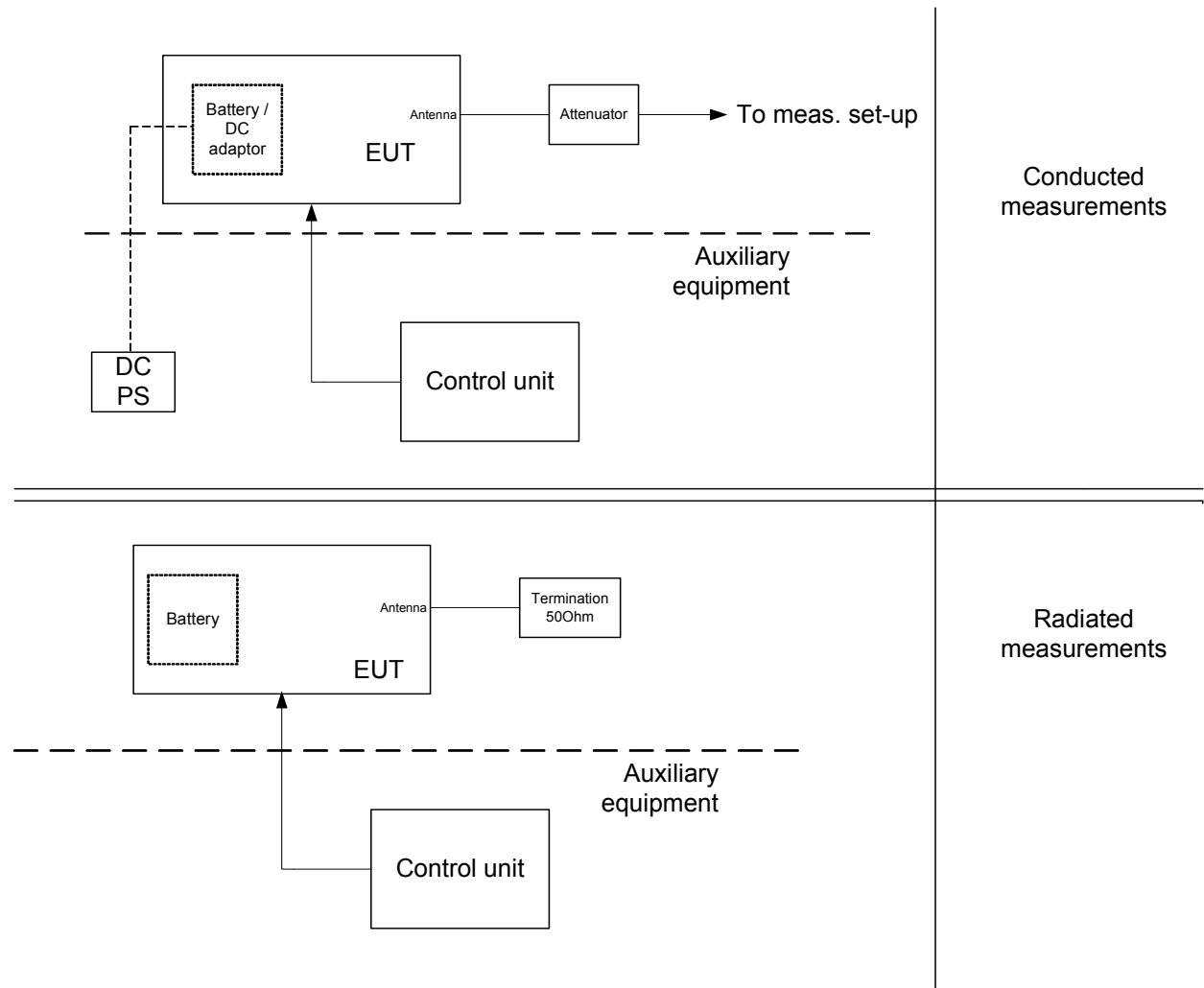
6.3 Support and test equipment

Description	Manufacturer	Model number	Serial number
Control unit	Motorola	RLN4460	NA

6.4 Changes made in the EUT

No changes were implemented in the EUT.

6.5 Test configuration



Note: The part for radiated measurements was used during spurious emission testing.



6.6 Transmitter characteristics

Type of equipment				
☒	Stand-alone (Equipment with or without its own control provisions)			
☐	Combined equipment (Equipment where the radio part is fully integrated within another type of equipment)			
☐	Plug-in card (Equipment intended for a variety of host systems)			
Intended use		Condition of use		
☐	fixed	Always at a distance more than 2 m from all people		
☐	mobile	Always at a distance more than 20 cm from all people		
☒	portable	May operate at a distance closer than 20 cm to human body		
Assigned frequency range		380 MHz – 470 MHz		
Operating frequencies (tested)		380.0125 MHz, 406.00 MHz (the both are not applicable for FCC compliance demonstration), 413.00 MHz, 420.00 MHz, 469.9875 MHz		
Receive mode frequencies		380.0125, 406, 413, 420, 469.9875 MHz		
RF channel spacing		12.5 kHz, 25 kHz		
Maximum rated output power		At transmitter 50 Ω RF output connector 37 dBm		
Is transmitter output power variable?		☒	No	
		☐	Yes	
			☐	continuous variable
			☐	stepped variable with stepsize
		☐	minimum RF power	
		☐	maximum RF power	
Antenna connection				
☐	unique coupling	☒	standard connector	
☐		☐	Integral	
☐		☐	with temporary RF connector	
☐		☐	without temporary RF connector	
Antenna/s technical characteristics				
Type	Manufacturer	Model number	Gain	
UHF/GPS, Plumbum Free	LAIRD TECHNOLOGIES	PMAE4065A	-1 dBi	
UHF/GPS, Plumbum Free	Galtronics Corporation LTD	FAF5259A	1 dBi maximum at 450 MHz	
Transmitter 99% power bandwidth		Type of modulation		
12.5 kHz		Analogue FM		
		C4FM		
25 kHz		Analogue FM		
		C4FM		
Type of multiplexing		NA		
Transmitter power source				
☒	DC	Nominal rated voltage	Battery type	
☐	AC mains	Nominal rated voltage	Frequency	
☐		Voltage range		
☐		Nominal rated voltage		
Common power source for transmitter and receiver		☒	yes	
		☐	no	

Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

7 Transmitter tests according to 47CFR part 90 and RSS-119 requirements

7.1 Radiated spurious emission measurements

7.1.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.1.1.

Table 7.1.1 Radiated spurious emission test limits

Frequency, MHz	Attenuation below carrier dBc	ERP of spurious, dBm	Equivalent field strength limit @ 3m, dB(μV/m)***
0.009 – 10 th harmonic*	43+10logP**	-13	84.4

* - Excluding the in band emission within ± 250 % of the authorized bandwidth from the carrier

** - P is transmitter output power in Watts

*** - Equivalent field strength limit was calculated from maximum allowed ERP of spurious as follows:
 $E = \sqrt{30 \times P \times 1.64} / r$, where P is ERP in Watts, 1.64 is numeric gain of ideal dipole and r is antenna to EUT distance in meters

7.1.2 Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and the performance check was conducted.

7.1.2.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360° and the measuring antenna was rotated around its vertical axis.

7.1.2.3 The worst test results (the lowest margins) were recorded in Table 7.1.2 and shown in the associated plots.

7.1.3 Test procedure for spurious emission field strength measurements above 30 MHz

7.1.3.1 The EUT was set up as shown in Figure 7.1.2, energized and the performance check was conducted.

7.1.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360° and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal, polarizations.

7.1.3.3 The worst test results (the lowest margins) were recorded in Table 7.1.2 and shown in the associated plots.

7.1.4 Test procedure for substitution ERP measurements of spurious

7.1.4.1 The test equipment was set up as shown in Figure 7.1.3 and energized.

7.1.4.2 RF signal generator was set to the frequency of investigated spurious emission and the RF output level was preliminary adjusted to produce the same field strength as it was measured from the EUT.

7.1.4.3 The test antenna height was swept from 1 to 4 m to find maximum emission from substitution antenna and RF signal generator output was fine adjusted to produce the same field strength as it was measured from the EUT.

7.1.4.4 The above procedure was performed in both, horizontal and vertical, polarizations of the test and substitution antennas.

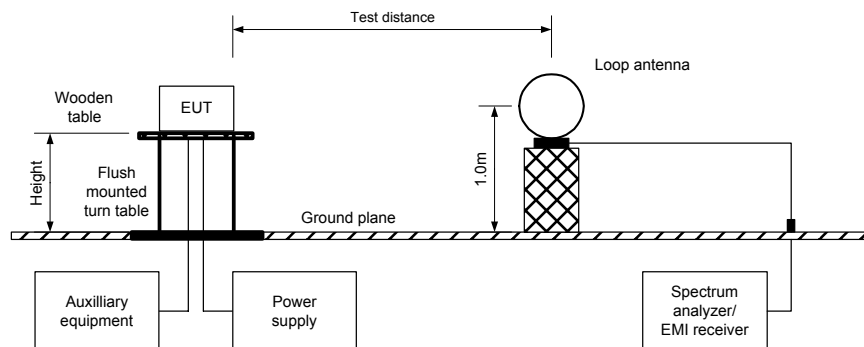
7.1.4.5 The ERP of spurious emissions was calculated as a sum of signal generator output power in dBm and antenna gain in dBd reduced by cable loss in dB.

7.1.4.6 The above procedure was repeated at the rest of investigated frequencies.

7.1.4.7 The worst test results (the lowest margins) were recorded in Table 7.1.3 and shown in the associated plots.

Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Figure 7.1.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band

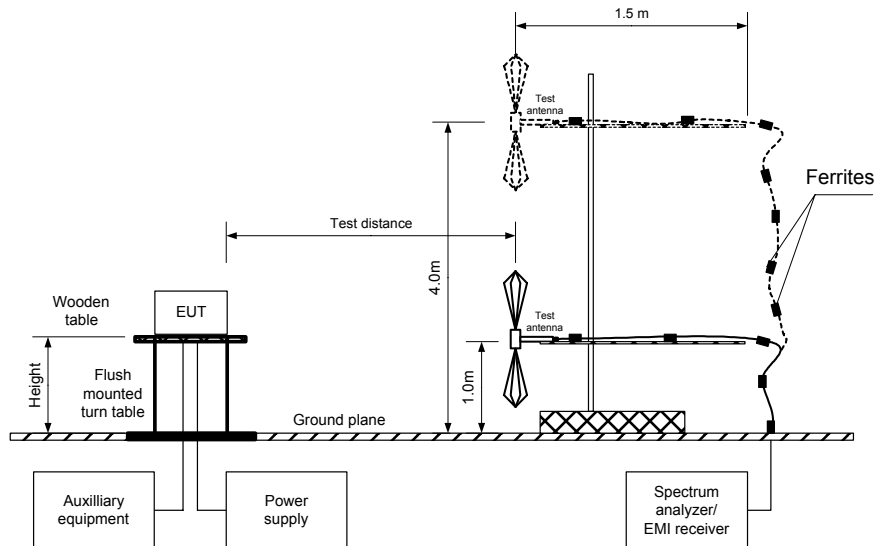


Photograph 7.1.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Figure 7.1.2 Setup for spurious emission field strength measurements above 30 MHz

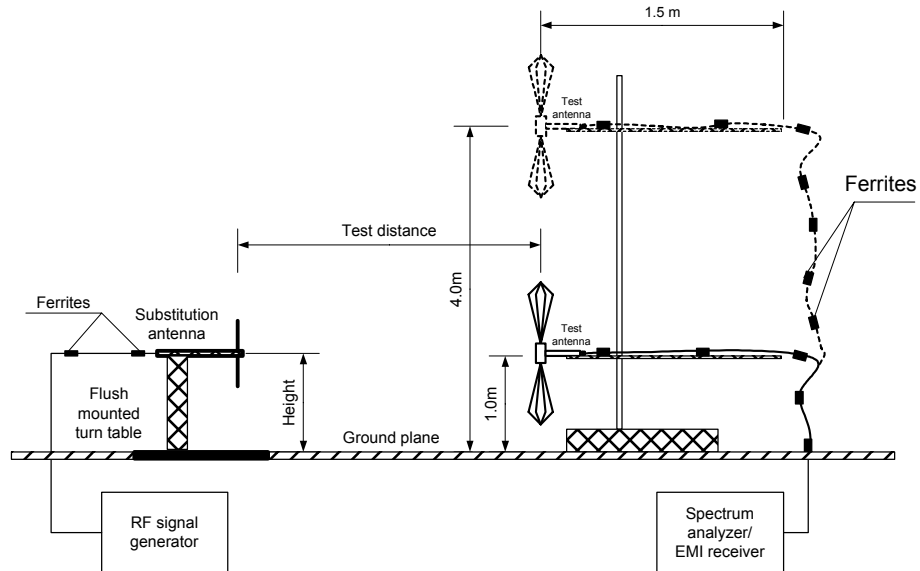


Photograph 7.1.2 Setup for spurious emission field strength measurements above 30 MHz



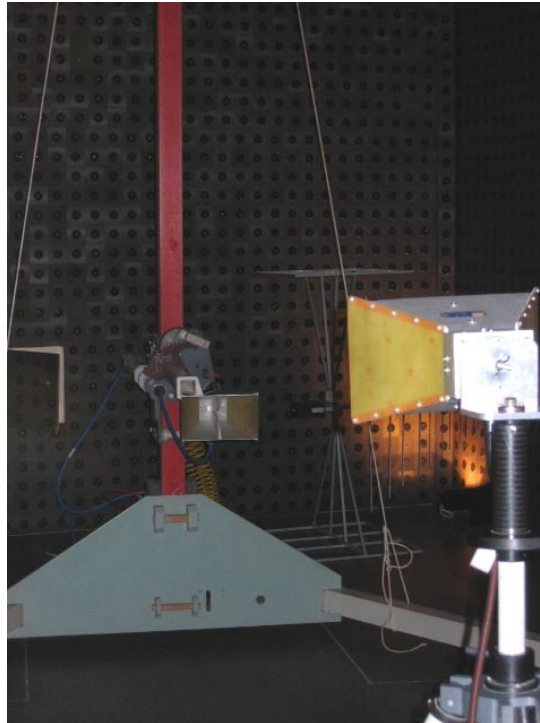
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Verdict: PASS	
Date: 7/19/2010			
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Figure 7.1.3 Setup for substitution ERP measurements of spurious



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Photograph 7.1.3 Setup for substitution ERP measurements of spurious



Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Table 7.1.2 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE: 380 - 470 MHz
 EUT POSITION: Vertical
 TEST DISTANCE: 3 m
 TEST SITE: Semi anechoic chamber
 EUT HEIGHT: 0.8 m
 INVESTIGATED FREQUENCY RANGE: 0.009 – 4700 MHz
 DETECTOR USED: Peak
 VIDEO BANDWIDTH: > Resolution bandwidth
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconical (30 MHz – 200 MHz)
 Log periodic (200 MHz – 1000 MHz)
 Biconilog (30 MHz – 1000 MHz)
 Double ridged guide (above 1000 MHz)
 MODULATION: Unmodulated
 TRANSMITTER OUTPUT POWER: Maximum

Frequency, MHz	Field strength, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees
Low carrier frequency 380.0125 MHz							
760.028	70.64	84.4	-13.76	120	Vert	1.0	188
1399.25	63.51	84.4	-20.89	1000	Vert	1.7	190
Low Mid carrier frequency 406 MHz							
812.000	64.51	84.4	-19.89	120	Vert	1.3	0
1217.963	61.76	84.4	-22.64	1000	Vert	1.4	249
Mid carrier frequency 413 MHz							
826.013	65.07	84.4	-19.33	120	Vert	1.1	13
1239.013	66.11	84.4	-18.29	1000	Vert	1.3	301
High Mid carrier frequency 420 MHz							
840.015	64.82	84.4	-19.58	120	Vert	1.05	10
1260.075	67.49	84.4	-16.91	1000	Hor	1.1	30
High carrier frequency 469.9875MHz							
939.988	63.57	84.4	-20.83	120	Vert	1.0	18
1409.825	61.05	84.4	-23.35	1000	Vert	1.0	311

*- Margin = Field strength of spurious – calculated field strength limit.

** - EUT front panel refers to 0 degrees position of turntable.

Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions			
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12			
Test mode:	Compliance	Verdict:		PASS
Date:	7/19/2010			
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery	
Remarks:				

Table 7.1.3 Substitution ERP of spurious test results

ASSIGNED FREQUENCY RANGE: 380 - 470 MHz
 TRANSMITTER CARRIER ERP: Maximum
 TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 SUBSTITUTION ANTENNA HEIGHT: 0.8 m
 DETECTOR USED: Peak
 VIDEO BANDWIDTH: > Resolution bandwidth
 SUBSTITUTION ANTENNA TYPE: Tunable dipole (30 MHz – 1000 MHz)
 Double ridged guide (above 1000 MHz)

Frequency MHz	Field strength, dB(μV/m)	RBW, kHz	Antenna polarization	RF generator output, dBm	Ant gain, dBd	Cable loss dB	ERP, dBm	Limit, dBm	Margin dB*	Verdict
Low carrier frequency 380.0125 MHz										
760.028	70.64	120	Vert	-23.70	-1.73	0.91	-26.34	-13.00	-13.34	Pass
1399.25	63.51	1000	Vert	-38.43	4.80	1.13	-34.76	-13.00	-21.76	Pass
Low Mid carrier frequency 406 MHz										
812.000	64.51	120	Vert	-30.62	-2.17	0.95	-33.74	-13.00	-20.74	Pass
1217.963	61.76	1000	Vert	-40.30	5.15	1.17	-36.32	-13.00	-23.32	Pass
Mid carrier frequency 413 MHz										
826.013	65.07	120	Vert	-29.59	-2.04	0.95	-32.58	-13.00	-19.58	Pass
1239.013	66.11	1000	Vert	-35.76	5.24	1.18	-31.70	-13.00	-18.70	Pass
High Mid carrier frequency 420 MHz										
840.015	64.82	120	Vert	-31.72	0.25	0.96	-32.43	-13.00	-19.43	Pass
1260.075	67.49	1000	Hor	-36.39	7.48	1.20	-30.11	-13.00	-17.11	Pass
High carrier frequency 469.9875MHz										
939.988	63.57	120	Vert	-34.39	0.96	1.01	-34.44	-13.00	-21.44	Pass
1409.825	61.05	1000	Vert	-43.57	8.03	1.27	-36.81	-13.00	-23.81	Pass

*- Margin = Spurious emission – specification limit.

Reference numbers of test equipment used

HL 0446	HL 0521	HL 0604	HL 0661	HL 1565	HL 1984	HL 2432	HL 2780
HL 3618							

Full description is given in Appendix A.

Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

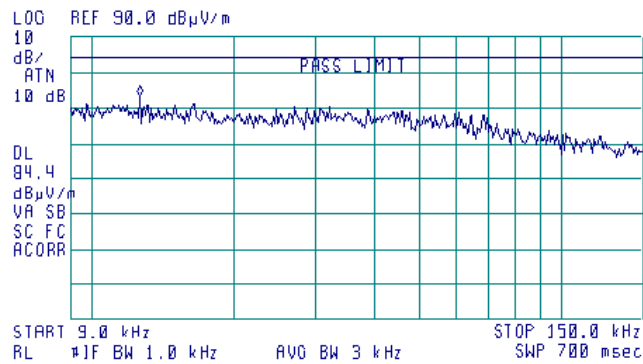
Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.1 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:22:21 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 12.6 kHz
73.37 dBμV/m



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

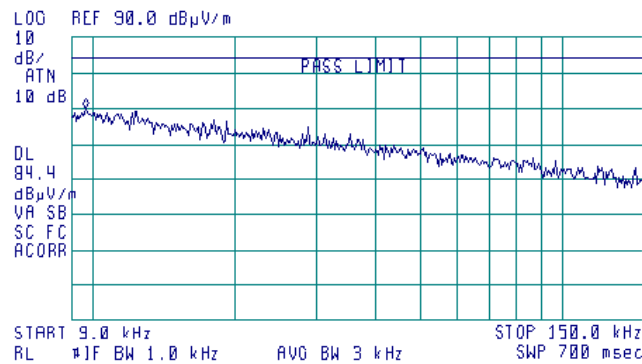
Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.2 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:07:07 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 9.0 kHz
69.95 dBμV/m

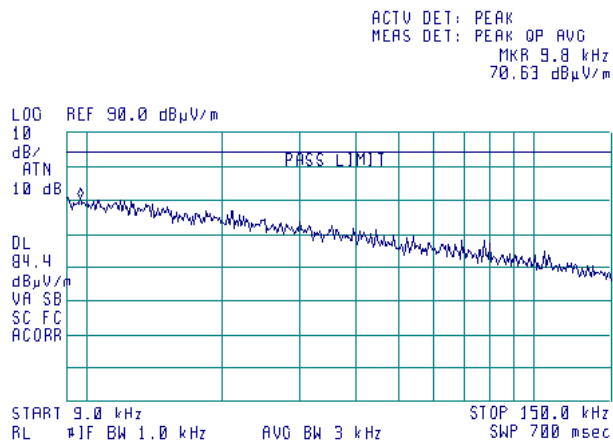


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.3 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

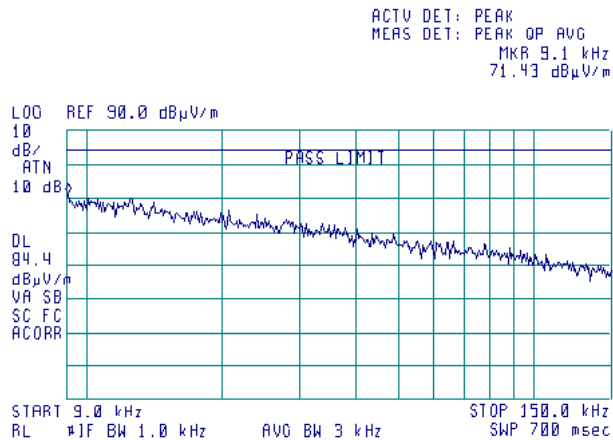
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Plot 7.1.4 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:14:21 JUL 20, 2010





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Date of Issue: 7/27/2010

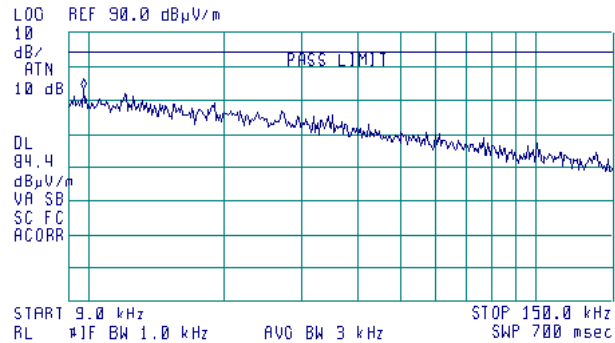
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.5 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:16:32 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 9.8 kHz
73.44 dBµV/m



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

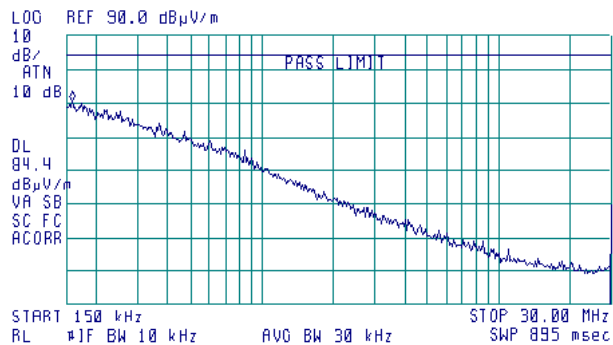
Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.6 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE:	Semi anechoic chamber
CARRIER FREQUENCY:	Low 380.0125 MHz
ANTENNA POLARIZATION:	Vertical and Horizontal
TEST DISTANCE:	3 m

00:20:35 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 160 kHz
70.50 dBμV/m



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

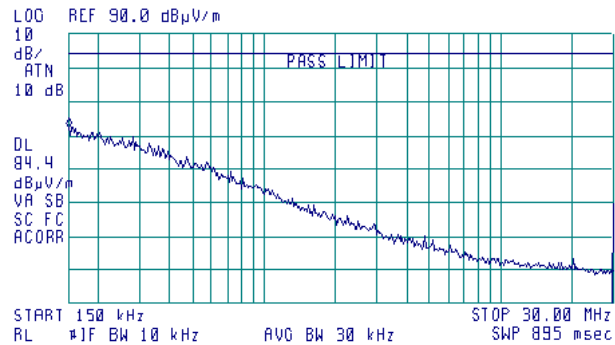
Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.7 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE:	Semi anechoic chamber
CARRIER FREQUENCY:	Low Mid 406 MHz
ANTENNA POLARIZATION:	Vertical and Horizontal
TEST DISTANCE:	3 m

00:05:28 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 150 kHz
62.04 dBμV/m



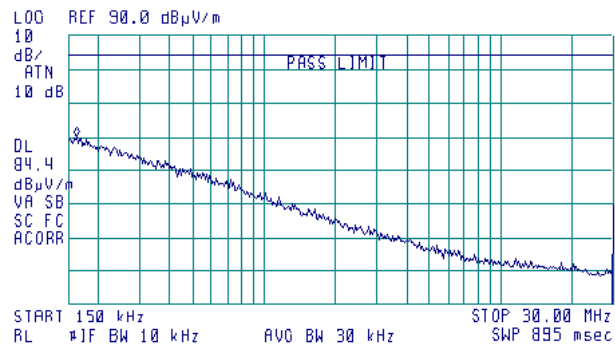
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.8 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:10:54 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 160 kHz
60.15 dBμV/m



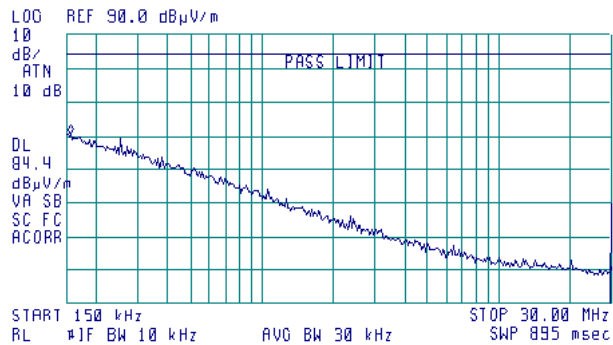
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.9 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:12:53 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 160 kHz
60.43 dBμV/m

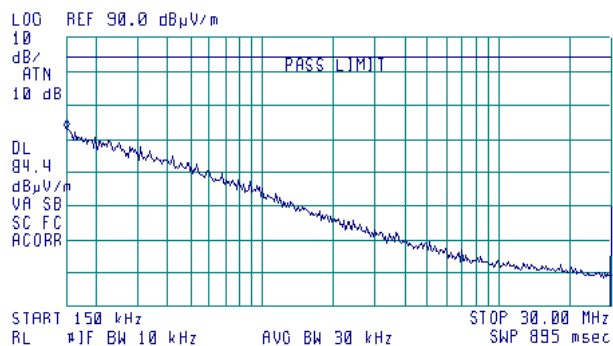


Plot 7.1.10 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

00:18:09 JUL 20, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 150 kHz
63.03 dBμV/m

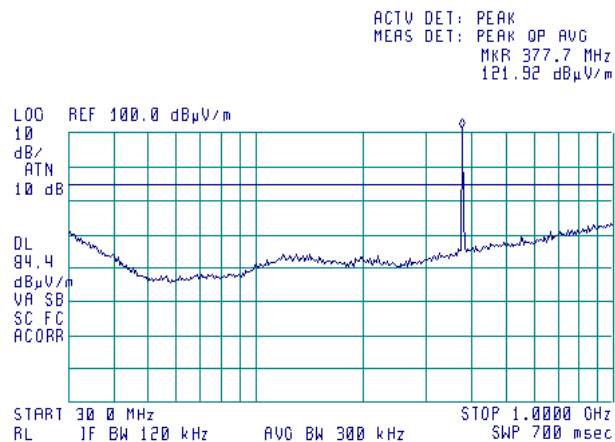


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

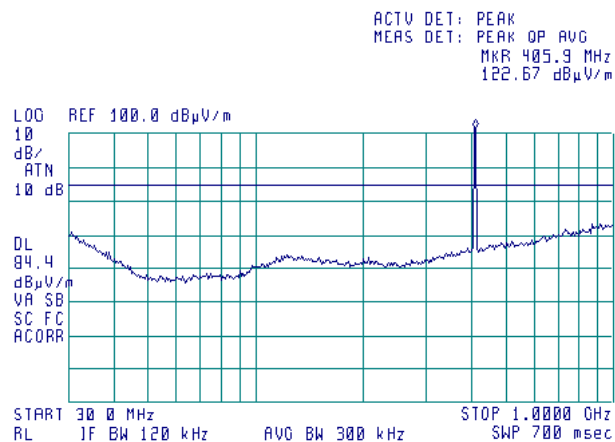
Plot 7.1.11 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.12 Radiated emission measurements in 30 - 1000 MHz range

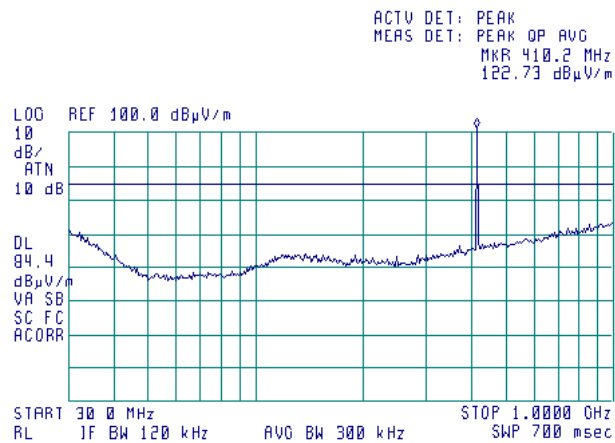
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

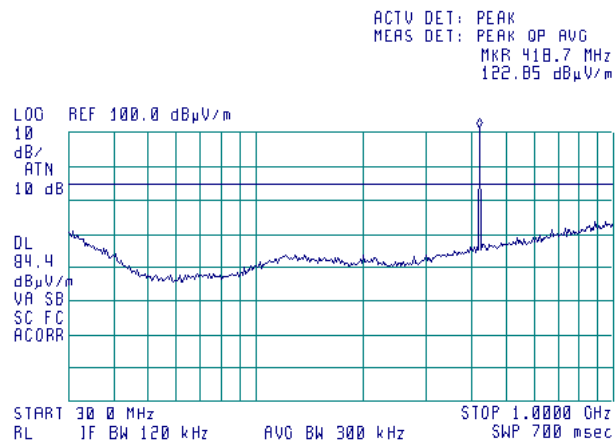
Plot 7.1.13 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.14 Radiated emission measurements in 30 - 1000 MHz range

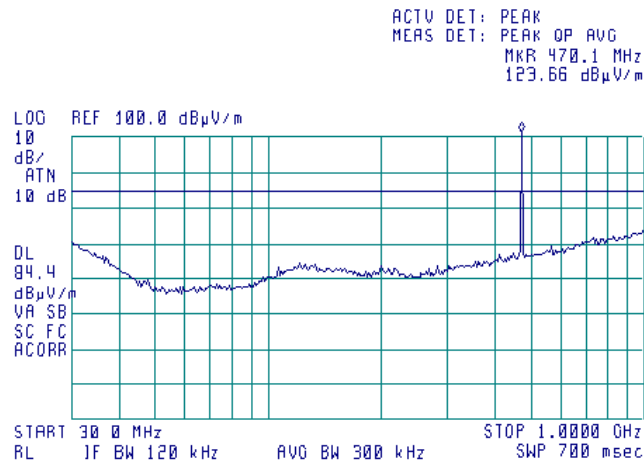
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.15 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

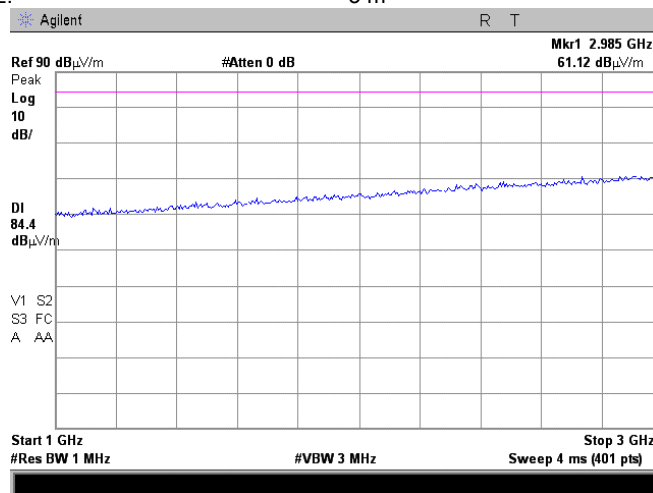


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

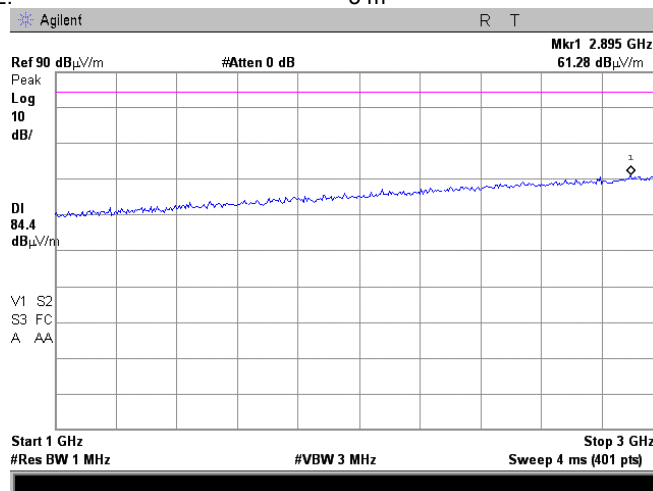
Plot 7.1.16 Radiated emission measurements in 1000 – 3000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.17 Radiated emission measurements in 1000 – 3000 MHz range

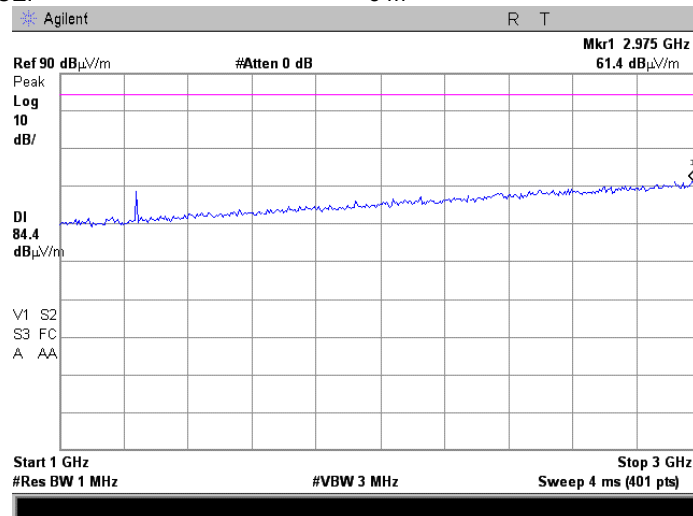
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

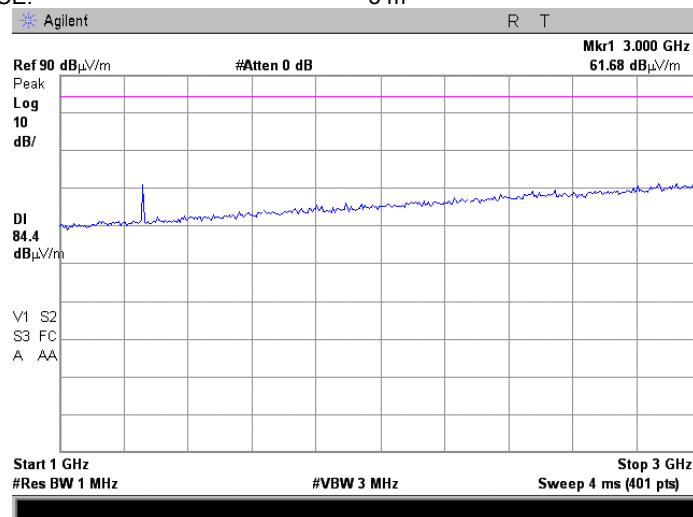
Plot 7.1.18 Radiated emission measurements in 1000 – 3000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.19 Radiated emission measurements in 1000 – 3000 MHz range

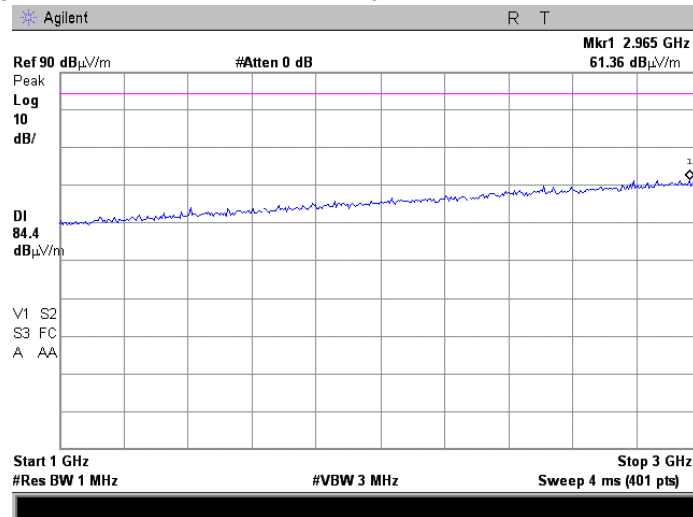
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.20 Radiated emission measurements in 1000 – 3000 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

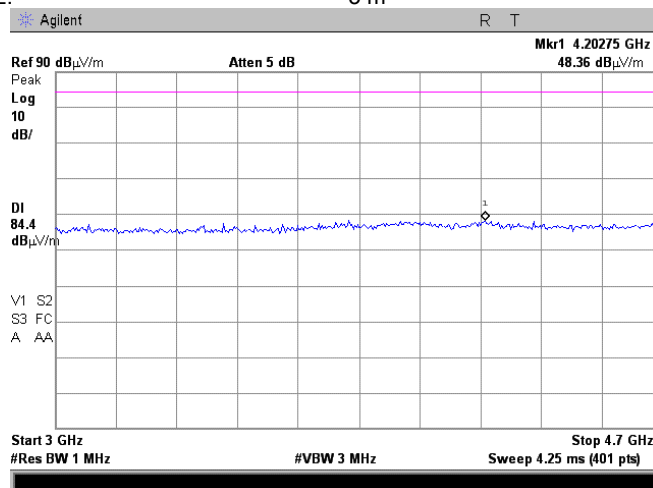


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

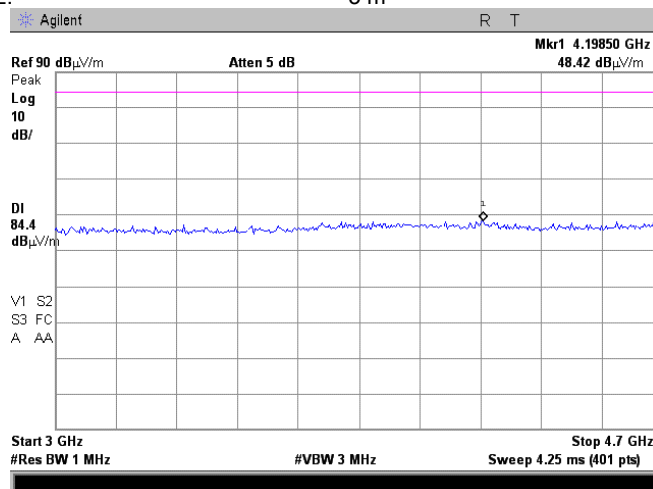
Plot 7.1.21 Radiated emission measurements in 3000 – 4700 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.22 Radiated emission measurements in 3000 – 4700 MHz range

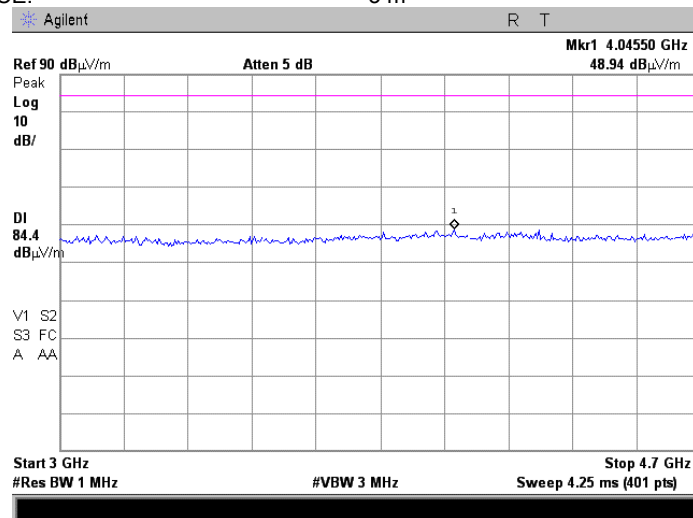
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.23 Radiated emission measurements in 3000 – 4700 MHz range

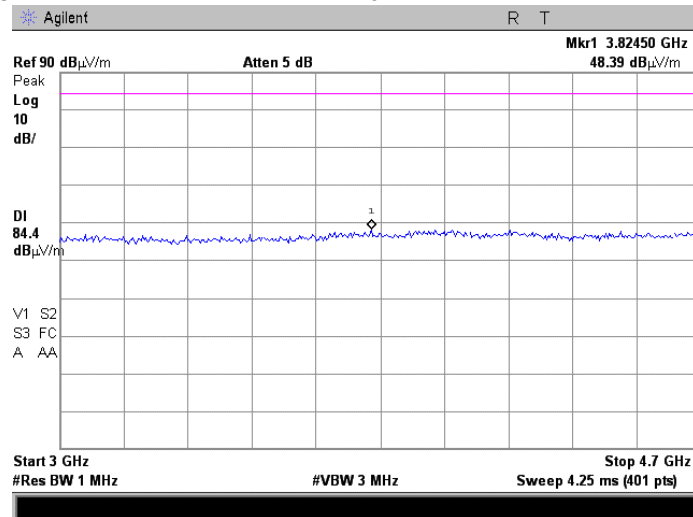
TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

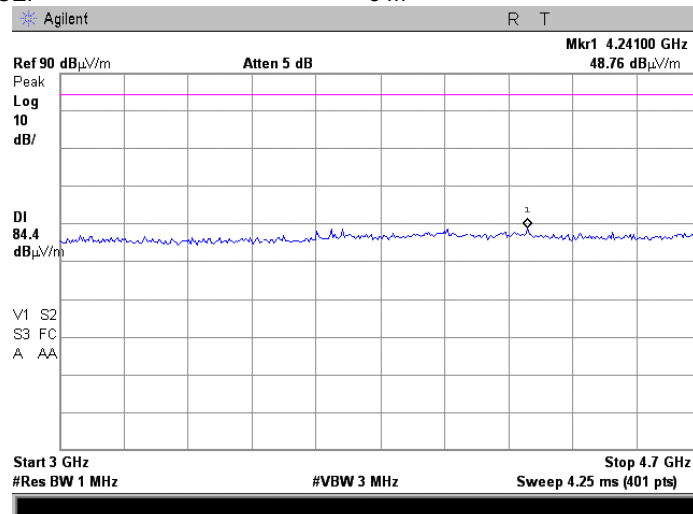
Plot 7.1.24 Radiated emission measurements in 3000 – 4700 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.25 Radiated emission measurements in 3000 – 4700 MHz range

TEST SITE: Fully anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



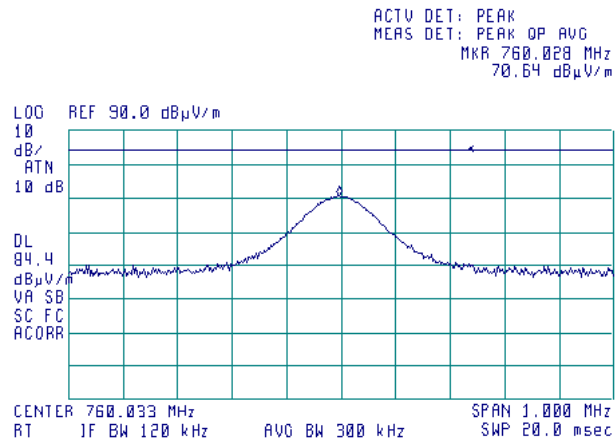
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.26 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

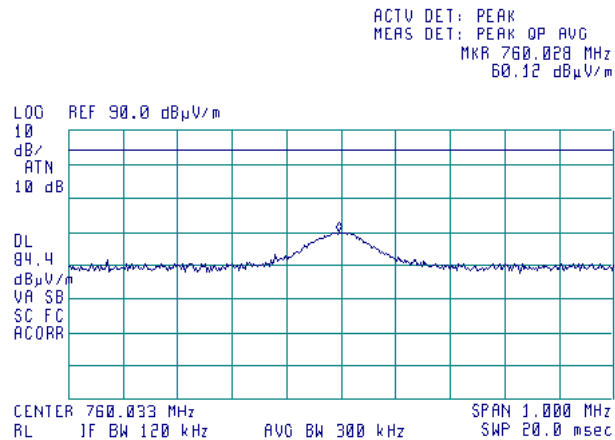
19:08:38 JUL 19, 2010



Plot 7.1.27 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

19:14:24 JUL 19, 2010



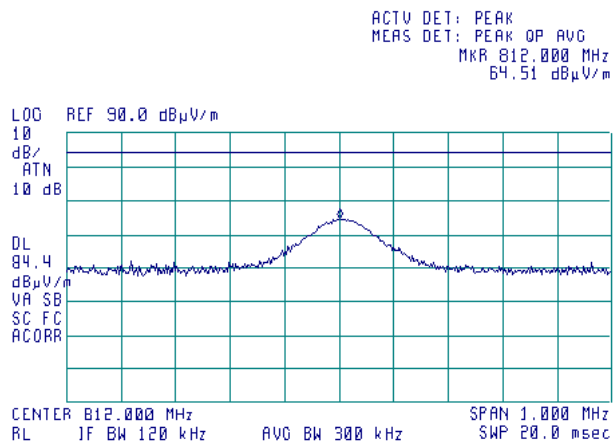
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.28 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

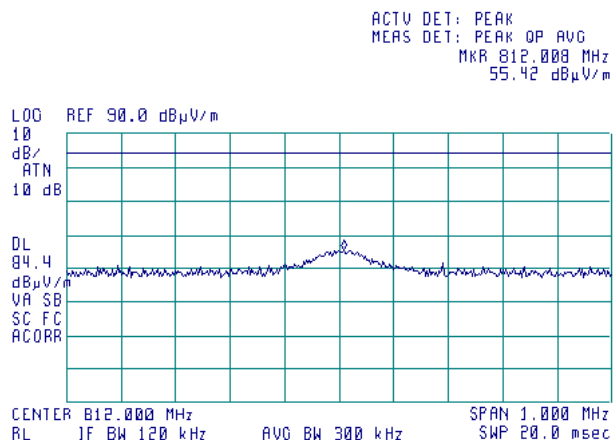
19:20:40 JUL 19, 2010



Plot 7.1.29 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

19:18:06 JUL 19, 2010

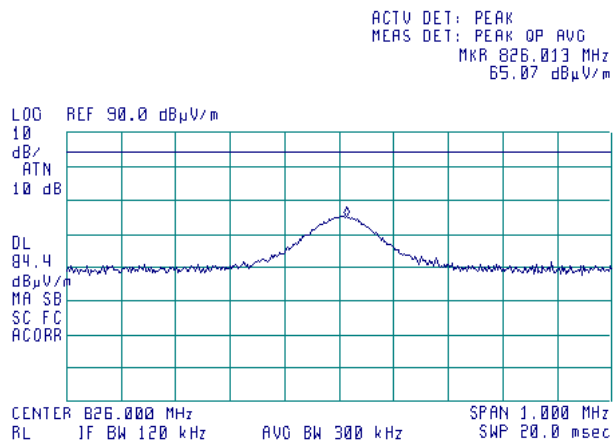


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.30 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

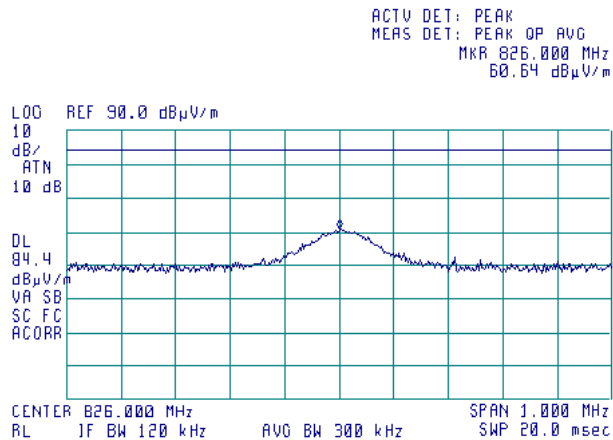
19:24:33 JUL 19, 2010



Plot 7.1.31 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

19:27:55 JUL 19, 2010

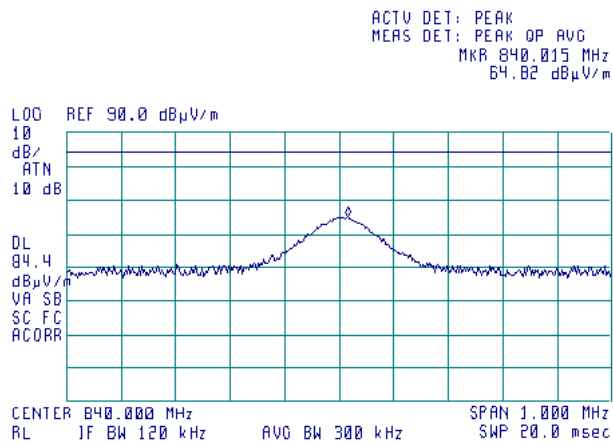


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.32 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

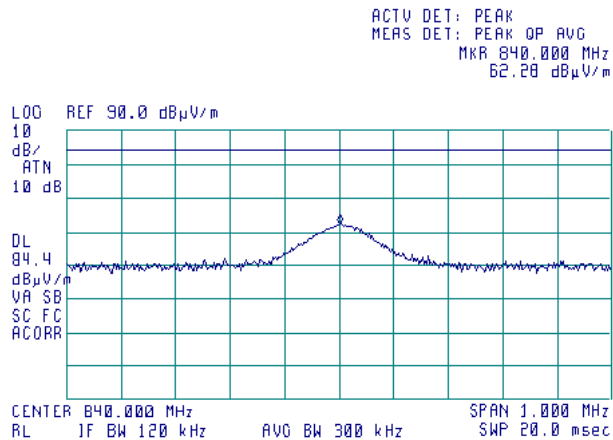
19:34:48 JUL 19, 2010



Plot 7.1.33 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

19:30:56 JUL 19, 2010

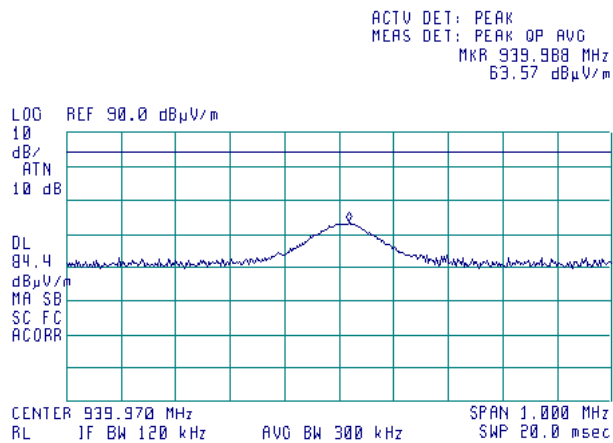


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.34 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

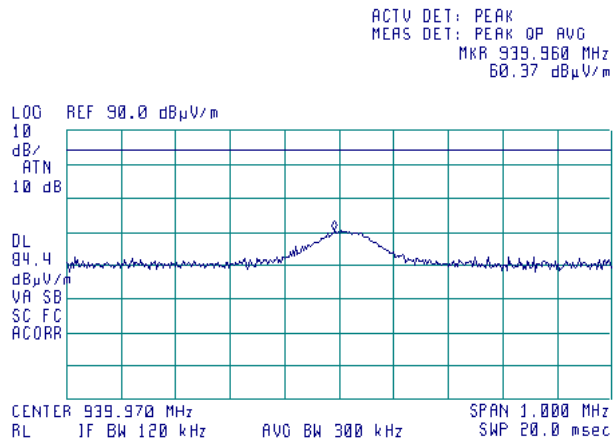
19:40:57 JUL 19, 2010



Plot 7.1.35 Radiated emission measurements at the 2nd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

19:42:54 JUL 19, 2010



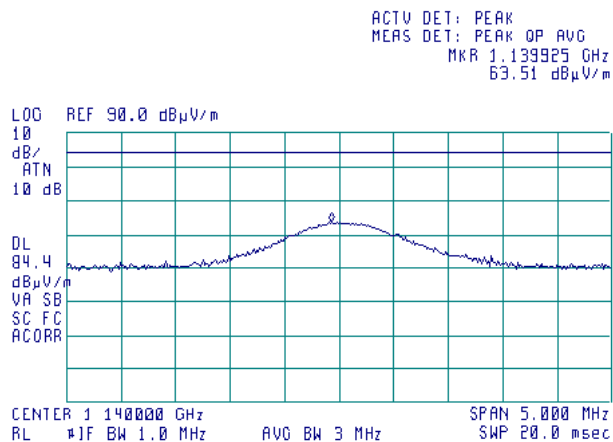
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.36 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

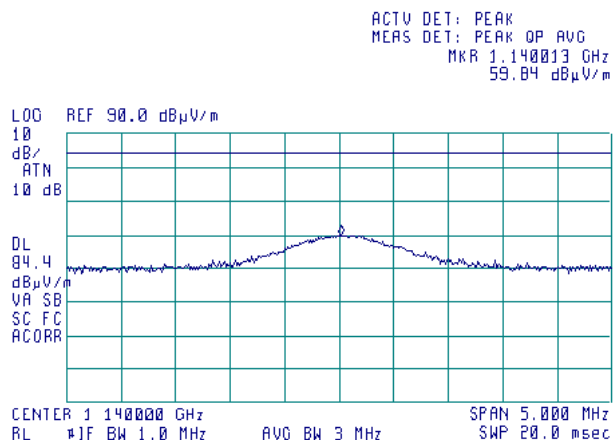
20:30:42 JUL 19, 2010



Plot 7.1.37 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

20:35:54 JUL 19, 2010



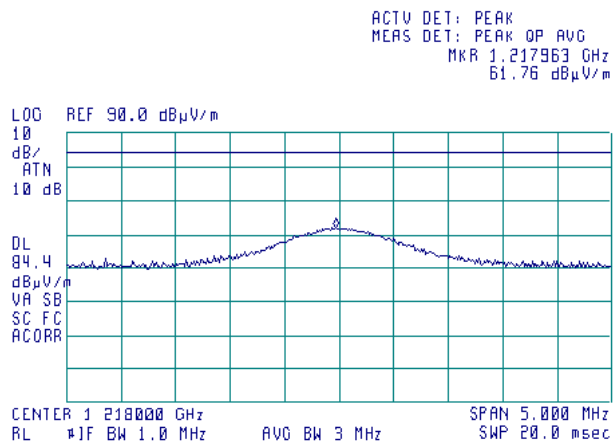
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.38 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

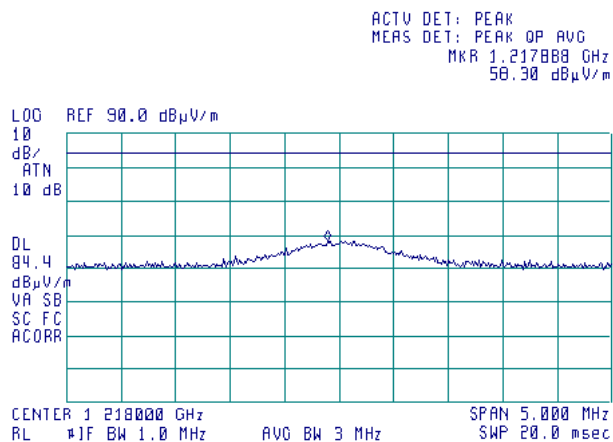
20:26:35 JUL 19, 2010



Plot 7.1.39 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

20:23:20 JUL 19, 2010

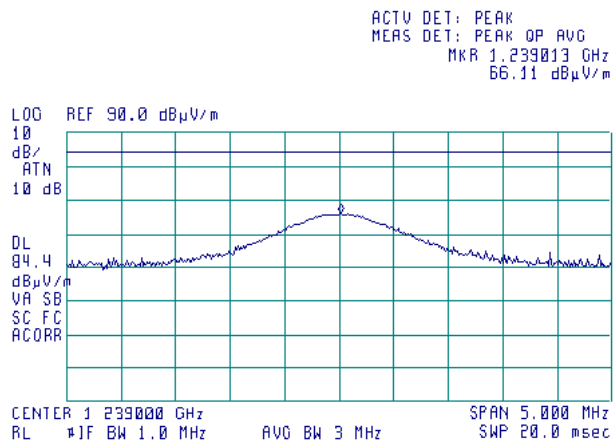


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.40 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

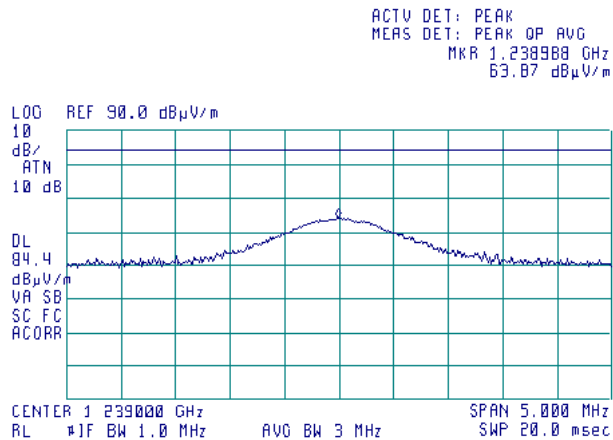
20:16:47 JUL 19, 2010



Plot 7.1.41 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

20:19:27 JUL 19, 2010

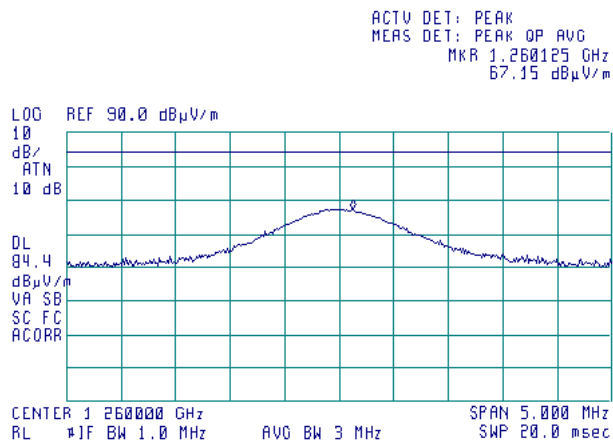


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.42 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

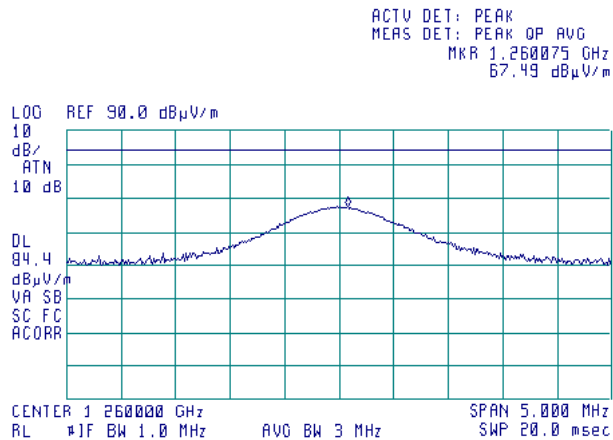
20:13:24 JUL 19, 2010



Plot 7.1.43 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m

20:09:40 JUL 19, 2010

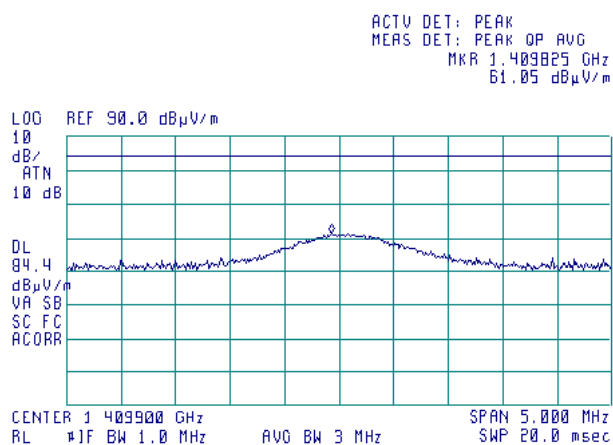


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.44 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

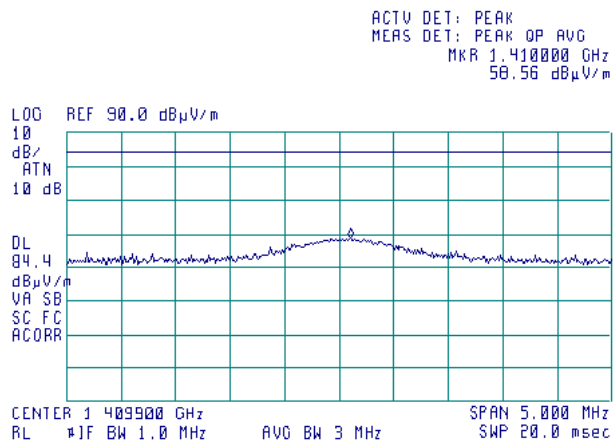
20:01:18 JUL 19, 2010



Plot 7.1.45 Radiated emission measurements at the 3rd harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Horizontal
TEST DISTANCE: 3 m

20:04:41 JUL 19, 2010



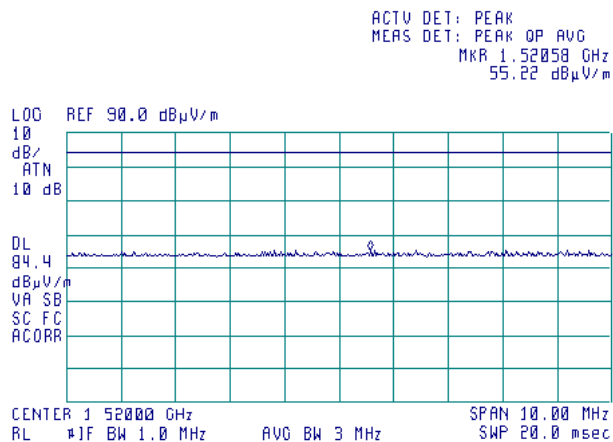
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.46 Radiated emission measurements at the 4th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

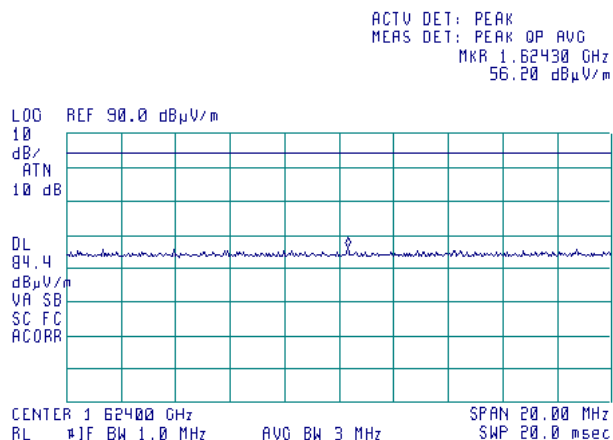
21:16:05 JUL 19, 2010



Plot 7.1.47 Radiated emission measurements at the 4th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:41:18 JUL 19, 2010

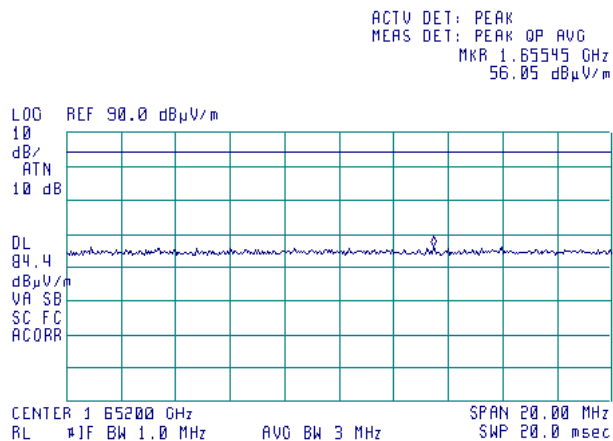


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.48 Radiated emission measurements at the 4th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

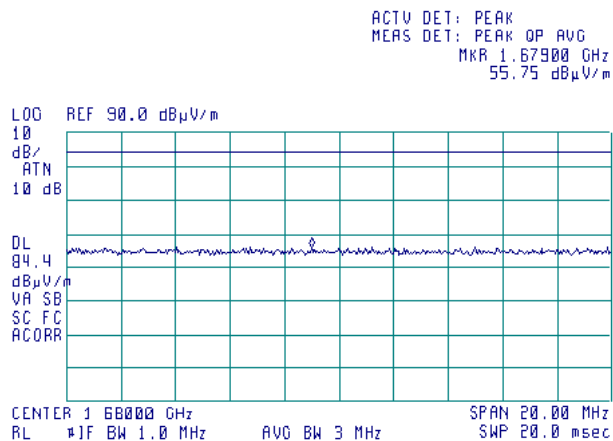
21:46:48 JUL 19, 2010



Plot 7.1.49 Radiated emission measurements at the 4th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:57:07 JUL 19, 2010



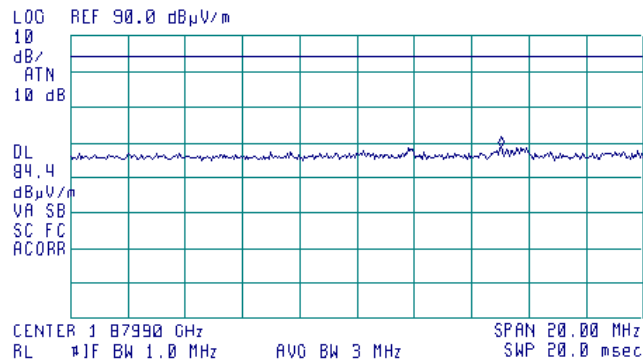
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.50 Radiated emission measurements at the 4th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:19:40 JUL 19, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 1.88490 GHz
58.70 dBμV/m



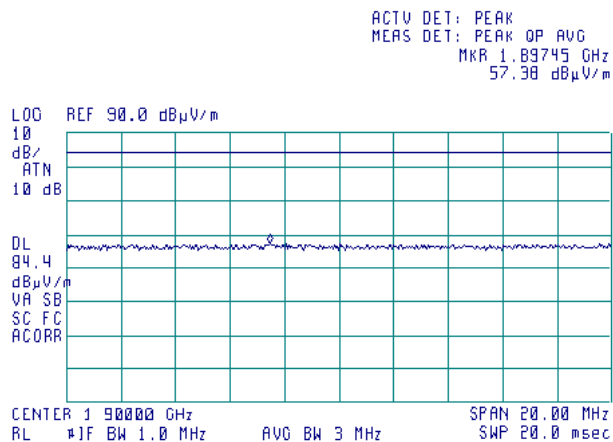
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.51 Radiated emission measurements at the 5th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

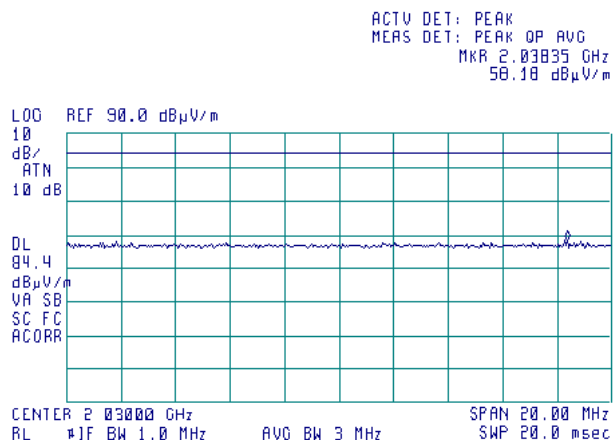
21:19:13 JUL 19, 2010



Plot 7.1.52 Radiated emission measurements at the 5th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:38:23 JUL 19, 2010

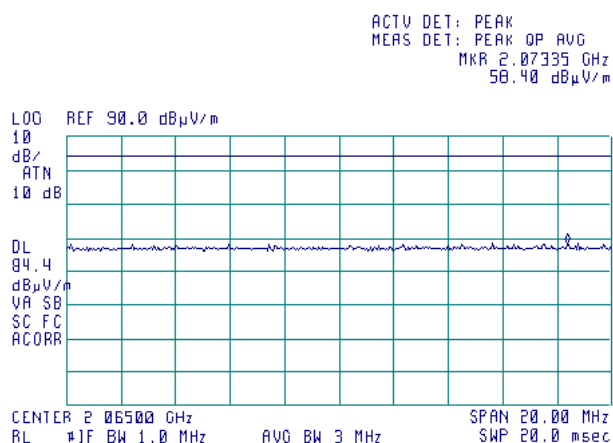


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.53 Radiated emission measurements at the 5th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

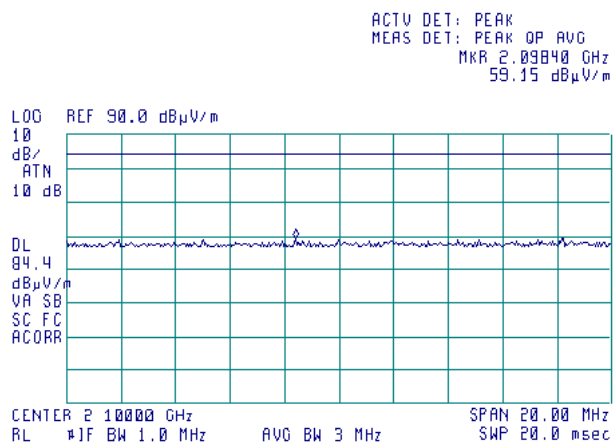
21:48:17 JUL 19, 2010



Plot 7.1.54 Radiated emission measurements at the 5th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:59:11 JUL 19, 2010



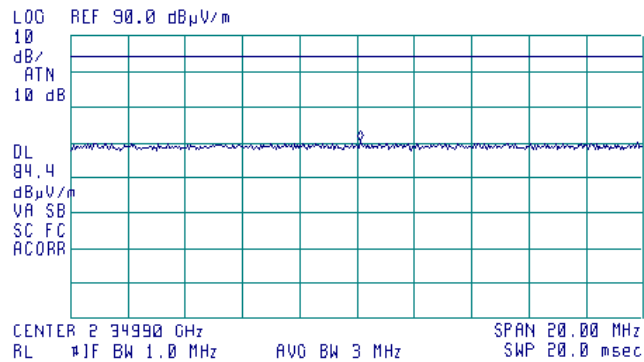
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.55 Radiated emission measurements at the 5th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:17:13 JUL 19, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 2.35000 GHz
60.24 dBμV/m



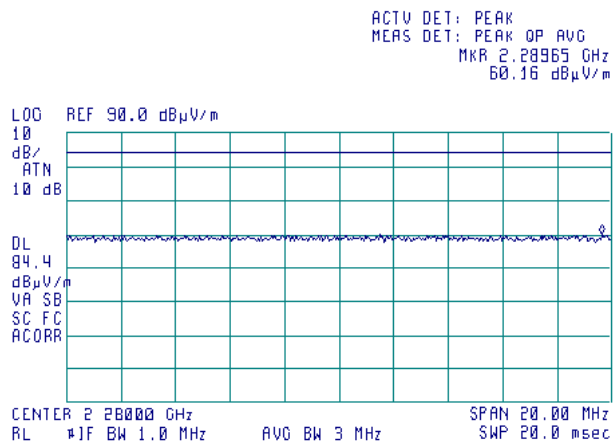
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.56 Radiated emission measurements at the 6th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

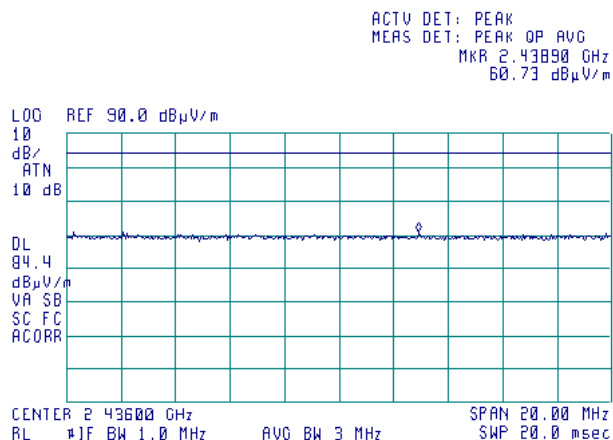
21:22:00 JUL 19, 2010



Plot 7.1.57 Radiated emission measurements at the 6th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:35:59 JUL 19, 2010

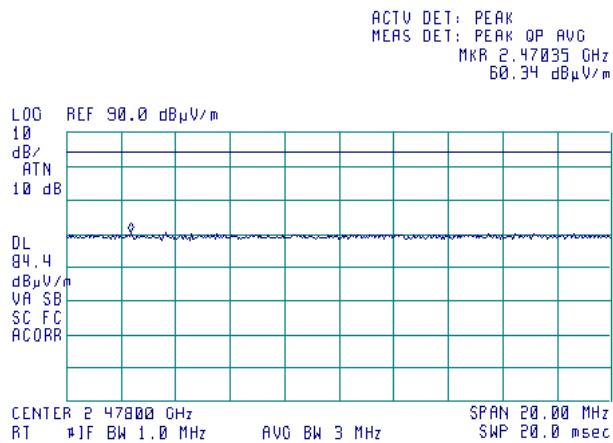


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.58 Radiated emission measurements at the 6th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

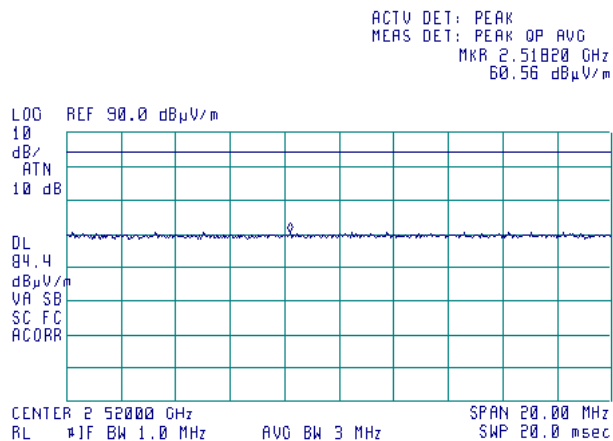
21:50:29 JUL 19, 2010



Plot 7.1.59 Radiated emission measurements at the 6th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:01:24 JUL 19, 2010



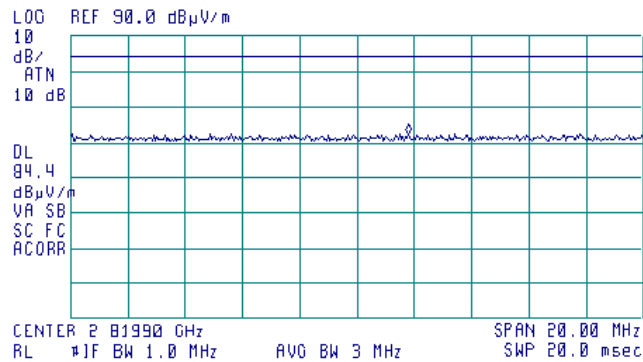
Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.60 Radiated emission measurements at the 6th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:15:05 JUL 19, 2010

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 2.82170 GHz
62.19 dBμV/m



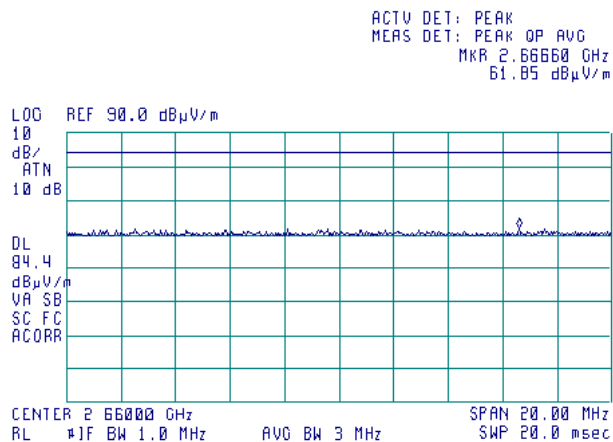
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.61 Radiated emission measurements at the 7th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

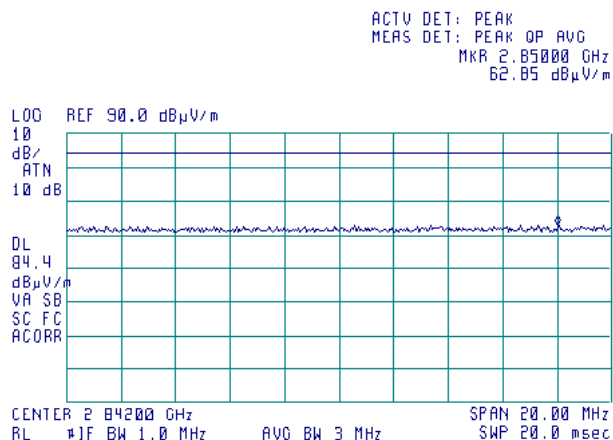
21:24:31 JUL 19, 2010



Plot 7.1.62 Radiated emission measurements at the 7th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

21:32:12 JUL 19, 2010

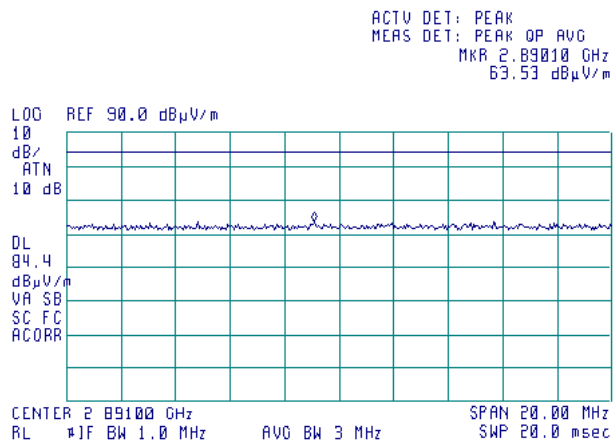


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.63 Radiated emission measurements at the 7th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

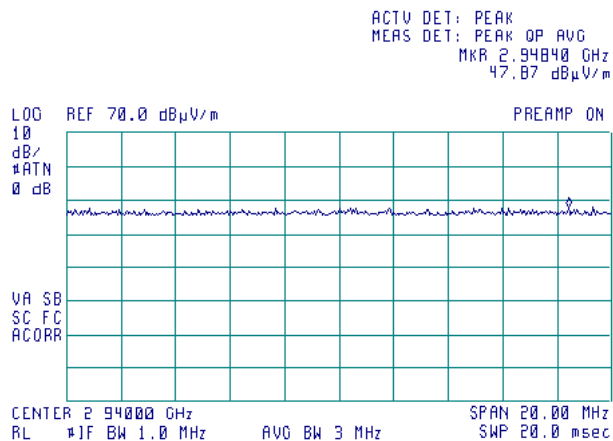
21:52:51 JUL 19, 2010



Plot 7.1.64 Radiated emission measurements at the 7th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:04:17 JUL 19, 2010

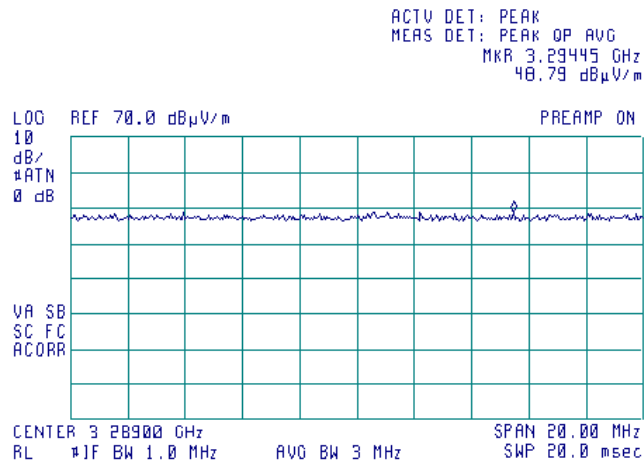


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.65 Radiated emission measurements at the 7th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:25:16 JUL 19, 2010



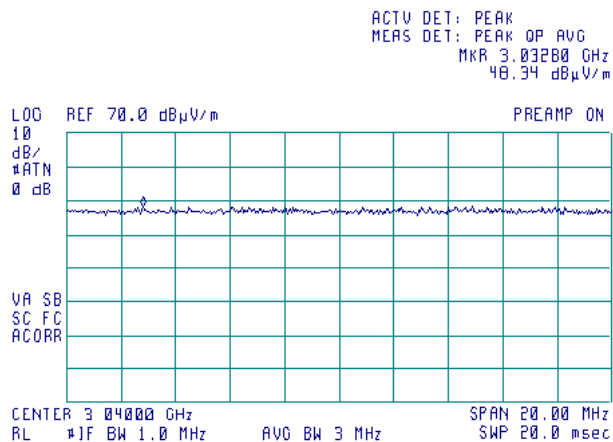
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.66 Radiated emission measurements at the 8th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

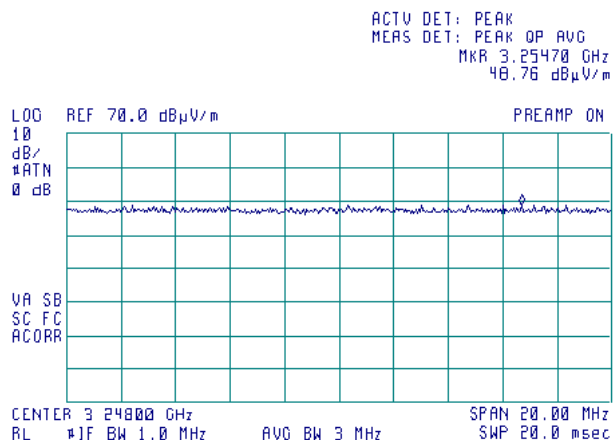
23:02:00 JUL 19, 2010



Plot 7.1.67 Radiated emission measurements at the 8th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:57:30 JUL 19, 2010

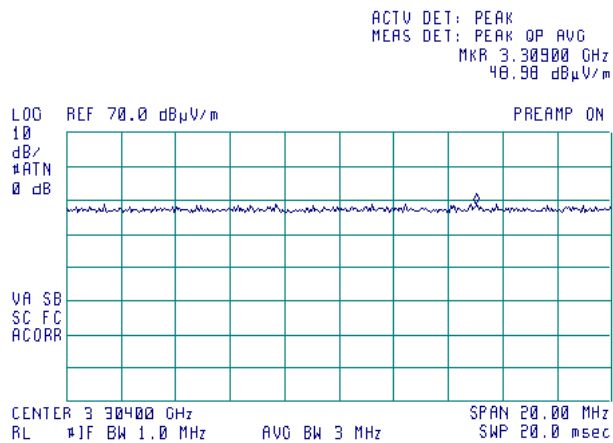


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.68 Radiated emission measurements at the 8th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

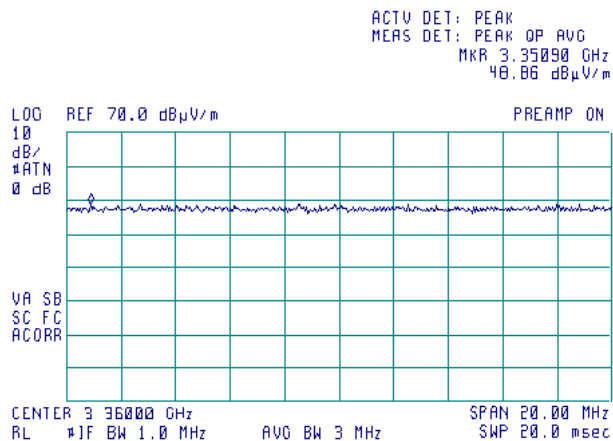
22:43:51 JUL 19, 2010



Plot 7.1.69 Radiated emission measurements at the 8th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:40:38 JUL 19, 2010

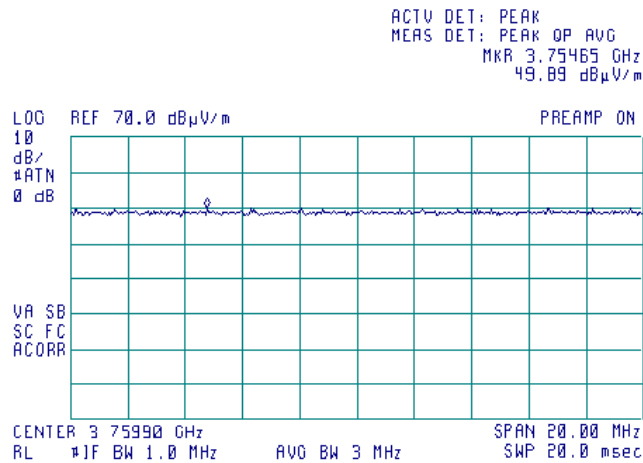


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.70 Radiated emission measurements at the 8th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:28:01 JUL 19, 2010



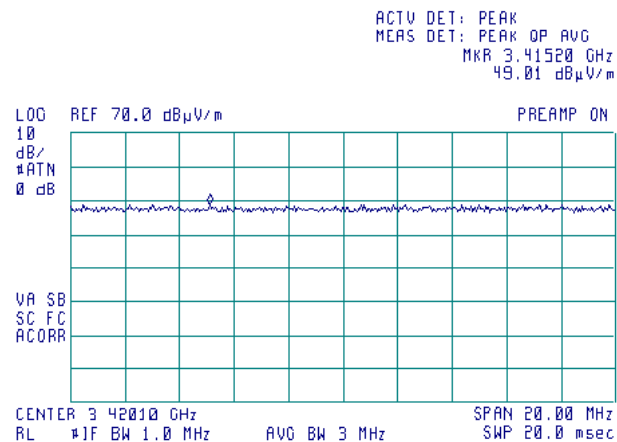
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.71 Radiated emission measurements at the 9th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

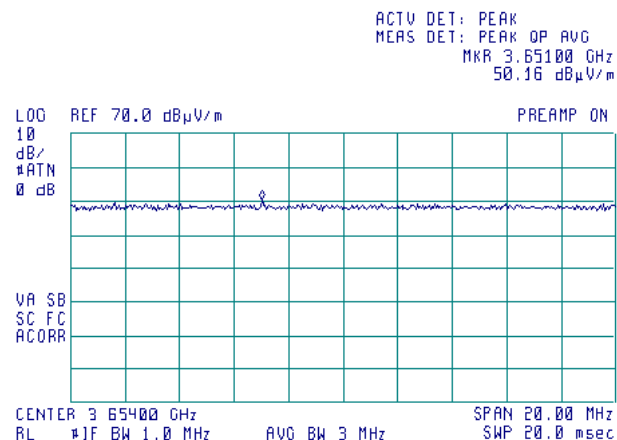
23:04:14 JUL 19, 2010



Plot 7.1.72 Radiated emission measurements at the 9th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:55:15 JUL 19, 2010

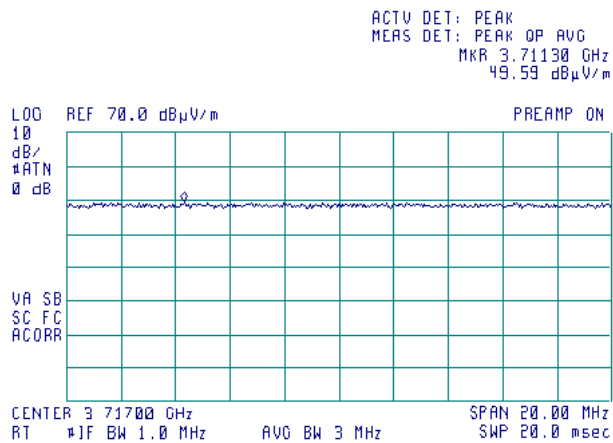


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.73 Radiated emission measurements at the 9th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

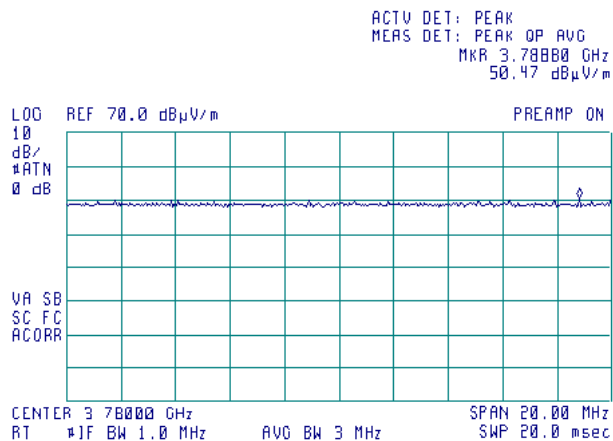
22:46:04 JUL 19, 2010



Plot 7.1.74 Radiated emission measurements at the 9th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:38:23 JUL 19, 2010

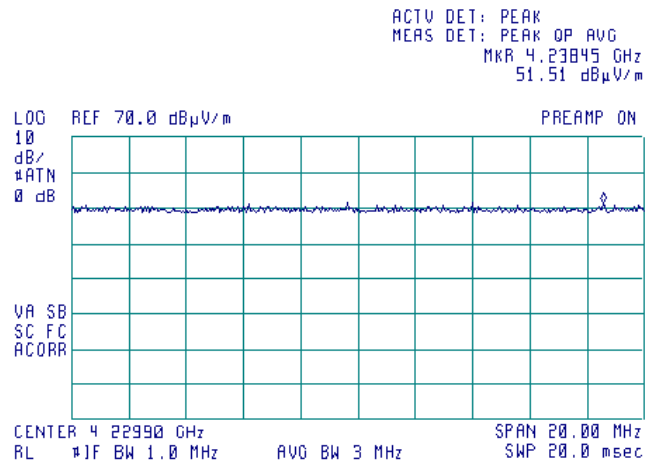


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.75 Radiated emission measurements at the 9th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:30:16 JUL 19, 2010



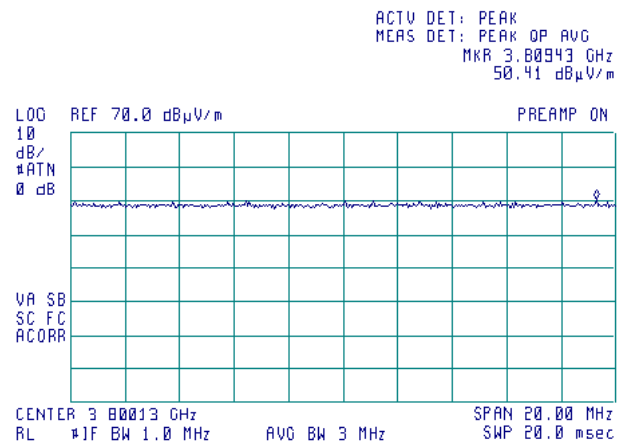
Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Frequency tested is not applicable for FCC compliance demonstration

Plot 7.1.76 Radiated emission measurements at the 10th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low 380.0125 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

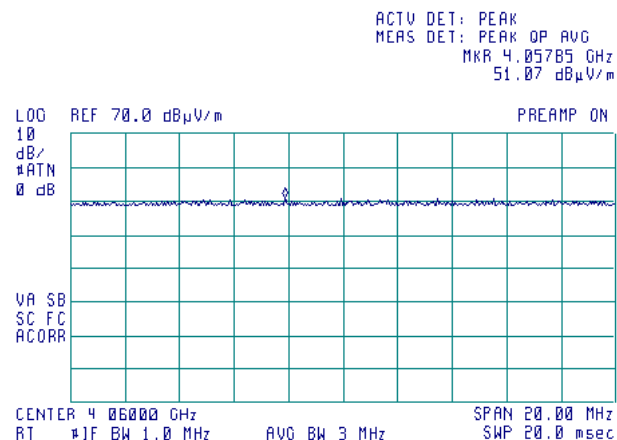
23:06:34 JUL 19, 2010



Plot 7.1.77 Radiated emission measurements at the 10th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Low Mid 406 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:53:00 JUL 19, 2010

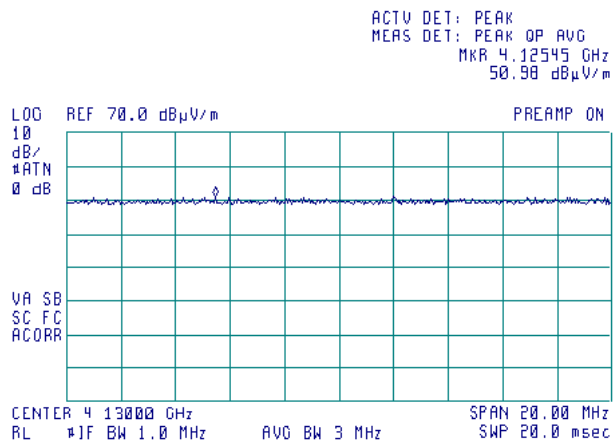


Test specification:	Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	7/19/2010		
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.78 Radiated emission measurements at the 10th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: Mid 413 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

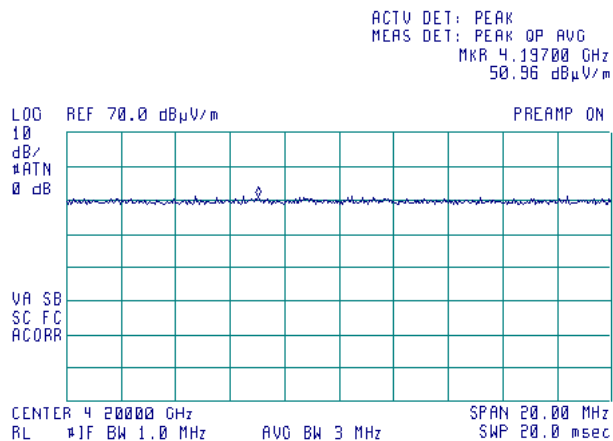
22:48:22 JUL 19, 2010



Plot 7.1.79 Radiated emission measurements at the 10th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High Mid 420 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:36:05 JUL 19, 2010

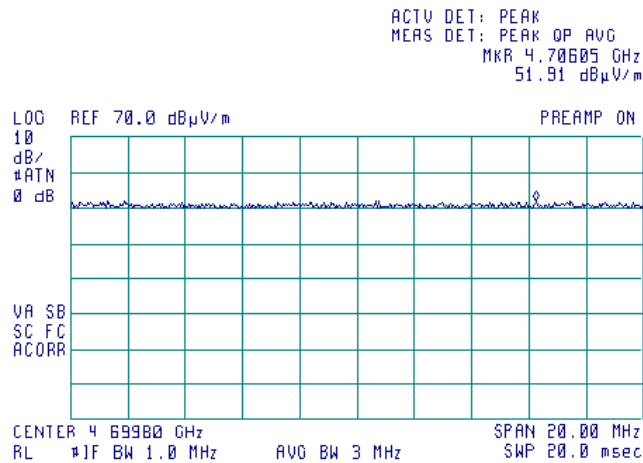


Test specification:		Section 90.210(b)(3)/RSS-119 section 5.8, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		7/19/2010	
Temperature: 23.4 °C	Air Pressure: 1008 hPa	Relative Humidity: 53 %	Power Supply: Battery
Remarks:			

Plot 7.1.80 Radiated emission measurements at the 10th harmonic

TEST SITE: Semi anechoic chamber
CARRIER FREQUENCY: High 469.9875 MHz
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m

22:32:42 JUL 19, 2010



8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal.	Due Cal.
0446	Antenna, Loop, Active, 10 kHz - 30 MHz	EMCO	6502	2857	29-Jun-10	29-Jun-11
0521	EMI Receiver (Spectrum Analyzer) with RF filter section 9 kHz-6.5 GHz	Hewlett Packard	8546A	3617A 00319, 3448A002 53	27-Aug-09	27-Aug-10
0604	Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz	EMCO	3141	9611-1011	11-Jan-10	11-Jan-11
0661	Generator Swept Signal, 10 MHz to 40 GHz, + 10 dBm	HP	83640B	3614A002 66	17-Dec-09	17-Dec-10
1565	Antenna, Dipole, Tunable 500 - 1000 MHz	Electro-Metrics	TDS-30-2	334	31-Jan-10	31-Jan-11
1984	Antenna, Double-Ridged Waveguide Horn, 1-18 GHz, 300 W	EMC Test Systems	3115	9911-5964	11-Jun-10	11-Jun-11
2432	Antenna, Double-Ridged Waveguide Horn 1-18 GHz	EMC Test Systems	3115	00027177	11-Jun-10	11-Jun-11
2780	EMC analyzer, 100 Hz to 26.5 GHz	Agilent Technologies	E7405A	MY451024 62	07-Jul-10	07-Jul-11
3618	Cable RF, 2.5 m, N type-N type, DC-6.5 GHz	Alpha Wire	RG-214/U	NA	27-May-10	27-May-11

9 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Transmitter tests	
Spurious emissions radiated 30 MHz – 40 GHz (substitution method)	± 4.5 dB

Hermon Laboratories is accredited by A2LA for calibration according to present requirements of ISO/IEC 17025 and NCSL Z540-1. The accreditation is granted to perform calibration of parameters that are listed in the Scope of Hermon Laboratories Accreditation.

Hermon Laboratories calibrates its reference and transfer standards by calibration laboratories accredited to ISO/IEC 17025 by a mutually recognized Accreditation Body or by a recognized national metrology institute. All reference and transfer standards used in the calibration system are traceable to national or international standards.

In-house calibration of all test and measurement equipment is performed on a regular basis according to Hermon Laboratories calibration procedures, manufacturer calibration/verification procedures or procedures defined in the relevant standards. The Hermon Laboratories test and measurement equipment is calibrated within the tolerances specified by the manufacturers and/or by the relevant standards.

10 APPENDIX C Test laboratory description

Tests were performed at Hermon Laboratories Ltd., which is a fully independent, private, EMC, safety, environmental and telecommunication testing facility.

Hermon Laboratories is listed by the Federal Communications Commission (USA) for all parts of Code of Federal Regulations 47 (CFR 47), Registration Numbers 90624 for OATS and 90623 for the anechoic chamber; by Industry Canada for electromagnetic emissions (file numbers IC 2186A-1 for OATS, IC 2186A-2 for anechoic chamber, IC 2186A-3 for full-anechoic chamber for RE measurements above 1 GHz), certified by VCCI, Japan (the registration numbers are R-808 for OATS, R-1082 for anechoic chamber, G-27 for full-anechoic chamber for RE measurements above 1 GHz, C-845 for conducted emissions site, T-1606 for conducted emissions at telecommunication ports), has a status of a Telefication - Listed Testing Laboratory, Certificate No. L138/00. The laboratory is accredited by American Association for Laboratory Accreditation (USA) according to ISO/IEC 17025 for electromagnetic compatibility, product safety, telecommunications testing and environmental simulation (for exact scope please refer to Certificate No. 839.01).

Address: P.O. Box 23, Binyamina 30500, Israel.
 Telephone: +972 4628 8001
 Fax: +972 4628 8277
 e-mail: mail@hermonlabs.com
 website: www.hermonlabs.com

Person for contact: Mr. Alex Usoskin, CEO.

11 APPENDIX D Specification references

FCC 47CFR part 90: 2009	Private land mobile radio services
FCC 47CFR part 2: 2009	Frequency allocations and radio treaty matters; general rules and regulations
ANSI C63.2: 1996	American National Standard for Instrumentation-Electromagnetic Noise and Field Strength, 10 kHz to 40 GHz-Specifications.
ANSI C63.4: 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
ANSI/TIA/EIA-603-C:2004	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
RSS-119 issue 10:2010	Land Mobile and Fixed Radio Transmitters and Receivers Operating in the Frequency Range 27.41-960 MHz

12 APPENDIX E Test equipment correction factors

Antenna Factor
Active Loop Antenna
EMC Test Systems, model 6502, S/N 2857, HL 0446

Frequency, MHz	Magnetic Antenna Factor, dB(S/m)	Electric Antenna Factor, dB(1/m)
0.009	-32.8	18.7
0.010	-33.8	17.7
0.020	-38.3	13.2
0.050	-41.1	10.4
0.075	-41.3	10.2
0.100	-41.6	9.9
0.150	-41.7	9.8
0.250	-41.6	9.9
0.500	-41.8	9.7
0.750	-41.9	9.6
1.000	-41.4	10.1
2.000	-41.5	10.0
3.000	-41.4	10.1
4.000	-41.4	10.1
5.000	-41.5	10.0
10.000	-41.9	9.6
15.000	-41.9	9.6
20.000	-42.2	9.3
25.000	-42.8	8.7
30.000	-44.0	7.5

Antenna factor in dB(S/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ A/m).
Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ V/m).

Antenna factor
Biconilog antenna EMCO Model 3141
Ser.No.1011, HL 0604

Frequency, MHz	Antenna Factor, dB(1/m)	Frequency, MHz	Antenna Factor, dB(1/m)
26	7.8	940	24.0
28	7.8	960	24.1
30	7.8	980	24.5
40	7.2	1000	24.9
60	7.1	1020	25.0
70	8.5	1040	25.2
80	9.4	1060	25.4
90	9.8	1080	25.6
100	9.7	1100	25.7
110	9.3	1120	26.0
120	8.8	1140	26.4
130	8.7	1160	27.0
140	9.2	1180	27.0
150	9.8	1200	26.7
160	10.2	1220	26.5
170	10.4	1240	26.5
180	10.4	1260	26.5
190	10.3	1280	26.6
200	10.6	1300	27.0
220	11.6	1320	27.8
240	12.4	1340	28.3
260	12.8	1360	28.2
280	13.7	1380	27.9
300	14.7	1400	27.9
320	15.2	1420	27.9
340	15.4	1440	27.8
360	16.1	1460	27.8
380	16.4	1480	28.0
400	16.6	1500	28.5
420	16.7	1520	28.9
440	17.0	1540	29.6
460	17.7	1560	29.8
480	18.1	1580	29.6
500	18.5	1600	29.5
520	19.1	1620	29.3
540	19.5	1640	29.2
560	19.8	1660	29.4
580	20.6	1680	29.6
600	21.3	1700	29.8
620	21.5	1720	30.3
640	21.2	1740	30.8
660	21.4	1760	31.1
680	21.9	1780	31.0
700	22.2	1800	30.9
720	22.2	1820	30.7
740	22.1	1840	30.6
760	22.3	1860	30.6
780	22.6	1880	30.6
800	22.7	1900	30.6
820	22.9	1920	30.7
840	23.1	1940	30.9
860	23.4	1960	31.2
880	23.8	1980	31.6
900	24.1	2000	32.0
920	24.1		

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ V/m).

Antenna factor
Double-ridged wave guide horn antenna
Model 3115, S/N 9911-5964, HL 1984

Frequency, MHz	Antenna factor, dB(1/m)
1000.0	24.7
1500.0	25.7
2000.0	27.6
2500.0	28.9
3000.0	31.2
3500.0	32.0
4000.0	32.5
4500.0	32.7
5000.0	33.6
5500.0	35.1
6000.0	35.4
6500.0	34.9
7000.0	36.1
7500.0	37.8
8000.0	38.0
8500.0	38.1
9000.0	39.1
9500.0	38.3
10000.0	38.6
10500.0	38.2
11000.0	38.7
11500.0	39.5
12000.0	40.0
12500.0	40.4
13000.0	40.5
13500.0	41.1
14000.0	41.6
14500.0	41.7
15000.0	38.7
15500.0	38.2
16000.0	38.8
16500.0	40.5
17000.0	42.5
17500.0	45.9
18000.0	49.4

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ V/m).

Antenna factor
Double-ridged guide horn antenna
Model 3115, serial number: 00027177, HL 2432

Frequency, MHz	Antenna factor. dB(1/m)
1000.0	24.7
1500.0	25.7
2000.0	27.8
2500.0	28.9
3000.0	30.7
3500.0	31.8
4000.0	33.0
4500.0	32.8
5000.0	34.2
5500.0	34.9
6000.0	35.2
6500.0	35.4
7000.0	36.3
7500.0	37.3
8000.0	37.5
8500.0	38.0
9000.0	38.3
9500.0	38.3
10000.0	38.7
10500.0	38.7
11000.0	38.9
11500.0	39.5
12000.0	39.5
12500.0	39.4
13000.0	40.5
13500.0	40.8
14000.0	41.5
14500.0	41.3
15000.0	40.2
15500.0	38.7
16000.0	38.5
16500.0	39.8
17000.0	41.9
17500.0	45.8
18000.0	49.1

Antenna factor in dB(1/m) is to be added to receiver meter reading in dB(μ V) to convert it into field intensity in dB(μ V/m).

Cable loss
Cable coaxial, RG-214/U, N type-N type, 2.5 m
Alpha Wire, HL 3618

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.02	2200	1.17	4500	1.90
50	0.12	2300	1.19	4600	1.90
100	0.18	2400	1.24	4700	1.94
200	0.27	2500	1.29	4800	1.97
300	0.34	2600	1.30	4900	2.01
400	0.41	2700	1.33	5000	2.02
500	0.47	2800	1.38	5100	2.04
600	0.52	2900	1.40	5200	2.08
700	0.57	3000	1.42	5300	2.13
800	0.62	3100	1.46	5400	2.14
900	0.66	3200	1.54	5500	2.15
1000	0.70	3300	1.55	5600	2.19
1100	0.75	3400	1.55	5700	2.24
1200	0.80	3500	1.60	5800	2.27
1300	0.84	3600	1.68	5900	2.29
1400	0.87	3700	1.70	6000	2.31
1500	0.90	3800	1.69	6100	2.36
1600	0.94	3900	1.72	6200	2.40
1700	0.98	4000	1.77	6300	2.42
1800	1.01	4100	1.81	6400	2.45
1900	1.05	4200	1.80	6500	2.50
2000	1.11	4300	1.83		
2100	1.15	4400	1.88		

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
AM	amplitude modulation
AVRG	average (detector)
CBW	channel bandwidth
cm	centimeter
dB	decibel
dBm	decibel referred to one milliwatt
dB(μ V)	decibel referred to one microvolt
dB(μ V/m)	decibel referred to one microvolt per meter
dB(μ A)	decibel referred to one microampere
DC	direct current
EBW	emission bandwidth
EIRP	equivalent isotropically radiated power
ERP	effective radiated power
EUT	equipment under test
F	frequency
GHz	gigahertz
GND	ground
H	height
HL	Hermon laboratories
Hz	hertz
k	kilo
kHz	kilohertz
LO	local oscillator
m	meter
MHz	megahertz
min	minute
mm	millimeter
ms	millisecond
μ s	microsecond
NA	not applicable
NB	narrow band
OATS	open area test site
Ω	Ohm
QP	quasi-peak
PM	pulse modulation
PS	power supply
RE	radiated emission
RF	radio frequency
rms	root mean square
Rx	receive
s	second
T	temperature
Tx	transmit
V	volt
VA	volt-ampere

END OF DOCUMENT