

RADIATED SPURIOUS EMISSIONS TEST REPORT

**ACCORDING TO: FCC CFR 47 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: AZ489FT4892

IC: 109U-89FT4892

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1 Applicant information

Client name: Motorola Israel Ltd.
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Telephone: +972 3565 9229
Fax: +972 3625 2784
E-mail: alexb@motorolasolutions.com
Contact name: Mr. Alex Babaladze

2 Equipment under test attributes

Product name: APX6000 Rugged two way radio
Product type: Transceiver
Model(s): H98QDH9PW7AN
Serial number: NUE1010A0245
Hardware version: Pre-Pilot
Software release: D04.08.21
Receipt date: 12/19/2010

3 Manufacturer information

Manufacturer name: Motorola Israel Ltd.
Address: 2, Negev street, Airport city, Ben Gurion Airport, Tel Aviv 70100, Israel
Telephone: +972 3565 9229
Fax: +972 3625 2784
E-Mail: alexb@motorolasolutions.com
Contact name: Mr. Alex Babaladze

4 Test details

Project ID: 21526
Location: Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started: 12/19/2010
Test completed: 1/13/2011
Test specification(s): FCC 47 CFR part 90, §90.210(b)(3)

5 Tests summary

Test	Status
Section 90.210, 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. E. Plotnichenko, test engineer	January 13, 2011	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	January 16, 2011	
Approved by:	Mr. M. Nikishin, EMC and radio group manager	January 18, 2011	

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 (UHF), 2402-2480 MHz (Bluetooth) 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 most populated case was tested.

The EUT with PSM accessory as representing the most populated connection of GCAI connector (Motorola proprietary connector) including all controls and connections to external devices at audio and RF levels was tested. The external earpiece of the maximum length RLN4941A part number was connected to PSM to represent the worst case configuration. The Secure Wireless 2.0 POD, Earpiece 280 mm cable Bluetooth accessory, part number NTN2570A was connected to represent the longest earpiece cable and the most critical pairing conditions over RF protocol-secured.

6.2 Ports and lines

Port type	Port description	Connected from	Connected to	Qty	Cable type	Cable length, m
RF	Antenna	EUT	Antenna	1	NA	NA
Signal	Signal	EUT	PSM accessory	1	Unshielded*	0.76
Signal	Signal	PSM accessory	Earpiece	1	Unshielded	0.38
Control**	Control**	EUT	Control unit	1	Shielded	1.0

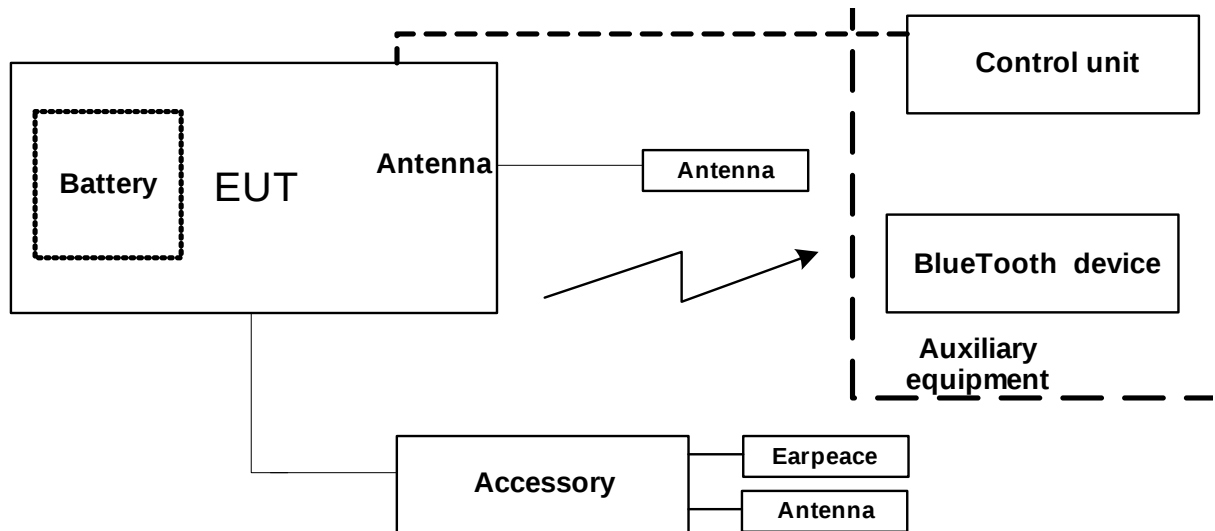
* The PSM cable is unshielded but has inside a shielded RF cable.

** Used only for testing and maintenance purposes only.

6.3 Support and test equipment

Description	Manufacturer	Model number	Serial number
PSM accessory	Motorola	PMMN4061A	NA
External earpiece	Motorola	RLN4941A	NA
Bluetooth accessory	Motorola	NTN2570A	NA
Control unit	Motorola	RLN4460	NA

6.4 Test configuration



6.5 Transmitter characteristics, UHF

Type of equipment				
☒ V	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		
☒ V	portable	May operate at a distance closer than 20 cm to human body		
Assigned frequency range		380 MHz – 470 MHz		
Operating frequencies		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 MHz, 406.00 MHz, 413.00 MHz, 420.00 MHz, 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?		☒ V	No	
		☐	Yes	
			continuous variable	
			stepped variable with stepsize	
		minimum RF power		
		maximum RF power		
Antenna connection				
unique coupling	☒ V	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				
☒ V	Battery	Nominal rated voltage	7.5 V internal battery, model NNTN7038A	
		Voltage range	6 V $\div$ 9 V	
	AC mains	Nominal rated voltage	Frequency	
Common power source for transmitter and receiver		☒ V	yes no	

6.6 Transmitter characteristics, Bluetooth module

Type of equipment				
X	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		
X	portable	May operate at a distance closer than 20 cm to human body		
Assigned frequency range		2400 – 2483.5.MHz		
Operating frequencies		2402 MHz, 2440 MHz, 2480 MHz		
Maximum rated output power		At transmitter 50 Ω RF output connector	7.25 dBm	
		Effective radiated power (for equipment with no RF connector)	NA	
Is transmitter output power variable?		X	No	
		Yes	continuous variable	
			stepped variable with stepsize	dB
			minimum RF power	dBm
		maximum RF power	dBm	
Antenna connection				
unique coupling	standard connector	X	integral	
		X	with temporary RF connector	
			without temporary RF connector	
Transmitter aggregate data rate/s		The BT device is compliant with the Bluetooth Specification 1.1, 1.2, 2.0, and 2.1 (including EDR 2 or 3 Mbps)		
Transmitter aggregate symbol (baud) rate/s		As above		
Type of modulation		DPSK, GFSK		
Modulating test signal (baseband)		PRBS		
Transmitter duty cycle supplied for test		100%		
Transmitter power source				
X	Battery	Nominal rated voltage	7.5 V internal battery, model NNTN7038A	
	DC	Nominal rated voltage	VDC	
	AC mains	Nominal rated voltage	VAC Frequency	
Common power source for transmitter and receiver		X	yes	
			no	
Spread spectrum technique used		X	Frequency hopping (FHSS)	
			Digital transmission system (DTS)	
			Hybrid	
Spread spectrum parameters for transmitters tested per FCC 15.247 only				
FHSS	Total number of hops	79		
	Bandwidth per hop	1337 kHz		
	Max. separation of hops	1005 kHz		

Test specification:		Section 90.210, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12	
Test mode:		Compliance	Verdict: PASS
Date:		1/2/2011 - 1/9/2011	
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

7 Transmitter tests according to 47CFR part 90

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.

Test specification:		Section 90.210, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12	
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

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

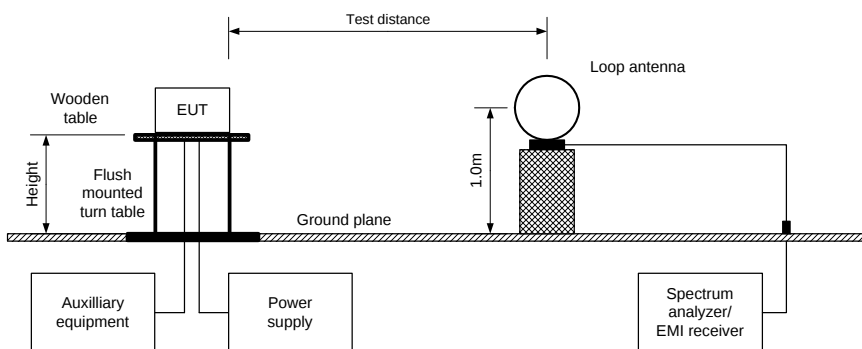
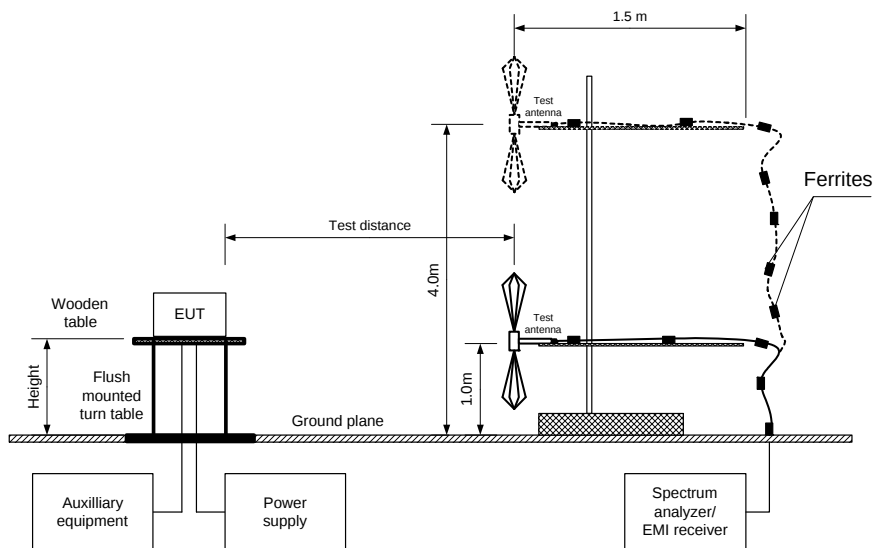


Figure 7.1.2 Setup for spurious emission field strength measurements above 30 MHz

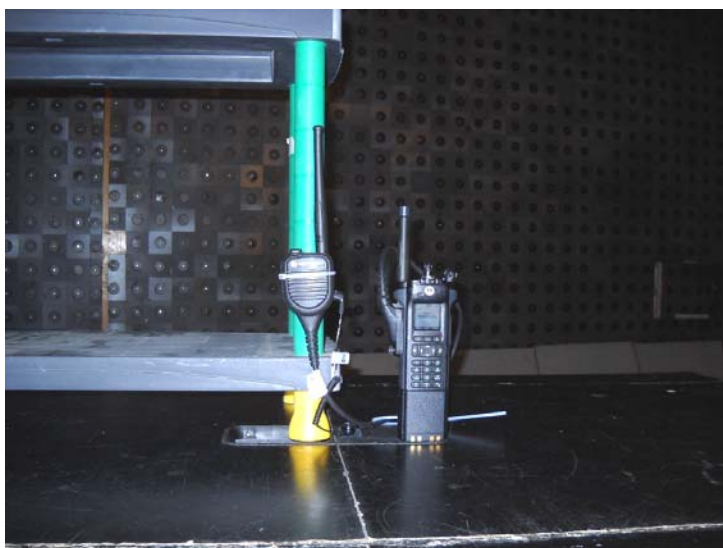


Test specification:		Section 90.210, Radiated spurious emissions	
Test procedure:		47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12	
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Photograph 7.1.1 Setup for spurious emission field strength measurements



Photograph 7.1.2 Setup for spurious emission field strength measurements, EUT close view



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Table 7.1.2 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE: 380 -470 MHz (UHF) and 2400 – 2483.5MHz (Bluetooth)
 TEST DISTANCE: 3 m
 TEST SITE: Anechoic chamber / OATS
 EUT HEIGHT: 0.8 m
 INVESTIGATED FREQUENCY RANGE: 0.009 – 4700 MHz (for UHF transmitter);
 0.009 – 25000 MHz (for UHF and Blue tooth transmits simultaneously)
 DETECTOR USED: Peak
 VIDEO BANDWIDTH: > Resolution bandwidth
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconilog (30 MHz – 1000 MHz)
 Double ridged guide (above 1000 MHz)
 MODULATION: C4FM (UHF), GFSK (Bluetooth)
 MODULATING SIGNAL: PRBS
 TRANSMITTER OUTPUT POWER: Maximum
 SETTINGS:

Frequency, MHz	Field strength, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees
No emissions were found							

Verdict: Pass

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

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

Reference numbers of test equipment used

HL 0446	HL 0604	HL 0768	HL 1430	HL 1984	HL 2387	HL 2882	HL 2909
HL 3119	HL 3334	HL 3344	HL 3535	HL 3818	HL 3883	HL 3901	

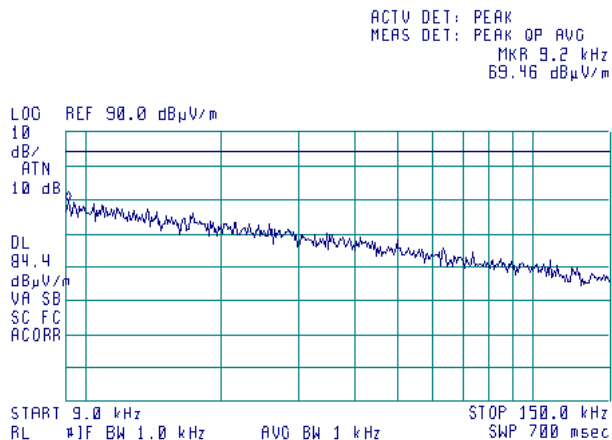
Full description is given in Appendix A.

Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Frequencies tested are not applicable for FCC compliance demonstration

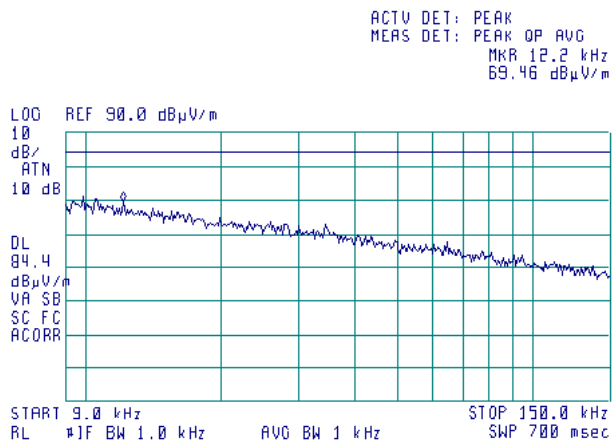
Plot 7.1.1 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 380.0125 MHz



Plot 7.1.2 Radiated emission measurements in 9 - 150 kHz range

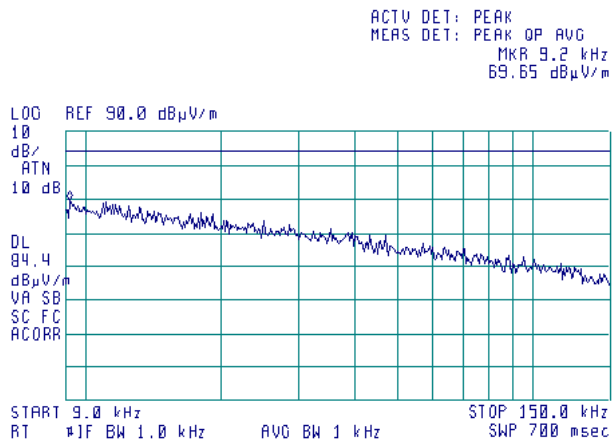
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 406 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

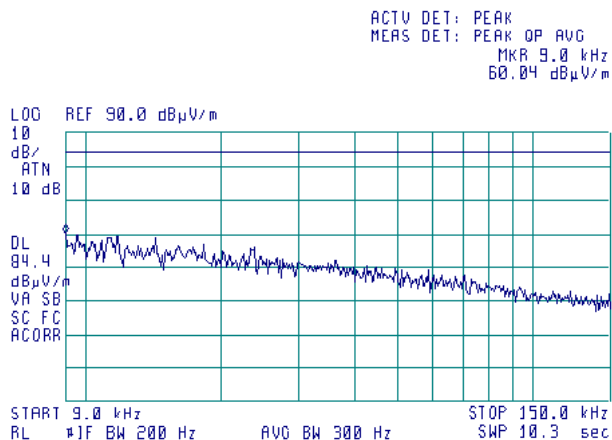
Plot 7.1.3 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 413 MHz



Plot 7.1.4 Radiated emission measurements in 9 - 150 kHz range

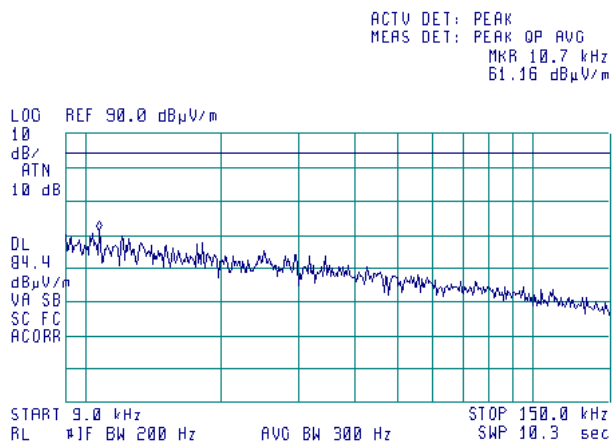
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: 420 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

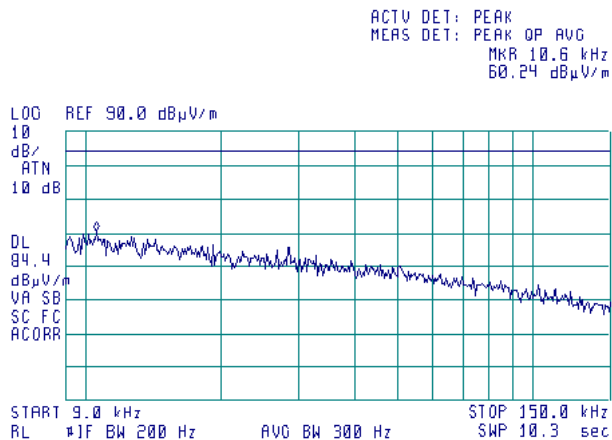
Plot 7.1.5 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 469.9875 MHz



Plot 7.1.6 Radiated emission measurements in 9 - 150 kHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency

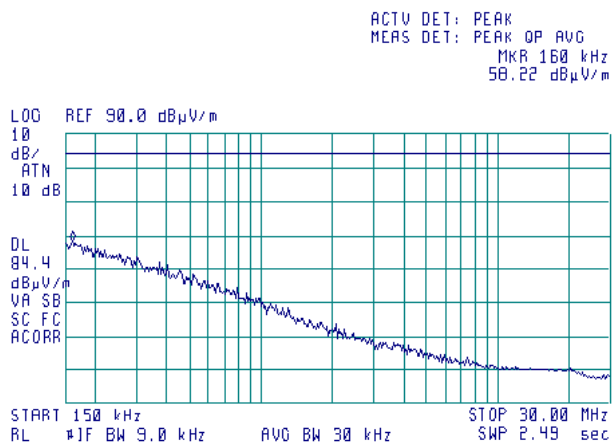


Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Frequencies tested are not applicable for FCC compliance demonstration

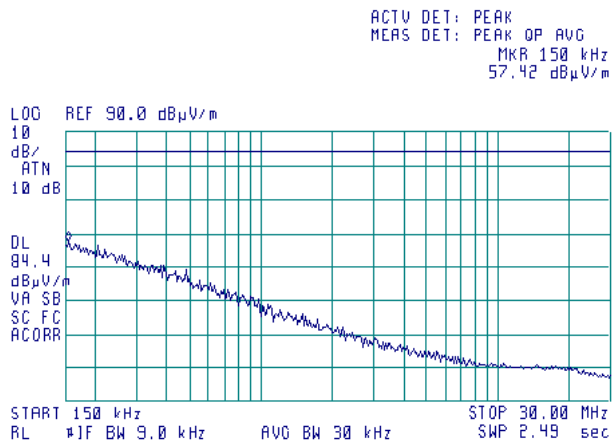
Plot 7.1.7 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 380.0125 MHz



Plot 7.1.8 Radiated emission measurements in 0.15 - 30 MHz range

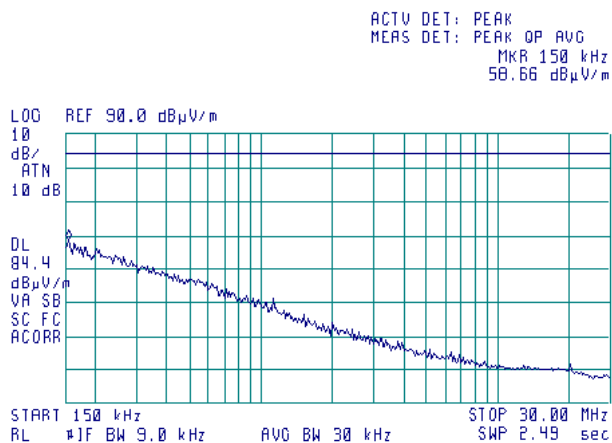
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 406 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

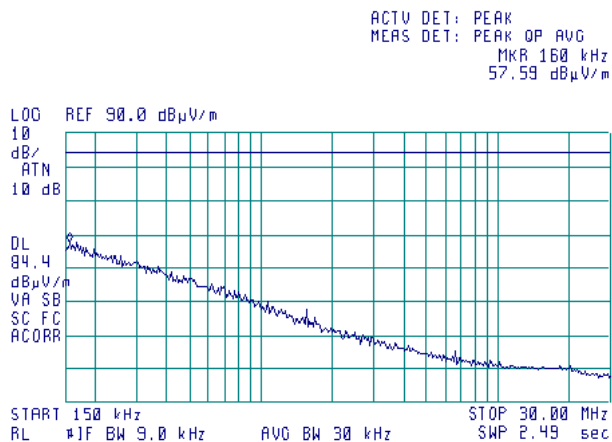
Plot 7.1.9 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 413 MHz



Plot 7.1.10 Radiated emission measurements in 0.15 - 30 MHz range

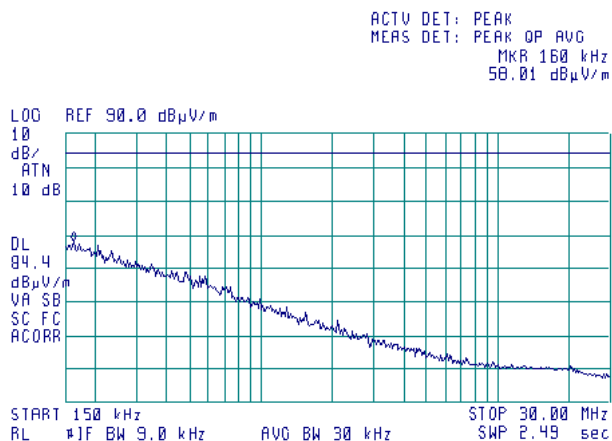
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 420 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

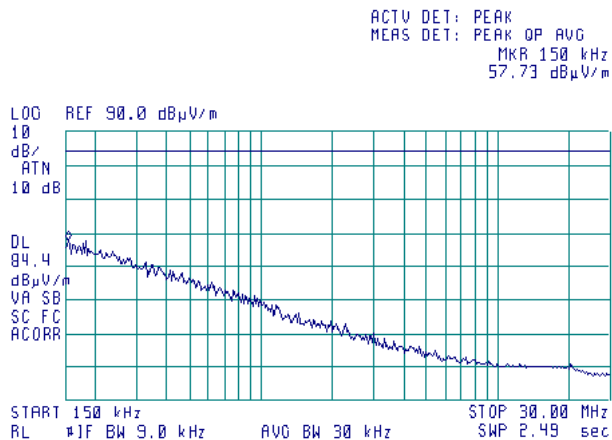
Plot 7.1.11 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 469.9875 MHz



Plot 7.1.12 Radiated emission measurements in 0.15 - 30 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical
TEST DISTANCE: 3 m
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency

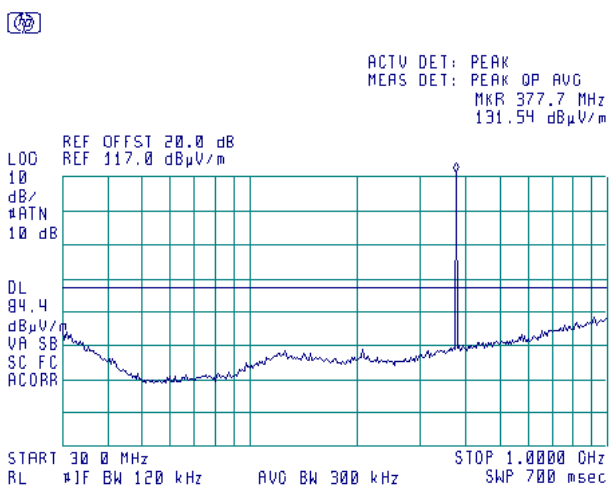


Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Frequencies tested are not applicable for FCC compliance demonstration

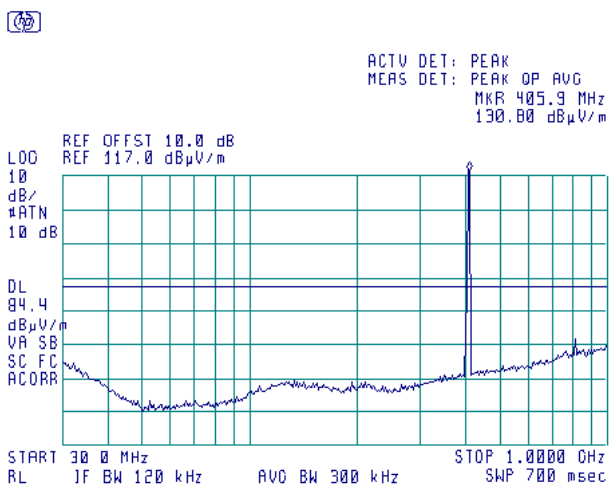
Plot 7.1.13 Radiated emission measurements in 30 - 1000 MHz range

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



Plot 7.1.14 Radiated emission measurements in 30 - 1000 MHz range

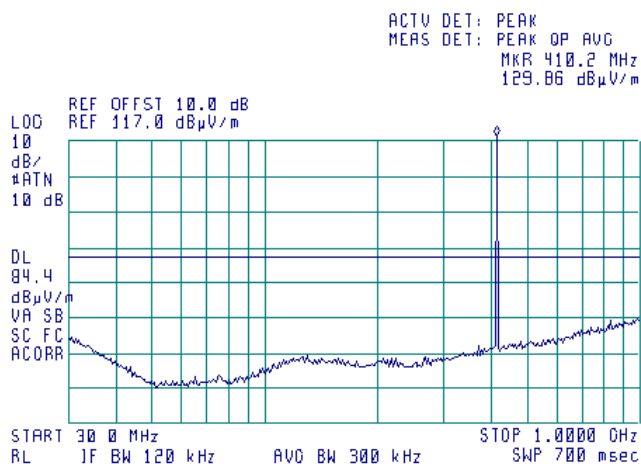
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 406.0 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

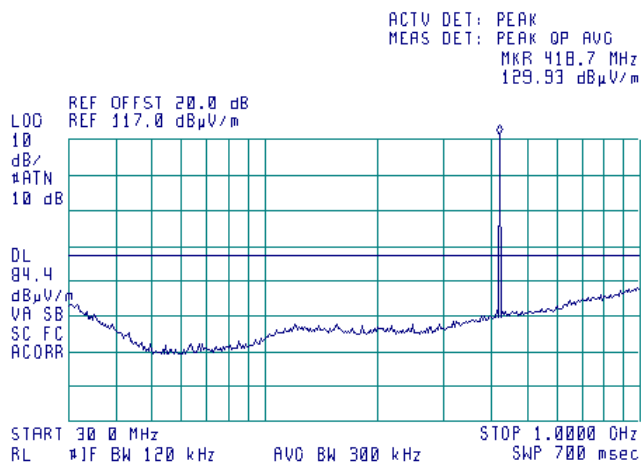
Plot 7.1.15 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 413.0 MHz



Plot 7.1.16 Radiated emission measurements in 30 - 1000 MHz range

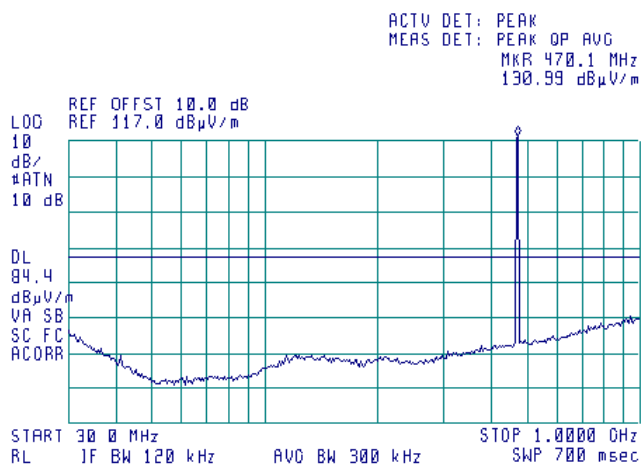
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 420.0MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

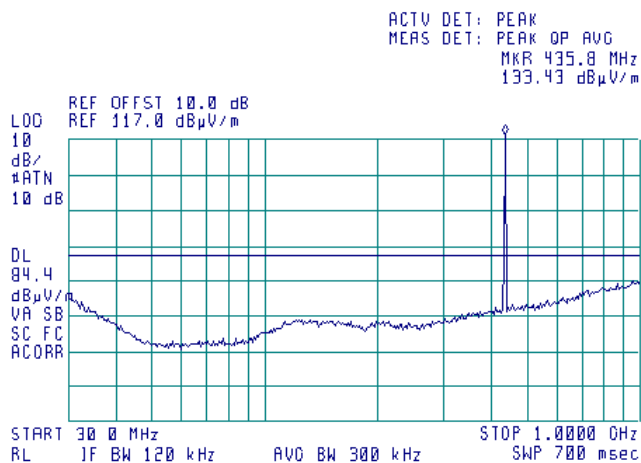
Plot 7.1.17 Radiated emission measurements in 30 - 1000 MHz range

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



Plot 7.1.18 Radiated emission measurements in 30 - 1000 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency

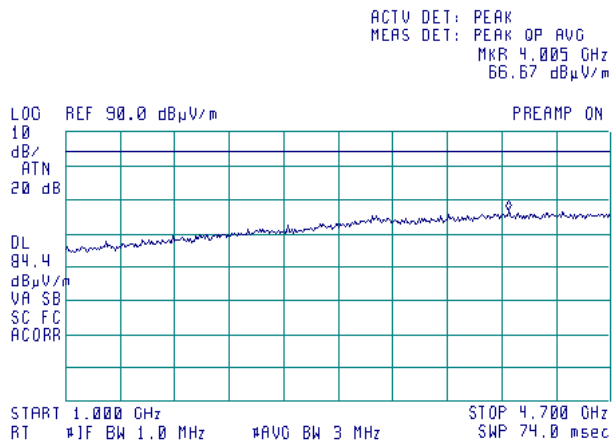


Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Frequencies tested are not applicable for FCC compliance demonstration

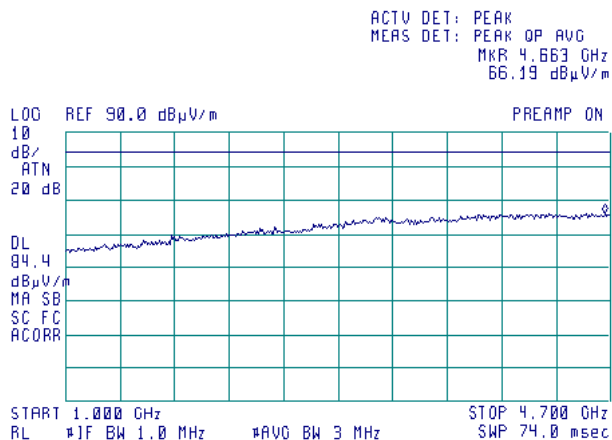
Plot 7.1.19 Radiated emission measurements in 1000 – 3000 MHz range

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



Plot 7.1.20 Radiated emission measurements in 1000 – 3000 MHz range

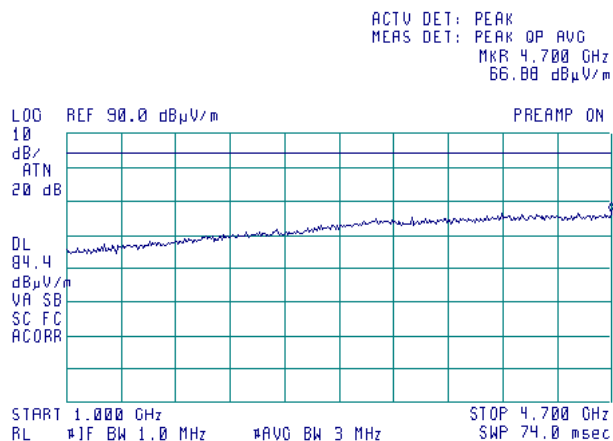
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 406 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

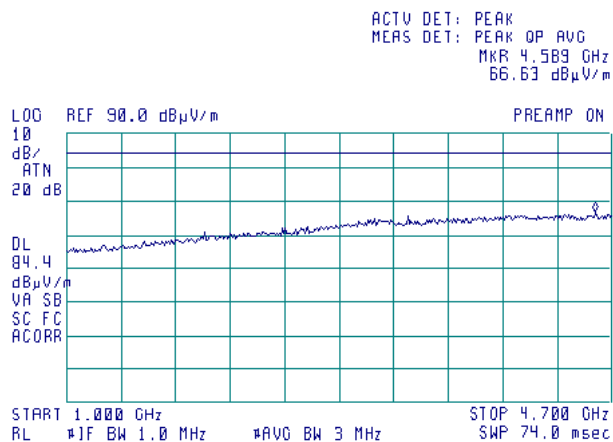
Plot 7.1.21 Radiated emission measurements in 1000 – 3000 MHz range

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



Plot 7.1.22 Radiated emission measurements in 1000 – 3000 MHz range

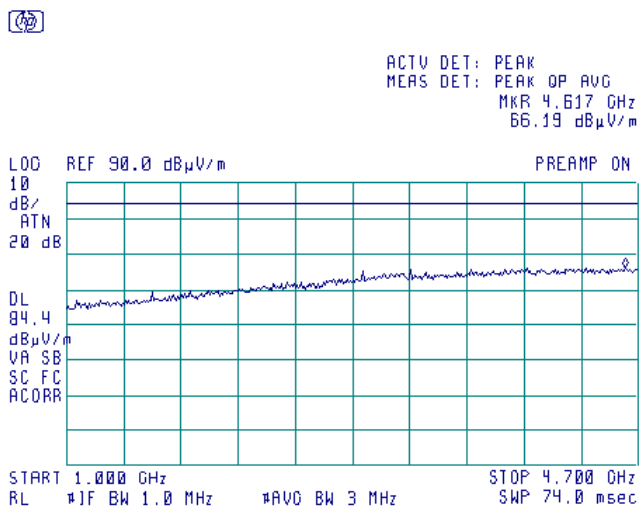
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 420 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

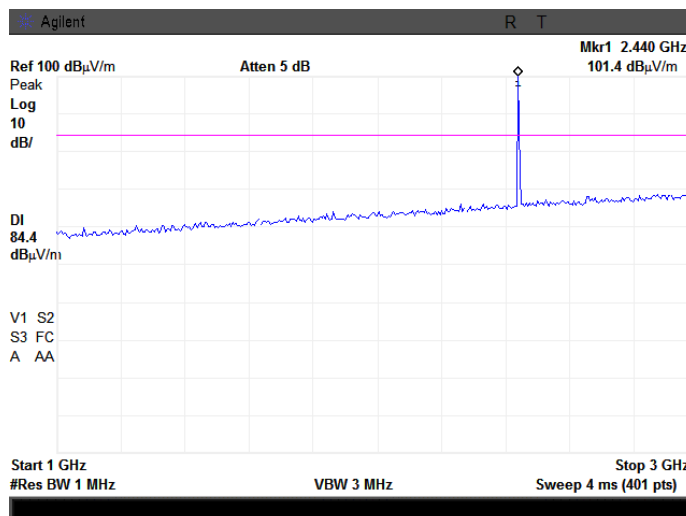
Plot 7.1.23 Radiated emission measurements in 1000 – 3000 MHz range

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



Plot 7.1.24 Radiated emission measurements in 1000 – 3000 MHz range

TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency

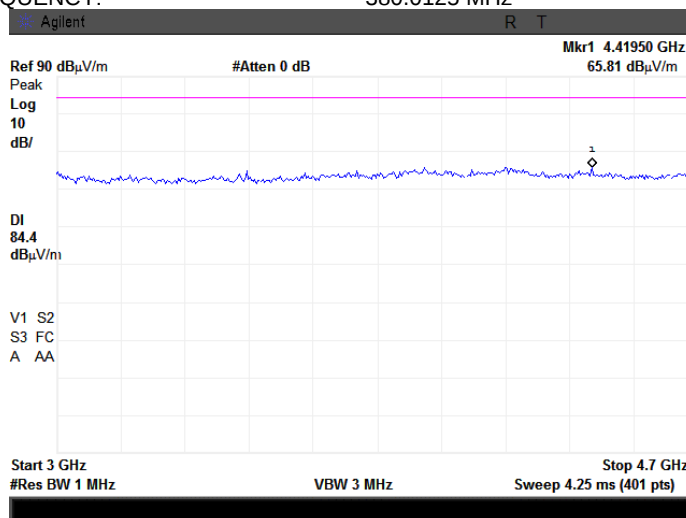


Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

Frequencies tested are not applicable for FCC compliance demonstration

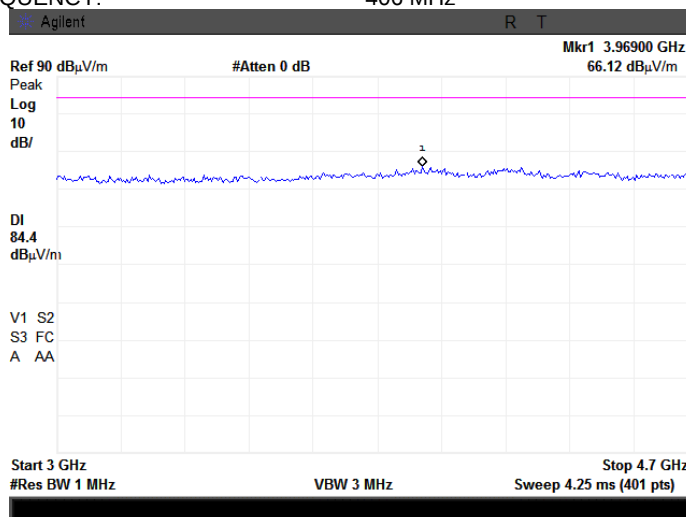
Plot 7.1.25 Radiated emission measurements in 3000 – 4700 MHz range

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



Plot 7.1.26 Radiated emission measurements in 3000 – 4700 MHz range

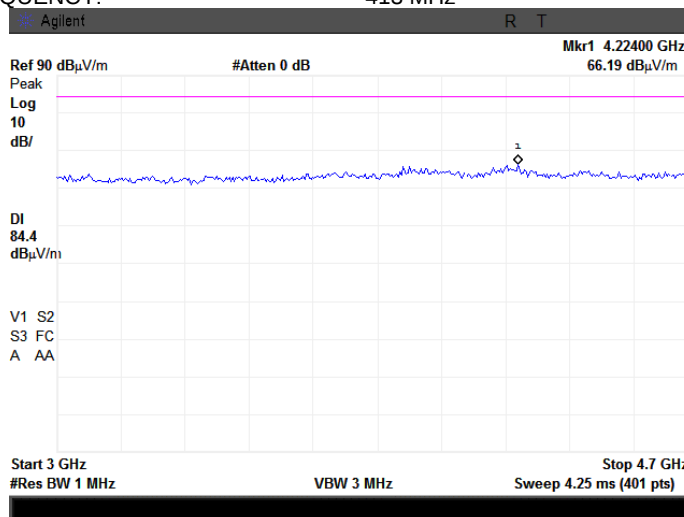
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 406 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

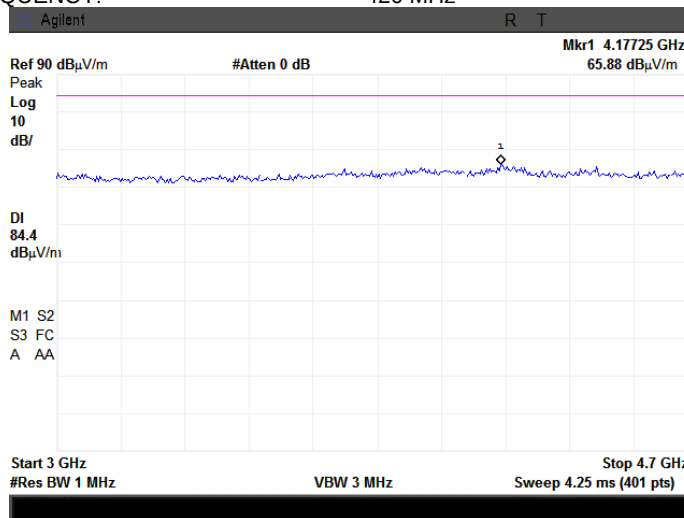
Plot 7.1.27 Radiated emission measurements in 3000 – 4700 MHz range

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



Plot 7.1.28 Radiated emission measurements in 3000 – 4700 MHz range

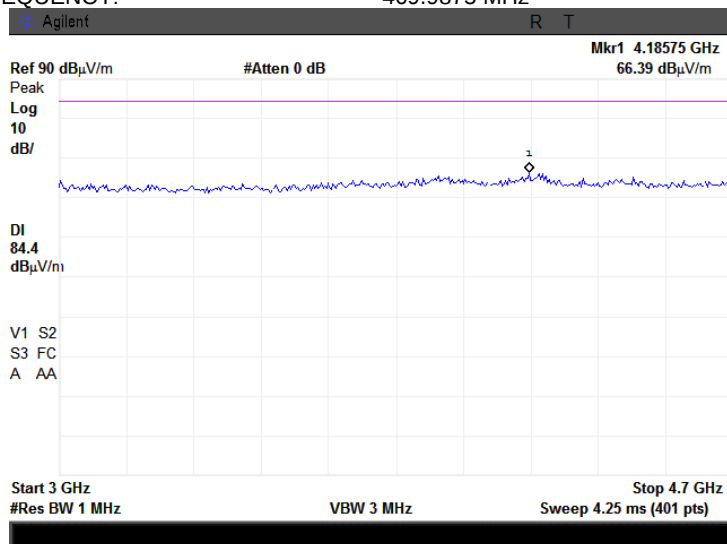
TEST SITE: Anechoic chamber
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m
CARRIER FREQUENCY: 420 MHz



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

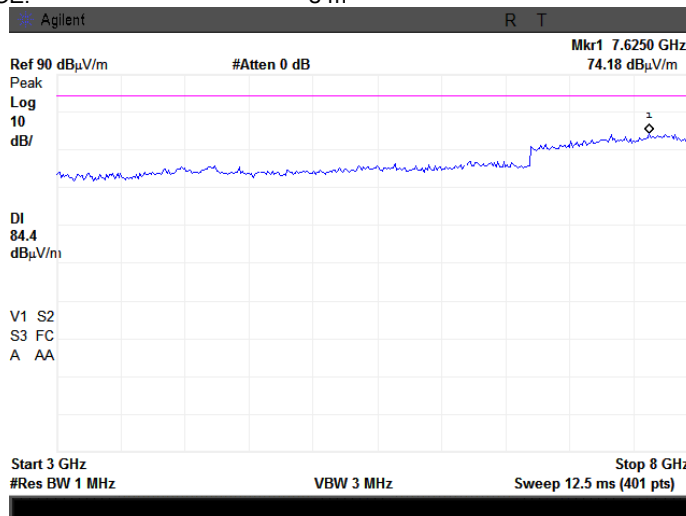
Plot 7.1.29 Radiated emission measurements in 3000 – 4700 MHz range

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



Plot 7.1.30 Radiated emission measurements in 3000 – 8000 MHz range

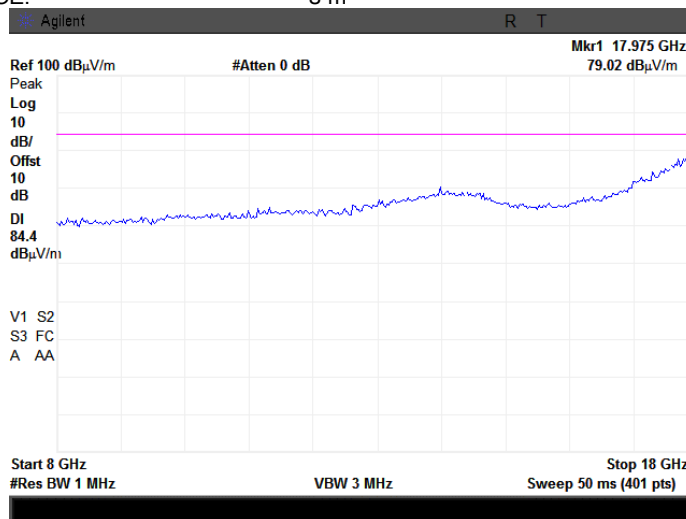
TEST SITE: Anechoic chamber
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Test specification:	Section 90.210, Radiated spurious emissions		
Test procedure:	47 CFR, Sections 2.1053 and 90.210(b); TIA/EIA-603-C, Section 2.2.12		
Test mode:	Compliance	Verdict:	PASS
Date:	1/2/2011 - 1/9/2011		
Temperature: 21 °C	Air Pressure: hPa	Relative Humidity: 55 %	Power Supply: Battery
Remarks:			

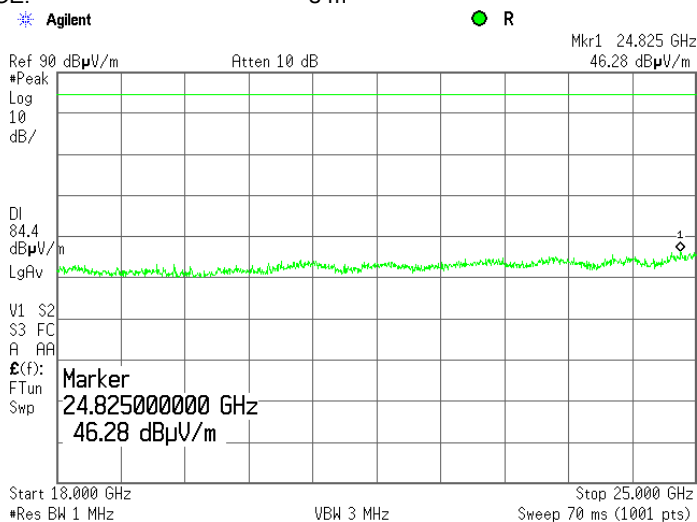
Plot 7.1.31 Radiated emission measurements in 8000 – 18000 MHz range

TEST SITE: Anechoic chamber
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



Plot 7.1.32 Radiated emission measurements in 18000 – 25000 MHz range

TEST SITE: Anechoic chamber
CARRIER FREQUENCY: Simultaneous BT and UHF, both on the mid frequency
ANTENNA POLARIZATION: Vertical and Horizontal
TEST DISTANCE: 3 m



8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
0446	Antenna, Loop, Active, 10 kHz - 30 MHz	EMCO	6502	2857	29-Jun-10	29-Jun-11
0604	Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz	EMCO	3141	9611-1011	11-Jan-11	11-Jan-12
0768	Antenna Standard Gain Horn, 18-26.5 GHz, WR-42, 25 dB gain	Quinstar Technology	QWH-4200-BA	110	23-Dec-08	23-Dec-11
1430	EMI Receiver, 9 kHz - 2.9 GHz, System: HL1431, HL1432	Agilent Technologies	8542E	3807A002 62,3705A0 0217	31-Aug-10	31-Aug-11
1984	Antenna, Double-Ridged Waveguide Horn, 1-18 GHz, 300 W	EMC Test Systems	3115	9911-5964	11-Jun-10	11-Jun-11
2387	Filter Bandpass, 8-14 GHz	Hermon Laboratories	FBP8-14	2387	05-Oct-09	05-Oct-11
2871	Microwave Cable Assembly, 18 GHz, 6.4 m, SMA - SMA	Huber-Suhner	198-8155-00	2871	14-Sep-10	14-Sep-11
2882	Cable, 18 GHz N-type, M-F, 3 m	Bird Electronic Corp.	TC-MNFN-3.0	211539 001	03-Oct-10	03-Oct-11
2909	Spectrum analyzer, ESA-E, 100 Hz to 26.5 GHz	Agilent Technologies	E4407B	MY414447 62	07-May-10	07-May-11
3119	Cable, 18 GHz N-type, M-F, 3 m	Bird Electronic Corp.	TC-MNFN-3.0	211539004	03-Oct-10	03-Oct-11
3334	Filter, High Pass, 2.5 GHz	LORCH MICROWAVE	5HP7-2500-SR	Z22	04-Oct-10	04-Oct-11
3344	High Pass Filter, 50 Ohm, 3400 to 9900 MHz	Mini-Circuits	VHF-3100+	NA	04-Oct-10	04-Oct-11
3535	Amplifier, low noise, 18 to 40 GHz	Quinstar Technology	QLJ-18404537-J0	111590030 01	06-Dec-10	06-Dec-11
3818	PSA Series Spectrum Analyzer, 3 Hz- 44 GHz	Agilent Technologies	E4446A	MY482502 88	26-Sep-10	26-Sep-11
3883	Preamplifier, 0.1 to 18 GHz, Gain 25 dB, N-type (f) in, N-type (m) out.	Agilent Technologies	87405C	MY470104 06	13-Jan-11	13-Jan-12
3901	Microwave Cable Assembly, 40.0 GHz, 3.5 m, SMA/SMA	Huber-Suhner	SUCOFLE X 102A	1225/2A	07-Feb-10	07-Feb-11

9 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Radiated emissions at 3 m measuring distance Horizontal polarization	Biconilog antenna: ± 5.3 dB Biconical antenna: ± 5.0 dB Log periodic antenna: ± 5.3 dB Double ridged horn antenna: ± 5.3 dB
Vertical polarization	Biconilog antenna: ± 6.0 dB Biconical antenna: ± 5.7 dB Log periodic antenna: ± 6.0 dB Double ridged horn antenna: ± 6.0 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). The FCC Designation Number is US1003.

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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
ANSI/TIA/EIA-603-C:2004	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
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

12 APPENDIX E Test equipment correction factors

Antenna factor
Active loop antenna
Model 6502, S/N 2857, HL 0446

Frequency, MHz	Magnetic antenna factor, dB	Electric antenna factor, dB
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	9.8
0.750	-41.9	9.7
1.000	-41.4	10.1
2.000	-41.5	10.0
3.000	-41.4	10.2
4.000	-41.4	10.1
5.000	-41.5	10.1
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(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
Standard gain horn antenna
Quinstar Technology
Model QWH
Ser.No.110, HL 0768

Frequency min, GHz	Frequency max, GHz	Antenna factor, dB(1/m)
18.000	26.500	32.01
26.500	40.000	35.48
40.000	60.000	39.03
60.000	90.000	42.55
90.000	140.000	46.23
140.000	220.000	50.11

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, HL1984

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).

Cable loss
Cable coaxial, Huber-Suhner, 18 GHz, 6.4 m, SMA - SMA, model 198-8155-00,
HL 2871

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.12	5750	2.34	12000	3.55
30	0.14	6000	2.39	12250	3.61
100	0.27	6250	2.46	12500	3.67
250	0.45	6500	2.52	12750	3.74
500	0.63	6750	2.58	13000	3.79
750	0.76	7000	2.64	13250	3.82
1000	0.89	7250	2.68	13500	3.83
1250	1.01	7500	2.73	13750	3.83
1500	1.12	7750	2.78	14000	3.88
1750	1.23	8000	2.83	14250	3.93
2000	1.32	8250	2.88	14500	3.96
2250	1.41	8500	2.94	14750	4.01
2500	1.49	8750	2.97	15000	4.00
2750	1.58	9000	3.02	15250	4.01
3000	1.66	9250	3.07	15500	4.00
3250	1.73	9500	3.13	15750	4.13
3500	1.80	9750	3.18	16000	4.22
3750	1.87	10000	3.21	16250	4.29
4000	1.93	10250	3.26	16500	4.29
4250	2.01	10500	3.30	16750	4.32
4500	2.06	10750	3.36	17000	4.37
4750	2.12	11000	3.39	17250	4.45
5000	2.17	11250	3.44	17500	4.49
5250	2.24	11500	3.48	17750	4.53
5500	2.29	11750	3.52	18000	4.55

Cable loss
Cable coaxial, Bird, 18 GHz, N-type, M-F, model TC-MNFN-3.0, S/N 211539 001
HL 2882

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.08	5750	1.78	12000	2.57
30	0.12	6000	1.84	12250	2.62
100	0.22	6250	1.87	12500	2.66
250	0.35	6500	1.92	12750	2.68
500	0.49	6750	1.96	13000	2.67
750	0.60	7000	2.01	13250	2.75
1000	0.68	7250	2.08	13500	2.77
1250	0.78	7500	2.12	13750	2.90
1500	0.85	7750	2.19	14000	3.00
1750	0.92	8000	2.22	14250	3.12
2000	0.98	8250	2.28	14500	2.98
2250	1.06	8500	2.29	14750	3.03
2500	1.11	8750	2.27	15000	2.99
2750	1.19	9000	2.28	15250	2.99
3000	1.25	9250	2.26	15500	2.98
3250	1.30	9500	2.29	15750	2.98
3500	1.34	9750	2.33	16000	2.99
3750	1.40	10000	2.34	16250	3.05
4000	1.45	10250	2.41	16500	3.11
4250	1.51	10500	2.46	16750	3.18
4500	1.54	10750	2.48	17000	3.23
4750	1.59	11000	2.48	17250	3.21
5000	1.63	11250	2.52	17500	3.22
5250	1.68	11500	2.53	17750	3.22
5500	1.72	11750	2.56	18000	3.25

Cable loss
Cable 18 GHz, N-type, M-F, 3 m, Bird Electronic Corp., model TC-MNFN-3.0, S/N 211539004
HL 3119

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.06	3600	1.34	7400	2.00	11200	2.48	15100	2.90
30	0.09	3700	1.36	7500	2.01	11300	2.45	15200	2.89
50	0.11	3800	1.37	7600	2.03	11400	2.51	15300	2.91
100	0.23	3900	1.39	7700	2.05	11500	2.45	15400	2.85
200	0.30	4000	1.39	7800	2.07	11600	2.49	15500	2.83
300	0.42	4100	1.42	7900	2.06	11700	2.51	15600	2.89
400	0.39	4200	1.45	8000	2.06	11800	2.50	15700	2.85
500	0.47	4300	1.47	8100	2.09	11900	2.52	15800	2.87
600	0.49	4400	1.49	8200	2.10	12000	2.48	15900	2.91
700	0.63	4500	1.51	8300	2.11	12100	2.53	16000	2.90
800	0.62	4600	1.53	8400	2.15	12200	2.54	16100	2.94
900	0.70	4700	1.55	8500	2.15	12300	2.56	16200	2.91
1000	0.70	4800	1.54	8600	2.17	12400	2.57	16300	2.96
1100	0.77	4900	1.57	8700	2.19	12500	2.57	16400	3.01
1200	0.78	5000	1.60	8800	2.20	12600	2.55	16500	3.01
1300	0.83	5100	1.60	8900	2.21	12700	2.50	16600	2.98
1400	0.86	5200	1.62	9000	2.22	12800	2.57	16700	3.00
1500	0.85	5300	1.65	9100	2.23	12900	2.57	16800	3.01
1600	0.94	5400	1.66	9200	2.25	13000	2.55	16900	3.06
1700	0.90	5500	1.69	9300	2.24	13100	2.62	17000	3.07
1800	0.90	5600	1.70	9400	2.28	13200	2.60	17100	3.09
1900	0.95	5700	1.72	9500	2.28	13300	2.67	17200	3.10
2000	0.97	5800	1.74	9600	2.27	13400	2.66	17300	3.11
2100	1.00	5900	1.75	9700	2.30	13500	2.71	17400	3.16
2200	1.02	6000	1.77	9800	2.30	13600	2.73	17500	3.15
2300	1.05	6100	1.79	9900	2.34	13700	2.73	17600	3.21
2400	1.08	6200	1.82	10000	2.32	13800	2.85	17700	3.21
2500	1.10	6300	1.83	10100	2.31	13900	2.83	17800	3.18
2600	1.13	6400	1.83	10200	2.31	14000	2.83	17900	3.25
2700	1.15	6500	1.87	10300	2.26	14100	2.83	18000	3.14
2800	1.17	6600	1.88	10400	2.32	14200	2.84		
2900	1.21	6700	1.90	10500	2.26	14300	2.90		
3000	1.22	6800	1.93	10600	2.26	14400	2.84		
3100	1.25	6900	1.92	10700	2.31	14600	2.88		
3200	1.27	7000	1.95	10800	2.24	14700	2.85		
3300	1.29	7100	1.96	10900	2.39	14800	2.92		
3400	1.28	7200	1.99	11000	2.41	14900	2.93		
3500	1.31	7300	2.00	11100	2.46	15000	2.83		

Cable loss
Microwave Cable Assembly, Huber-Suhner, 40 GHz, 3.5 m, SMA-SMA, S/N 1225/2A
HL 3901

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.09	9500	4.29	21000	6.67
100	0.41	10000	4.40	22000	6.92
500	0.93	10500	4.52	23000	7.00
1000	1.33	11000	4.64	24000	7.18
1500	1.63	11500	4.76	25000	7.29
2000	1.90	12000	4.87	26000	7.55
2500	2.12	12500	4.99	27000	7.70
3000	2.33	13000	5.11	28000	7.88
3500	2.50	13500	5.20	29000	8.02
4000	2.67	14000	5.31	30000	8.15
4500	2.82	14500	5.42	31000	8.35
5000	2.99	15000	5.51	32000	8.40
5500	3.16	15500	5.58	33000	8.62
6000	3.32	16000	5.68	34000	8.73
6500	3.51	16500	5.78	35000	8.78
7000	3.65	17000	5.91	36000	8.94
7500	3.79	17500	5.99	37000	9.21
8000	3.92	18000	6.07	38000	9.37
8500	4.04	19000	6.36	39000	9.45
9000	4.18	20000	6.49	40000	9.52

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
AM	amplitude modulation
AVRG	average (detector)
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
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
OATS	open area test site
Ω	Ohm
PM	pulse modulation
QP	quasi-peak
RE	radiated emission
RF	radio frequency
rms	root mean square
Rx	receive
s	second
T	temperature
Tx	transmit
V	volt
WB	wideband

END OF DOCUMENT