

TEST REPORT

ACCORDING TO: FCC CFR 47 PART 15 subpart B; RSS-Gen, Issue 3;
ICES-003 Issue 4:2004

FOR:

**Cardo Systems Inc.
Bluetooth headset**

1) Model: scala rider Q1

FCC ID:Q95ER16

IC:4668A-ER16

2) Model: scala rider Q3

FCC ID:Q95ER15

IC:4668A-ER15

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1 Applicant information

Client name: Cardo Systems Inc.
Address: 100 High Tower Blvd, Pittsburgh, PA 15205, USA
Telephone: 001 412-788-4533
Fax: 001 412-788-0270
E-mail: moato@cardosystems.com
Contact name: Mr. Avi Moato

2 Equipment under test attributes

Product name: Bluetooth Headset
Product type: Transceiver
Model(s): scala rider Q1, s/n HS2; scala rider Q3, s/n HS1
Hardware version: 1.0
Software release: 1.0
Receipt date 10/11/2012

3 Manufacturer information

Manufacturer name: Cardo Systems Inc.
Address: 100 High Tower Blvd, Pittsburgh, PA 15205, USA
Telephone: 001 412-788-4533
Fax: 001 412-788-0270
E-Mail: moato@cardosystems.com
Contact name: Mr. Avi Moato

4 Test details

Project ID: 23657
Location: Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started: 10/23/2012
Test completed: 10/24/2012
Test specification(s): FCC Part 15, subpart B, §15.109
RSS-Gen Issue 3:2010; ICES-003 issue 4:2004

5 Tests summary

Test	Status
Unintentional emissions	
FCC section 15.107 / ICES-003 section 5.3, Class B, Conducted emission at AC power port	Pass
FCC section 15.109 / RSS-Gen, Section 6.1 / ICES-003 section 5.5, Class B, Radiated emission	Pass

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.

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

This test report supersedes the previously issued test report identified by Doc ID: CAREMC_FCC.23657.

	Name and Title	Date	Signature
Tested by:	Mr. S. Samokha, test engineer	October 24, 2012	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	October 28, 2012	
Approved by:	Mr. M. Nikishin, EMC and Radio group manager	October 29, 2012	

6 EUT description

6.1 General information

The EUT is a Bluetooth headset, technology compliant with Bluetooth™ Ver 3.0, Bluetooth intercom for motorbikes and FM radio receiver. The both EUT models, "scala rider Q3" and "scala rider Q1" have the same electronically / electrically identical PCB, except the "scala rider Q3" is equipped with power amplifier (PA). The conducted emission test was performed once in charging mode, the radiated emissions were tested for the both device models.

6.2 Operating frequencies

Source	Frequency, MHz		
LO	26		
Bluetooth	2402	2440	2480
FM receiver	88	98	108

6.3 Ports and lines

Port type	Port description	Connected from	Connected to	Qty.	Cable type	Cable length, m
Power	Charging	Wall PS	HS micro USB port(headphones)	1	Unshielded	1

6.4 Changes made in the EUT

To withstand the standard requirements the following change was implemented in the EUT during the testing:
A capacitor of 15 pF $\pm 5\%$ 50V 0402 COG manufactured by Samsung, part number CL05C150JB5NNNC, Cardo part number CAP00056 was installed on PCB between analog GND to digital GND.

It is manufacturer responsibility to implement the changes in the production version of the EUT. In any case the test report applies to the tested item only.

6.5 EUT general view





Test specification:		Section 15.107 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Section 11.5	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/24/2012 - 10/24/2012	
Temperature: 24.7 °C	Air Pressure: 1012 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

7 Unintentional emissions tests

7.1 Conducted emissions

7.1.1 General

This test was performed to measure the common mode conducted emissions at the EUT power port. The specification test limits are given in Table 7.1.1.

Table 7.1.1 Limits for conducted emissions

Frequency, MHz	Class B limit, dB(μV)		Class A limit, dB(μV)	
	QP	AVRG	QP	AVRG
0.15 - 0.5	66 - 56*	56 - 46*	79	66
0.5 - 5.0	56	46	73	60
5.0 - 30	60	50	73	60

* - The limit decreases linearly with the logarithm of frequency.

7.1.2 Test procedure

7.1.2.1 The EUT was set up as shown in Figure 7.1.1 and the associated photographs, energized and the EUT performance was checked.

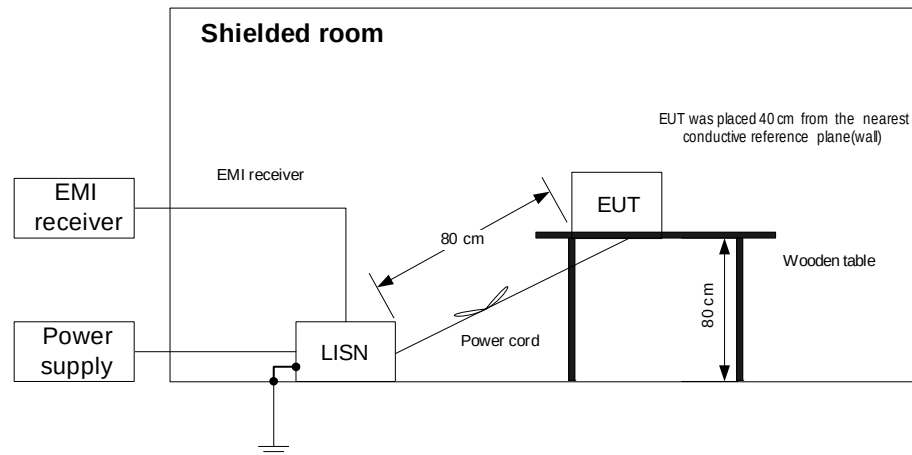
7.1.2.2 The measurements were performed at the EUT power terminals with the LISN connected to the EMI receiver in the frequency range referred to in Table 7.1.2. The unused coaxial connector of the LISN was terminated with 50 Ohm.

7.1.2.3 The position of the EUT cables was varied to find the highest emission.

7.1.2.4 The worst test results with respect to the limits were recorded in Table 7.1.2 and shown in the associated plots.

Test specification:		Section 15.107 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Section 11.5	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/24/2012 - 10/24/2012	
Temperature: 24.7 °C	Air Pressure: 1012 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Figure 7.1.1 Setup for conducted emission measurements, table-top EUT



Photograph 7.1.1 Setup for conducted emission measurements





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Test specification:		Section 15.107 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Section 11.5	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/24/2012 - 10/24/2012	
Temperature: 24.7 °C	Air Pressure: 1012 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

Table 7.1.2 Conducted emission test results

LINE: AC mains
 EUT SET UP: TABLE-TOP
 TEST SITE: SHIELDED ROOM
 DETECTORS USED: PEAK / QUASI-PEAK / AVERAGE
 FREQUENCY RANGE: 150 kHz - 30 MHz
 RESOLUTION BANDWIDTH: 9 kHz

Frequency, MHz	Peak emission, dB(μV)	Quasi-peak			Average			Line ID	Verdict
		Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*	Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*		
0.150444	40.75	35.03	65.98	-30.95	30.55	55.98	-25.43	L1	Pass
1.107575	30.97	25.38	56.00	-30.62	14.85	46.00	-31.15		
24.572250	35.98	31.61	60.00	-28.39	20.57	50.00	-29.43		
0.150115	40.81	35.17	65.99	-30.82	30.18	55.99	-25.81	L2	Pass
0.314763	40.27	37.37	59.86	-22.49	22.33	49.86	-27.53		
1.908125	32.57	28.80	56.00	-27.20	16.02	46.00	-29.98		
24.465375	34.00	29.44	60.00	-30.56	19.46	50.00	-30.54		

*- Margin = Measured emission - specification limit.

Reference numbers of test equipment used

HL 0163	HL 1425	HL 1513	HL 3612				
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Full description is given in Appendix A.

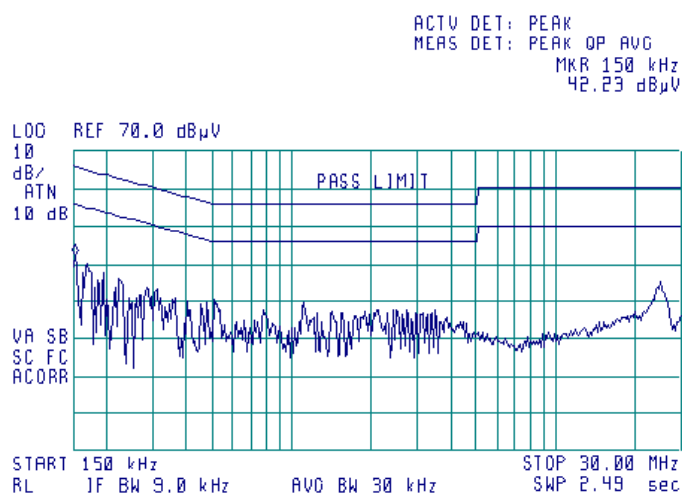


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Test specification:	Section 15.107 Class B, AC power lines conducted emissions		
Test procedure:	ANSI C63.4, Section 11.5		
Test mode:	Compliance	Verdict:	PASS
Date(s):	10/24/2012 - 10/24/2012		
Temperature: 24.7 °C	Air Pressure: 1012 hPa	Relative Humidity: 47 %	Power Supply: 120 VAC
Remarks:			

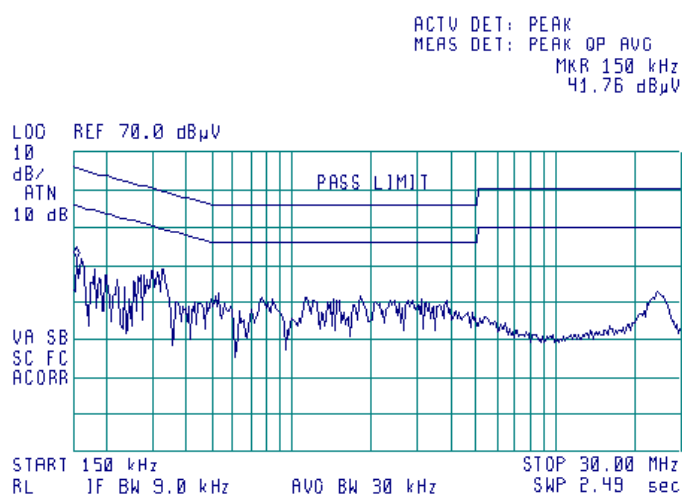
Plot 7.1.1 Conducted emission measurements

LINE: L1
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK



Plot 7.1.2 Conducted emission measurements

LINE: L2
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK



Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

7.2 Radiated emission measurements of the EUT with power amplifier, model "scala rider Q3"

7.2.1 General

This test was performed to measure radiated emissions from the EUT enclosure. The specification test limits are given in Table 7.2.1, Table 7.2.2.

Table 7.2.1 Radiated emission test limits according to FCC part 15 section 15.109 class B and RSS-Gen section 6.1

Frequency, MHz	Class B limit, dB(μV/m)	
	10 m distance	3 m distance
30 - 88	29.5*	40.0
88 - 216	33.0*	43.5
216 - 960	35.5*	46.0
Above 960	43.5*	54.0

Table 7.2.2 Radiated disturbance test limits according to ICES-003 section 5.5

Frequency, MHz	Class B limit, dB(μV/m)		Class A limit, dB(μV/m)	
	10 m distance	3 m distance	10 m distance	3 m distance
30 - 230	30.0	40.5*	40.0	50.5*
230 - 1000	37.0	47.5*	47.0	57.5*

* - The limit for a test distance other than specified was calculated using the inverse linear distance extrapolation factor as follows: $\text{Lim}_{S_2} = \text{Lim}_{S_1} + 20 \log(S_1/S_2)$, where S_1 and S_2 – the standard defined and the test distance respectively in meters.

7.2.2 Test procedure

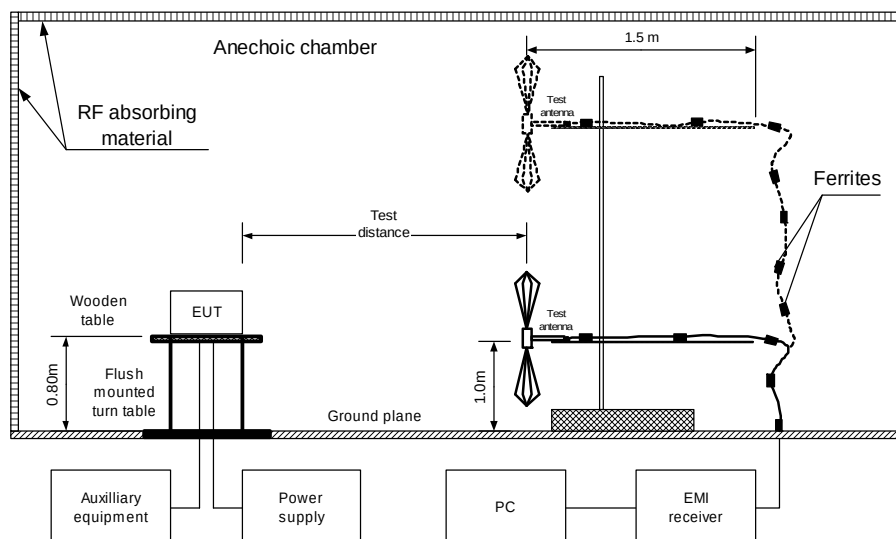
7.2.2.1 The EUT was set up as shown in Figure 7.2.1 and the associated photographs, energized and the EUT performance was checked.

7.2.2.2 The measurements were performed in the anechoic chamber at 3 m test distance. The specified frequency range was investigated with the antenna connected to the EMI receiver. To find the highest emission the turntable was rotated 360° and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal polarizations. The EUT cables position was varied to maximize emission.

7.2.2.3 The worst test results with respect to the limits were recorded in Table 7.2.3 and shown in the associated plots.

Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Figure 7.2.1 Setup for radiated emission measurements in anechoic chamber, table-top EUT



Photograph 7.2.1 Setup for radiated emission measurements



Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Photograph 7.2.2 Setup for radiated emission measurements





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Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Verdict: PASS	
Date(s):			
10/23/2012 - 10/23/2012			
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Table 7.2.3 Radiated emission test results

EUT SET UP: TABLE-TOP
TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / QUASI-PEAK
FREQUENCY RANGE: 30 MHz – 1000 MHz
RESOLUTION BANDWIDTH: 120 kHz

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
63.412	26.7	23.2	40.0	-16.8	Vert	1.1	0	Pass

TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / AVERAGE
FREQUENCY RANGE: 1000 MHz – 12500 MHz
RESOLUTION BANDWIDTH: 1000 kHz

Frequency, MHz	Peak			Average			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
	Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*	Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
1627.30	54.48	74.0	-19.52	40.36	54.0	-13.64	Hor	1.3	182	Pass

*- Margin = Measured emission - specification limit.

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

Reference numbers of test equipment used

HL 0521	HL 0604	HL 2909	HL 4114	HL 4150	HL 4276	HL 4352	HL 4353
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Full description is given in Appendix A.

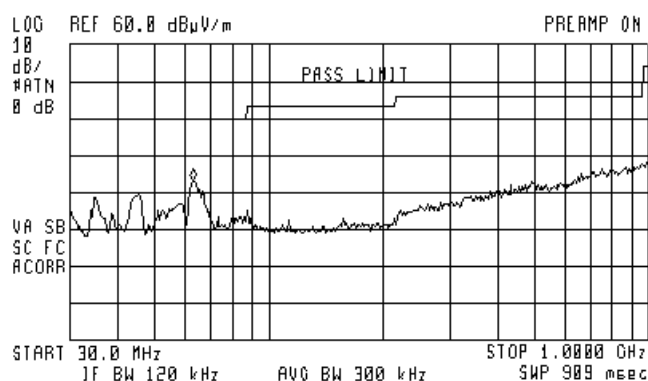
Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Plot 7.2.1 Radiated emission measurements in 30 - 1000 MHz range, vertical antenna polarization

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m



ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 63.4 MHz
23.23 dBμV/m

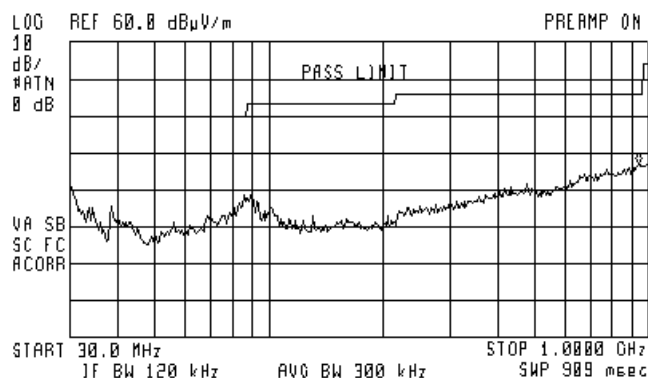


Plot 7.2.2 Radiated emission measurements in 30 - 1000 MHz range, horizontal antenna polarization

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m



ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 933.3 MHz
27.38 dBμV/m



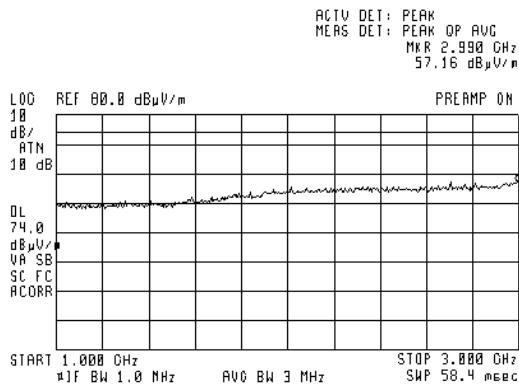
Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Plot 7.2.3 Radiated emission measurements from 1.0 to 3.0 GHz, vertical antenna polarization

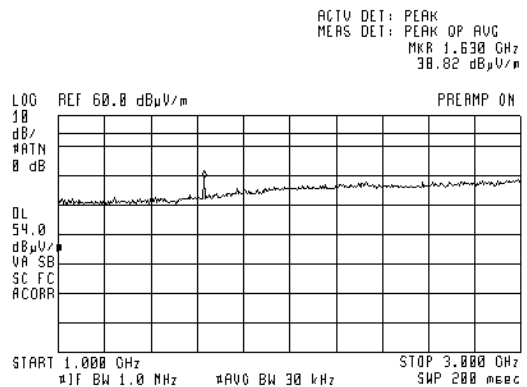
TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

Semi anechoic chamber
3 m
Vertical
RBW=1MHz; VBW=30 kHz

(32)



(32)

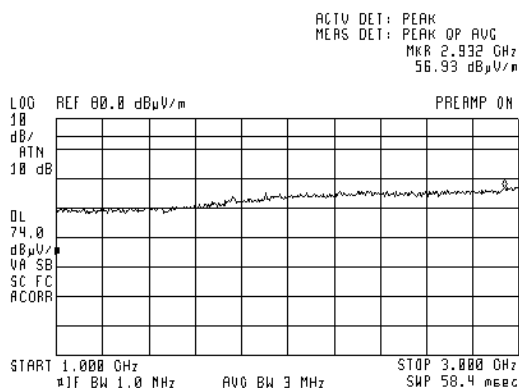


Plot 7.2.4 Radiated emission measurements from 1.0 to 3.0 GHz, horizontal antenna polarization

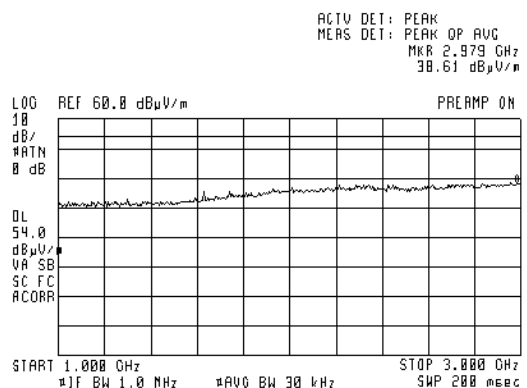
TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

Semi anechoic chamber
3 m
Horizontal
RBW=1MHz; VBW=30 kHz

(32)



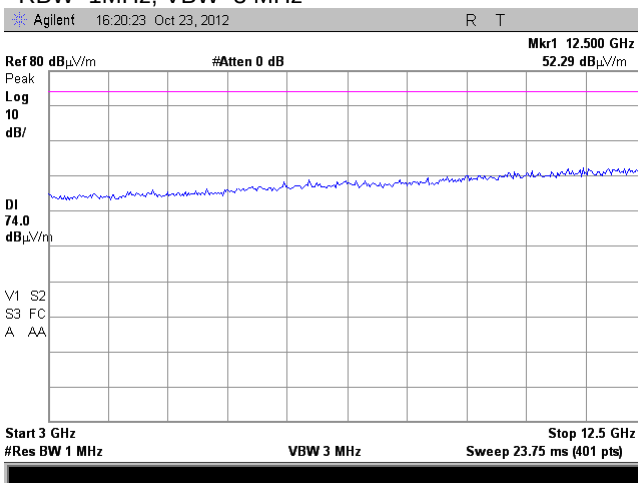
(32)



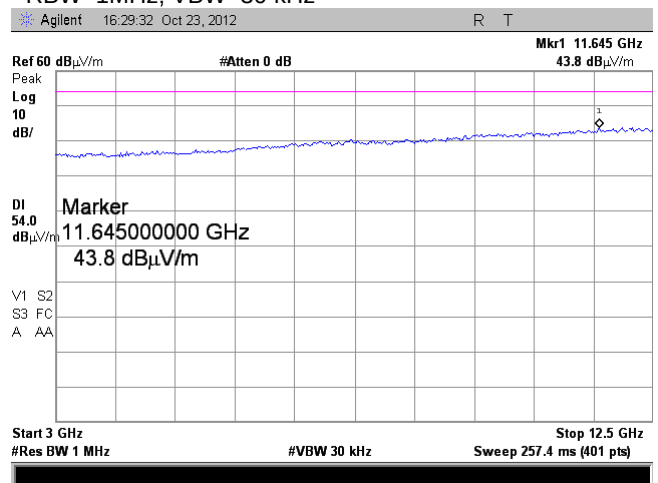
Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q3"			

Plot 7.2.5 Radiated emission measurements from 3.0 to 12.5 GHz, vertical antenna polarization

TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

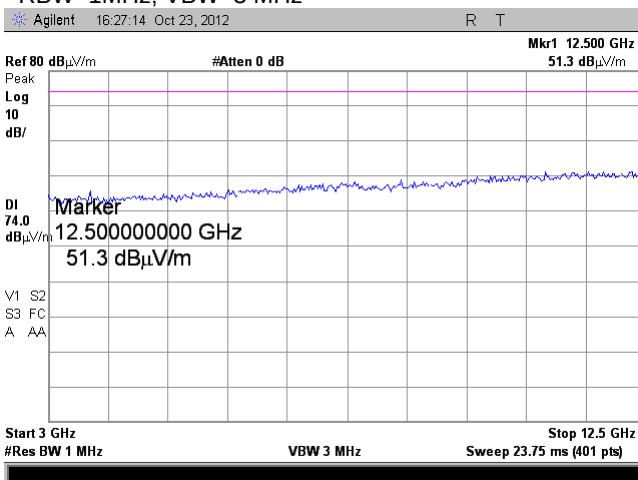


Semi anechoic chamber
3 m
Vertical
RBW=1MHz; VBW=30 kHz

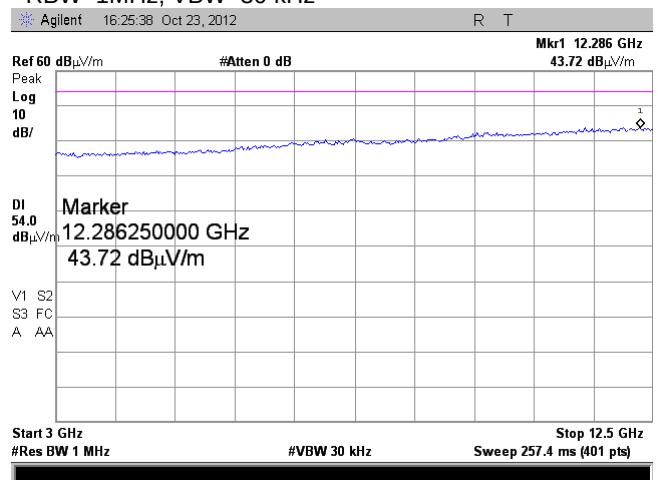


Plot 7.2.6 Radiated emission measurements from 3.0 to 12.5 GHz, horizontal antenna polarization

TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz



Semi anechoic chamber
3 m
Horizontal
RBW=1MHz; VBW=30 kHz



Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

7.3 Radiated emission measurements of the EUT without power amplifier, model "scala rider Q1"

7.3.1 General

This test was performed to measure radiated emissions from the EUT enclosure. The specification test limits are given in Table 7.3.1, Table 7.3.2.

Table 7.3.1 Radiated emission test limits according to FCC part 15 section 15.109 class B and RSS-Gen section 6.1

Frequency, MHz	Class B limit, dB(μV/m)	
	10 m distance	3 m distance
30 - 88	29.5*	40.0
88 - 216	33.0*	43.5
216 - 960	35.5*	46.0
Above 960	43.5*	54.0

Table 7.3.2 Radiated disturbance test limits according to ICES-003 section 5.5

Frequency, MHz	Class B limit, dB(μV/m)		Class A limit, dB(μV/m)	
	10 m distance	3 m distance	10 m distance	3 m distance
30 - 230	30.0	40.5*	40.0	50.5*
230 - 1000	37.0	47.5*	47.0	57.5*

* - The limit for a test distance other than specified was calculated using the inverse linear distance extrapolation factor as follows: $\text{Lim}_{S_2} = \text{Lim}_{S_1} + 20 \log(S_1/S_2)$, where S_1 and S_2 – the standard defined and the test distance respectively in meters.

7.3.2 Test procedure

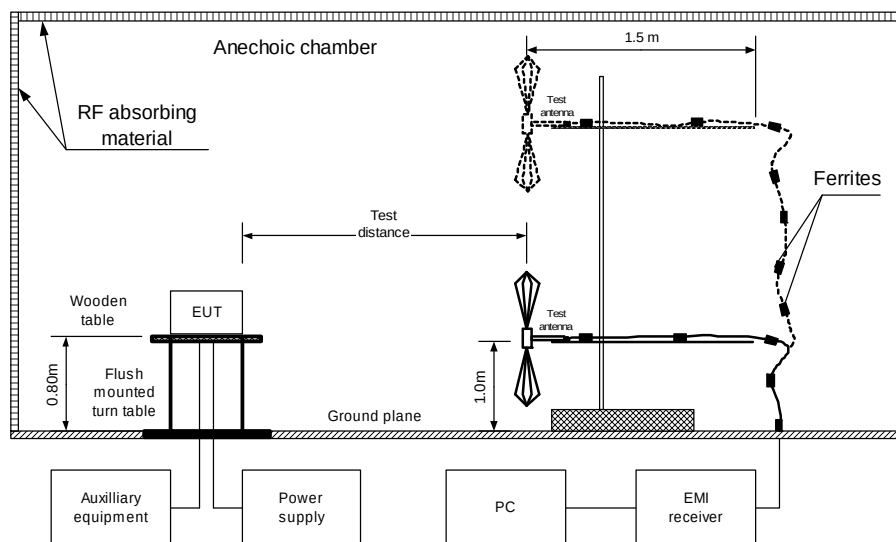
7.3.2.1 The EUT was set up as shown in Figure 7.3.1 and the associated photographs, energized and the EUT performance was checked.

7.3.2.2 The measurements were performed in the anechoic chamber at 3 m test distance. The specified frequency range was investigated with the antenna connected to the EMI receiver. To find the highest emission the turntable was rotated 360° and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal polarizations. The EUT cables position was varied to maximize emission.

7.3.2.3 The worst test results with respect to the limits were recorded in Table 7.3.3 and shown in the associated plots.

Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Figure 7.3.1 Setup for radiated emission measurements in anechoic chamber, table-top EUT



Photograph 7.3.1 Setup for radiated emission measurements



Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Photograph 7.3.2 Setup for radiated emission measurements





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Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Verdict: PASS	
Date(s):			
10/23/2012 - 10/23/2012			
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Table 7.3.3 Radiated emission test results

EUT SET UP: TABLE-TOP
TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / QUASI-PEAK
FREQUENCY RANGE: 30 MHz – 1000 MHz
RESOLUTION BANDWIDTH: 120 kHz

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
62.876	24.8	23.7	40.0	-16.3	Vert	1.1	0	Pass

TEST SITE: SEMI ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / AVERAGE
FREQUENCY RANGE: 1000 MHz – 12500 MHz
RESOLUTION BANDWIDTH: 1000 kHz

Frequency, MHz	Peak			Average			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
	Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*	Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
1627.33	48.1	74.0	-25.9	35.78	54.0	-18.2	Hor	1.3	182	Pass

*- Margin = Measured emission - specification limit.

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

Reference numbers of test equipment used

HL 0521	HL 0604	HL 2909	HL 4114	HL 4150	HL 4276	HL 4352	HL 4353
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Full description is given in Appendix A.

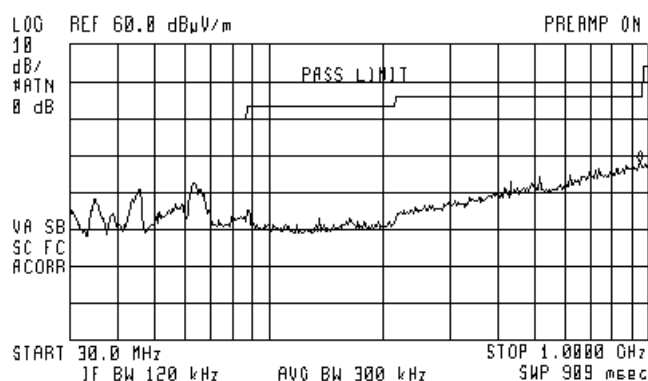
Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Plot 7.3.1 Radiated emission measurements in 30 - 1000 MHz range, vertical antenna polarization

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m



ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 942.8 MHz
28.39 dBμV/m

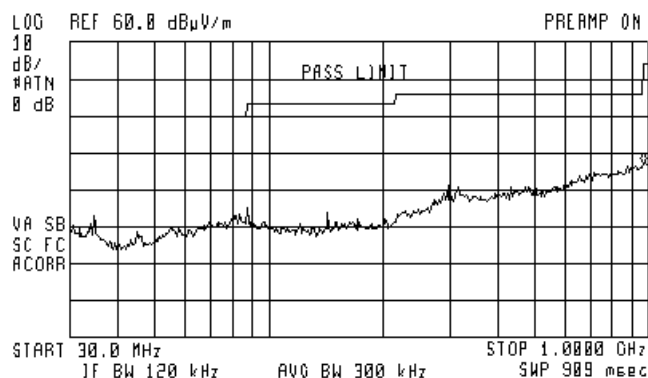


Plot 7.3.2 Radiated emission measurements in 30 - 1000 MHz range, horizontal antenna polarization

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m



ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 961.9 MHz
27.30 dBμV/m



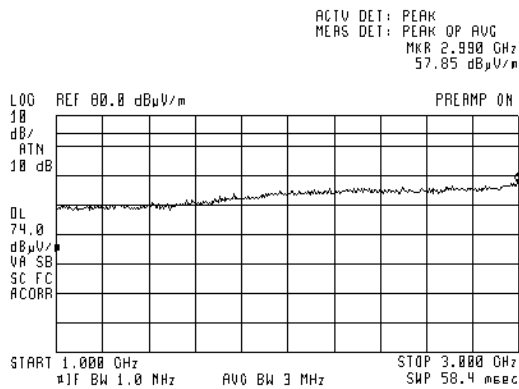
Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Plot 7.3.3 Radiated emission measurements from 1.0 to 3.0 GHz, vertical antenna polarization

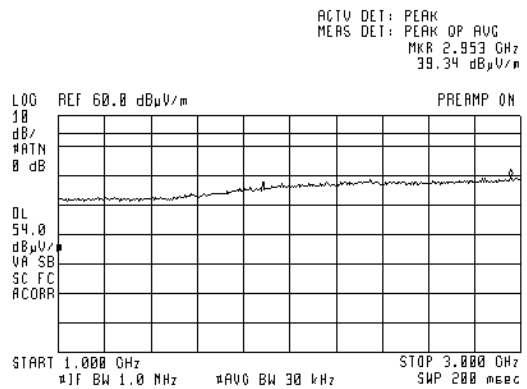
TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

Semi anechoic chamber
3 m
Vertical
RBW=1MHz; VBW=30 kHz

(32)



(32)

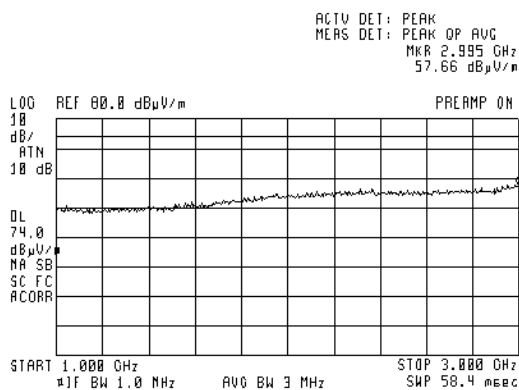


Plot 7.3.4 Radiated emission measurements from 1.0 to 3.0 GHz, horizontal antenna polarization

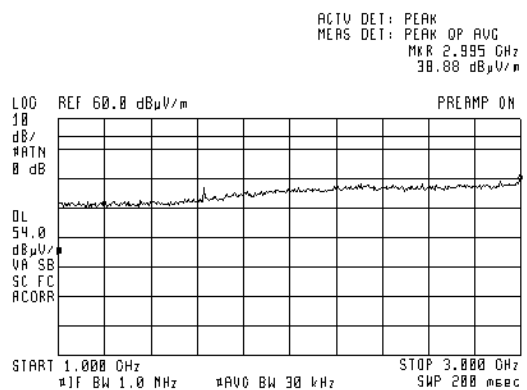
TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

Semi anechoic chamber
3 m
Horizontal
RBW=1MHz; VBW=30 kHz

(32)



(32)

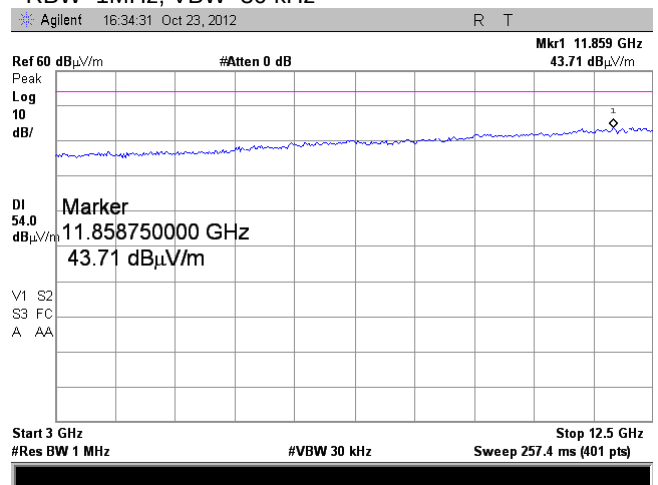
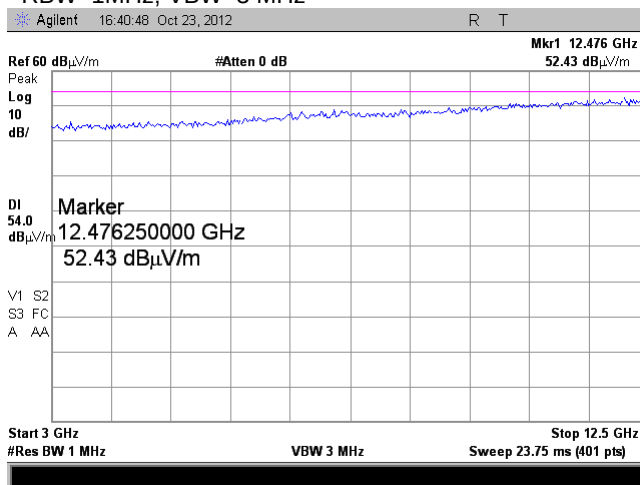


Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012 - 10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks: EUT model "scala rider Q1"			

Plot 7.3.5 Radiated emission measurements from 3.0 to 12.5 GHz, vertical antenna polarization

TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

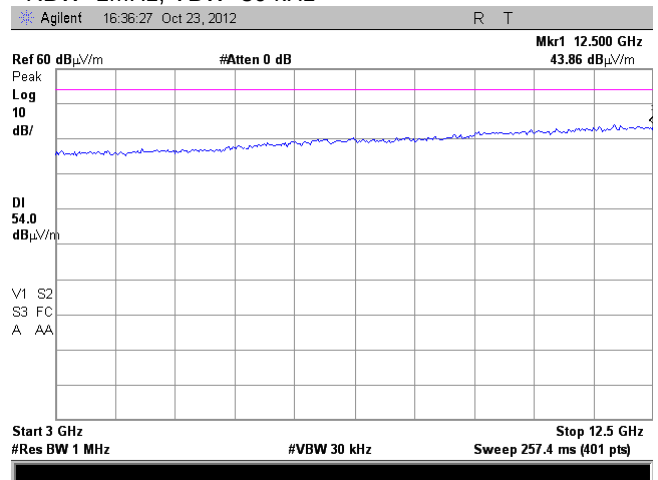
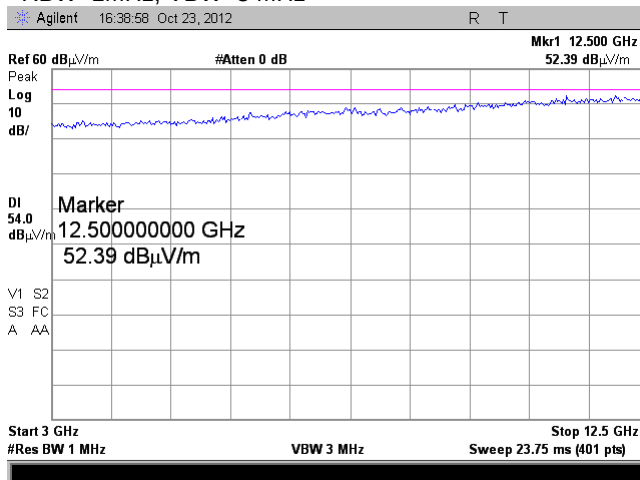
Semi anechoic chamber
3 m
Vertical
RBW=1MHz; VBW=30 kHz



Plot 7.3.6 Radiated emission measurements from 3.0 to 12.5 GHz, horizontal antenna polarization

TEST SITE:
TEST DISTANCE:
ANTENNA POLARIZATION:
RBW=1MHz; VBW=3 MHz

Semi anechoic chamber
3 m
Horizontal
RBW=1MHz; VBW=30 kHz





Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks:			

7.4 Radiated emission measurements of the EUT in FM receiver mode

7.4.1 General

This test was performed to measure radiated disturbance from the EUT enclosure. The specification test limits are given in Table 7.4.1, Table 7.4.2.

Table 7.4.1 Radiated emission test limits according to FCC part 15 section 15.109 class B and RSS-Gen section 6.1

Frequency, MHz	Class B limit, dB(μV/m)	
	10 m distance	3 m distance
30 - 88	29.5*	40.0
88 - 216	33.0*	43.5
216 - 960	35.5*	46.0
Above 960	43.5*	54.0

Table 7.4.2 Radiated disturbance test limits according to ICES-003 section 5.5

Frequency, MHz	Class B limit, dB(μV/m)		Class A limit, dB(μV/m)	
	10 m distance	3 m distance	10 m distance	3 m distance
30 - 230	30.0	40.5*	40.0	50.5*
230 - 1000	37.0	47.5*	47.0	57.5*

* - The limit for a test distance other than specified was calculated using the inverse linear distance extrapolation factor as follows: $\text{Lim}_{S_2} = \text{Lim}_{S_1} + 20 \log(S_1/S_2)$, where S_1 and S_2 – the standard defined and the test distance respectively in meters.

7.4.2 Test procedure

7.4.2.1 The EUT was set up as shown in Figure 7.4.1 and the associated photograph, energized and the EUT performance was checked.

7.4.2.2 The preliminary measurements were performed in the anechoic chamber at 3 m test distance. The specified frequency range was investigated with the antenna connected to the EMI receiver. 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.

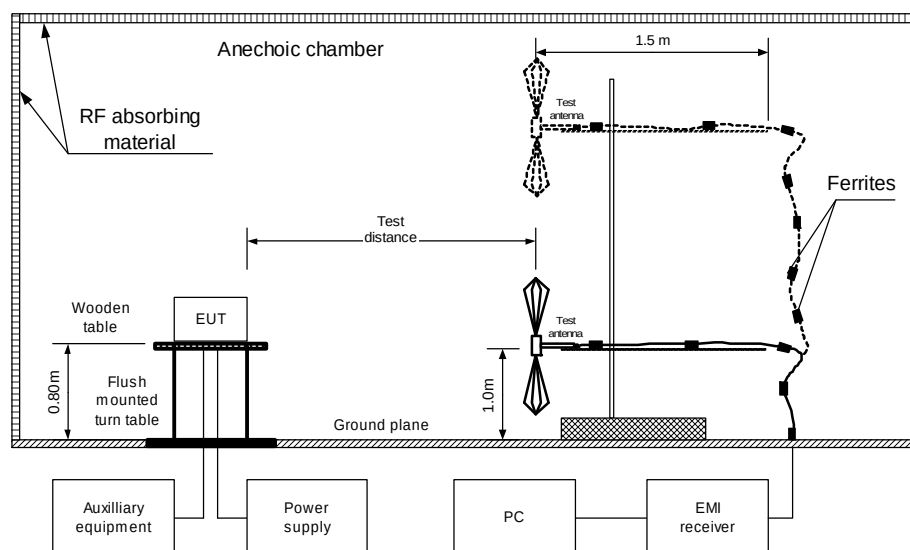
7.4.2.3 The worst test results with respect to the limits were recorded in Table 7.4.3 and shown in the associated plots.



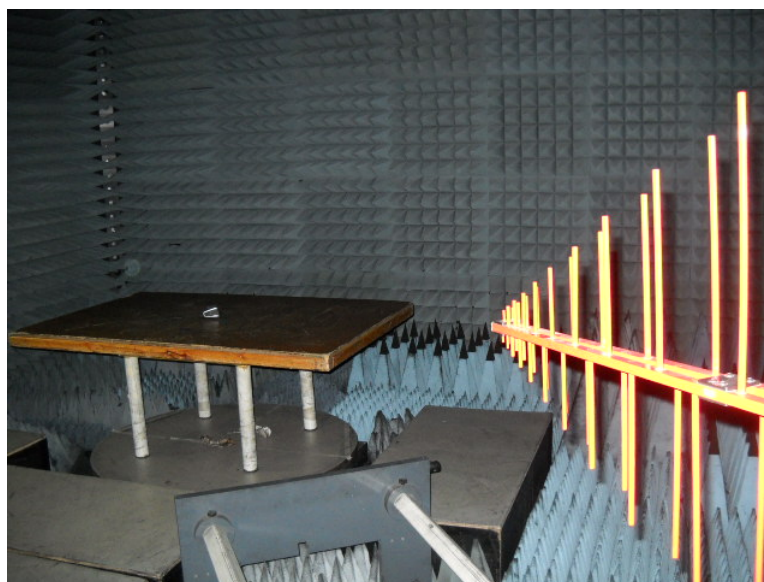
HERMON LABORATORIES

Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks:			

Figure 7.4.1 Setup for radiated disturbance measurements in semi anechoic chamber, table-top EUT



Photograph 7.4.1 Setup for radiated disturbance measurements





HERMON LABORATORIES

Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks:			

Table 7.4.3 Radiated disturbance test results, EUT in FM receive mode

EUT SET UP: TABLE-TOP
TEST SITE: ANECHOIC CHAMBER
TEST DISTANCE: 3 m
DETECTORS USED: PEAK / QUASI-PEAK
FREQUENCY RANGE: 30 MHz – 1000 MHz
RESOLUTION BANDWIDTH: 120 kHz

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
274.00	29.66	11.50	47.50	-36.00	Horizontal	1.1	146	Pass
278.00	31.25	13.80	47.50	-33.70	Horizontal	1.1	150	

Reference numbers of test equipment used

HL 2697	HL 2882	HL 3001	HL 3390				
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Full description is given in Appendix A.

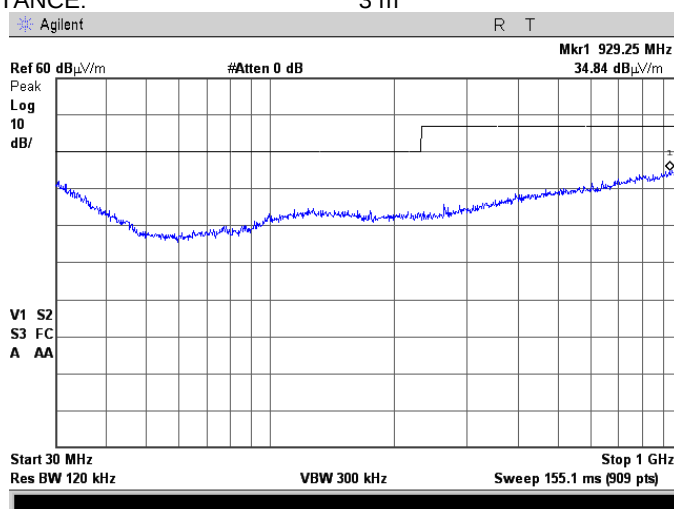


HERMON LABORATORIES

Test specification:		Section 15.109 Class B, Radiated emissions	
Test procedure:		ANSI C63.4, Section 11.6	
Test mode:		Compliance	Verdict: PASS
Date(s):		10/23/2012	
Temperature: 24.2 °C	Air Pressure: 1012 hPa	Relative Humidity: 51 %	Power Supply: Battery
Remarks:			

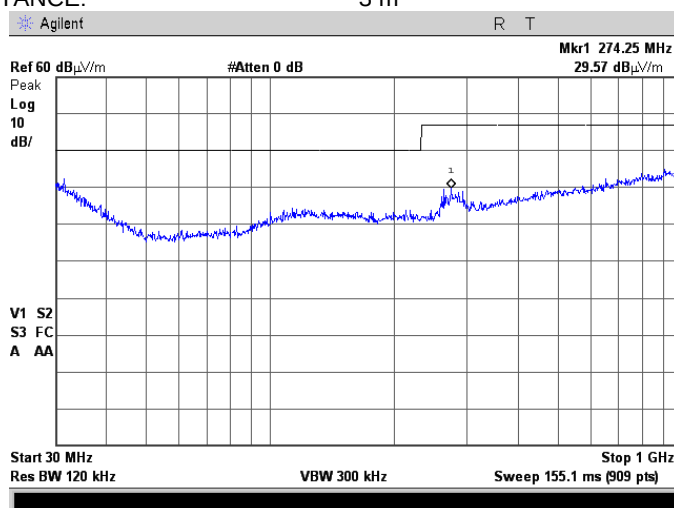
Plot 7.4.1 Radiated disturbance measurements in 30 - 1000 MHz range, vertical antenna polarization
EUT in FM receive mode

TEST SITE: Anechoic chamber
TEST DISTANCE: 3 m



Plot 7.4.2 Radiated disturbance measurements in 30 - 1000 MHz range, horizontal antenna polarization
EUT in FM receive mode

TEST SITE: Anechoic chamber
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
0163	LISN FCC/VDE/50 Ohm/50 uH + 5 Ohm, MIL-STD-461E, CISPR 16-1	Electro-Metrics	ANS 25/2	1314	01-Jul-12	01-Jul-13
0475	Analyzer Distortion	Hewlett Packard	8903E	2912A00514	09-Aug-11	09-Aug-13
0521	EMI Receiver (Spectrum Analyzer) with RF filter section 9 kHz-6.5 GHz	Hewlett Packard	8546A	3617A00319, 3448A00253	24-Sep-12	24-Sep-13
0604	Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz	EMCO	3141	9611-1011	20-May-12	20-May-14
0779	Generator, oscillator 10 Hz - 1 MHz	Hewlett Packard	4204A	1204J02920	16-Feb-12	16-Feb-13
1425	EMI Receiver, 9 kHz - 2.9 GHz, System: HL1426, HL1427	Agilent Technologies	8542E	3710A00222, 3705A00204	26-Aug-12	26-Aug-13
1513	Cable RF, 8 m, BNC/BNC	Belden	M17/167 MIL-C-17	1513	02-Sep-12	02-Sep-13
2697	Antenna, 30 MHz - 3.0 GHz	Sunol Sciences. Corp. Pleasanton, California USA	JB3	A022805	20-May-12	20-May-14
2882	Cable, 18 GHz N-type, M-F, 3 m	Bird Electronic Corp.	TC-MNFN-3.0	211539001	01-Jan-12	01-Jan-13
2909	Spectrum analyzer, ESA-E, 100 Hz to 26.5 GHz	Agilent Technologies	E4407B	MY41444762	20-Sep-12	20-Nov-12
2928	Transformer, Isolation, Audio 30 Hz - 250 kHz	Solar Electronics	6220-1A	2928	13-May-12	13-May-13
3001	EMC Analyzer, 9 kHz to 3 GHz	Agilent Technologies	E7402A	US39440180	29-Dec-11	29-Dec-12
3390	Microwave Cable Assembly, 26.5 GHz, 1.0 m, N type/N type	Suhner Sucoflex	104EA	3390	07-Feb-12	07-Feb-13
3612	Cable RF, 17.5 m, N type-N type	Teldor	RG-214/U	NA	01-Dec-11	01-Dec-12
4114	Antenna, Double-Ridged Waveguide Horn, 1-18 GHz	ETS Lindgren	3117	00123515	23-Jan-12	23-Jan-13
4150	Preamplifier, 0.1 to 18 GHz, Gain 25 dB, N-type(f) in, N-type(m) out.	Agilent Technologies	87405C	MY47010591	18-Jun-12	18-Jun-13
4276	Test Cable , DC-18 GHz, 3.05 m, N/M - N/M	Mini-Circuits	APC-10FT-NMNM+	0747A	23-Nov-11	23-Nov-12
4352	Low Loss Armored Test Cable, DC - 18 GHz, 6.2 m, N type-M/N type-M	MegaPhase	NC29-N1N1-244	12025101002	06-Jun-12	06-Mar-13
4353	Low Loss Armored Test Cable, DC - 18 GHz, 6.2 m, N type-M/N type-M	MegaPhase	NC29-N1N1-244	12025101003	06-Jun-12	06-Mar-13



HERMON LABORATORIES

9 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Conducted emissions at mains port with LISN and HP 8542E or HP 8546A receiver	9 kHz to 150 kHz: ± 3.9 dB 150 kHz to 30 MHz: ± 3.8 dB
Radiated emissions at 10 m measuring distance Horizontal polarization Vertical polarization	Biconilog antenna: ± 5.0 dB Biconical antenna: ± 5.0 dB Log periodic antenna: ± 5.1 dB Double ridged horn antenna: ± 5.3 dB Biconilog antenna: ± 5.5 dB Biconical antenna: ± 5.5 dB Log periodic antenna: ± 5.6 dB Double ridged horn antenna: ± 5.8 dB
Radiated emissions at 3 m measuring distance Horizontal polarization Vertical polarization	Biconilog antenna: ± 5.3 dB Biconical antenna: ± 5.0 dB Log periodic antenna: ± 5.3 dB Double ridged horn antenna: ± 5.3 dB 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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website: www.hermonlabs.com

Person for contact: Mr. Alex Usoskin, CEO.

11 APPENDIX D Specification references

FCC 47CFR part 15: 2011	Radio Frequency Devices
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
RSS-Gen Issue 3: 2010	General Requirements and Information for the Certification of Radiocommunication Equipment
ICES-003 Issue 4: 2004	Digital Apparatus

12 APPENDIX E Test equipment correction factors

Correction factor
Line impedance stabilization network
Model ANS-25/2, Electro-Metrics, HL 0163

Frequency, kHz	Correction factor, dB
10	4.9
15	2.86
20	1.83
25	1.25
30	0.91
35	0.69
40	0.53
50	0.35
60	0.25
70	0.18
80	0.14
90	0.11
100	0.09
125	0.06
150	0.04

The correction factor in dB is to be added to meter readings of an interference analyzer or a spectrum analyzer.

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

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

Antenna calibration
Sunol Sciences Inc., model JB3, serial number A022805, HL 2697

Frequency, MHz	ACF, dB	Gain, dBi	Num gain	Frequency, MHz	ACF, dB	Gain, dBi	Num gain	Frequency, MHz	ACF, dB	Gain, dBi	Num gain	Frequency, MHz	ACF, dB	Gain, dBi	Num gain	Frequency, MHz	ACF, dB	Gain, dBi	Num gain
30	22.2	-22.5	0.01	620	19.7	6.3	4.27	1215	24.9	7.0	5.05	1810	28.3	7.1	5.08	2405	30.9	6.9	4.93
35	18.5	-17.4	0.02	625	19.7	6.5	4.42	1220	24.9	7.0	4.99	1815	28.5	6.9	4.91	2410	30.9	6.9	4.89
40	14.7	-12.5	0.06	630	19.6	6.6	4.57	1225	25.1	6.9	4.91	1820	28.6	6.8	4.74	2415	31.0	6.9	4.85
45	11.3	-8.1	0.16	635	19.7	6.5	4.48	1230	25.2	6.8	4.82	1825	28.7	6.8	4.75	2420	31.0	6.8	4.82
45	11.3	-8.1	0.16	640	19.9	6.4	4.40	1235	25.1	7.0	4.96	1830	28.7	6.8	4.76	2425	31.1	6.8	4.81
50	8.9	-4.7	0.34	645	19.9	6.5	4.45	1240	25.0	7.1	5.09	1835	28.7	6.7	4.72	2430	31.0	6.9	4.87
55	7.9	-2.8	0.52	650	19.9	6.5	4.51	1245	25.0	7.1	5.12	1840	28.8	6.7	4.69	2435	31.0	6.9	4.98
60	7.8	-2.1	0.62	655	19.9	6.6	4.50	1250	25.0	7.1	5.15	1845	28.6	6.9	4.90	2440	31.2	6.8	4.74
65	8.5	-2.0	0.63	660	19.9	6.7	4.69	1255	25.0	7.2	5.25	1850	28.4	7.1	5.12	2445	31.1	6.9	4.91
70	9.0	-1.9	0.64	665	19.9	6.7	4.70	1260	24.9	7.3	5.36	1855	28.5	7.0	5.07	2450	31.0	7.0	4.96
75	8.8	-1.1	0.78	670	20.0	6.7	4.71	1265	25.0	7.3	5.31	1860	28.6	7.0	5.01	2455	31.0	7.0	5.01
80	8.4	-0.2	0.97	675	20.1	6.7	4.71	1270	25.1	7.2	5.26	1865	28.5	7.1	5.17	2460	30.9	7.2	5.19
85	8.0	0.8	1.20	680	20.1	6.7	4.71	1275	25.3	7.0	5.05	1870	28.4	7.3	5.33	2465	31.1	6.9	4.95
90	8.2	1.1	1.29	685	20.1	6.8	4.79	1280	25.5	6.8	4.94	1875	28.4	7.2	5.28	2470	31.3	6.8	4.76
95	9.2	0.5	1.13	690	20.1	6.9	4.88	1285	25.4	7.0	4.97	1880	28.5	7.2	5.22	2475	31.4	6.7	4.69
100	10.6	-0.4	0.92	695	20.2	6.8	4.82	1290	25.3	7.1	5.10	1885	28.5	7.2	5.22	2480	31.3	6.8	4.79
110	12.6	-1.6	0.70	705	20.4	6.8	4.75	1300	25.2	7.3	5.33	1895	28.6	7.2	5.24	2490	31.1	7.0	4.99
120	13.9	-2.1	0.62	715	20.5	6.8	4.80	1310	25.5	7.1	5.09	1905	28.5	7.3	5.36	2500	30.9	7.2	5.27
125	14.2	-2.0	0.63	720	20.5	6.9	4.85	1315	25.4	7.2	5.23	1910	28.5	7.4	5.45	2505	31.1	7.1	5.15
130	14.2	-1.7	0.68	725	20.6	6.8	4.81	1320	25.3	7.3	5.36	1915	28.5	7.3	5.38	2510	31.0	7.2	5.22
140	13.4	-0.3	0.94	735	20.9	6.7	4.55	1330	25.6	7.0	5.06	1925	28.6	7.2	5.35	2520	31.2	7.0	5.05
150	12.9	0.8	1.21	745	21.0	6.6	4.59	1340	25.7	7.1	5.09	1935	28.5	7.4	5.54	2530	31.0	7.3	5.37
160	12.7	1.6	1.44	755	21.0	6.8	4.74	1350	25.7	7.1	5.17	1945	28.5	7.5	5.59	2540	31.2	7.1	5.09
165	12.5	2.0	1.59	760	21.0	6.8	4.83	1355	25.8	7.0	5.06	1950	28.6	7.4	5.48	2545	31.0	7.3	5.43
170	12.2	2.6	1.83	765	21.1	6.8	4.73	1360	25.9	6.9	4.95	1955	28.6	7.5	5.57	2550	31.0	7.3	5.39
175	11.8	3.3	2.13	770	21.3	6.7	4.64	1365	26.0	6.9	4.95	1960	28.6	7.5	5.65	2555	31.1	7.2	5.30
180	11.6	3.7	2.36	775	21.3	6.7	4.68	1370	26.0	7.0	4.96	1965	28.7	7.4	5.49	2560	31.0	7.4	5.47
185	11.5	4.0	2.54	780	21.3	6.7	4.70	1375	26.0	7.0	5.01	1970	28.5	7.2	5.29	2565	30.8	7.6	5.70
190	11.6	4.2	2.61	785	21.3	6.8	4.77	1380	26.0	7.0	5.06	1975	28.9	7.2	5.22	2570	31.1	7.3	5.37
200	13.1	3.2	2.07	795	21.4	6.8	4.79	1390	26.1	6.9	4.92	1985	29.1	7.1	5.11	2580	31.6	6.9	4.87
205	12.0	4.4	2.76	800	21.5	6.8	4.77	1395	26.2	6.9	4.94	1990	29.1	7.0	5.06	2585	31.6	6.8	4.79
210	11.0	5.6	3.66	805	21.6	6.7	4.71	1400	26.2	7.0	4.96	1995	29.1	7.1	5.09	2590	31.6	6.9	4.88
215	11.3	5.6	3.59	810	21.7	6.7	4.65	1405	26.1	7.0	5.02	2000	29.1	7.1	5.11	2595	31.5	7.0	4.97
220	11.6	5.5	3.52	815	21.7	6.7	4.72	1410	26.1	7.1	5.09	2005	29.1	7.1	5.16	2600	31.6	6.9	4.86
225	11.7	5.5	3.56	820	21.7	6.8	4.80	1415	26.2	7.0	5.02	2010	29.1	7.1	5.15	2605	31.3	7.2	5.30
230	11.9	5.5	3.57	825	21.7	6.8	4.82	1420	26.3	7.0	4.96	2015	29.2	7.1	5.13	2610	31.4	7.1	5.15
235	12.1	5.5	3.56	830	21.7	6.9	4.85	1425	26.2	7.1	5.10	2020	29.2	7.1	5.18	2615	31.7	6.9	4.88
240	12.3	5.5	3.54	835	21.8	6.8	4.82	1430	26.1	7.2	5.25	2025	29.3	7.1	5.08	2620	31.6	7.0	4.97
245	12.3	5.7	3.71	840	21.9	6.8	4.80	1435	26.1	7.2	5.24	2030	29.3	7.0	5.05	2625	31.4	7.1	5.17
250	12.3	5.9	3.88	845	21.9	6.8	4.83	1440	26.2	7.2	5.24	2035	29.3	7.1	5.07	2630	31.6	7.0	5.00
255	12.5	5.9	3.85	850	21.9	6.9	4.86	1445	26.3	1	5.11	2040	29.3	7.1	5.13	2635	31.8	6.8	4.82
260	12.7	5.8	3.83	855	22.0	6.8	4.80	1450	26.5	7.0	4.98	2045	29.2	7.2	5.23	2640	31.7	7.0	4.98
265	13.2	5.5	3.54	860	22.1	6.8	4.74	1455	26.4	7.1	5.07	2050	29.2	7.2	5.27	2645	31.7	6.9	4.93
270	13.7	5.2	3.27	865	22.0	6.9	4.82	1460	26.5	7.1	5.17	2055	29.3	7.2	5.21	2650	31.8	6.9	4.85
275	13.7	5.3	3.30	870	21.9	7.1	5.11	1465	26.4	7.2	5.19	2060	29.5	7.0	5.02	2655	31.8	6.9	4.95
280	13.7	5.4	3.50	875	22.0	7.1	5.08	1470	26.4	7.2	5.22	2065	29.4	7.1	5.08	2660	31.7	7.0	5.02
285	13.7	5.6	3.61	880	22.1	7.0	5.05	1475	26.4	7.1	5.17	2070	29.4	7.1	5.10	2665	32.0	6.7	4.71
290	13.7	5.7	3.72	885	22.1	7.0	5.06	1480	26.5	7.1	5.12	2075	29.5	7.0	5.01	2670	32.0	6.7	4.67
295	13.8	5.8	3.77	890	22.1	7.0	5.06	1485	26.5	7.1	5.14	2080	29.8	6.8	4.76	2675	31.9	6.8	4.81
300	13.9	5.8	3.81	895	22.2	7.1	5.09	1490	26.5	7.1	5.17	2085	29.7	6.9	4.89	2680	31.7	7.0	5.04
305	14.0	5.9	3.85	900	22.2	7.1	5.12	1495	26.5	7.2	5.24	2090	29.7	6.9	4.86	2685	31.9	6.8	4.83
310	14.1	5.9	3.88	905	22.3	7.1	5.09	1500	26.5	7.2	5.31	2095	29.8	6.8	4.78	2690	32.1	6.7	4.72
315	14.3	5.8	3.88	910	22.3	7.0	5.05	1505	26.5	7.2	5.27	2100	29.8	6.8	4.75	2695	32.1	6.7	4.71
320	14.4	5.9	3.90	915	22.4	7.0	4.99	1510	26.6	7.2	5.23	2105	29.9	6.8	4.82	2700	32.0	6.8	4.81
325	14.5	5.9	3.92	920	22.6	6.9	4.92	1515	26.6	7.2	5.30	2110	29.9	6.8	4.78	2705	32.0	6.8	4.80
330	14.6	5.9	3.93	925	22.7	6.9	4.85	1520	26.5	7.3	5.38	2115	29.9	6.8	4.76	2710	32.1	6.8	4.79
335	14.7	6.0	4.02	930	22.8	6.8	4.77	1525	26.6	7.3	5.37	2120	29.9	6.8	4.84	2715	32.1	6.7	4.71
340	14.7	6.2	4.12	935	22.8	6.8	4.83	1530	26.6	7.3	5.36	2125	29.9	6.9	4.89	2720	32.4	6.5	4.47
345	14.9	6.1	4.06	940	22.8	6.9	4.89	1535	26.6	7.4	5.44	2130	29.9	6.9	4.90	2725	32.2	6.7	4.63
350	15.1	6.0	3.99	945	22.8	6.9	4.87	1540	26.5	7.4	5.53	2135	29.8	6.9	4.94	2730	31.9	7.0	5.05
355	15.3	5.9	3.88	950	22.9	6.9	4.85	1545	26.5	7.5	5.58	2140	29.8	7.1	5.08	2735	31.6	7.4	5.44
360	15.8	5.8	3.78	955	23.0	6.8	4.81	1550	26.5	7.3	5.63	2145	29.9	6.9	4.92	2740	31.8	7.1	5.40
365	15.5	5.9	3.89	960	23.1	6.8	4.77	1555	26.7	7.3	5.69	2150	29.9	7.0	4.98	2745	31.9	7.0	5.06
370	15.5	6.0	4.01	965	23.1	6.7	4.73	1560	26.9	7.1	5.16	2155	29.8	7.1	5.10	2750	32.0	6.9	4.94
375	15.6	6.1	4.03	970	23.2	6.7	4.69	1565	26.9	7.2	5.23	2160	29.8	7.1	5.09	2755	32.0	7.0	4.98
380	15.7	6.1	4.05	975	23.3	6.6	4.62	1570	26.9	7.2	5.30	2165	29.9	7.0	5.00	2760	32.0	7.0	5.06
385	15.7	6.2	4.15	980	23.5	6.6	4.54	1575	27.0	7.2	5.23	2170	29.9	7.1	5.07	2765	32.2	6.8	4.80
390	15.7	6.3	4.25	985	23.5	6.6	4.52	1580	27.0	7.1	5.17	2175	29.8	7.2	5.20	2770	32.3	6.8	4.73

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
A/m	ampere per meter
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
NB	narrow band
OATS	open area test site
Ω	Ohm
PM	pulse modulation
PS	power supply
ppm	part per million (10^{-6})
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