

TEST REPORT

**ACCORDING TO: FCC Part 15 Subpart B, RSS-Gen issue 2:2007 and
ICES-003 Issue 4:2004**

FOR:

Visonic Ltd.

Wireless Alarm Control System

Model: PowerMax Pro with GSM modem

This report is in conformity with ISO/ IEC 17025. The "A2LA Accredited" symbol endorsement applies only to the tests and calibrations that are listed in the scope of Hermon Laboratories accreditation. The test results relate only to the items tested.
This test report shall not be reproduced in any form except in full with the written approval of Hermon Laboratories Ltd.

Table of contents

1	Applicant information	3
2	Equipment under test attributes	3
3	Manufacturer information	3
4	Test details	3
5	Tests summary	4
6	EUT description	5
6.1	General information	5
6.2	Ports and lines	5
6.3	Auxiliary equipment	5
6.4	Operating frequencies	5
6.5	Test configuration	6
7	Emissions tests	7
7.1	Conducted emissions	7
7.2	Conducted emissions	11
7.3	Radiated emission measurements	15
8	APPENDIX A Test equipment and ancillaries used for tests	25
9	APPENDIX B Measurement uncertainties	26
10	APPENDIX C Test laboratory description	27
11	APPENDIX D Specification references	27
12	APPENDIX E Test equipment correction factors	28
13	APPENDIX F Abbreviations and acronyms	35

1 Applicant information

Client name: Visonic Ltd.
Address: 24 Habarzel street, Tel Aviv 61920, Israel
Telephone: +972 3645 6714
Fax: +972 3645 6788
E-mail: aelshtein@visonic.com
Contact name: Mr. Arik Elshtein

2 Equipment under test attributes

Product name: Wireless Alarm Control System
Product type: Transceiver
Model(s): PowerMax Pro with GSM modem
Receipt date: 10/5/2009

3 Manufacturer information

Manufacturer name: Visonic Ltd.
Address: 24 Habarzel street, Tel Aviv 61920, Israel
Telephone: +972 3645 6714
Fax: +972 3645 6788
E-Mail: aelshtein@visonic.com
Contact name: Mr. Arik Elshtein

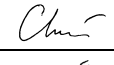
4 Test details

Project ID: 20004
Location: Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test started: 10/5/2009
Test completed: 10/19/2009
Test specification(s): FCC Part 15, subpart B; RSS-Gen issue 2:2007; ICES-003 issue 4:2004

5 Tests summary

Test	Status
Unintentional emissions	
FCC Part 15, Section 107 / RSS-Gen, Section 7.1.6 / ICES-003, Section 5.3 Conducted emission at AC power port	Pass
FCC Part 15, Section 109 / RSS-Gen, Section 7.2.3 / ICES-003, Section 5.5 Radiated emission	Pass
FCC Part 15, Section 111 / RSS-210, Section 7.2.3, Conducted emission at receiver antenna port	Not required

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

	Name and Title	Date	Signature
Tested by:	Mrs. E. Pitt, test engineer	October 19, 2009	
Reviewed by:	Mrs. M. Cherniavsky, certification engineer	November 4, 2009	
Approved by:	Mr. M. Nikishin, EMC and radio group manager	December 2, 2009	

6 EUT description

6.1 General information

The EUT, PowermaxPro, is the controlling center of a wireless intrusion/burglar alarm system. The PowermaxPro gets (is triggered by) alarms from various intrusion sensors via an RF link (315 MHz) and reports these intrusions locally and to remote control centers.

The PowermaxPro has several states of alertness, such as "armed away", "armed home" and "disarmed", the reactions to each state differs and is explained in the manuals. Those various states are achieved in three ways, via the on board/ integrated keypad, via the RFID proximity sensor (125 kHz) and via the RF transmitter type MCT 234.

The PowermaxPro local reporting is via its LCD display as well as various tones and internal sounder and prerecorded vocal alerts. The remote reporting of an intrusion is via an analogue telephone line or alternatively via GSM modem through the cellular network to a central monitoring station. The GSM module, GE864-QUAD, manufactured by Telit Communications S.p.A., operates in 824 – 849 MHz and 1850 – 1910 MHz frequency bands.

The EUT may be powered from AC mains via internal PS or via external AC/DC adapter and is equipped with a rechargeable backup battery pack.

6.2 Ports and lines

Port type	Port description	Connected		Connector type	Qty.	Cable type	Cable length	Indoor / outdoor
		From	To					
Power(option1)	AC mains	EUT	AC mains	Terminal block	1	Unshielded	2 m	Indoor
Power(option2)	AC mains	EUT	AC/DC adapter	Terminal block	1	Unshielded	2 m	Indoor
Ethernet	Ethernet	EUT	Laptop	RJ-45	1	Unshielded	10 m	Indoor
Telecom	Line	EUT	Line simulator	Terminal block	1	Unshielded	3 m**	Outdoor
Signal	Set	EUT	Telephone set	Terminal block	1	Unshielded	3 m	Indoor
Signal	Zone 29, 30	EUT	Termination	Terminal block	2	Unshielded	3 m**	Indoor
Signal	V+	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor
Signal	12+	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor
Signal	-HOLD	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor
Signal	EXT Siren	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor
Signal	INT Siren	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor
Signal	PGM	EUT	Open circuit	Terminal block	1	Unshielded	3 m**	Indoor

* May be up to 12 m.

** May be longer than 30 m.

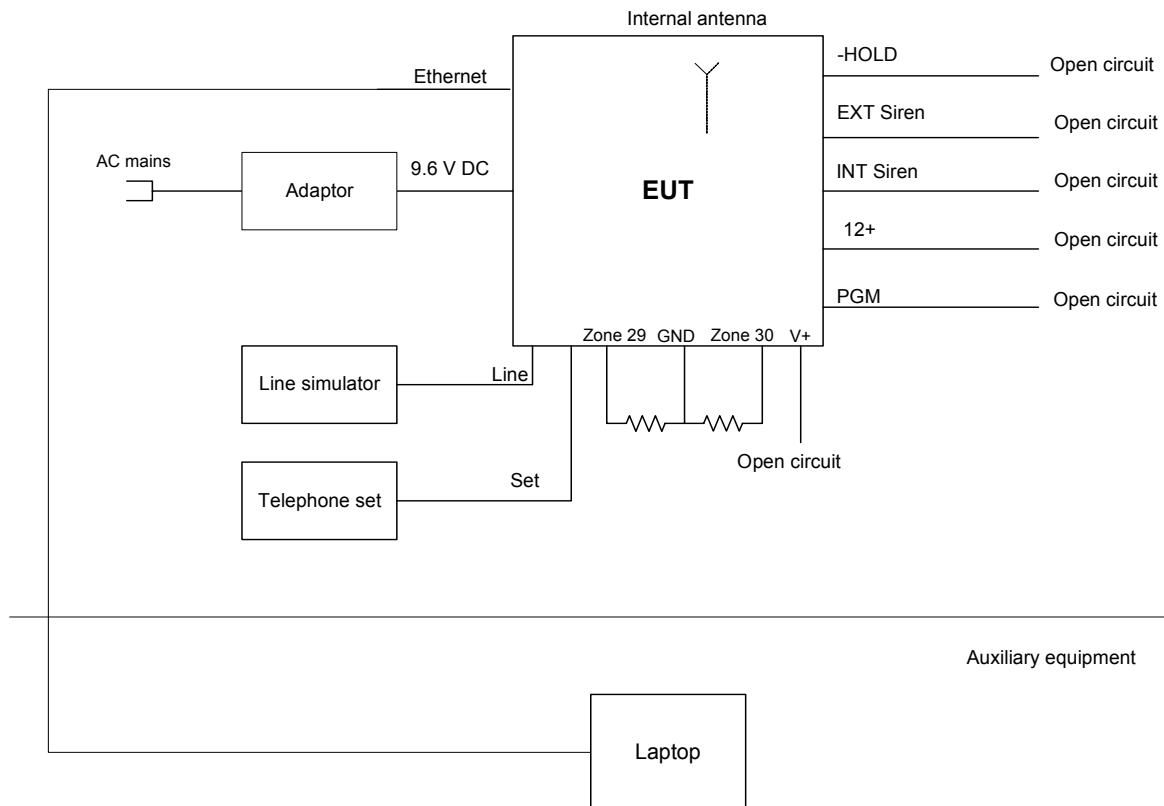
6.3 Auxiliary equipment

Description	Manufacturer	Model number	Serial number
Line simulator	Hermon Labs	LS-01	1856
Laptop	DELL	D600	45-453-022-116
Telephone set	Typical		

6.4 Operating frequencies

Source	Frequency, MHz			
Clock	4.19	16.0	18.43	25
Tx	315	NA	NA	NA
Rx	315	NA	NA	NA
Tx/Rx	0.125	NA	NA	NA

6.5 Test configuration





Test specification:		Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Sections 11.5 and 12.1.3	
Test mode:		Compliance	Verdict: PASS
Date & Time:		10/5/2009 12:27:11 PM	
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: with AC/DC adapter			

7 Emissions tests

7.1 Conducted emissions

7.1.1 General

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

Table 7.1.1 Limits for conducted emissions

Frequency, MHz	Class B limit, dB(μ V)		Class A limit, dB(μ V)	
	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 associated photograph, energized and the performance check was conducted.

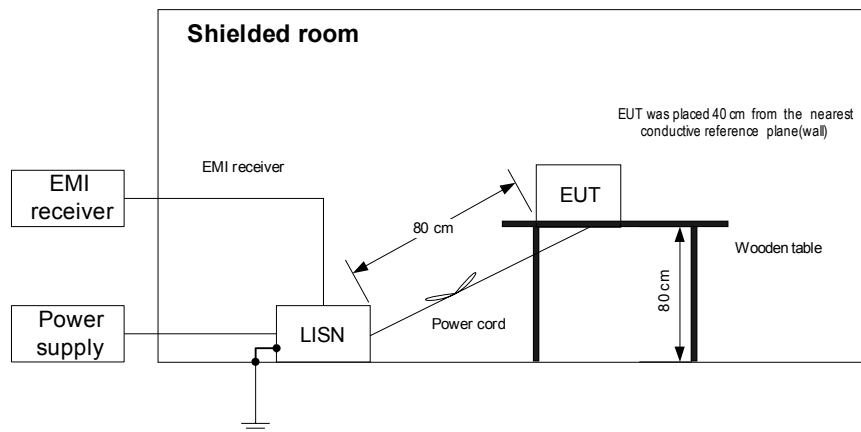
7.1.2.2 The measurements were performed at power terminals with the LISN, connected to a spectrum analyzer in the frequency range referred to in Table 7.1.2. Unused coaxial connector of the LISN was terminated with 50 Ohm. Quasi-peak and average detectors were used throughout the testing.

7.1.2.3 The position of the device cables was varied to determine maximum emission level.

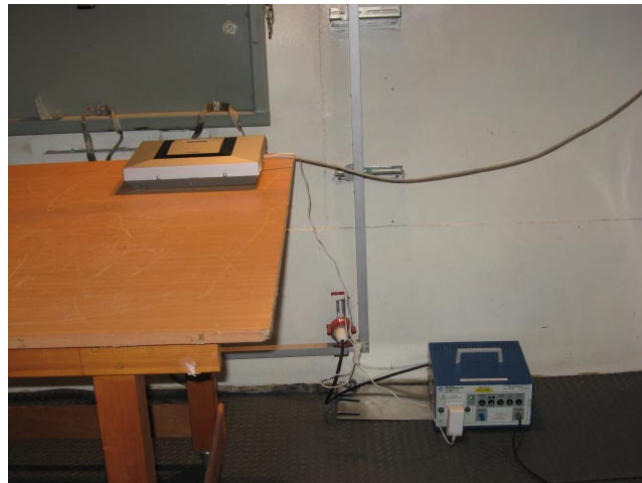
7.1.2.4 The worst test results (the lowest margins) were recorded in Table 7.1.2 and shown in the associated plots.

Test specification:		Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Sections 11.5 and 12.1.3	
Test mode:	Compliance	Verdict: PASS	
Date & Time:	10/5/2009 12:27:11 PM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: with AC/DC adapter			

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



Photograph 7.1.1 Setup for conducted emission measurements





HERMON LABORATORIES

Report ID: VISEMC_FCC.20004.doc

Date of Issue: 10/21/2009

Test specification:		Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Sections 11.5 and 12.1.3	
Test mode:		Compliance	Verdict: PASS
Date & Time:		10/5/2009 12:27:11 PM	
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: with AC/DC adapter			

Table 7.1.2 Conducted emission test results

LINE: AC mains
 LIMIT: Class B
 EUT OPERATING MODE: Receive / Stand-by
 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*		
0.173500	48.97	46.14	64.85	-18.71	38.59	54.85	-16.26	L1	Pass
0.401890	44.57	41.76	57.83	-16.07	30.01	47.83	-17.82		
1.052500	43.25	39.82	56.00	-16.18	28.96	46.00	-17.04		
2.422185	41.36	36.58	56.00	-19.42	25.73	46.00	-20.27		
2.952500	42.36	38.15	56.00	-17.85	27.82	46.00	-18.18		
9.525000	38.09	33.88	60.00	-26.12	27.88	50.00	-22.12		
0.169615	48.46	45.83	65.04	-19.21	39.63	55.04	-15.41	L2	Pass
0.407093	45.01	41.03	57.74	-16.71	30.10	47.74	-17.64		
0.977500	43.70	40.40	56.00	-15.60	29.31	46.00	-16.69		
1.530000	41.66	36.96	56.00	-19.04	26.33	46.00	-19.67		
2.228885	41.40	37.08	56.00	-18.92	24.71	46.00	-21.29		
2.929585	43.68	38.50	56.00	-17.50	28.39	46.00	-17.61		

*- Margin = Measured emission - specification limit.

Reference numbers of test equipment used

HL 0580	HL 1430	HL 1513	HL 2888	HL 3612			
---------	---------	---------	---------	---------	--	--	--

Full description is given in Appendix A.



HERMON LABORATORIES

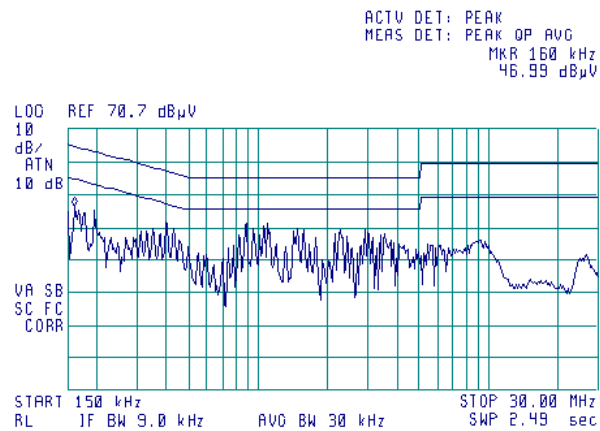
Report ID: VISEMC_FCC.20004.doc

Date of Issue: 10/21/2009

Test specification:		Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions	
Test procedure:		ANSI C63.4, Sections 11.5 and 12.1.3	
Test mode:		Compliance	Verdict: PASS
Date & Time:		10/5/2009 12:27:11 PM	
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: with AC/DC adapter			

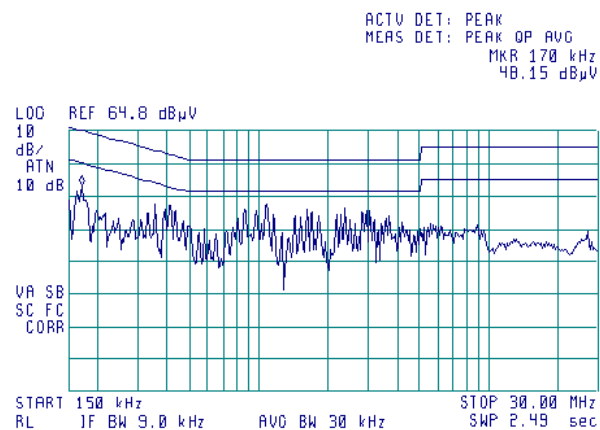
Plot 7.1.1 Conducted emission measurements

LINE: L1
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK



Plot 7.1.2 Conducted emission measurements

LINE: L2
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK





Test specification:	Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions		
Test procedure:	ANSI C63.4, Sections 11.5 and 12.1.3		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/5/2009 12:28:43 PM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: Internal power supply			

7.2 Conducted emissions

7.2.1 General

This test was performed to measure common mode conducted emissions at the mains power port. Specification test limits are given in Table 7.2.1.

Table 7.2.1 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.

7.2.2 Test procedure

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

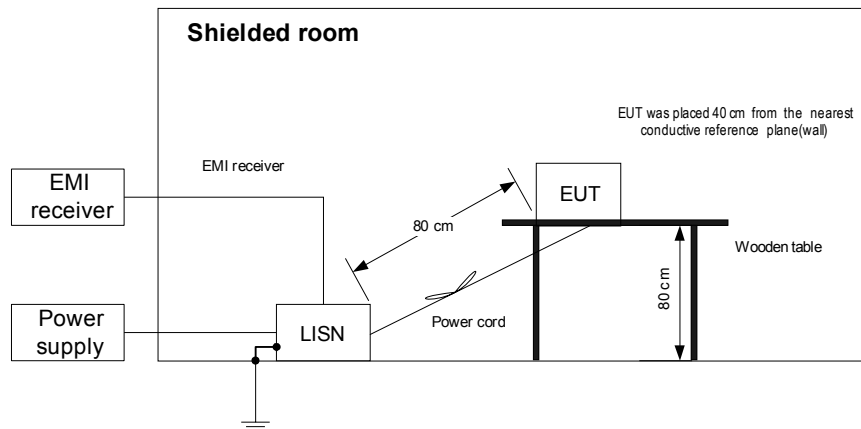
7.2.2.2 The measurements were performed at power terminals with the LISN, connected to a spectrum analyzer in the frequency range referred to in Table 7.2.2. Unused coaxial connector of the LISN was terminated with 50 Ohm. Quasi-peak and average detectors were used throughout the testing.

7.2.2.3 The position of the device cables was varied to determine maximum emission level.

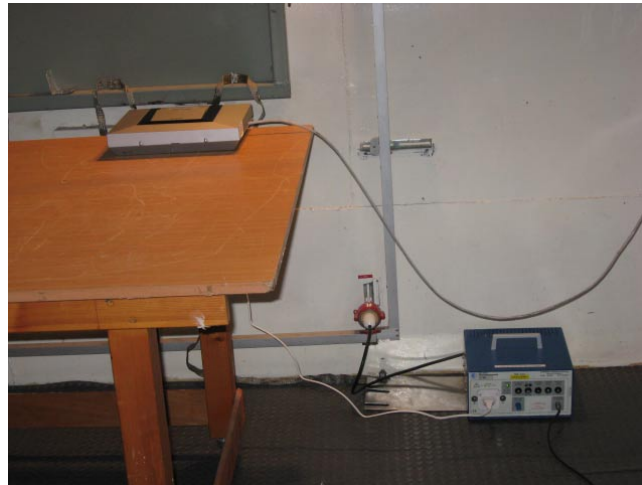
7.2.2.4 The worst test results (the lowest margins) were recorded in Table 7.2.2 and shown in the associated plots.

Test specification:	Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions		
Test procedure:	ANSI C63.4, Sections 11.5 and 12.1.3		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/5/2009 12:28:43 PM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: Internal power supply			

Figure 7.2.1 Setup for conducted emission measurements, table-top EUT



Photograph 7.2.1 Setup for conducted emission measurements





HERMON LABORATORIES

Report ID: VISEMC_FCC.20004.doc

Date of Issue: 10/21/2009

Test specification:	Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions			
Test procedure:	ANSI C63.4, Sections 11.5 and 12.1.3			
Test mode:	Compliance	Verdict:		PASS
Date & Time:	10/5/2009 12:28:43 PM			
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC	
Remarks: Internal power supply				

Table 7.2.2 Conducted emission test results

LINE: AC mains
 LIMIT: Class B
 EUT OPERATING MODE: Receive / Stand-by
 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*		
0.669360	46.39	43.39	56.00	-12.61	40.62	46.00	-5.38	L1	Pass
0.739380	41.79	38.42	56.00	-17.58	32.28	46.00	-13.72		
1.267480	46.30	42.75	56.00	-13.25	36.02	46.00	-9.98		
1.527990	49.04	45.79	56.00	-10.21	38.48	46.00	-7.52		
2.409000	43.52	39.15	56.00	-16.85	25.54	46.00	-20.46		
25.982520	36.21	32.52	60.00	-27.48	26.44	50.00	-23.56	L2	Pass
0.651960	49.39	44.77	56.00	-11.23	38.33	46.00	-7.67		
0.776340	52.00	46.90	56.00	-9.10	38.03	46.00	-7.97		
1.473180	47.86	45.18	56.00	-10.82	37.82	46.00	-8.18		
1.543290	50.00	46.47	56.00	-9.53	38.20	46.00	-7.80		
2.335550	42.96	38.92	56.00	-17.08	24.31	46.00	-21.69		
26.000000	39.15	33.18	60.00	-26.82	26.38	50.00	-23.62		

*- Margin = Measured emission - specification limit.

Reference numbers of test equipment used

HL 1430	HL 1513	HL 2888	HL 3612				
---------	---------	---------	---------	--	--	--	--

Full description is given in Appendix A.



HERMON LABORATORIES

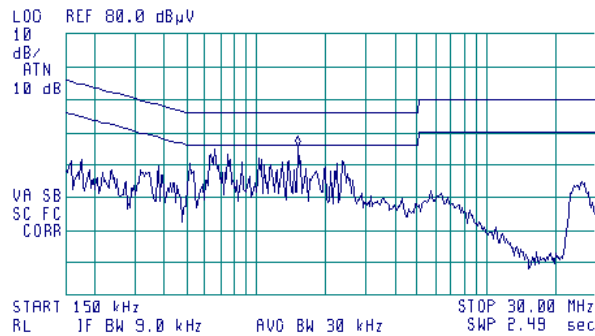
Test specification:	Section 15.107/RSS-Gen, Section 7.2.2/ICES-003 Class B, AC power lines conducted emissions		
Test procedure:	ANSI C63.4, Sections 11.5 and 12.1.3		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/5/2009 12:28:43 PM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 45 %	Power Supply: 120 VAC
Remarks: Internal power supply			

Plot 7.2.1 Conducted emission measurements

LINE: L1
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK



ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.52 MHz
45.93 dBμV

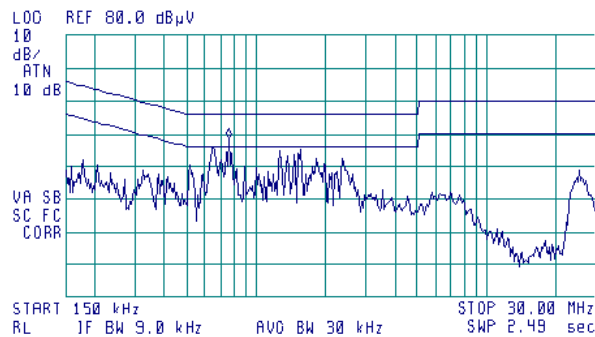


Plot 7.2.2 Conducted emission measurements

LINE: L2
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
LIMIT: QUASI-PEAK, AVERAGE
DETECTOR: PEAK



ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 7.70 kHz
48.58 dBμV



Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict: PASS	
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

7.3 Radiated emission measurements

7.3.1 General

This test was performed to measure radiated emissions from the EUT enclosure. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Radiated emission test limits

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 - 88	29.5*	40.0	39.0	49.5*
88 - 216	33.0*	43.5	43.5	54.0*
216 - 960	35.5*	46.0	46.4	56.9*
Above 960	43.5*	54.0	49.5	60.0*

* The limit for 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 – standard defined and test distance respectively in meters.

7.3.2 Test procedure

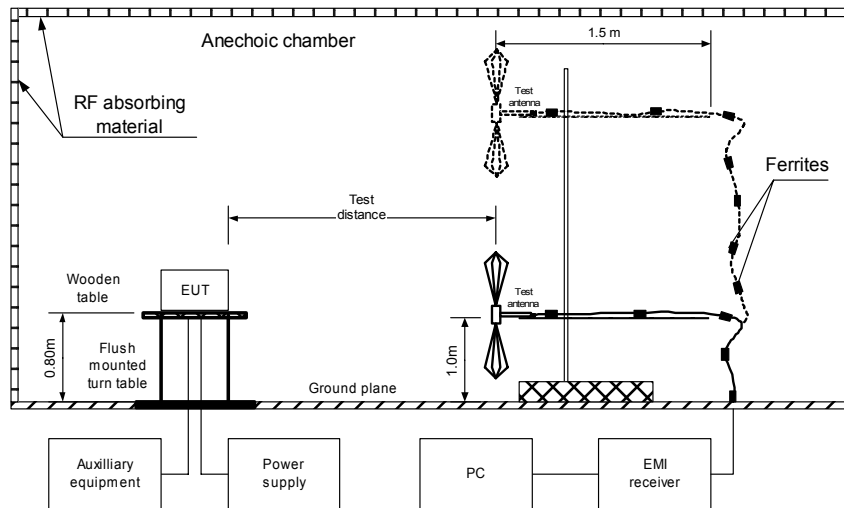
7.3.2.1 The EUT was set up as shown in Figure 7.3.1 and associated photograph/s, energized and the performance check was conducted.

7.3.2.2 The specified frequency range was investigated with biconilog antenna connected to EMI receiver. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal and the EUT cables position was varied.

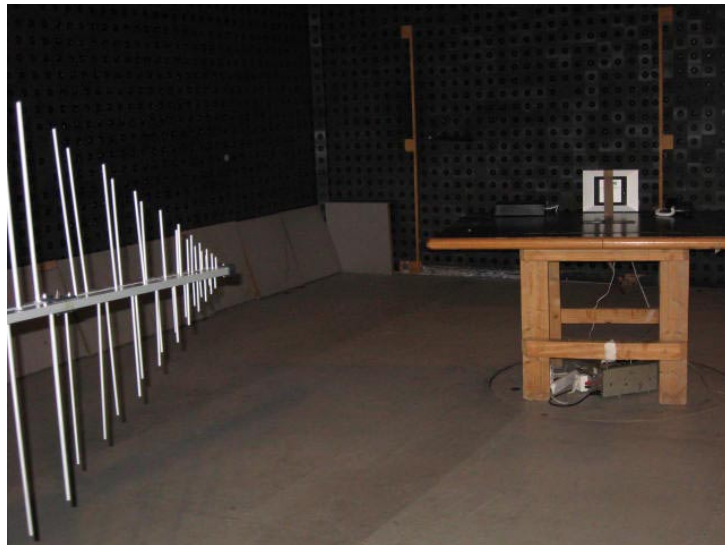
7.3.2.3 The worst test results (the lowest margins) were recorded in Table 7.3.2 and shown in the associated plots.

Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

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

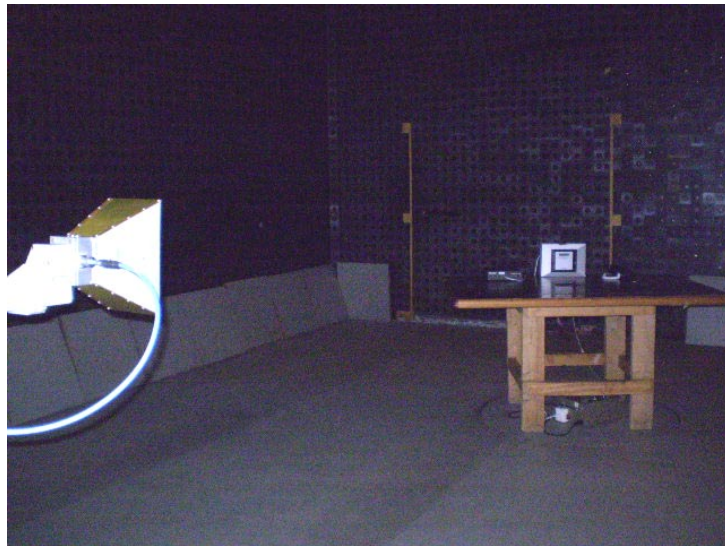


Photograph 7.3.1 Setup for final radiated emission measurements, general view



Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

Photograph 7.3.2 Setup for radiated emission measurements, general view



Photograph 7.3.3 Setup for radiated emission measurements, EUT cabling





HERMON LABORATORIES

Report ID: VISEMC_FCC.20004.doc

Date of Issue: 10/21/2009

Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

Table 7.3.2 Radiated emission test results

EUT SET UP: TABLE-TOP
LIMIT: Class B
EUT OPERATING MODE: Receive / Stand-by
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*				
32.287050	40.15	35.75	40.50	-4.75	V	1.2	120	Pass
36.547150	42.60	38.96	40.50	-1.54	V	1.2	120	
77.467493	48.32	27.74	40.50	-12.76	V	1.2	120	
121.939500	35.11	24.23	40.50	-16.27	V	1.2	120	
182.814350	35.85	32.78	40.50	-7.72	V	1.2	120	
937.604150	43.38	38.01	47.50	-9.49	V	1.2	120	

TEST SITE: SEMI ANECHOIC CHAMBER
EUT OPERATING MODE: Receive / Stand-by
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*				
2086.0	39.1	74	-34.9	30.1	54	-23.9	V	1.1	135	Pass
2185.0	42.3	74	-31.7	36.9	54	-17.1	H	1.2	170	
5039.9	45.7	74	-28.3	37.0	54	-17.0	V	1.1	228	

*- Margin = Measured emission - specification limit.

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

Reference numbers of test equipment used

HL 0521	HL 0604	HL 2432	HL 2909	HL 3121	HL 3122	HL 3531	HL 3533
HL 3616							

Full description is given in Appendix A.



HERMON LABORATORIES

Report ID: VISEMC_FCC.20004.doc

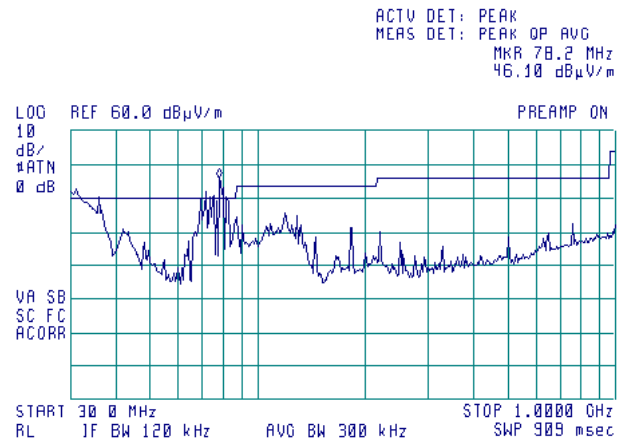
Date of Issue: 10/21/2009

Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

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

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by with AC/DC adapter

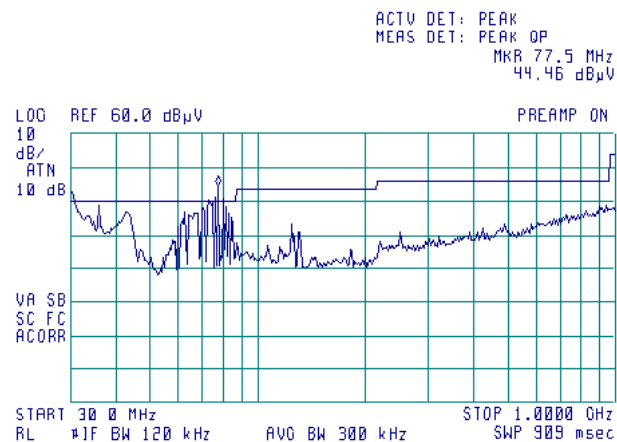
16:48:43 OCT 05, 2009



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

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by with internal PS

19:10:15 OCT 05, 2009





HERMON LABORATORIES

Report ID: VISEMC_FCC.20004.doc

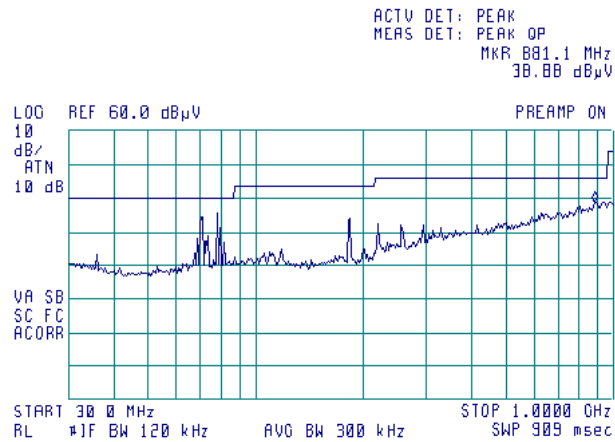
Date of Issue: 10/21/2009

Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.3 Radiated emission measurements in 30 - 1000 MHz range, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by with AC/DC adapter

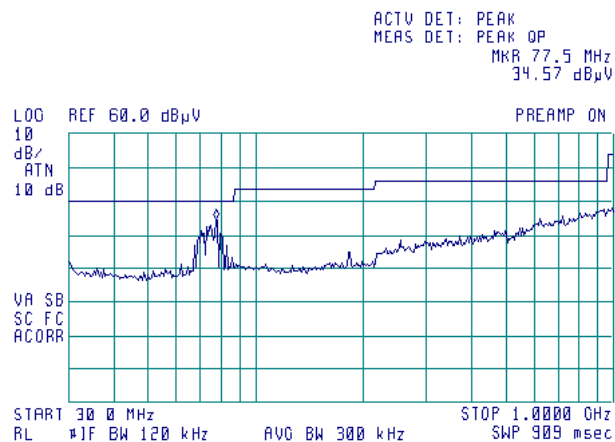
17:59:07 OCT 05, 2009



Plot 7.3.4 Radiated emission measurements in 30 - 1000 MHz range, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by with internal PS

19:16:14 OCT 05, 2009





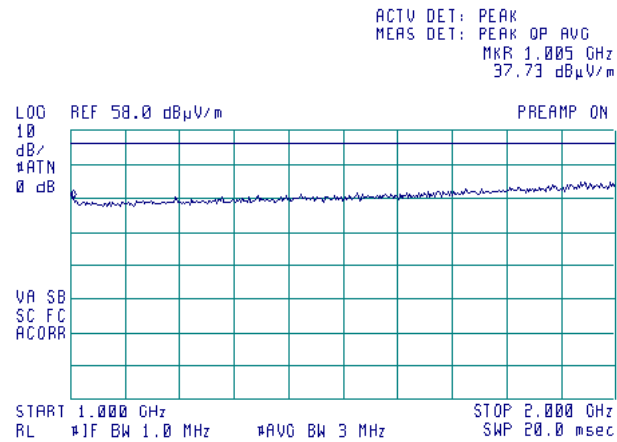
HERMON LABORATORIES

Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.5 Radiated emission measurements 1000-2000 MHz, vertical antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by

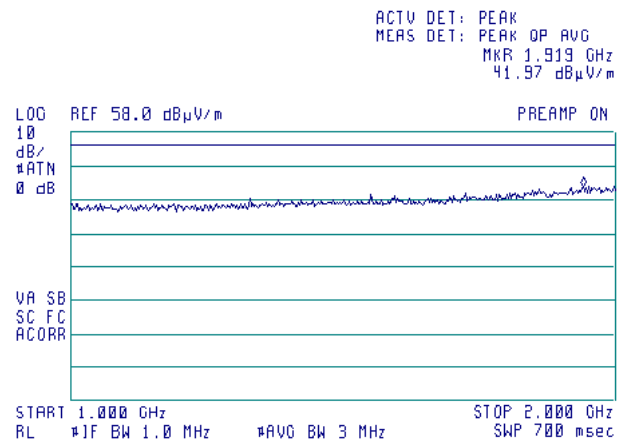
10:44:16 OCT 06, 2009



Plot 7.3.6 Radiated emission measurements 1000-2000 MHz, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by

10:48:52 OCT 06, 2009

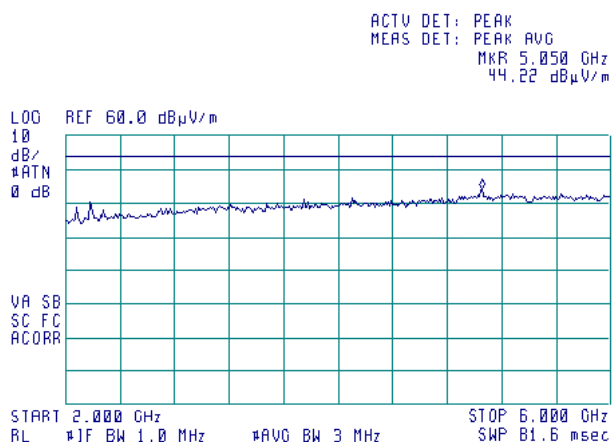


Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

Plot 7.3.7 Radiated emission measurements 2000 6000MHz, vertical antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by

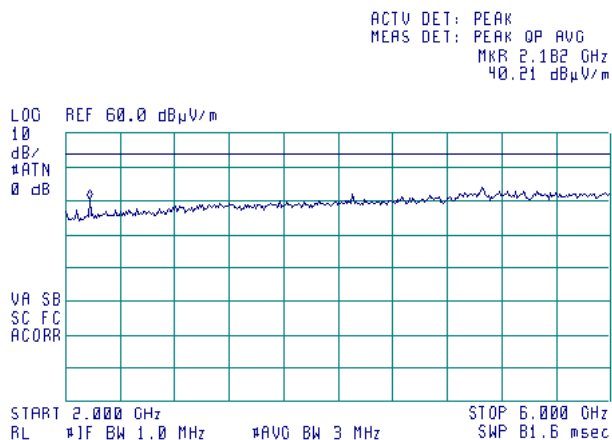
11:47:32 OCT 06, 2009



Plot 7.3.8 Radiated emission measurements 2000-6000 MHz, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by

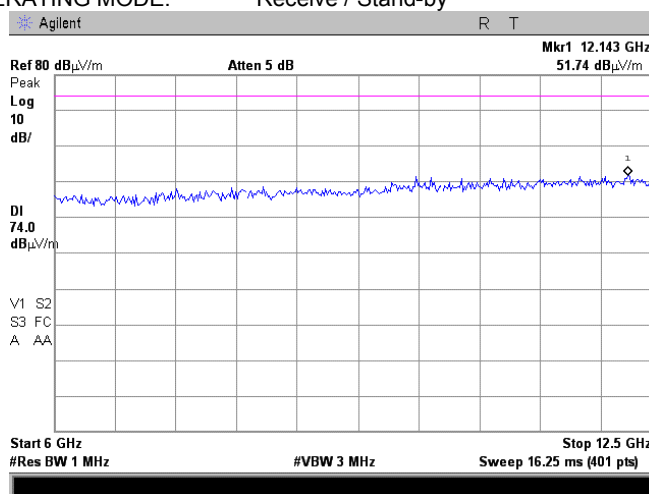
11:33:50 OCT 06, 2009



Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

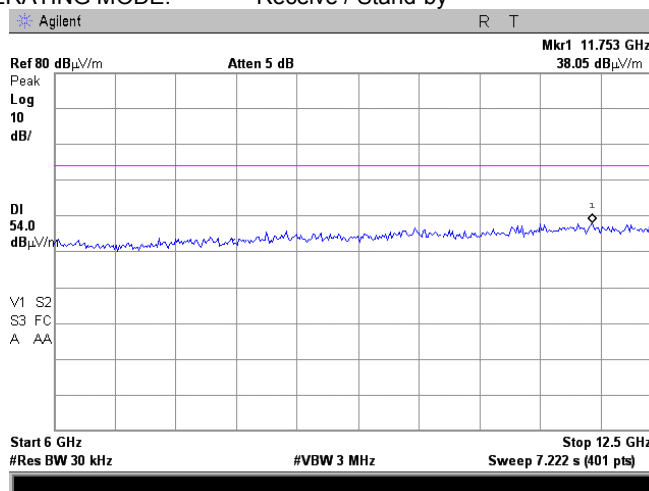
Plot 7.3.9 Radiated emission measurements 6000-12500 MHz, vertical antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



Plot 7.3.10 Radiated emission measurements 6000-12500 MHz, vertical antenna polarization

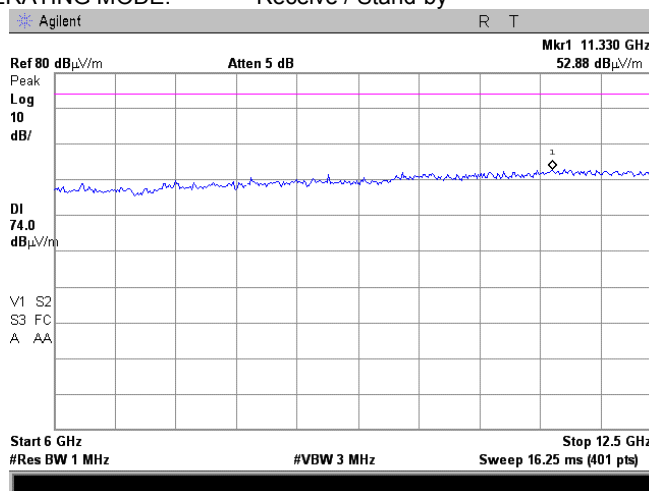
TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



Test specification:	Section 15.109/ RSS-Gen, Section 7.2.3 / ICES-003 Class B, Radiated emissions		
Test procedure:	ANSI C63.4, Sections 11.6 and 12.1.4		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	10/6/2009 11:41:32 AM		
Temperature: 24 °C	Air Pressure: 1015 hPa	Relative Humidity: 49 %	Power Supply: 120 VAC
Remarks:			

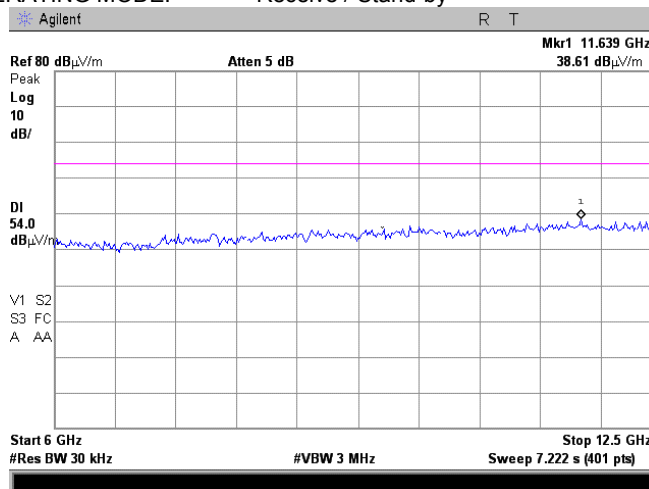
Plot 7.3.11 Radiated emission measurements 6000-12500 MHz, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



Plot 7.3.12 Radiated emission measurements 6000-12500 MHz, horizontal antenna polarization

TEST SITE: Semi anechoic chamber
LIMIT: Class B
TEST DISTANCE: 3 m
EUT OPERATING MODE: Receive / Stand-by



8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal.	Due Cal.
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
0580	DC block adaptor 10 kHz - 2.2 GHz	Anritsu	MA8601 A	580	23-Nov-08	23-Nov-09
0604	Antenna BiconiLog Log-Periodic/T Bow-TIE, 26 - 2000 MHz	EMCO	3141	9611-1011	11-Jan-09	11-Jan-10
1430	EMI Receiver, 9 kHz - 2.9 GHz, System: HL1431, HL1432	Agilent Technologies	8542E	3807A002 62,3705A0 0217	31-Aug-09	31-Aug-10
1513	Cable RF, 8 m, BNC/BNC	Belden	M17/167 MIL-C-17	1513	01-Sep-09	01-Sep-10
2432	Antenna, Double-Ridged Waveguide Horn 1-18 GHz	EMC Test Systems	3115	00027177	24-Aug-09	24-Aug-10
2888	LISN Two-line V-Network 50 Ohm / 50 uH + 5 Ohm, 16A, MIL STD 461E, CISPR 16-1	Rolf Heine	NNB-2/16Z	02/10018	06-Jul-09	06-Jul-10
2909	Spectrum analyzer, ESA-E, 100 Hz to 26.5 GHz	Agilent Technologies	E4407B	MY414447 62	07-May-09	07-May-10
3121	Microwave Cable Assembly, 18 GHz, 6.4 m, SMA - SMA	Huber-Suhner	198-9155-00	3121	07-Dec-08	07-Dec-09
3122	Microwave Cable Assembly, 18 GHz, 6.4 m, SMA - SMA	Huber-Suhner	198-9155-00	3122	01-Jan-09	01-Jan-10
3531	Amplifier, low noise, 2 to 8 GHz	Quinstar Technology	QLJ-02084040 -J0	111590020 02	07-Dec-08	07-Dec-09
3533	Amplifier, low noise, 6 to 18 GHz	Quinstar Technology	QLJ-06184040 -J0	111590010 01	07-Dec-08	07-Dec-09
3612	Cable RF, 17.5 m, N type-N type	Teldor	RG-214/U	NA	17-Nov-08	17-Nov-09
3616	Cable RF, 6.5 m, N type-N type, DC-6.5 GHz	Suhner Switzerland	Rg 214/U	NA	07-Dec-08	07-Dec-09

9 APPENDIX B Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Unintentional radiator tests	
Conducted emissions with LISN	9 kHz to 150 kHz: ± 3.9 dB 150 kHz to 30 MHz: ± 3.8 dB
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 and IC 2186A-2 for anechoic chamber), certified by VCCI, Japan (the registration numbers are R-808 for OATS, R-1082 for anechoic chamber, C-845 for conducted emissions site), 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.

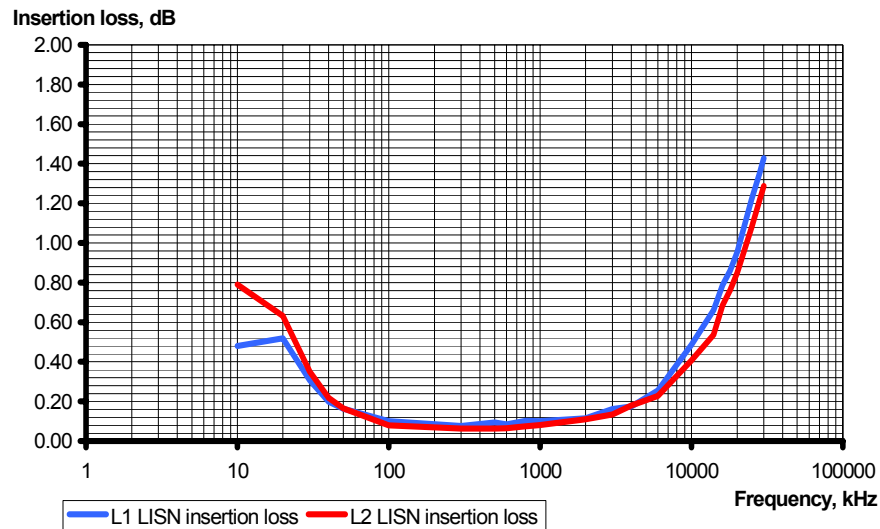
11 APPENDIX D Specification references

FCC 47CFR part 15: 2008 subpart B	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.
CISPR 16-1-1: 2006	Specification for radio disturbance and immunity measuring apparatus and methods. Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus
RSS-Gen Issue 2:2007	General Requirements and Information for the Certification of Radiocommunication Equipment
ICES-003 Issue 4: 2004	Digital Apparatus
CAN/CSA-CEI/IEC CISPR 22: 02	Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of measurement

12 APPENDIX E Test equipment correction factors

Correction factor
Line impedance stabilization network
Model NNB-2/16Z, Rolf Heine, HL 2888

Frequency, kHz	Insertion loss, dB		Measurement Uncertainty, dB
	L1	N	
10	0.48	0.79	±0.6
20	0.52	0.63	
30	0.31	0.35	
40	0.20	0.22	
50	0.16	0.17	
100	0.10	0.08	
300	0.08	0.06	
500	0.10	0.06	
600	0.09	0.07	
800	0.10	0.07	
1000	0.10	0.08	
2000	0.12	0.11	
3000	0.16	0.14	
4000	0.17	0.18	
6000	0.26	0.23	
10000	0.49	0.41	
14000	0.66	0.54	
16000	0.79	0.69	
18000	0.86	0.76	
20000	0.96	0.85	
25000	1.22	1.08	
28000	1.35	1.21	
30000	1.43	1.29	



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 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
Microwave Cable Assembly, 18 GHz, 6.4 m, SMA – SMA, Huber-Suhner, model 198-9155-00
HL 3121

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	0.08	3600	2.10	7400	3.08	11200	3.85	15100	4.58
30	0.18	3700	2.14	7500	3.11	11300	3.85	15200	4.60
50	0.26	3800	2.18	7600	3.14	11400	3.86	15300	4.63
100	0.34	3900	2.19	7700	3.16	11500	3.86	15400	4.65
200	0.47	4000	2.25	7800	3.18	11600	3.87	15500	4.71
300	0.59	4100	2.25	7900	3.20	11700	3.85	15600	4.70
400	0.66	4200	2.28	8000	3.22	11800	3.96	15700	4.69
500	0.75	4300	2.35	8100	3.26	11900	3.92	15800	4.71
600	0.83	4400	2.35	8200	3.27	12000	3.92	15900	4.74
700	0.90	4500	2.38	8300	3.29	12100	3.94	16000	4.69
800	0.96	4600	2.43	8400	3.30	12200	3.94	16100	4.72
900	1.02	4700	2.43	8500	3.31	12300	3.99	16200	4.71
1000	1.07	4800	2.45	8600	3.33	12400	4.02	16300	4.74
1100	1.12	4900	2.48	8700	3.35	12500	4.10	16400	4.74
1200	1.15	5000	2.55	8800	3.36	12600	4.09	16500	4.75
1300	1.22	5100	2.54	8900	3.38	12700	4.15	16600	4.78
1400	1.28	5200	2.56	9000	3.40	12800	4.15	16700	4.86
1500	1.29	5300	2.58	9100	3.41	12900	4.08	16800	4.84
1600	1.36	5400	2.61	9200	3.45	13000	4.21	16900	4.83
1700	1.40	5500	2.64	9300	3.48	13100	4.19	17000	4.86
1800	1.45	5600	2.69	9400	3.52	13200	4.29	17100	4.83
1900	1.51	5700	2.67	9500	3.54	13300	4.24	17200	4.90
2000	1.50	5800	2.71	9600	3.59	13400	4.26	17300	4.91
2100	1.56	5900	2.73	9700	3.59	13500	4.26	17400	4.94
2200	1.59	6000	2.75	9800	3.62	13600	4.29	17500	4.93
2300	1.63	6100	2.81	9900	3.70	13700	4.35	17600	4.93
2400	1.73	6200	2.80	10000	3.70	13800	4.31	17700	5.00
2500	1.73	6300	2.82	10100	3.72	13900	4.29	17800	5.01
2600	1.78	6400	2.85	10200	3.73	14000	4.32	17900	5.00
2700	1.84	6500	2.87	10300	3.75	14100	4.33	18000	5.00
2800	1.84	6600	2.90	10400	3.76	14200	4.34		
2900	1.91	6700	2.91	10500	3.77	14300	4.36		
3000	1.91	6800	2.94	10600	3.79	14400	4.38		
3100	1.97	6900	2.96	10700	3.80	14600	4.42		
3200	1.98	7000	2.98	10800	3.81	14700	4.42		
3300	2.04	7100	3.01	10900	3.81	14800	4.55		
3400	2.04	7200	3.02	11000	3.83	14900	4.55		
3500	2.10	7300	3.04	11100	3.84	15000	4.55		

Cable loss
Microwave Cable Assembly, 18 GHz, 6.4 m, SMA – SMA, Huber-Suhner, model 198-9155-00
HL 3122

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	0.11	3600	2.08	7400	3.07	11200	3.92	15100	4.61
30	0.17	3700	2.12	7500	3.09	11300	3.95	15200	4.58
50	0.23	3800	2.15	7600	3.14	11400	3.93	15300	4.62
100	0.32	3900	2.18	7700	3.15	11500	3.93	15400	4.62
200	0.47	4000	2.21	7800	3.19	11600	3.94	15500	4.65
300	0.58	4100	2.24	7900	3.22	11700	3.97	15600	4.66
400	0.66	4200	2.27	8000	3.20	11800	3.98	15700	4.66
500	0.74	4300	2.31	8100	3.21	11900	4.08	15800	4.72
600	0.81	4400	2.31	8200	3.24	12000	4.03	15900	4.78
700	0.88	4500	2.36	8300	3.27	12100	4.06	16000	4.89
800	0.95	4600	2.37	8400	3.32	12200	4.05	16100	4.95
900	1.00	4700	2.40	8500	3.35	12300	4.16	16200	4.92
1000	1.06	4800	2.43	8600	3.35	12400	4.18	16300	4.95
1100	1.11	4900	2.45	8700	3.33	12500	4.20	16400	5.02
1200	1.16	5000	2.50	8800	3.37	12600	4.22	16500	5.04
1300	1.21	5100	2.51	8900	3.39	12700	4.23	16600	5.06
1400	1.26	5200	2.55	9000	3.45	12800	4.28	16700	5.17
1500	1.31	5300	2.56	9100	3.46	12900	4.26	16800	5.16
1600	1.35	5400	2.59	9200	3.47	13000	4.28	16900	5.19
1700	1.39	5500	2.62	9300	3.46	13100	4.28	17000	5.23
1800	1.44	5600	2.65	9400	3.50	13200	4.28	17100	5.30
1900	1.47	5700	2.67	9500	3.50	13300	4.29	17200	5.26
2000	1.52	5800	2.71	9600	3.53	13400	4.34	17300	5.30
2100	1.55	5900	2.72	9700	3.52	13500	4.31	17400	5.30
2200	1.60	6000	2.73	9800	3.54	13600	4.35	17500	5.36
2300	1.63	6100	2.76	9900	3.56	13700	4.36	17600	5.40
2400	1.67	6200	2.78	10000	3.57	13800	4.37	17700	5.47
2500	1.70	6300	2.81	10100	3.60	13900	4.41	17800	5.56
2600	1.74	6400	2.85	10200	3.69	14000	4.42	17900	5.45
2700	1.78	6500	2.87	10300	3.69	14100	4.45	18000	5.47
2800	1.83	6600	2.87	10400	3.67	14200	4.49		
2900	1.85	6700	2.90	10500	3.70	14300	4.55		
3000	1.89	6800	2.91	10600	3.70	14400	4.62		
3100	1.92	6900	2.96	10700	3.76	14600	4.54		
3200	1.96	7000	2.99	10800	3.88	14700	4.58		
3300	1.99	7100	3.01	10900	3.88	14800	4.57		
3400	2.03	7200	3.04	11000	3.85	14900	4.65		
3500	2.06	7300	3.08	11100	3.85	15000	4.64		

Cable loss
Cable coaxial, RG-214/U, N type-N type, 17 m
Teldor, HL 3612

Frequency, GHz	Cable loss, dB
0.1	0.05
0.5	0.07
1	0.10
3	0.22
5	0.29
10	0.39
30	0.68
50	0.90
100	1.27
150	1.58
200	1.80
250	2.12
300	2.36
350	2.60
400	2.82
450	2.99
500	3.23
550	3.40
600	3.56
650	3.71
700	3.90
750	4.04
800	4.23
850	4.39
900	4.55
950	4.65
1000	4.79

Cable loss
Cable coaxial, RG-214/U, N type-N type, 6.5 m
Suhner Switzerland, HL 3616

Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB	Frequency, MHz	Cable loss, dB
10	0.13	1750	2.66	3550	4.44	5350	6.08
30	0.25	1800	2.72	3600	4.46	5400	6.12
50	0.32	1850	2.78	3650	4.59	5450	6.17
100	0.48	1900	2.81	3700	4.60	5500	6.25
150	0.60	1950	2.86	3750	4.72	5550	6.31
200	0.71	2000	2.94	3800	4.72	5600	6.35
250	0.81	2050	2.97	3850	4.86	5650	6.41
300	0.91	2100	3.01	3900	4.85	5700	6.50
350	1.00	2150	3.06	3950	4.99	5750	6.52
400	1.07	2200	3.11	4000	4.90	5800	6.57
450	1.14	2250	3.16	4050	5.04	5850	6.61
500	1.23	2300	3.21	4100	5.01	5900	6.71
550	1.30	2350	3.26	4150	5.10	5950	6.70
600	1.37	2400	3.31	4200	5.08	6000	6.75
650	1.44	2450	3.35	4250	5.18	6050	6.74
700	1.50	2500	3.39	4300	5.14	6100	6.84
750	1.58	2550	3.46	4350	5.22	6150	6.87
800	1.64	2600	3.48	4400	5.21	6200	6.93
850	1.69	2650	3.55	4450	5.29	6250	6.96
900	1.77	2700	3.59	4500	5.31	6300	7.02
950	1.79	2750	3.66	4550	5.39	6350	7.04
1000	1.87	2800	3.68	4600	5.41	6400	7.10
1050	1.92	2850	3.75	4650	5.49	6450	7.11
1100	1.98	2900	3.79	4700	5.52	6500	7.19
1150	2.05	2950	3.86	4750	5.60		
1200	2.09	3000	3.89	4800	5.64		
1250	2.15	3050	3.94	4850	5.73		
1300	2.21	3100	3.98	4900	5.70		
1350	2.27	3150	4.03	4950	5.73		
1400	2.33	3200	4.06	5000	5.75		
1450	2.38	3250	4.12	5050	5.83		
1500	2.44	3300	4.14	5100	5.82		
1550	2.48	3350	4.22	5150	5.91		
1600	2.52	3400	4.24	5200	5.92		
1650	2.56	3450	4.31	5250	5.98		
1700	2.62	3500	4.35	5300	6.01		

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
A/m	ampere per meter
AM	amplitude modulation
AVRG	average (detector)
BB	broadband
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
dB Ω	decibel referred to one Ohm
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
ITE	information technology equipment
k	kilo
kHz	kilohertz
LO	local oscillator
m	meter
MHz	megahertz
min	minute
mm	millimeter
ms	millisecond
μ s	microsecond
NA	not applicable
NB	narrowband
OATS	open area test site
Ω	Ohm
QP	quasi-peak
PCB	printed circuit board
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