

TEST REPORT

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EUT DESCRIPTION 12" LCD ProScribe Xper Module Intel Atom

EUT TRADEMARK 

EUT MODEL CMPD12CV-A

SERIAL NUMBER 1DAEVTQGZZO-A00008

REFERENCE STANDARDS FCC 47 CFR Part 15 Subpart B
§ 15.107; § 15.109;

TEST REPORT NUMBER FCCTR_111477B-0

TEST REPORT ISSUE DATE 12/03/2012

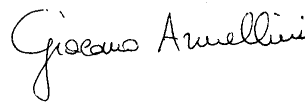
TESTING LABORATORY Prima Ricerca & Sviluppo S.r.l.
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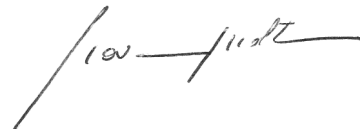
TESTING LOCATION As Above

DATE OF TEST SAMPLE RECEIPT 02/12/2011

DATE OF TEST TESTED BY 08/03/2012
Giacomo Armellini

APPROVED BY Giovanni Molteni





The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained. Reproduction of this Test Report, should not be reproduced, except in full, without the written authorization of the Laboratory



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1. RELEASE CONTROL RECORD

TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
FCCTR_111477B-0	Original Release	12/03/2012

2. TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

2.1 E.U.T. identification

Brand name:	
EUT description	12" LCD ProScribe Xper Module Intel Atom
Model name	CMPD12CV-A
Serial Number	1DAEVTQGZZO-A00008
Country of manufacturer:	ITALY
FCC ID (Product)	GZM802161
Wi-Fi module	AW-NE139H IEEE 802.11b/g/n Wi-Fi Half Mini Card AW-NE139H module adopts Realtek RTL8188CE-VL solution. The module design is based on the Realtek RTL8188CE-VL solution

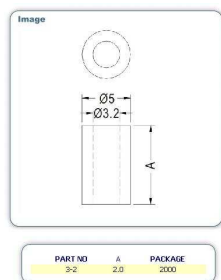
2.2 Technical data

FCC class:	Unintentional radiators
Supply voltage:	24Vdc – 1A
Typical usage :	Wireless smart display, released with Windows Embedded Standard (WES), designed for medical applications
EUT single or system:	Single
Composed by	Single unit
EUT dimensions :	See photographic documentation

2.3 Modifications incorporated in E.U.T.

The following items are the modifications introduced in the equipment under test :

- **nylon ring placed into the microphone hole to increase the clearance distance the nylon ring dimensions are shown in the below picture**





2.4 Ports identification

This section contains descriptions of all ports, the length and the type of the cable provided by manufacturer needed for the tests. Moreover it is specified if the ports are ever or optionally connected.

Port		Description	Connection
1	Enclosure	Plastic case	Screws
2	AC power input/output ports	Port not present	---
3	DC power input/output ports	24Vdc	D_SUB9 connector *
4	Signal and control ports	Port not present	---
5	Telecomm. ports	LAN	D_SUB9 connector *
5	Antenna port	Port not present (internal antenna)	---

Note: During the tests all cables must be what provided the manufacturer or the same that used in the real employment of the EUT.

* DC, Telecommunication lines are put together into a single cable with D_SUB9 connectors

2.5 Auxiliary equipment

- Proscribe CV
- Keyboard DELL mod. R17D50
- AC/DC Adapter Skynet electronic mod. SNP-A159

3. TEST CONDITIONS

3.1 Operating test modes and test conditions

The equipment has been tested according to the operative conditions described in the user/installation manual provided by the manufacturer and by following reference standards :
Reference Standard:

- FCC Part 15, Subpart B § 15.107; § 15.109

In the following table there are the operating conditions adopted during tests identified by an indicator (#..) at which has been referred the item “Operating condition of the equipment under test” of all technical sheets of the tests (see Section 4)

Operating condition	Description
#1	System switched ON master test pattern usb keyboard connected on USB port Ping via LAN with auxiliary equipment

3.2 Test overview

The appliance is classified as “*Unintentional radiator*” in conformity to FCC Part 15 Sub. B
The application is mainly used as wireless smart display, released with Windows Embedded Standard (WES), designed for medical applications.

4. REFERENCE STANDARD FOR PERFORMED TESTS

Reference standard :	Title :
FCC Part 15 part A	Code of Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)
FCC Part 15 part B	Code of Regulations Part 15 (Radio Frequency Devices), Subpart C (Unintentional Radiators) of the Federal Communication Commission (FCC)
ANSI C63.4	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz

5. SUMMARY OF TEST RESULTS

5.1 Emission tests

Port		Phenomena	Basic standard	Operating condition ¹	Result
1	Enclosure	Radiated Emissions	FCC Part 15 § 15.109	#1	Within the limit
2	AC mains Input ports	RF Disturbance voltage: • continuous	FCC Part 15 § 15.107	#1	Within the limit

¹ Ref. Tab. of Section 2

6. TEST RESULTS

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**TEST
1.**

**EMISSION OF MAINS TERMINAL DISTURBANCE VOLTAGE
(CONTINUOUS DISTURBANCE)**

REFERENCE DOCUMENT FCC47CFR Part 15

- **TEST SETUP:** According to reference standard
- **TEST LOCATION:** Semianechoic chamber
- **TEST EQUIPMENT USED FOR TEST:** EMI receiver Rohde & Schwarz Mod. ESU40
Artificial Network Rohde & Schwarz Mod. ESH3-Z5

- **TESTED PORT:** AC mains
- **FREQUENCY RANGE:** 0.15 - 30 MHz
- **EMISSION LIMITS:** Section 15.107 of Standard
- **MEASUREMENT UNCERTAINTY:** Total uncertainty (k=2) ± 2.5 dB

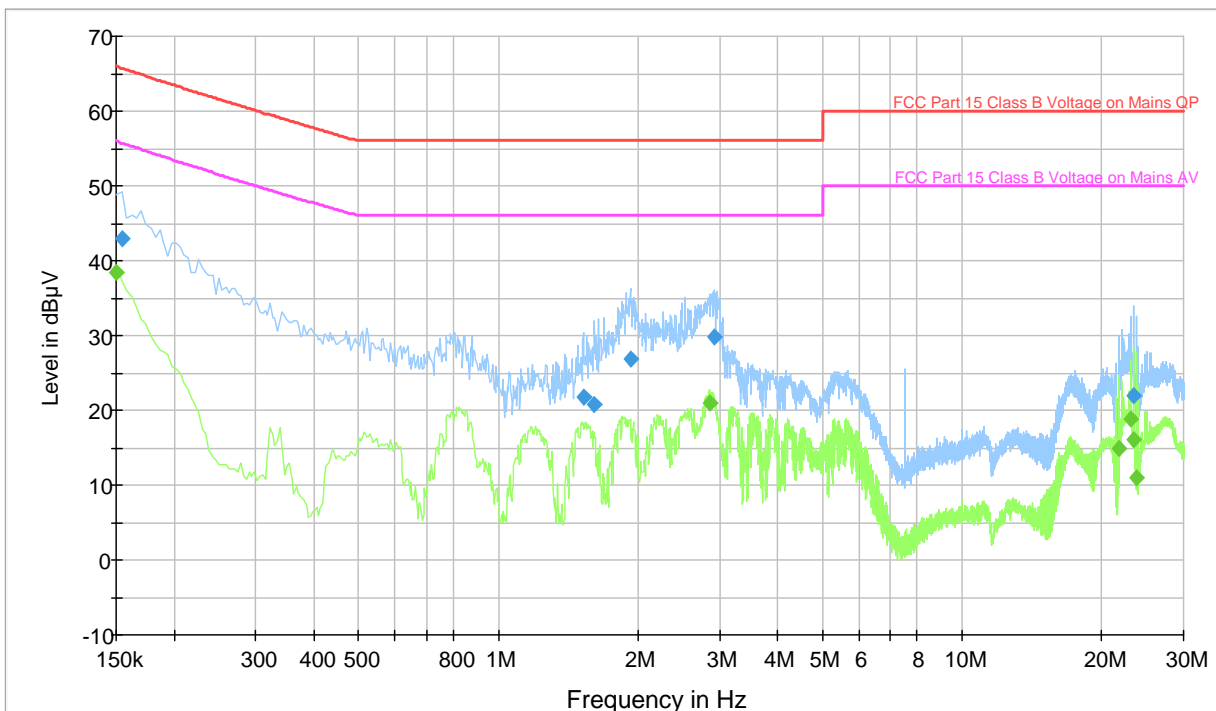
TEST CONDITIONS:	MEASURED
Ambient temperature : 15 - 35 °C	24 \pm 3 °C
Ambient humidity : 25 - 75 %rH	38 \pm 5 %rH
Pressure : 85 - 106 kPa (860 mbar - 1060 mbar)	975 \pm 50 mbar
Voltage :	115Vac 60Hz

OPERATING CONDITION (Rif. Section. 2) : #1

RESULT: WITHIN THE LIMIT

L1

Voltage_with_2-Line-LISN_ESMI



Quasi-Peak Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154000	43.0	1000.0	9.000	GND	L1	10.3	22.8	65.8	
1.526000	21.7	1000.0	9.000	GND	L1	10.5	34.3	56.0	
1.614000	20.7	1000.0	9.000	GND	L1	10.5	35.3	56.0	
1.926000	26.8	1000.0	9.000	GND	L1	10.5	29.2	56.0	
2.914000	29.8	1000.0	9.000	GND	L1	10.6	26.2	56.0	
23.430000	22.0	1000.0	9.000	GND	L1	12.3	38.0	60.0	

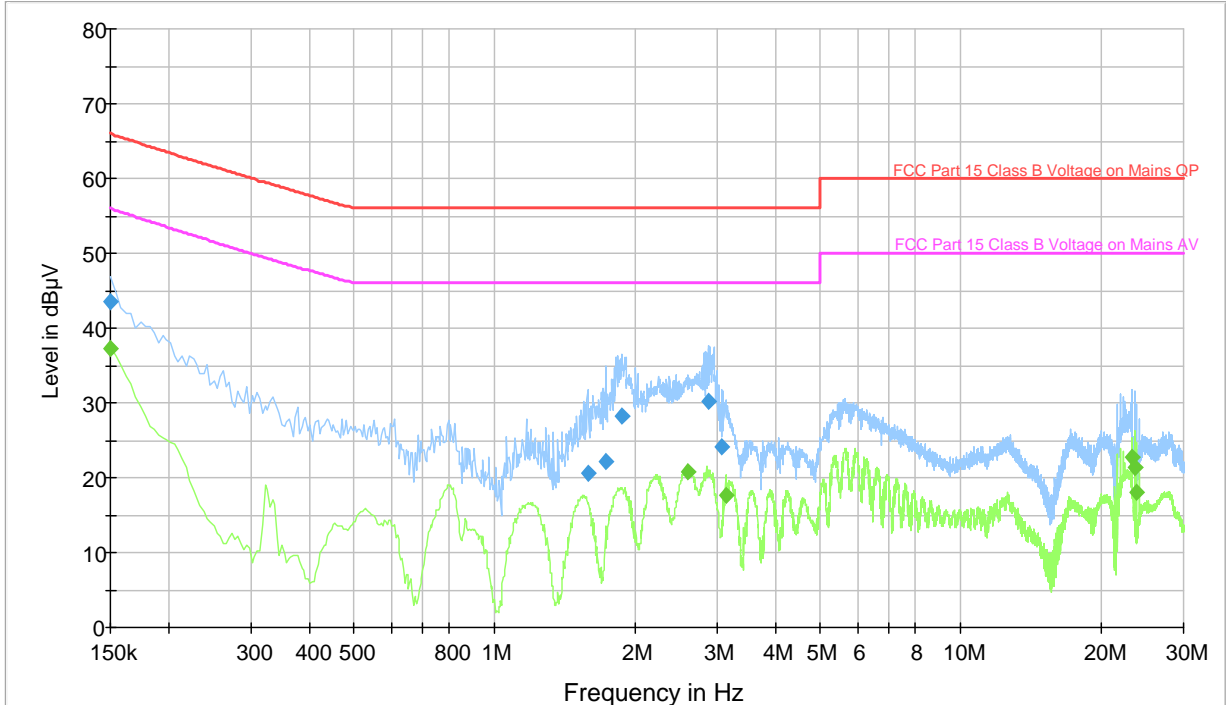
Average Final Result

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	38.4	1000.0	9.000	GND	L1	10.3	17.6	56.0	
2.850000	20.9	1000.0	9.000	GND	L1	10.6	25.1	46.0	
21.794000	14.9	1000.0	9.000	GND	L1	12.2	35.1	50.0	
23.154000	18.8	1000.0	9.000	GND	L1	12.3	31.2	50.0	
23.426000	16.1	1000.0	9.000	GND	L1	12.3	33.9	50.0	
23.698000	10.9	1000.0	9.000	GND	L1	12.4	39.1	50.0	



N

Voltage_with_2-Line-LISN_ESMI



Quasi Peak Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	43.5	1000.0	9.000	GND	N	10.3	22.5	66.0	
1.586000	20.5	1000.0	9.000	GND	N	10.5	35.5	56.0	
1.734000	22.2	1000.0	9.000	GND	N	10.5	33.8	56.0	
1.878000	28.2	1000.0	9.000	GND	N	10.5	27.8	56.0	
2.874000	30.2	1000.0	9.000	GND	N	10.6	25.8	56.0	
3.078000	24.1	1000.0	9.000	GND	N	10.6	31.9	56.0	

Average Final Result

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	37.3	1000.0	9.000	GND	N	10.3	18.7	56.0	
2.598000	20.7	1000.0	9.000	GND	N	10.6	25.3	46.0	
3.126000	17.6	1000.0	9.000	GND	N	10.6	28.4	46.0	
23.322000	22.8	1000.0	9.000	GND	N	12.0	27.2	50.0	
23.594000	21.4	1000.0	9.000	GND	N	12.1	28.6	50.0	
23.866000	18.1	1000.0	9.000	GND	N	12.1	31.9	50.0	

**TEST
2.**

RADIATED SPURIOUS EMISSIONS

REFERENCE DOCUMENT FCC47CFR Part 15

- **TEST LOCATION:** Semi-anechoic chamber
- **TEST EQUIPMENT USED FOR TEST:** EMI receiver Rohde & Schwarz Mod. ESU40
Chase Antenna Mod. CBL 6111
Rohde & Schwarz Antenna Mod. HBL050
- **TESTED PORT:** Enclosure
- **EMISSION LIMITS:** Acc. to Section 15.109 of reference document
- **UNCERTAINTY OF MEASURE:** Combined uncertainty = ± 1.75 dB
Total uncertainty = (k=2) ± 3.5 dB

TEST CONDITIONS:	MEASURED
Ambient temperature : 15 - 35 °C	23,5 \pm 3 °C
Ambient humidity : 25 - 75 %rH	39 \pm 5 %rH
Pressure : 85 - 106 kPa (860 mbar - 1060 mbar)	950 \pm 50 mbar
Voltage :	115Vac 60Hz

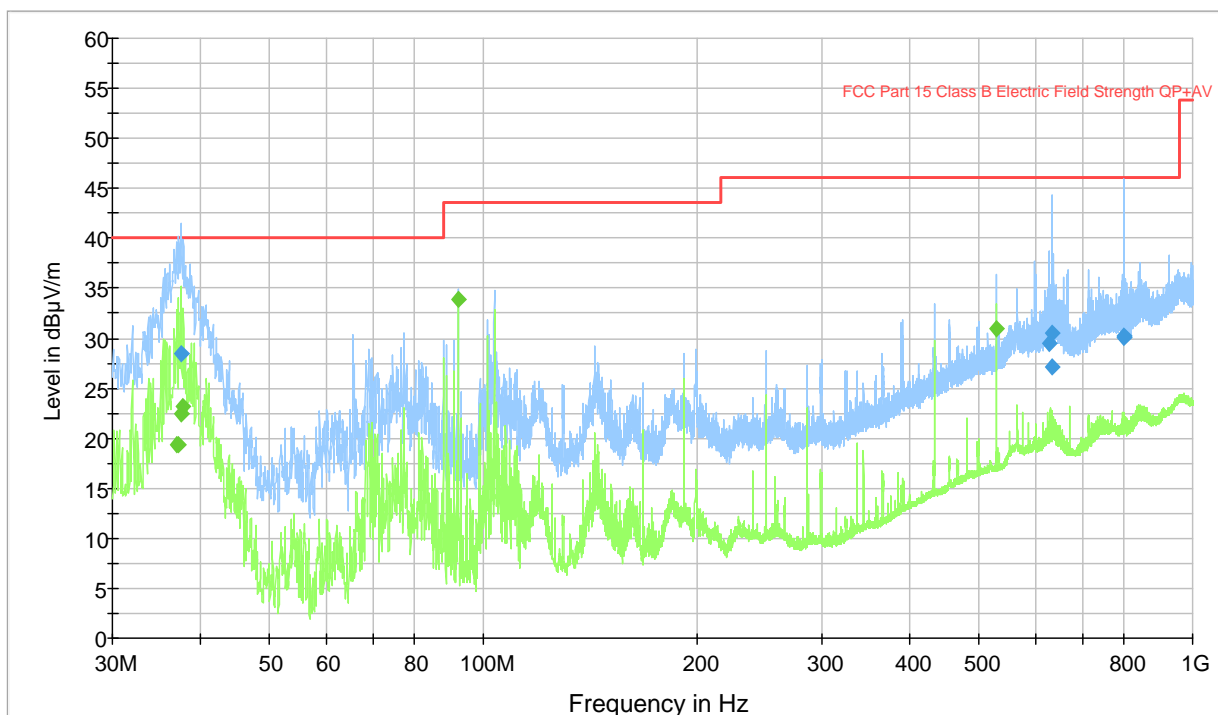
OPERATING CONDITION (Rif. Section. 2) : #1

RESULT: WITHIN THE LIMIT



Vertical polarization 30MHz – 1GHz

Electric Field Strength FCC_OSP



Quasi-Peak Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
37.440000	28.5	1000.0	120.000	100.0	V	88.0	15.7	11.5	40.0
628.040000	29.6	1000.0	120.000	100.0	V	67.0	24.2	16.4	46.0
632.040000	27.1	1000.0	120.000	220.0	V	66.0	24.2	18.9	46.0
632.360000	30.5	1000.0	120.000	175.0	V	21.0	24.2	15.5	46.0
799.400000	30.1	1000.0	120.000	124.0	V	15.0	26.0	15.9	46.0
800.240000	30.1	1000.0	120.000	120.0	V	7.0	26.0	15.9	46.0

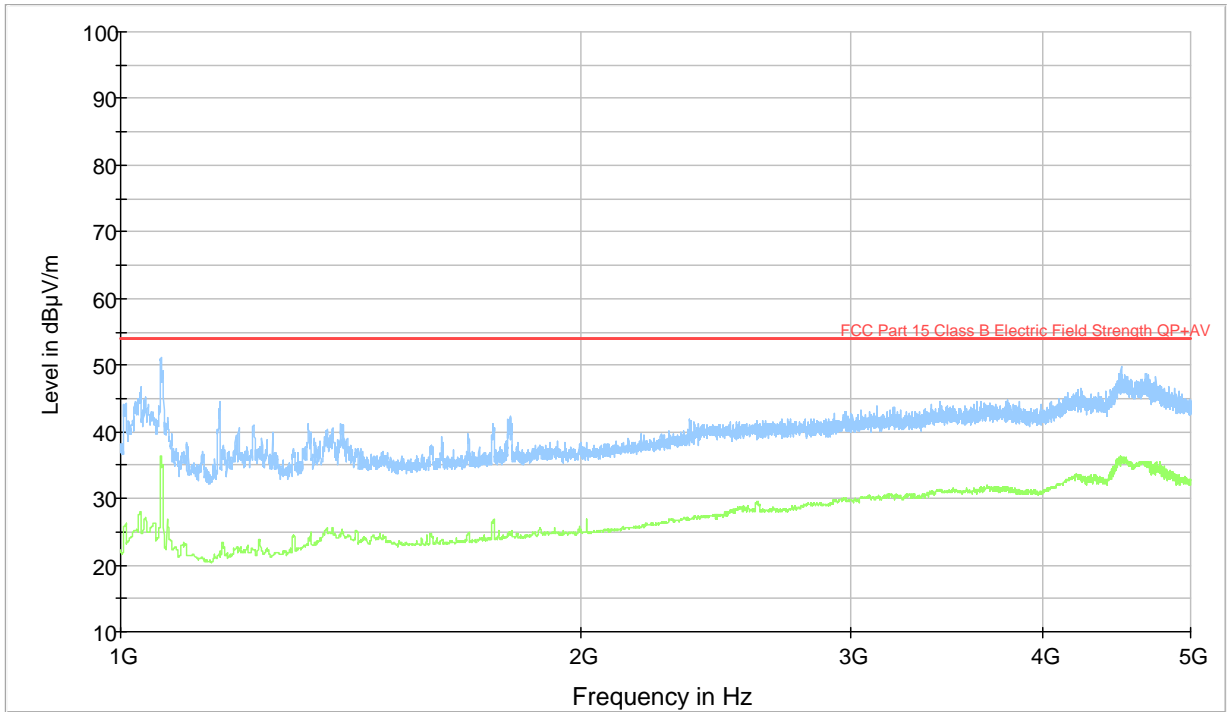
Average Final Result

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Comment
37.000000	19.4	1000.0	120.000	100.0	V	0.0	15.9	
37.200000	19.3	1000.0	120.000	100.0	V	80.0	15.8	
37.480000	22.5	1000.0	120.000	100.0	V	111.0	15.7	
37.760000	23.2	1000.0	120.000	100.0	V	111.0	15.6	
92.200000	33.9	1000.0	120.000	159.0	V	172.0	10.3	
528.000000	31.0	1000.0	120.000	106.0	V	277.0	21.6	



Vertical polarization 1-5GHz

Electric Field Strength FCC_OSP





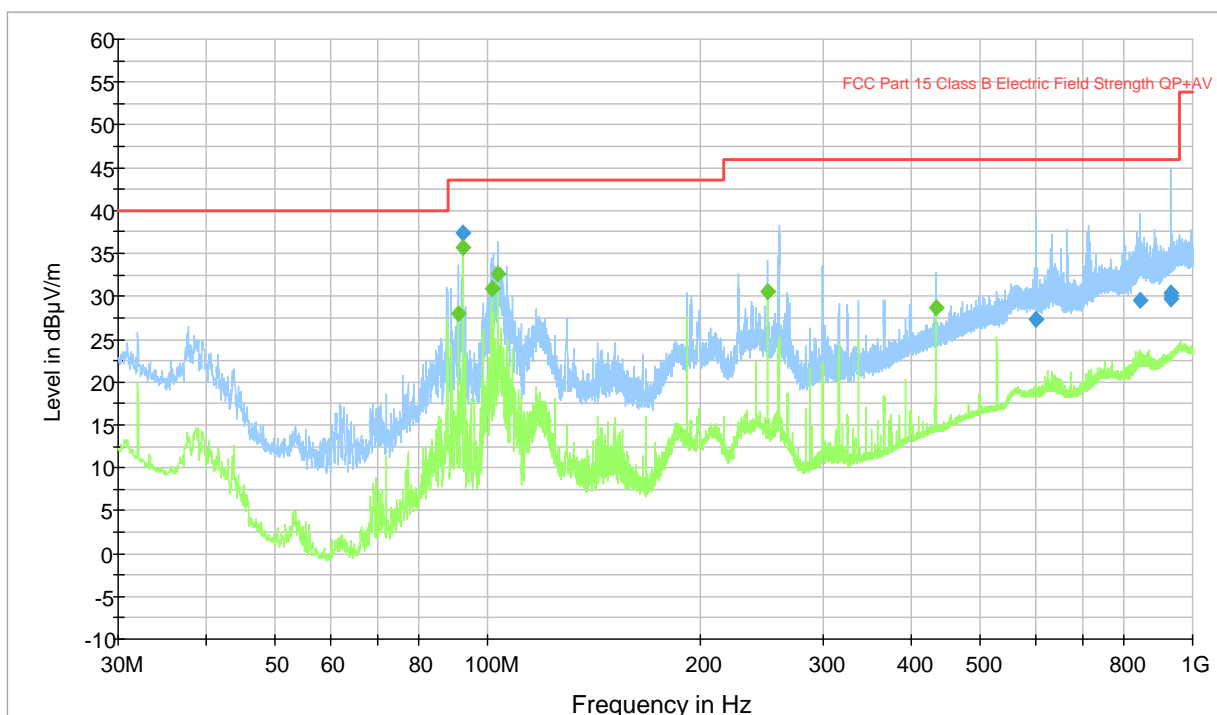
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FCCTR_111477B-0

Horizontal polarization 30MHz – 1GHz

Electric Field Strength FCC_OSP



Quasi-Peak Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
92.160000	37.3	1000.0	120.000	298.0	H	293.0	10.3	6.2	43.5
599.880000	27.3	1000.0	120.000	120.0	H	293.0	23.3	18.7	46.0
840.720000	29.6	1000.0	120.000	299.0	H	112.0	27.4	16.4	46.0
929.000000	29.7	1000.0	120.000	290.0	H	90.0	28.4	16.3	46.0
929.360000	30.0	1000.0	120.000	271.0	H	280.0	28.4	16.0	46.0
932.400000	30.4	1000.0	120.000	175.0	H	68.0	28.5	15.6	46.0

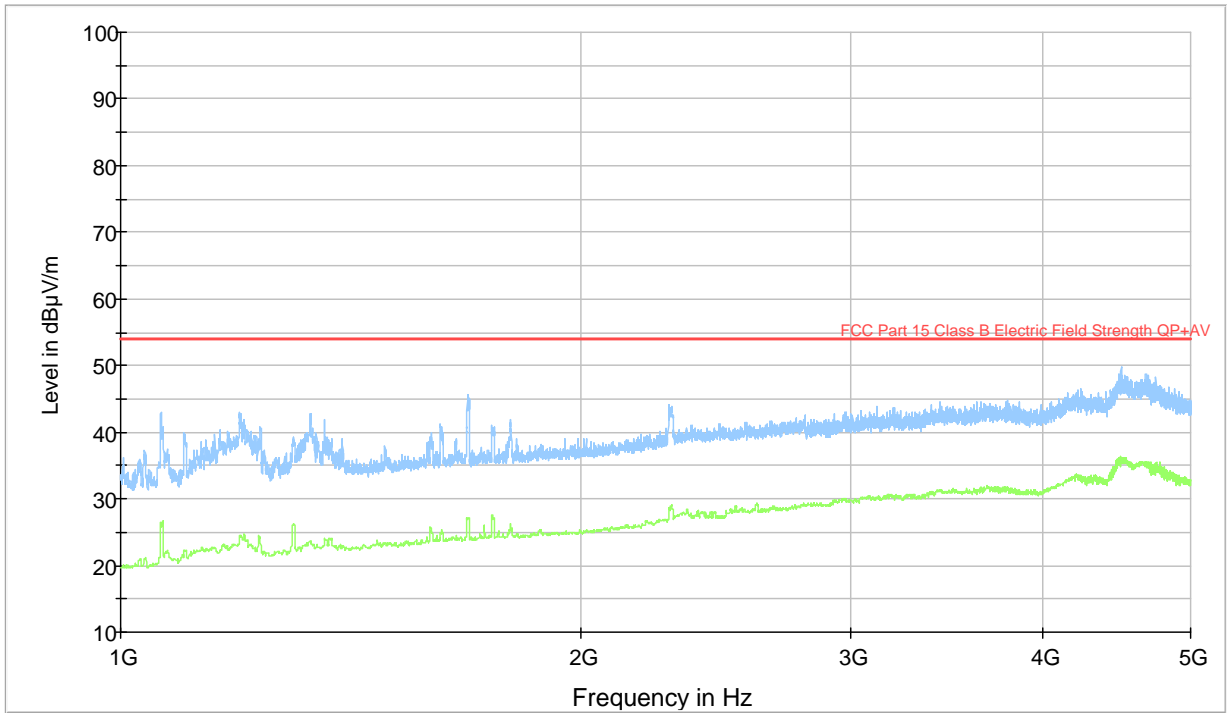
Average Final Result

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Comment
90.880000	28.0	1000.0	120.000	252.0	H	293.0	10.2	
92.200000	35.7	1000.0	120.000	281.0	H	293.0	10.3	
101.400000	30.9	1000.0	120.000	309.0	H	271.0	11.5	
103.720000	32.7	1000.0	120.000	294.0	H	280.0	11.8	
250.040000	30.6	1000.0	120.000	115.0	H	270.0	14.6	
432.000000	28.8	1000.0	120.000	309.0	H	272.0	19.7	



Horizontal polarization 1-5GHz

Electric Field Strength FCC_OSP



7. LIST OF EQUIPMENT USED

EQUIPMENT	IDENTIFICATION NUMBER	CAL. DUE	CERTIFICATE NUMBER
EMI TEST RECEIVER 20HZ 40GHZ	EMC.359	AUG.2012	INRIM 11-0490-05
ARTIFICIAL MAINS NETWORK	EMC.173	AUG-2012	INRIM 11-0490-04
RF SEMI-ANECHOIC CHAMBER (CSSA)	EMC.191	AUG 2012	PRS NSA-2010
BILOG ANTENNA	EMC.023	MAY 2014	SAIBERSDORF EH- A315/11
LOG PERIODICA ANTENNA	EMC.391	DEC 2012	RHODE & S.
VOLTAGE GENERATOR	EMC.397	FEB.2013	SPS A4909D
SPECTRUM ANALYZER	EMC.332	APR.2012	PRS EMC332_2011

8. EUT PHOTOGRAPHIC DOCUMENTATION

PHOTO N° 1 – SYSTEM IDENTIFICATION



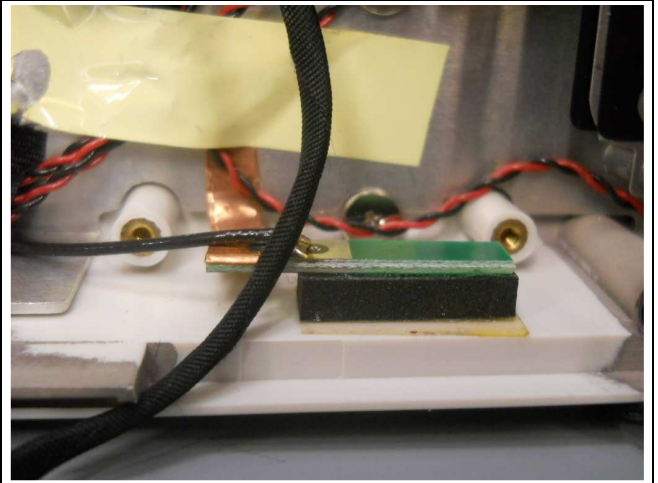
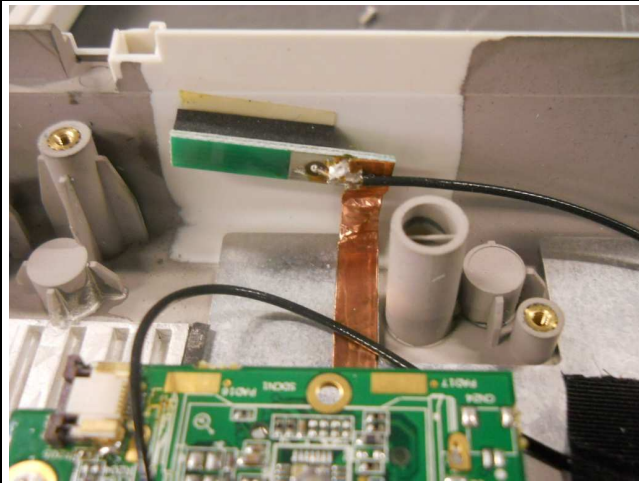
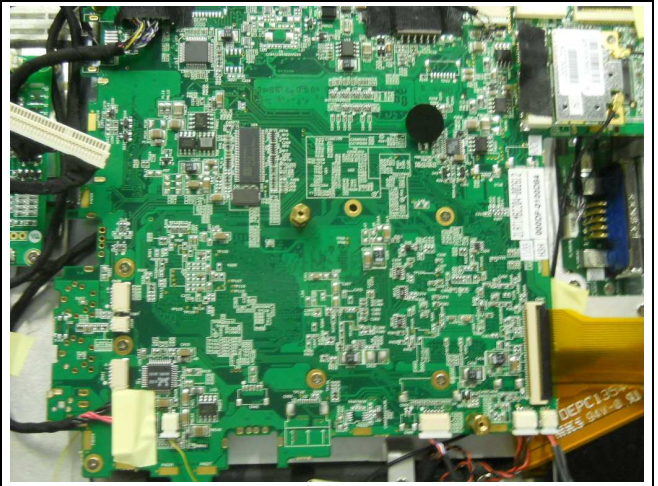
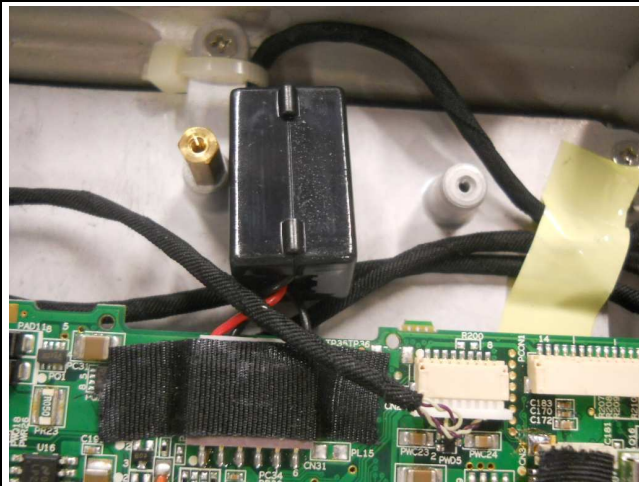




PHOTO N°2-RADIATED EMISSION SET UP

