

TEST REPORT

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EUT DESCRIPTION CLINISCAPE with Wi-Fi 802.11a, 802.11g, 802.11n

EUT TRADEMARK Philips

EUT MODEL CliniScape mod. CMCA10 + CMCA10-DS

DERIVED MODEL CliniScape mod. CMCA10

REFERENCE STANDARDS : **FCC 47 CFR part 15 subpart C section 15.225**
INDUSTRY CANADA RSS-210

TEST REPORT NUMBER **FCCTR_08.1122_A - 0**

TEST REPORT ISSUE DATE 09/02/2009

TESTING LABORATORY Prima Ricerca & Sviluppo s.r.l.
Via Campagna, 92 -22020 Faloppio (Co) –Italy

TESTING LOCATION As Above

DATE OF TEST SAMPLE RECEIPT 5/11/2008

DATE OF TEST 06-28/11/2008

TESTED BY Massimiliano Tallariti

APPROVED BY Massimo Maltempi



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.

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1. TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

1.1 Identification

Brand name: *PHILIPS*
 Manufacturer: *FIMI S.R.L*
 Equipment : *CliniScape mod. CMCA10 + CMCA10-DS*
 Serial number : *Not present*
 FCC ID : *-----*
 IC: *-----*
 Country of manufacturer: *ITALY*

1.2 Technical data

FCC class: 47 CFR FCC Part 15 Subpart C § 15.225,
 Product type: RFID
 Radio type: Intentional transceiver
 Power type : Power adapter
 Modulation: AM
 Data Modulation : ----
 Data Rate (Mbps) : 106 Kbit/sec
 Frequency range : 13,553 – 13,567 MHz
 Field Antenna : Antenna Type: Loop antenna

Derived Model **CMCA10 is not equipped with docking station**

1.3 Modifications incorporated in E.U.T.

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

- None

1.4 Ports identification

This section contains descriptions of all signal ports and AC/DC power input/output 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	By screws and by pressure
2	AC power input/output ports	100-240Ac 1.2-0.6A 50/60Hz / 19Vdc 5.3A APS100EM-190530 LF	External power supply
3	DC power input/output ports	1 DC input Li-Ion battery pack 11.1V 3900mAh	jack Internal battery pack
4	Signals / control lines	4 Usb ports (Type 2.0) (how declared by the customer, cable < 3mt) 1 LAN	USB RJ-45
5	Telecommunication ports	Line not present	-----

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

1.5 Auxiliary equipment

- none

2. TEST CONDITIONS

2.1 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:

- 47 CFR FCC Part 15 Subpart C § 15.207
- 47 CFR FCC Part 15 Subpart C § 15.209
- 47 CFR FCC Part 15 Subpart C § 15.225
- INDUSTRY CANADA RSS-210

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	<i>13.56 MHz Operating Mode;</i>

2.2 Test overview

The appliance is classified as “*Intentional radiator*” in conformity to FCC Part 15 Subpart C section 15.225, and subpart E section 15.407

3. REFERENCE STANDARD FOR PERFORMED TESTS

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in ANSI C63.4-2003 and 47 CFR FCC Part 15 Subpart C

4. SUMMARY OF TEST RESULTS

4.1 Emission tests

Phenomena		Basic standard FCC part 15 section	Operating condition ¹	Result
1	AC conducted emission	15.207	#1	PASS
2	Radiated Emissions (30-1000 MHz)	15 209	#1	PASS
3	Radiated Emissions (30-1000 MHz)	15.225	#1	PASS
4	Frequency tollerance	15.225	#1	PASS

Note:

5. TEST RESULTS

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**TEST
1**

AC CONDUCTED EMISSION

REFERENCE FCC 47CFR Part 15
DOCUMENT Section 15.207

- **TEST SETUP:** According to reference standard
- **TEST LOCATION:** Semianechoic chamber
- **TEST EQUIPMENT USED FOR TEST:** EMI receiver Rohde & Schwarz Mod. ESU 40
Artificial Network Rohde & Schwarz Mod. ESH3-Z5

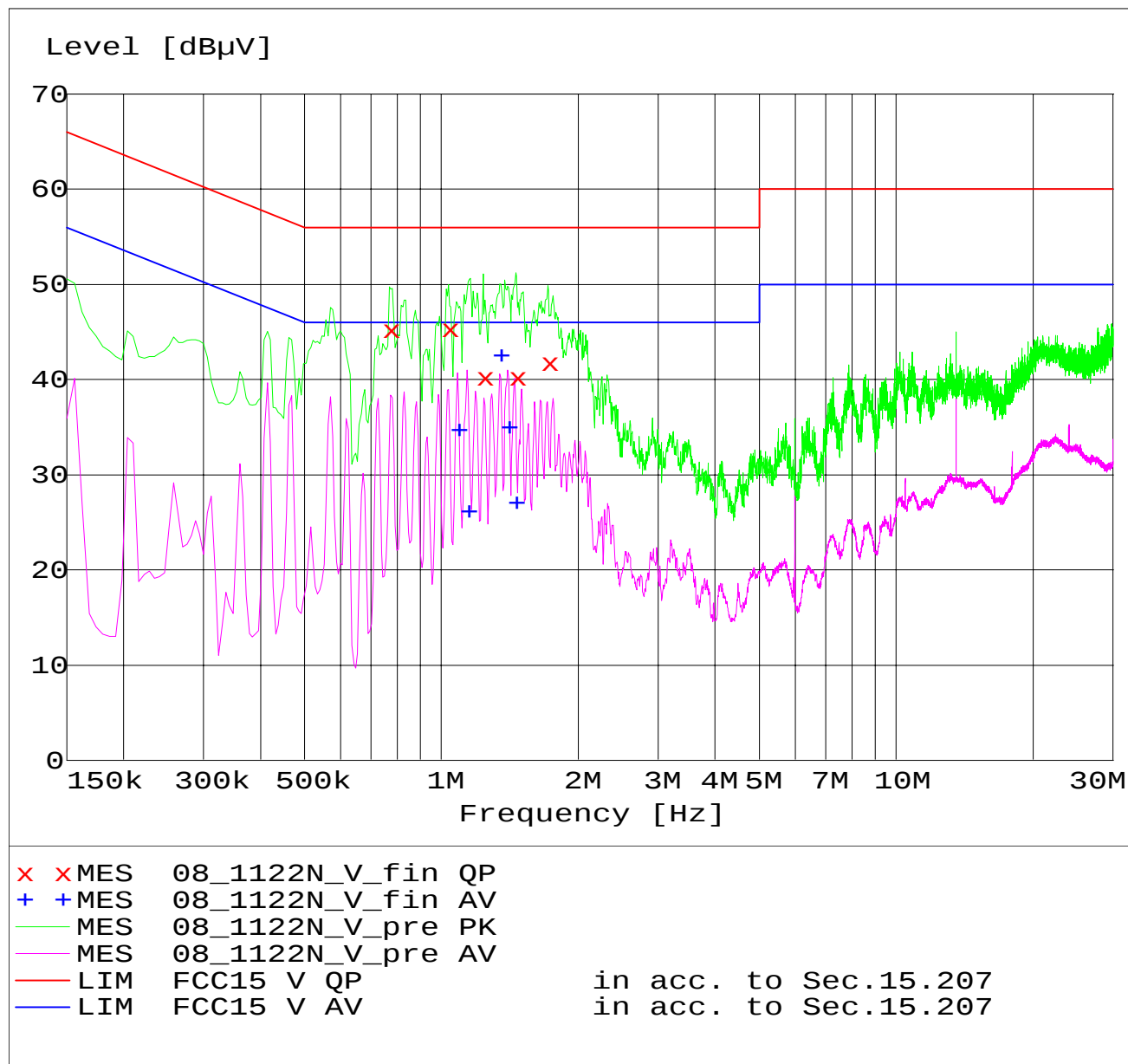
- **TESTED PORT:** AC mains : Phase and Neutral Line
- **FREQUENCY RANGE:** 0.15 - 30 MHz
- **EMISSION LIMITS:** Section 15.207 of Standard
- **MEASUREMENT UNCERTAINTY:** Total uncertainty (k=2) $\pm$ 2.5 dB

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

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

RESULT: WITHIN THE LIMIT

Neutral



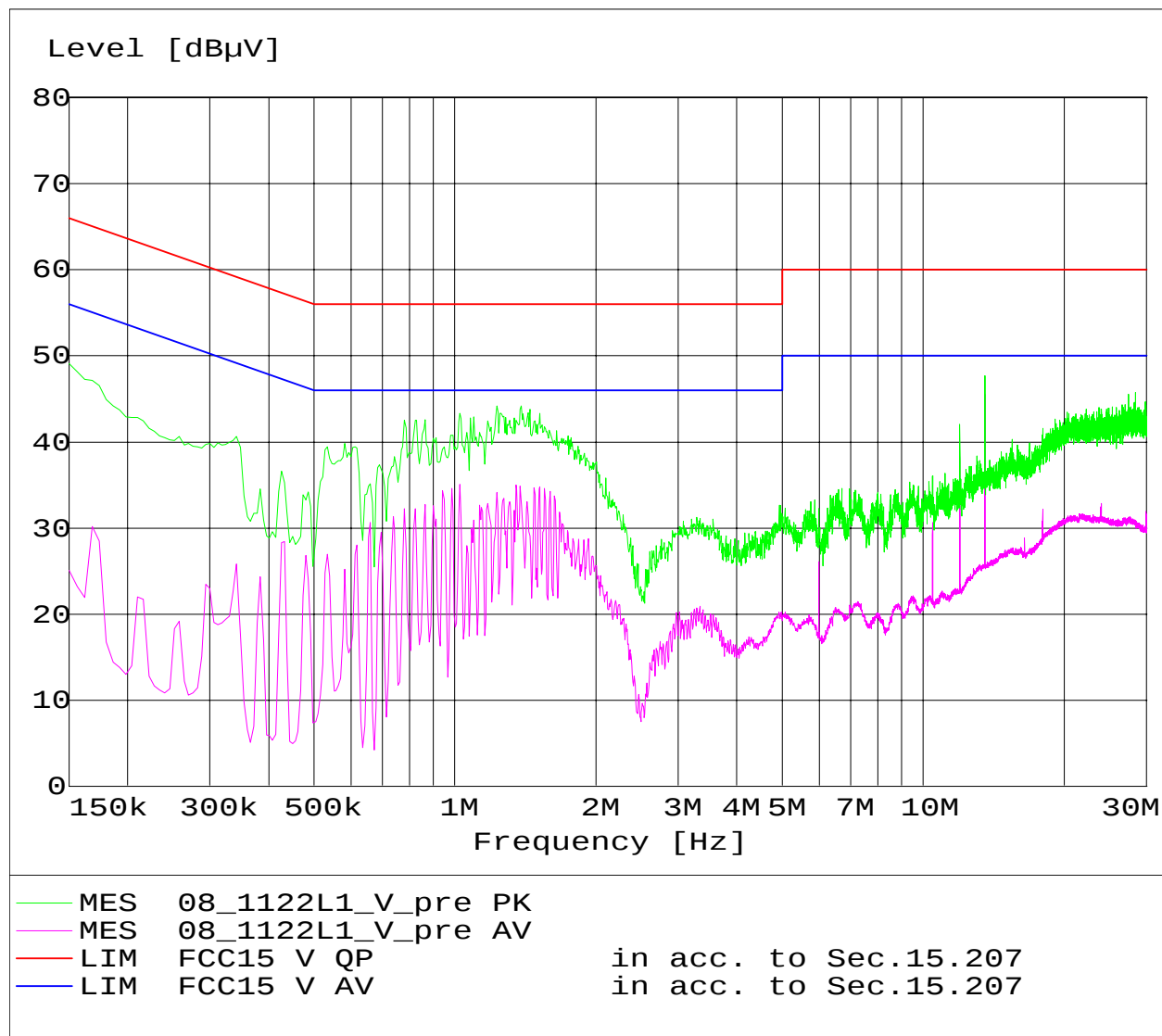
Final measurement in QP detector

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV	dB	dBμV	dB		
0.768000	45.20	0.20	56.00	10.80	N	GND
1.038000	45.30	0.20	56.00	10.70	N	GND
1.236000	40.20	0.20	56.00	15.80	N	GND
1.458000	40.20	0.20	56.00	15.80	N	GND
1.716000	41.80	0.20	56.00	14.20	N	GND

Final measurement in AV detector

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV	dB	dBμV	dB		
1.086000	34.70	0.20	46.00	11.30	N	GND
1.140000	26.10	0.20	46.00	19.90	N	GND
1.344000	42.40	0.20	46.00	3.60	N	GND
1.398000	34.90	0.20	46.00	11.10	N	GND
1.452000	27.00	0.20	46.00	19.00	N	GND

Phase



**TEST
2**

RADIATED EMISSIONS (30-1000 MHZ)

REFERENCE FCC 47CFR Part 15
DOCUMENT Section 15.209

- **TEST LOCATION:** Semi-anechoic chamber
- **TEST EQUIPMENT USED FOR TEST:** EMI receiver Rohde & Schwarz Mod. ESU 40
Chase Antenna Mod. CBL 6111 A
- **TESTED PORT:** Enclosure
- **EMISSION LIMITS:** Acc. to Section 15.209 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

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

RESULT: WITHIN THE LIMIT

EMI Auto Test Template: Electric Field Strength FCC

Hardware Setup: Electric Field Strength FCC
 Measurement Type: Open-Area-Test-Site
 Frequency Range: 30 MHz - 1 GHz
 Graphics Level Range: 0 dB μ V/m - 80 dB μ V/m

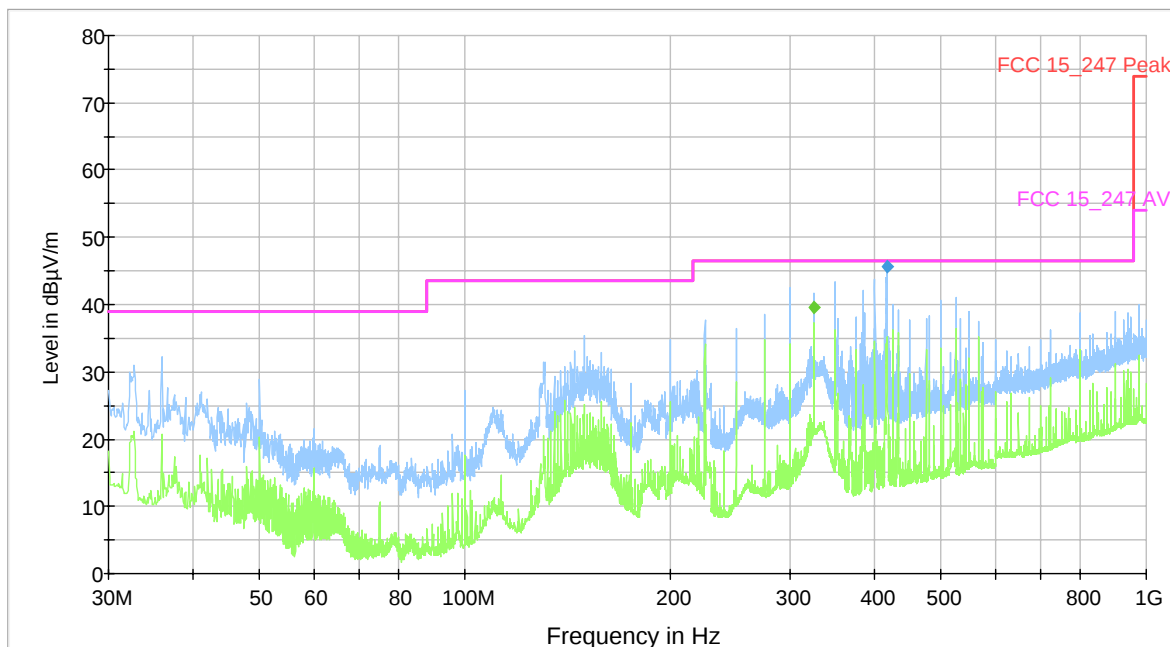
Preview Measurements:
 Scan Test Template: Electric Field Strength FCC pre

Data Reduction:
 Limit Line #1: FCC 15 247 Peak
 Limit Line #2: FCC 15 247 AV
 Peak Search: 6 dB
 Maximum Results: 4
 Subrange Maxima: 0
 Maxima per Subrange: 1
 Acceptance Offset: -10 dB
 Maximum Number of Results: 1

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1 GHz	MaxPeak; Average	120 kHz	1 s	Receiver
1 GHz - 2.8 GHz	MaxPeak; Average	1 MHz	0.1 s	Receiver
2.8 GHz - 18 GHz	MaxPeak; Average	1 MHz	0.1 s	Receiver

Vertical polarization

Electric Field Strength FCC



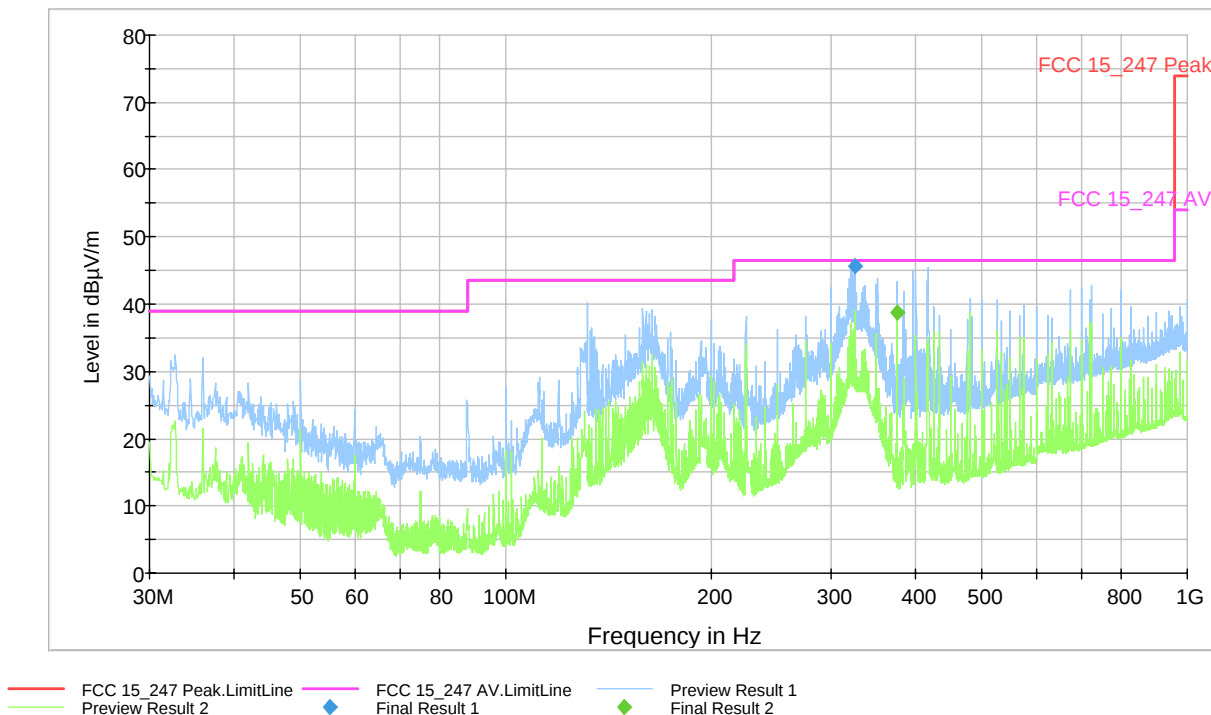
— FCC 15_247 Peak.LimitLine — FCC 15_247 AV.LimitLine — Preview Result 1
— Preview Result 2 ◆ Final Result 1 ◆ Final Result 2

RESULT

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)	Peak-Limit (dBµV/m)	Average-Limit (dBµV/m)	Comment
325.040000	42.15	39.51	100.0	V	16.0	46.40	46.40	Pass
350.080000	44.30	37.35	100.0	V	14.0	46.40	46.40	Pass
416.080000	45.7	38.11	100.0	V	-7.0	46.40	46.40	Pass
499.124000	41.22	34.19	100.0	V	11.0	46.40	46.40	Pass

Horizontal polarization

Electric Field Strength FCC



RESULT

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)	Peak-Limit (dBµV/m)	Average-Limit (dBµV/m)	Comment
325.040000	45.6	35.44	100.0	H	177.0	46.40	46.40	Pass
375.050000	43.50	38.7	114.0	H	178.0	46.40	46.40	Pass
400.080000	44.65	37.13	118.0	H	167.0	46.40	46.40	Pass
425.174000	46.02	35.33	100.0	H	159.0	46.40	46.40	Pass

**TEST
3**

RADIATED SPURIUS EMISSION (9KHZ-30MHZ)

**REFERENCE
DOCUMENT**

FCC 47CFR Part 15
15.209
15.225

- **TEST LOCATION:** RF Semi-anechoic chamber
- **TEST EQUIPMENT USED FOR TEST:** EMI receiver Rohde & Schwarz mod. ESU40
Loop antenna Rohde & Schwarz mod. HFH 2-Z2
9KHz-30MHz
- **TESTED PORT:** Enclosure
- **EMISSION LIMITS:** Acc. to Section 15.209 and 15.225 of reference document
- **UNCERTAINTY OF MEASURE:** Combined uncertainty = ± 1.75 dB
Total uncertainty = $(k=2) \pm 3.5$ 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

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

RESULT: WITHIN THE LIMIT

EMI Auto Test Template: Spurious emission FCC

Hardware Setup: Spurious Emission FCC
 Measurement Type: Open-Area-Test-Site
 Frequency Range: 9 kHz - 30 MHz
 Graphics Level Range: 0 dBμA/m - 80 dBμA/m

Preview Measurements:

Scan Test Template: Spurious emission FCC

Data Reduction:

Limit Line #1: FCC 15.225.tx

Adjustment:

Template for Single Meas.: FCC 15.225.tx

Final Measurements:

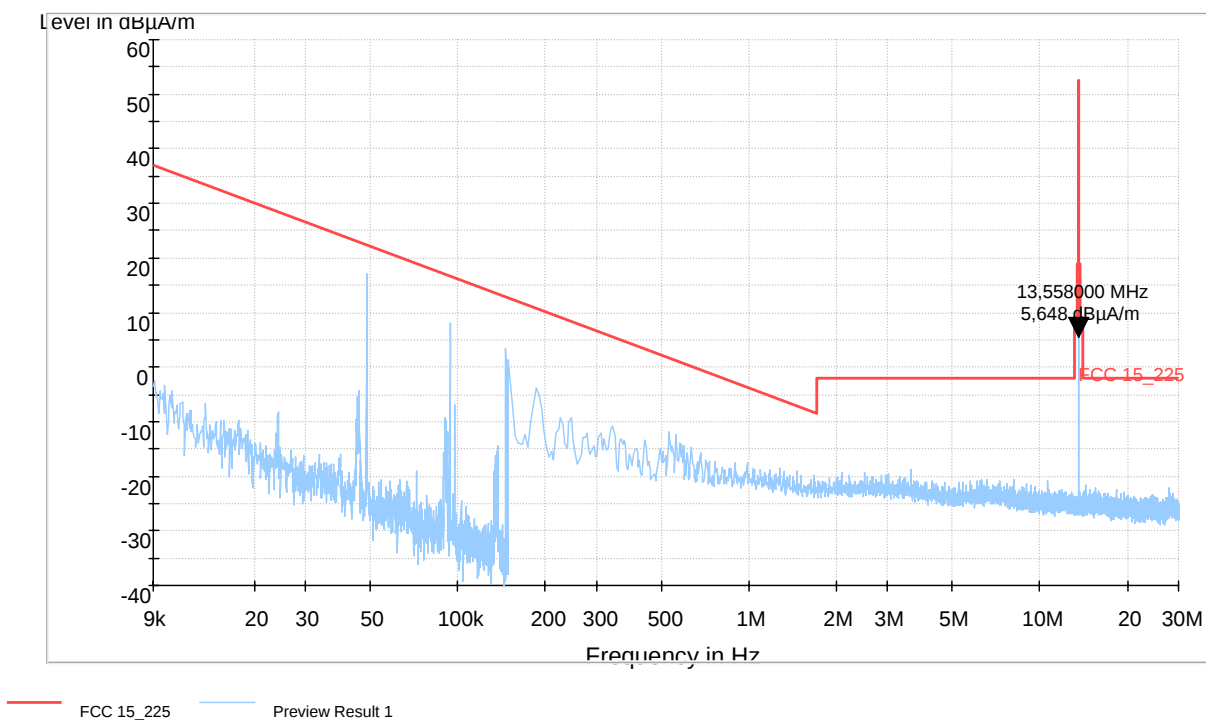
Template for Single Meas.: FCC 15.225.tx

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
9 kHz - 150 kHz	MaxPeak	200 Hz	1 s	Receiver
150 kHz - 30 MHz	MaxPeak	9 kHz	1 s	Receiver

Report Settings:

Report Template: Sample EMI Auto Test Report
 Create Electronic Report: RTF
 Document Name: EMI Report

Spurious emission FCC



**TEST
4**

FREQUENCY TOLLERANCE

**REFERENCE
DOCUMENT**

FCC 47CFR Part 15
15.225

- **TEST SETUP:** Acc. to Section 15.225of reference document
- **TEST LOCATION:** Climatic chamber Area
- **TEST EQUIPMENT USED FOR TEST:**
 - Spectrum Analyzer Rodhe&Schwarz mod. FSP40
 - Loop Antenna Rohde&Schwarz mod. HFH 2-Z2
 - Programmable DC power supply Hewlett-Packard mod. 6653A
 - Test Fixture Prima Ricerca&Sviluppo
 - Climatic Chamber MAZZALI mod. Climatest

TEST CONDITIONS:		MEASURED
Ambient temperature :	23°C ± 5°C	24 °C
Ambient humidity :	25 - 75 %rH	45%
Pressure :	85 - 106 kPa (860 mbar - 1060 mbar)	960 mbar

OPERATING CONDITION (Rif. Section 3) : #1

Risultato di prova :

☒ **Entro i limiti**

☐ **Fuori dai limiti**

Test result :

☒ **Within the limits**

☐ **Out of limits**

TEST CONDITIONS		Frequency deviation %
		F [%]
T _{nom} : + 24 °C	V _{nom} : 120 V	0%
T _{min} : -20 °C	V _{nom} : 120 V	0.002%
	V _{min} : 102 V	0.006%
	V _{max} : 138 V	0.004%
T _{max} : + 55 °C	V _{nom} : 120 V	0.003%
	V _{min} : 102 V	0.005%
	V _{max} : 138 V	0.006%
/Measurement Uncertainty : ± 10 Hz		

6. SUMMARY OF TEST RESULTS

6.1 Photographic documentation

PHOTO 1 – E.U.T. IDENTIFICATION



PHOTO 2 – E.U.T. IDENTIFICATION



PHOTO 3 – EXTERNAL POWER SUPPLY

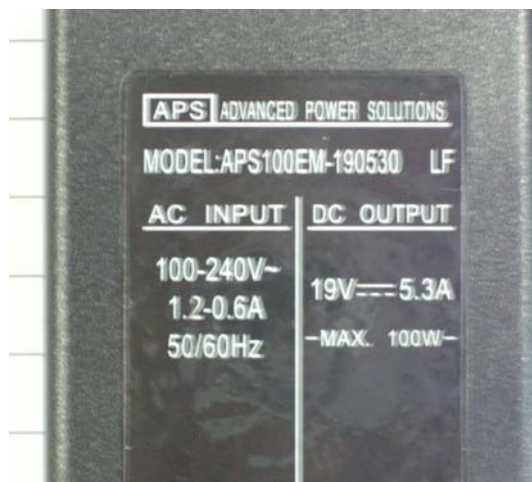
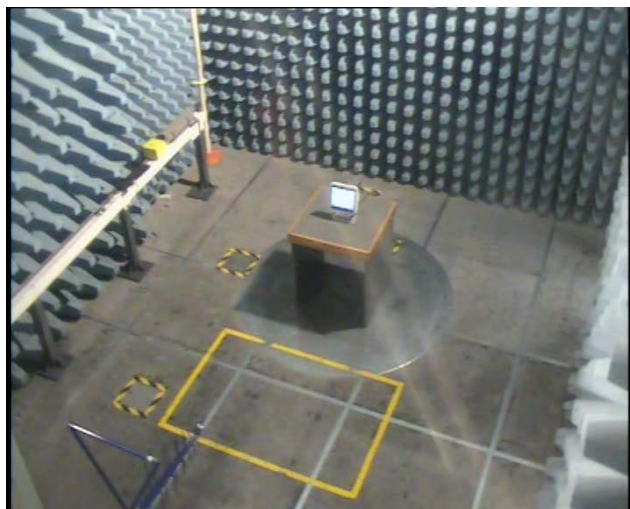


PHOTO 4 – SET-UP FOR EMISSION RADIATED TEST



7. TEST EQUIPMENT LIST

7.1 Equipment List

EQUIPMENT	MANUFACTURER	MODEL	SERIAL N.	CAL. DUE
EMI TEST RECEIVER 20HZ 40GHZ	ROHDE & SCHWARZ	ESU40	100111	JUL 2009
ARTIFICIAL MAINS NETWORK	ROHDE & SCHWARZ	ESH 2 - Z5	841887/011	SEPT.2009
ABSORBING CLAMP	ROHDE & SCHWARZ	MDS21	840031/005	JUL.2009
RF SEMI-ANECHOIC CHAMBER (CSSA)	SIEMENS	B83117-D6019-T232	003-005-134/94C	APR.2010
BILOG ANTENNA	CHASE	CBL6111A	1798	JUL.2009
BILOG ANTENNA	CHASE	CBL6111C	2717	JUL.2009
ESD GENERATOR	SCHAFFNER	NSG435-01	1063	APR.2009
RF SIGNAL GENERATOR 9 KHZ - 6 GHZ	ROHDE & SCHWARZ	SMB100A	100831	JUN 2011
LOG PERIODIC ANTENNA BROAD BAND 1-18 GHZ	ROHDE & SCHWARZ	HL025	350380/007	DEC.2009
SPECTRUM ANALYZER	ROHDE & SCHWARZ	FSP40	100038	DEC.2009
PROGRAMMABLE DC POWER SUPPLY	HEWLETT PACKARD	6623A	3448A04501	SEPT.2009
RF PREAMPLIFIER	BONN ELEKTRONIK	BLMA 1840-1A	087084B	AUG 2009
RF PREAMPLIFIER	BONN ELEKTRONIK	BLMA 0118-M	087084A	AUG 2009
RF SIGNAL GENERATOR 40 GHZ	ROHDE & SCHWARZ	SMP 04	825007/005	AUG 2009
DOUBLE RIDGED GUIDE ANTENNA	ELECTRO-METRICS	EM-6961	6278	JUL.2009
DIGITAL OSCILLOSCOPE	TEKTRONIX	TDS 680B	B010130	MAY.2009