



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

TEST REPORT

No. ARSO00118/b

performed in accordance with

FCC Rules: Code of Federal Regulations (CFR) no. 47
Part 18 Subpart C Section 18.305 and 18.307

PRODUCT	WIRELESS CHARGING TRANSMITTER
MODEL(s) TESTED	Qi1001
FCC ID	2AD9NQI1001
TRADE MARK(s)	QINSIDE

APPLICANT	NITZ ENGINEERING S.r.l. – Via Alfred Ammon, 16 – 39042 Bressanone (BZ) - ITALY
------------------	--

Tested by	Roberto Radice	
Approved by	Roberto Colombo <i>[Laboratory manager]</i>	

Revision Sheet

Release No.	Date	Revision Description
Rev. 0	2014-09-09	First edition Digital signed - ARSO00118b_TR_FCC sub part 18.305 and 18.307_NITZ_Wireless charger Qi1001
Rev. 1	2014-11-21	Modified par.7 "Test result" Digital signed - ARSO00118b_rev.1_TR_FCC sub part 18.305 and 18.307_NITZ_Wireless charger Qi1001
Rev. 2	2015-02-17	Insert new Gantee Code (pag. 1 and 4) Digital signed - ARSO00118b_rev.2_TR_FCC sub part 18.305 and 18.307_NITZ_Wireless charger Qi1001

The results of tests and checks reported in this Test Report refer exclusively to the samples tested and described in the Report itself.
This Report shall not be reproduced partially without the written approval of IMQ S.p.A. con socio unico



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

1. GENERAL DATA

SAMPLE		
Samples received on	2014-06-13	(item sent and sampling by applicant)
IMQ reference samples	BEM	73463
Samples tested No.	1	
Object under analysis recognition	Not carried out Except where stated, characteristics of products were taken from client description and were not verified by the laboratory	
TEST LOCATION		
Testing dates	2014-07-29 ÷ 2014-08-01	
Testing laboratory.	IMQ S.p.A. con socio unico - Via Quintiliano, 43 – I-20138 Milano	
Testing site	Via Quintiliano, 43 – I-20138 Milano	
ENVIRONMENTAL CONDITIONING		
Parameter	Measured	
Ambient Temperature	25 ÷ 35 °C	
Relative Humidity	50 ÷ 60 %	
Atmospheric Pressure	900 ÷ 1000 mbar	



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

2. REFERENCE DOCUMENT

	DOCUMENT	DATE	TITLE
☒	47 CFR Part 18	2012	Part 18 – Industrial, scientific and medical equipment.
☒	FCC OST / MP-5	1986	FCC methods of measurements of radio noise emissions from industrial, scientific and medical equipment.



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

3. UNIT UNDER TEST (EUT) DETAILS

GENERAL DATA

MODEL (basic)	Description
Qi1001	WIRELESS CHARGING TRANSMITTER
VARIANTS (derived)	Description
None	

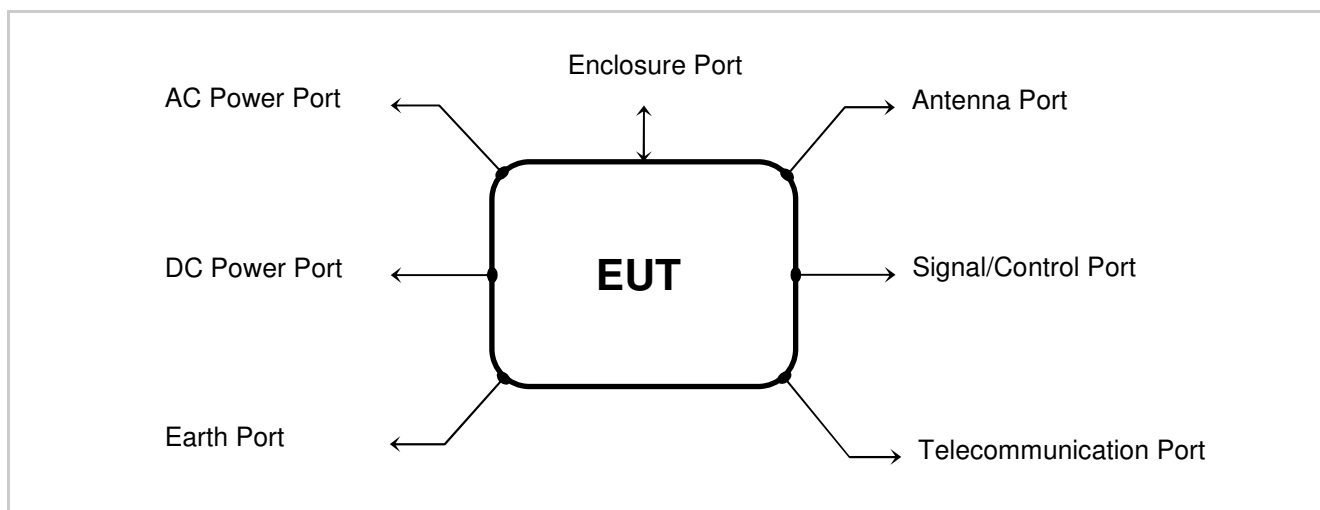
FCC ID	2AD9NQI1001
--------	-------------

Manufacturer	Ellipse-Sourcing (HK) Limited - Room 623, 6/F. Shangfu Building 21 Dangliang Road Nanshan Shenzhen City 518054 Guangdong Province China
--------------	---

Type of equipment	Wireless inductive charger
Operating frequency:	119÷148.5 kHz during normal charge
Maximum RF radiated power:	70,538 dBμV/m (in range 119÷148.5 kHz)
Modulation:	CW (Continuous Wave)
Channel Spacing:	Wideband
Antenna:	Integral; antenna size: 0,0020 m ²
RX sensitivity:	/
Main SW identification	/
Main HW Board identification	/
Peripherals included (for system application)	None
Interfaces	None
Integrated interfaces	None
AC adapter	KTEC mod.KSAS0121900063VE Input 100÷240Vac 50/60 Hz 0.4Ampere Output 19V dc 0.63Ampere

4. TEST CONFIGURATION OF UNIT UNDER TEST

EUT PORTS



Port	Description	Max length
Enclosure	Not conductive surface (ABS)	-
AC power	Dedicated external AC/DC power supply	-
DC power	Input from AC/DC external power supply: 19 V dc $\pm 1V$	<3m.
Earth	Port not present	-
Telecommunication	Port not present	-
Signal/ Control	Port not present	-
Antenna	Integrated on PCB	-



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

STATE OF THE EUT DURING TESTS

Ref.	Mode	Description
#1	Operating	Continuous Radio link with support equipment – Electronic support receiver associated with no load connected.
#2	Operating	Continuous Radio link with support equipment – Electronic support receiver associated with 11 Ω resistive load connected
#3	Operating	Continuous Radio link with support equipment – Electronic support receiver associated with 15 Ω resistive load connected
#4	Operating	Continuous Radio link with support equipment – Electronic support receiver associated with 22 Ω resistive load connected
#5	Operating	Continuous Radio link with support equipment – Electronic support receiver associated with 30 Ω resistive load connected
#6	Operating	Continuous Radio link with support equipment – Continuous Radio link with support equipment – Electronic support receiver associated with sample mobile phone connected only in charging mode.



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

SUPPORT EQUIPMENT

Defined as equipment needed for correct operation or loading of the EUT, but not considered as tested:

Equipment	Manufacturer	Model
Electronic receiver (furnished by client)	QINSIDE	Qi2001
Resistive loads	/	/
Mobile phone	SAMSUNG	GT-B7330

ELECTROMAGNETICALLY RELEVANT COMPONENTS

Component	No.	Manufacturer	Model
Single-chip WPC compliant wireless power transmitter (U1)	1	IDT	IDPT9030
TX Coil (L2)	1	/	24μH
Series resonant capacitors (C8, C11 & C20)	3	/	3x33nF= 100nF

RFI SUPPRESSION DEVICES

Component	No.	Manufacturer	Model
/	/	/	/

EMI PROTECTION DEVICES

Component	No.	Manufacturer	Model
/	/	/	/

EUT TECHNICAL DOCUMENTATION

Document	Reference
Wiring diagram	No reference. Date:2012/12/10
Qi1001 Wireless Charger – Safety and warning instructions	Document Number Mi1001 V1.0



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

5. METHODS OF MEASUREMENT

All compliance measurements have been carried out using the procedures described in the standard FCC OST / MP-5 (February 1986).

Additional test requirements have been adopted according to the reference Section indicated in the § 6 of this test report.

FREQUENCY RANGE INVESTIGATED

Conducted emission tests : from 150 kHz to 30 MHz.

Radiated emission tests: from 9 kHz to 1GHz



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

6. SUMMARY OF TEST RESULTS

POSSIBLE TEST CASE VERDICTS:	
Test object does meet the requirement	PASS
Test object does not meet the requirement	FAIL
Test case does not apply to the test object	N.A.
Test not performed	N.P.

CFR47 Part 18	TITLE	RESULT
§ 18.307	Conducted emission	PASS
§ 18.305	Radiated disturbances	PASS



IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

7. TEST RESULTS

7.1 CONDUCTED EMISSION

TEST REQUIREMENT	
Test setup	FCC OST / MP-5 par. 7
Frequency range	150 kHz ÷ 30 MHz
IF bandwidth	9 kHz
EMC class	B
EUT operating condition	#1 to #6
Remark	None

TEST RESULT
The EUT meets the requirements of sections 18.307

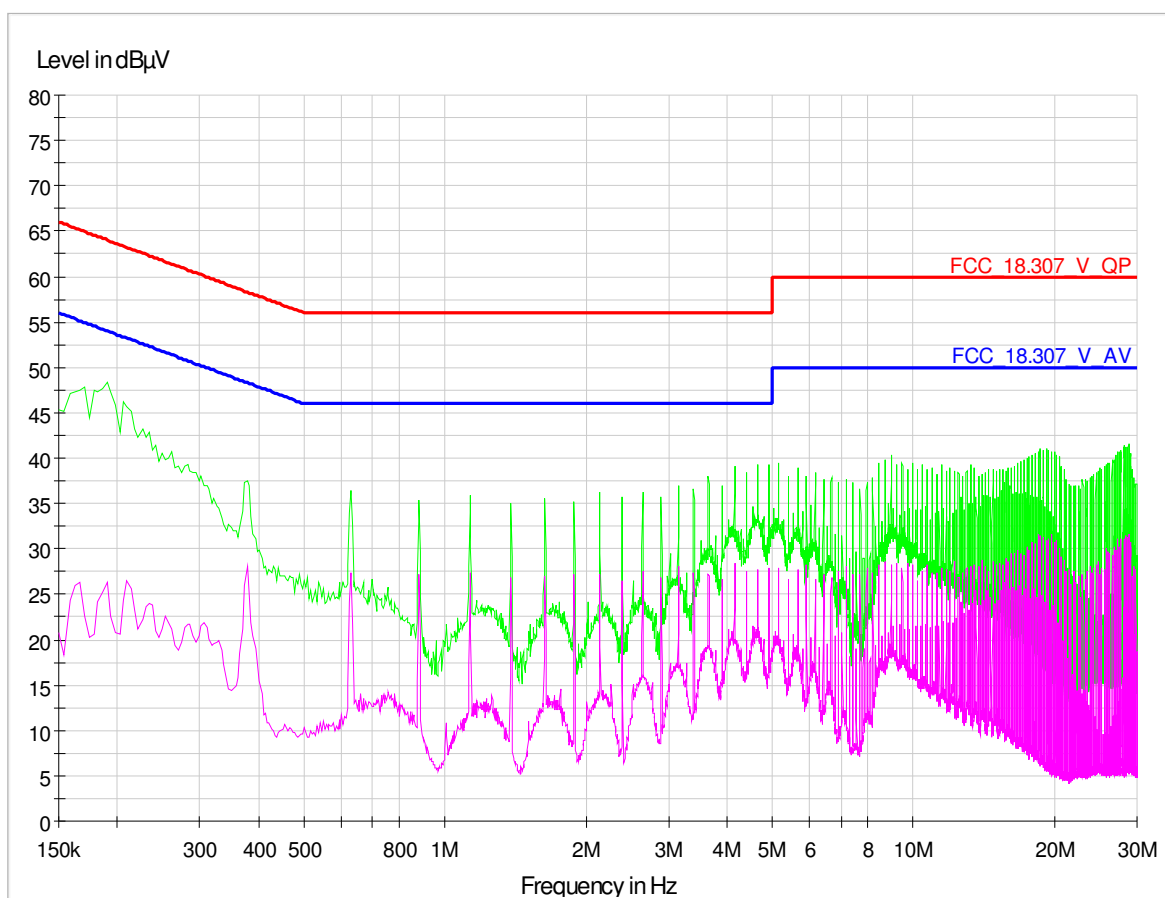
TEST PROCEDURE
1) The EUT was placed on a wooden table of size, 80 cm by 80 cm, raised 80 cm in which is located 40 cm away from the vertical wall the shielded room. 2) Each EUT power cord input cord was individually connected through a 50Ω/50μH LISN to the input power source. 3) Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement. 4) The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 MHz to 30 MHz. 5) The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 10 kHz during the measurements. 6) The measurements with Quasi-Peak detector are performed only for frequencies for which the Peak values are ≥ (Q.P. limit - 6 dB).

MEASUREMENTS RESULTS

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

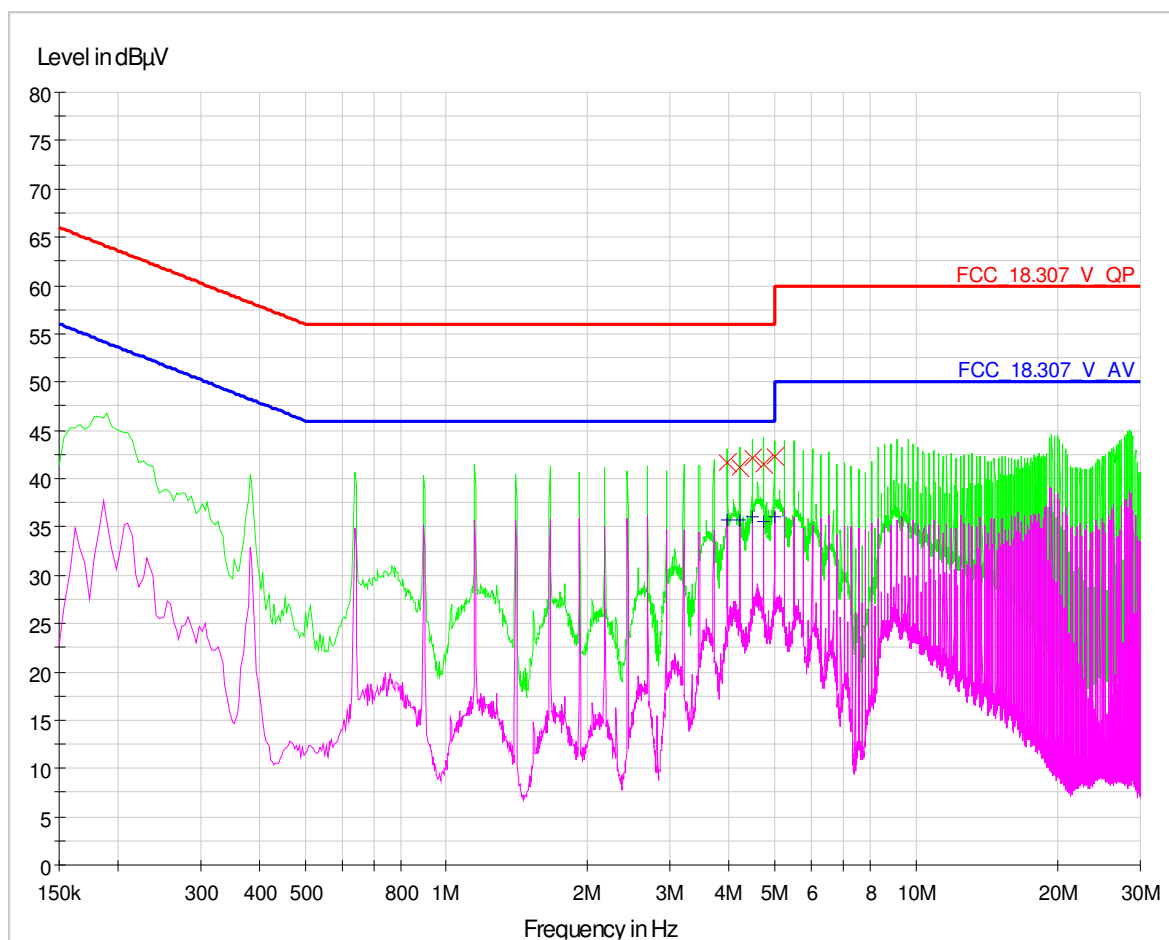
Operating condition #1



Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #1

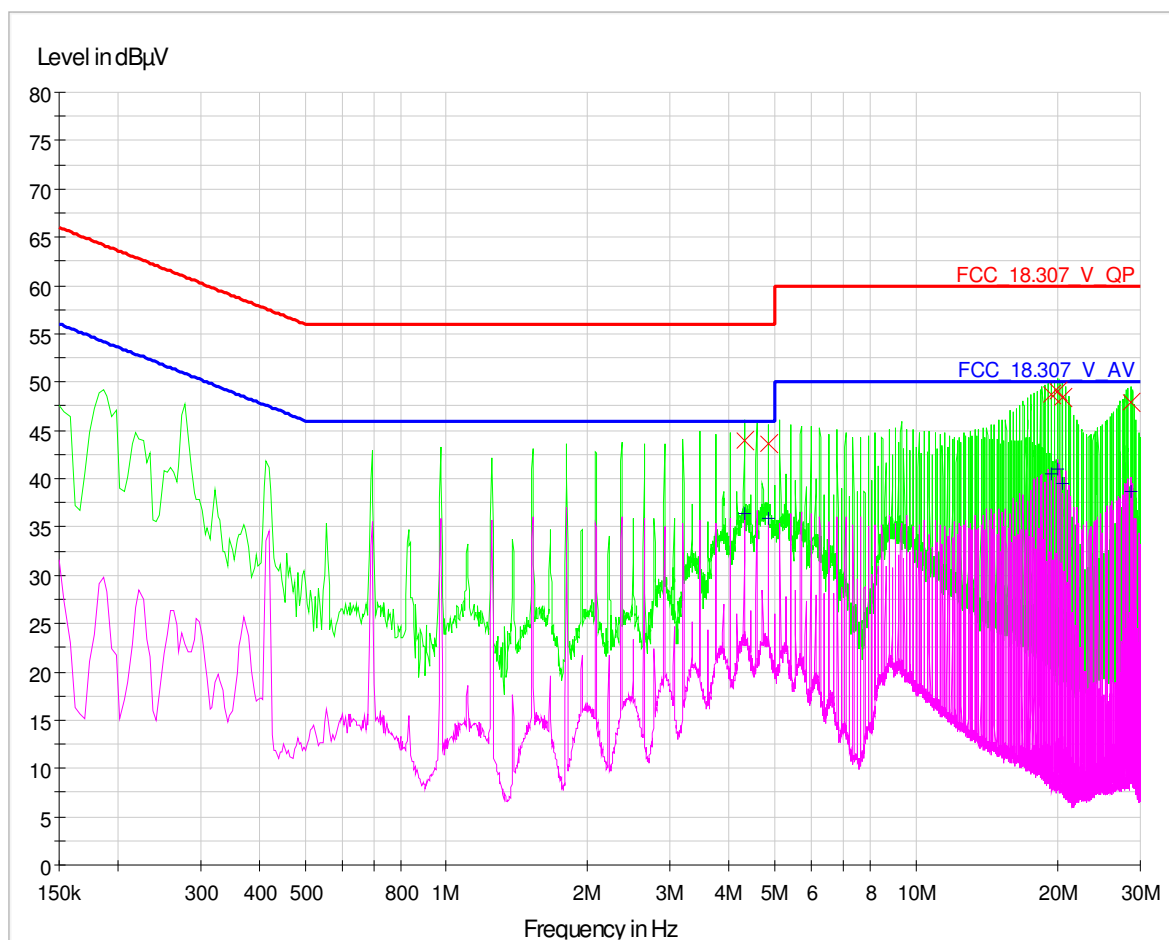


Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
3,970000	---	41,6	35,8	1000,0	9,000	Off	N	9,7
4,226000	---	41,1	35,7	1000,0	9,000	Off	N	9,7
4,482000	---	42,1	36,1	1000,0	9,000	Off	N	9,7
4,738000	---	41,4	35,6	1000,0	9,000	Off	N	9,7
4,994000	---	42,3	36,0	1000,0	9,000	Off	N	9,7

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

Operating condition #2

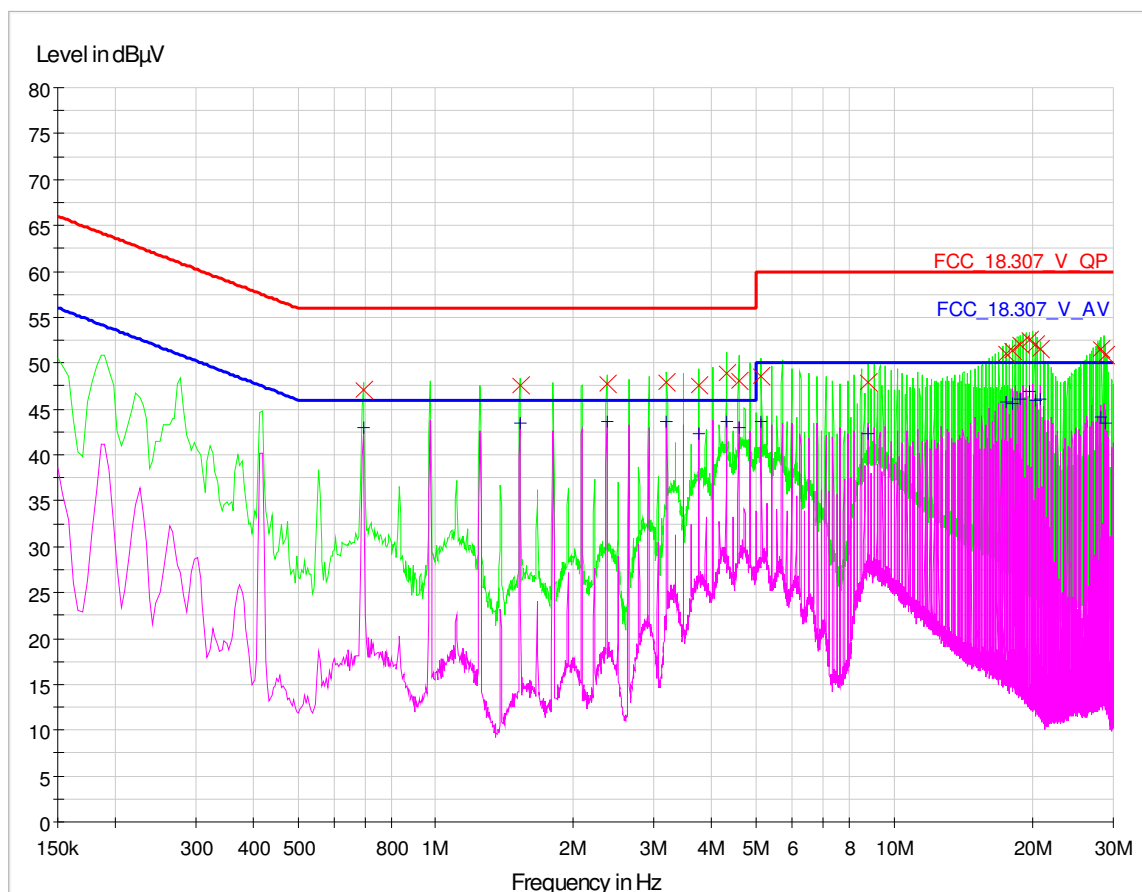


Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
4,298000	---	43,9	36,4	1000,0	9,000	Off	L1	9,7
4,854000	---	43,7	35,9	1000,0	9,000	Off	L1	9,7
19,410000	---	48,7	40,4	1000,0	9,000	Off	L1	9,7
19,966000	---	49,1	41,0	1000,0	9,000	Off	L1	9,7
20,522000	---	48,4	39,6	1000,0	9,000	Off	L1	9,8
28,562000	---	47,9	38,7	1000,0	9,000	Off	L1	9,7

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #2

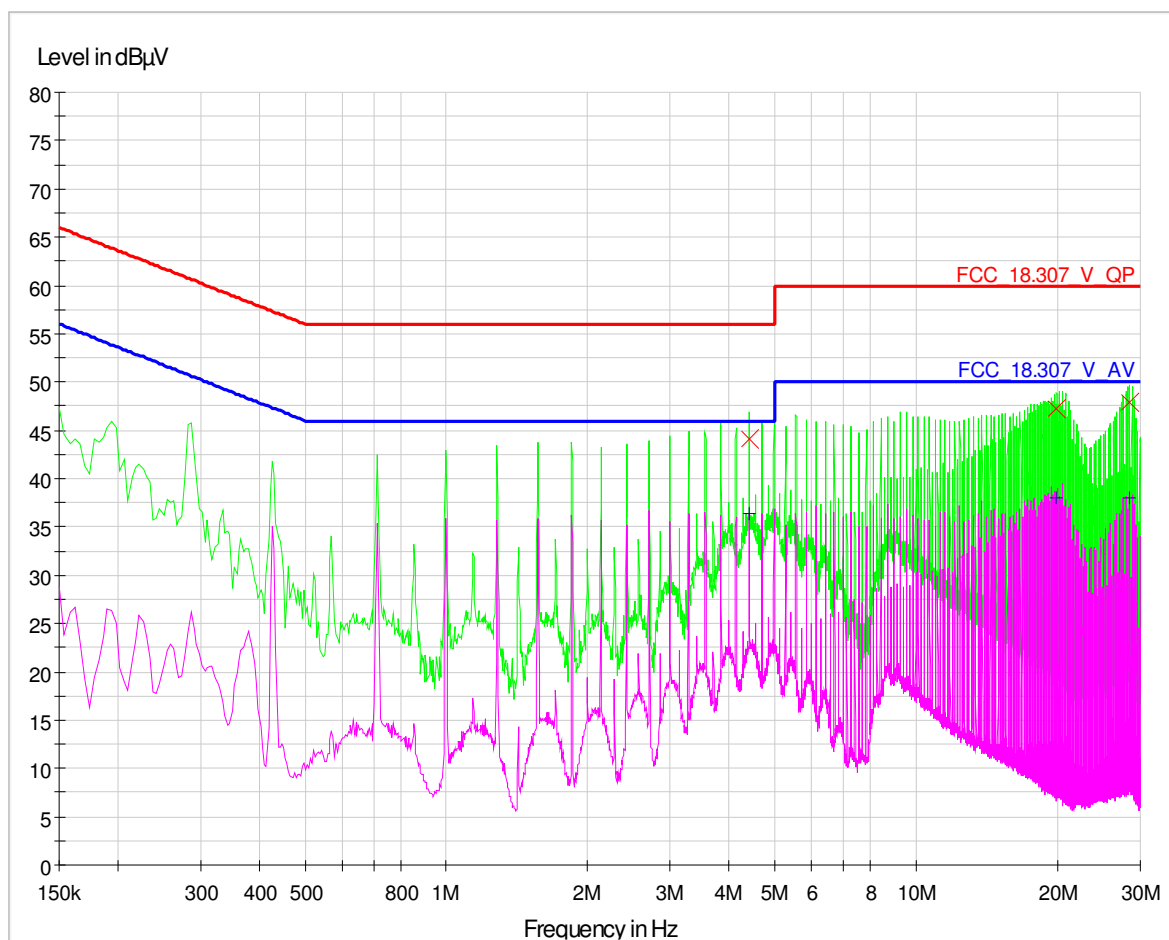


Frequency MHz	MaxPeak dBμV	QuasiPeak dBμV	Average dBμV	Meas. Time ms	Bandwidth kHz	Filter	Line	Corr. dB
0,694000	---	47,0	42,9	1000,0	9,000	Off	N	9,6
1,526000	---	47,5	43,5	1000,0	9,000	Off	N	9,7
2,358000	---	47,7	43,6	1000,0	9,000	Off	N	9,7
3,190000	---	47,9	43,6	1000,0	9,000	Off	N	9,7
3,742000	---	47,6	42,2	1000,0	9,000	Off	N	9,7
4,298000	---	48,9	43,6	1000,0	9,000	Off	N	9,7
4,574000	---	48,0	43,0	1000,0	9,000	Off	N	9,7
5,130000	---	48,6	43,6	1000,0	9,000	Off	N	9,7
8,734000	---	48,0	42,4	1000,0	9,000	Off	N	9,7
17,470000	---	51,0	45,8	1000,0	9,000	Off	N	9,8
18,026000	---	51,4	45,6	1000,0	9,000	Off	N	9,8
18,858000	---	51,9	46,1	1000,0	9,000	Off	N	9,8
19,690000	---	52,5	46,8	1000,0	9,000	Off	N	9,8
20,246000	---	52,1	45,9	1000,0	9,000	Off	N	9,9
20,798000	---	51,5	46,1	1000,0	9,000	Off	N	9,9
28,290000	---	51,6	44,2	1000,0	9,000	Off	N	10,0
28,838000	---	50,9	43,5	1000,0	9,000	Off	N	10,0

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

Operating condition #3



Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
4,414000	---	44,0	36,4	1000,0	9,000	Off	L1	9,7
19,926000	---	47,3	38,0	1000,0	9,000	Off	L1	9,7
28,466000	---	47,9	38,0	1000,0	9,000	Off	L1	9,7

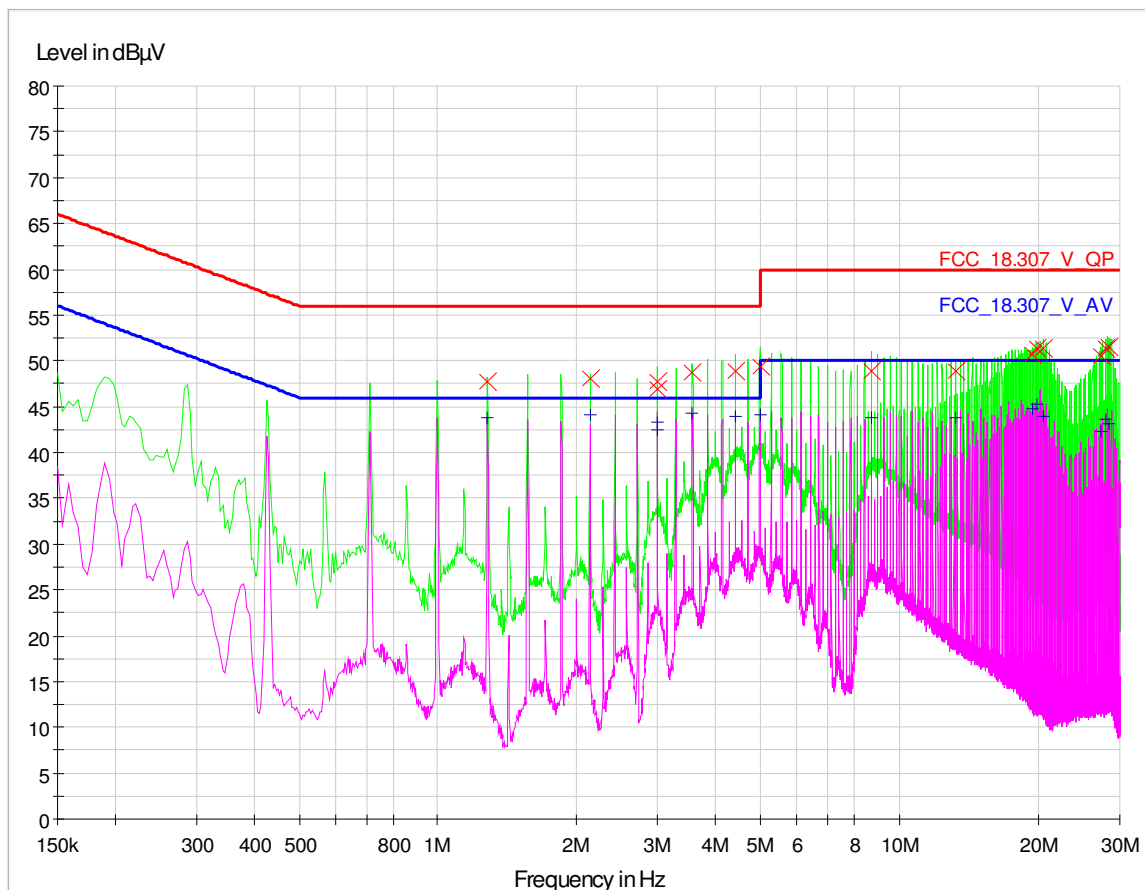


IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #3

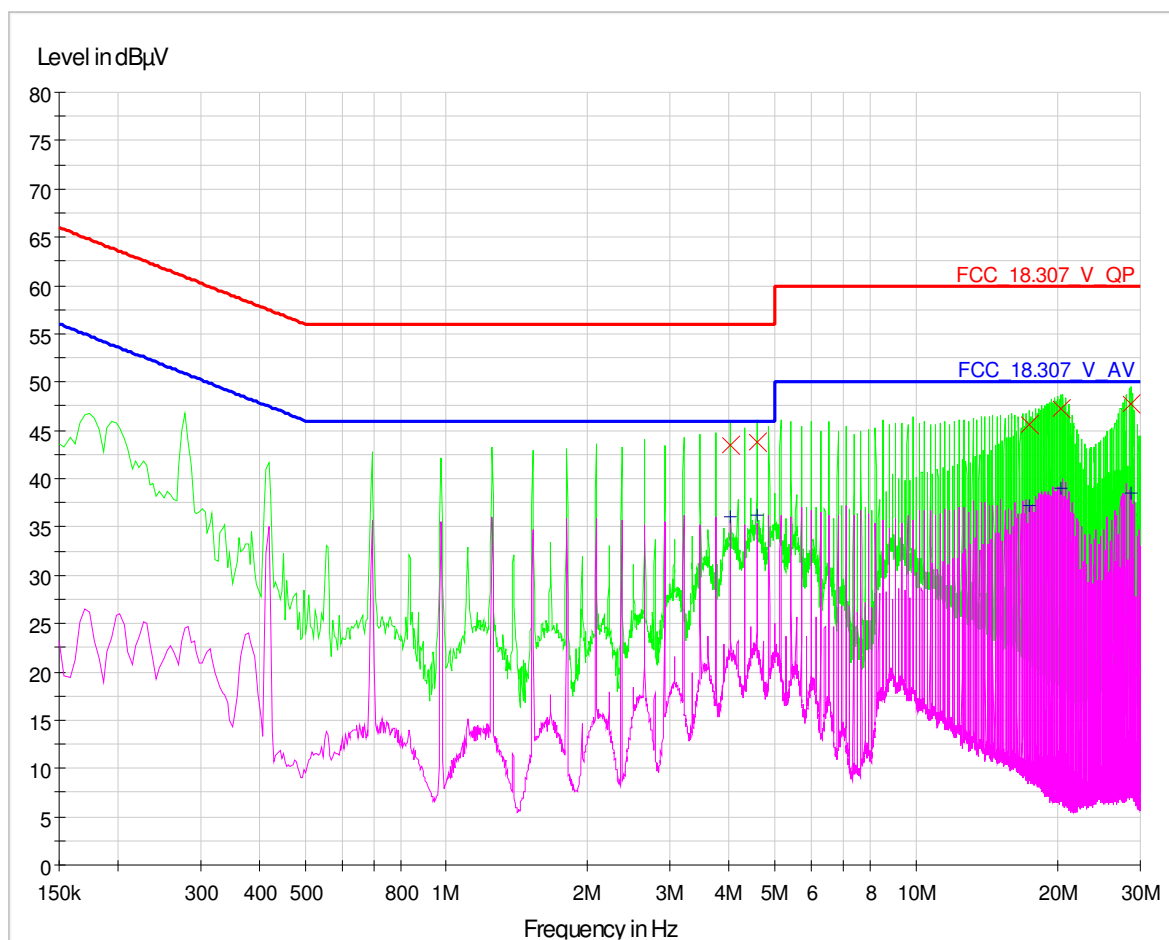


Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
1,282000	---	47,7	43,8	1000,0	9,000	Off	N	9,6
2,134000	---	48,0	44,1	1000,0	9,000	Off	N	9,7
2,986000	---	47,0	42,5	1000,0	9,000	Off	N	9,7
2,990000	---	47,7	43,3	1000,0	9,000	Off	N	9,7
3,558000	---	48,6	44,2	1000,0	9,000	Off	N	9,7
4,410000	---	49,0	43,9	1000,0	9,000	Off	N	9,7
4,982000	---	49,3	44,2	1000,0	9,000	Off	N	9,7
8,682000	---	48,9	43,9	1000,0	9,000	Off	N	9,7
13,234000	---	48,9	43,8	1000,0	9,000	Off	N	9,8
19,354000	---	50,7	44,7	1000,0	9,000	Off	N	9,8
19,922000	---	51,3	45,3	1000,0	9,000	Off	N	9,8
20,490000	---	51,4	43,9	1000,0	9,000	Off	N	9,9
27,326000	---	50,6	42,3	1000,0	9,000	Off	N	10,0
27,890000	---	51,3	43,6	1000,0	9,000	Off	N	10,0
28,462000	---	51,6	43,0	1000,0	9,000	Off	N	10,0

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

Operating condition #4



Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
4,026000	---	43,5	36,1	1000,0	9,000	Off	L1	9,7
4,582000	---	43,8	36,2	1000,0	9,000	Off	L1	9,7
17,354000	---	45,6	37,2	1000,0	9,000	Off	L1	9,7
20,274000	---	47,2	39,0	1000,0	9,000	Off	L1	9,7
28,602000	---	47,8	38,5	1000,0	9,000	Off	L1	9,7

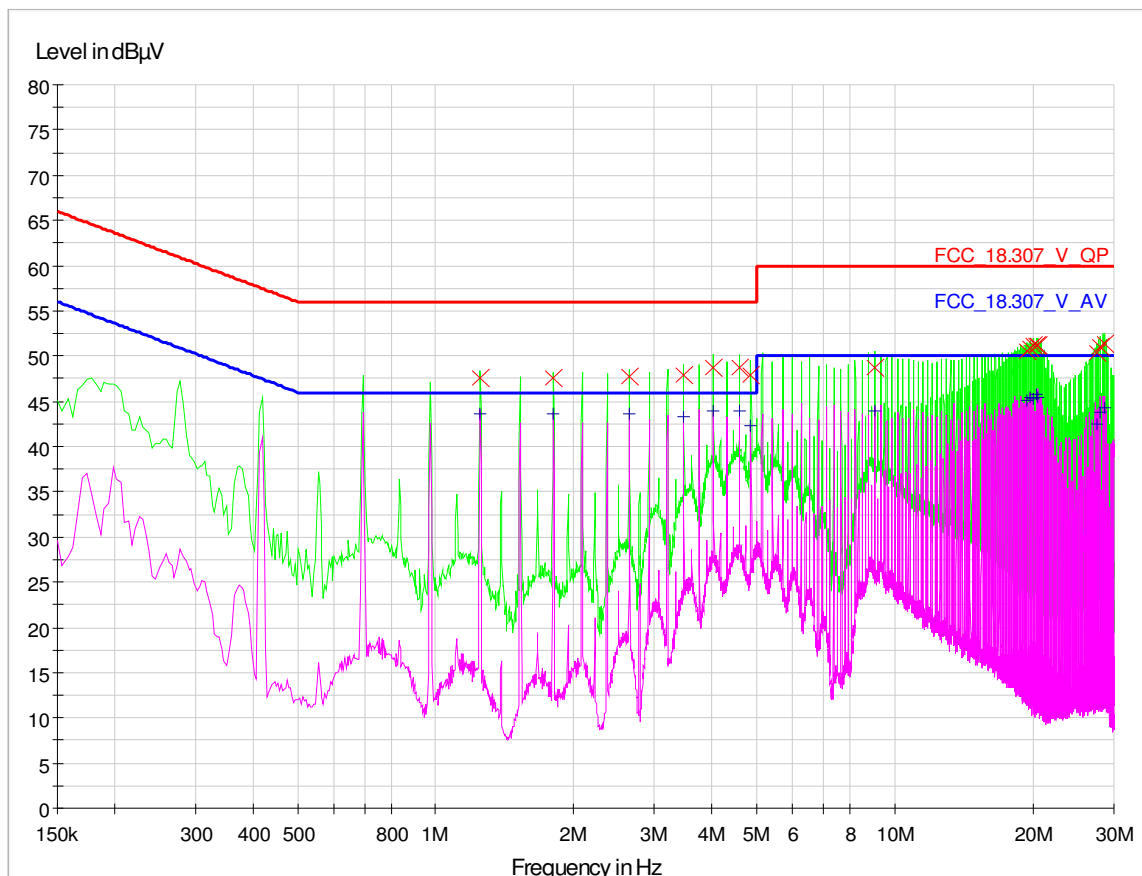


IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #4

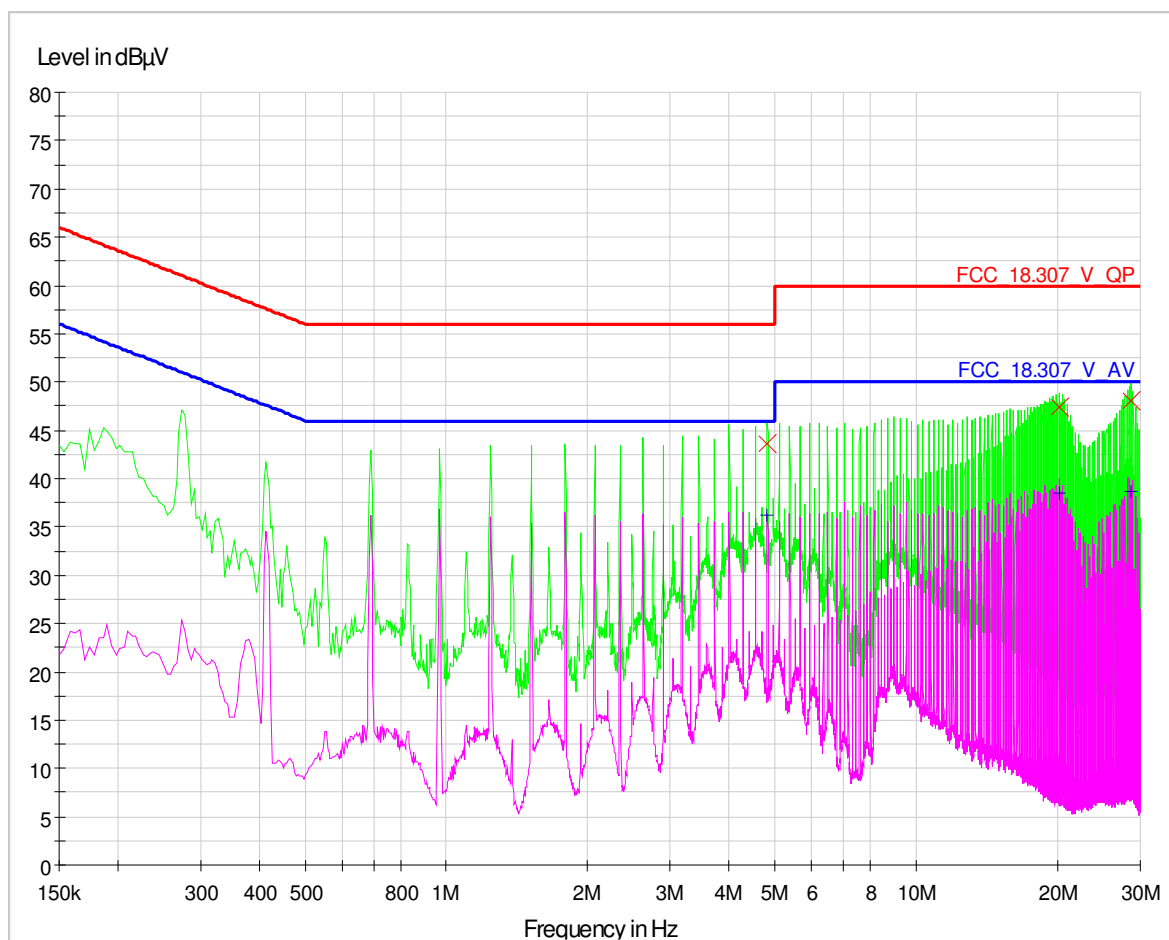


Frequency MHz	MaxPeak dBμV	QuasiPeak dBμV	Average dBμV	Meas. Time ms	Bandwidth kHz	Filter	Line	Corr. dB
1,250000	---	47,6	43,7	1000,0	9,000	Off	N	9,6
1,806000	---	47,6	43,7	1000,0	9,000	Off	N	9,7
2,638000	---	47,7	43,6	1000,0	9,000	Off	N	9,7
3,470000	---	47,8	43,4	1000,0	9,000	Off	N	9,7
4,026000	---	48,6	43,9	1000,0	9,000	Off	N	9,7
4,582000	---	48,8	43,9	1000,0	9,000	Off	N	9,7
4,862000	---	47,8	42,4	1000,0	9,000	Off	N	9,7
9,026000	---	48,6	43,9	1000,0	9,000	Off	N	9,7
19,442000	---	50,6	45,1	1000,0	9,000	Off	N	9,8
19,718000	---	50,9	45,5	1000,0	9,000	Off	N	9,8
19,994000	---	51,2	45,2	1000,0	9,000	Off	N	9,8
20,274000	---	51,2	45,8	1000,0	9,000	Off	N	9,9
20,550000	---	51,2	45,4	1000,0	9,000	Off	N	9,9
27,494000	---	50,3	42,4	1000,0	9,000	Off	N	10,0
28,046000	---	51,0	43,7	1000,0	9,000	Off	N	10,0
28,602000	---	51,4	44,2	1000,0	9,000	Off	N	10,0

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

Operating condition #5



Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
4,826000	---	43,6	36,2	1000,0	9,000	Off	L1	9,7
20,138000	---	47,5	38,6	1000,0	9,000	Off	L1	9,7
28,686000	---	48,0	38,8	1000,0	9,000	Off	L1	9,7

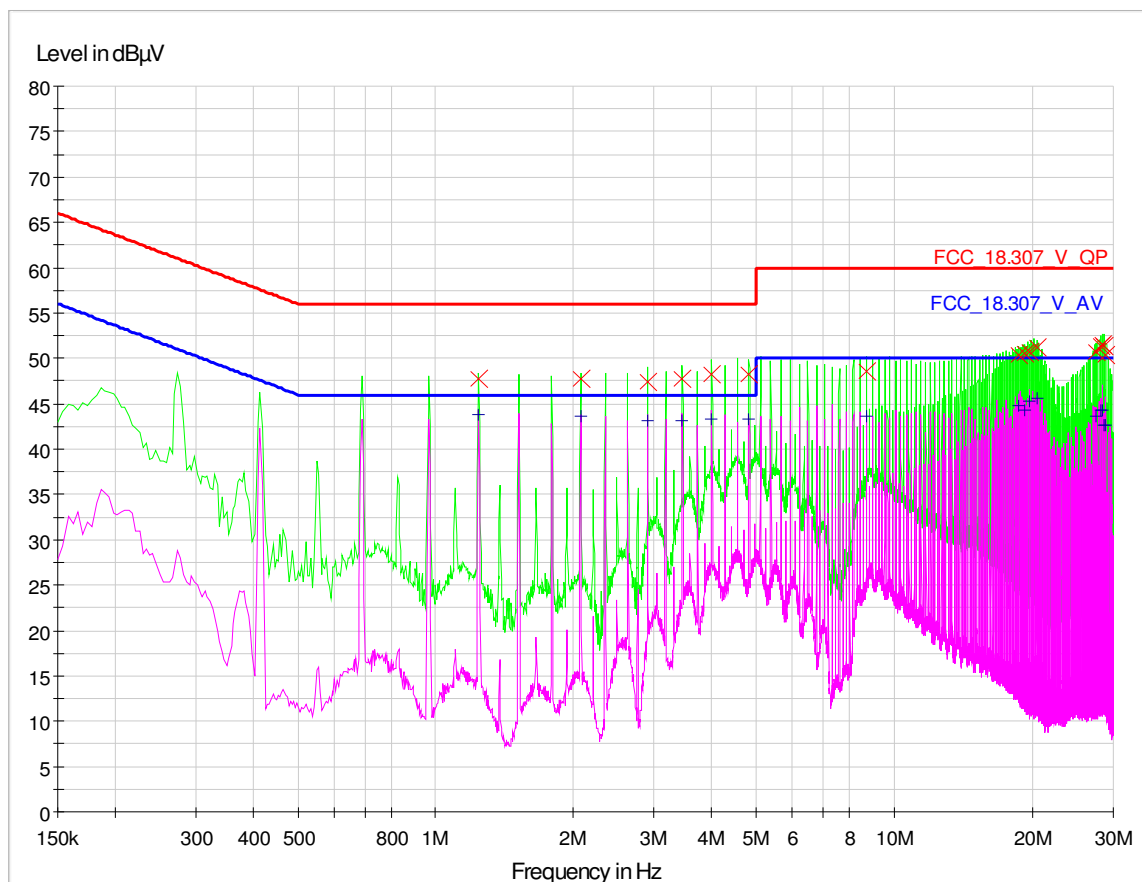


IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #5

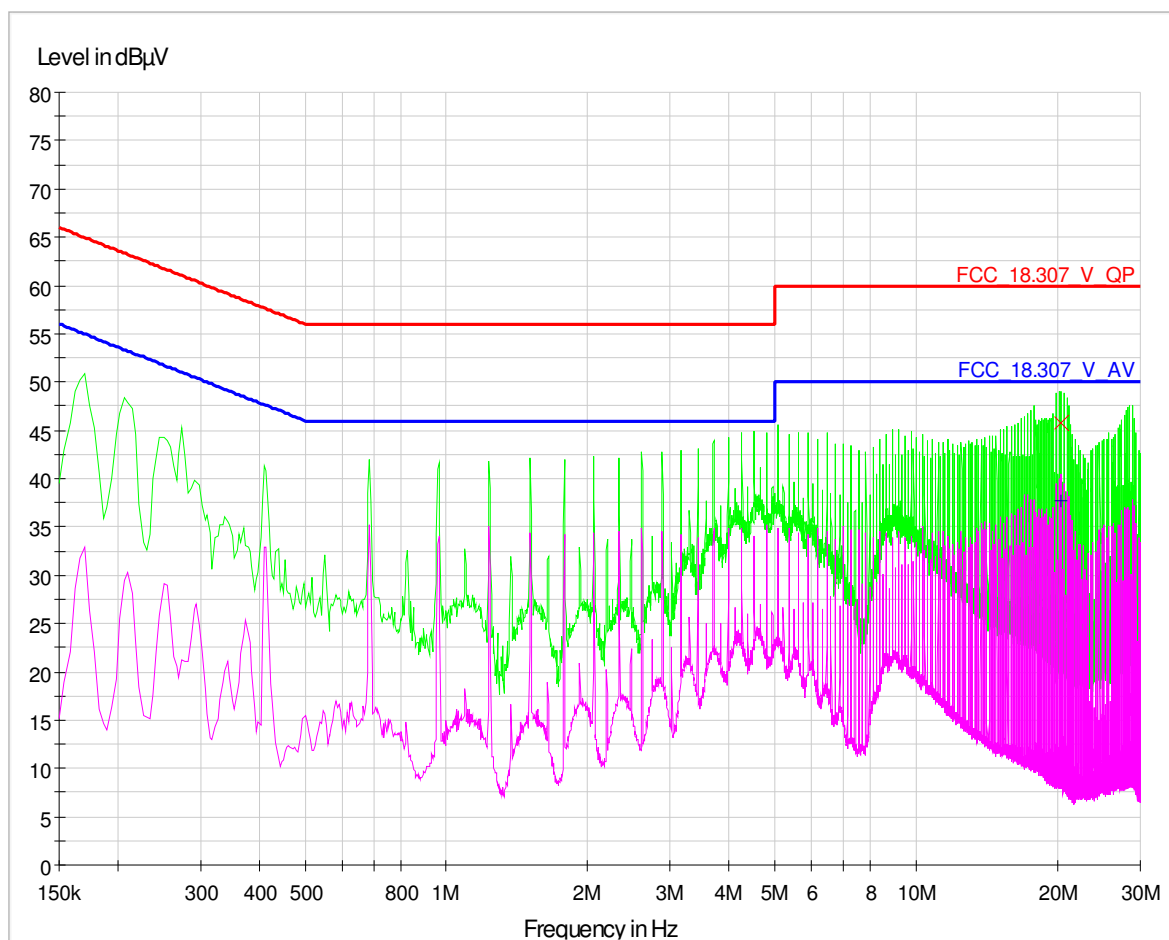


Frequency MHz	MaxPeak dBμV	QuasiPeak dBμV	Average dBμV	Meas. Time ms	Bandwidth kHz	Filter	Line	Corr. dB
1,242000	---	47,8	43,8	1000,0	9,000	Off	N	9,6
2,070000	---	47,7	43,6	1000,0	9,000	Off	N	9,7
2,898000	---	47,4	43,2	1000,0	9,000	Off	N	9,7
3,450000	---	47,7	43,1	1000,0	9,000	Off	N	9,7
4,002000	---	48,2	43,3	1000,0	9,000	Off	N	9,7
4,826000	---	48,2	43,4	1000,0	9,000	Off	N	9,7
8,690000	---	48,6	43,7	1000,0	9,000	Off	N	9,7
18,622000	---	50,4	44,8	1000,0	9,000	Off	N	9,8
19,310000	---	50,5	44,3	1000,0	9,000	Off	N	9,8
19,722000	---	50,7	45,2	1000,0	9,000	Off	N	9,8
20,410000	---	51,3	45,6	1000,0	9,000	Off	N	9,9
27,582000	---	50,6	43,6	1000,0	9,000	Off	N	10,0
28,138000	---	51,3	44,3	1000,0	9,000	Off	N	10,0
28,414000	---	51,6	44,3	1000,0	9,000	Off	N	10,0
28,690000	---	51,4	42,7	1000,0	9,000	Off	N	10,0
28,962000	---	50,4	42,7	1000,0	9,000	Off	N	10,0

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: PHASE

Operating condition #6

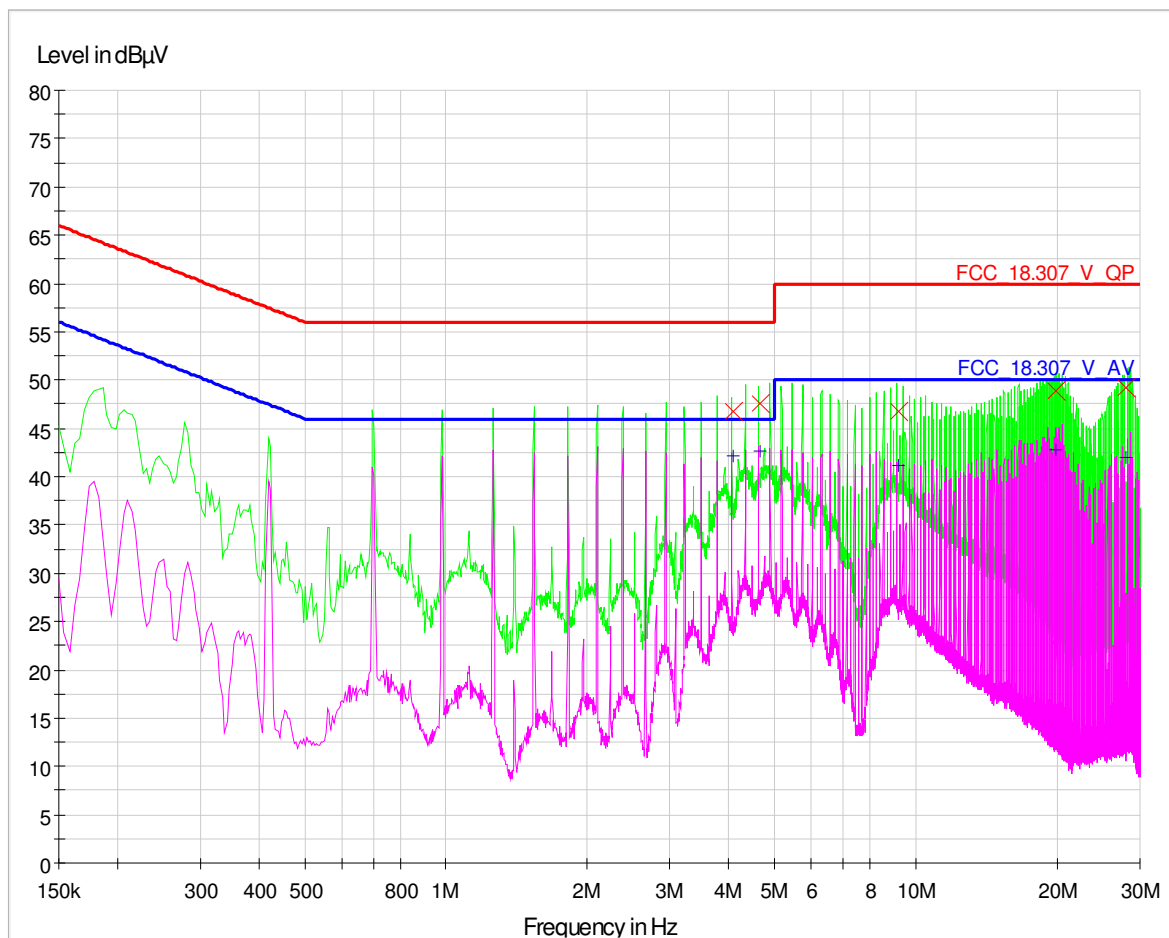


Frequency MHz	MaxPeak dBμV	QuasiPeak dBμV	Average dBμV	Meas. Time ms	Bandwidth kHz	Filter	Line	Corr. dB
20,346000	---	45,8	37,6	1000,0	9,000	Off	L1	9,7

Port: AC MAINS POWER PORT OF AC/DC ADAPTER

Line: NEUTRAL

Operating condition #6



Frequency	MaxPeak	QuasiPeak	Average	Meas. Time	Bandwidth	Filter	Line	Corr.
MHz	dBμV	dBμV	dBμV	ms	kHz			dB
4,082000	---	46,8	42,1	1000,0	9,000	Off	N	9,7
4,646000	---	47,5	42,7	1000,0	9,000	Off	N	9,7
9,170000	---	46,7	41,2	1000,0	9,000	Off	N	9,7
19,926000	---	48,9	42,8	1000,0	9,000	Off	N	9,8
28,038000	---	49,2	41,9	1000,0	9,000	Off	N	10,0



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

7.2 RADIATED DISTURBANCES

TEST REQUIREMENT	
Test setup	FCC OST / MP-5 par. 5
Test facility	Semi-anechoic chamber
Test distance	3 meters
Frequency range	9 kHz to tenth harmonic of fundamental
IF bandwidth (below 30 MHz)	9 kHz
IF bandwidth (below 1,000 MHz)	120 kHz
IF bandwidth (above 1,000 MHz)	1 MHz
Deviation to test procedure	None
Limits	section 18.305
EUT operating condition	#1 to #6
Remark	(*) In accordance with part 15.31 (f) (2), where the measurement distance was specified to be 30 or 300 meters, a correction factor was applied in order to permit measurement to be performed at a separation distance. The applied formula for limits at 3 meter is: Extrapolation (dB) = $40\log(300\text{meter} / 3\text{meter}) = +80\text{db}$ Extrapolation (dB) = $40\log(30\text{meter} / 3\text{meter}) = +40\text{db}$

TEST RESULT
The EUT meets the requirements of sections 18.305.

LIMITS < 30MHZ		
Band of operations	Limit $\mu\text{V/m}$	Limit $\text{dB}\mu\text{V/m}$
0.009÷30 MHz	15 (at 300m)	23.52 (at 300m)
0.009÷30 MHz	150000 (at 3m)	103.52 (at 3m)

LIMITS > 30MHZ		
Band of operations	Limit $\mu\text{V/m}$	Limit $\text{dB}\mu\text{V/m}$
30÷88 MHz	100	40
88÷216 MHz	150	43.5
216÷960 MHz	200	46
Above 960MHz	500	54

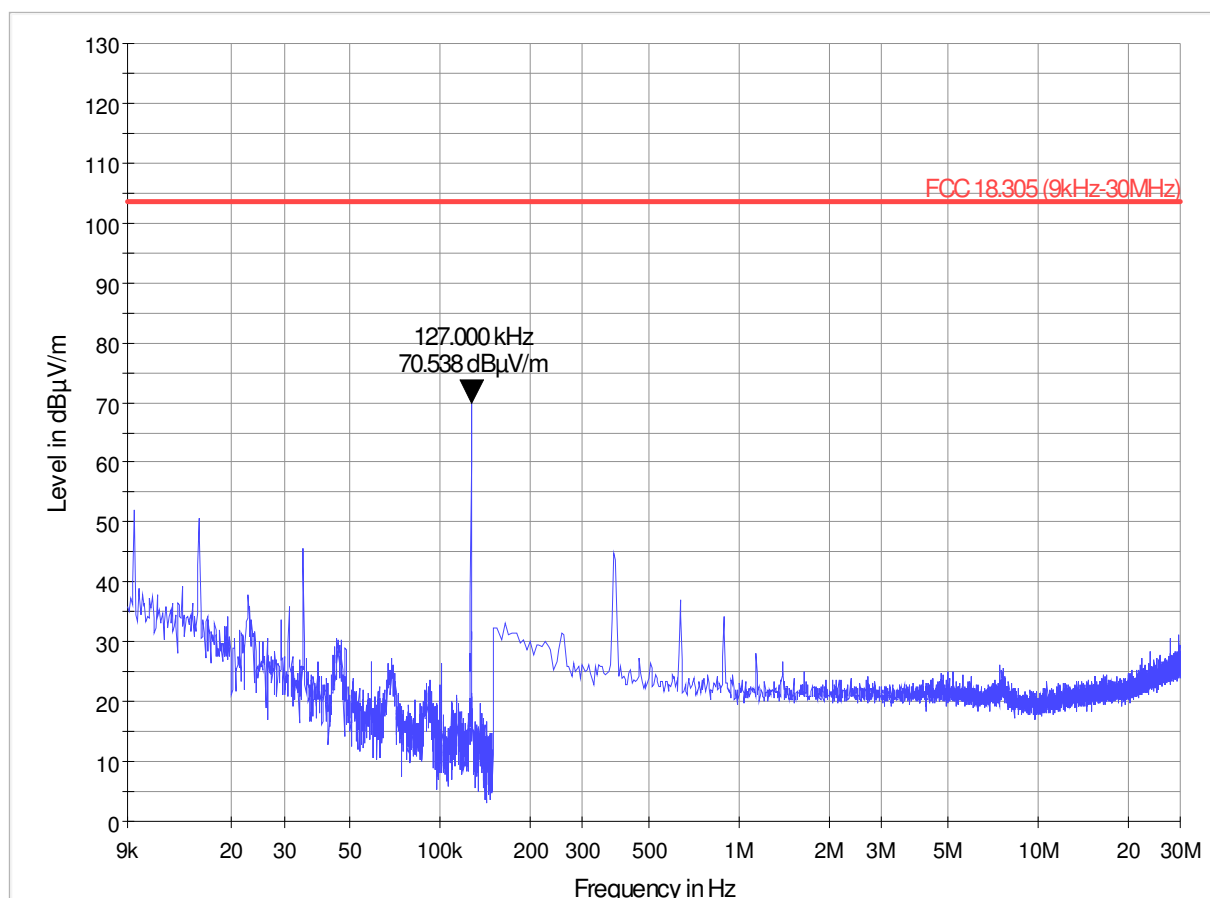
TEST PROCEDURE

- 1) The EUT was placed on turntable which is 0.8 m above the ground plane
- 2) The turntable shall rotate from 0° to 360° degrees to determine the position of maximum emission level.
- 3) The EUT is positioned 3 m away from the receiving antenna which varied from 1 to 4 m to find the highest emission.
- 4) The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 100 kHz below 1000 MHz and 1 MHz above 1000 MHz.
- 5) The receiving antenna was positioned in both horizontal and vertical polarization.
- 6) The measurements with Quasi-Peak detector, below 1000 MHz are performed only for frequencies for which the Peak values are $\geq$ (Q.P. limit – 6 dB).

MEASUREMENTS RESULTS

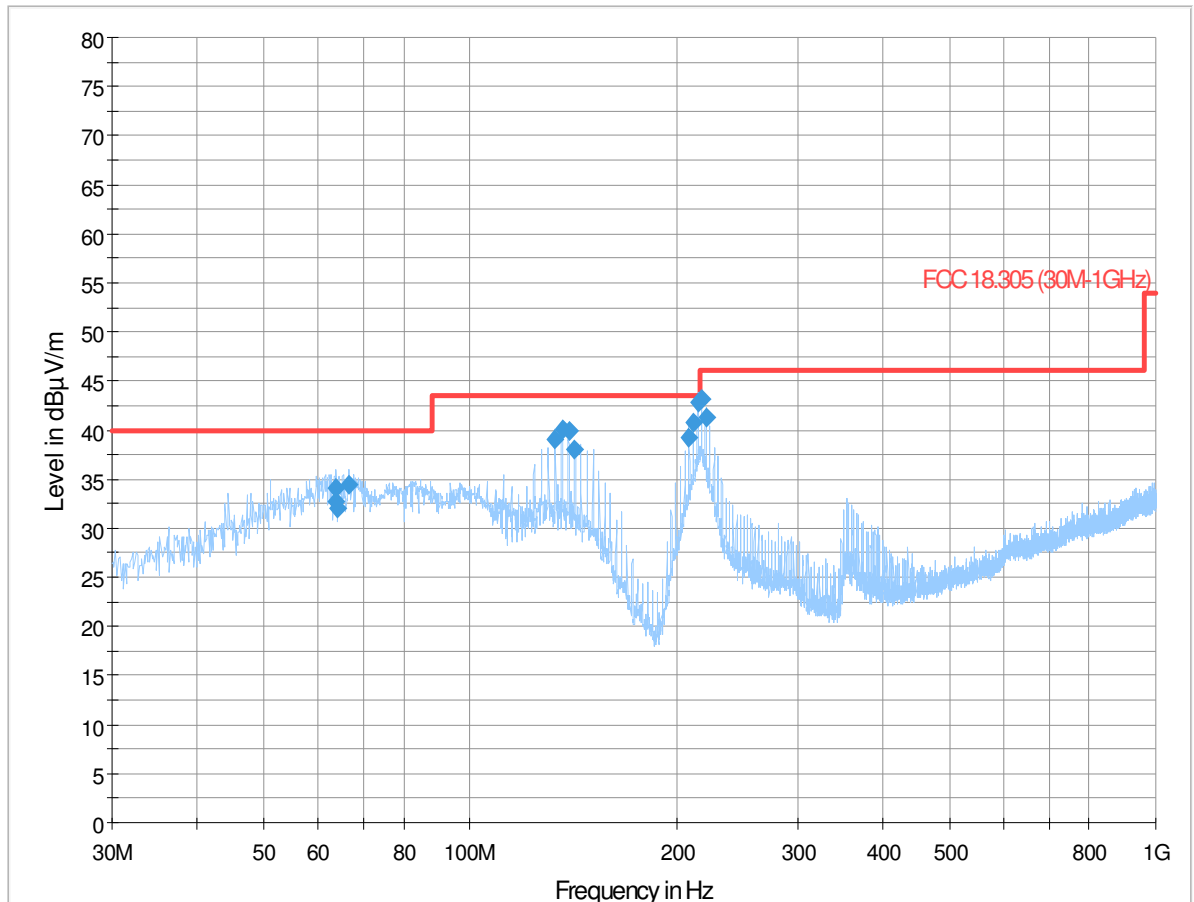
Range: 9kHz ÷ 30 MHz

Operating condition #1



Range: 30 ÷ 1000 MHz

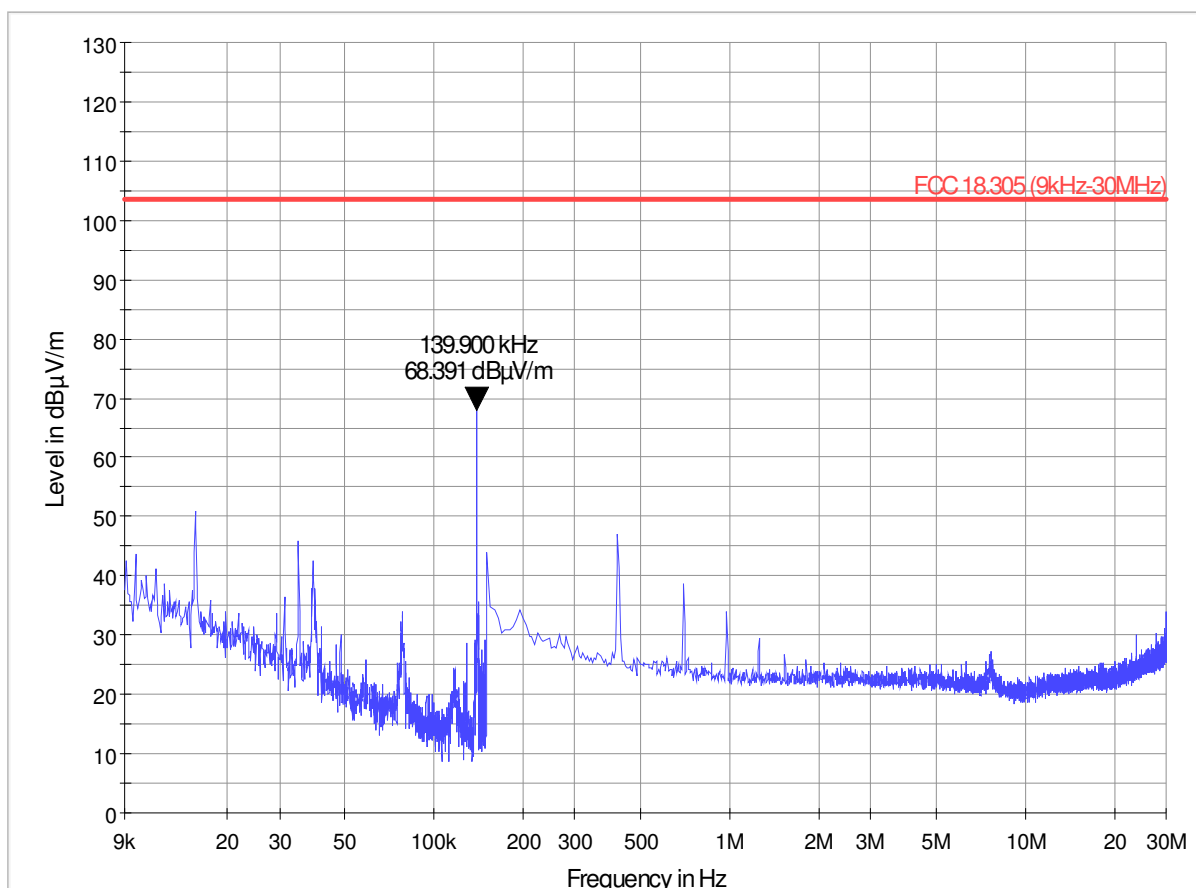
Operating condition #1



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
63.456250	34.1	1000.0	120.000	181.0	V	83.0	12.5	5.90	40.00
63.467500	32.7	1000.0	120.000	318.0	V	95.0	12.5	7.30	40.00
63.973750	32.1	1000.0	120.000	220.0	V	97.0	12.4	7.90	40.00
66.576250	34.4	1000.0	120.000	260.0	V	93.0	12.0	5.60	40.00
133.061250	39.0	1000.0	120.000	201.0	H	194.0	14.3	4.50	43.50
136.092500	40.1	1000.0	120.000	201.0	H	208.0	14.5	3.40	43.50
139.123750	39.9	1000.0	120.000	201.0	H	199.0	14.5	3.60	43.50
142.115000	38.0	1000.0	120.000	201.0	H	192.0	14.5	5.50	43.50
208.681250	39.3	1000.0	120.000	179.0	H	86.0	12.2	4.20	43.50
211.752500	40.7	1000.0	120.000	198.0	H	97.0	12.1	2.80	43.50
214.743750	42.8	1000.0	120.000	161.0	H	275.0	12.1	0.70	43.50
217.775000	43.1	1000.0	120.000	178.0	H	285.0	12.4	2.90	46.00
220.806250	41.4	1000.0	120.000	180.0	H	282.0	12.7	4.60	46.00

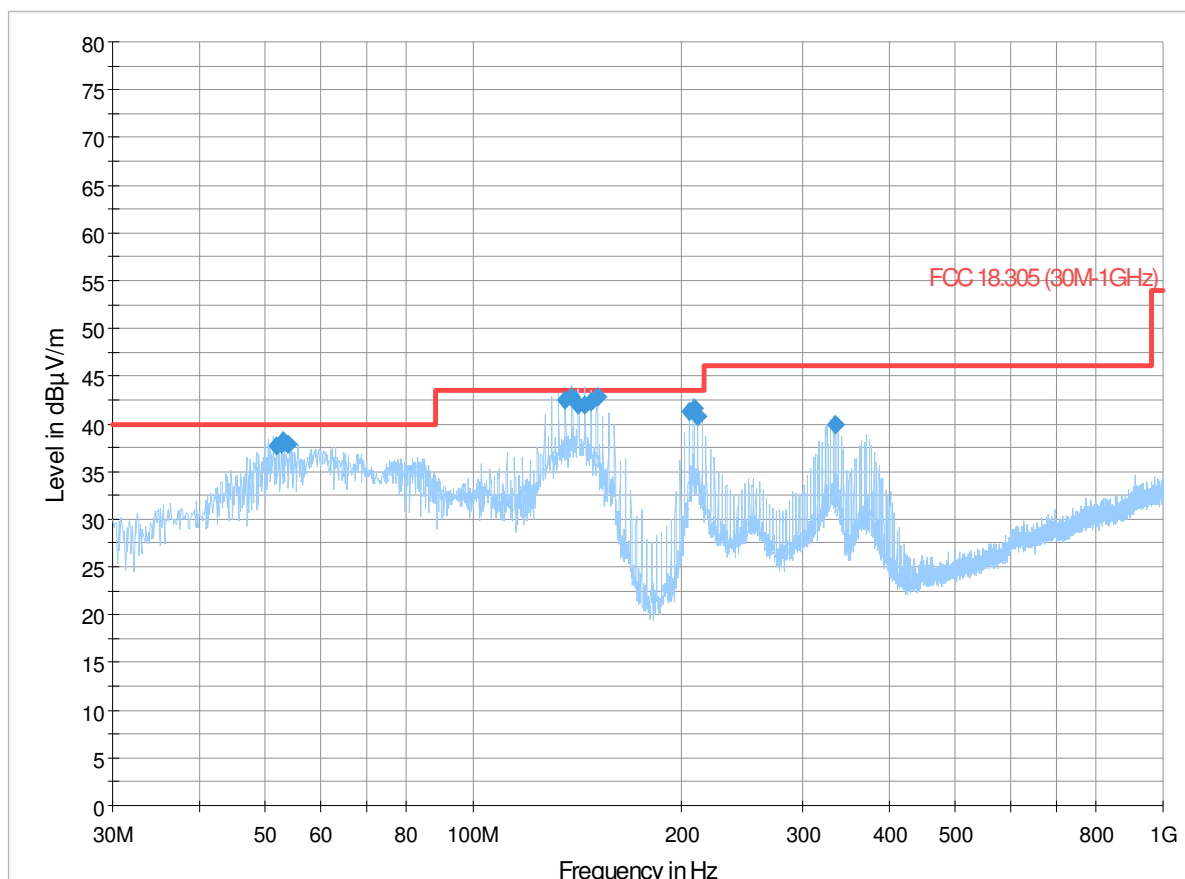
Range: 9kHz ÷ 30 MHz

Operating condition #2



Range: 30 ÷ 1000 MHz

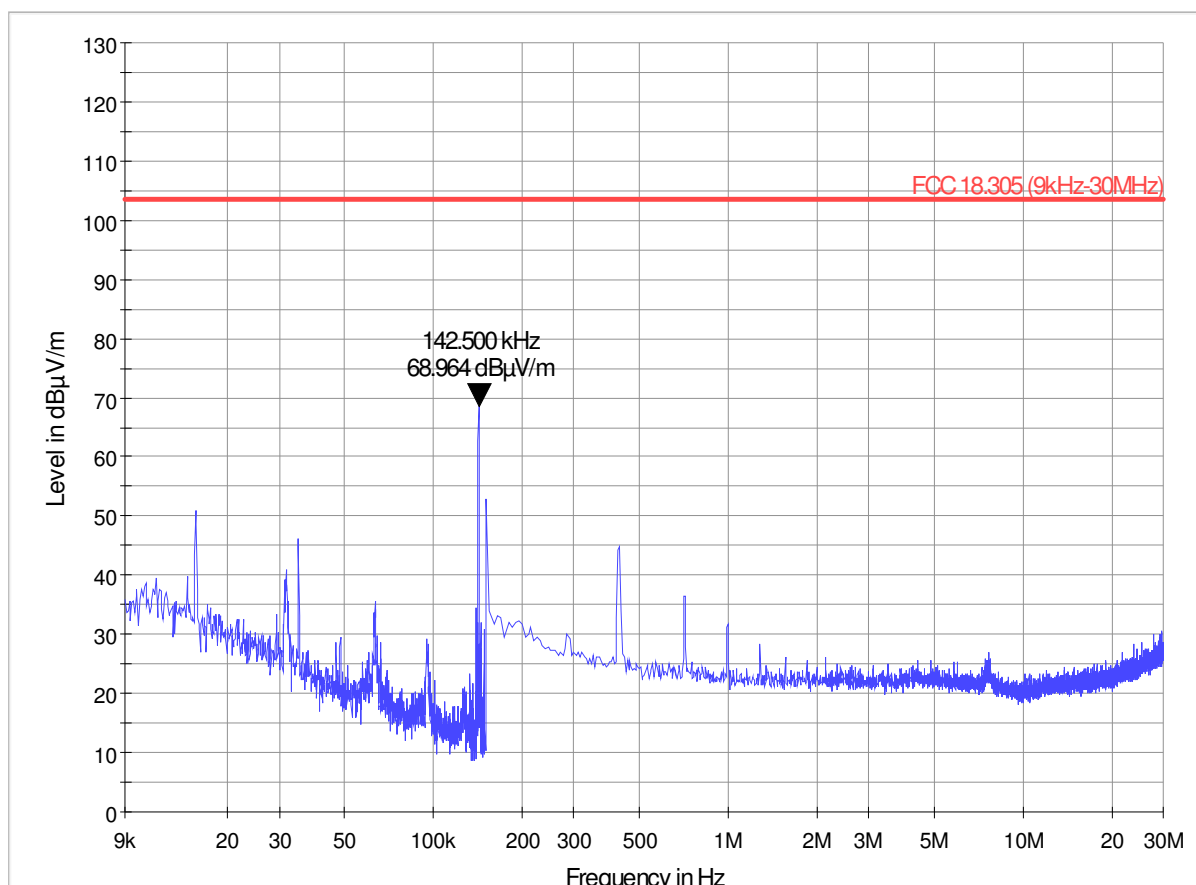
Operating condition #2



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
51.930000	37.6	1000.0	120.000	99.9	V	85.0	13.9	2.40	40.00
52.770000	37.8	1000.0	120.000	99.9	V	52.0	13.9	2.20	40.00
53.060000	38.1	1000.0	120.000	99.9	V	91.0	13.9	1.90	40.00
53.955000	37.9	1000.0	120.000	106.0	V	85.0	13.8	2.10	40.00
136.092500	42.4	1000.0	120.000	204.0	H	-30.0	14.5	1.10	43.50
139.123750	42.9	1000.0	120.000	341.0	H	-3.0	14.5	0.60	43.50
142.116250	42.0	1000.0	120.000	196.0	H	-31.0	14.5	1.50	43.50
145.186250	41.9	1000.0	120.000	200.0	H	-36.0	14.5	1.40	43.50
148.218750	42.3	1000.0	120.000	200.0	H	-26.0	14.5	1.20	43.50
151.250000	42.7	1000.0	120.000	224.0	H	-17.0	14.5	0.80	43.50
205.650000	41.2	1000.0	120.000	196.0	H	271.0	12.3	2.30	43.50
208.641250	41.6	1000.0	120.000	182.0	H	62.0	12.2	1.90	43.50
211.752500	40.7	1000.0	120.000	202.0	H	271.0	12.1	2.80	43.50
335.751250	39.9	1000.0	120.000	99.9	H	180.0	16.3	6.10	46.00

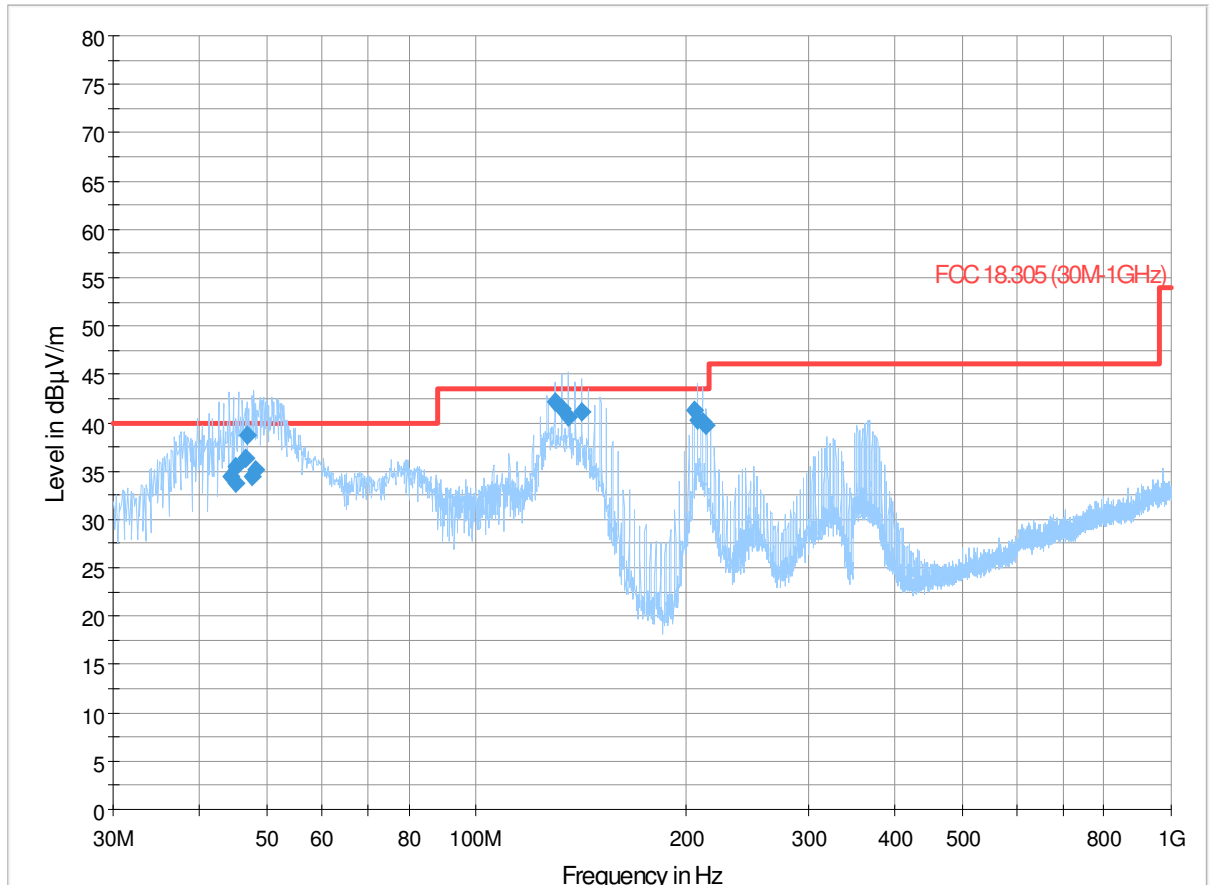
Range: 9kHz ÷ 30 MHz

Operating condition #3



Range: 30 ÷ 1000 MHz

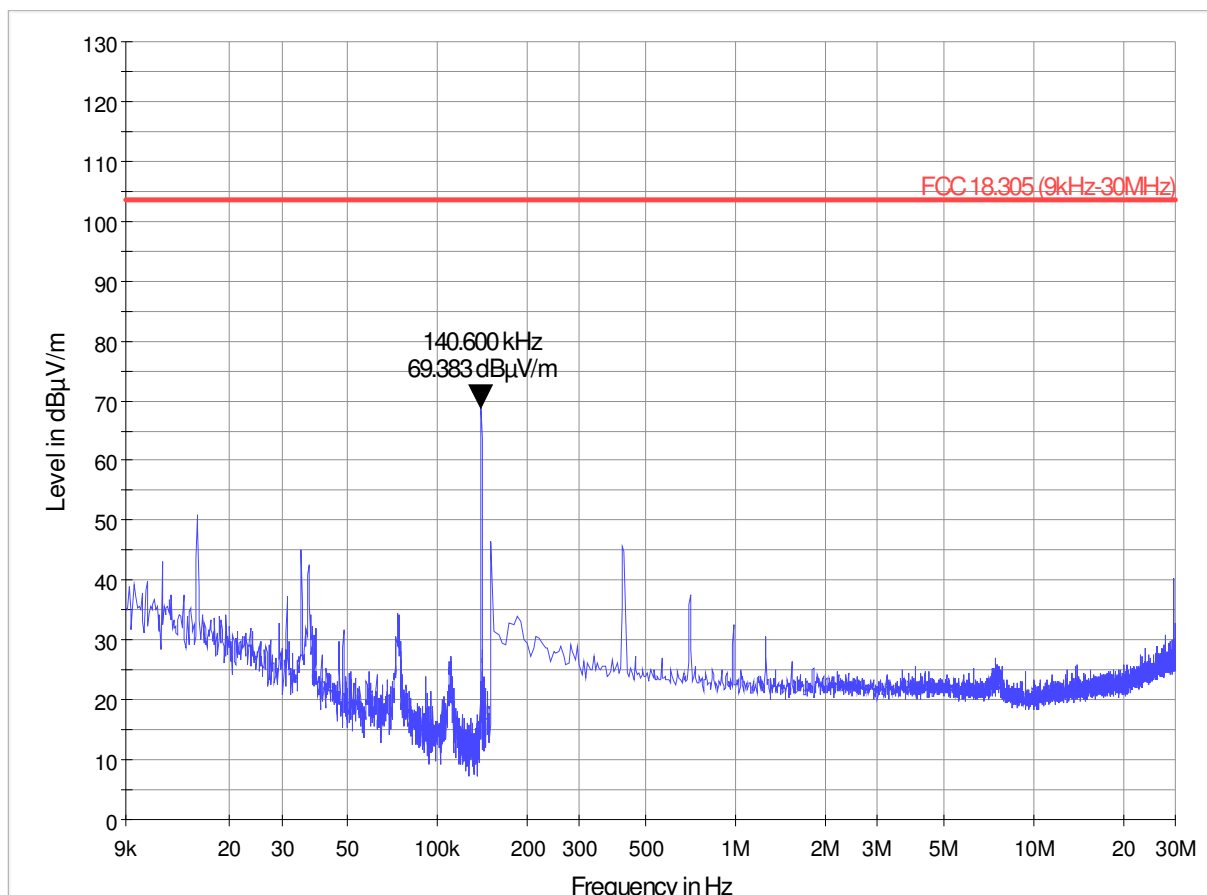
Operating condition #3



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas, Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr, (dB)	Margin (dB)	Limit (dBμV/m)
44.370000	34.4	1000.0	120.000	99.9	V	74.0	13.9	5.60	40.00
44.945000	35.5	1000.0	120.000	99.9	V	87.0	13.9	4.50	40.00
44.976250	33.7	1000.0	120.000	99.9	V	62.0	13.9	6.30	40.00
46.471250	36.3	1000.0	120.000	99.9	V	68.0	14.0	3.70	40.00
46.720000	38.7	1000.0	120.000	99.9	V	95.0	14.0	1.30	40.00
47.585000	34.4	1000.0	120.000	99.9	V	125.0	14.0	5.60	40.00
48.181250	35.1	1000.0	120.000	99.9	V	113.0	14.0	4.90	40.00
129.948750	42.1	1000.0	120.000	337.0	H	4.0	14.2	1.40	43.50
132.940000	41.4	1000.0	120.000	350.0	H	7.0	14.3	2.10	43.50
135.970000	40.6	1000.0	120.000	200.0	H	-23.0	14.5	2.90	43.50
141.992500	41.2	1000.0	120.000	200.0	H	-24.0	14.5	2.30	43.50
205.526250	41.3	1000.0	120.000	187.0	H	87.0	12.3	2.20	43.50
208.478750	40.3	1000.0	120.000	192.0	H	89.0	12.2	3.20	43.50
211.468750	40.1	1000.0	120.000	180.0	H	108.0	12.1	3.40	43.50
214.461250	39.8	1000.0	120.000	180.0	H	103.0	12.1	3.70	43.50

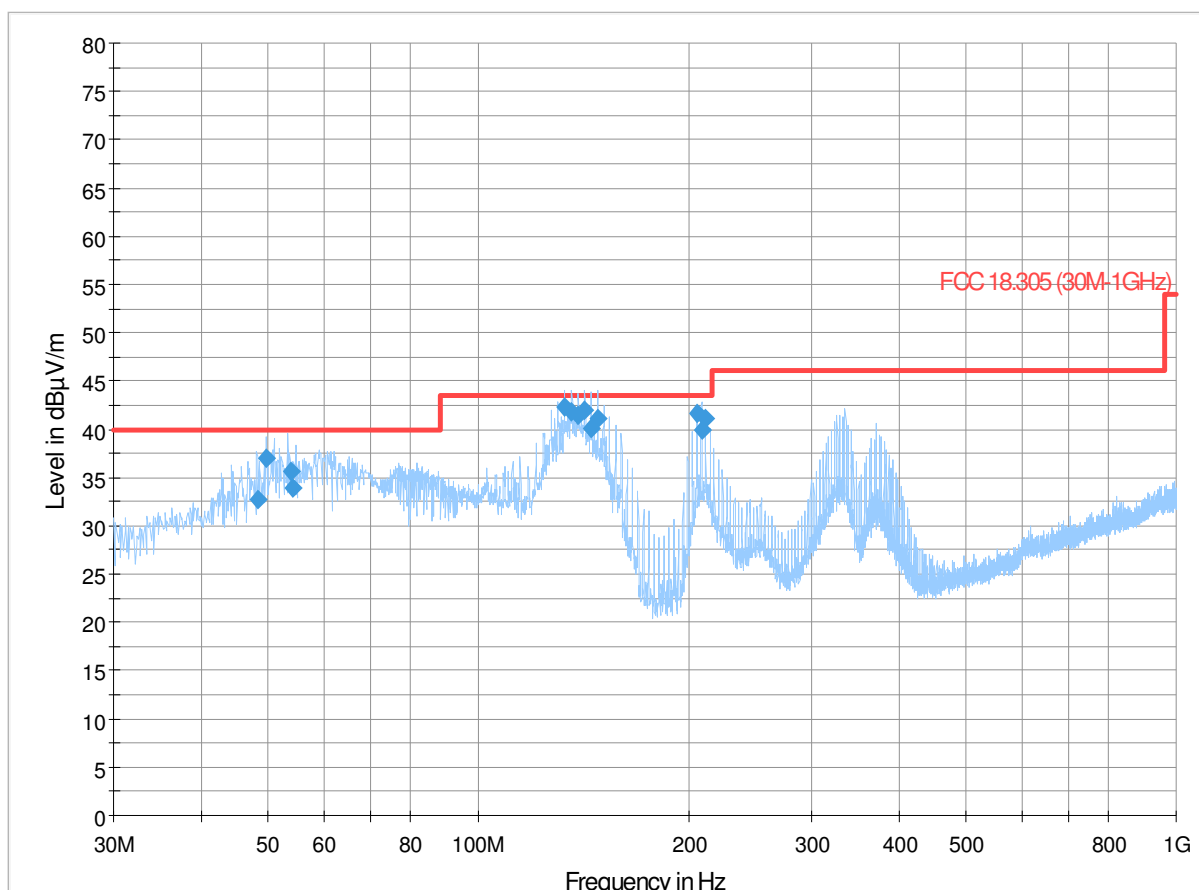
Range: 9kHz ÷ 30 MHz

Operating condition #4



Range: 30 ÷ 1000 MHz

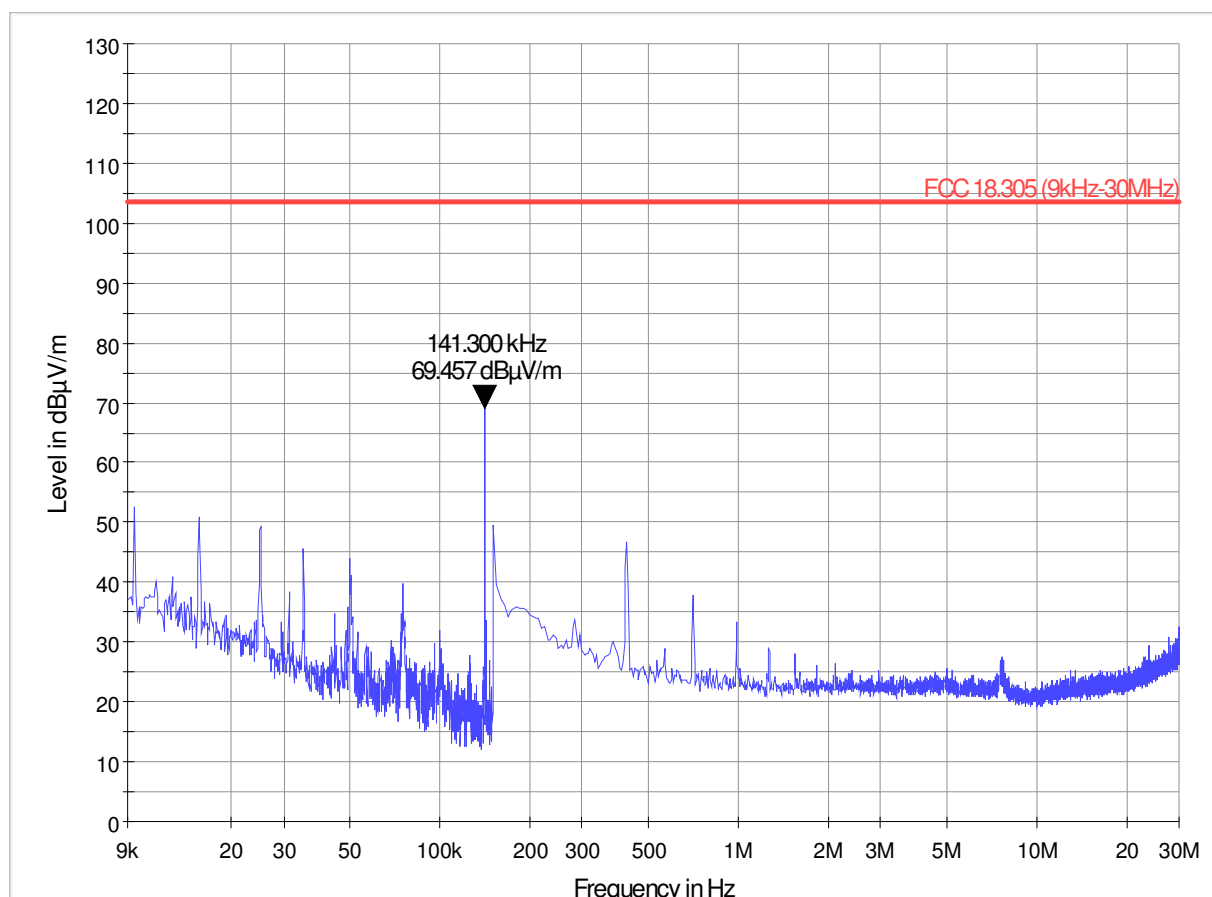
Operating condition #4



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
48.202500	32.8	1000.0	120.000	163.0	H	121.0	14.0	7.20	40.00
49.696250	37.1	1000.0	120.000	99.9	V	92.0	14.0	2.90	40.00
53.801250	35.7	1000.0	120.000	99.9	V	96.0	13.9	4.30	40.00
54.256250	34.0	1000.0	120.000	99.9	V	85.0	13.8	6.00	40.00
133.062500	42.2	1000.0	120.000	198.0	H	200.0	14.3	1.30	43.50
136.133750	41.7	1000.0	120.000	198.0	H	192.0	14.5	1.80	43.50
139.083750	41.5	1000.0	120.000	216.0	H	208.0	14.5	2.00	43.50
142.156250	41.9	1000.0	120.000	200.0	H	207.0	14.5	1.60	43.50
145.227500	40.1	1000.0	120.000	228.0	H	193.0	14.5	3.40	43.50
148.178750	41.1	1000.0	120.000	200.0	H	193.0	14.5	2.40	43.50
205.691250	41.6	1000.0	120.000	144.0	H	67.0	12.3	1.90	43.50
208.762500	39.8	1000.0	120.000	99.9	H	80.0	12.2	3.70	43.50
211.713750	41.1	1000.0	120.000	198.0	H	77.0	12.1	2.40	43.50

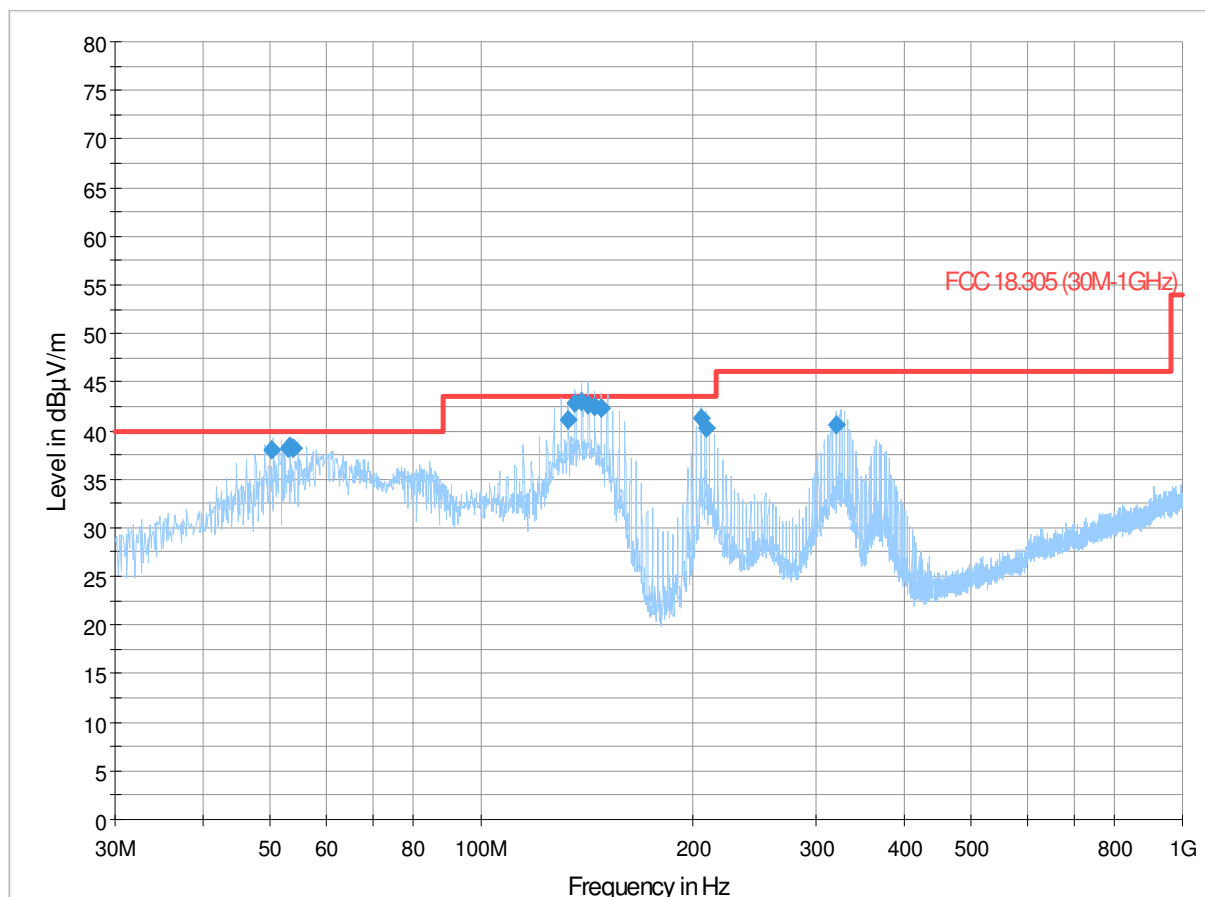
Range: 9kHz ÷ 30 MHz

Operating condition #5



Range: 30 ÷ 1000 MHz

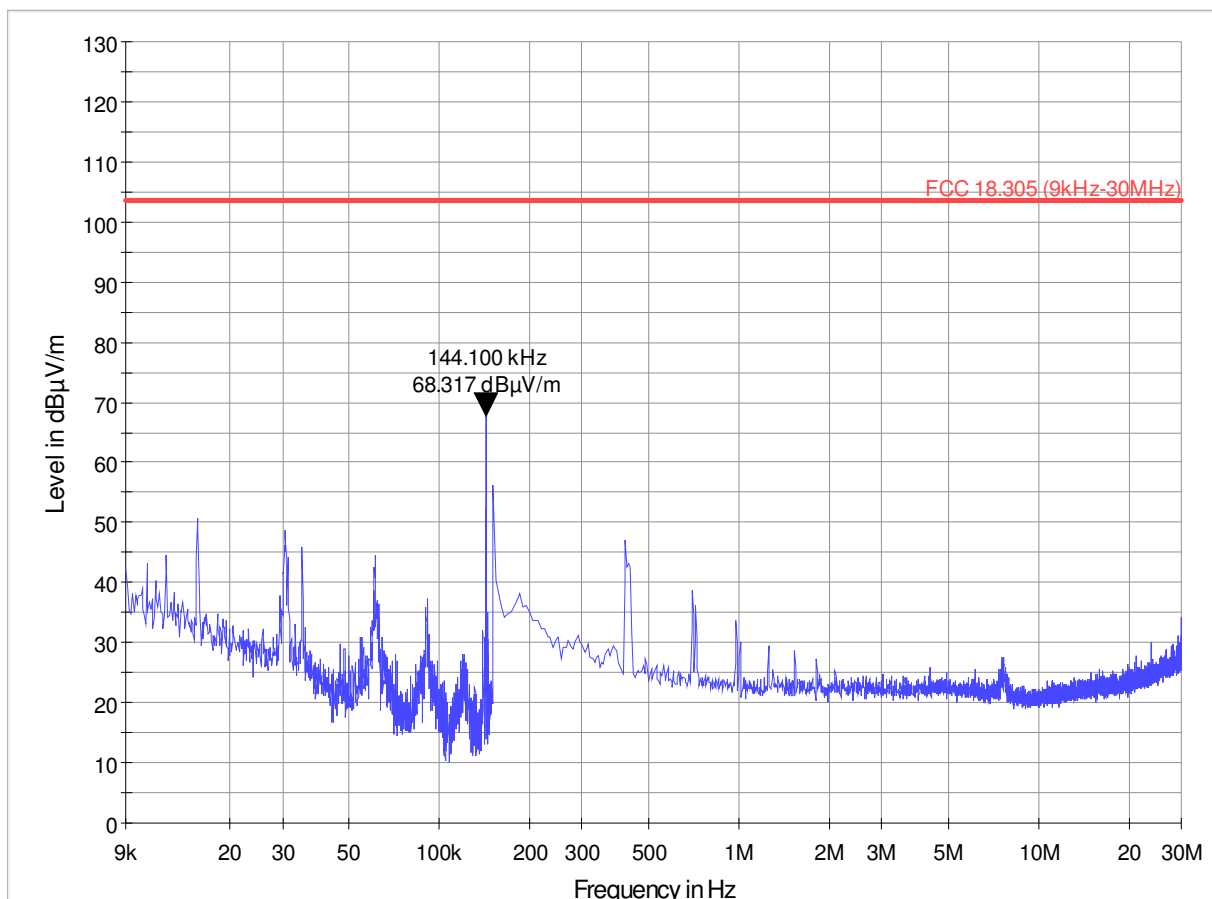
Operating condition #5



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
50.291250	38.1	1000.0	120.000	99.9	V	106.0	14.0	1.90	40.00
52.881250	38.2	1000.0	120.000	99.9	V	104.0	13.9	1.80	40.00
53.176250	38.3	1000.0	120.000	99.9	V	100.0	13.9	1.70	40.00
53.746250	38.2	1000.0	120.000	99.9	V	59.0	13.9	1.80	40.00
133.022500	41.1	1000.0	120.000	325.0	H	0.0	14.3	2.40	43.50
136.133750	42.8	1000.0	120.000	202.0	H	2.0	14.5	0.70	43.50
139.083750	42.9	1000.0	120.000	337.0	H	-12.0	14.5	0.60	43.50
142.156250	42.6	1000.0	120.000	200.0	H	0.0	14.5	0.90	43.50
145.186250	42.5	1000.0	120.000	224.0	H	205.0	14.5	1.00	43.50
148.178750	42.2	1000.0	120.000	243.0	H	200.0	14.5	1.30	43.50
205.611250	41.3	1000.0	120.000	207.0	H	262.0	12.3	2.20	43.50
208.722500	40.3	1000.0	120.000	182.0	H	249.0	12.2	3.20	43.50
320.596250	40.6	1000.0	120.000	99.9	H	192.0	15.7	5.40	46.00

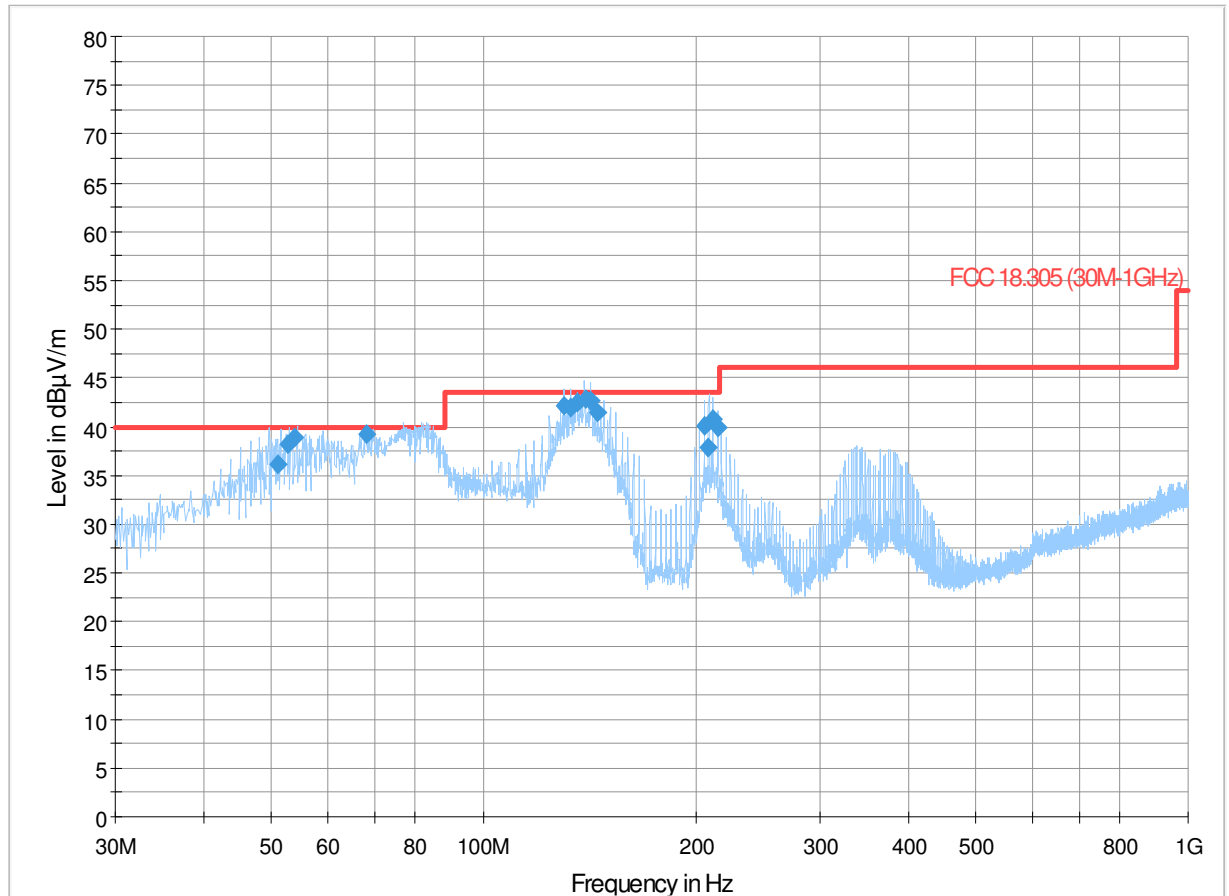
Range: 9kHz ÷ 30 MHz

Operating condition #6



Range: 30 ÷ 1000 MHz

Operating condition #6



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
50.961250	36.1	1000.0	120.000	99.9	V	74.0	14.0	3.90	40.00
52.691250	38.2	1000.0	120.000	99.9	V	93.0	13.9	1.80	40.00
53.836250	39.0	1000.0	120.000	99.9	V	69.0	13.9	1.00	40.00
68.047500	39.2	1000.0	120.000	250.0	V	263.0	11.8	0.80	40.00
130.071250	42.2	1000.0	120.000	204.0	H	197.0	14.2	1.30	43.50
133.101250	41.9	1000.0	120.000	224.0	H	203.0	14.4	1.60	43.50
136.052500	42.5	1000.0	120.000	220.0	H	197.0	14.5	1.00	43.50
139.165000	42.9	1000.0	120.000	200.0	H	195.0	14.5	0.60	43.50
142.155000	42.6	1000.0	120.000	223.0	H	201.0	14.5	0.90	43.50
145.186250	41.5	1000.0	120.000	223.0	H	192.0	14.5	2.00	43.50
205.611250	40.1	1000.0	120.000	183.0	H	250.0	12.3	3.40	43.50
208.602500	37.8	1000.0	120.000	99.9	H	270.0	12.2	5.70	43.50
211.713750	40.8	1000.0	120.000	183.0	H	277.0	12.1	2.70	43.50
214.705000	40.0	1000.0	120.000	184.0	H	270.0	12.1	3.50	43.50



IMQ S.p.A. – Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 – info@imq.it – www.imq.it

8. MEASUREMENTS AND TESTS UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the IMQ procedure No. IO-DT-U01 and requirement of NIST Technical Note 1297 and NIS 81: 1994 “The Treatment of Uncertainty in EMC Measurements”

Methods	Expanded Uncertainty	Unit	confidence level	Coverage factor	Degree of freedom
Radiated emission (30 ÷ 1000 MHz)	4.77	dB	95 %	2	9
Radiated emission (above 1000 MHz)	3.53	dB	95 %	2	9



IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

9. LIST OF MEASURING EQUIPMENT AND CALIBRATION INFORMATION

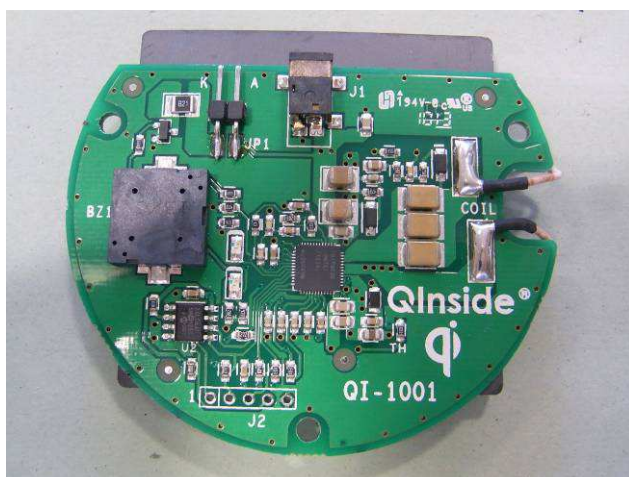
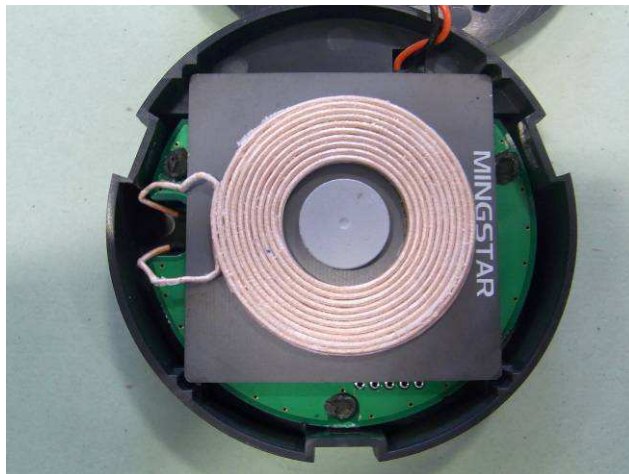
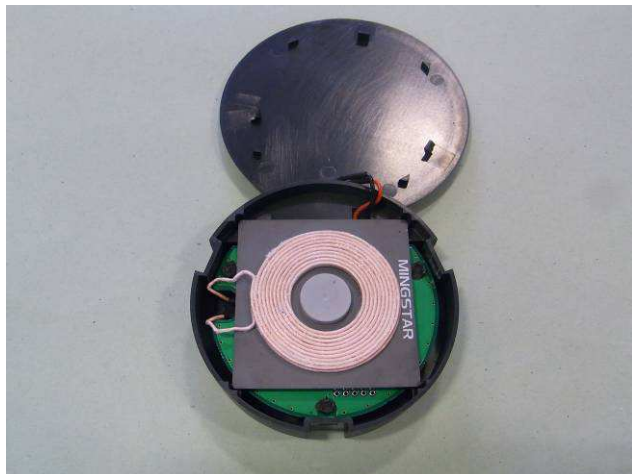
IMQ Serial Number	Instrument	Manufacturer	Type	Last Cal.	Cal. Period.	Calibration Company
P01709	Shielded semi-anechoic chamber	SIDT	/	03-13	24	IMQ
P02486	Turntable controller unit	FRANKONIA	FCTAM01	/	/	/
P02488	Mast antenna	FRANKONIA	FAM4	/	/	/
S03631	LISN 1 phase	Rohde & Schwarz	ENV216	02-14	12	INRIM
S05562	EMI Receiver	Rohde & Schwarz	ESU 8	05-14	12	Rohde & Schwarz
S05563	EMI Receiver	Rohde & Schwarz	ESCI 7	08-13	12	INRIM
S02508	Loop antenna	Rohde & Schwarz	HFH2-Z2	01-12	36	TESEO S.p.A.
S06463	Bi-Log antenna	SCHWARZBECK	VULB9160	03-13	36	SEIBERSDORF
W-00199/E	Software	Rohde & Schwarz	Emc32 Ver. 6.30	/	/	/
H-00165	PC		/	/	/	/

10. PHOTOGRAPHIC DOCUMENTATION

EUT IDENTIFICATION



EUT IDENTIFICATION – INTERNAL VIEW





IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

AC/DC ADAPTER

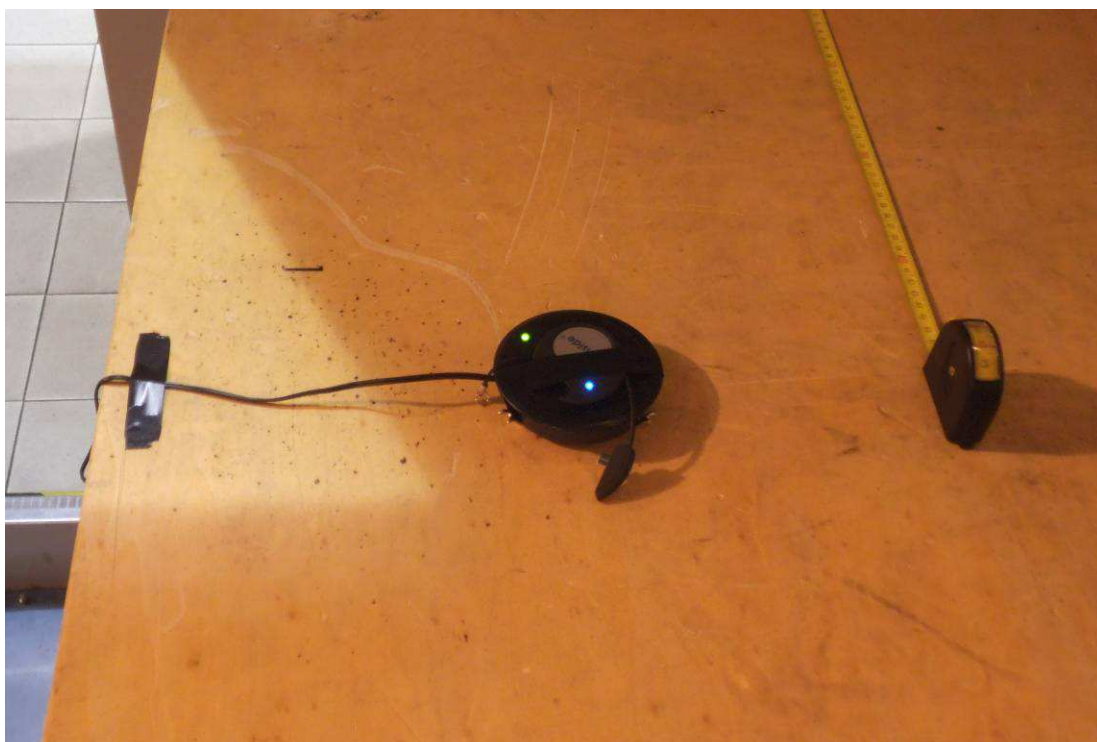


SUPPORT EQUIPMENT (NOT IN TESTING)

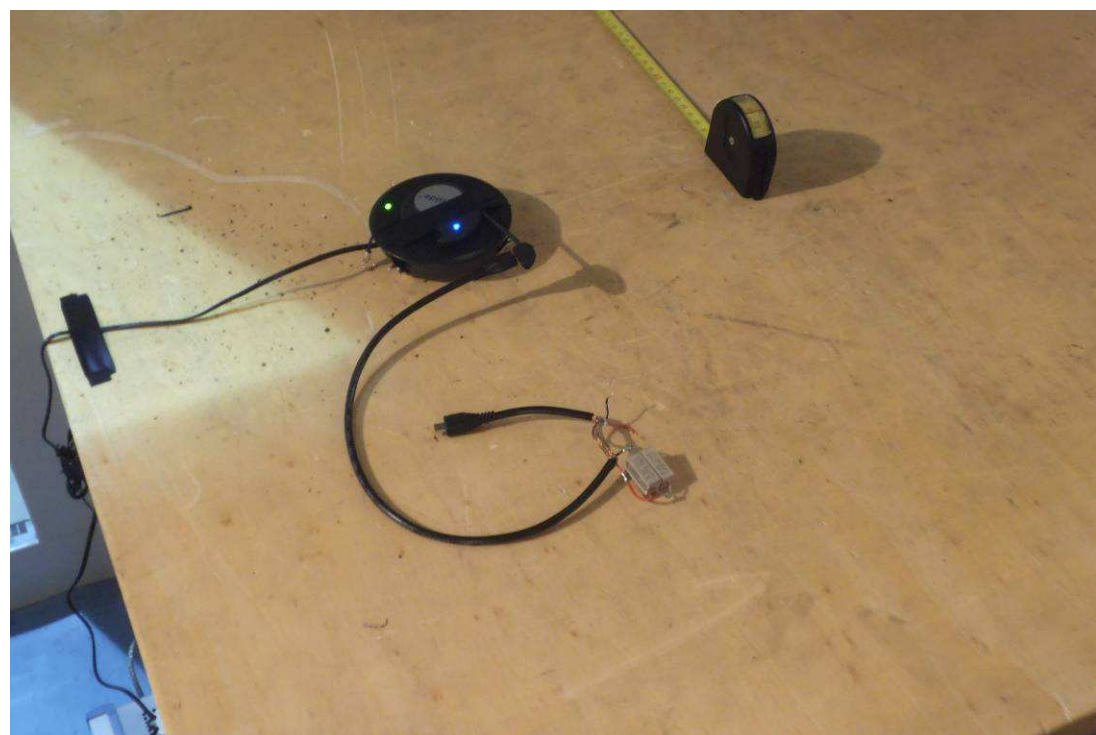
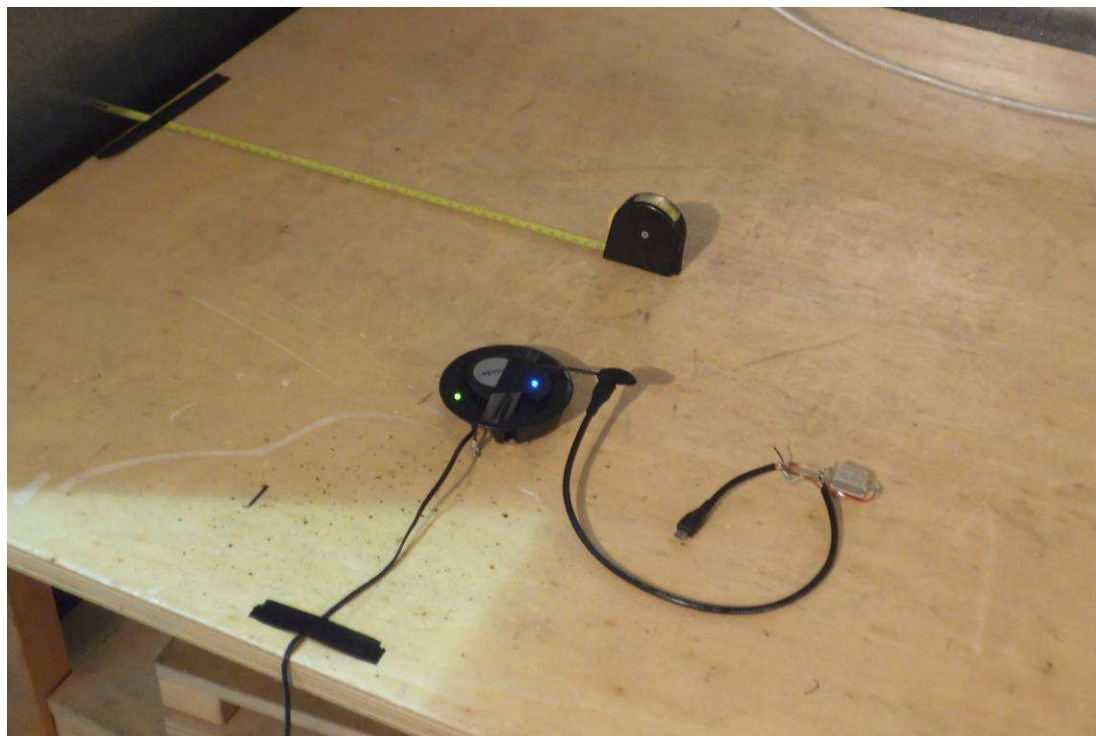


SET-UP

Test set-up conducted emission test – RX associated with no load



Test set-up conducted emission test – RX associated with resistive load

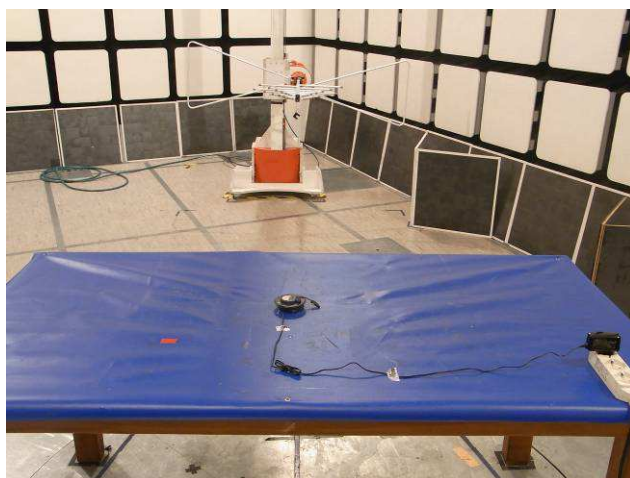


Test set-up conducted emission test – RX associated with mobile phone load

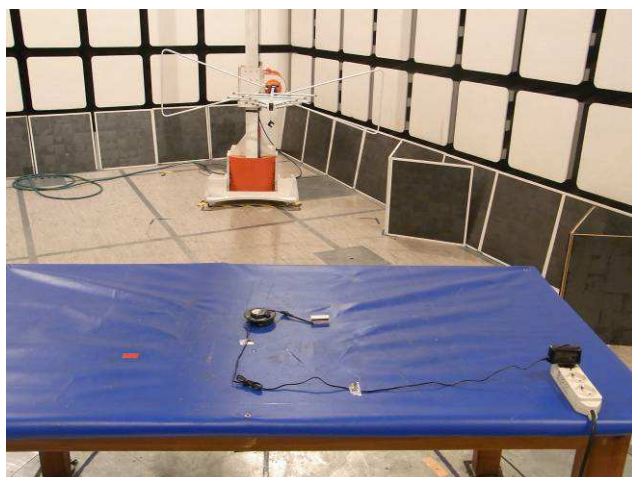


SET-UP

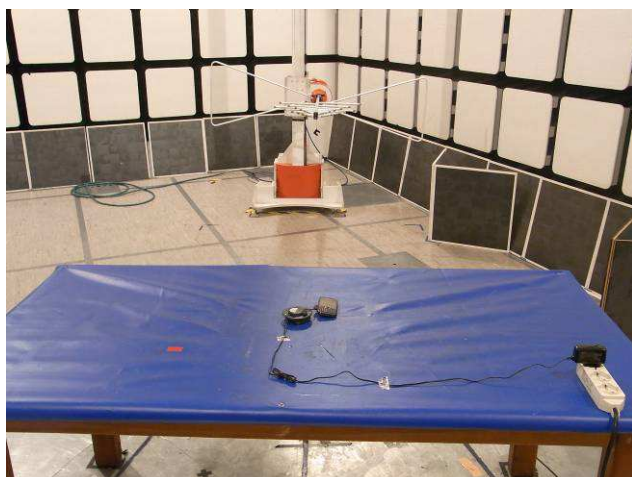
Test set-up radiated emission test - RX associated with no load



Test set-up radiated emission test - RX associated with resistive load



Test set-up radiated emission test - RX associated with mini-phone



END OF TEST REPORT