TEST REPORT

APPLICANT:	**CaptoGlove LLC** 51 3rd St, Bldg 6 - Shalimar FL32579 - United States Tel.: +1 850 290 8028	
APPLICANT REFEREE:	**Sergio De Cristofaro** sergio.decristofaro@captoglove.us	
EUT DESCRIPTION	Wearable Bluetooth motion controller for smart devices	
EUT MODEL	**1**	
EUT FCC ID	2AK3F00001	
EUT TRADEMARK	captoglove	
MANUFACTURER	CaptoGlove LLC	
REFERENCE STANDARDS	47 CFR FCC part 15.247**;** Subpart B - §15.107 §15.109	
TEST REPORT NUMBER	FCCTR_170181-3	
TEST REPORT ISSUE DATE	31/07/2017	
TESTING LABORATORY	Prima Ricerca & Sviluppo S.r.l. Via Campagna, 92 -22020 Faloppio (Co) – Italy FCC test registration number: 421808	
TESTING LOCATION	As Above	
DATE OF TEST SAMPLE RECEIPT	Jun 2017	
DATE OF TEST	July 2017	
TESTED BY	Daniele AOSANI Tecnico Laboratorio EMC & RADIO / *EMC & RADIO Laboratory Technician*	Daniele Aosani
APPROVED BY	Enrico BANFI Responsabile Laboratorio EMC & RADIO / *EMC & RADIO Laboratory Manager*	Banfi Enrico

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1. RELEASE CONTROL RECORD

TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
FCCTR_170181-0	Original release	28/07/2017
FCCTR_170181-1	Editorial change	31/07/2017
FCCTR_170181-2	Editorial change	31/07/2017
FCCTR_170181-3	Editorial change	31/07/2017

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2. TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

2.1 Identification

Trademark:	captoglove
Manufacturer:	CaptoGlove LLC
Type of Equipment :	Wearable Bluetooth motion controller for smart devices
Model name:	1
Serial number :	Prototype
FCC ID :	2AK3F00001
Country of manufacturer:	United States of America

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2.2 Technical data

Product type:	Radio Equipment
Radio type:	Intentional radiators
Product description / application	Motion controller with Bluetooth LE module
Power supply requirements :	3,7V (internal battery)
Operating Frequency range	2400-2483.5MHz
Operating Frequency:	From 2402MHz to 2480MHz
Channel bandwidth	2MHz
Channel spacing	2MHz
Number of Channel	40
Type of modulation :	GFSK
Antenna Type	Integrated antenna

Note: FCC classifies Bluetooth LE as a system using digital modulation techniques.

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2.3 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 / Cloth	---
2	**AC Power Supply**	Port not present	---
3	**DC power supply**	Port not present (internal battery)	Battery
4	**Signal lines**	Port not present	---
5	**Telecomm. Lines**	Port not present	---
6	**Antenna port**	Integrated 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.			

2.4 Auxiliary equipment

- None

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3. OPERATING TEST MODES AND CONDITIONS

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”

Operating condition	*Description*
#1	*Continuous transmission, modulated carrier, on channel 0*
#2	*Continuous transmission, modulated carrier, on channel 19*
#3	*Continuous transmission, modulated carrier, on channel 39*
#4	*Standard operating*

Special Test Software: Special software by the Applicant to operate the EUT at each channel frequency continuously. For example, the transmitter will be operated at each of the lowest, middle and highest frequencies individually continuously during testing.

Special Hardware Used: None

Transmitter Test Antenna: The EUT has been tested with the antenna fitted in a manner typical of normal intended use as integral antenna equipment as described with the test results.

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4. REFERENCE STANDARD / DOCUMENT FOR PERFORMED TESTS

Title 47 Part 15 Subpart B	Radio frequency devices - General
Title 47 Part 15 Subpart B § 15.107	Radio frequency devices – Unintentional Radiators Conducted Limits
Title 47 Part 15 Subpart B § 15.109	Radio frequency devices – Unintentional Radiators Radiated Emissions Limits
Cfr 47 part 15 subpart C par. 15.247	Radio Frequency Devices – Intentional Radiators Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz
KDB 558074 D01	Guidance for performing Compliance measurements on Digital Transmission Systems (DTS) Operating under §15.247
ANSI C63.10:2013	American National Standard for Testing Unlicensed Wireless Devices

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5. SUMMARY OF TEST RESULTS

Port	Phenomena	Basic standard	Operating condition[1]	Result
Antenna port	Antenna requirement	FCC Part 15 §15.203	---	Compliant
	Maximum Peak Output Power	FCC Part 15 §15.247 (b) (3)	#1, #2, #3	Within the limit
	6 dB Bandwidth	FCC Part 15 §15.247 (a) (2)	#1, #2, #3	Within the limit
	Power Spectral Density	FCC Part 15 §15.247 (e)	#1, #2, #3	Within the limit
	Band-Edge	FCC Part 15 § 15.247 (d)	#1,#3	Within the limit
	RF **radiated** Spurious Emissions at the Transmitter Antenna Terminal	FCC Part 15 § 15.247 (d)	#1, #3	Within the limit
Enclosure	Radiated Emissions	Title 47 Part 15 Subpart B § 15.109	#4	Within the limit

Note: FCC classifies Bluetooth LE as a system using digital modulation techniques.

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6. TEST RESULTS

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TEST 1.

ANTENNA REQUIREMENTS

REFERENCE DOCUMENT

According to §15.203 / 15.204

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sec. 15.211, Sec. 15.213, Sec. 15.217, Sec. 15.219, or Sec. 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Sec. 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded

Antenna requirement
The EUT has an integrated PCB Printed antenna
RESULT: COMPLIANT

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TEST 2.

MAXIMUM PEAK OUTPUT POWER

REFERENCE DOCUMENT

According to §15.247(b) (3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

TEST SETUP	In according to ref std
TEST LOCATION	Semi Anechoic Chamber / Radio test Area
TEST METHOD	KDB 558074 D01 par. 9.1.1 Maximum peak conducted output power KDB 558074 D01 sec 3 par. 2
TYPE OF MEASUREMENT	RADIATED
TEST EQUIPMENT	Emi Receiver / Spectrum Analyzer Rohde&Schwarz mod. ESU40
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017

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)	960mbar

OPERATING CONDITION	#1, #2, #3 DUTY CYCLE 100%

TEST RESULT	**WITHIN THE LIMITS**

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MEASUREMENT PARAMETER	
Resolution bandwidth:	RBW ≥ DTS bandwidth
Video bandwidth:	VBW ≥ 3 x RBW
Span:	span ≥ 3 x RBW
Sweep time	Auto couple
Detector:	Peak
Trace-Mode:	Max. hold

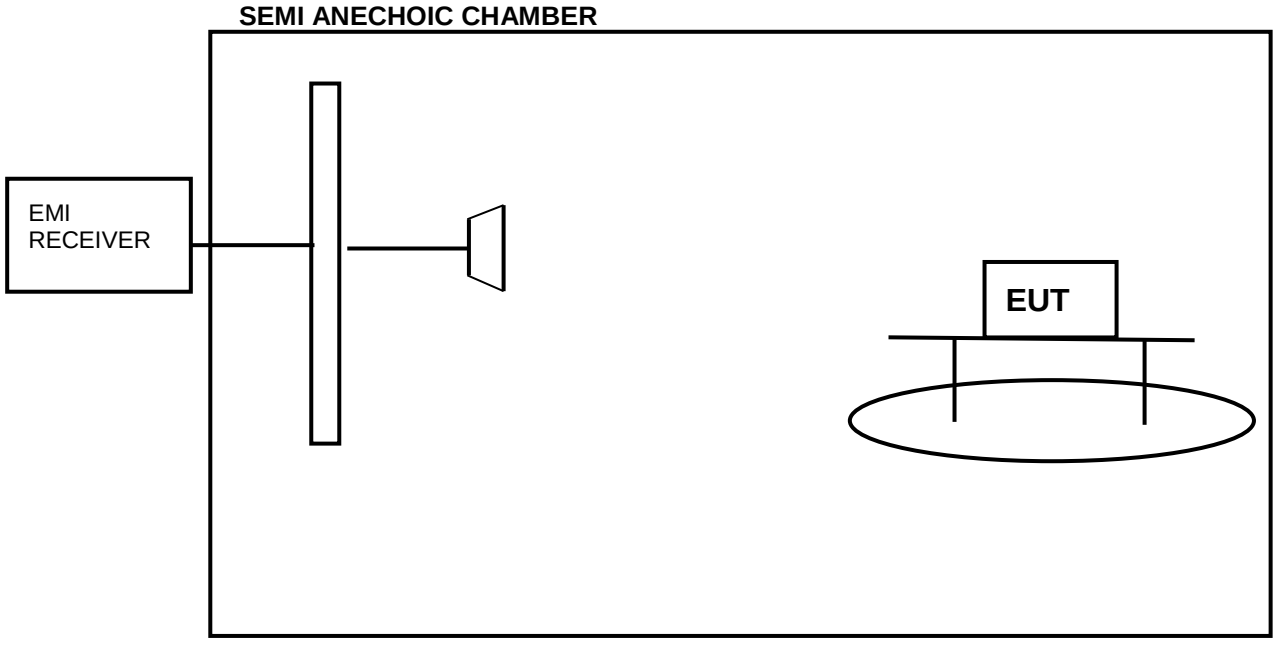
TEST DESCRIPTION

Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously - rotating, remotely - controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency.
The EUT is placed at test table.
For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m

Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m~4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3m.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

TEST SETUP BLOCK DIAGRAM



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Channel	Frequency (MHz)	EIRP (dBm)	Antenna Gain	Max Conducted Output power	Limit (dBm)	Result
0	2402	-21.7	+2.3	-24	30	**WITHIN THE LIMITS**
19	2440	-6.4	+2.3	-8.7		
39	2480	-5.1	+2.3	-7.4		
Incertezza di misura / Measurement Uncertainty : ± 3 dB						
Note: none						

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TEST 3.

6dB CHANNEL BANDWIDTH

REFERENCE DOCUMENT

According to §15,247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483,5 MHz, and 5725-5850 MHz bands, The minimum 6 dB bandwidth shall be at least 500 kHz,

TEST SETUP	In according to ref std
TEST LOCATION	Radio test area
TEST METHOD	KDB 558074 D01 par. 8.2 DTS Bandwidth Option 2
TYPE OF MEASUREMENT	RADIATED
TEST EQUIPMENT	Spectrum Analyzer Rohde&Schwarz mod. FSP40 SYSTEM DC POWER SUPPLY HP mod. 6623A
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017

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)	960mbar

OPERATING CONDITION	#1, #2, #3, DUTY CYCLE 100%

TEST RESULT	**WITHIN THE LIMITS**

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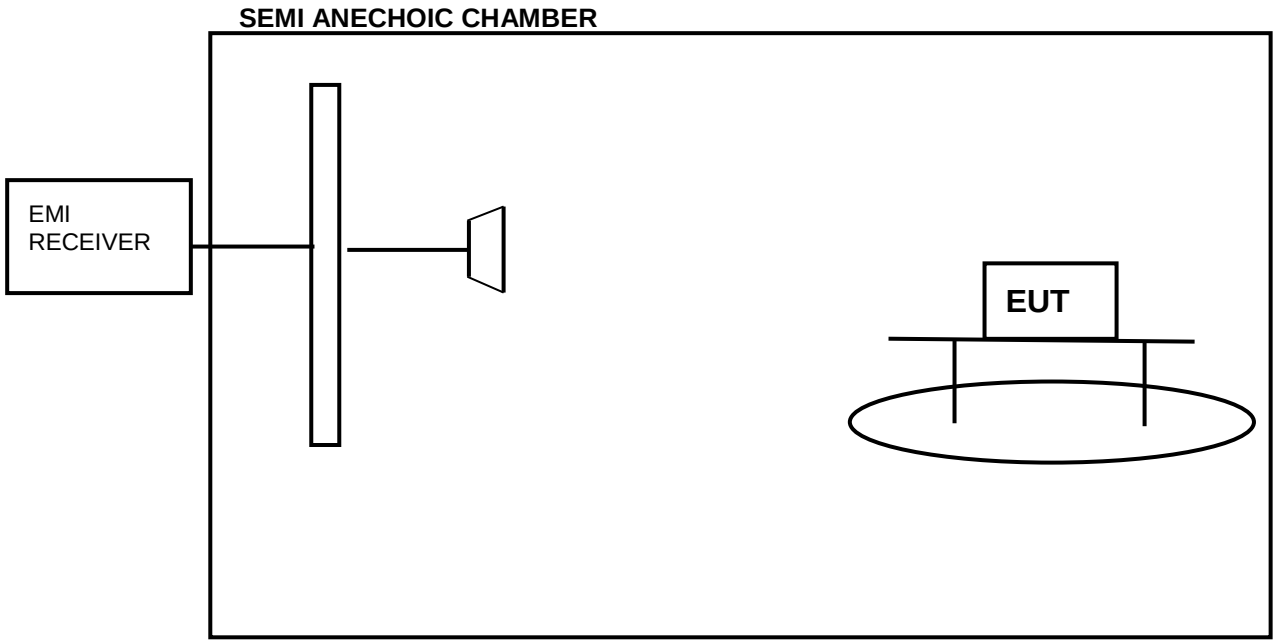
MEASUREMENT PARAMETER	
Resolution bandwidth:	100kHz
Video bandwidth:	300kHz
Span:	10MHz
Sweep time	Auto couple
Detector:	Peak
Trace-Mode:	Max. hold

TEST DESCRIPTION
Allow the trace to stabilize. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

TEST SETUP BLOCK DIAGRAM



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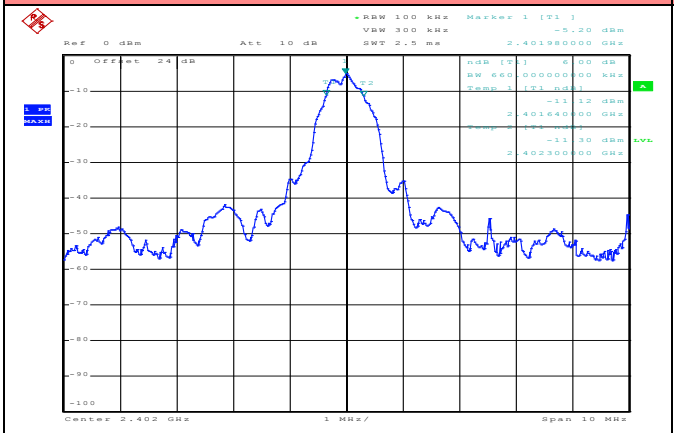
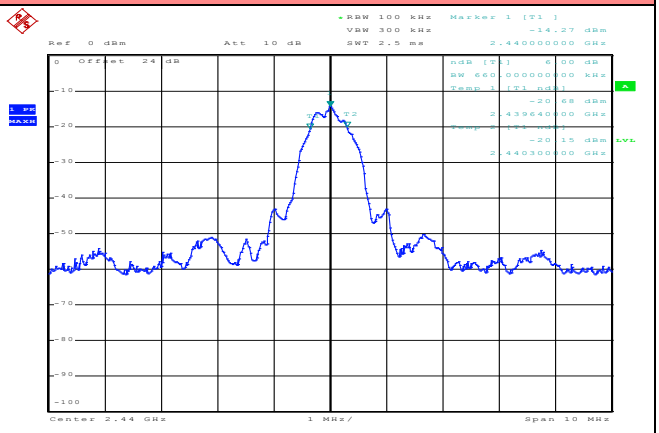
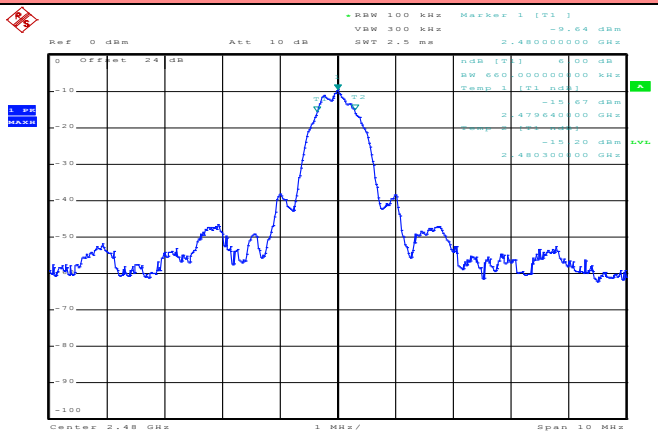
Measurement Result

Ch 0	Ch 19
	

Ch 39


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TEST 4.	**Band-Edge**

REFERENCE DOCUMENT

According to §15,247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits, If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB, Attenuation below the general limits specified in Sec, 15,209(a) is not required, In addition, radiated emissions which fall in the restricted bands, as defined in Sec, 15,205(a), must also comply with the radiated emission limits specified in Sec, 15,209(a) (see Sec, 15,205(c)),

TEST SETUP	In according to ref std
TEST LOCATION	Radio test area
TYPE OF MEASUREMENT	RADIATED
TEST EQUIPMENT	Spectrum Analyzer Rohde&Schwarz mod. FSP40 SYSTEM DC POWER SUPPLY HP mod. 6623A
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017

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)	960mbar

OPERATING CONDITION	#1, #3, DUTY CYCLE 100%

TEST RESULT	**WITHIN THE LIMITS**

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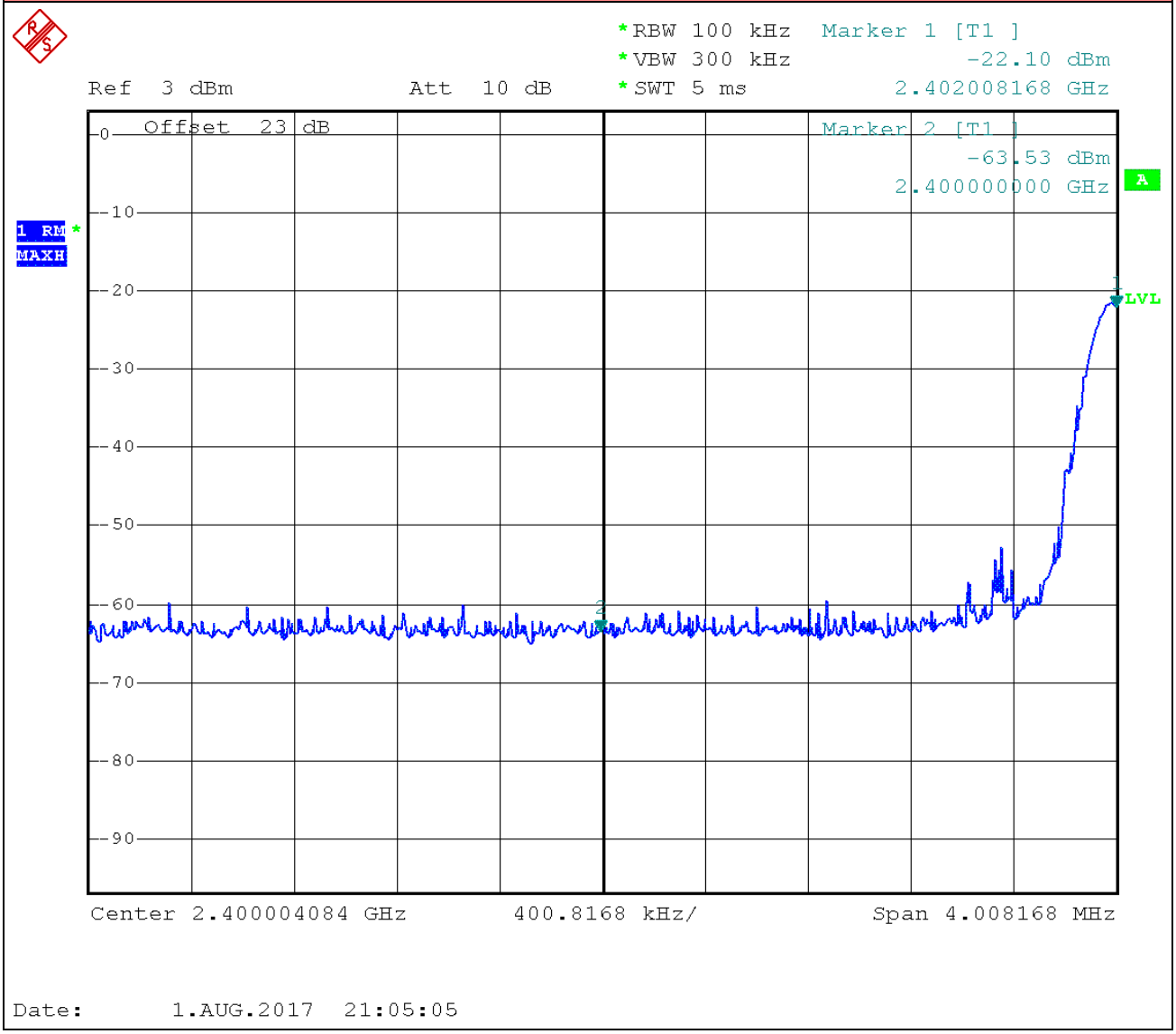
Lower Band Edge



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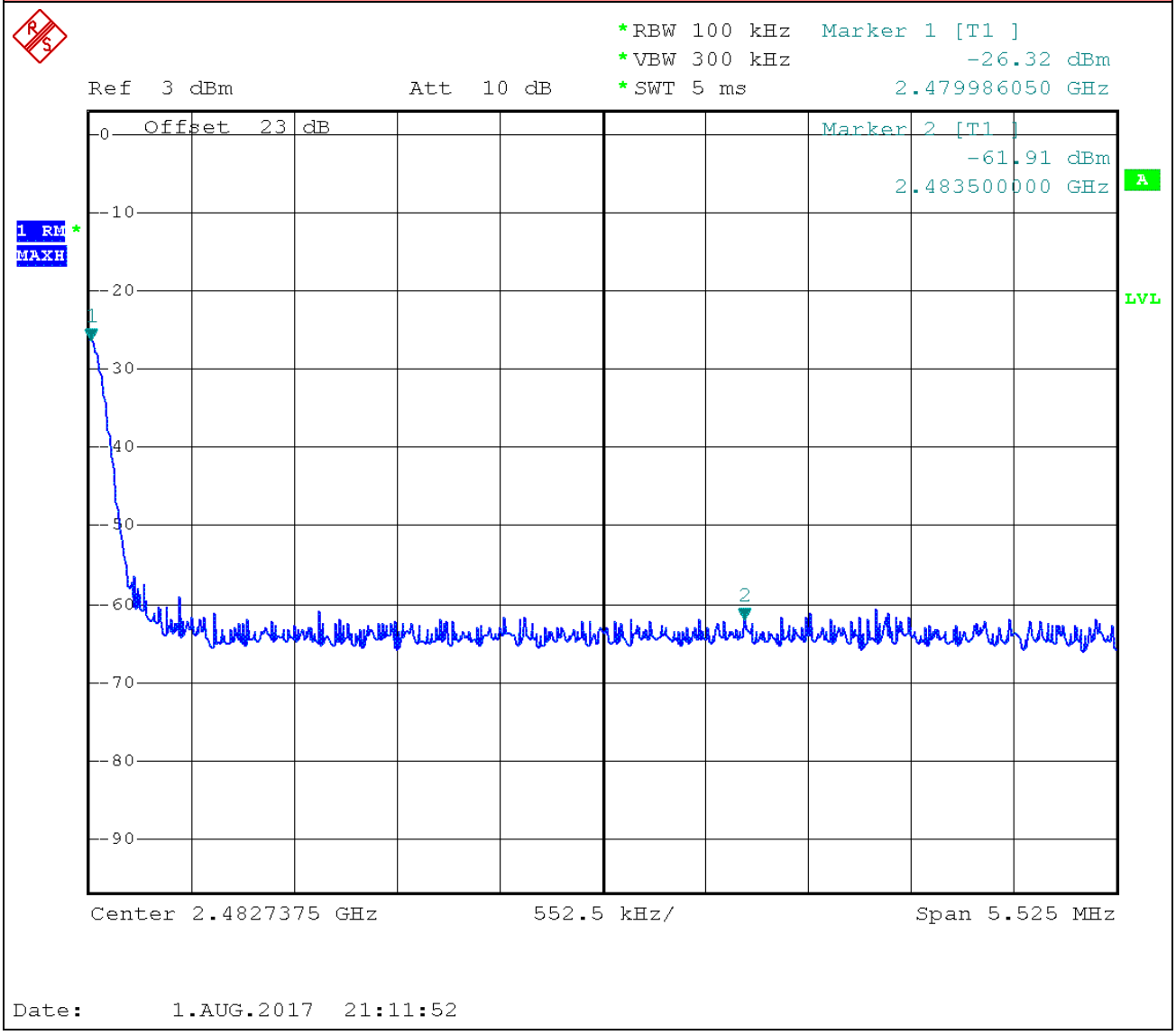
Upper Band Edge



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TEST 5.

POWER SPECTRAL DENSITY

REFERENCE DOCUMENT

According to §15,247) (e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission, This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section, The same method of determining the conducted output power shall be used to determine the power spectral density,

TEST SETUP	In according to ref std
TEST LOCATION	Radio test area
TYPE OF MEASUREMENT	RADIATED
	KDB 558074 D01 par. 10.2 Method PKPSD (peak PSD)
TEST EQUIPMENT	Spectrum Analyzer Rohde&Schwarz mod. FSP40 SYSTEM DC POWER SUPPLY HP mod. 6623A
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017

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)	960mbar

OPERATING CONDITION	#1, #2, #3, DUTY CYCLE 100%

TEST RESULT	**WITHIN THE LIMITS**

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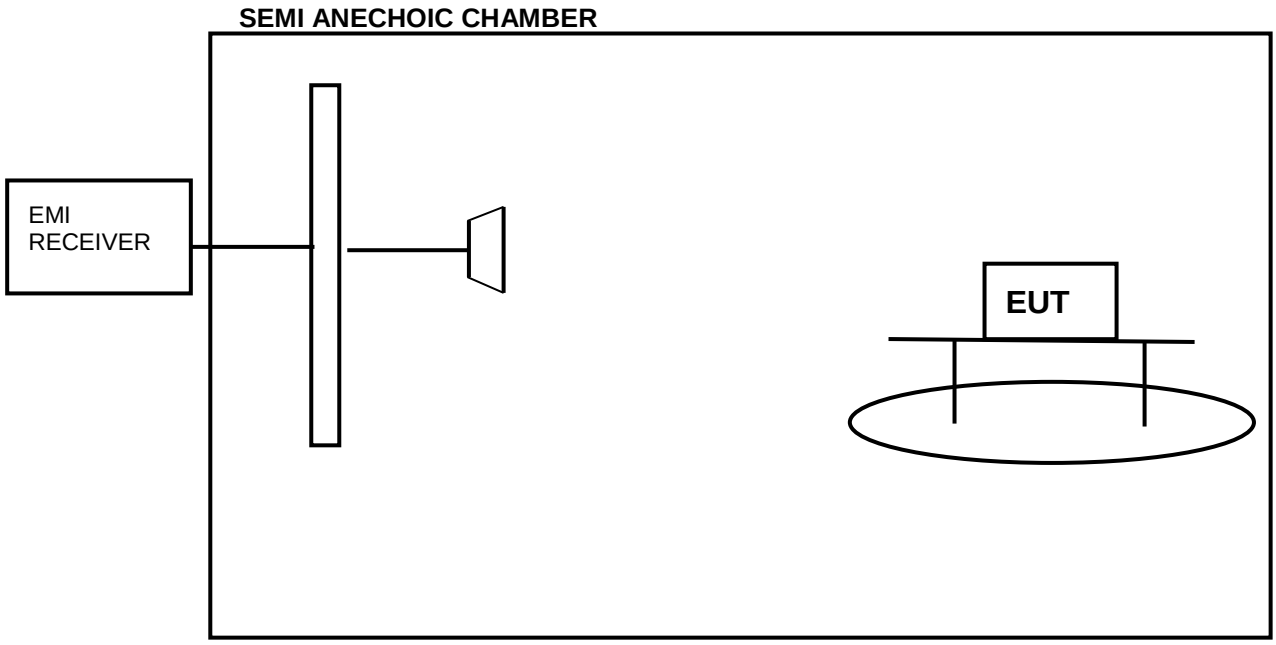
MEASUREMENT PARAMETER	
Resolution bandwidth:	100kHz
Video bandwidth:	300kHz
Span:	1MHz
Sweep time	Auto couple
Detector:	Peak
Trace-Mode:	Max. hold

TEST DESCRIPTION
Allow trace to fully stabilize. Use the peak marker function to determine the maximum amplitude level within the RBW. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat

TEST SETUP BLOCK DIAGRAM



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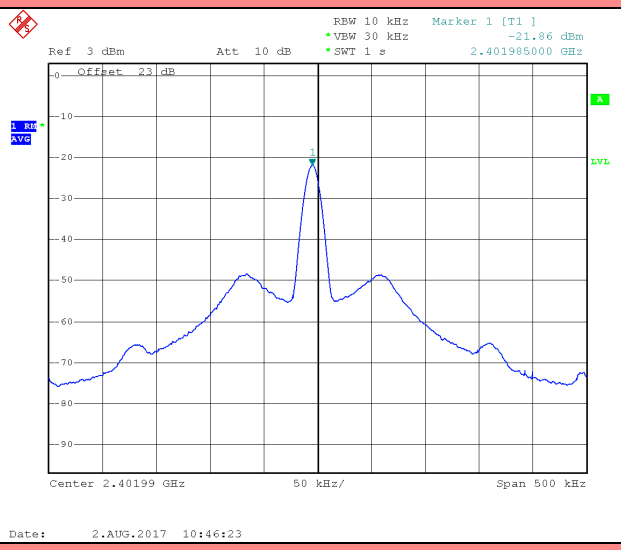
Measurement Result

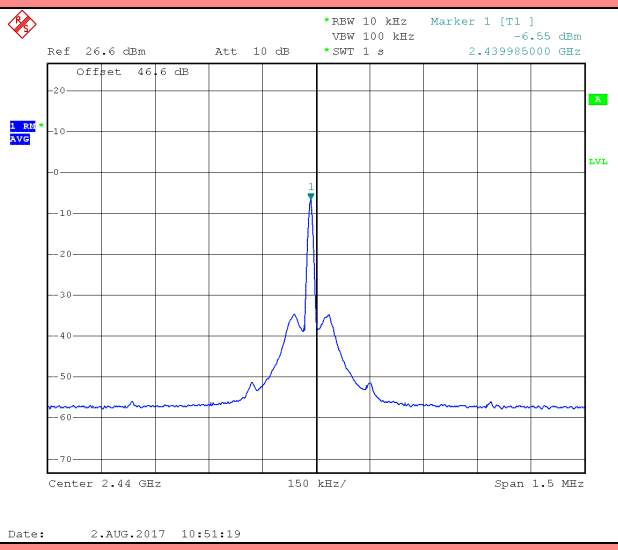
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result
0	2402	-21.86	8	29.86	WITHIN THE LIMITS
19	2440	-6.55	8	14.55	
39	2480	-5.26	8	13.26	
	Incertezza di misura / Measurement Uncertainty : ±1dB				

GRAPHICS

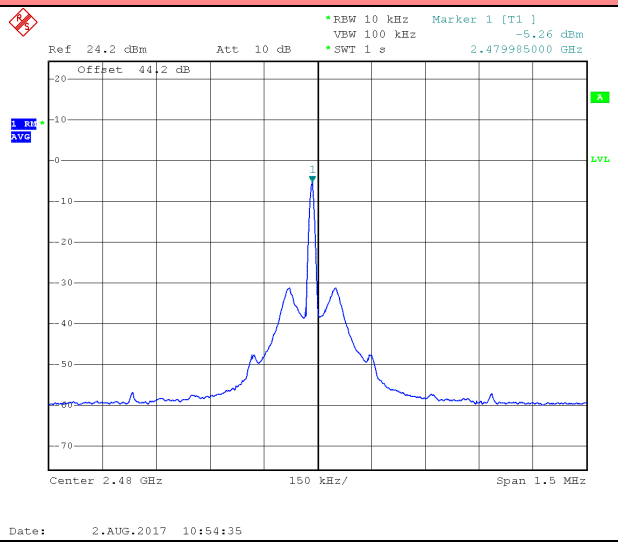
Ch0



Ch19



Ch39



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TEST 6.

RADIATED EMISSION 9KHZ ÷10TH HARMONIC

REFERENCE DOCUMENT

According to §15,247) d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 Db below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 Db instead of 20 Db. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

TEST SETUP	In according to ref std
TEST LOCATION	Semi Anechoic Chamber
TYPE OF MEASUREMENT	RADIATED
	KDB 558074 D01 par. 11.0
TEST EQUIPMENT	EMI receiver Rohde & Schwarz Mod, ESU 40 Chase Antenna Mod, CBL 6111 C Antenna Rohde & Schwarz mod, HL025 Tunable notch filter Wainwright mod, WRCT2200/2500-5/40-10SK High pass filter Wainwright WHNX 2,8/18G-10SS
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017
UNCERTAINTY OF MEASURE:	Combined uncertainty = ± 1,75 dB Total uncertainty = (k=2) ± 3,5 dB

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)	960mbar

OPERATING CONDITION	#1, #2, #3, DUTY CYCLE 100%

TEST RESULT	**WITHIN THE LIMITS**

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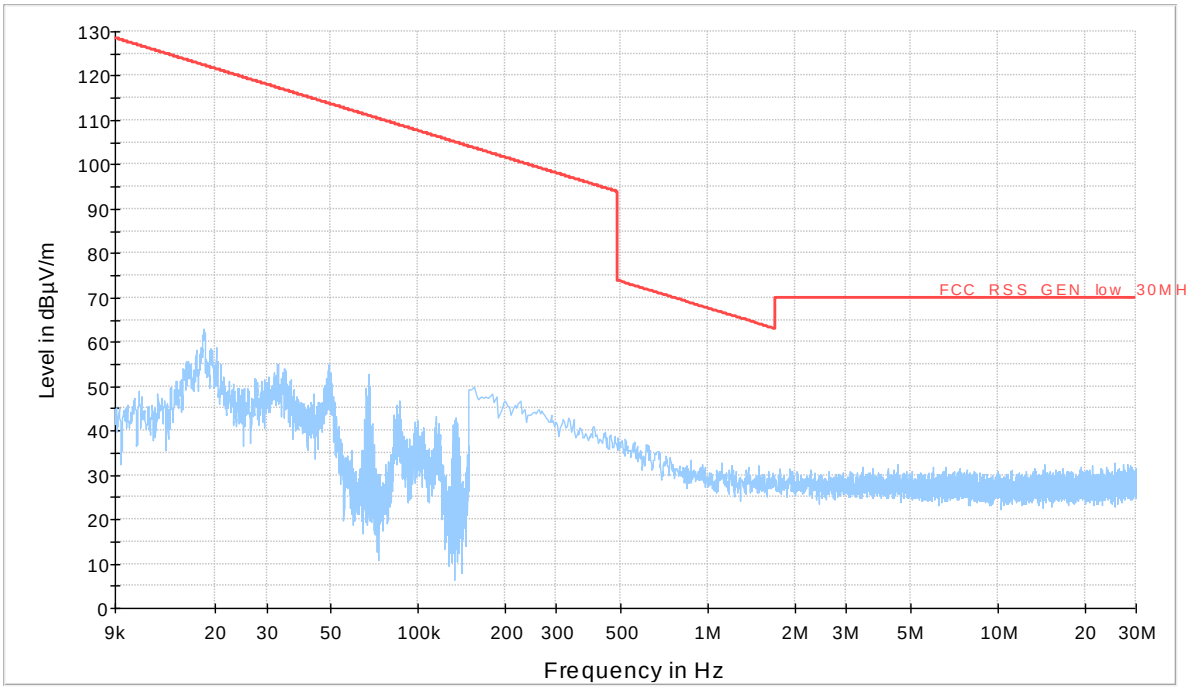
CHANNEL	0
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	VERTICAL

EMI_RAD_9k_30M_sweep_dBuVm



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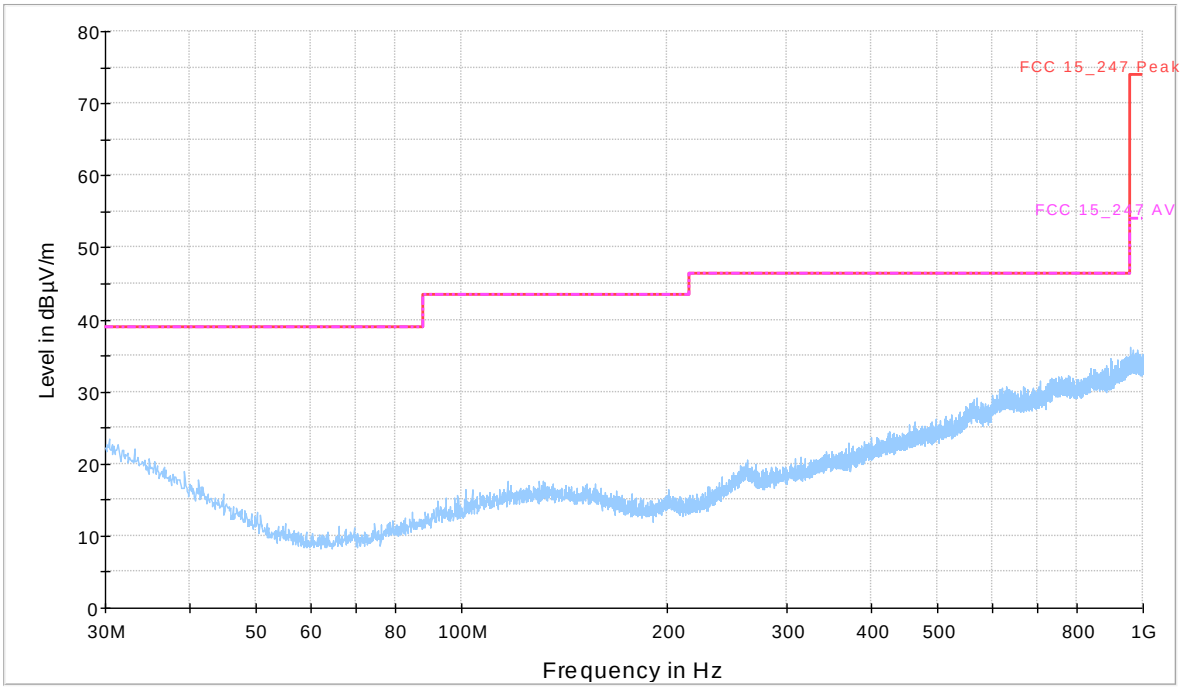
CHANNEL	0
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



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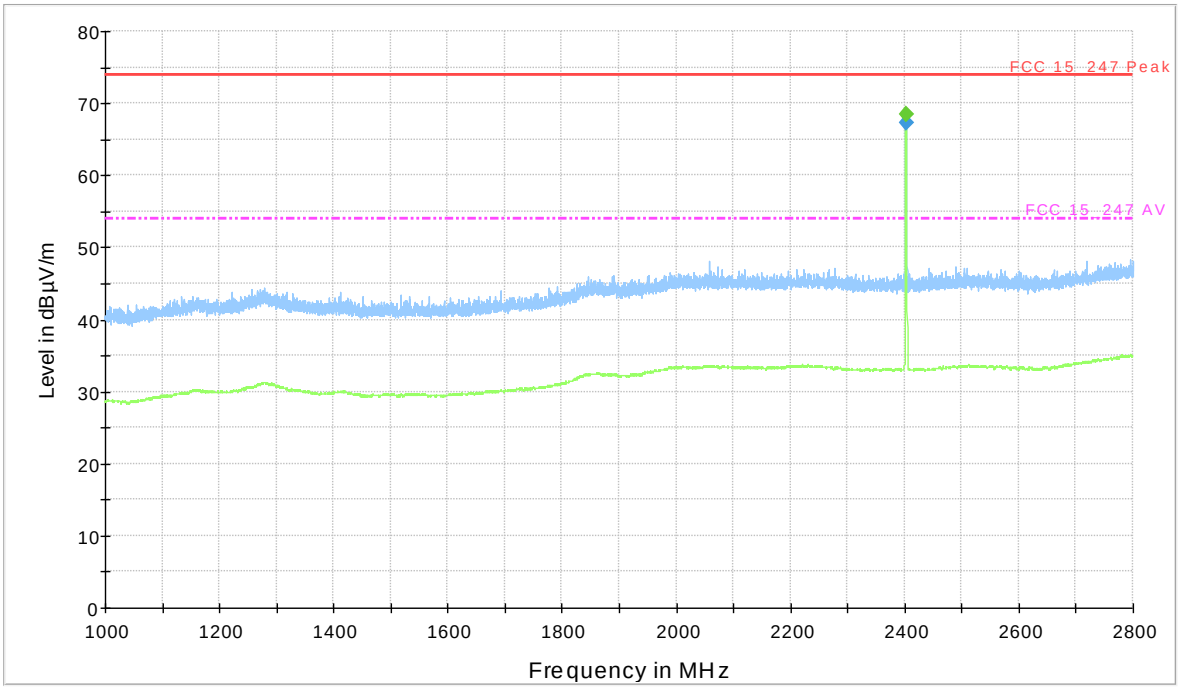
CHANNEL	0
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



Final Result Quasi Peak Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/
2402.020000	67.2	103.0	V	270.0	6.80	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2402.020000	68.5	103.0	V	270.0	-14.50	54.00

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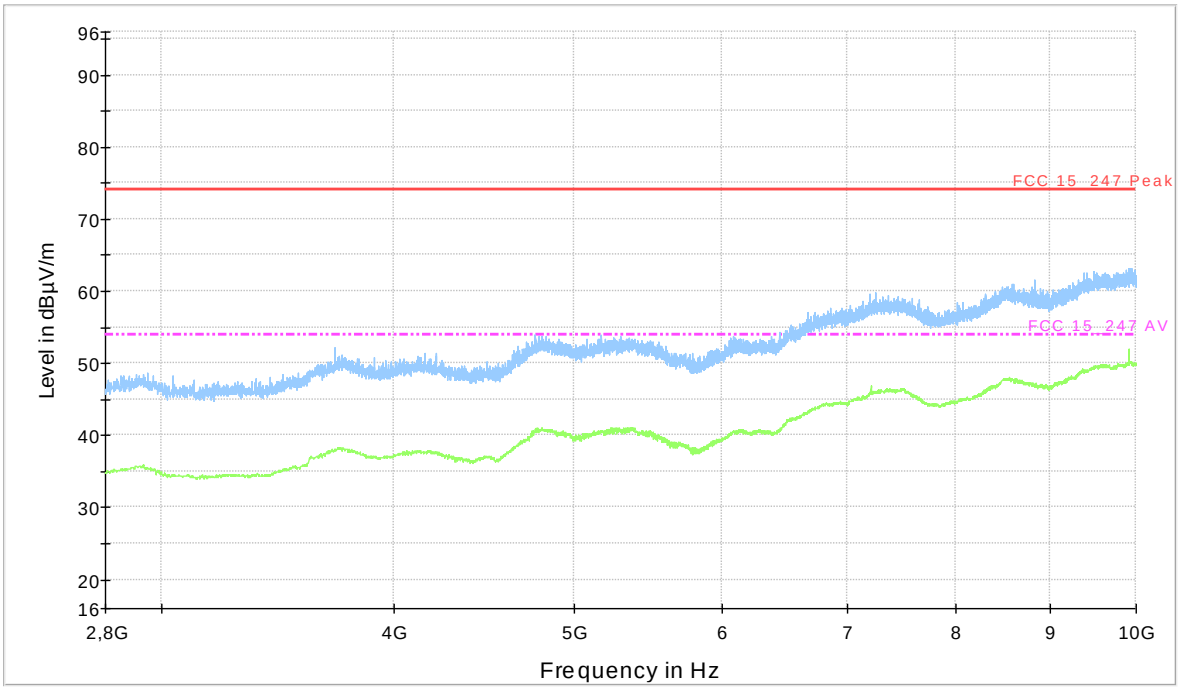
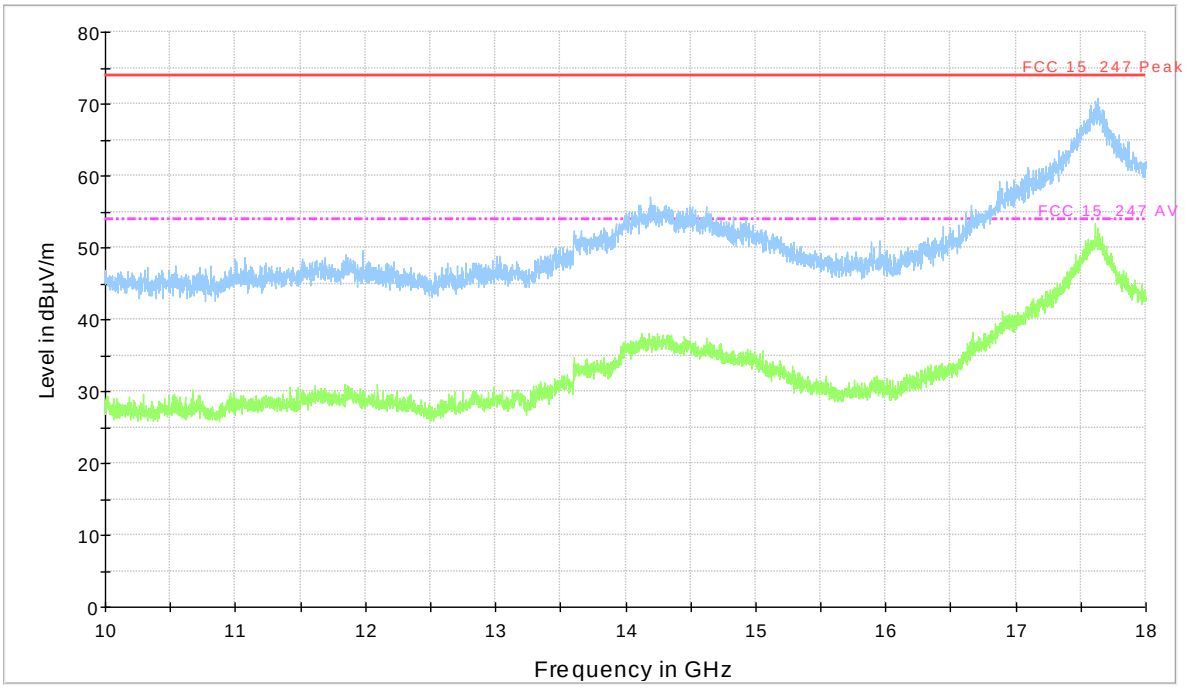
CHANNEL	0
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



CHANNEL	0
FREQUENCY RANGE	10-18GHz
POLARIZATION	VERTICAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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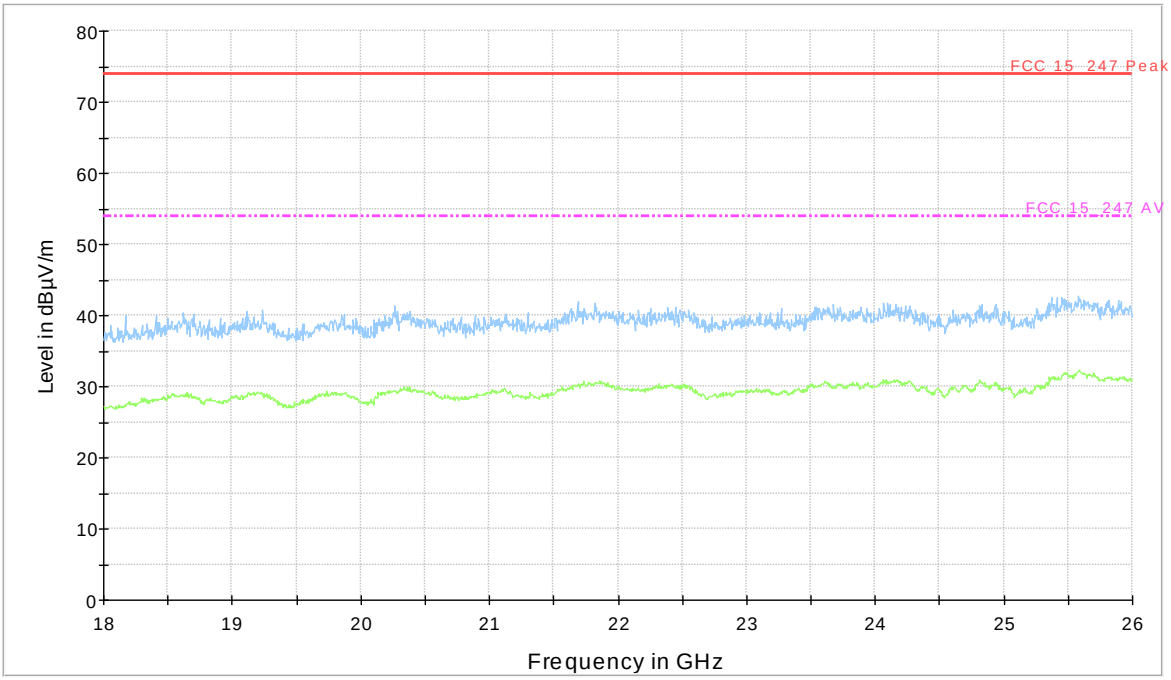
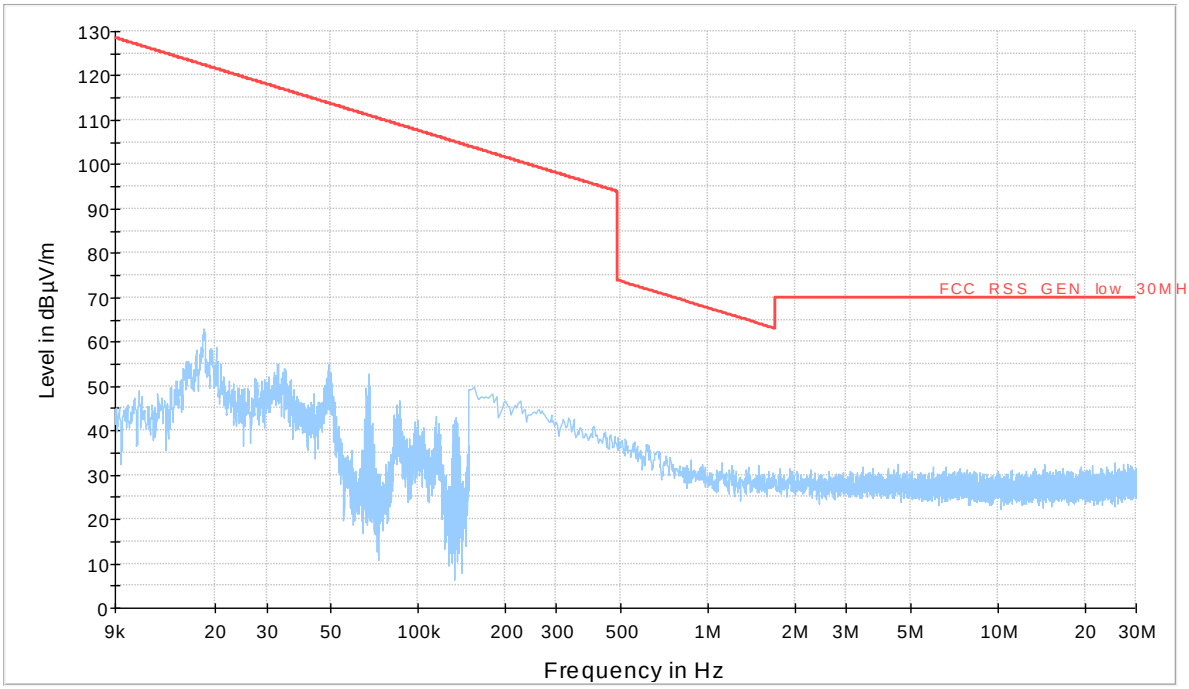
CHANNEL	0
FREQUENCY RANGE	18-26GHz
POLARIZATION	VERTICAL



CHANNEL	0
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	VERTICAL

EMI_RAD_9k_30M_sweep_dBuVm



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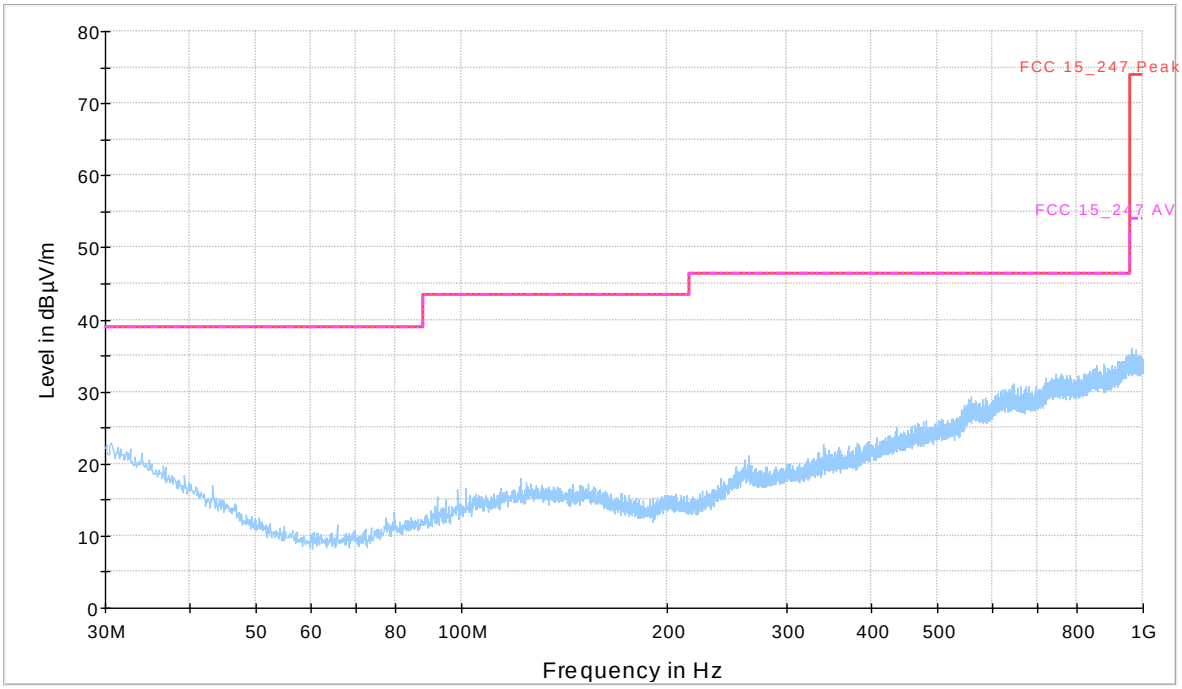
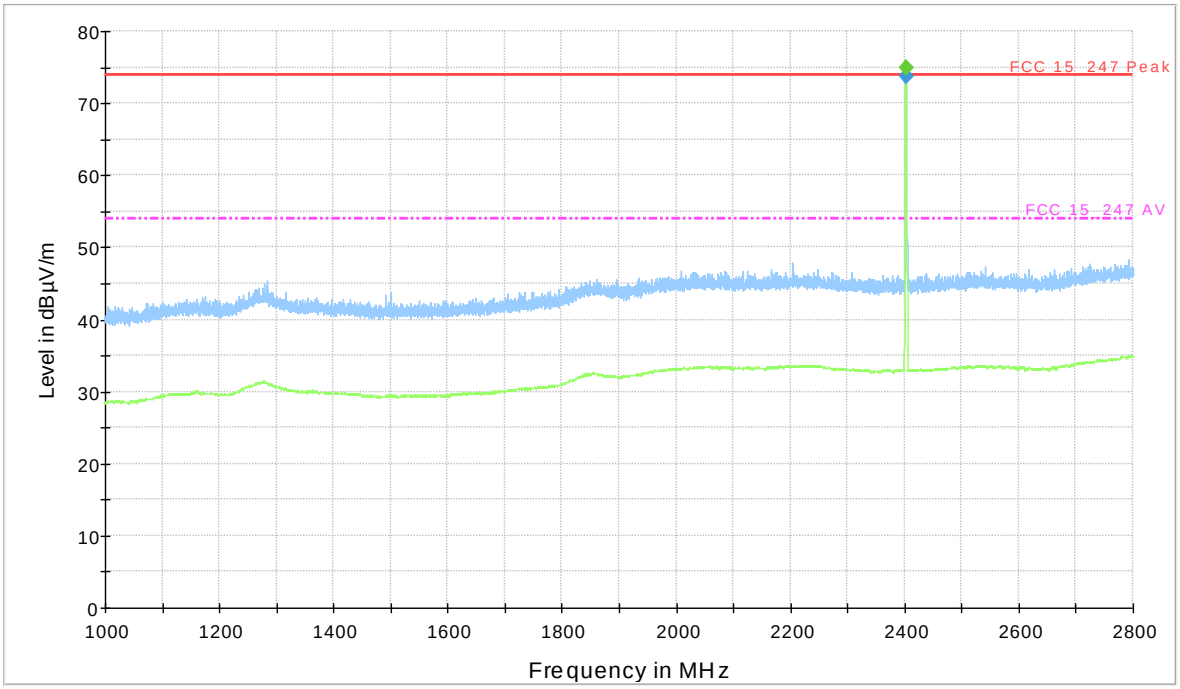
CHANNEL	0
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



CHANNEL	0
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



Final Result Quasi Peake Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2402.020000	73.7	103.0	H	180.0	0.30	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2402.020000	74.9	103.0	H	180.0	-20.90	54.00

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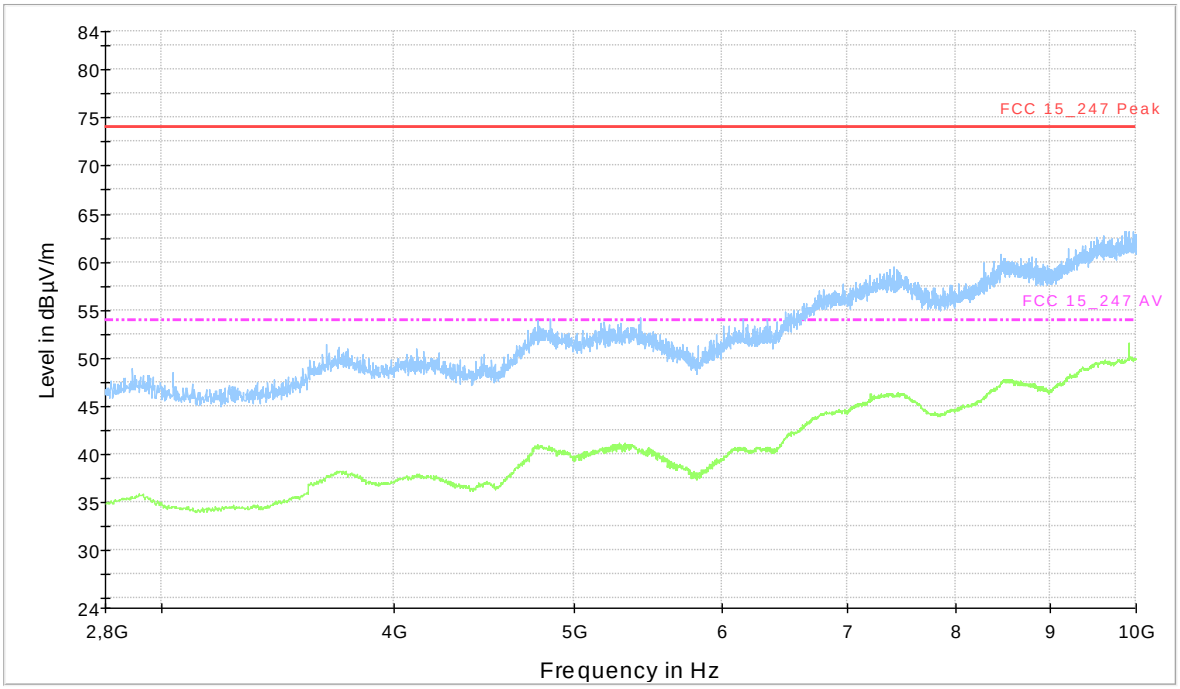
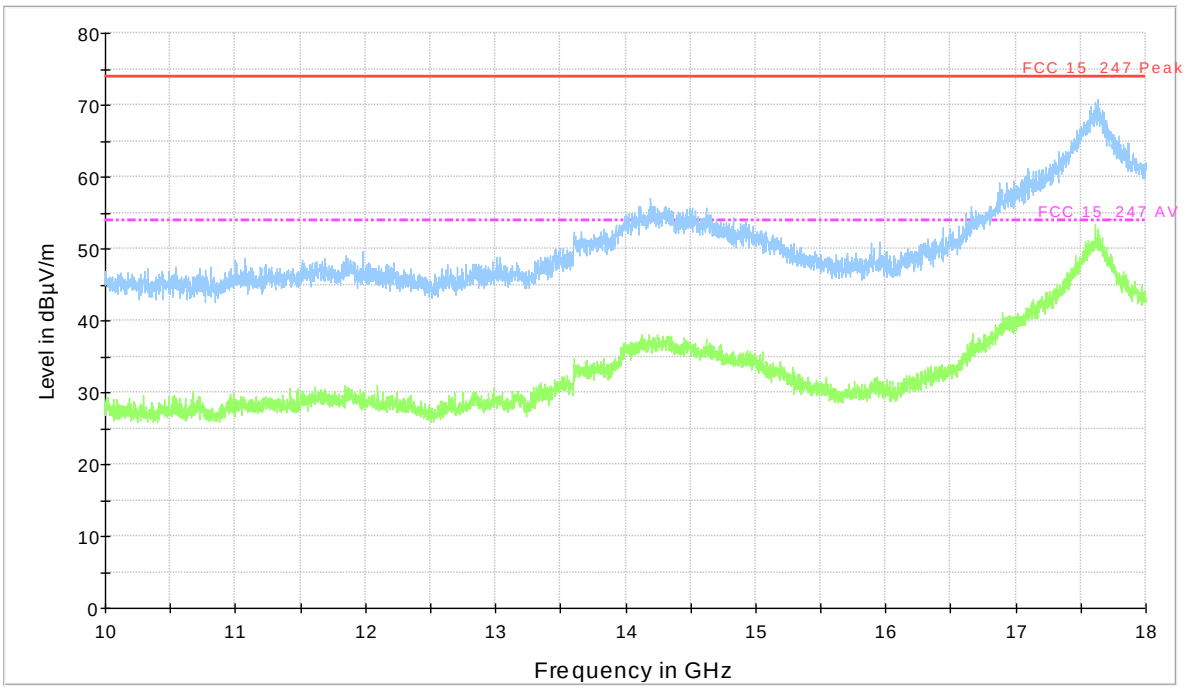
CHANNEL	0
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



CHANNEL	0
FREQUENCY RANGE	10-18GHz
POLARIZATION	HORIZONTAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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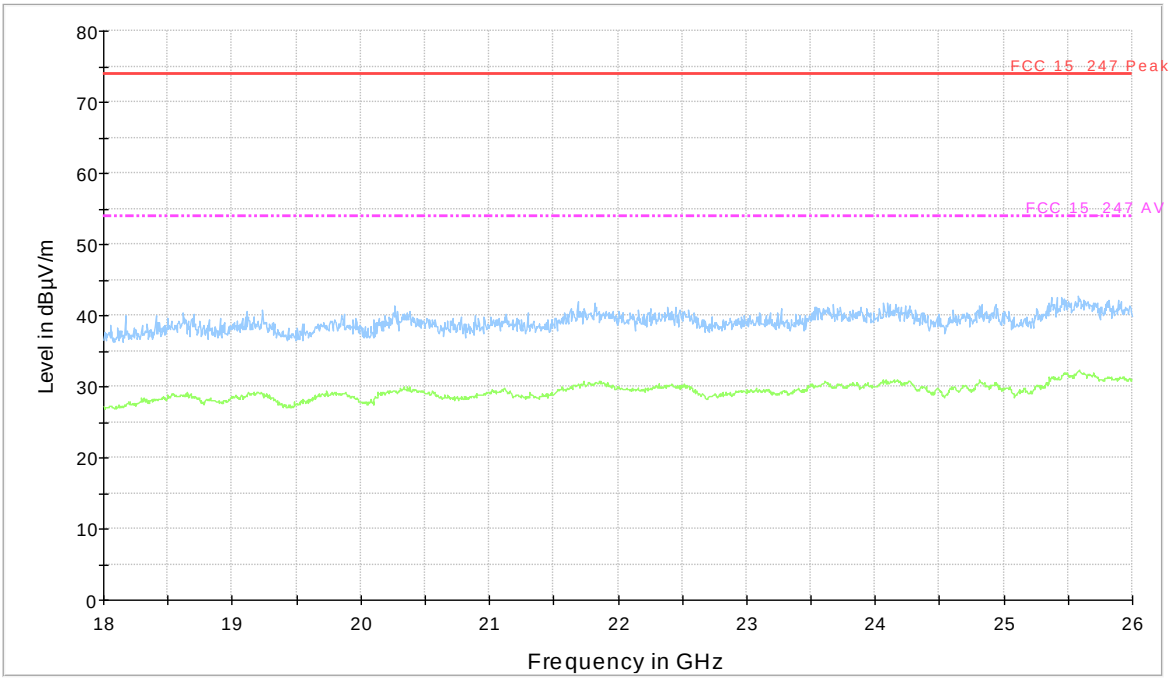
CHANNEL	0
FREQUENCY RANGE	18-26GHz
POLARIZATION	HORIZONTAL



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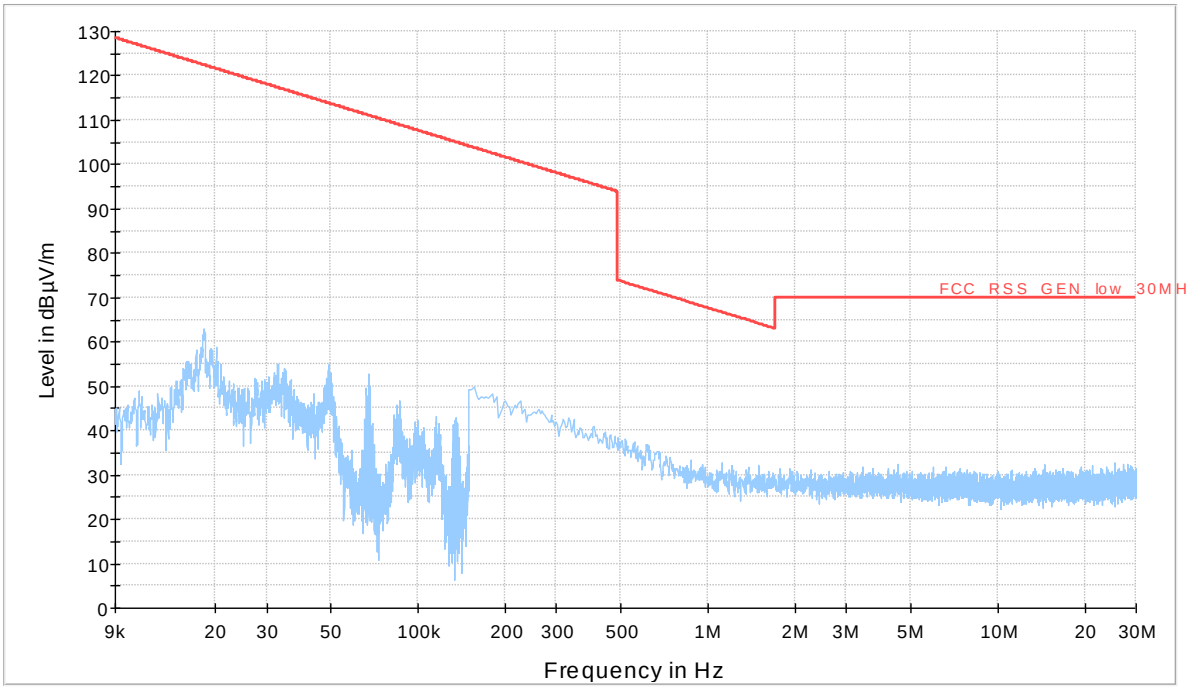
CHANNEL	19
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	VERTICAL

EMI_RAD_9k_30M_sweep_dBuVm



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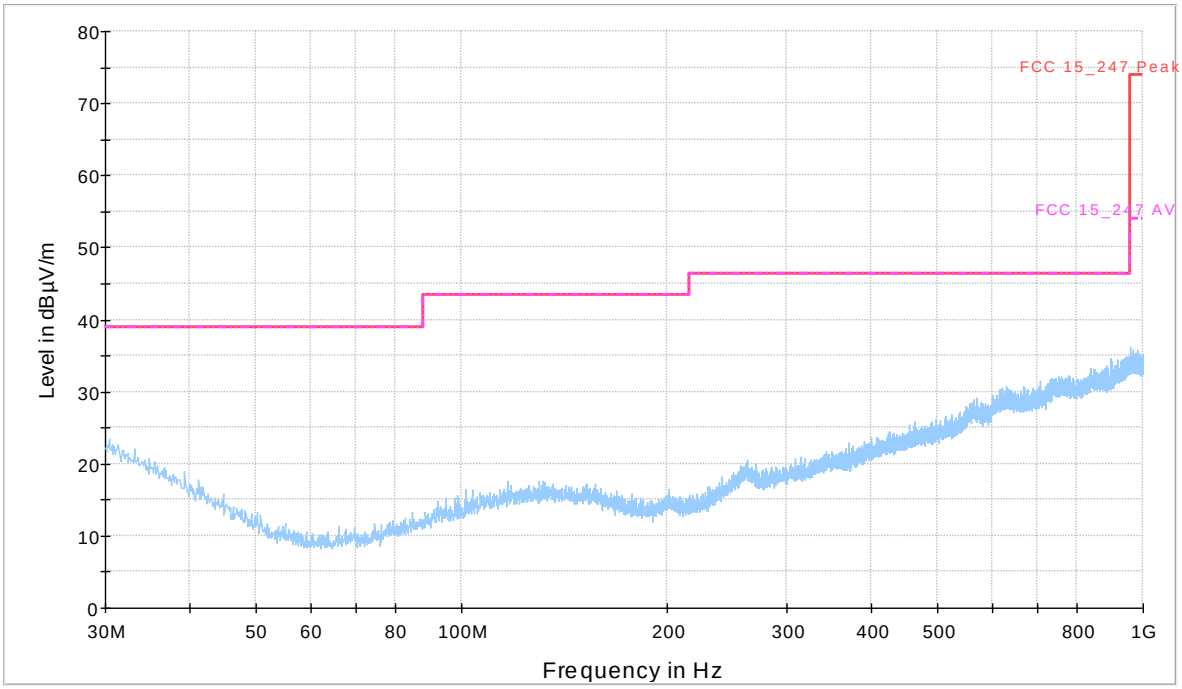
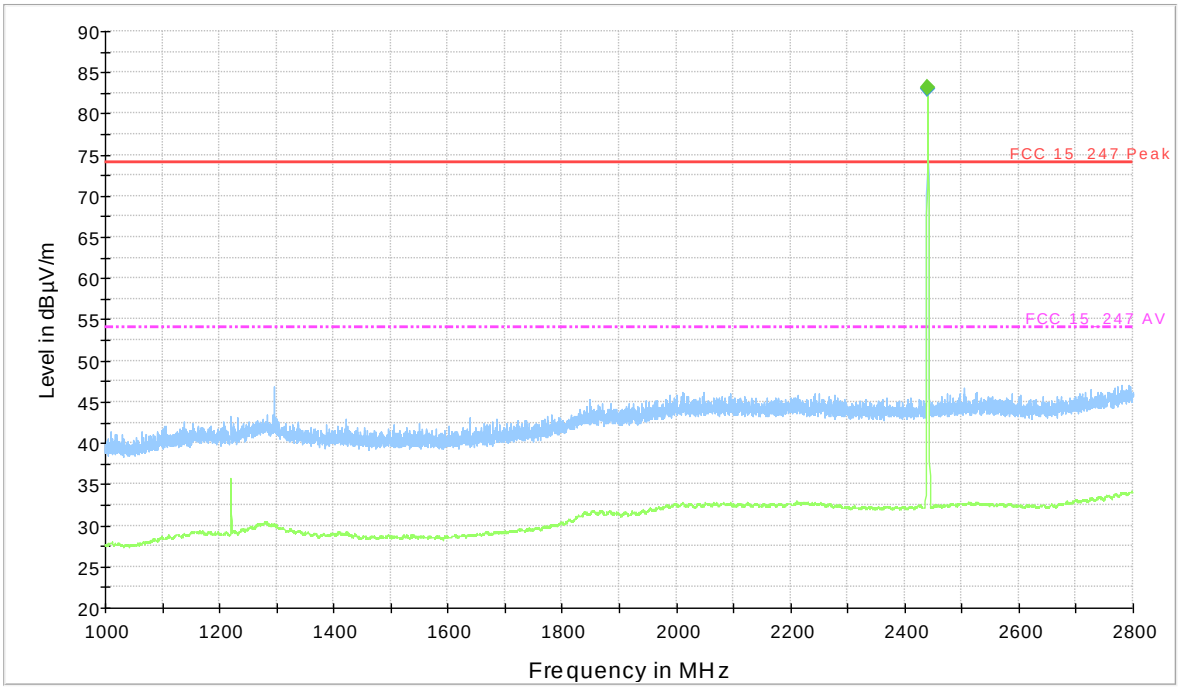
CHANNEL	19
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



CHANNEL	19
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



Final Result Quasi Peak Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2440.000000	83.0	255.1	V	270.0	-9.00	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2440.000000	83.2	255.1	V	270.0	-29.20	54.00

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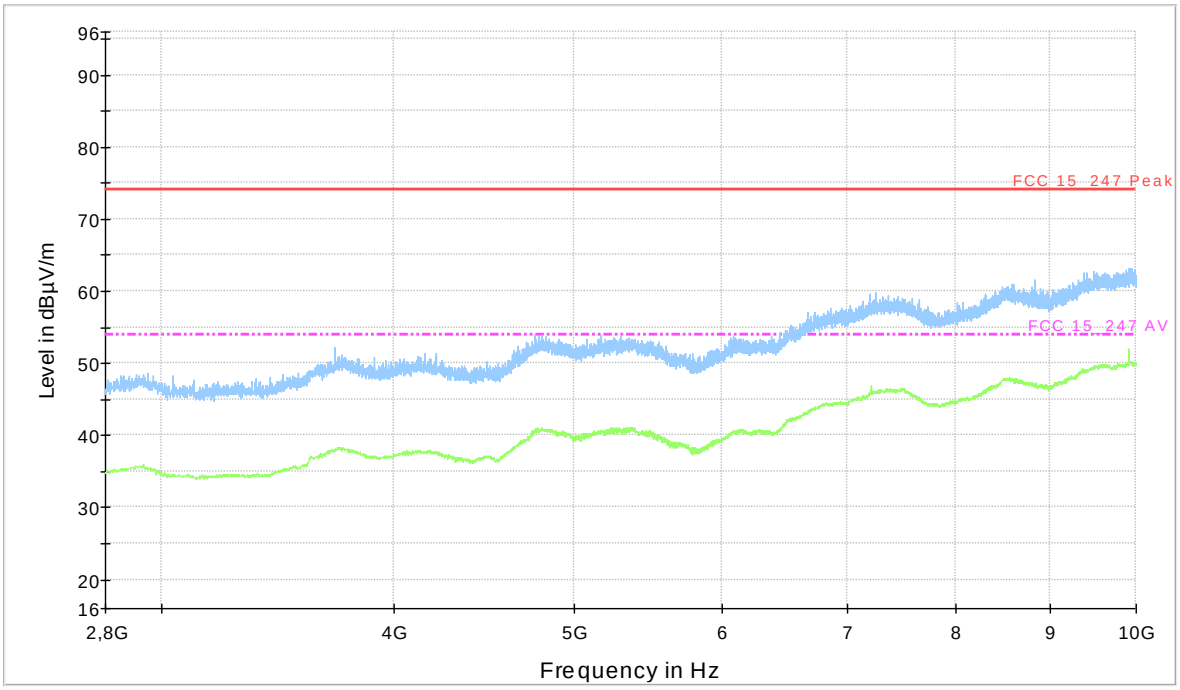
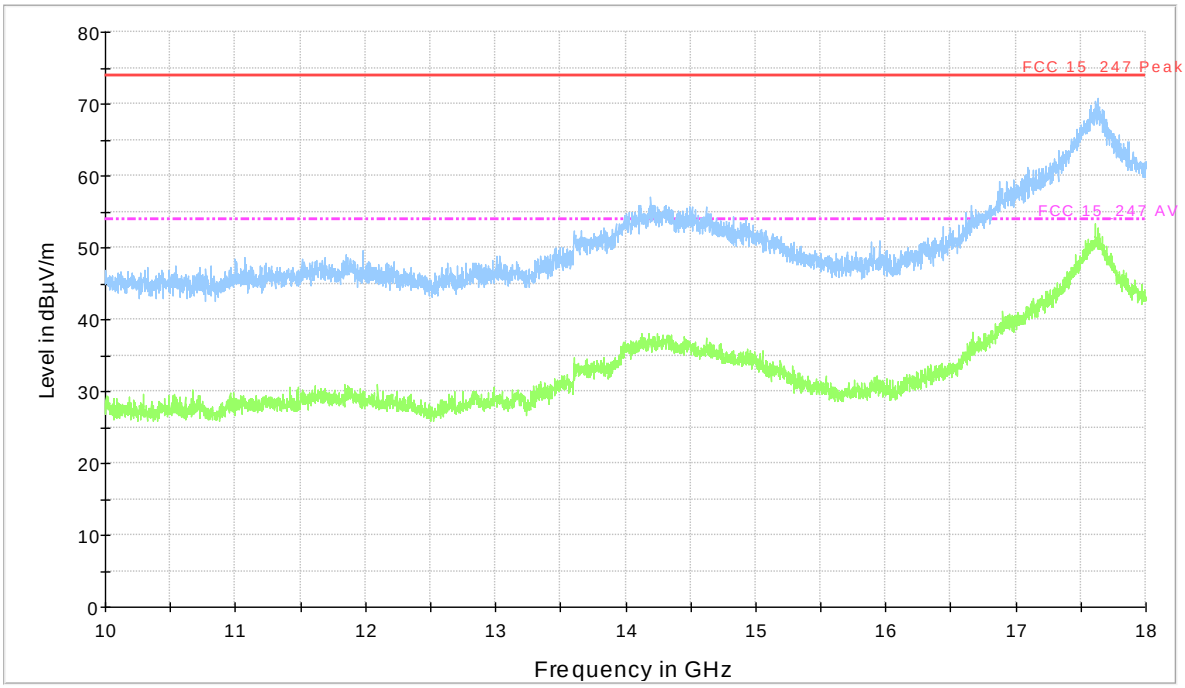
CHANNEL	19
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



CHANNEL	19
FREQUENCY RANGE	10-18GHz
POLARIZATION	VERTICAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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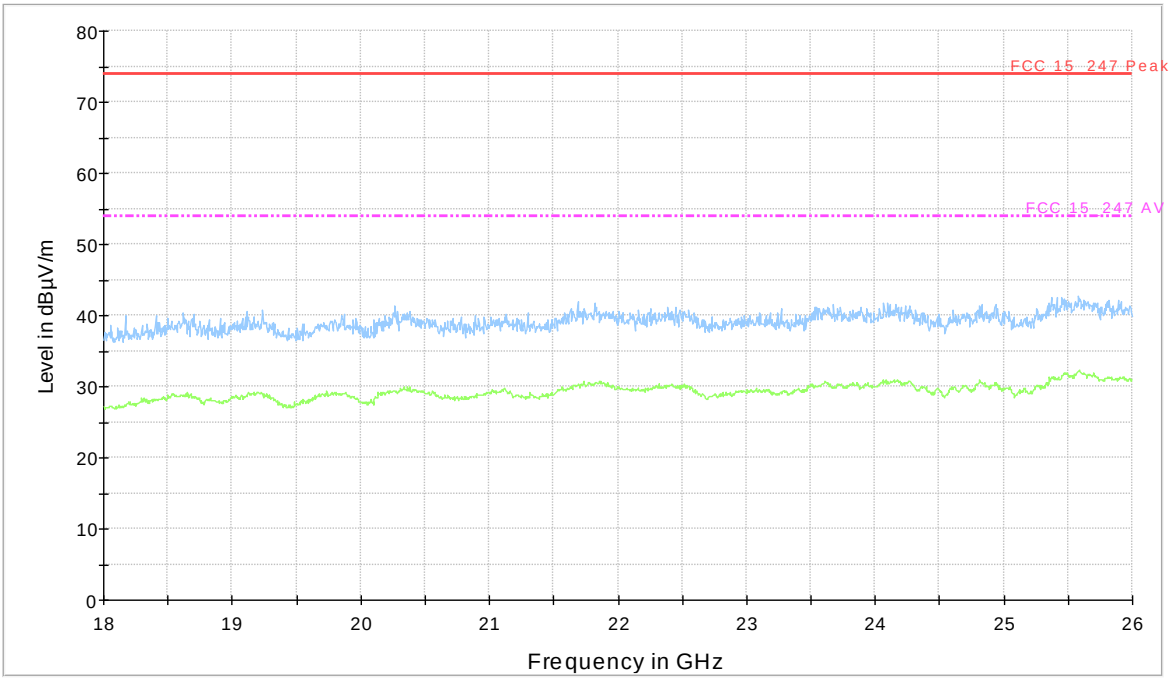
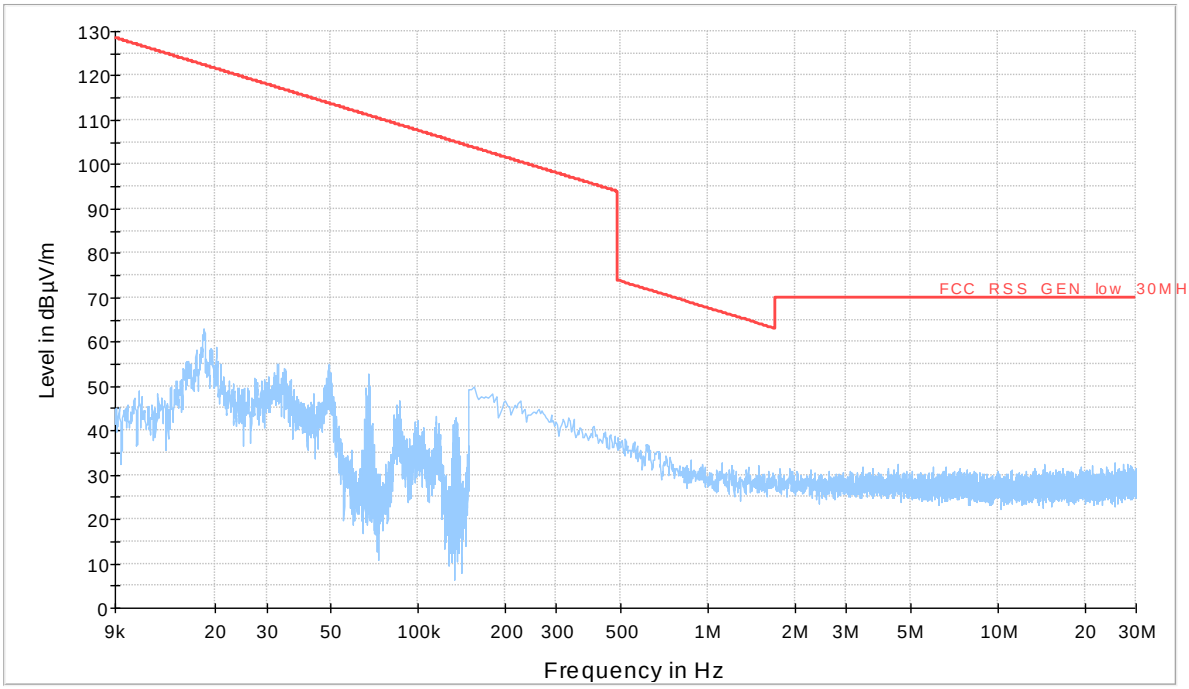
CHANNEL	19
FREQUENCY RANGE	18-26GHz
POLARIZATION	VERTICAL



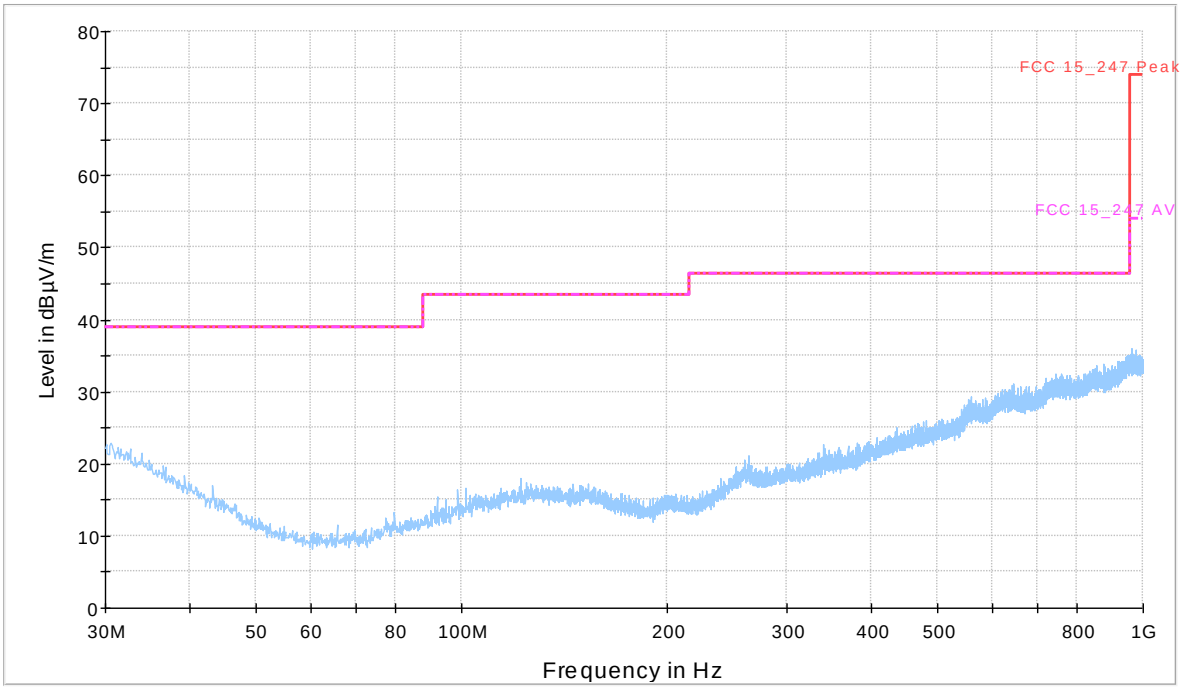
CHANNEL	19
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	VERTICAL

EMI_RAD_9k_30M_sweep_dBuVm



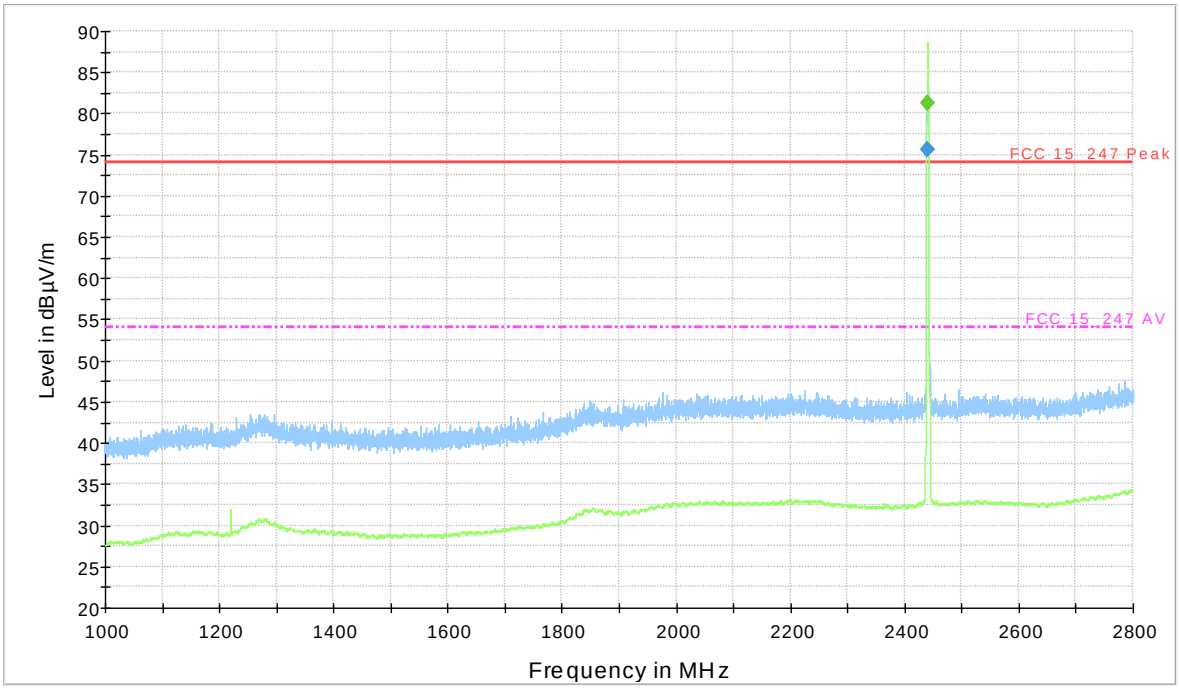
CHANNEL	19
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



CHANNEL	19
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



Final Result Quasi Peak Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2439.640000	75.7	104.9	H	180.0	-1.70	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2440.000000	81.2	104.9	H	180.0	-27.20	54.00

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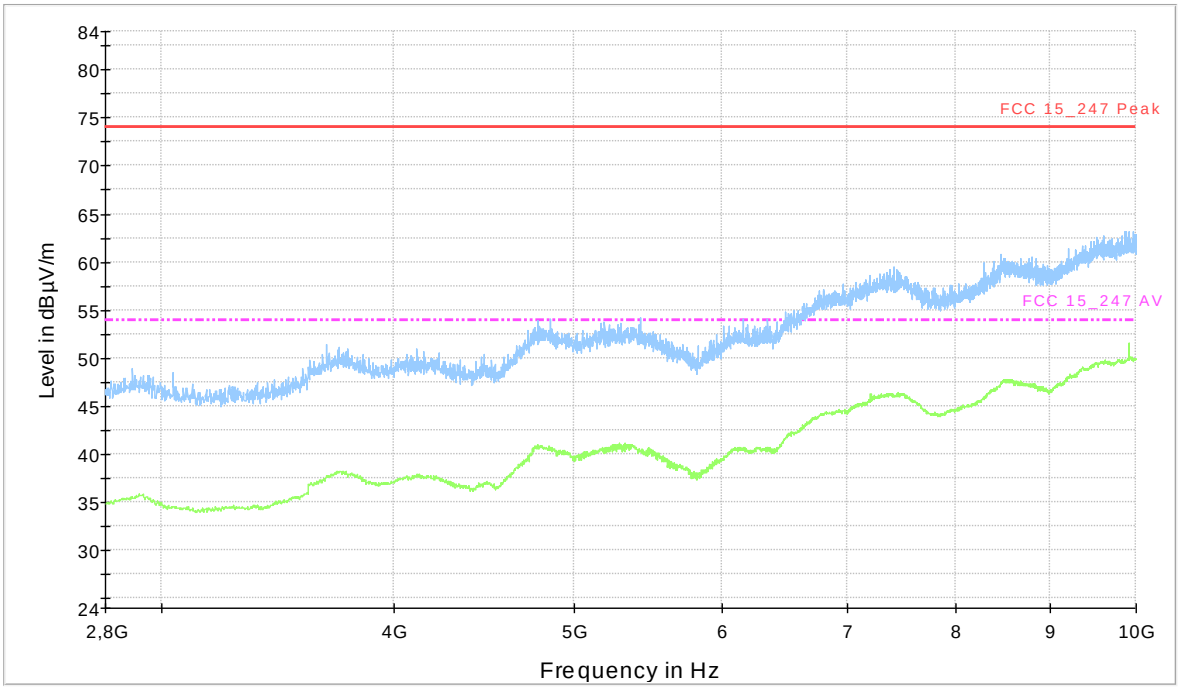
CHANNEL	19
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



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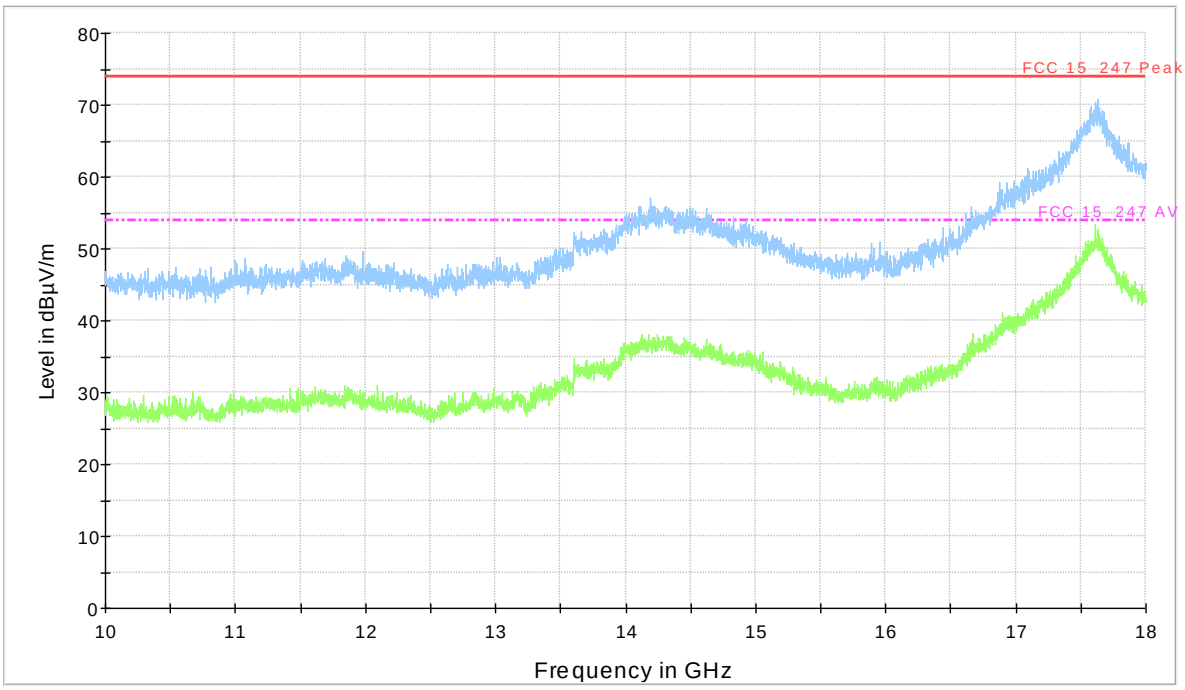
CHANNEL	19
FREQUENCY RANGE	10-18GHz
POLARIZATION	HORIZONTAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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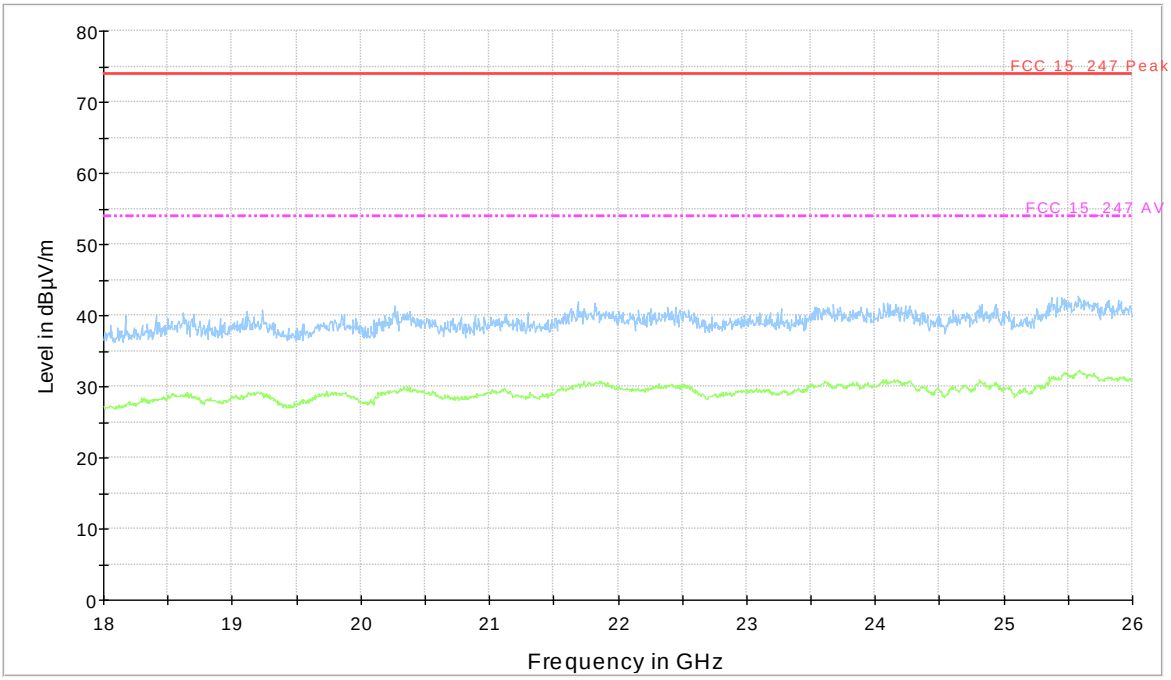
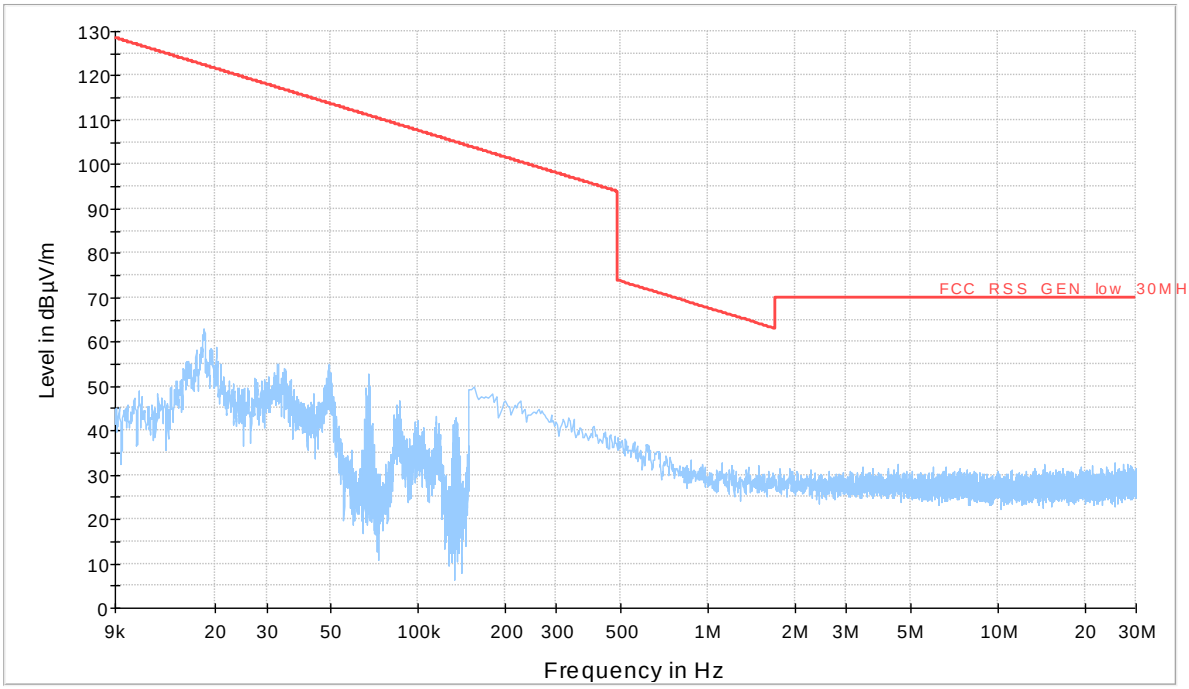
CHANNEL	19
FREQUENCY RANGE	18-26GHz
POLARIZATION	HORIZONTAL



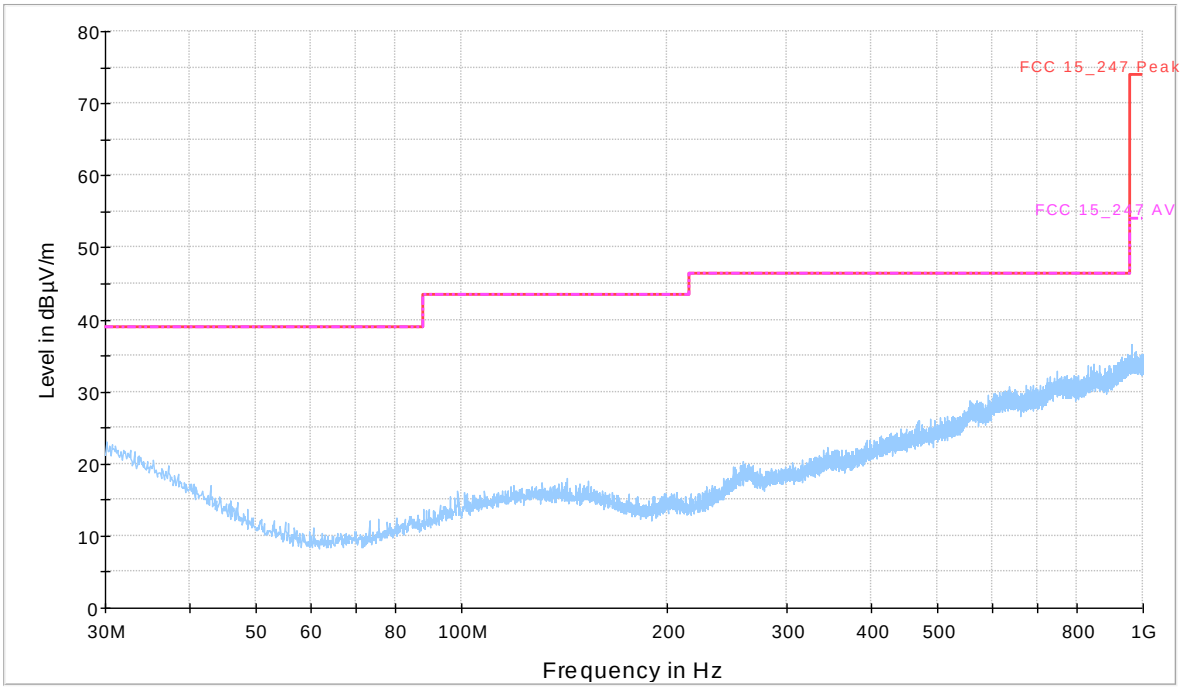
CHANNEL	39
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	VERTICAL

EMI_RAD_9k_30M_sweep_dBuVm



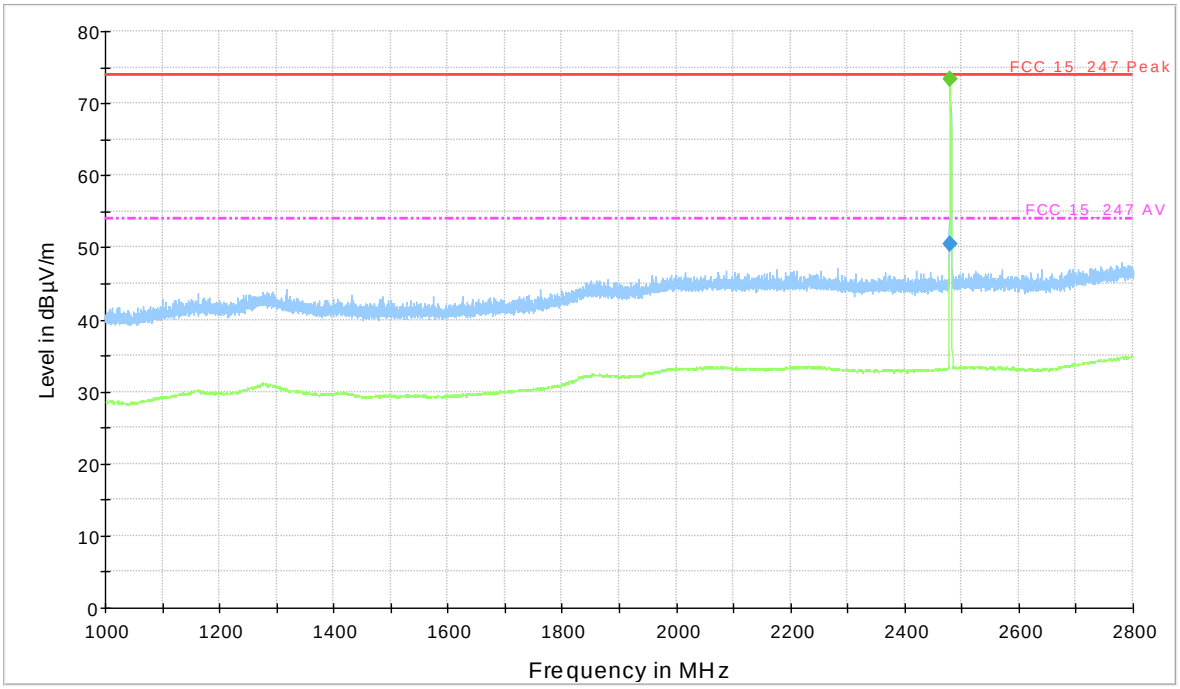
CHANNEL	39
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



CHANNEL	39
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



Final Result Quasi Peak Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2480.140000	50.5	103.0	V	269.0	23.50	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2479.960000	73.4	103.0	V	269.0	-19.40	54.00

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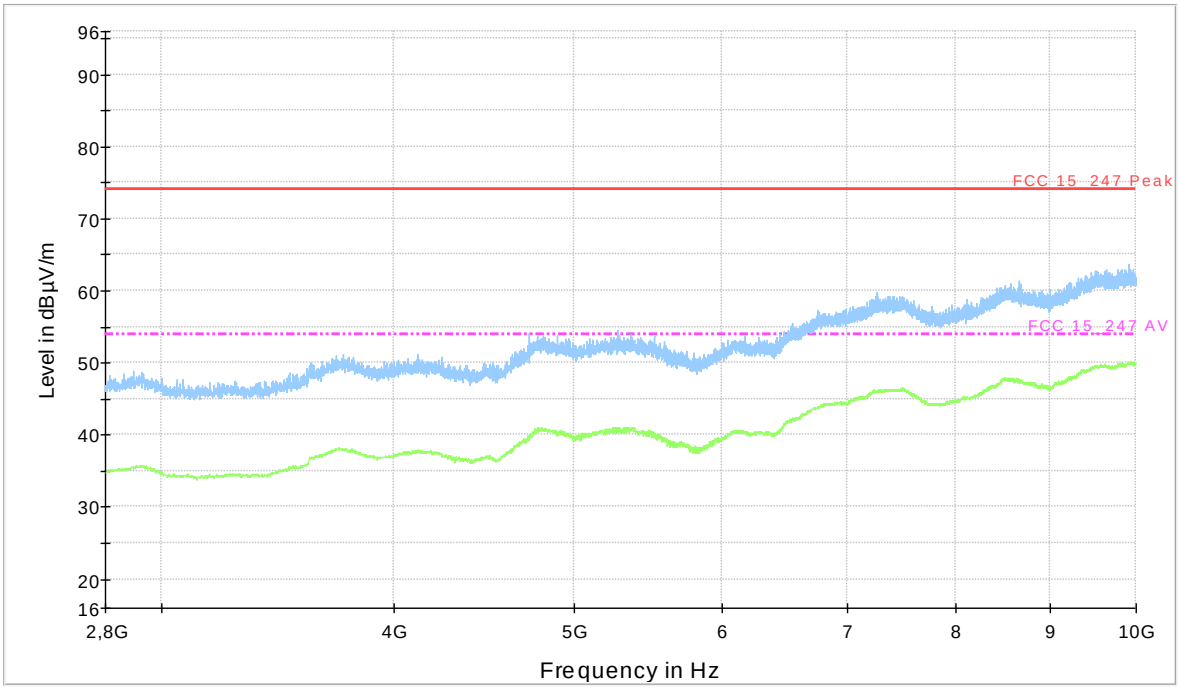
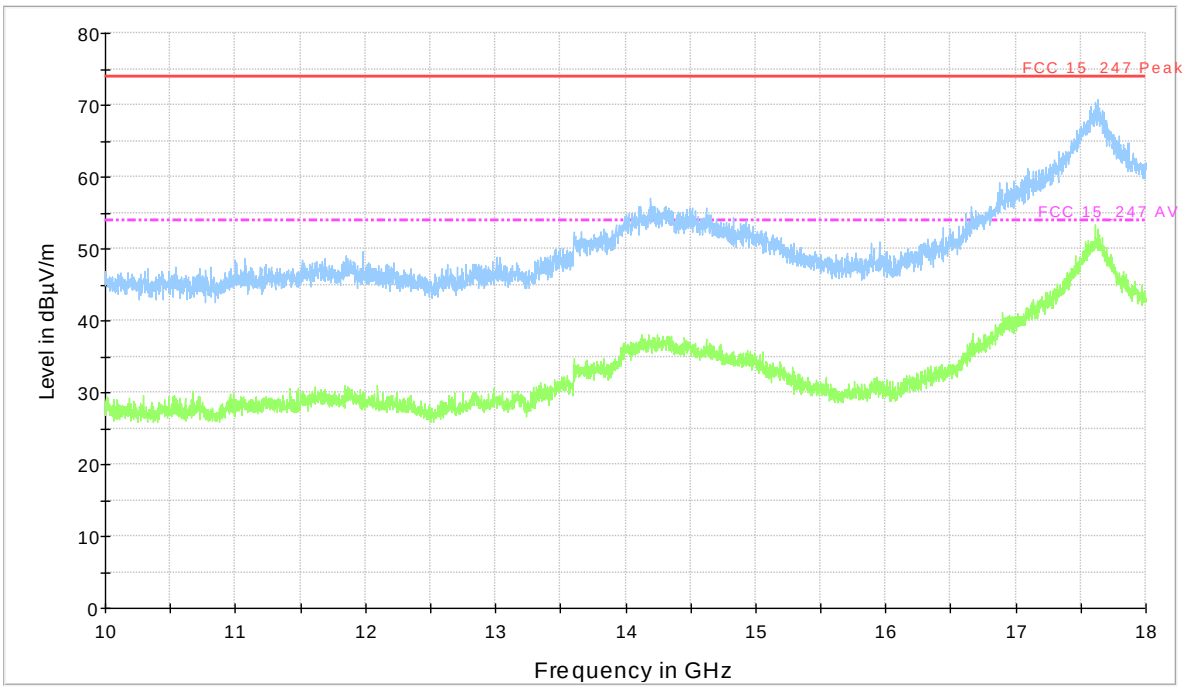
CHANNEL	39
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	VERTICAL

FCC_15_247_RADIATED_SPURIOUS_VERTICAL



CHANNEL	39
FREQUENCY RANGE	10-18GHz
POLARIZATION	VERTICAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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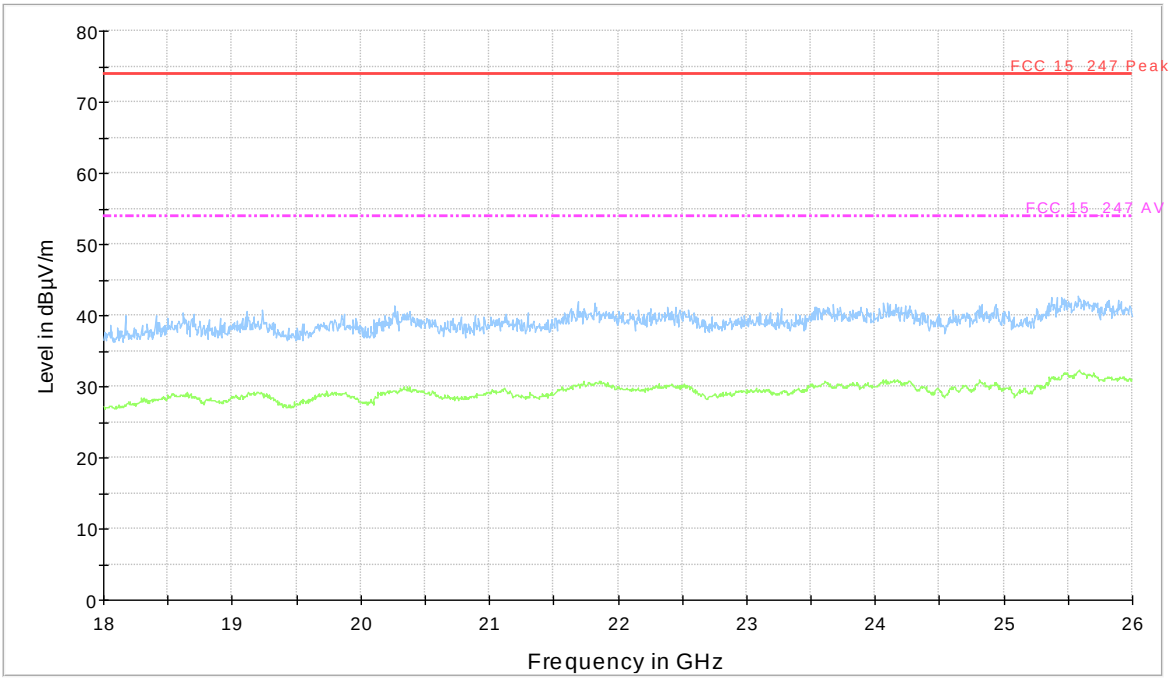
CHANNEL	39
FREQUENCY RANGE	18-26GHz
POLARIZATION	VERTICAL



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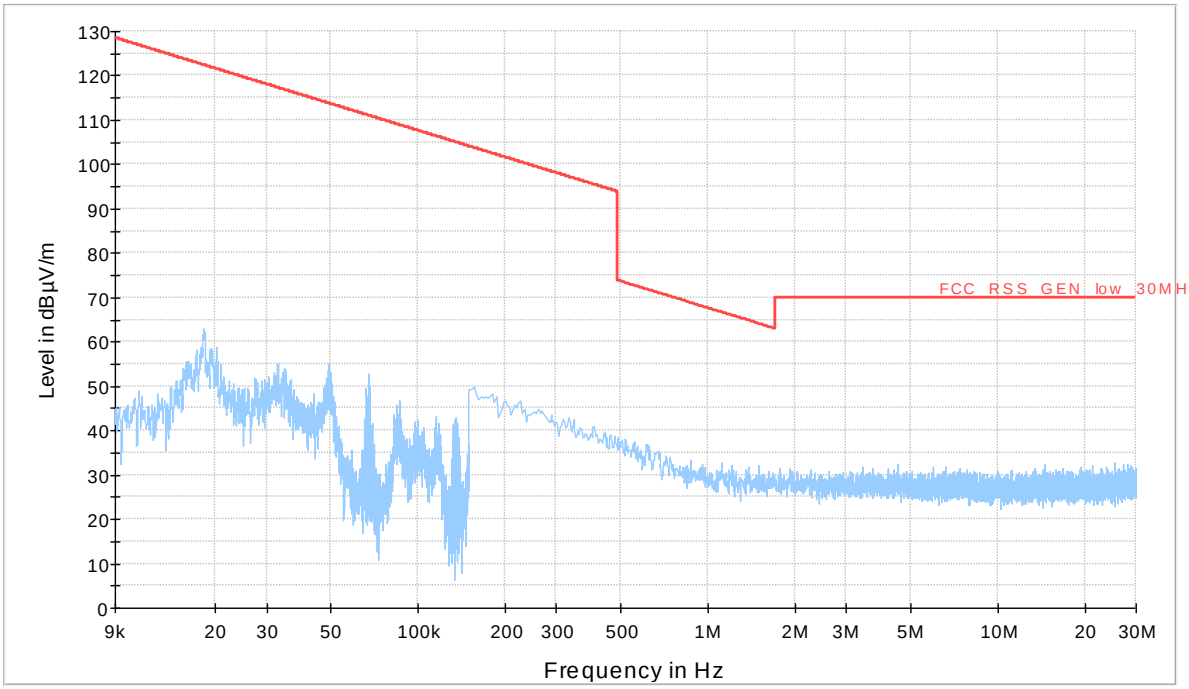
CHANNEL	39
FREQUENCY RANGE	9kHz - 30MHz
POLARIZATION	HORIZONTAL

EMI_RAD_9k_30M_sweep_dBuVm



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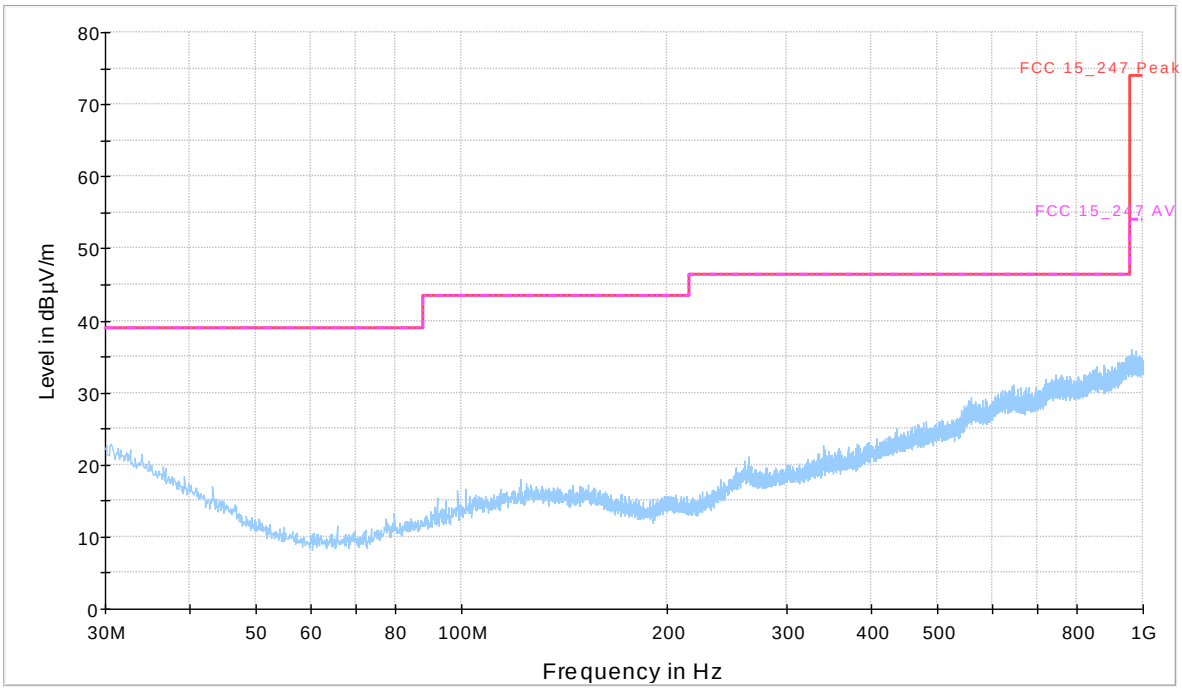
CHANNEL	39
FREQUENCY RANGE	30MHz – 1GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



Prima Ricerca & Sviluppo. – Capitale Sociale € 50.000 i.v.
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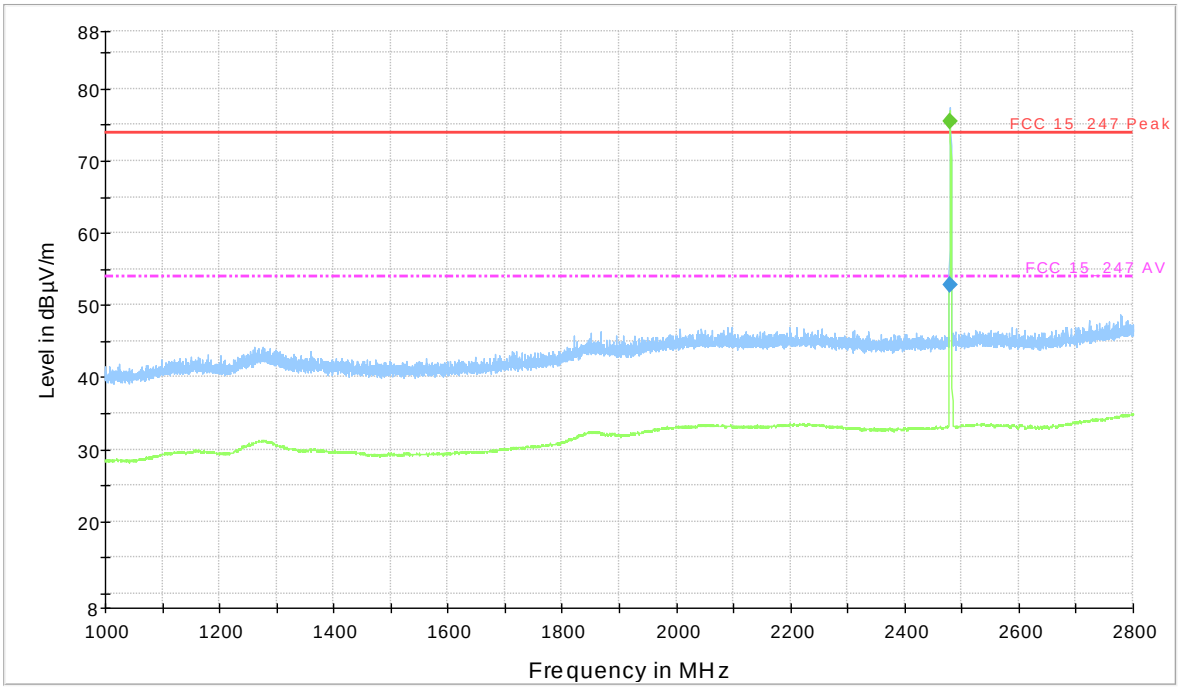
CHANNEL	39
FREQUENCY RANGE	1-2.8GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



Final Result Quasi Peak Carrier

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2480.140000	52.7	103.0	H	180.0	21.30	74.00

Final Result Average Carrier

Frequency (MHz)	Average (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
2479.960000	75.5	103.0	H	180.0	-21.50	54.00

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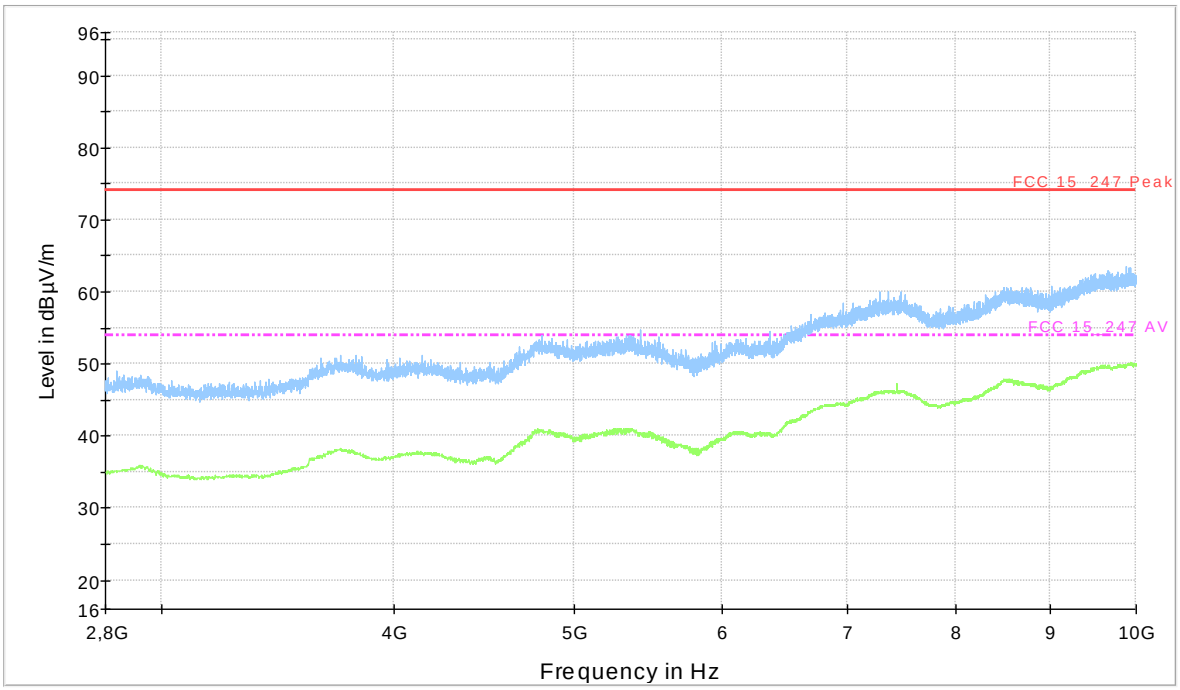
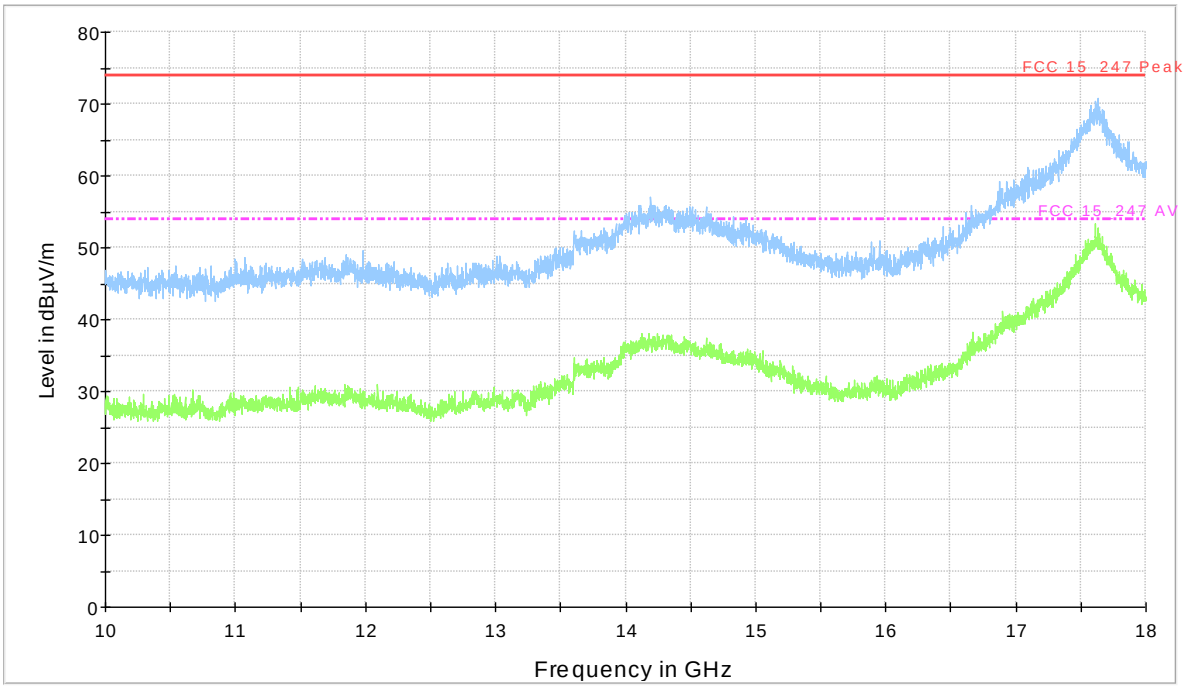
CHANNEL	39
FREQUENCY RANGE	2.8-10GHz
POLARIZATION	HORIZONTAL

FCC_15_247_RADIATED_SPURIOUS_HORIZONTAL



CHANNEL	39
FREQUENCY RANGE	10-18GHz
POLARIZATION	HORIZONTAL

RADIATED_EMISSIONS_FCC_18_MP5_1_18G_CSA



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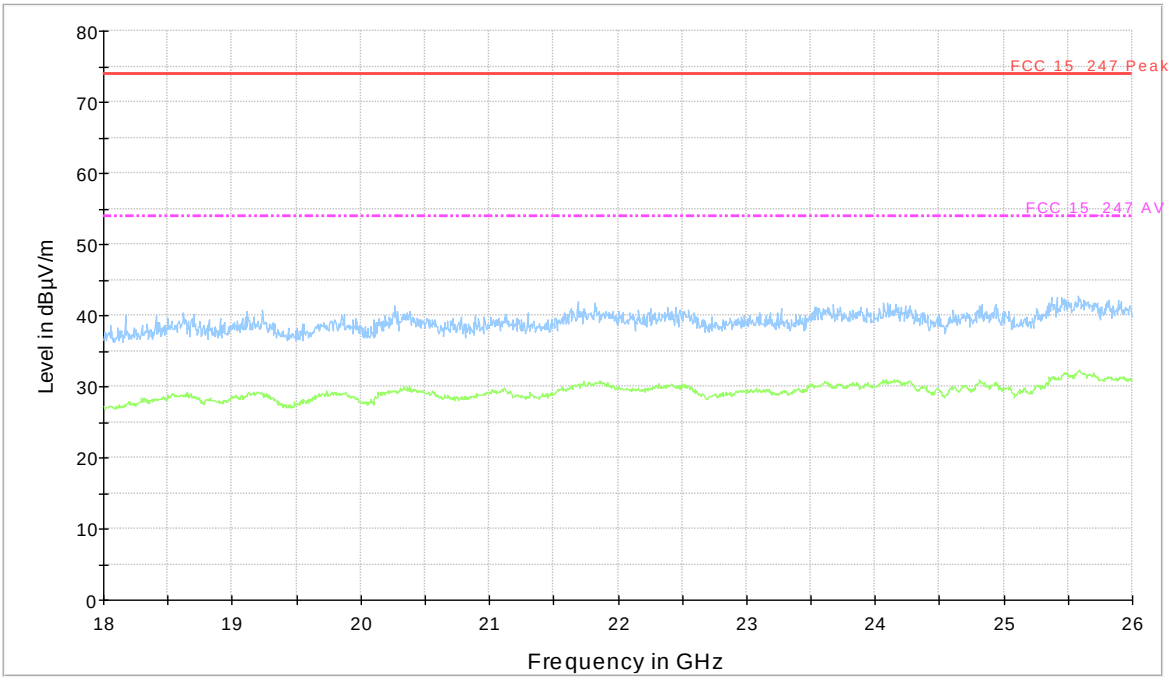
CHANNEL	39
FREQUENCY RANGE	18-26GHz
POLARIZATION	HORIZONTAL



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TEST 7.	**RADIATED EMISSIONS**

REFERENCE DOCUMENT FCC Cfr 47 part 15 - Subpart B - §15.109

TEST SETUP	In according to ref std
TEST LOCATION	Semi Anechoic Chamber
TYPE OF MEASUREMENT	RADIATED
TEST EQUIPMENT	EMI receiver Rohde & Schwarz Mod, ESU 40 Chase Antenna Mod, CBL 6111 C Antenna Rohde & Schwarz mod, HL050 Tunable notch filter Wainwright mod, WRCT2200/2500-5/40-10SK High pass filter Wainwright WHNX 2,8/18G-10SS
TEST PERFORMED BY	Daniele Aosani
TESTING DATE	July 2017
UNCERTAINTY OF MEASURE:	Combined uncertainty = ± 1,75 dB Total uncertainty = (k=2) ± 3,5 dB

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)	960mbar

OPERATING CONDITION	#4

TEST RESULT	**WITHIN THE LIMITS**

Prima Ricerca & Sviluppo. – Capitale Sociale € 50.000 i.v.
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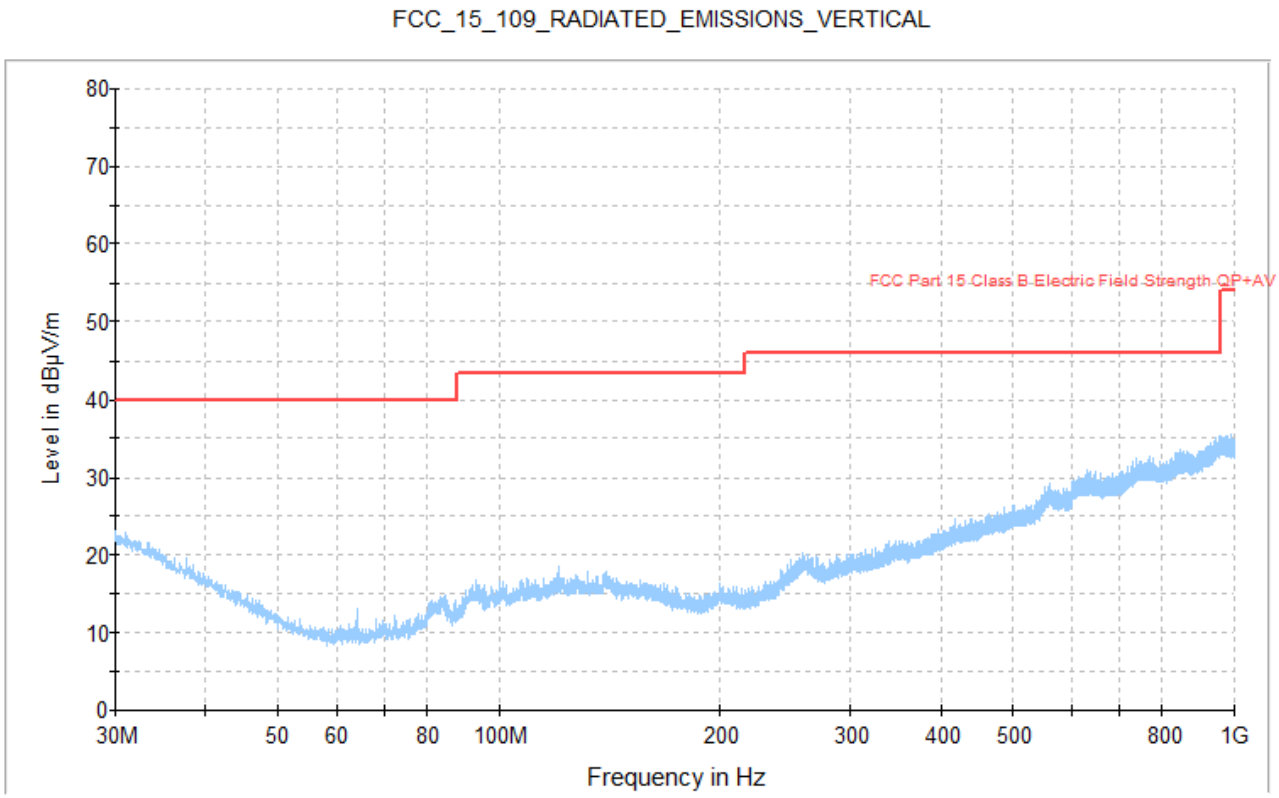
VERTICAL POLARIZATION

Frequency Range: 30 MHz – 1 GHz



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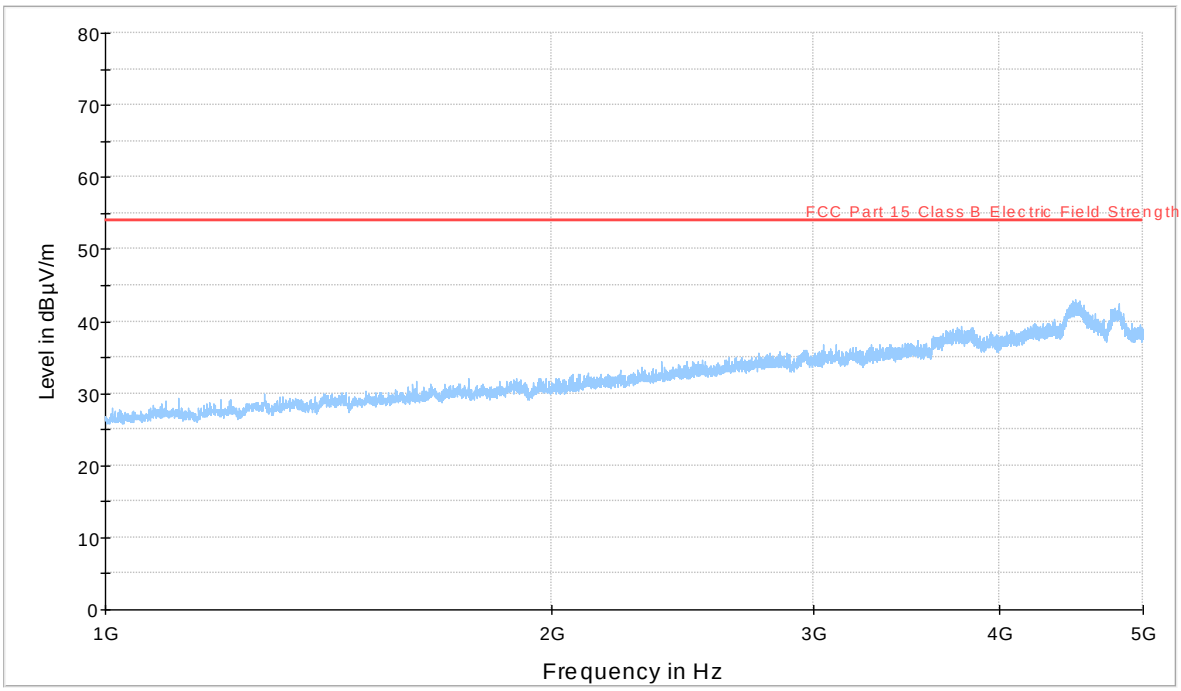
Frequency Range: 1- 5 GHz

FCC_15_109_RADIATED_EMISSIONS_VERTICAL



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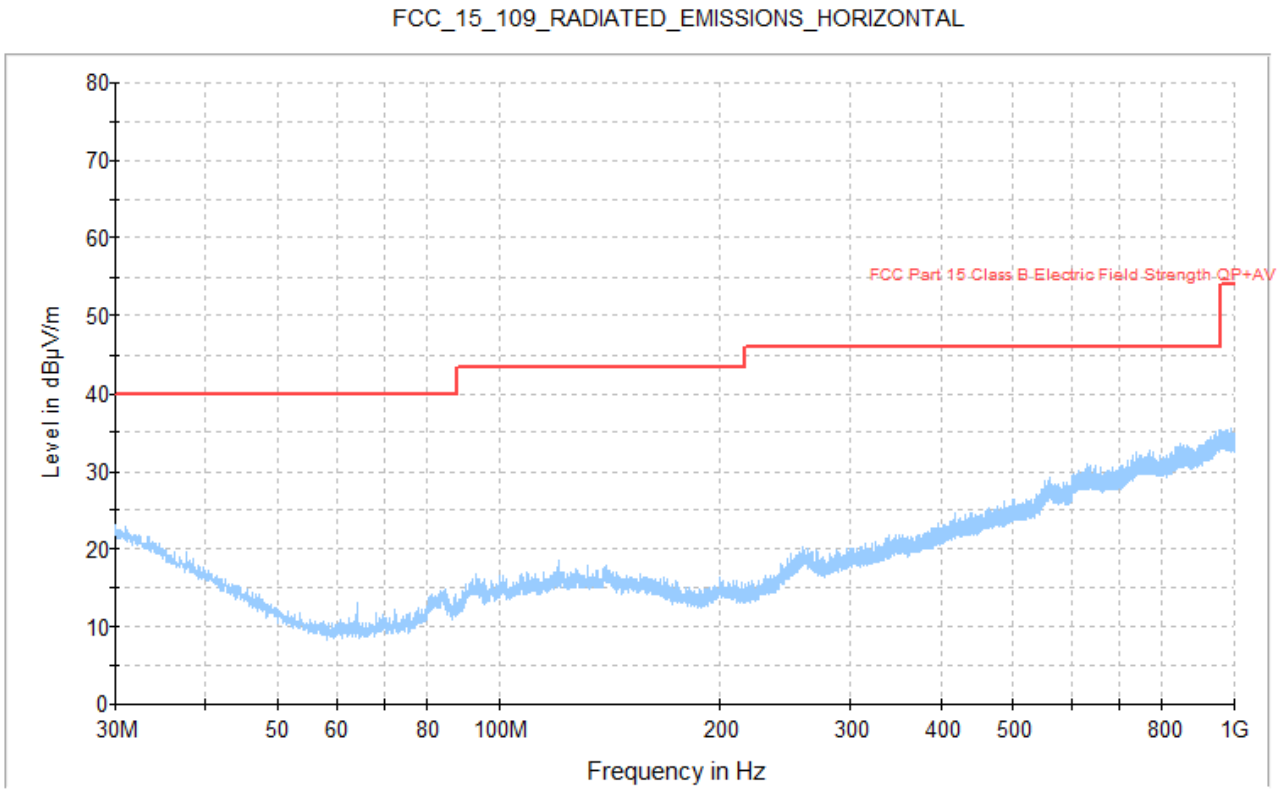
HORIZONTAL POLARIZATION

Frequency Range: 30 MHz – 1 GHz



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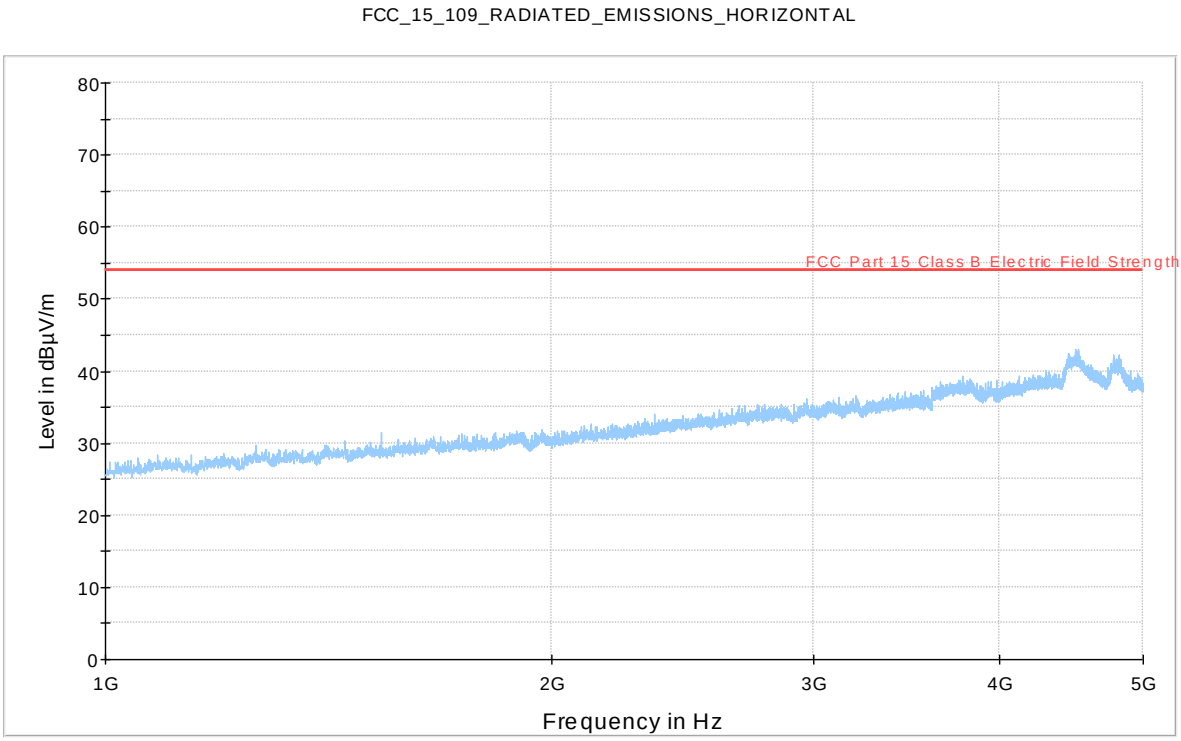
Frequency Range: 1- 5 GHz



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7. LIST OF EQUIPMENT USED

EQUIPMENT	MANUFACTURER	MODEL	SERIAL Nr.	CAL. DUE
EMI TEST RECEIVER	Rohde & Schwarz	ESU40	100111	Mar. 2018
RF SEMI-ANECHOIC CHAMBER (CSSA)	Siemens	B83117-D6019-T232	003-005-134/94C	Jan 2018
BILOG ANTENNA	Chase	CBL6111C	2717	Mar. 2018
HORN ANTENNA 1-18GHz	Electrometrics	EN-6961	100437	Apr. 2018
HORN ANTENNA 18-26GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9170	9170-688	Apr. 2018
SPECTRUM ANALYZER	Rohde & Schwarz	FSP40	100038	Feb. 2018
SYSTEM DC POWER SUPPLY	HP	6623A	3448A04501	Jan. 2018
TUNABLE NOTCH FILTER	Wainwright	WRCT2200/2500-5/40-10SK	5	Nov 2017
HIGH PASS FILTER	Wainwright	WHNX 2,8/18G-10SS	1	Nov 2017

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