



REPORT No.: SZ24060185W02

TEST REPORT

APPLICANT : Anker Innovations Limited

PRODUCT NAME : eufy Smart Lock C30

MODEL NAME : T85D0

BRAND NAME : eufy

FCC ID : 2AOKB-T85D0

STANDARD(S) : 47 CFR Part 15 Subpart C

RECEIPT DATE : 2024-06-19

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REPORT No.: SZ24060185W02

Change History		
Version	Date	Reason for change
1.0	2024-07-03	First edition



1. Summary of Test Result

No.	Section	Description	Test Date	Test Engineer	Result	Method Determination /Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	No deviation
2	N/A	Duty Cycle of Test Signal	Jun. 25, 2024	Li Zikai	PASS	No deviation
3	15.247(b)	Maximum Peak Conducted Output Power	Jun. 25, 2024	Li Zikai	PASS	No deviation
4	15.247(b)	Maximum Average Conducted Output Power	Jun. 25, 2024	Li Zikai	PASS	No deviation
5	15.247(a)	Bandwidth	Jun. 25, 2024	Li Zikai	PASS	No deviation
6	15.247(d)	Conducted Spurious Emission and Band Edge	Jun. 25, 2024	Li Zikai	PASS	No deviation
7	15.247(e)	Power Spectral Density	Jun. 25, 2024	Li Zikai	PASS	No deviation
8	15.207	Conducted Emission	Jun. 25, 2024	Wen Zhe	PASS	No deviation
9	15.247(d)	Restricted Frequency Bands	Jul. 02, 2024	Yang Lian	PASS	No deviation
10	15.209, 15.247(d)	Radiated Emission	Jul. 01, 2024	Yang Lian	PASS	No deviation

Note 1: The tests were performed according to the method of measurements prescribed in ANSI C63.10-2013 and KDB 558074 D01 v05r02.

Note 2: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

Note 3: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.



1.1. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C Radio Frequency Devices



1.2. Test Equipment List

1.2.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY53470836	N9010A	Agilent	2024.02.19	2025.02.18
Power Sensor	MY54180008	U2021XA	Agilent	2023.10.17	2024.10.16
Attenuator	MTJ6004-20	VAT-10+	MTJ Cooperation	N/A	N/A
RF Cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial Cable	CB02	RF02	Morlab	N/A	N/A
SMA Connector	CN01	RF03	HUBER-SUHNER	N/A	N/A

1.2.2 Conducted Emission Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY56400093	N9038A	KEYSIGHT	2024.01.25	2025.01.24
LISN	8127449	NSLK 8127	Schwarzbeck	2024.02.02	2025.02.01
Pulse Limiter (10dB)	VTSD 9561 F- B #206	VTSD 9561-F	Schwarzbeck	2024.05.30	2025.05.29
RF Coaxial Cable (DC-100MHz)	BNC	MRE04	Qualwave	N/A	N/A

1.2.3 List of Software Used

Description	Manufacturer	Software Version
Test System	MaiWei	2.0.0.0
Morlab EMCR	Morlab	V1.2
TS+ -[JS32-CE]	Tonscend	V2.5.0.0

**1.2.4 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY54130016	N9038A	Agilent	2024.05.30	2025.05.29
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2024.06.22	2025.06.21
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2024.06.03	2025.06.02
Test Antenna – Horn	01774	BBHA 9120D	Schwarzbeck	2024.06.22	2025.06.21
Test Antenna – Horn	BBHA9170 #773	BBHA9170	Schwarzbeck	2024.06.22	2025.06.21
Preamplifier (10MHz-6GHz)	46732	S10M100L38 02	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (2GHz-18GHz)	61171/61172	S020180L32 03	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	2023.07.04	2024.07.03
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	2023.07.04	2024.07.03
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN-5	Qualwave	2023.07.04	2024.07.03
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.05.10	2025.05.09



1.3. Measurement Uncertainty

Test Items	Uncertainty	Remark
Peak Output Power	$\pm 2.22\text{dB}$	Confidence levels of 95%
Power Spectral Density	$\pm 2.22\text{dB}$	Confidence levels of 95%
Bandwidth	$\pm 5\%$	Confidence levels of 95%
Conducted Spurious Emission	$\pm 2.77\text{dB}$	Confidence levels of 95%
Restricted Frequency Bands	$\pm 5\%$	Confidence levels of 95%
Radiated Emission	$\pm 2.95\text{dB}$	Confidence levels of 95%
Conducted Emission	$\pm 2.44\text{dB}$	Confidence levels of 95%

1.4. Testing Laboratory

Laboratory Name	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone	+86 755 36698555
Facsimile	+86 755 36698525
FCC Designation Number	CN1192
FCC Test Firm Registration Number	226174

2. General Description

2.1. Information of Applicant and Manufacturer

Applicant	Anker Innovations Limited
Applicant Address	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Manufacturer	Anker Innovations Limited
Manufacturer Address	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

2.2. Information of EUT

Product Name:	eufy Smart Lock C30
Sample No.:	5#
Hardware Version:	V3
Software Version:	V2.0.2.6
Modulation Technology:	DSSS, OFDM
Modulation Type:	Refer to section 1.3
Operating Frequency Range:	802.11b/g/n (HT20): 2412MHz–2462MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	3.41dBi

Note 1: We use the dedicated software to control the EUT continuous transmission.

Note 2: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



2.3.Channel List of EUT

Nominal Channel Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432		
	6	2437		
	7	2442		

Note 1: The black bold channels were selected for test.

2.4. Test Configuration of EUT

2.4.1. Modulation Type and Data Rate of EUT

Modulation technology	Modulation Type	Data Rate (Mbps) ^{Note1}
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/ 11
OFDM (802.11g)	BPSK	6 / 9
	QPSK	12 / 18
	16QAM	24 / 36
	64QAM	48 / 54
OFDM (802.11n (HT20))	BPSK	6.5
	QPSK	13/19.5
	16QAM	26/39
	64QAM	52/58.5/65

Note1: The worst-case mode (bold face) in all data rates has been determined during the pre-scan, only the test data of the worst-case were recorded in this report.

Note2: The RF signal transmission of EUT is controlled by the build-in engineering mode which is provided by the manufacturer. The recorded power setting value is the maximum that the engineering mode has configuration during testing.

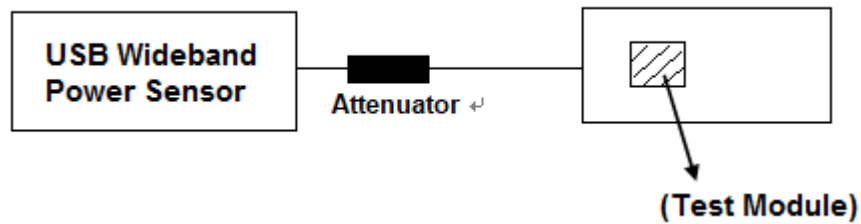
2.5. Test Conditions

Temperature (°C)	15-35
Relative Humidity (%)	30-60
Atmospheric Pressure (kPa)	86-106

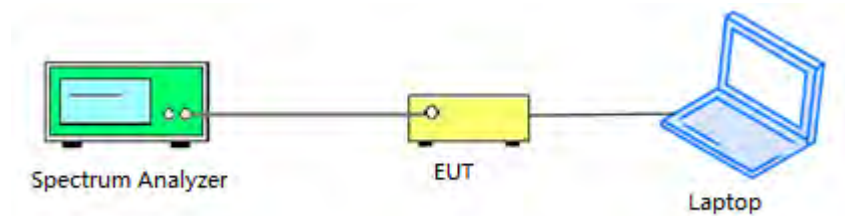
2.6. Test Setup Layout Diagram

2.6.1. Conducted Measurement

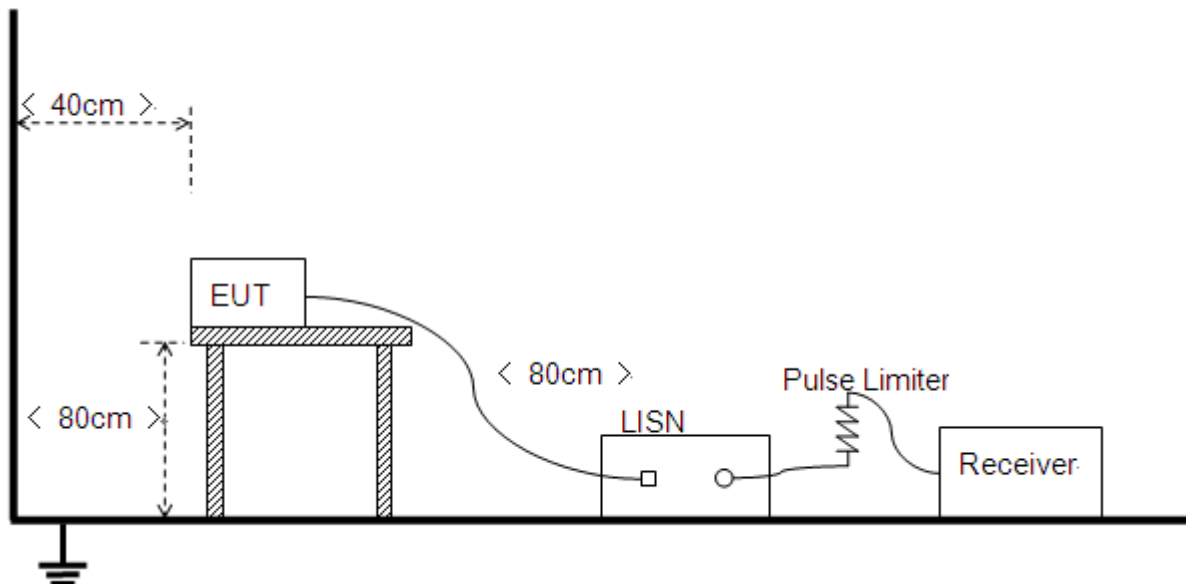
Power item



Other items

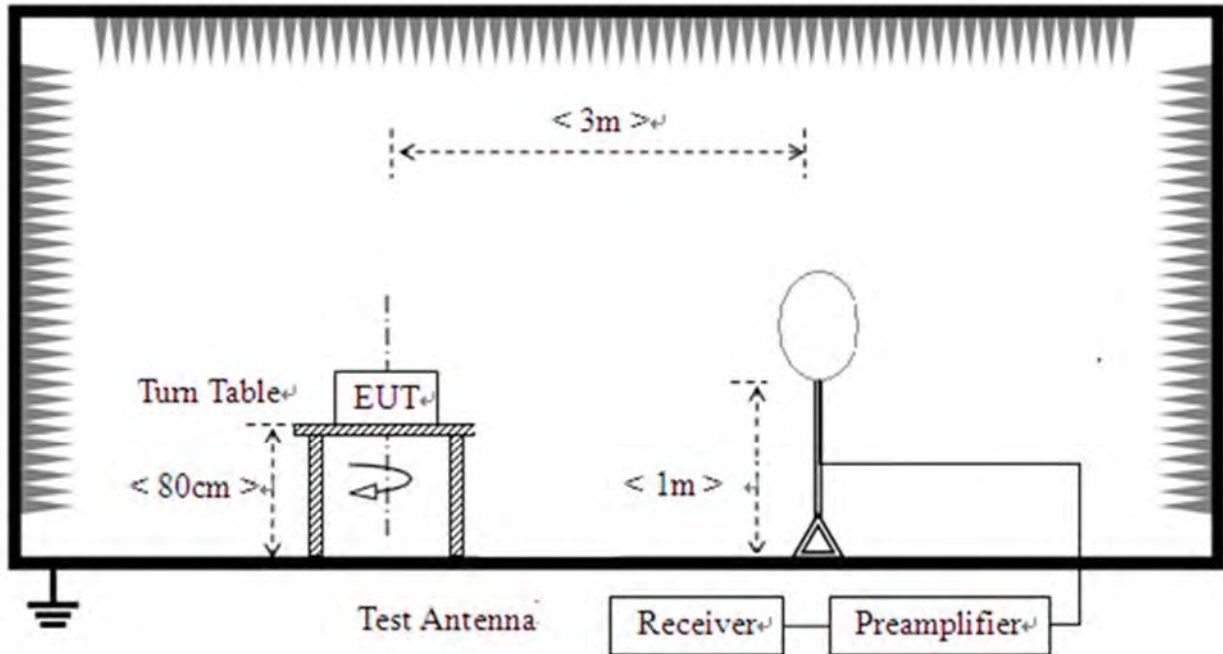


2.6.2. Conducted Emission Measurement

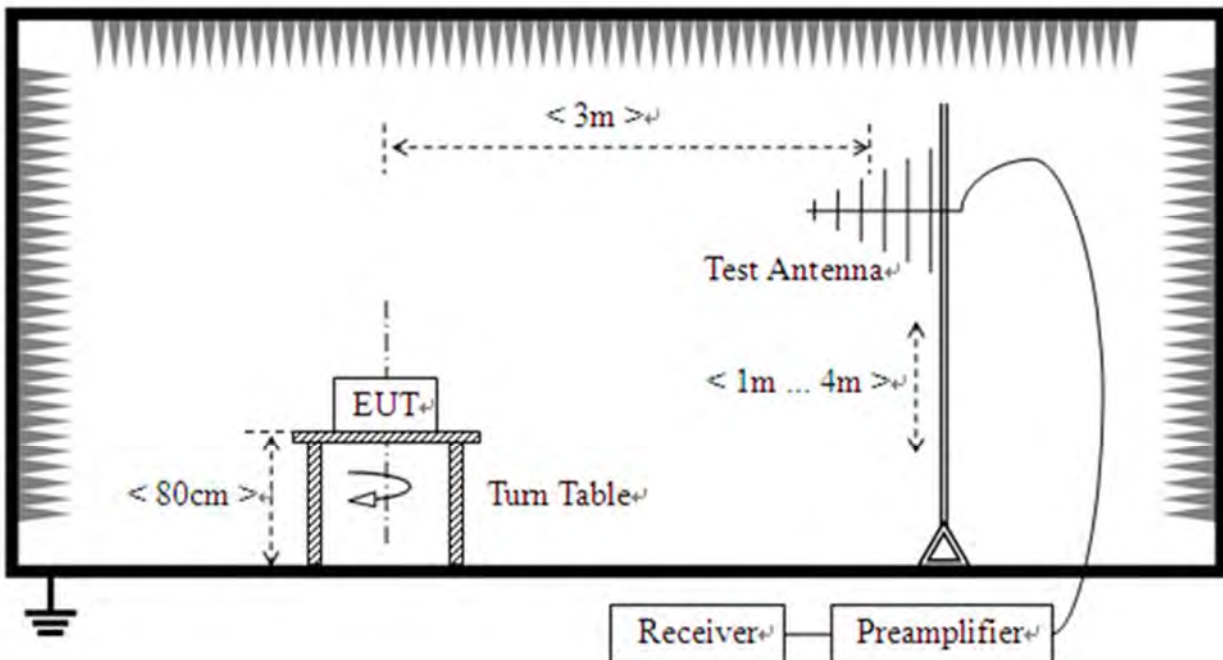


2.6.3.Radiation Measurement

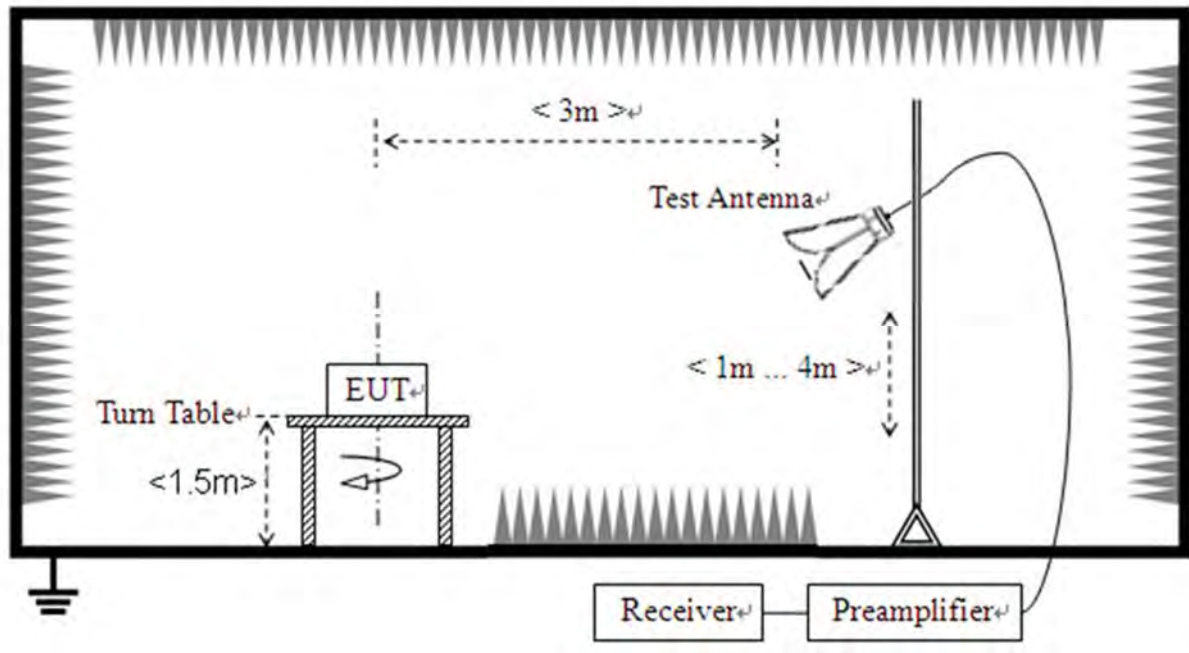
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz





3. Test Results

3.1. Antenna Requirement

3.1.1. Requirement

According to FCC 15.203, 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.

3.1.2. Test Result

Inside of the EUT has a PIFA antenna coupled with the metal shrapnel. Please refer to the EUT internal photos.

3.2. Duty Cycle of Test Signal

3.2.1. Requirement

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%). When continuous operation cannot be realized, then the use of sweep triggering/signal gating techniques can be used to ensure that measurements are made only during transmissions at the maximum power control level. Such sweep triggering/signal gating techniques will require knowledge of the minimum transmission duration(T) over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. Sweep triggering/signal gating techniques can then be used if the measurement/sweep time of the analyzer can be set such that it does not exceed T at any time that data are being acquired (i.e., no transmitter OFF-time is to be considered).

When continuous transmission cannot be achieved and sweep triggering/signal gating cannot be implemented, alternative procedures are provided that can be used to measure the average power; however, they will require an additional measurement of the transmitter duty cycle (D). Within this sub clause, the duty cycle refers to the fraction of time over which the transmitter is ON and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than $\pm 2\%$; otherwise, the duty cycle is considered to be non constant.

3.2.2. Test Result

Refer to Annex A.1 in this report.



3.3. Maximum Peak and Average Conducted Output Power

3.3.1. Requirement

According to FCC section 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: The maximum conducted output power of the intentional radiator shall not exceed 1 Watt.

3.3.2. Test Procedures

The EUT (Equipment under the test) which is coupled to the USB Wideband Power Sensor; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

3.3.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.3.4. Test Result

Refer to Annex A.2 and A.3 in this report.



3.4.6 dB Bandwidth

3.4.1.Requirement

According to FCC section 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 6dB bandwidth shall be at least 500 kHz.

3.4.1.Test Procedures

KDB 558074 Section 8.2 was used in order to prove compliance.

3.4.2.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.4.3.Test Result

Refer to Annex A.4 in this report.



3.5. Conducted Spurious Emissions and Band Edge

3.5.1. Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.5.2. Test Procedures

KDB 558074 Section 8.5 and 8.7 was used in order to prove compliance.

3.5.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.5.4. Test Result

Refer to Annex A.5 and A.6 in this report.



3.6. Power Spectral Density

3.6.1. Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm 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.

3.6.2. Test Procedures

The measured power spectral density was calculated by the reading of the spectrum analyzer and calibration. Following is the test procedure for PSD test:

- a) Set analyzer center frequency to channel center frequency
- b) Set span to 1.5 times DTS
- c) Set RBW to 30kHz
- d) Set VBW to 100kHz
- e) Detector = peak
- f) Sweep time = auto couple
- g) Trace mode = max hold
- h) Allow trace to fully stabilize
- i) Use the peak marker function to determine the maximum amplitude level and recorded as PD
- j) Use below formula to calculate the Conducted PSD value that at specified RBW:

Conducted PSD = PD - 10lg(30k/3k)

3.6.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.6.4. Test Result

Refer to Annex A.7 in this report.

3.7. Conducted Emission

3.7.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.7.2. Test Procedures

The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.

3.7.3. Test Setup Layout

Refer to chapter 2.6.2 in this report.

3.7.4. Test Result

Refer to Annex A.8 in this report.

3.8. Restricted Frequency Bands

3.8.1. Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. 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).

3.8.2. Test Procedures

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1\text{GHz}$, 100 kHz for $f < 1\text{GHz}$

VBW = 3 MHz

Sweep = auto

Detector function = peak/average

Trace = max hold

Allow the trace to stabilize

3.8.3. Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.8.4. Test Result

Refer to Annex A.9 in this report.

3.9. Radiated Emission

3.9.1. Requirement

According to FCC section 15.247(d), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note1: For above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

Note2: For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK). In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).



3.9.2.Test Procedures

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.

3.9.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.9.4.Test Result

Refer to Annex A.10 in this report.



Annex A Test Data and Result

A.1. Duty Cycle of Test Signal

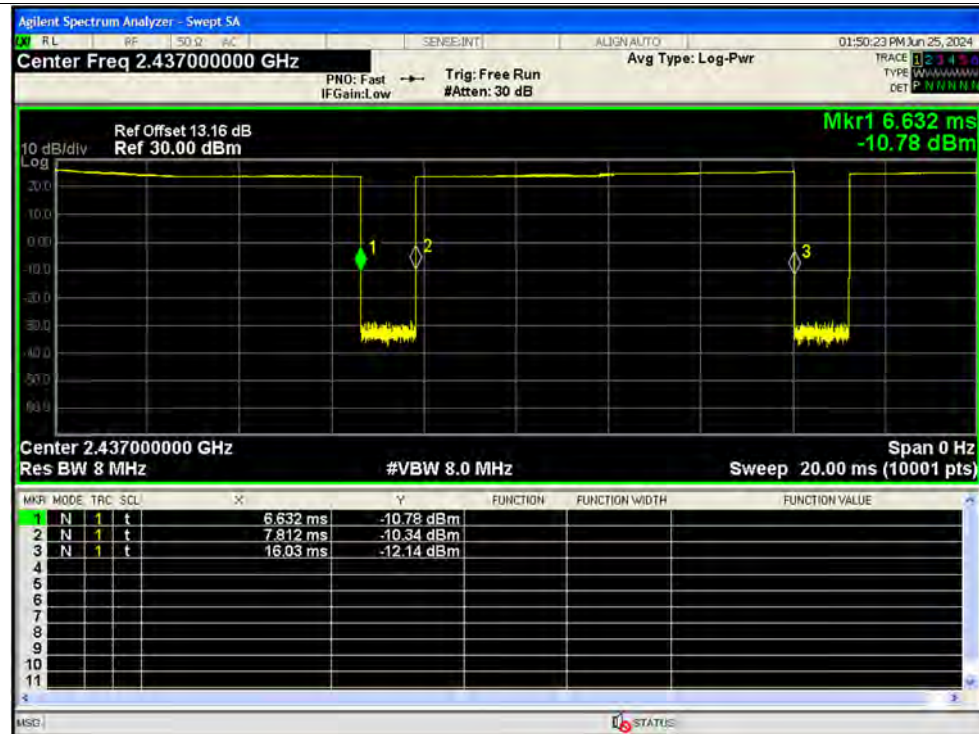
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	87.42	0.58	0.12
NVNT	b	2437	Ant1	87.44	0.58	0.12
NVNT	b	2462	Ant1	87.44	0.58	0.12
NVNT	g	2412	Ant1	99.95	0	0.08
NVNT	g	2437	Ant1	99.95	0	0.08
NVNT	g	2462	Ant1	99.97	0	0
NVNT	n20	2412	Ant1	99.93	0	0.09
NVNT	n20	2437	Ant1	99.93	0	0.09
NVNT	n20	2462	Ant1	99.95	0	0.09

Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



Duty Cycle NVNT b 2437MHz Ant1

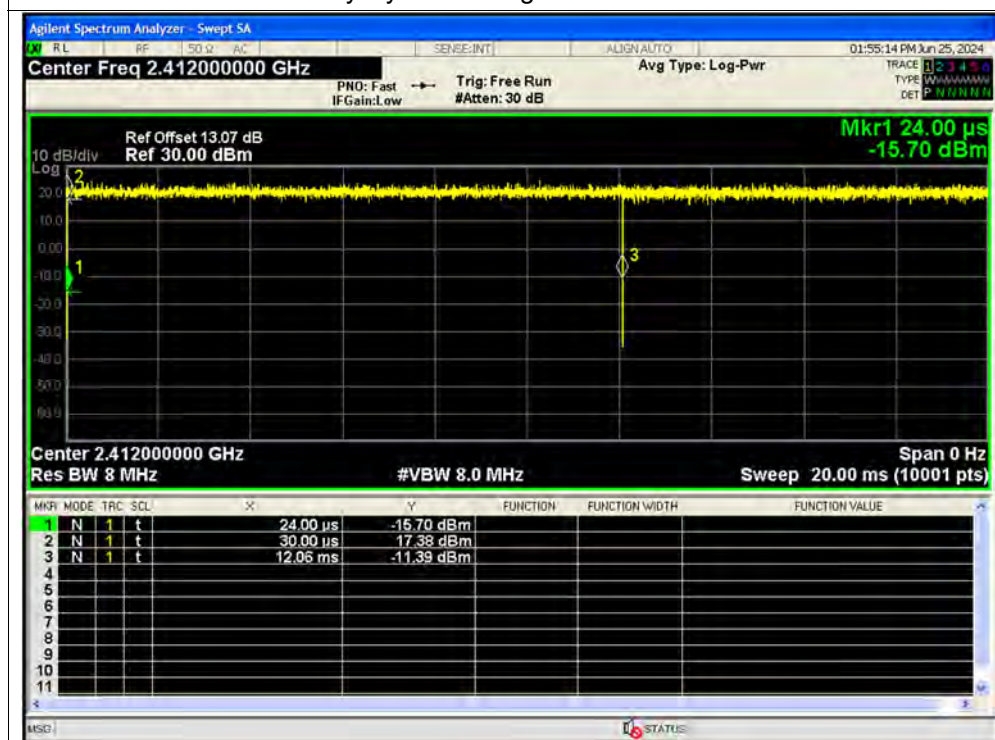




Duty Cycle NVNT b 2462MHz Ant1

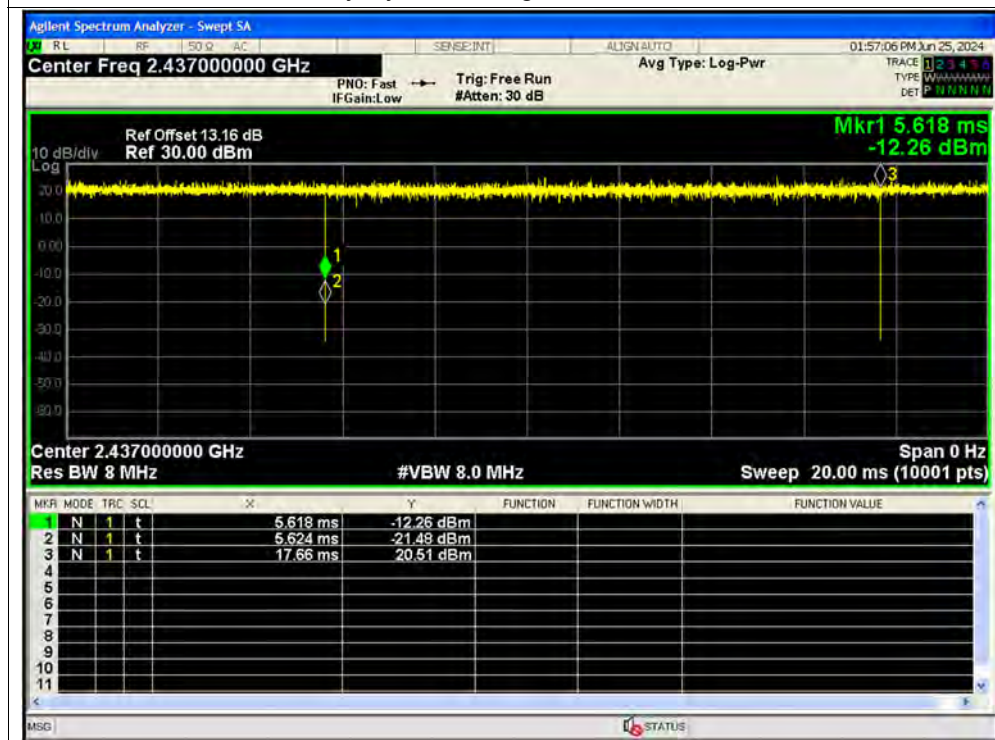


Duty Cycle NVNT g 2412MHz Ant1

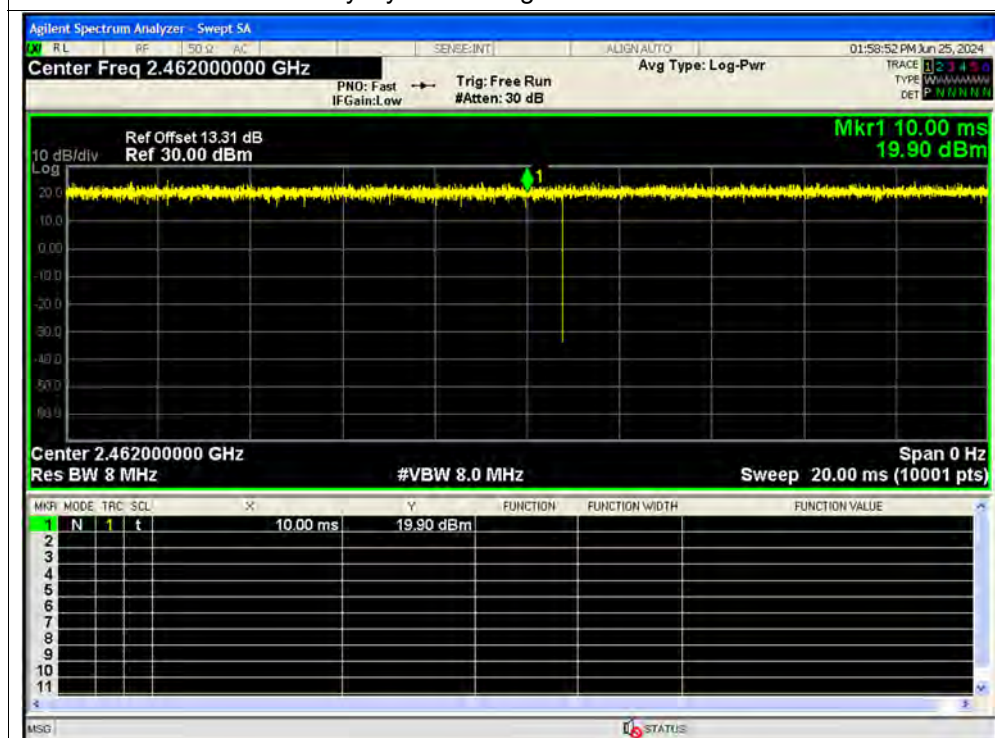




Duty Cycle NVNT g 2437MHz Ant1

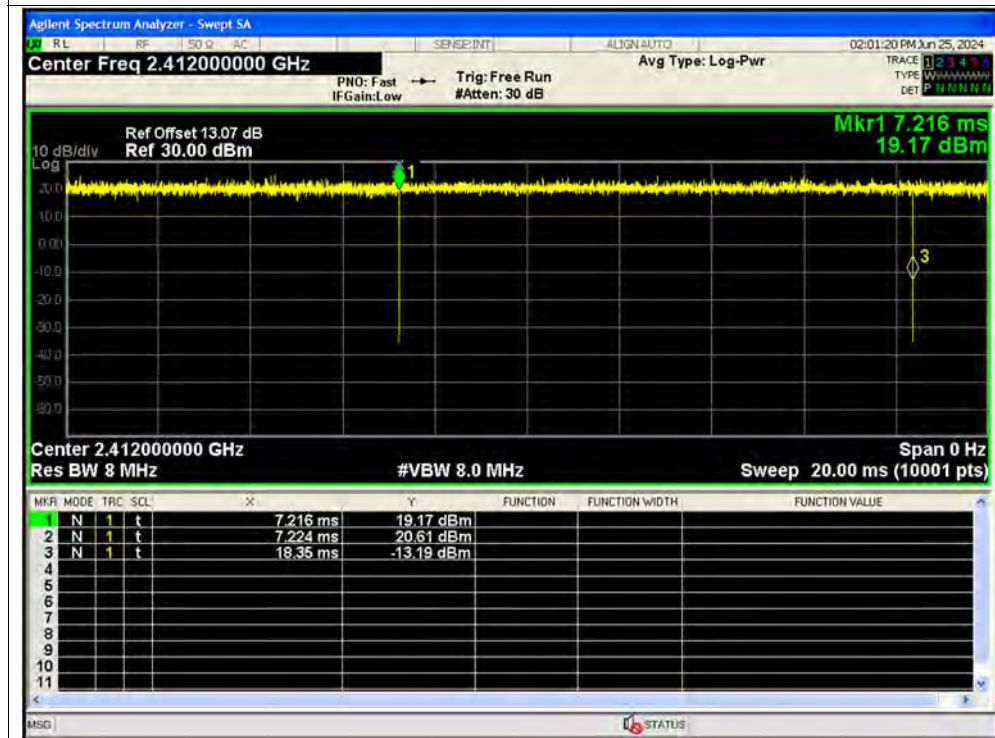


Duty Cycle NVNT g 2462MHz Ant1

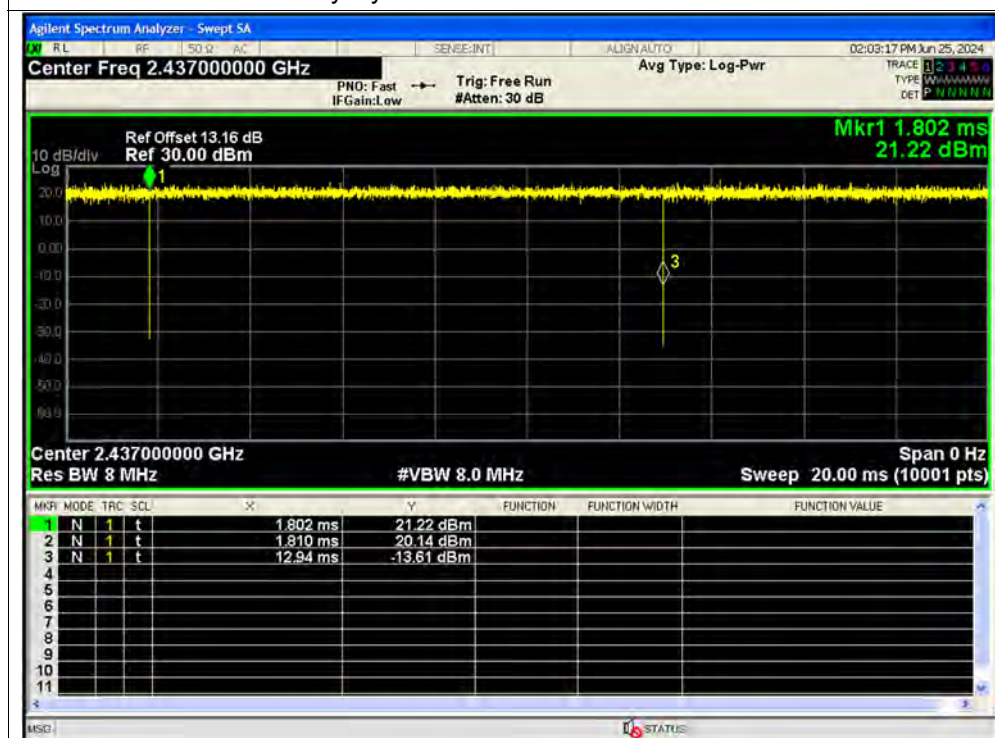




Duty Cycle NVNT n20 2412MHz Ant1

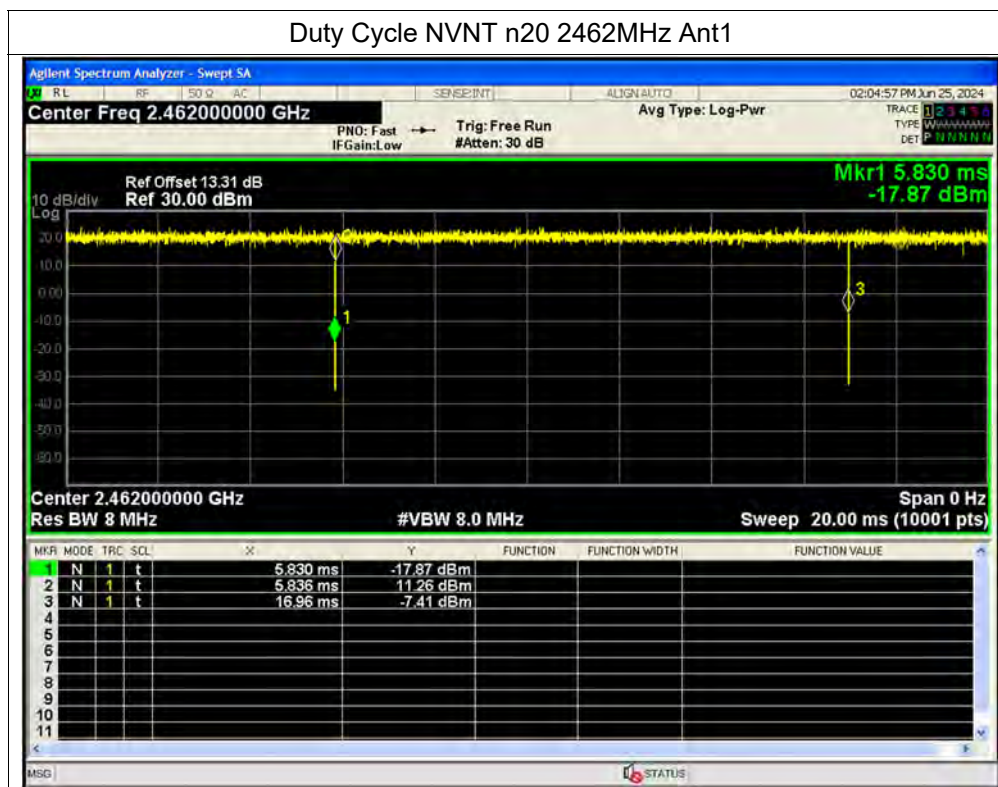


Duty Cycle NVNT n20 2437MHz Ant1





Duty Cycle NVNT n20 2462MHz Ant1

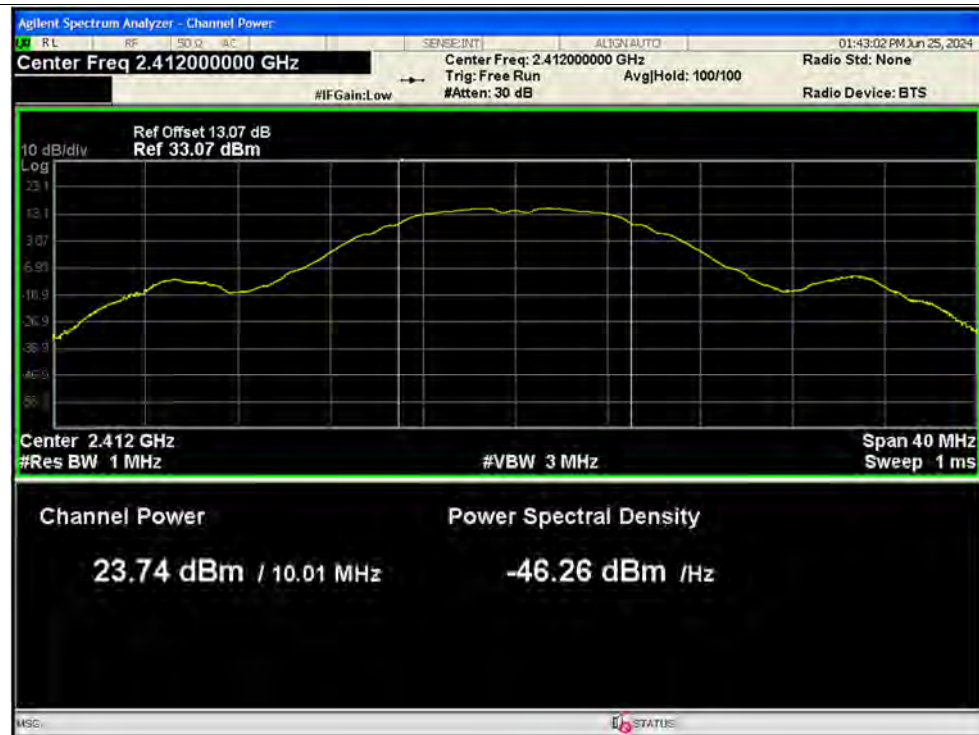


**A.2. Maximum Peak Conducted Output Power**

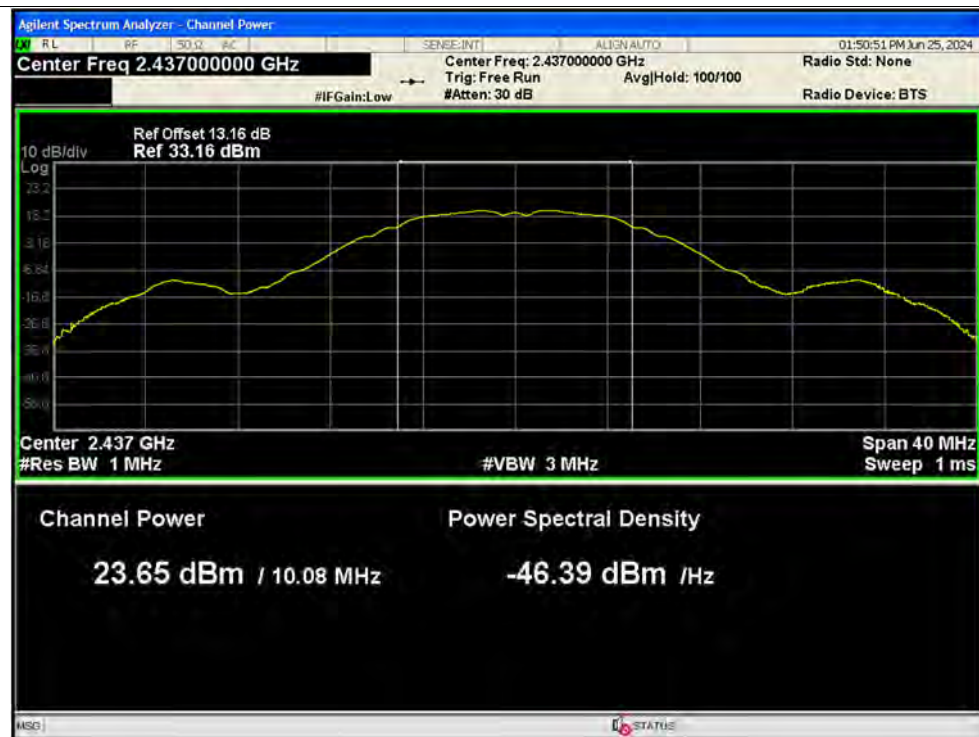
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	b	2412	Ant1	23.74	0	23.74	0.23659	30	Pass
NVNT	b	2437	Ant1	23.65	0	23.65	0.23174	30	Pass
NVNT	b	2462	Ant1	23.5	0	23.5	0.22387	30	Pass
NVNT	g	2412	Ant1	25.05	0	25.05	0.31989	30	Pass
NVNT	g	2437	Ant1	25.07	0	25.07	0.32137	30	Pass
NVNT	g	2462	Ant1	25.1	0	25.1	0.32359	30	Pass
NVNT	n20	2412	Ant1	24.97	0	24.97	0.31405	30	Pass
NVNT	n20	2437	Ant1	24.8	0	24.8	0.302	30	Pass
NVNT	n20	2462	Ant1	24.95	0	24.95	0.31261	30	Pass

Test Graphs

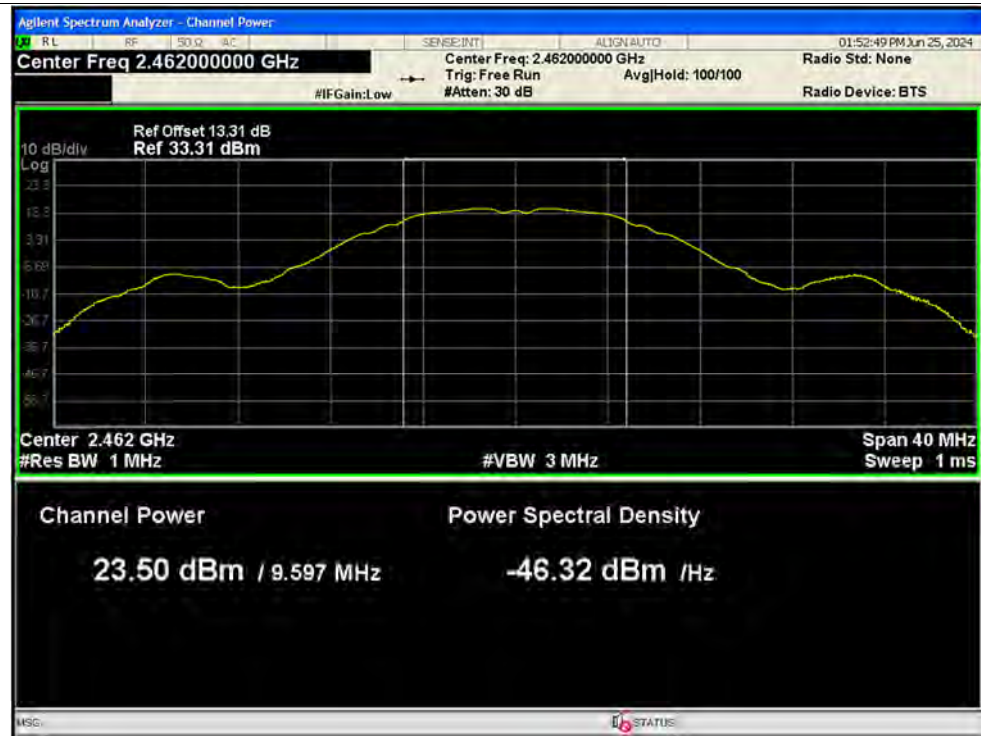
Peak Power NVNT b 2412MHz Ant1



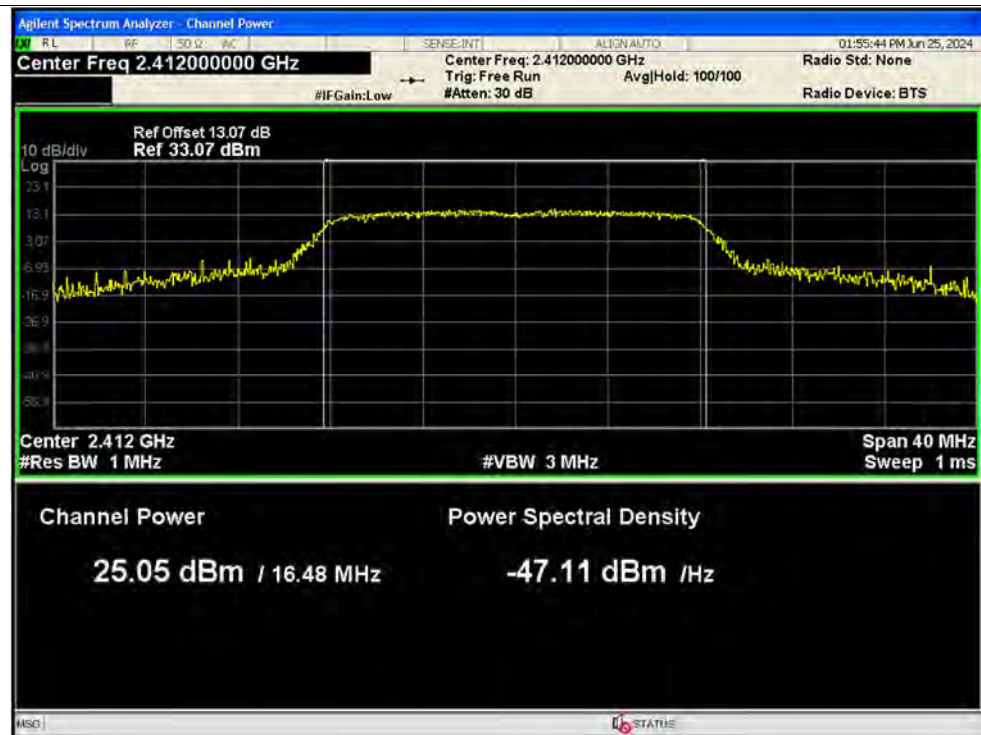
Peak Power NVNT b 2437MHz Ant1



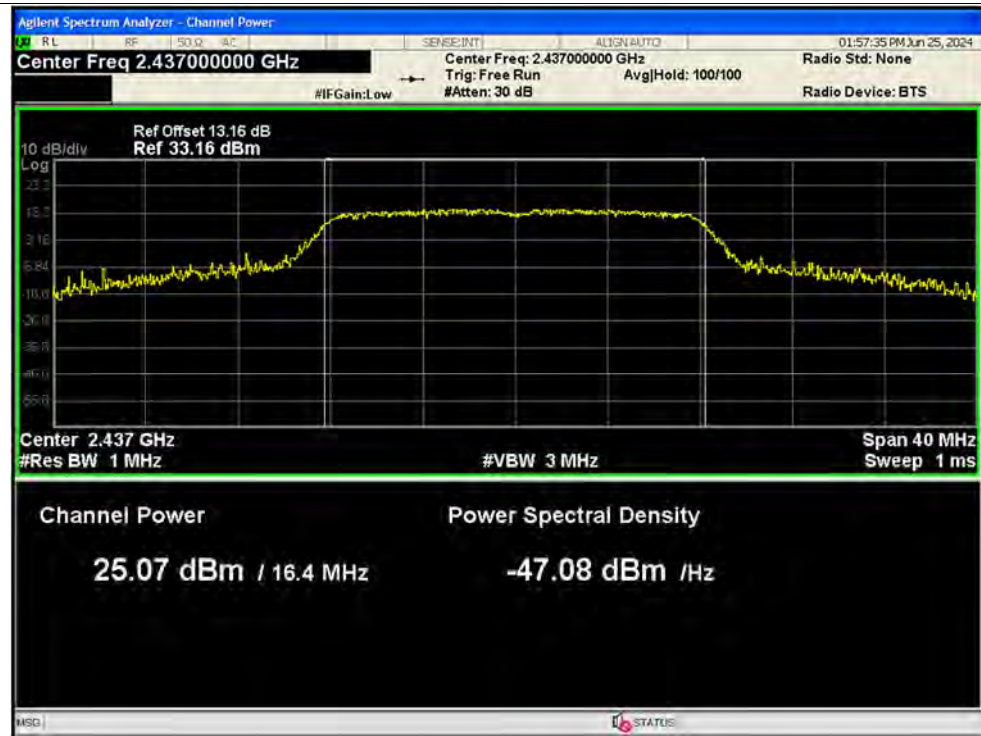
Peak Power NVNT b 2462MHz Ant1



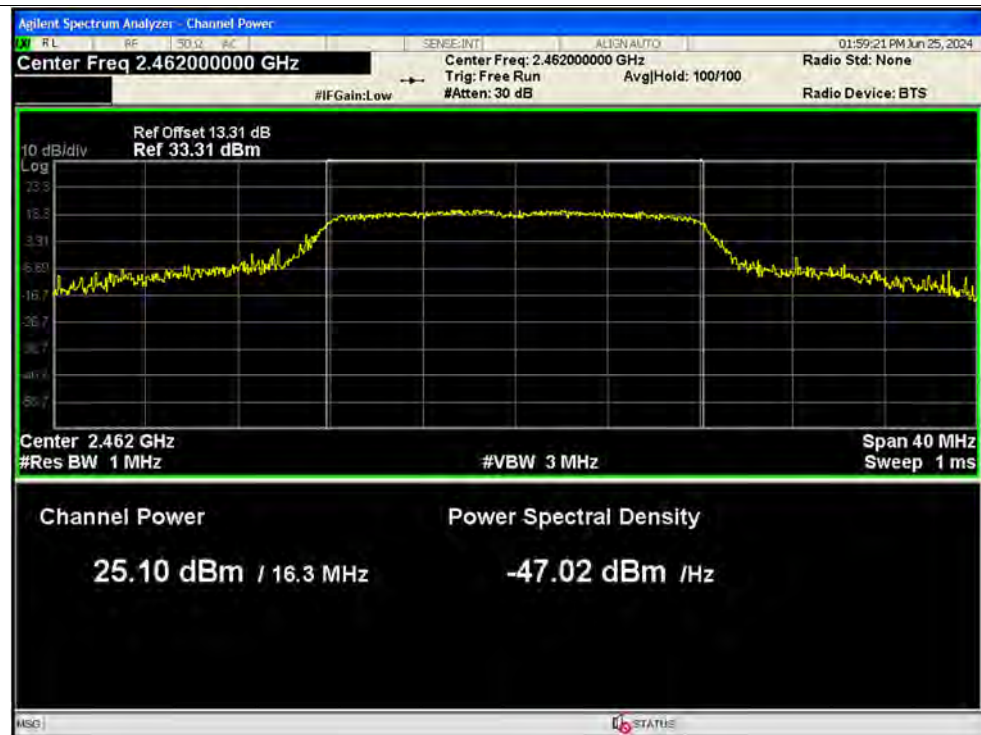
Peak Power NVNT g 2412MHz Ant1



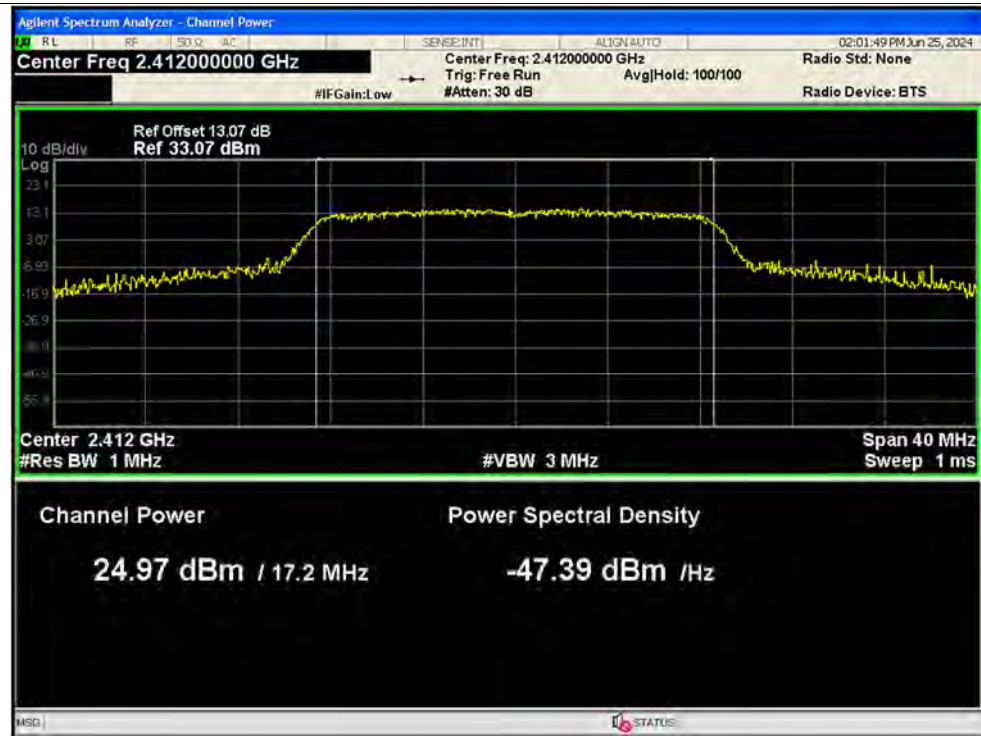
Peak Power NVNT g 2437MHz Ant1



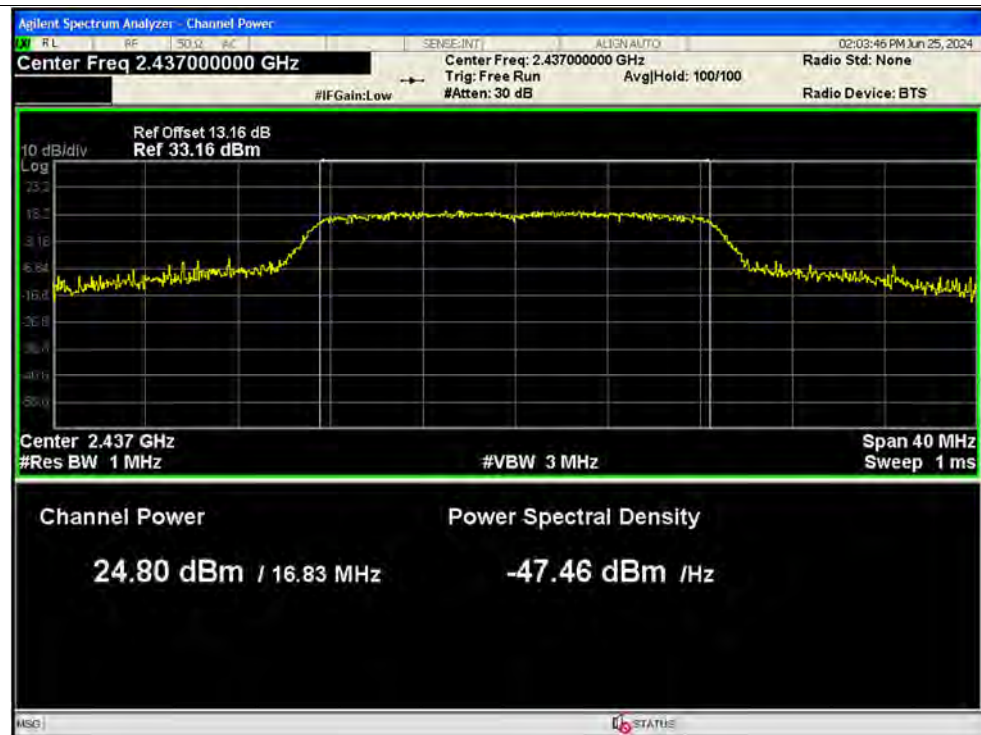
Peak Power NVNT g 2462MHz Ant1



Peak Power NVNT n20 2412MHz Ant1

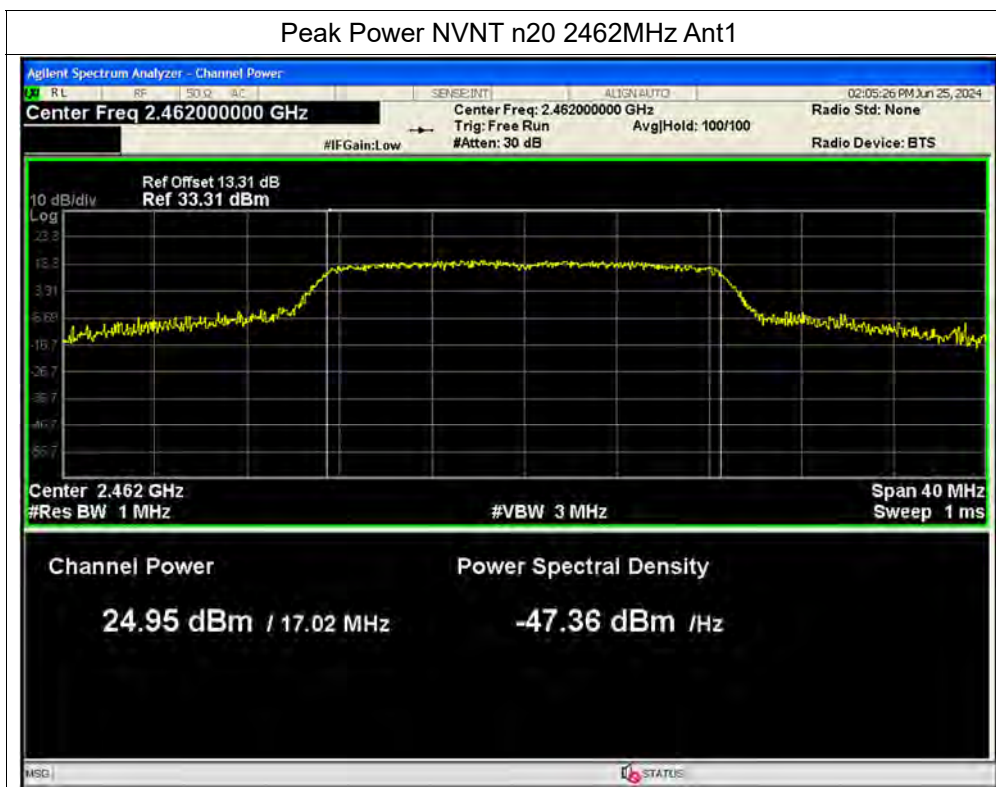


Peak Power NVNT n20 2437MHz Ant1





Peak Power NVNT n20 2462MHz Ant1



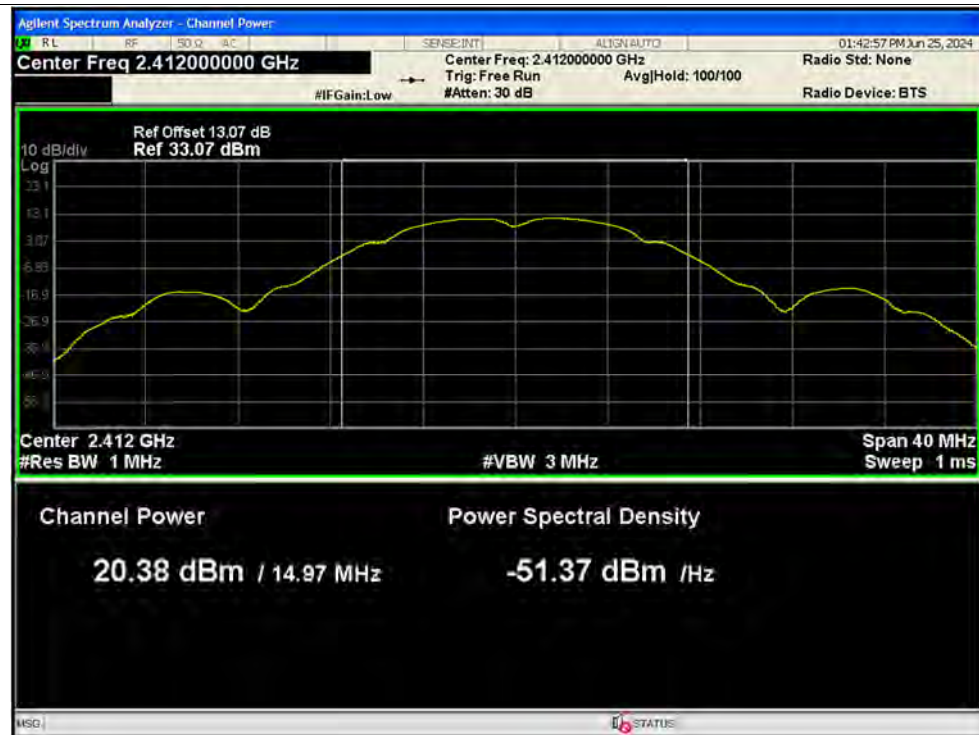
**A.3. Maximum Average Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	b	2412	Ant1	20.38	0.58	20.96	0.12474	30	Pass
NVNT	b	2437	Ant1	20.51	0.58	21.09	0.12853	30	Pass
NVNT	b	2462	Ant1	20.47	0.58	21.05	0.12735	30	Pass
NVNT	g	2412	Ant1	17.92	0	17.92	0.06194	30	Pass
NVNT	g	2437	Ant1	17.93	0	17.93	0.06209	30	Pass
NVNT	g	2462	Ant1	18.02	0	18.02	0.06339	30	Pass
NVNT	n20	2412	Ant1	17.84	0	17.84	0.06081	30	Pass
NVNT	n20	2437	Ant1	17.8	0	17.8	0.06026	30	Pass
NVNT	n20	2462	Ant1	17.9	0	17.9	0.06166	30	Pass

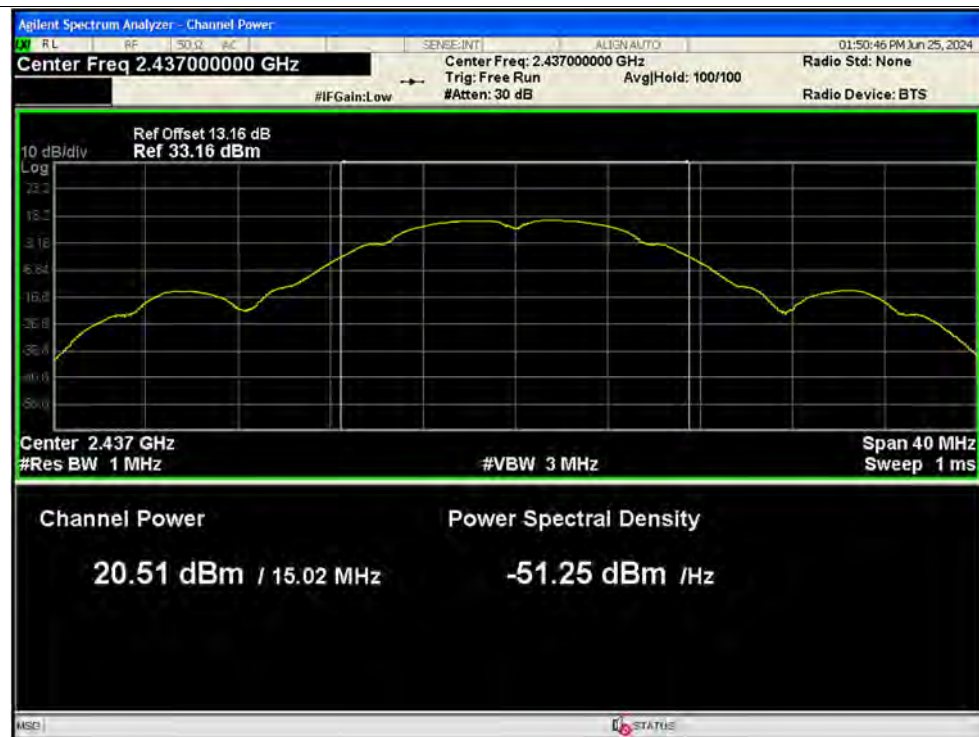


Test Graphs

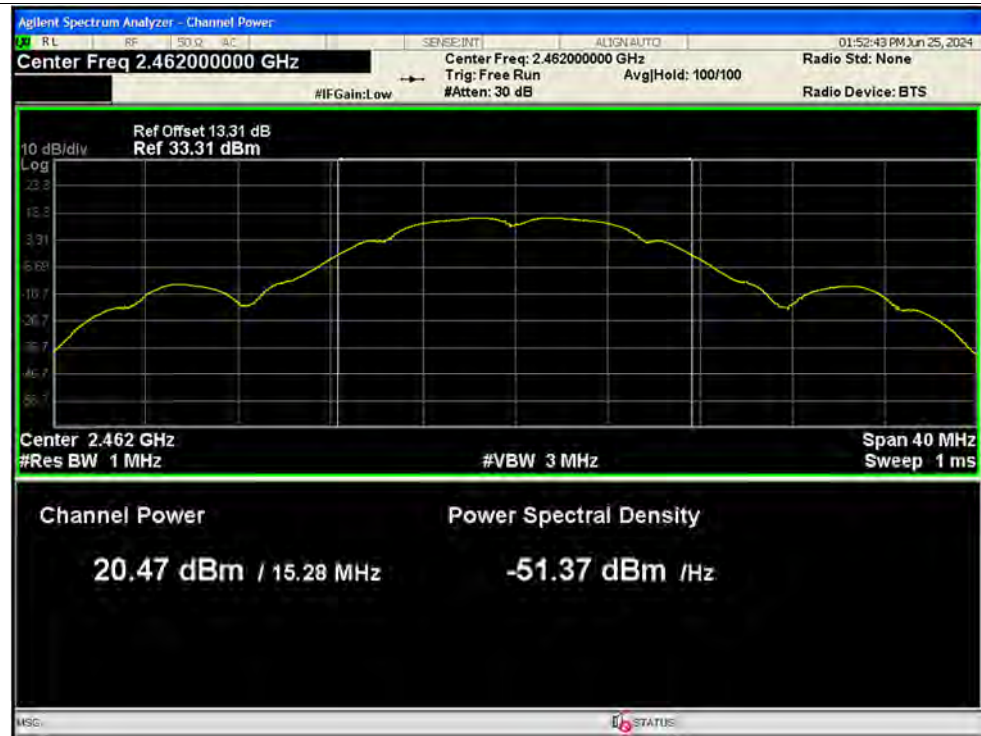
Average Power NVNT b 2412MHz Ant1



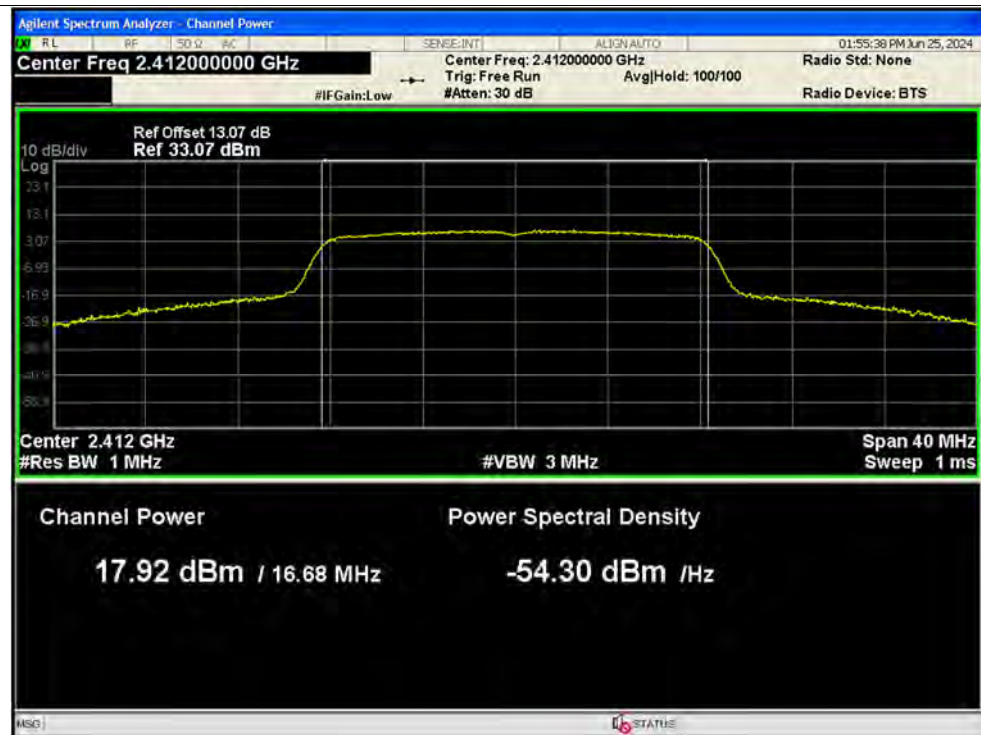
Average Power NVNT b 2437MHz Ant1



Average Power NVNT b 2462MHz Ant1

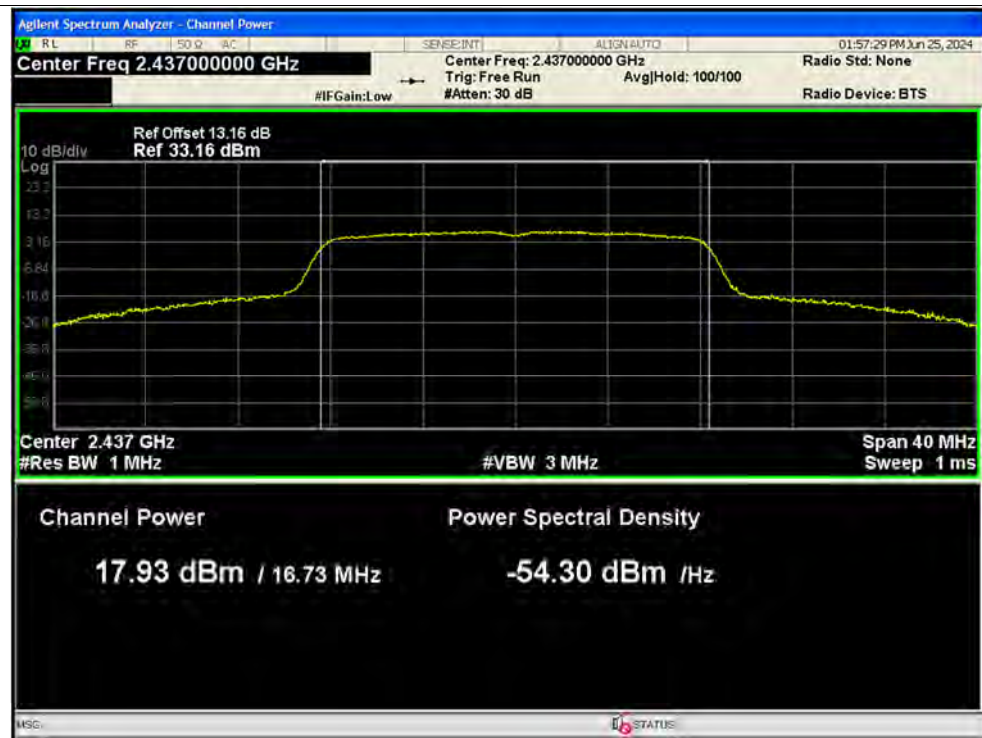


Average Power NVNT g 2412MHz Ant1

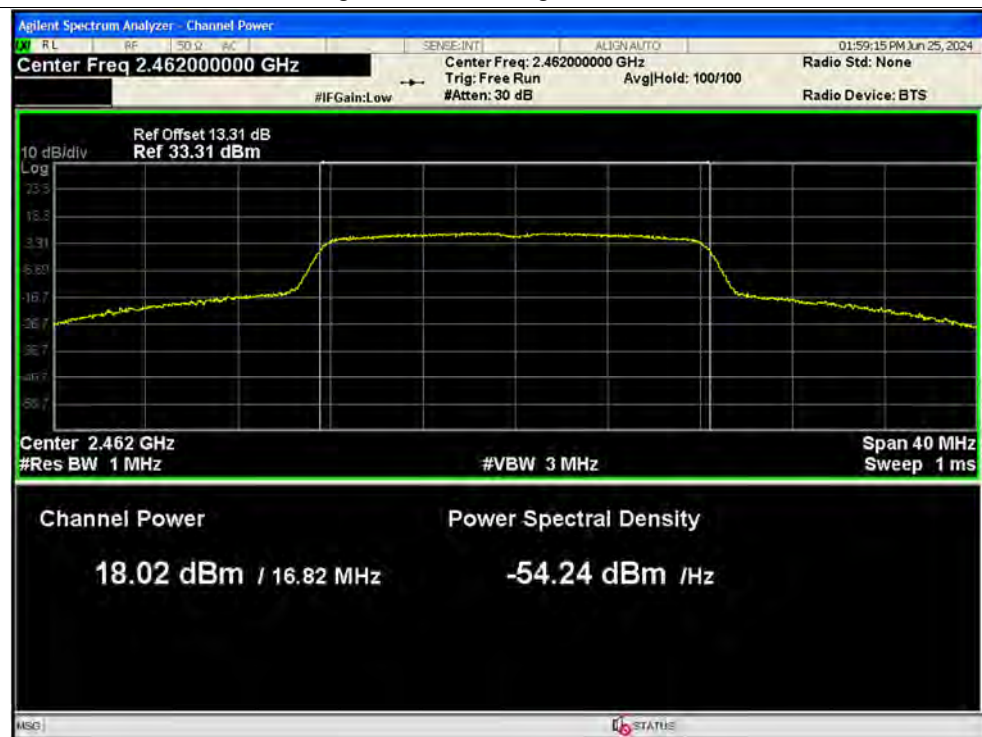




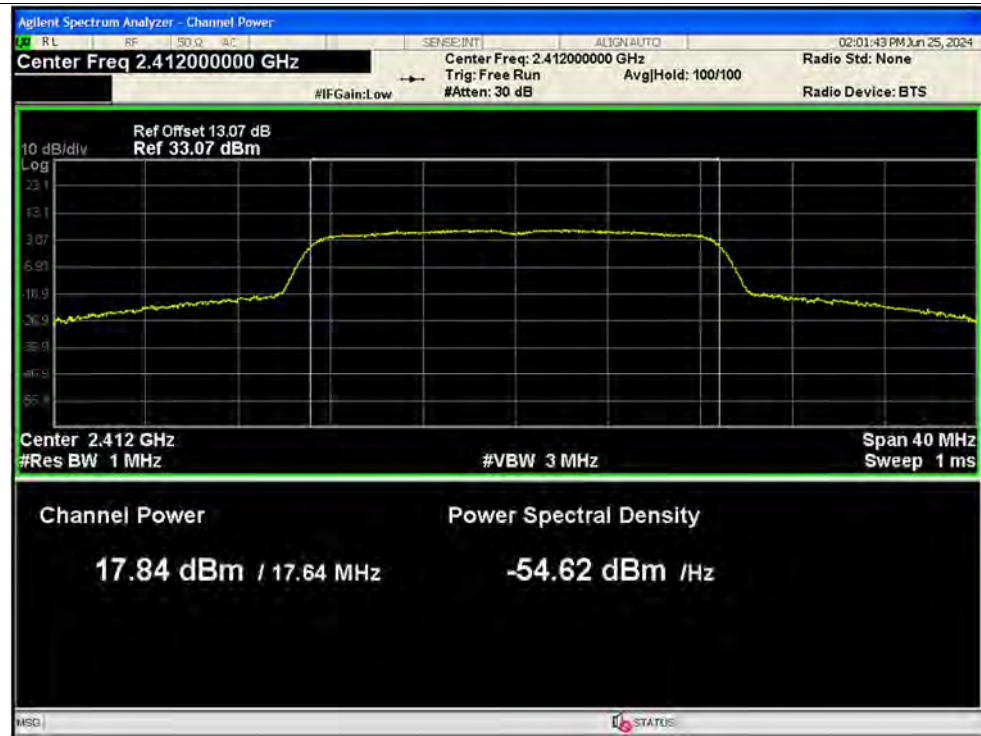
Average Power NVNT g 2437MHz Ant1



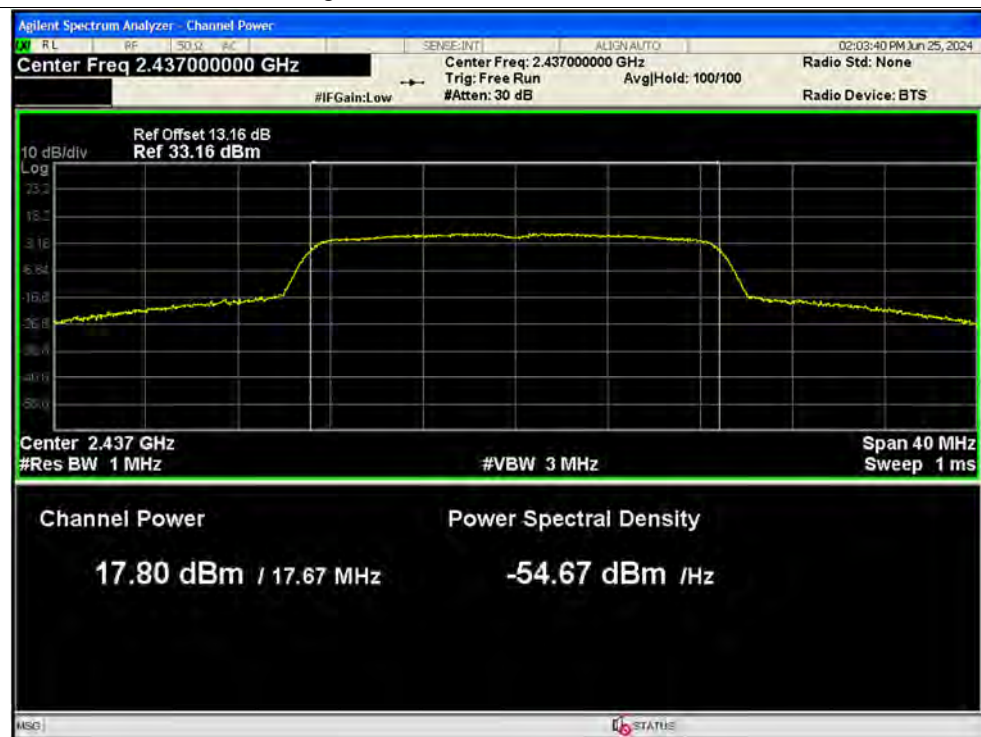
Average Power NVNT g 2462MHz Ant1



Average Power NVNT n20 2412MHz Ant1

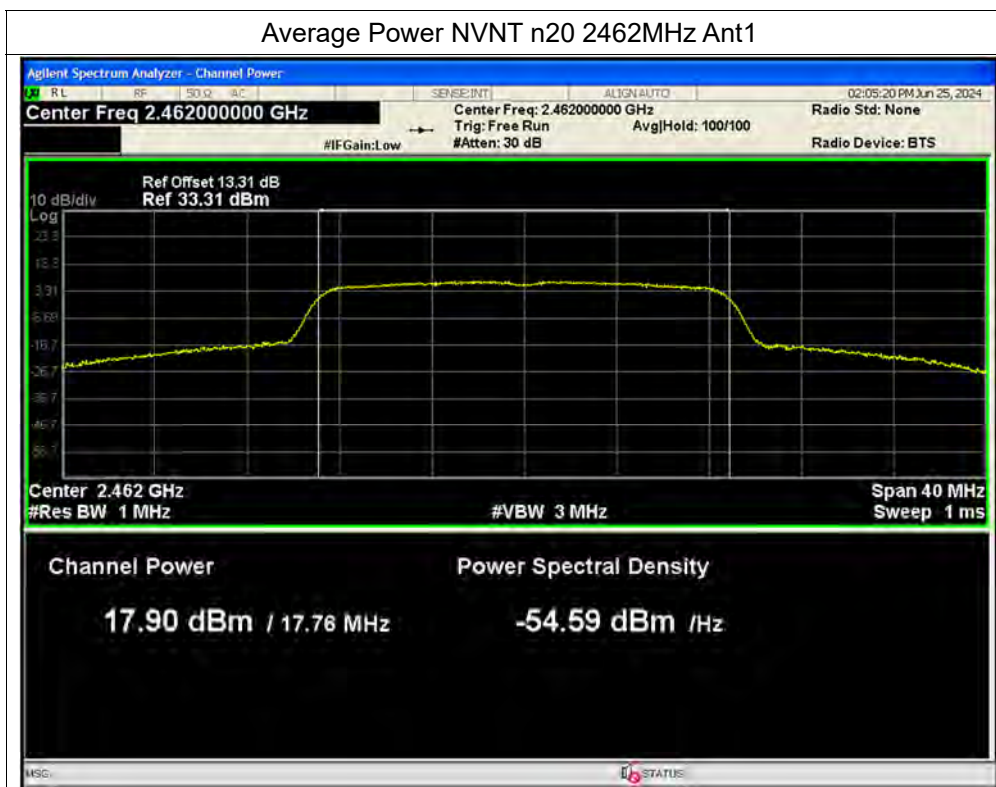


Average Power NVNT n20 2437MHz Ant1





Average Power NVNT n20 2462MHz Ant1



**A.4. 6 dB Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10.013	0.5	Pass
NVNT	b	2437	Ant1	10.082	0.5	Pass
NVNT	b	2462	Ant1	9.597	0.5	Pass
NVNT	g	2412	Ant1	16.475	0.5	Pass
NVNT	g	2437	Ant1	16.399	0.5	Pass
NVNT	g	2462	Ant1	16.299	0.5	Pass
NVNT	n20	2412	Ant1	17.202	0.5	Pass
NVNT	n20	2437	Ant1	16.827	0.5	Pass
NVNT	n20	2462	Ant1	17.021	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



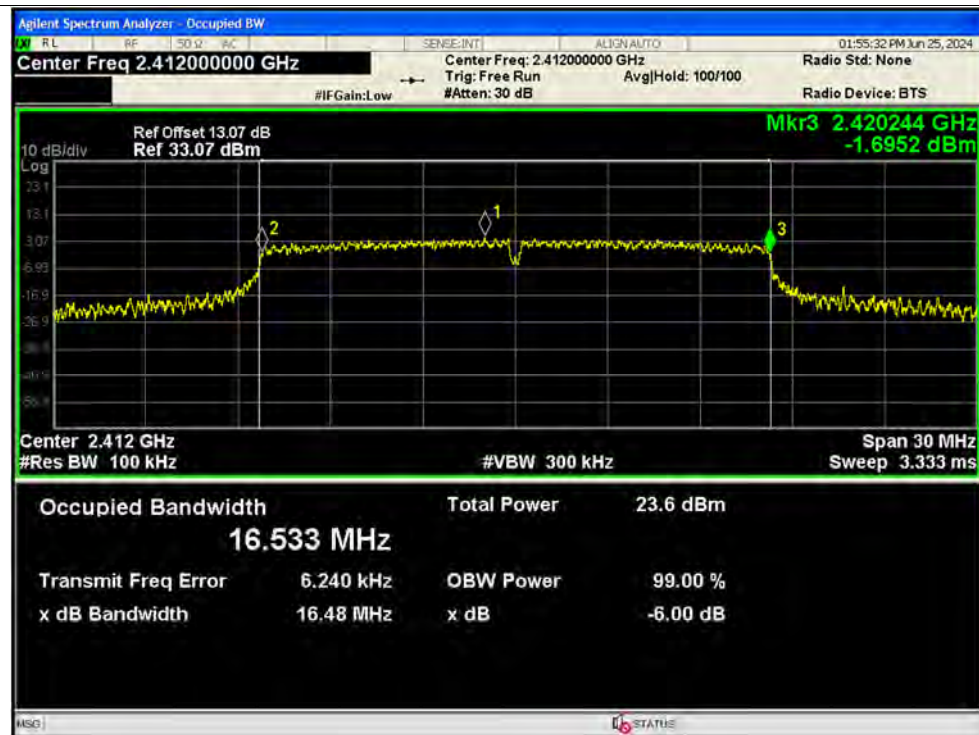
-6dB Bandwidth NVNT b 2437MHz Ant1



-6dB Bandwidth NVNT b 2462MHz Ant1



-6dB Bandwidth NVNT g 2412MHz Ant1



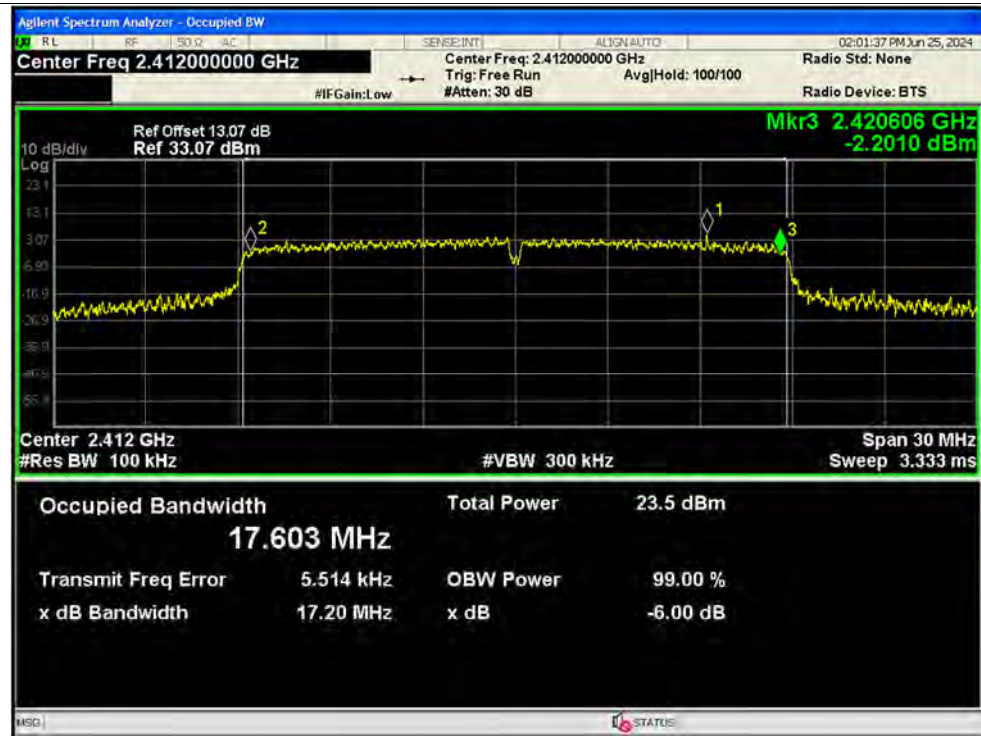
-6dB Bandwidth NVNT g 2437MHz Ant1



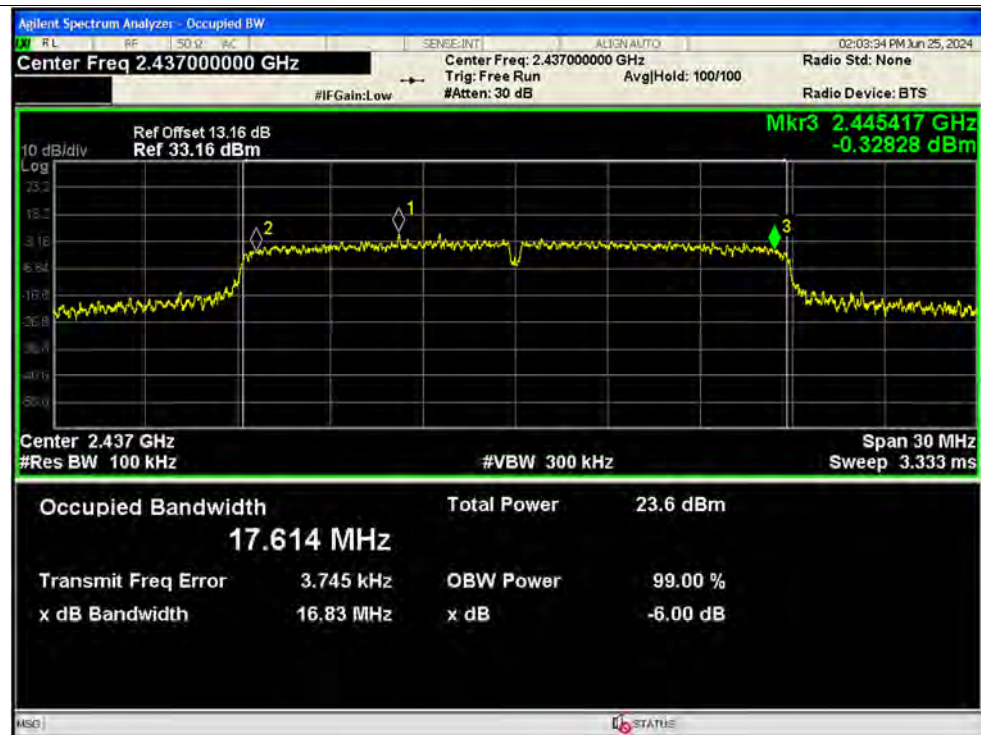
-6dB Bandwidth NVNT g 2462MHz Ant1

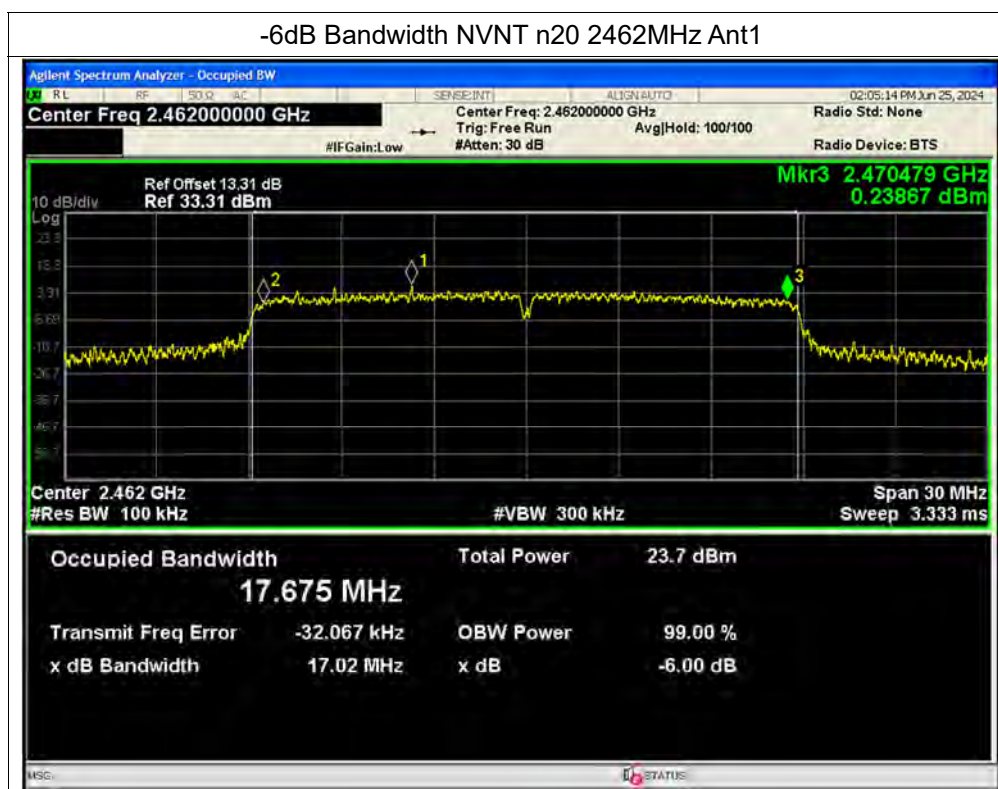


-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1





**A.5. Conducted Spurious Emissions**

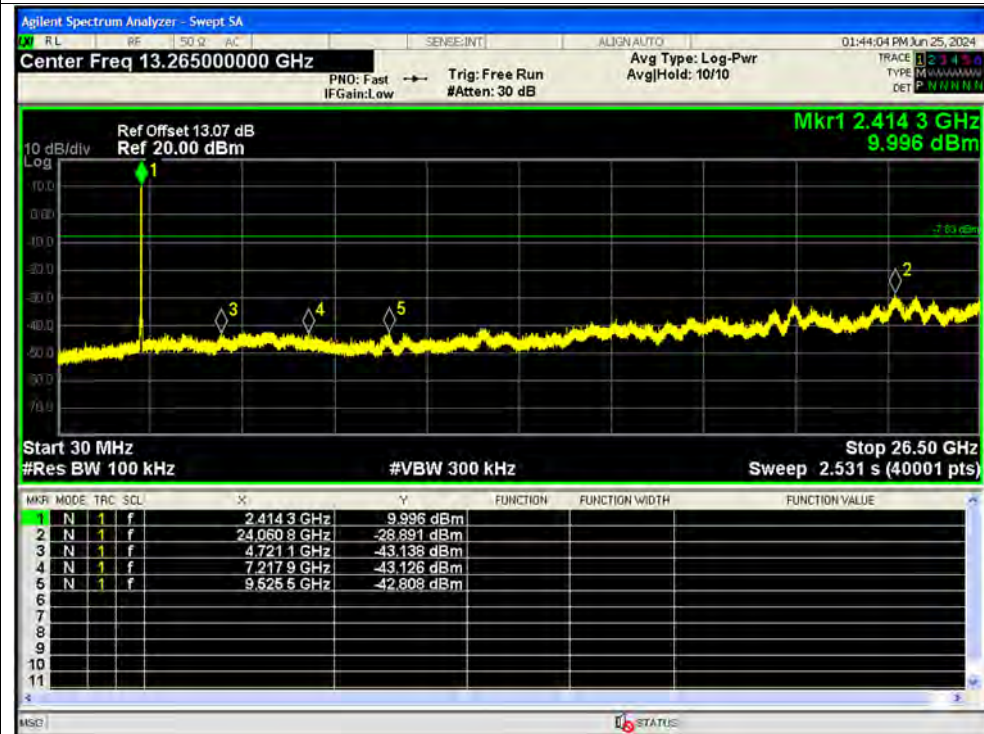
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-41.06	-20	Pass
NVNT	b	2437	Ant1	-39.7	-20	Pass
NVNT	b	2462	Ant1	-39.92	-20	Pass
NVNT	g	2412	Ant1	-35.11	-20	Pass
NVNT	g	2437	Ant1	-33.1	-20	Pass
NVNT	g	2462	Ant1	-32.96	-20	Pass
NVNT	n20	2412	Ant1	-34.74	-20	Pass
NVNT	n20	2437	Ant1	-33.06	-20	Pass
NVNT	n20	2462	Ant1	-34.43	-20	Pass

Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



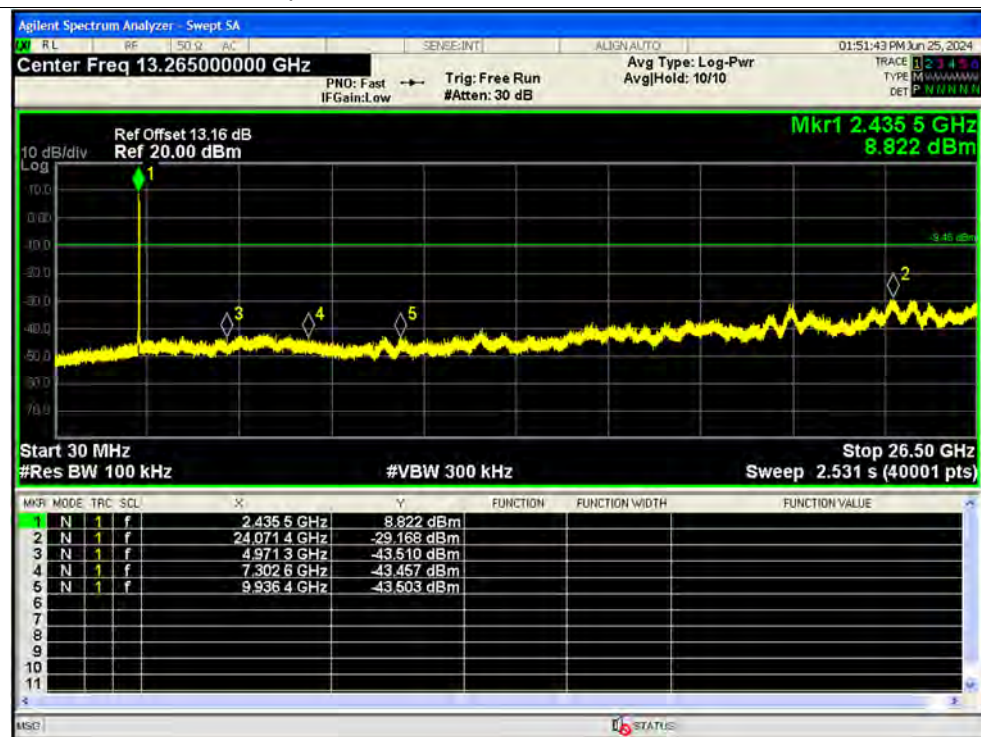
Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref



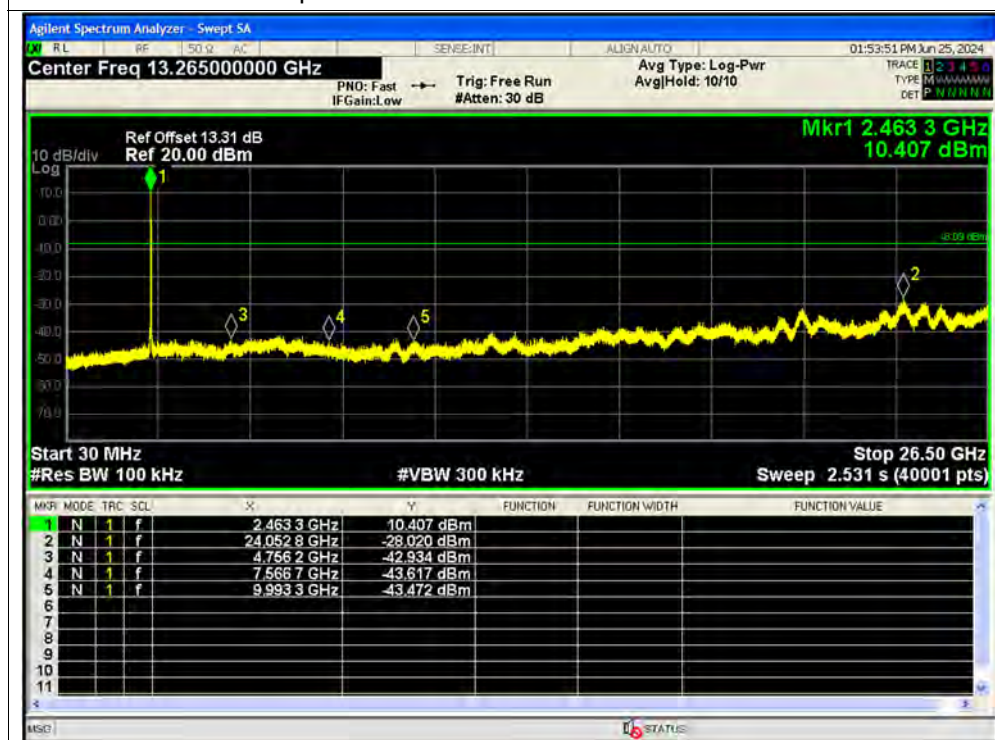
Tx. Spurious NVNT b 2437MHz Ant1 Emission



Tx. Spurious NVNT b 2462MHz Ant1 Ref



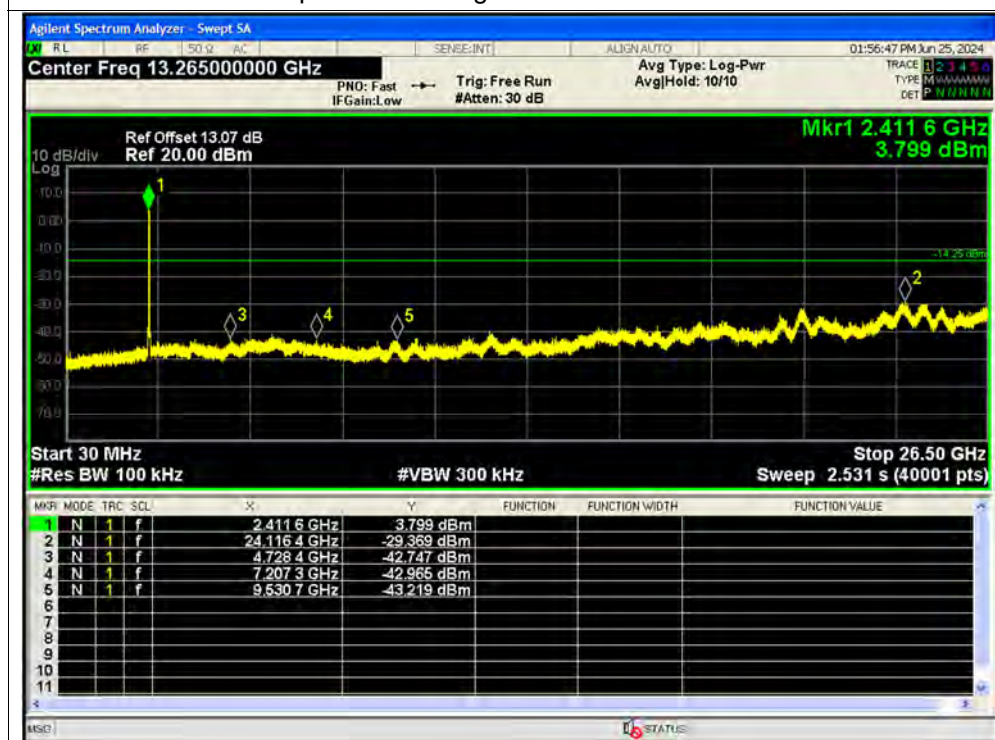
Tx. Spurious NVNT b 2462MHz Ant1 Emission



Tx. Spurious NVNT g 2412MHz Ant1 Ref



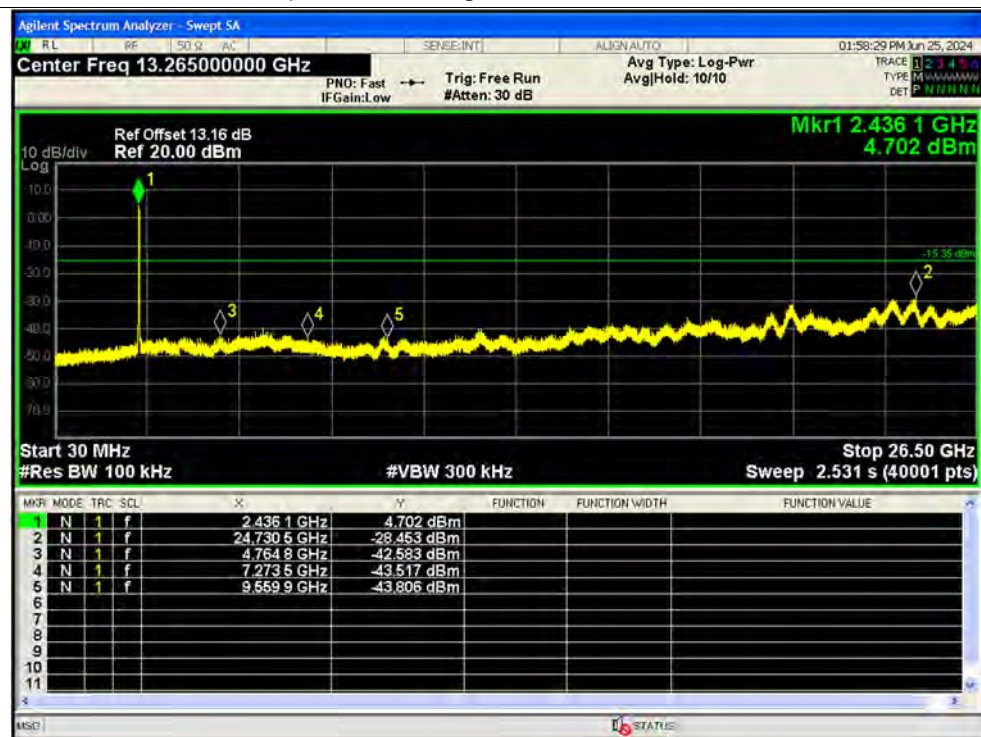
Tx. Spurious NVNT g 2412MHz Ant1 Emission



Tx. Spurious NVNT g 2437MHz Ant1 Ref



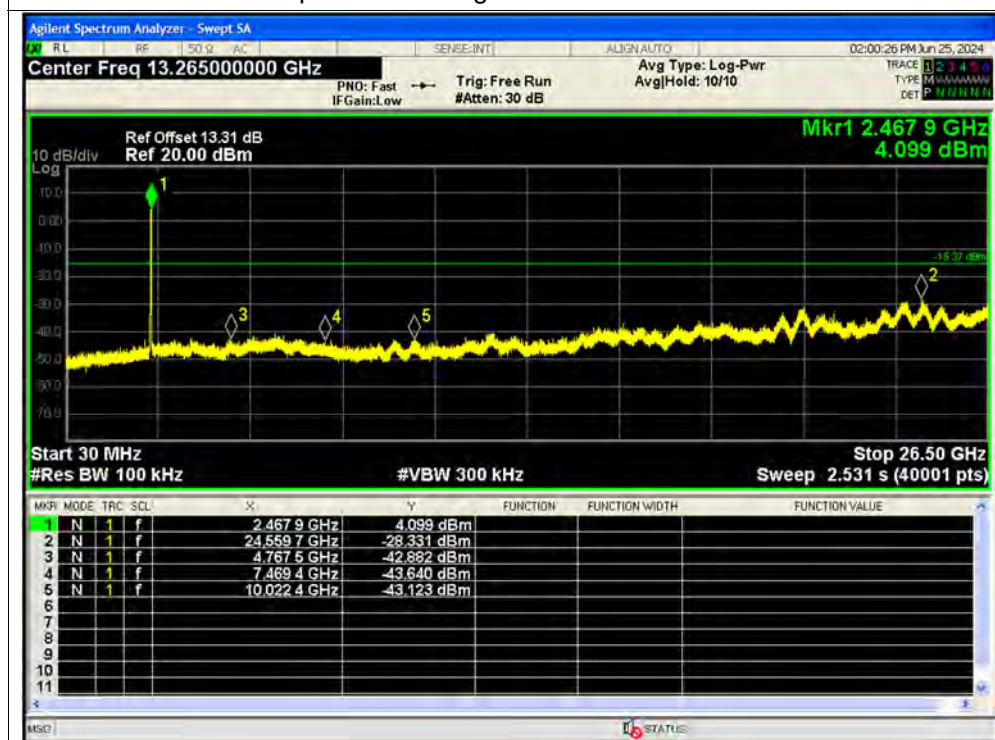
Tx. Spurious NVNT g 2437MHz Ant1 Emission



Tx. Spurious NVNT g 2462MHz Ant1 Ref



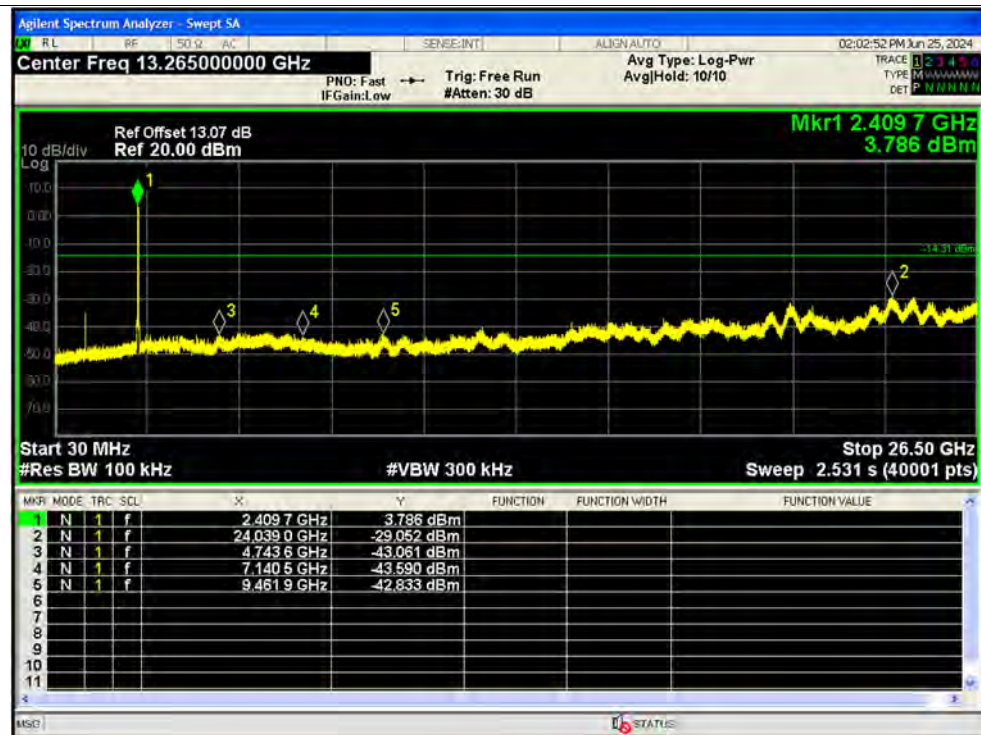
Tx. Spurious NVNT g 2462MHz Ant1 Emission



Tx. Spurious NVNT n20 2412MHz Ant1 Ref



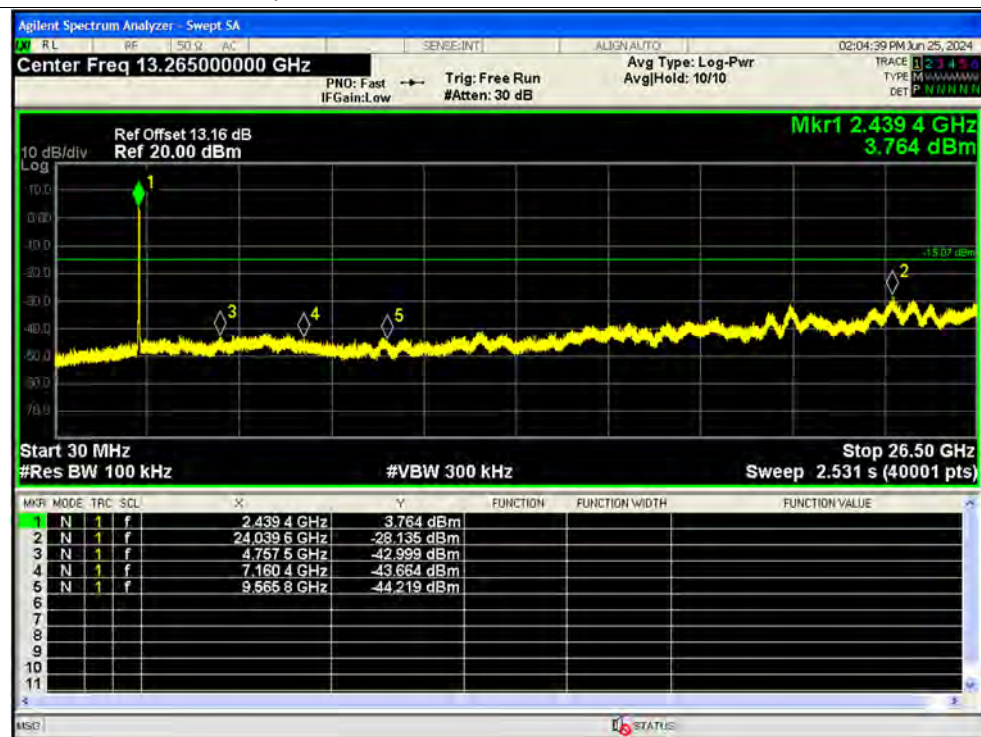
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



Tx. Spurious NVNT n20 2437MHz Ant1 Ref



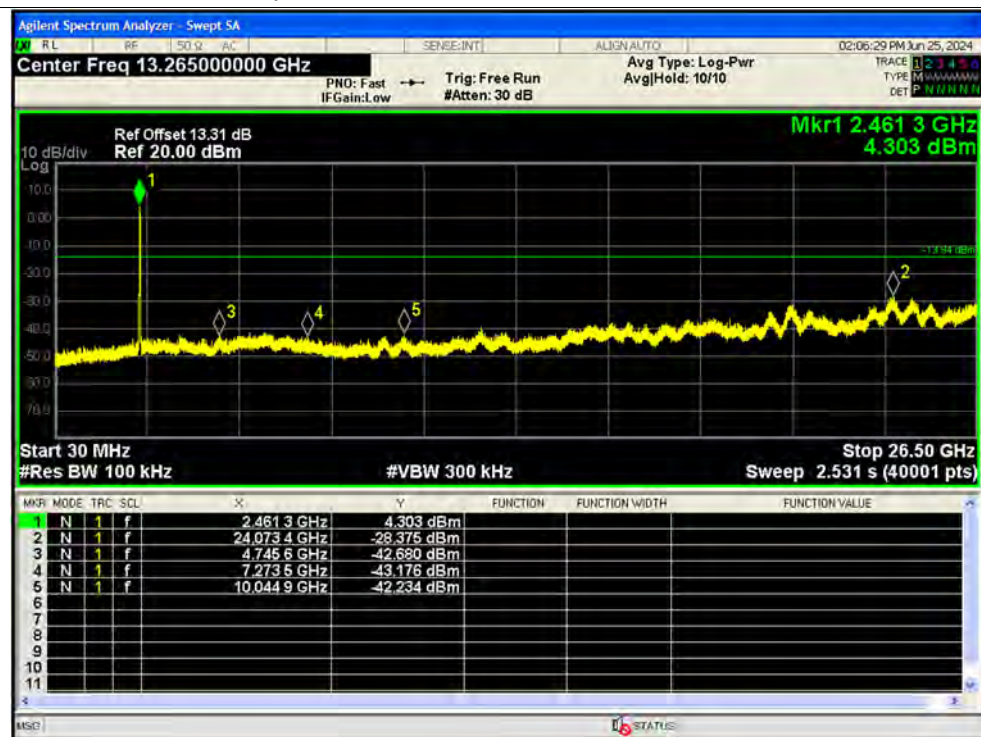
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission



**A.6. Band Edge**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-27.29	-20	Pass
NVNT	b	2462	Ant1	-49.29	-20	Pass
NVNT	g	2412	Ant1	-22.13	-20	Pass
NVNT	g	2462	Ant1	-33.39	-20	Pass
NVNT	n20	2412	Ant1	-25.47	-20	Pass
NVNT	n20	2462	Ant1	-34.93	-20	Pass

Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Band Edge NVNT b 2412MHz Ant1 Emission



Band Edge NVNT b 2462MHz Ant1 Ref



Band Edge NVNT b 2462MHz Ant1 Emission



Band Edge NVNT g 2412MHz Ant1 Ref



Band Edge NVNT g 2412MHz Ant1 Emission



Band Edge NVNT g 2462MHz Ant1 Ref



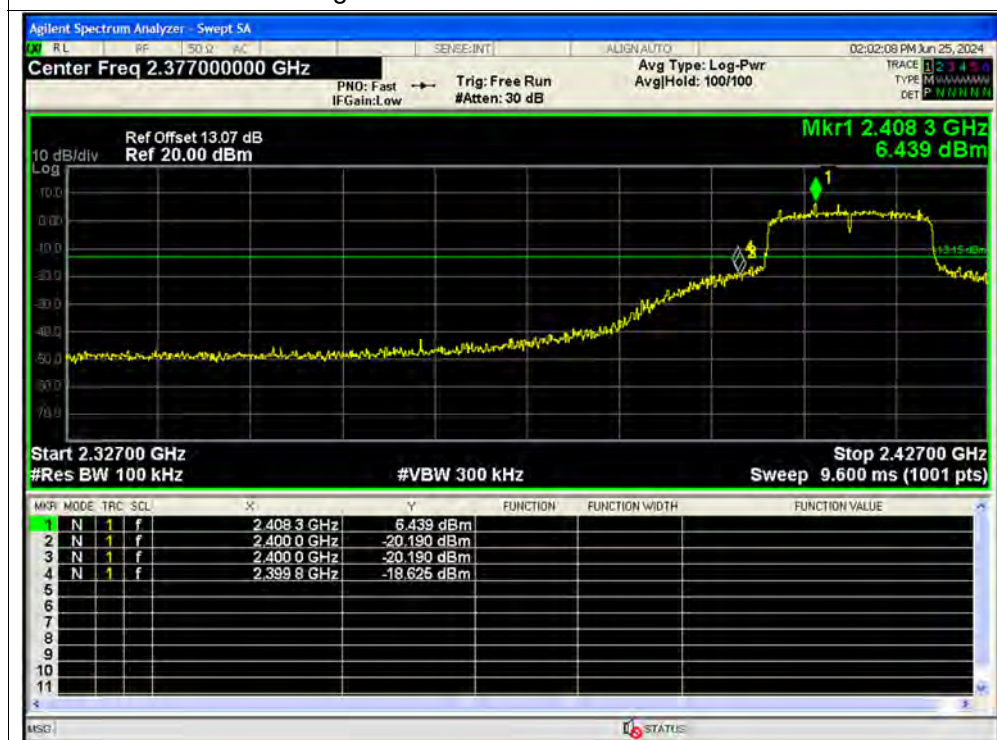
Band Edge NVNT g 2462MHz Ant1 Emission



Band Edge NVNT n20 2412MHz Ant1 Ref



Band Edge NVNT n20 2412MHz Ant1 Emission



Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission



**A.7. Power Spectral Density**

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	1.8	0	1.8	8	Pass
NVNT	b	2437	Ant1	0.11	0	0.11	8	Pass
NVNT	b	2462	Ant1	1.53	0	1.53	8	Pass
NVNT	g	2412	Ant1	-7.9	0	-7.9	8	Pass
NVNT	g	2437	Ant1	-7.46	0	-7.46	8	Pass
NVNT	g	2462	Ant1	-7.58	0	-7.58	8	Pass
NVNT	n20	2412	Ant1	-7.82	0	-7.82	8	Pass
NVNT	n20	2437	Ant1	-7.92	0	-7.92	8	Pass
NVNT	n20	2462	Ant1	-8.35	0	-8.35	8	Pass

Test Graphs

PSD NVNT b 2412MHz Ant1



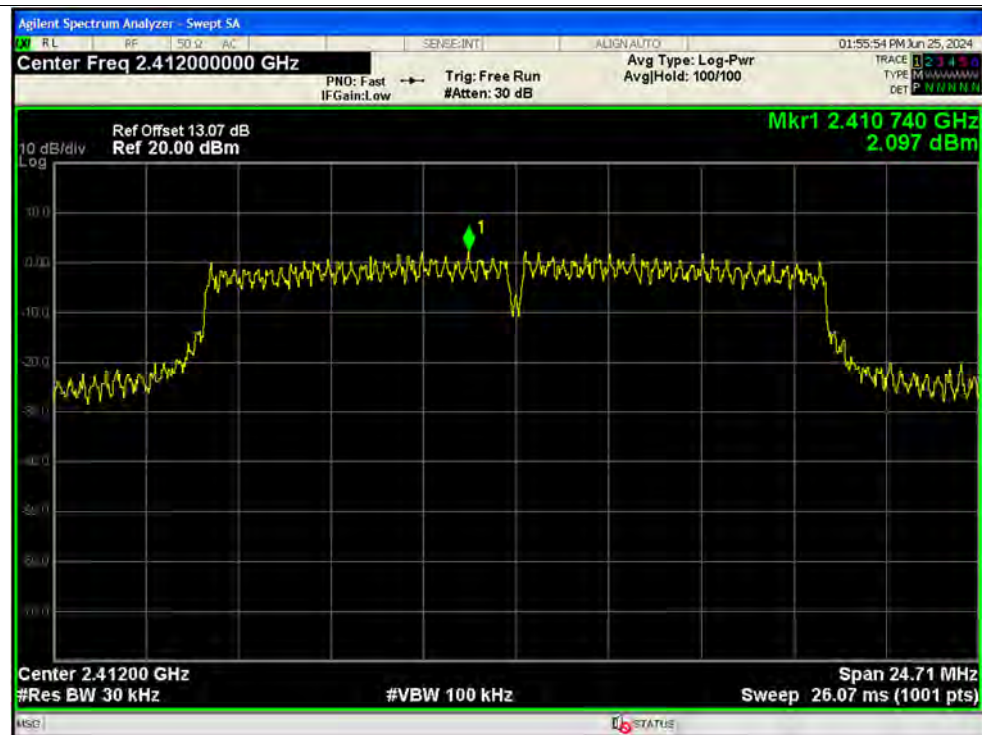
PSD NVNT b 2437MHz Ant1



PSD NVNT b 2462MHz Ant1



PSD NVNT g 2412MHz Ant1



PSD NVNT g 2437MHz Ant1



PSD NVNT g 2462MHz Ant1



PSD NVNT n20 2412MHz Ant1



PSD NVNT n20 2437MHz Ant1





PSD NVNT n20 2462MHz Ant1





A.8. Conducted Emission

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT + PC + Adapter + USB Cable + WIFI TX

Test voltage: AC 120V/60Hz

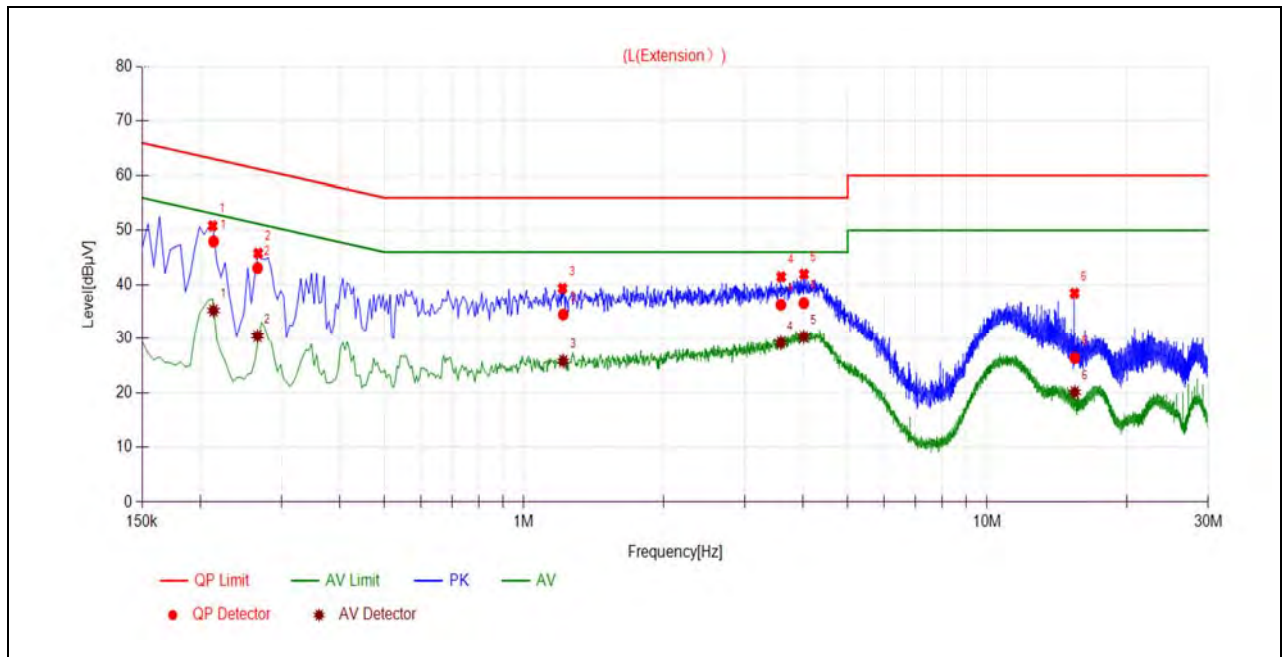
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

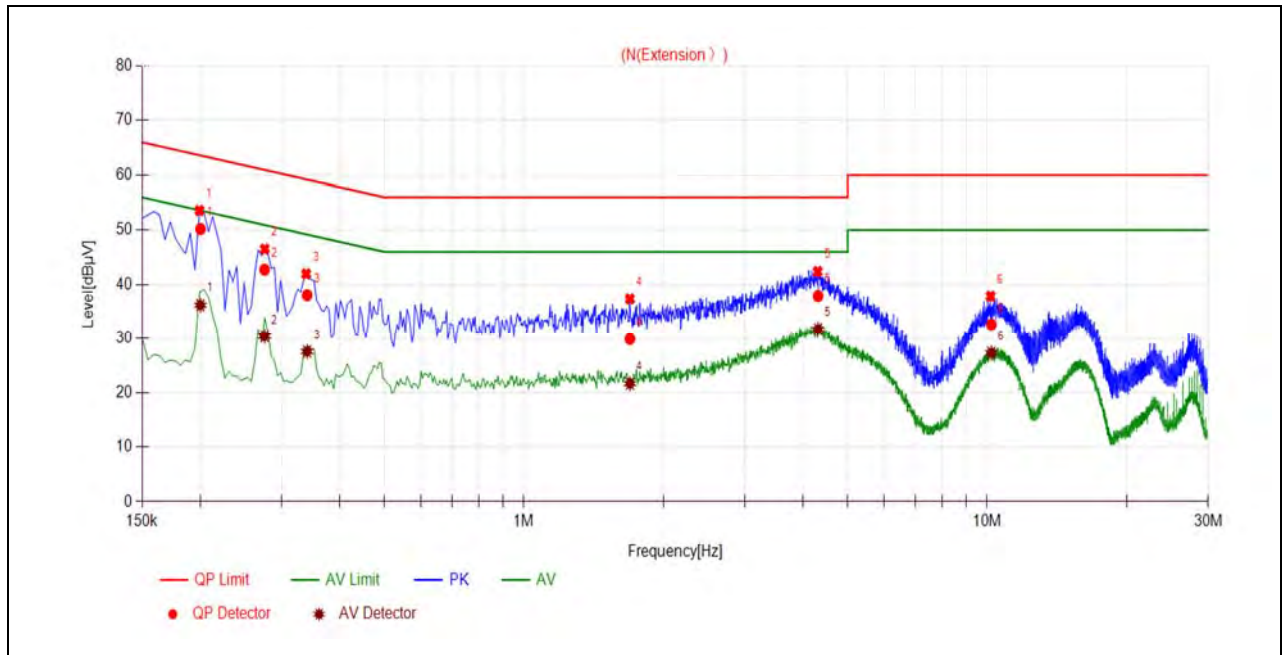
A_{Factor} : Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.2139	47.96	35.25	63.05	53.05	Line	PASS
2	0.2662	43.07	30.43	61.24	51.24		PASS
3	1.2164	34.52	25.79	56.00	46.00		PASS
4	3.5873	36.30	29.20	56.00	46.00		PASS
5	4.0205	36.61	30.31	56.00	46.00		PASS
6	15.4549	26.36	20.07	60.00	50.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.2004	50.21	36.22	63.59	53.59	Neutral	PASS
2	0.2757	42.75	30.40	60.94	50.94		PASS
3	0.3405	38.06	27.55	59.19	49.19		PASS
4	1.6941	29.90	21.62	56.00	46.00		PASS
5	4.3146	37.91	31.75	56.00	46.00		PASS
6	10.2108	32.64	27.31	60.00	50.00		PASS



A.9. Restricted Frequency Bands

The lowest and highest channels are tested to verify the Restricted Frequency Bands.

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V/m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

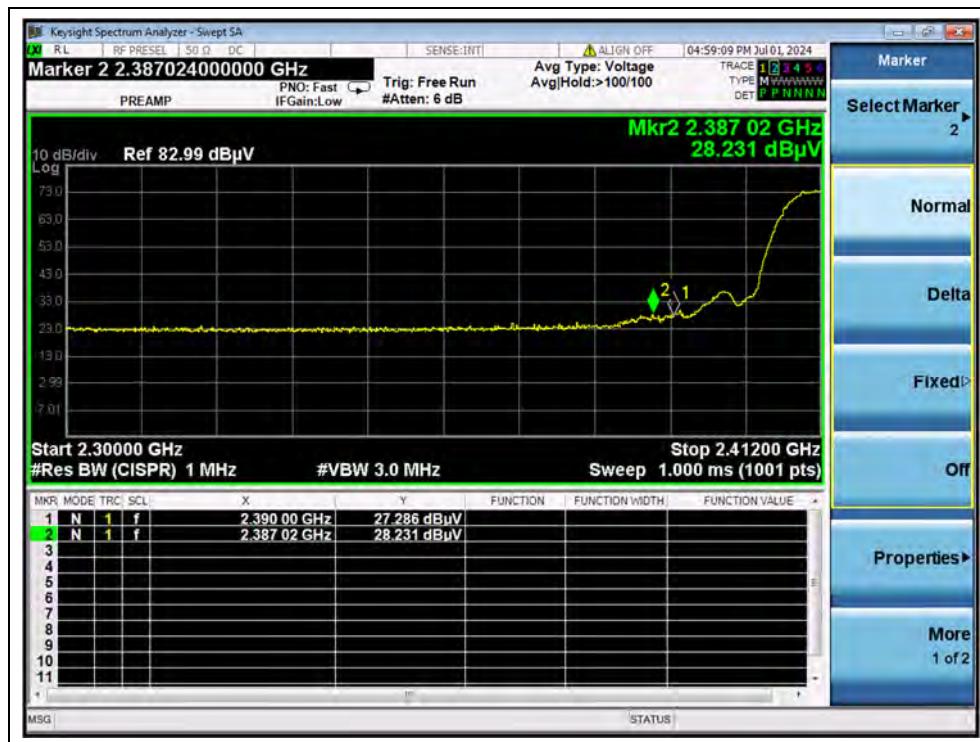
G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

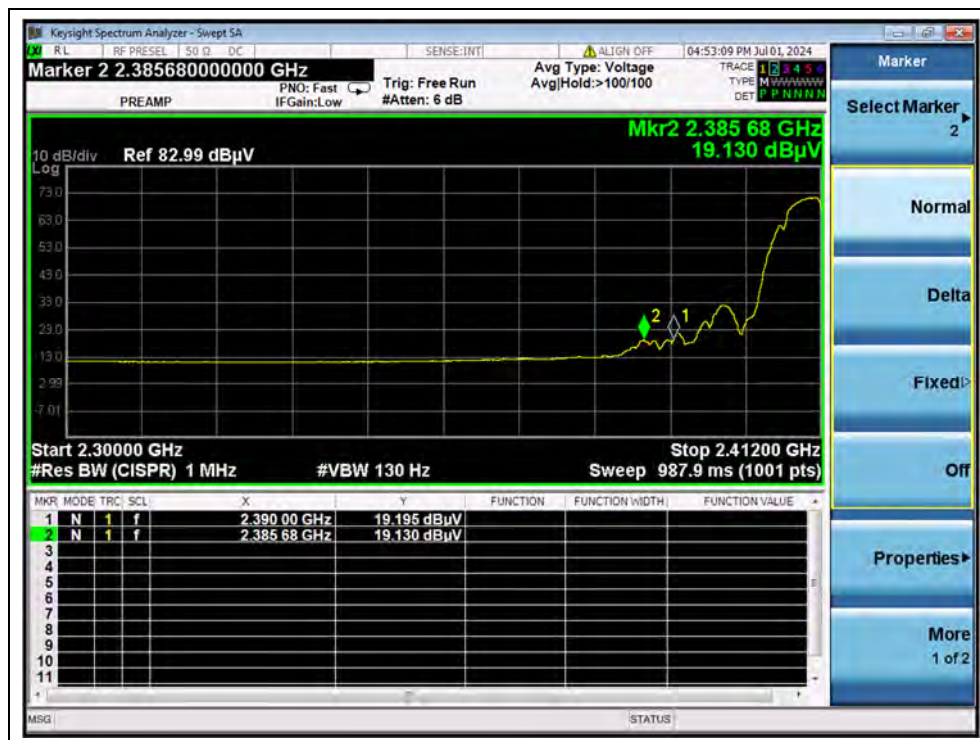
Note: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

802.11b Mode

Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
1	2387.02	PK	28.23	6.74	27.20	62.17	74	PASS
1	2390.00	AV	19.20	6.74	27.20	53.14	54	PASS
11	2486.62	PK	26.89	6.74	27.20	60.83	74	PASS
11	2486.70	AV	18.88	6.74	27.20	52.82	54	PASS



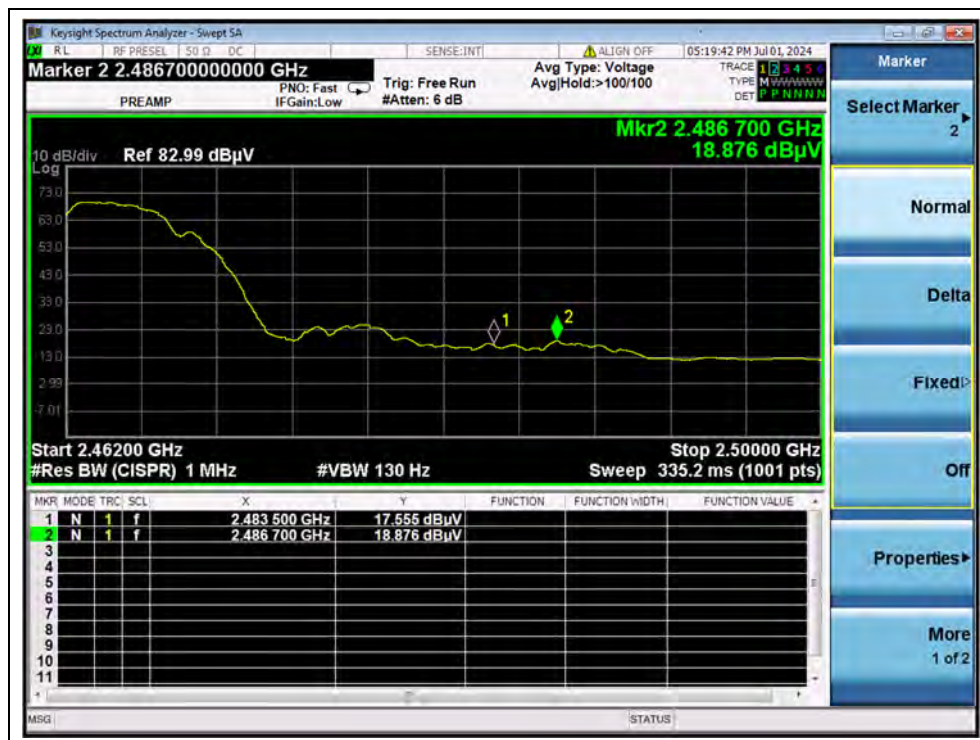
(PEAK, Channel 1, 802.11b)



(AVERAGE, Channel 1, 802.11b)



(PEAK, Channel 11, 802.11b)

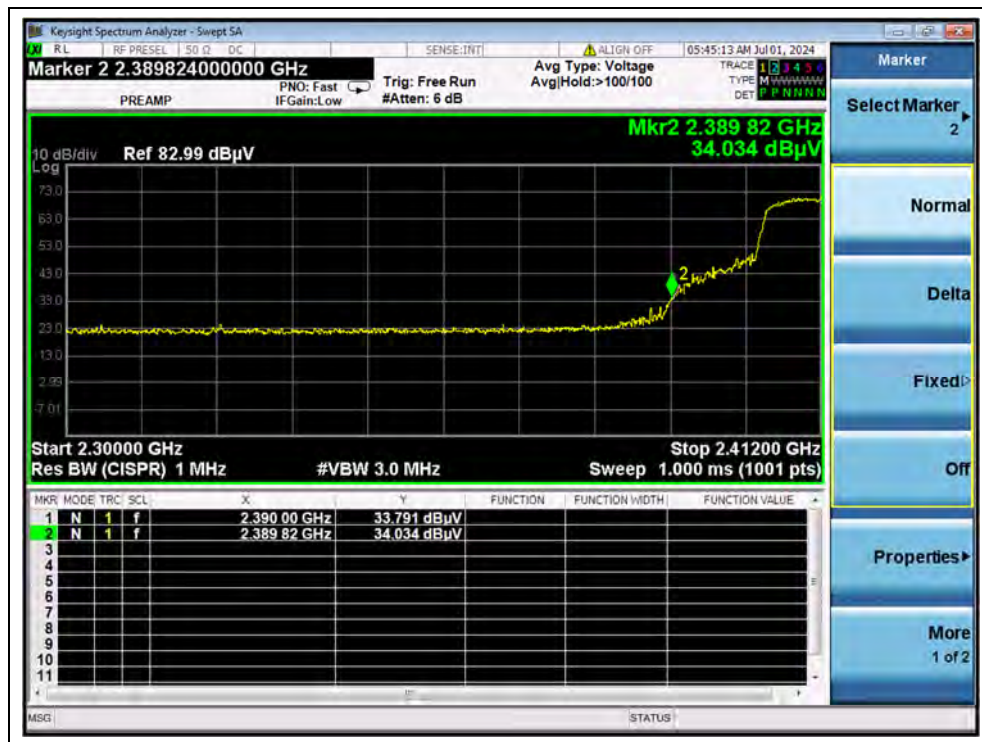


(AVERAGE, Channel 11, 802.11b)



802.11g Mode

Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
1	2389.82	PK	34.03	6.74	27.20	67.97	74	PASS
1	2390.00	AV	17.45	6.74	27.20	51.39	54	PASS
11	2483.74	PK	34.25	6.74	27.20	68.19	74	PASS
11	2483.50	AV	17.53	6.74	27.20	51.47	54	PASS



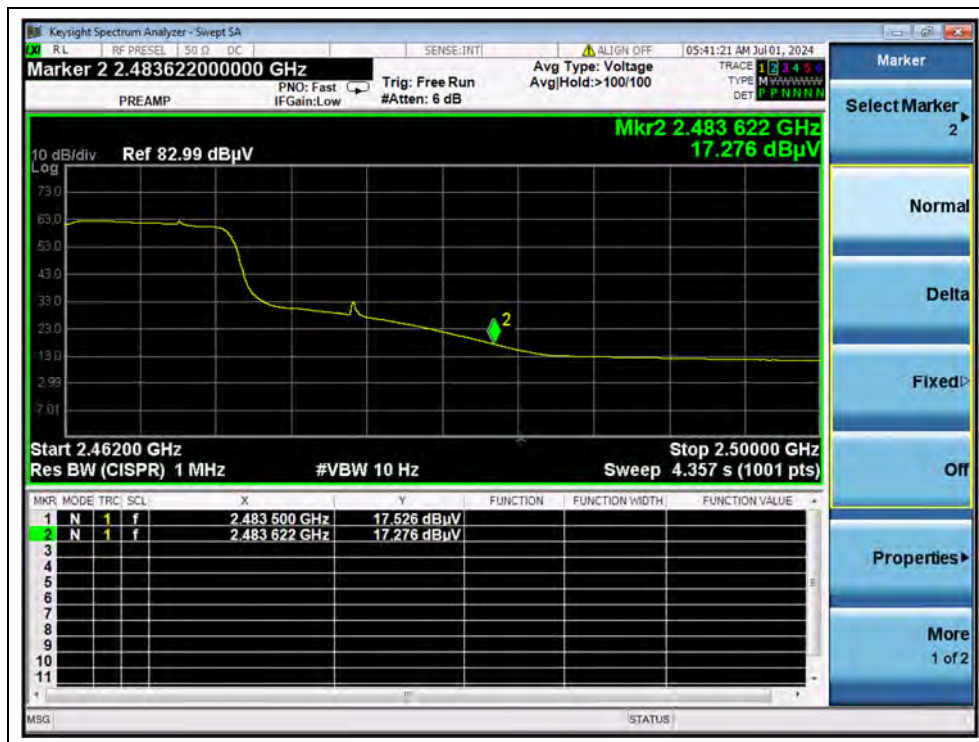
(PEAK, Channel 1, 802.11g)



(AVERAGE, Channel 1, 802.11g)



(PEAK, Channel 11, 802.11g)



(AVERAGE, Channel 11, 802.11g)

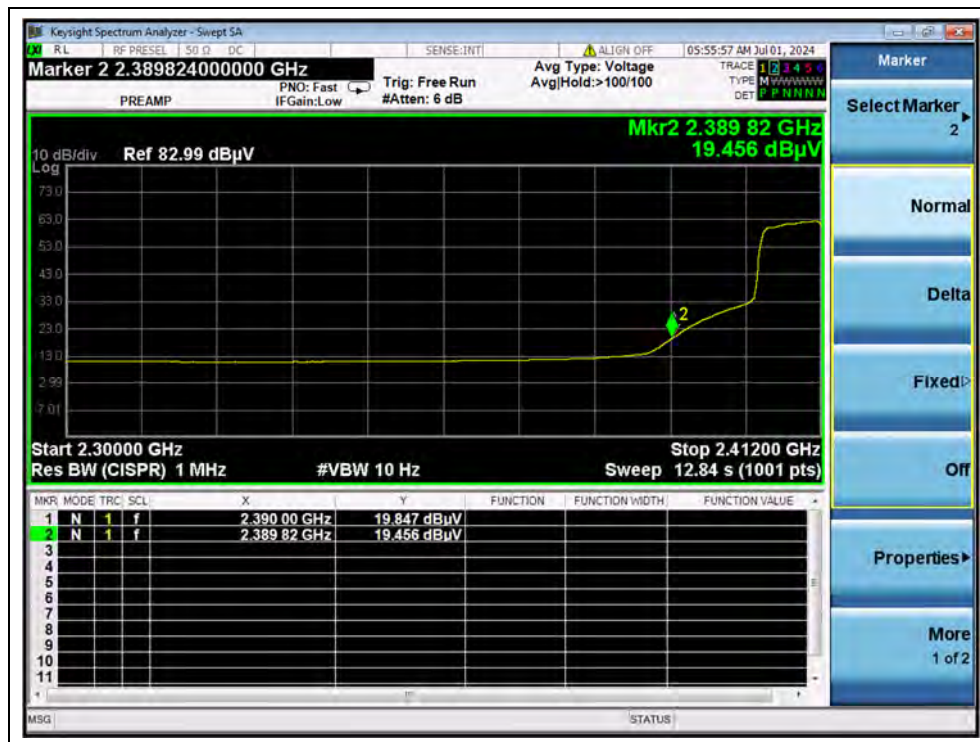


802.11n (HT20) Mode

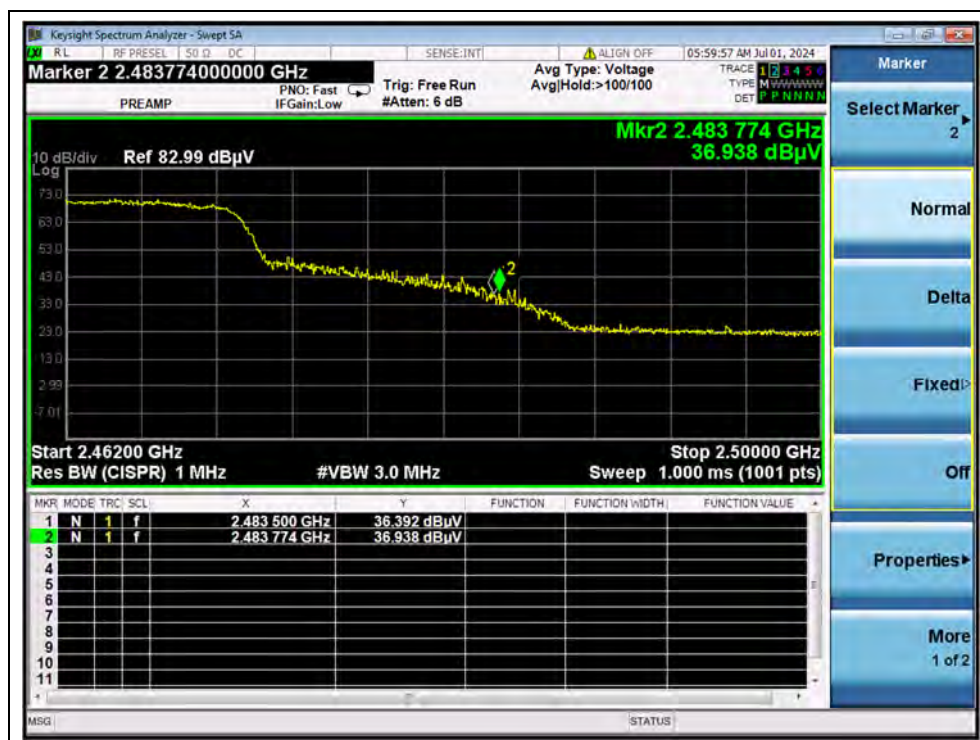
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
1	2390.00	PK	37.65	6.74	27.20	71.59	74	PASS
1	2390.00	AV	19.85	6.74	27.20	53.79	54	PASS
11	2483.77	PK	36.94	6.74	27.20	70.88	74	PASS
11	2483.50	AV	19.27	6.74	27.20	53.21	54	PASS



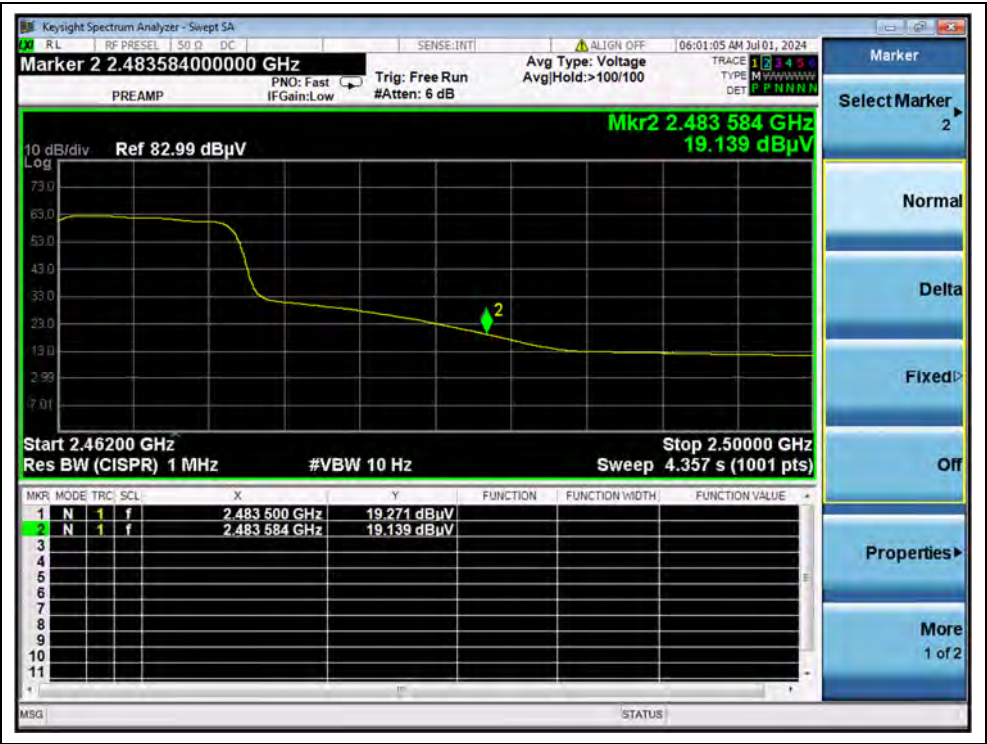
(PEAK, Channel 1, 802.11n (HT20))



(AVERAGE, Channel 1, 802.11n (HT20))



(PEAK, Channel 11, 802.11n (HT20))



(AVERAGE, Channel 11, 802.11n (HT20))



A.10. Radiated Emission

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V/m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

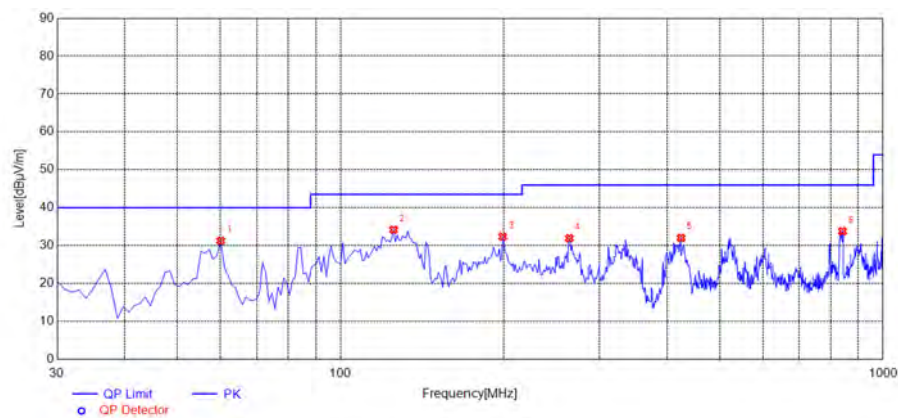
Note1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note3: For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

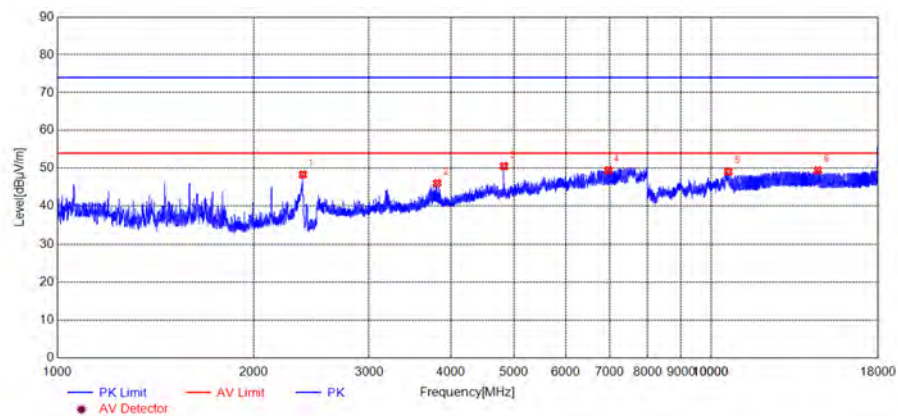
**802.11b Mode**

Plot for Channel 1



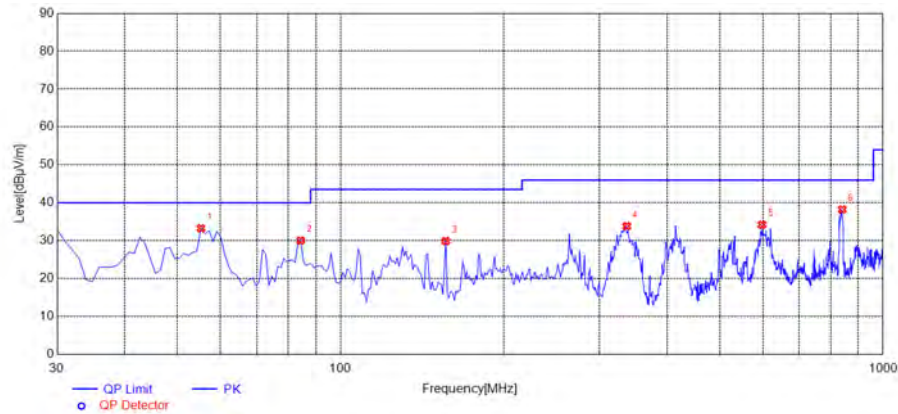
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	31.26	-30.55	40.00	Horizontal	PASS
125.1552	34.19	-34.27	43.50	Horizontal	PASS
198.9489	32.35	-31.87	43.50	Horizontal	PASS
264.0040	31.95	-30.12	46.00	Horizontal	PASS
424.2142	32.05	-25.54	46.00	Horizontal	PASS
841.7317	33.77	-19.87	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



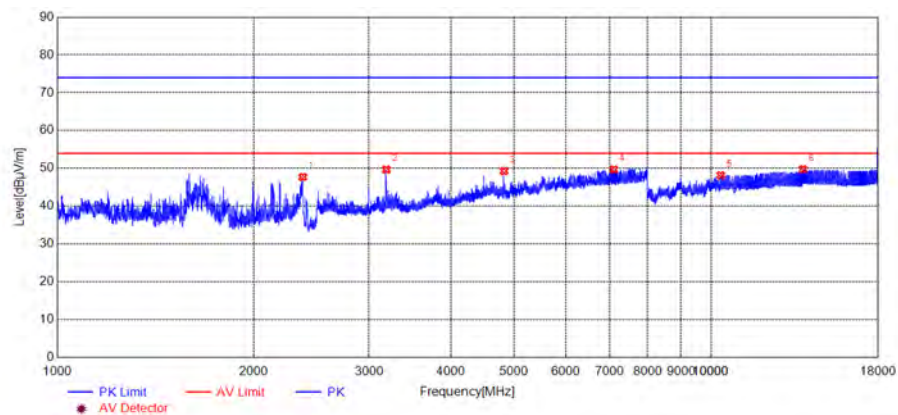
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2375.1375	48.36	-20.85	74.00	Horizontal	PASS
3810.2810	46.08	-14.99	74.00	Horizontal	PASS
4823.8824	50.56	-11.23	74.00	Horizontal	PASS
6963.6964	49.47	-4.61	74.00	Horizontal	PASS
10626.4626	49.13	2.38	74.00	Horizontal	PASS
14565.2565	49.46	6.05	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
55.2452	33.29	-29.38	40.00	Vertical	PASS
84.3744	30.04	-34.18	40.00	Vertical	PASS
156.2262	29.91	-34.83	43.50	Vertical	PASS
336.8268	33.84	-27.79	46.00	Vertical	PASS
598.0180	34.24	-22.02	46.00	Vertical	PASS
840.7608	38.23	-19.86	46.00	Vertical	PASS

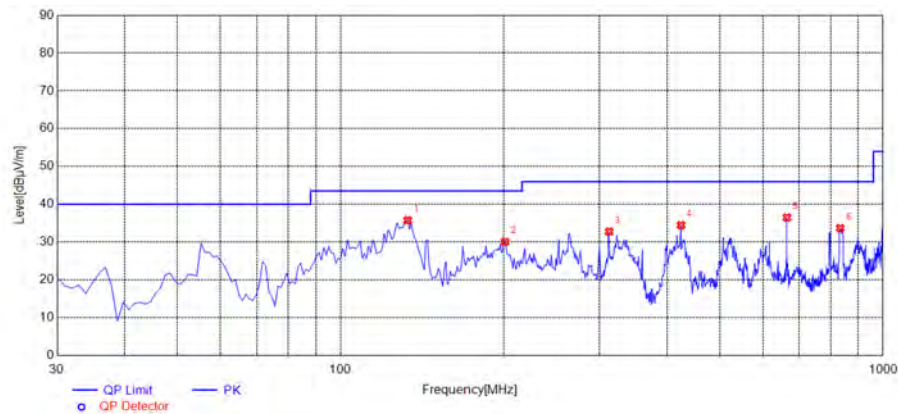
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2375.1375	47.72	-20.85	74.00	Vertical	PASS
3187.7188	49.70	-17.41	74.00	Vertical	PASS
4823.8824	49.30	-11.23	74.00	Vertical	PASS
7098.1098	49.70	-4.46	74.00	Vertical	PASS
10348.0348	48.19	0.60	74.00	Vertical	PASS
13819.9820	49.79	6.12	74.00	Vertical	PASS

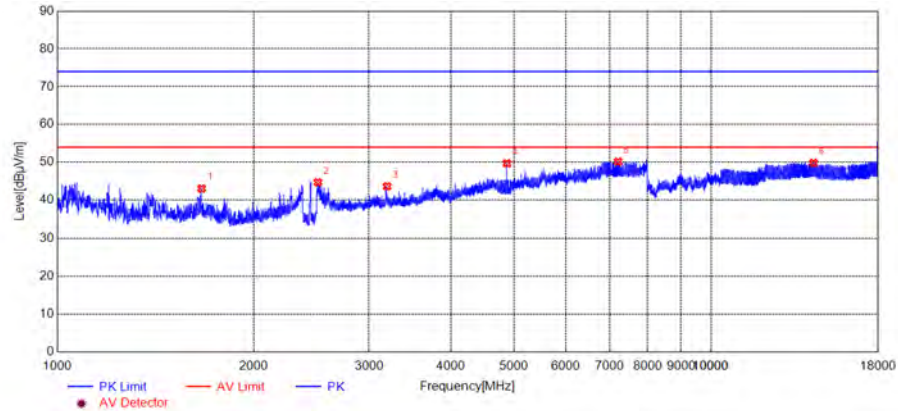
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 6



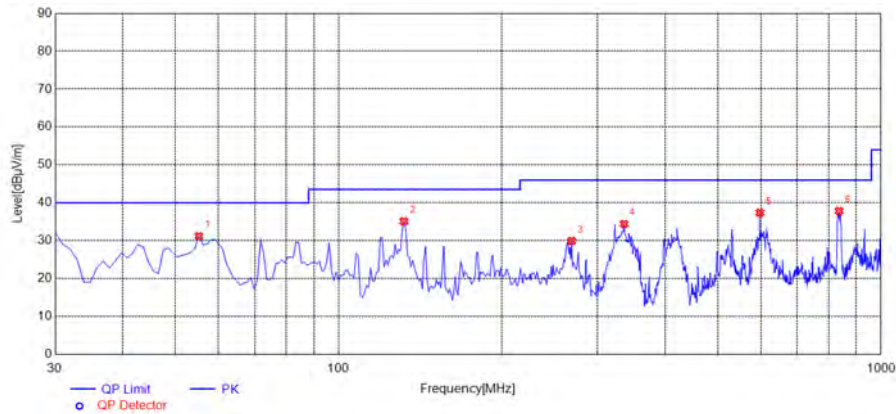
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
132.9229	35.77	-34.78	43.50	Horizontal	PASS
200.8909	30.06	-31.66	43.50	Horizontal	PASS
312.5526	32.77	-28.84	46.00	Horizontal	PASS
424.2142	34.46	-25.54	46.00	Horizontal	PASS
665.0150	36.49	-21.44	46.00	Horizontal	PASS
833.9640	33.71	-19.94	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



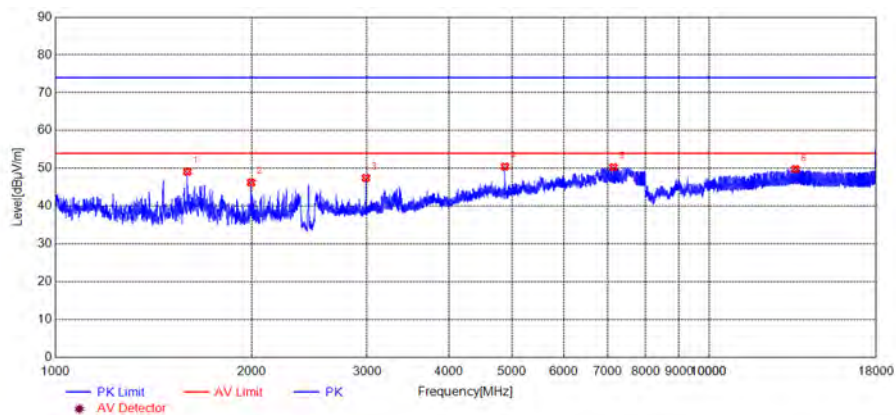
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1663.0663	43.06	-23.64	74.00	Horizontal	PASS
2504.6505	44.71	-20.30	74.00	Horizontal	PASS
3197.2197	43.64	-17.31	74.00	Horizontal	PASS
4874.8875	49.73	-11.55	74.00	Horizontal	PASS
7207.3207	50.17	-3.84	74.00	Horizontal	PASS
14343.2343	49.87	6.91	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
55.2452	31.22	-29.38	40.00	Vertical	PASS
131.9520	35.11	-34.69	43.50	Vertical	PASS
268.8589	29.96	-30.01	46.00	Vertical	PASS
335.8559	34.42	-27.86	46.00	Vertical	PASS
598.0180	37.40	-22.02	46.00	Vertical	PASS
836.8769	37.84	-19.90	46.00	Vertical	PASS

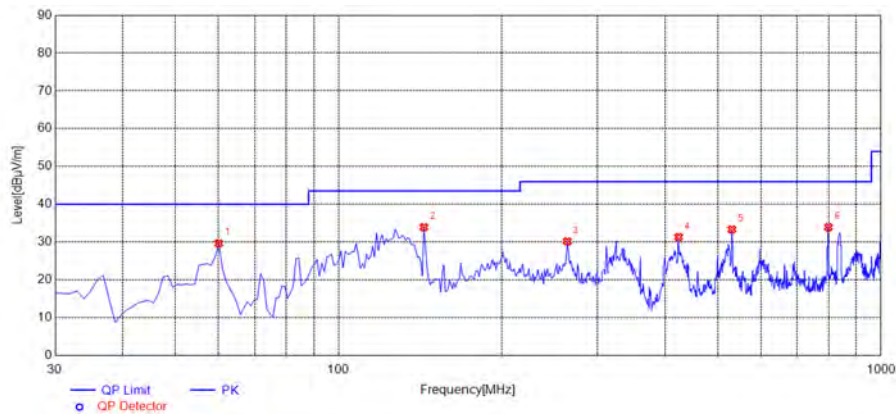
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1593.0593	49.16	-23.65	74.00	Vertical	PASS
1994.5995	46.24	-22.00	74.00	Vertical	PASS
2987.1987	47.48	-18.31	74.00	Vertical	PASS
4874.8875	50.48	-11.55	74.00	Vertical	PASS
7138.9139	50.31	-4.96	74.00	Vertical	PASS
13555.9556	49.80	5.41	74.00	Vertical	PASS

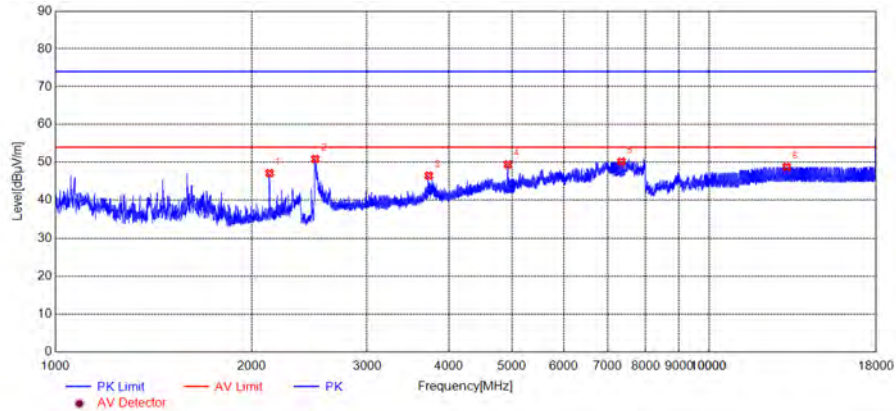
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 11



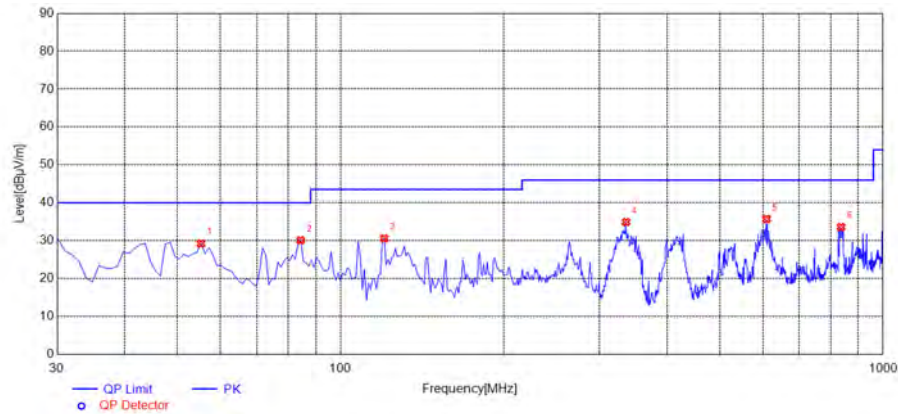
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	29.65	-30.55	40.00	Horizontal	PASS
143.6036	33.94	-35.27	43.50	Horizontal	PASS
264.0040	30.19	-30.12	46.00	Horizontal	PASS
423.2432	31.33	-25.57	46.00	Horizontal	PASS
531.0210	33.36	-23.63	46.00	Horizontal	PASS
799.9800	33.94	-20.28	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



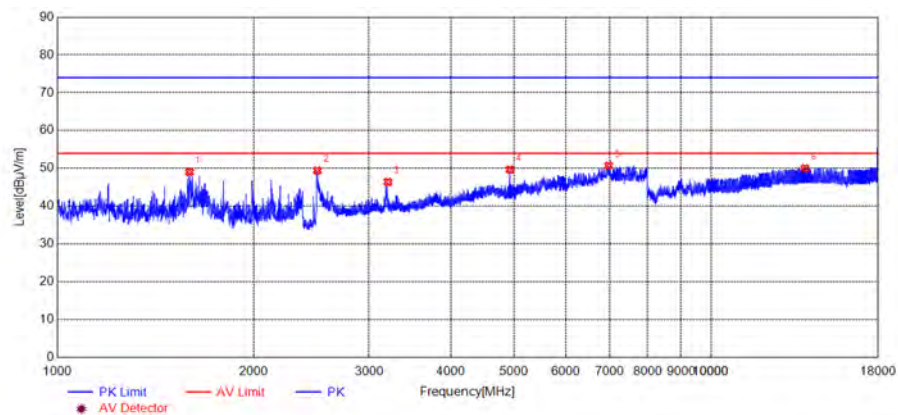
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2128.1128	47.15	-21.60	74.00	Horizontal	PASS
2499.6500	50.88	-20.31	74.00	Horizontal	PASS
3727.2727	46.51	-15.81	74.00	Horizontal	PASS
4924.8925	49.45	-11.42	74.00	Horizontal	PASS
7344.1344	50.18	-4.97	74.00	Horizontal	PASS
13140.7141	48.80	4.89	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
55.2452	29.25	-29.38	40.00	Vertical	PASS
84.3744	30.10	-34.18	40.00	Vertical	PASS
120.3003	30.62	-33.18	43.50	Vertical	PASS
335.8559	34.94	-27.86	46.00	Vertical	PASS
609.6697	35.74	-21.99	46.00	Vertical	PASS
836.8769	33.61	-19.90	46.00	Vertical	PASS

(Antenna Vertical, 30MHz to 1GHz)

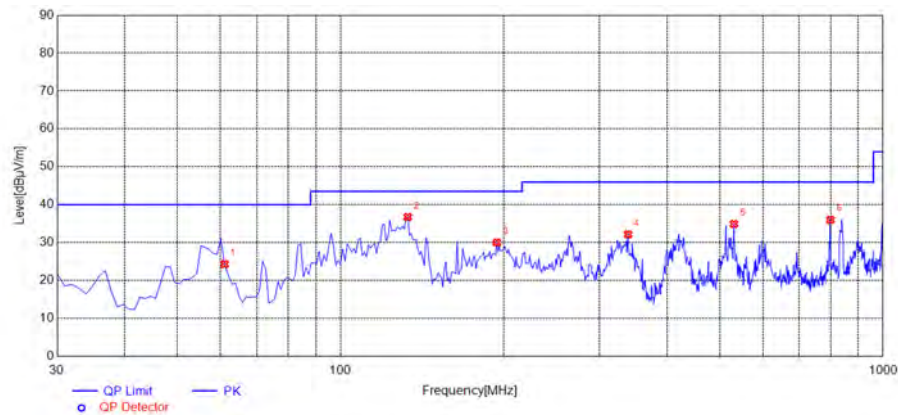


Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1593.5594	49.05	-23.64	74.00	Vertical	PASS
2500.1500	49.43	-20.31	74.00	Vertical	PASS
3205.2205	46.42	-17.27	74.00	Vertical	PASS
4924.8925	49.69	-11.42	74.00	Vertical	PASS
6970.8971	50.70	-4.60	74.00	Vertical	PASS
13917.1917	50.02	6.25	74.00	Vertical	PASS

(Antenna Vertical, 1GHz to 18GHz)

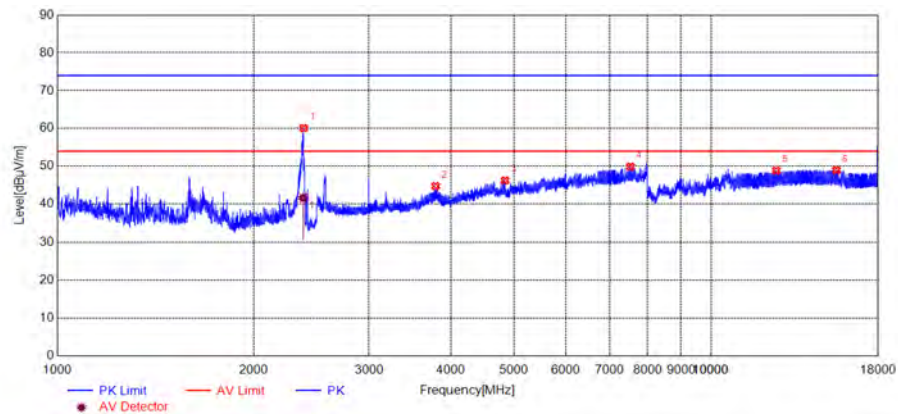
**802.11g Mode**

Plot for Channel 1



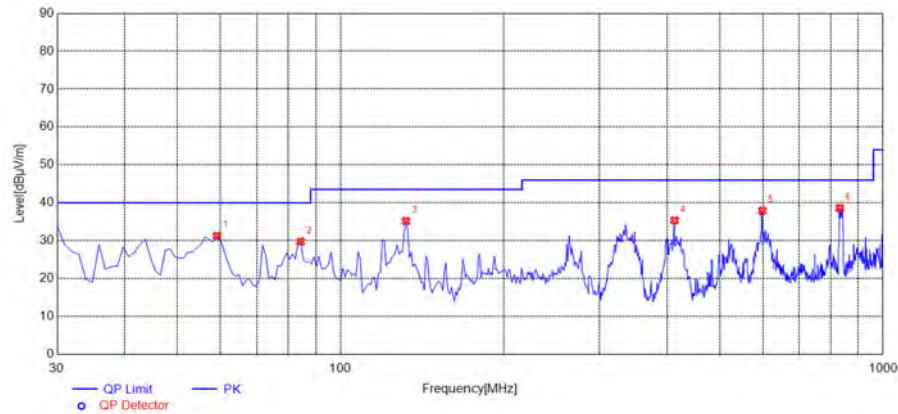
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
61.0711	24.30	-30.51	40.00	Horizontal	PASS
132.9229	36.76	-34.78	43.50	Horizontal	PASS
194.0941	30.03	-32.06	43.50	Horizontal	PASS
338.7688	32.18	-27.64	46.00	Horizontal	PASS
531.0210	34.93	-23.63	46.00	Horizontal	PASS
799.9800	36.03	-20.28	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



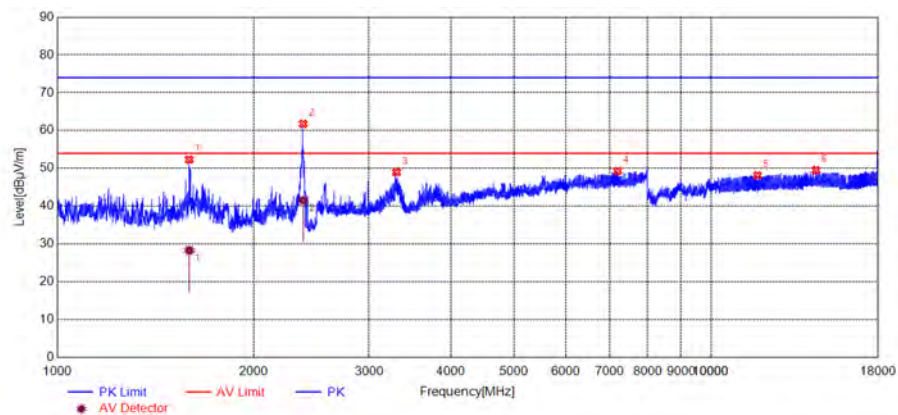
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2377.4918	41.62	-20.87	74.00	Horizontal	PASS
3791.7792	44.76	-15.06	74.00	Horizontal	PASS
4839.8840	46.25	-11.12	74.00	Horizontal	PASS
7530.1530	49.92	-4.42	74.00	Horizontal	PASS
12583.8584	48.84	3.98	74.00	Horizontal	PASS
15543.3543	48.95	5.63	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
59.1291	31.24	-30.37	40.00	Vertical	PASS
84.3744	29.77	-34.18	40.00	Vertical	PASS
131.9520	35.17	-34.69	43.50	Vertical	PASS
412.5626	35.36	-25.90	46.00	Vertical	PASS
598.9890	37.91	-22.00	46.00	Vertical	PASS
832.0220	38.58	-19.97	46.00	Vertical	PASS

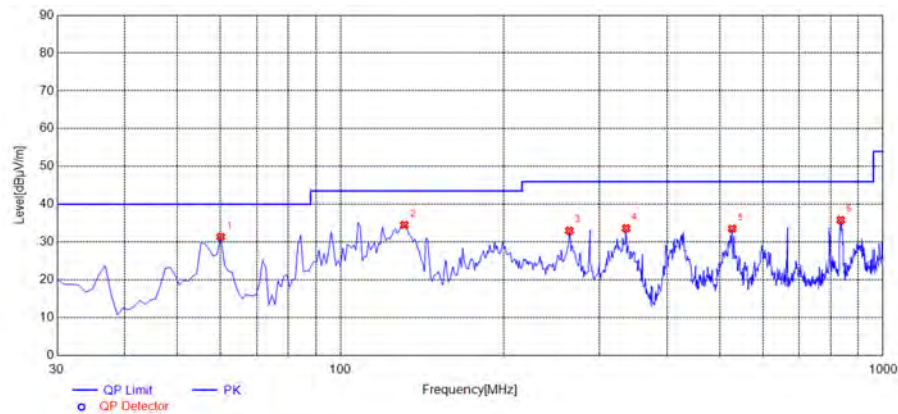
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1592.9893	28.29	-23.65	74.00	Vertical	PASS
2378.2097	41.52	-20.87	74.00	Vertical	PASS
3302.7303	48.99	-16.49	74.00	Vertical	PASS
7196.5197	49.32	-4.08	74.00	Vertical	PASS
11771.3771	48.14	2.93	74.00	Vertical	PASS
14471.6472	49.56	5.86	74.00	Vertical	PASS

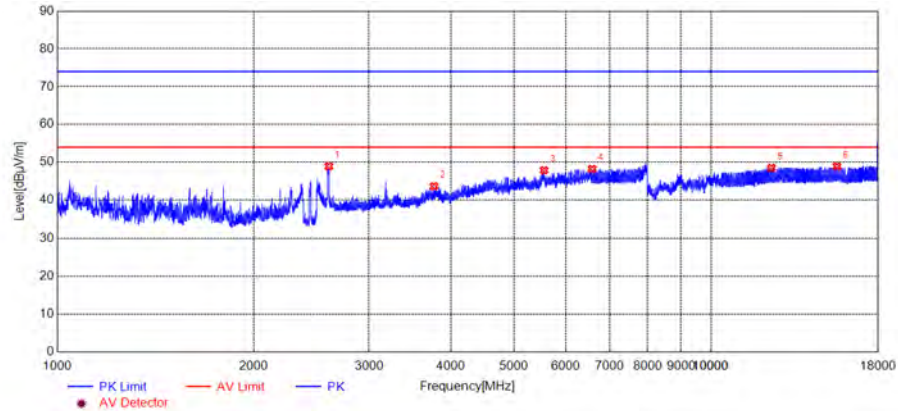
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 6



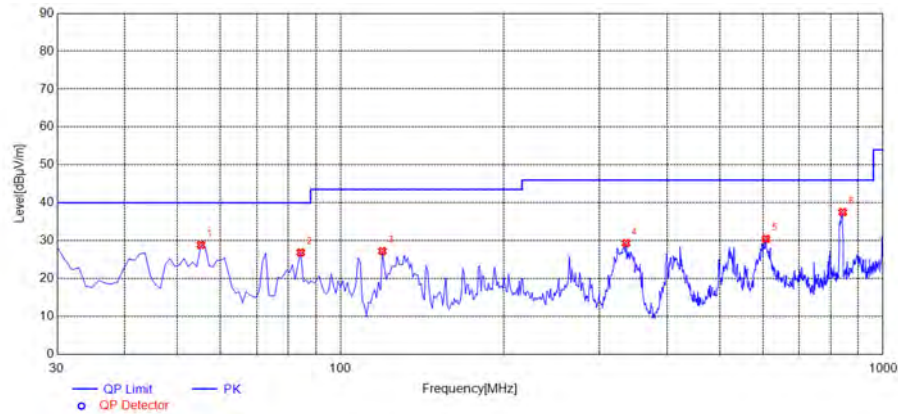
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	31.38	-30.55	40.00	Horizontal	PASS
130.9810	34.54	-34.52	43.50	Horizontal	PASS
264.0040	33.02	-30.12	46.00	Horizontal	PASS
335.8559	33.64	-27.86	46.00	Horizontal	PASS
527.1371	33.55	-23.72	46.00	Horizontal	PASS
835.9059	35.83	-19.92	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



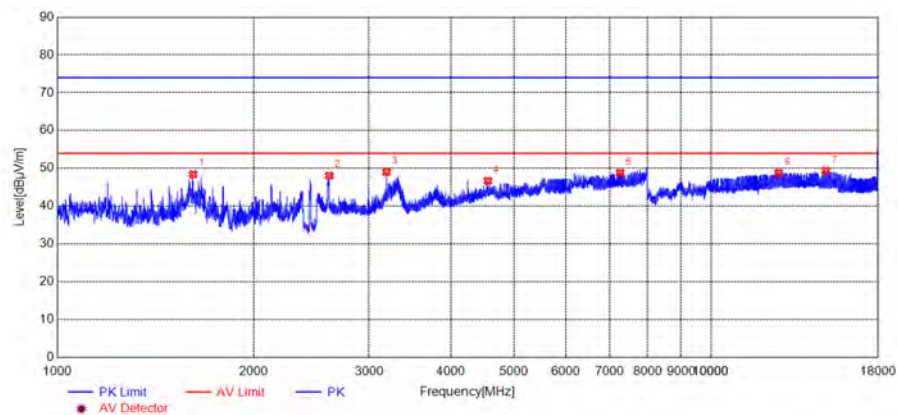
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2603.6604	48.93	-19.39	74.00	Horizontal	PASS
3770.2770	43.66	-15.44	74.00	Horizontal	PASS
5553.4553	47.91	-8.34	74.00	Horizontal	PASS
6577.2577	48.26	-6.85	74.00	Horizontal	PASS
12371.4371	48.54	3.83	74.00	Horizontal	PASS
15580.5581	48.91	5.87	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
55.2452	28.91	-29.38	40.00	Vertical	PASS
84.3744	26.90	-34.18	40.00	Vertical	PASS
119.3293	27.25	-32.96	43.50	Vertical	PASS
335.8559	29.37	-27.86	46.00	Vertical	PASS
608.6987	30.49	-22.01	46.00	Vertical	PASS
842.7027	37.54	-19.87	46.00	Vertical	PASS

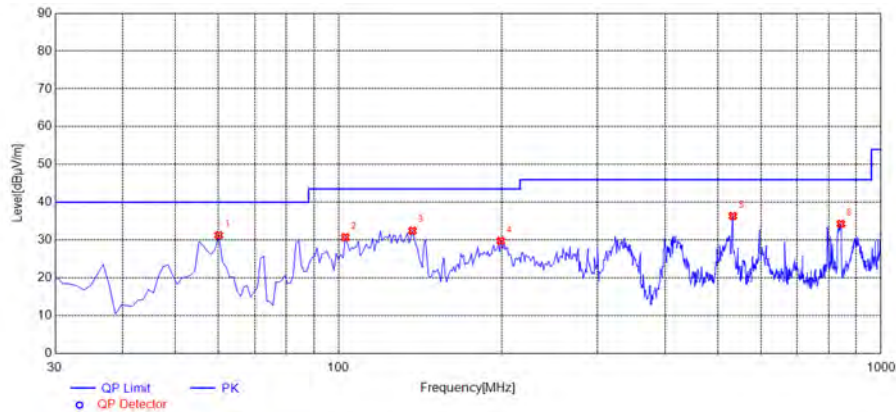
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1614.0614	48.44	-23.60	74.00	Vertical	PASS
2606.6607	48.06	-19.38	74.00	Vertical	PASS
3190.7191	49.04	-17.38	74.00	Vertical	PASS
4557.3557	46.70	-11.98	74.00	Vertical	PASS
7261.3261	48.80	-3.25	74.00	Vertical	PASS
12687.0687	48.81	3.96	74.00	Vertical	PASS
14982.8983	49.37	4.78	74.00	Vertical	PASS

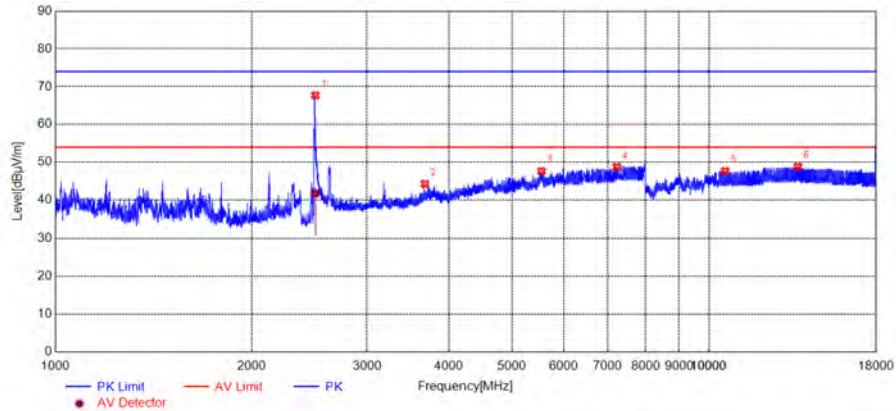
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 11



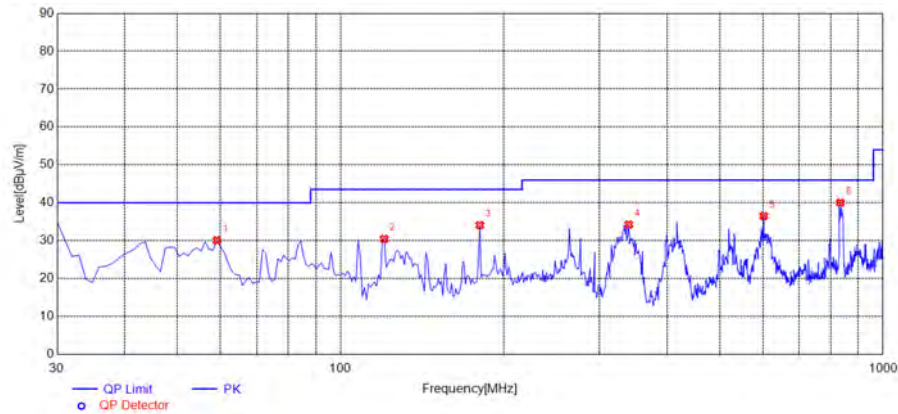
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	31.27	-30.55	40.00	Horizontal	PASS
102.8228	30.76	-31.18	43.50	Horizontal	PASS
136.8068	32.46	-35.08	43.50	Horizontal	PASS
198.9489	29.79	-31.87	43.50	Horizontal	PASS
532.9630	36.39	-23.62	46.00	Horizontal	PASS
843.6737	34.33	-19.87	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



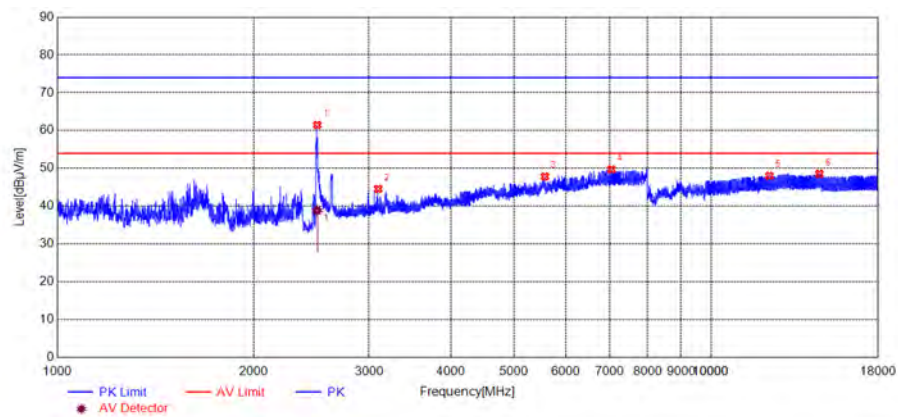
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2500.4750	41.78	-20.31	54.00	Horizontal	PASS
3674.2674	44.29	-15.91	74.00	Horizontal	PASS
5543.4543	47.67	-8.40	74.00	Horizontal	PASS
7226.5227	48.78	-3.41	74.00	Horizontal	PASS
10580.8581	47.70	2.27	74.00	Horizontal	PASS
13675.9676	48.82	4.71	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
59.1291	30.11	-30.37	40.00	Vertical	PASS
120.3003	30.47	-33.18	43.50	Vertical	PASS
180.5005	34.10	-33.61	43.50	Vertical	PASS
339.7397	34.29	-27.56	46.00	Vertical	PASS
602.8729	36.51	-22.04	46.00	Vertical	PASS
833.9640	40.02	-19.94	46.00	Vertical	PASS

(Antenna Vertical, 30MHz to 1GHz)

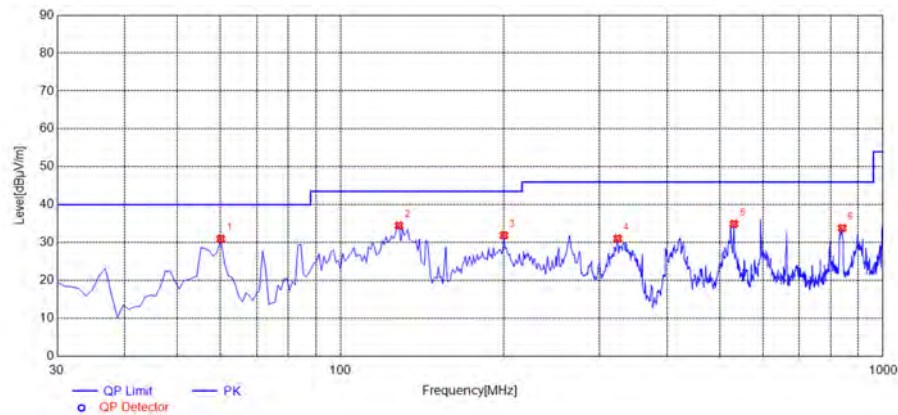


Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2499.5500	38.87	-20.31	54.00	Vertical	PASS
3096.2096	44.58	-17.48	74.00	Vertical	PASS
5570.4570	47.85	-9.00	74.00	Vertical	PASS
7040.5041	49.73	-5.29	74.00	Vertical	PASS
12277.8278	48.04	4.47	74.00	Vertical	PASS
14640.8641	48.60	7.62	74.00	Vertical	PASS

(Antenna Vertical, 1GHz to 18GHz)

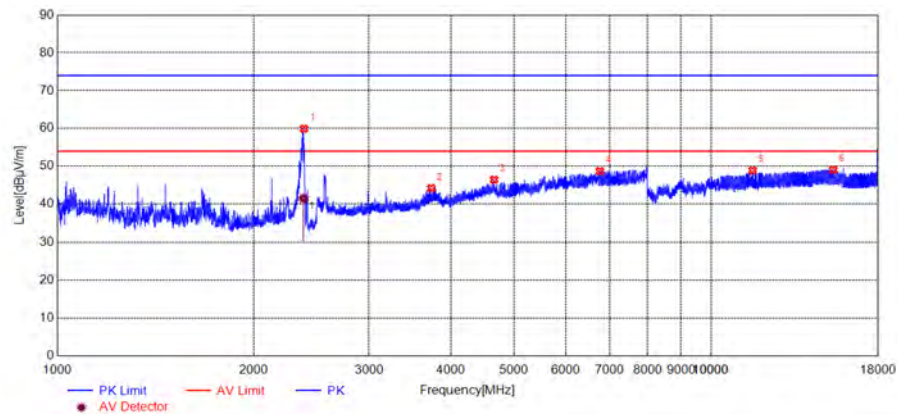
**802.11n (HT20) Mode**

Plot for Channel 1



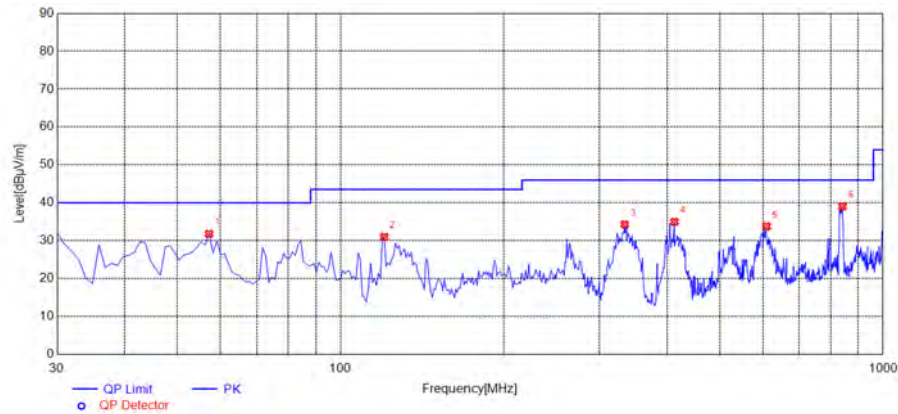
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	31.00	-30.55	40.00	Horizontal	PASS
128.0681	34.50	-34.62	43.50	Horizontal	PASS
199.9199	31.94	-31.67	43.50	Horizontal	PASS
324.2042	31.05	-28.49	46.00	Horizontal	PASS
531.0210	34.94	-23.63	46.00	Horizontal	PASS
840.7608	33.84	-19.86	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



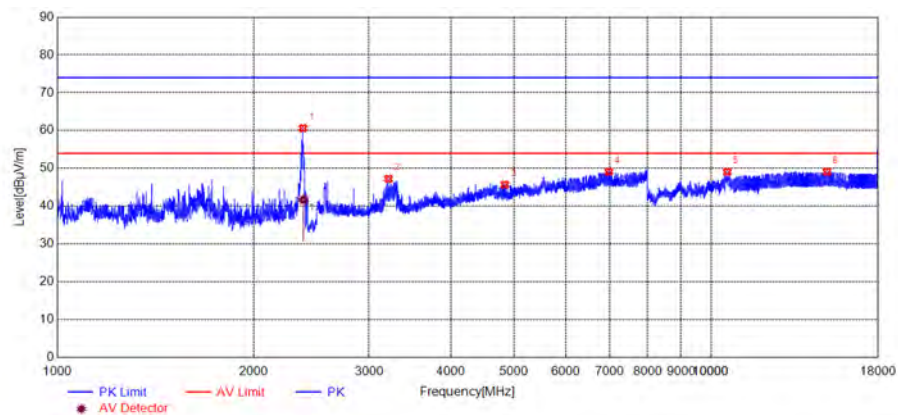
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2379.4638	41.47	-20.88	54.00	Horizontal	PASS
3734.2734	44.20	-15.81	74.00	Horizontal	PASS
4658.8659	46.46	-11.32	74.00	Horizontal	PASS
6760.8761	48.71	-5.27	74.00	Horizontal	PASS
11573.3573	48.89	2.55	74.00	Horizontal	PASS
15375.3375	49.05	5.00	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
57.1872	31.82	-29.88	40.00	Vertical	PASS
120.3003	31.01	-33.18	43.50	Vertical	PASS
333.9139	34.31	-27.98	46.00	Vertical	PASS
412.5626	35.01	-25.90	46.00	Vertical	PASS
609.6697	33.78	-21.99	46.00	Vertical	PASS
841.7317	39.08	-19.87	46.00	Vertical	PASS

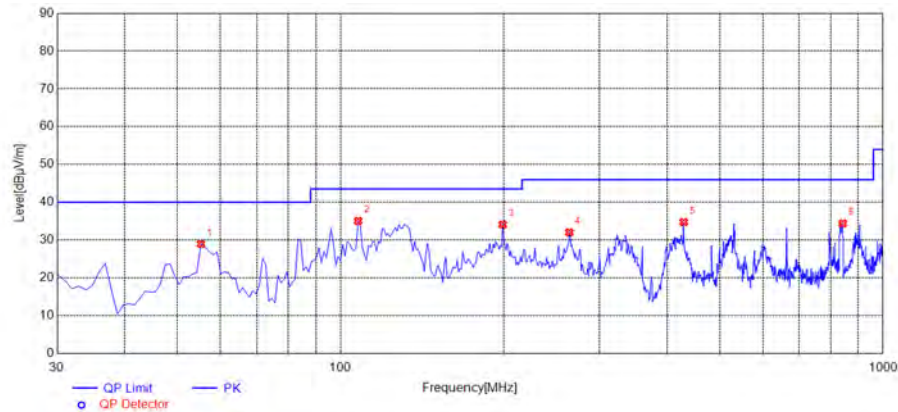
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2378.8702	41.69	-20.87	54.00	Vertical	PASS
3210.2210	47.25	-17.25	74.00	Vertical	PASS
4837.8838	45.71	-11.14	74.00	Vertical	PASS
6975.6976	49.14	-4.59	74.00	Vertical	PASS
10585.6586	49.11	2.11	74.00	Vertical	PASS
15038.1038	49.13	6.23	74.00	Vertical	PASS

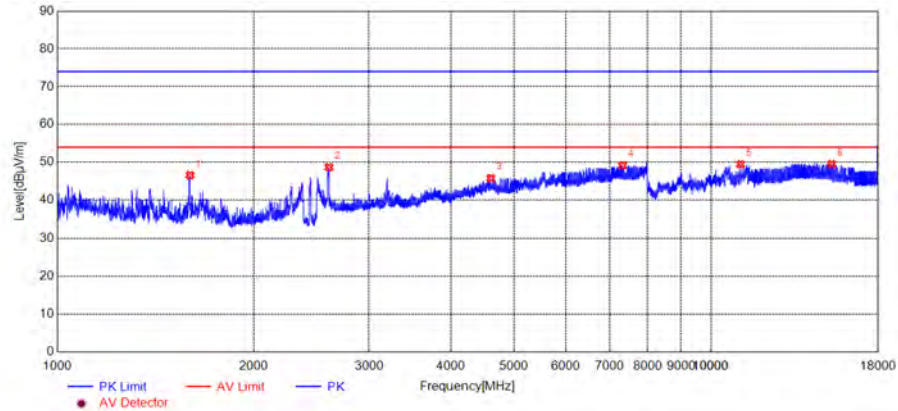
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 6



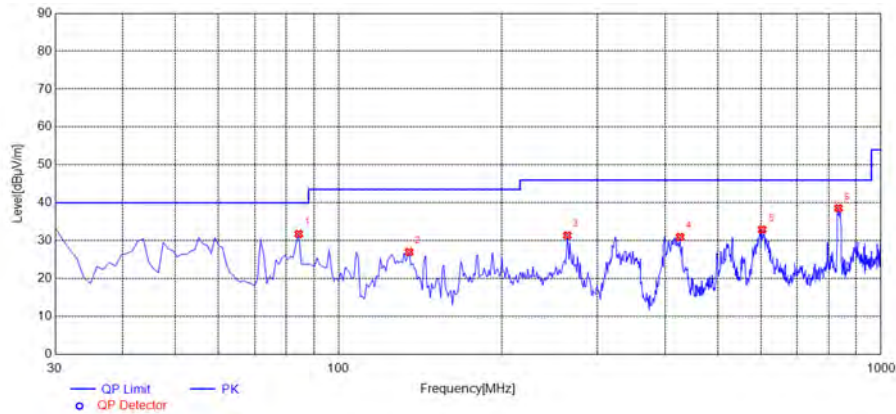
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
55.2452	28.99	-29.38	40.00	Horizontal	PASS
107.6777	35.08	-31.22	43.50	Horizontal	PASS
198.9489	34.12	-31.87	43.50	Horizontal	PASS
264.0040	32.05	-30.12	46.00	Horizontal	PASS
429.0691	34.76	-25.48	46.00	Horizontal	PASS
842.7027	34.42	-19.87	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



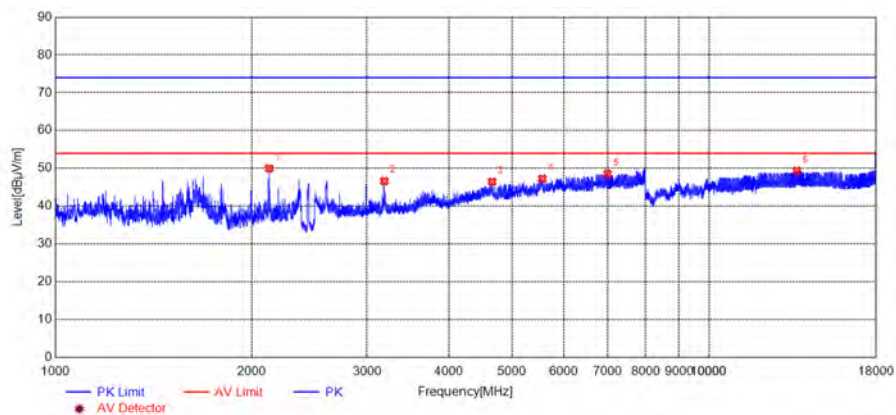
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1596.5597	46.60	-23.62	74.00	Horizontal	PASS
2603.6604	48.68	-19.39	74.00	Horizontal	PASS
4603.8604	45.83	-12.05	74.00	Horizontal	PASS
7318.9319	49.22	-4.71	74.00	Horizontal	PASS
11095.7096	49.50	2.14	74.00	Horizontal	PASS
15287.7288	49.55	6.30	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
84.3744	31.80	-34.18	40.00	Vertical	PASS
134.8649	27.01	-34.95	43.50	Vertical	PASS
264.0040	31.40	-30.12	46.00	Vertical	PASS
426.1562	31.00	-25.50	46.00	Vertical	PASS
603.8438	32.95	-22.06	46.00	Vertical	PASS
834.9349	38.60	-19.93	46.00	Vertical	PASS

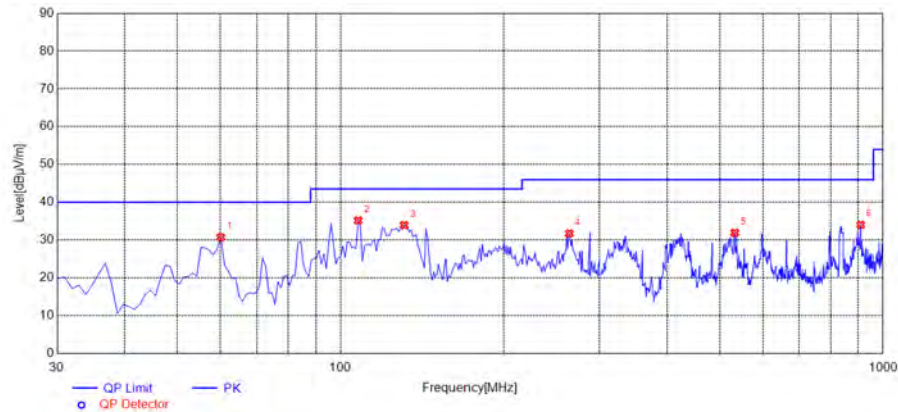
(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2125.1125	49.98	-21.62	74.00	Vertical	PASS
3186.2186	46.63	-17.43	74.00	Vertical	PASS
4657.8658	46.46	-11.31	74.00	Vertical	PASS
5559.4559	47.28	-8.57	74.00	Vertical	PASS
6998.4999	48.55	-4.56	74.00	Vertical	PASS
13623.1623	49.39	6.33	74.00	Vertical	PASS

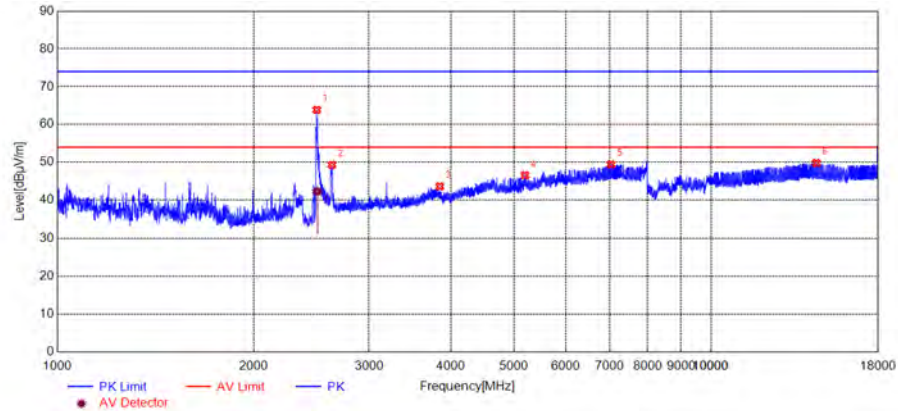
(Antenna Vertical, 1GHz to 18GHz)

Plot for Channel 11



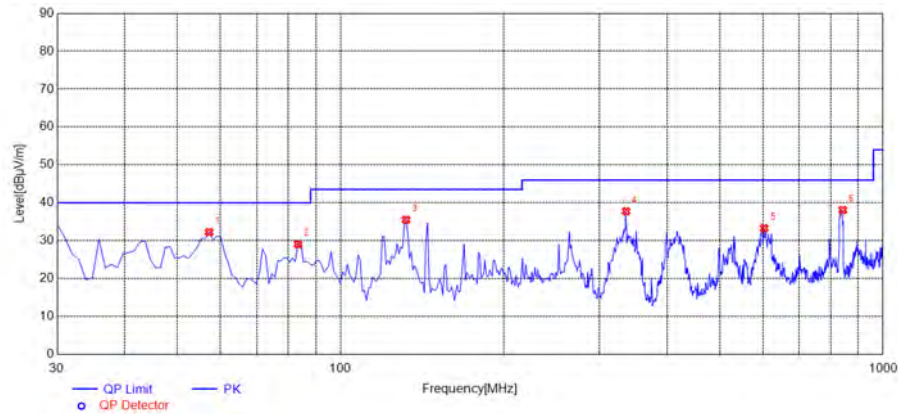
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
60.1001	30.75	-30.55	40.00	Horizontal	PASS
107.6777	35.19	-31.22	43.50	Horizontal	PASS
130.9810	33.96	-34.52	43.50	Horizontal	PASS
264.0040	31.76	-30.12	46.00	Horizontal	PASS
532.9630	31.94	-23.62	46.00	Horizontal	PASS
909.6997	34.05	-18.90	46.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 1GHz)



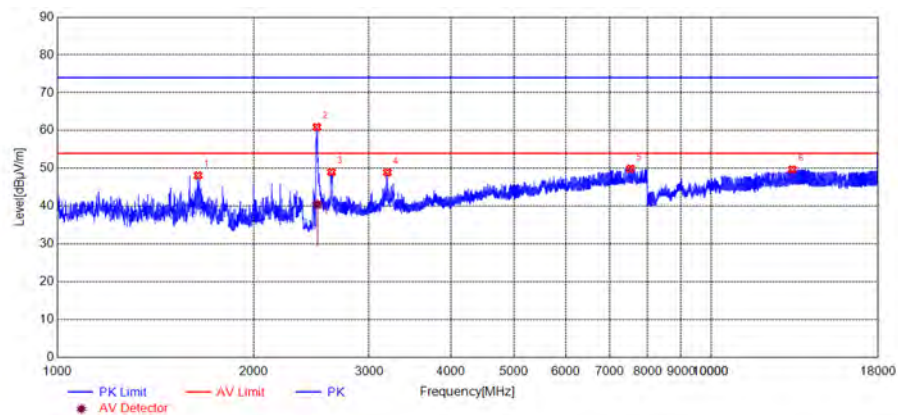
Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
2501.6345	42.29	-20.31	54.00	Horizontal	PASS
2630.6631	49.33	-19.28	74.00	Horizontal	PASS
3846.7847	43.63	-15.29	74.00	Horizontal	PASS
5193.9194	46.61	-9.99	74.00	Horizontal	PASS
7029.7030	49.45	-5.09	74.00	Horizontal	PASS
14484.8485	49.85	6.11	74.00	Horizontal	PASS

(Antenna Horizontal, 1GHz to 18GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
57.1872	32.27	-29.88	40.00	Vertical	PASS
83.4034	29.09	-34.38	40.00	Vertical	PASS
131.9520	35.51	-34.69	43.50	Vertical	PASS
335.8559	37.77	-27.86	46.00	Vertical	PASS
603.8438	33.30	-22.06	46.00	Vertical	PASS
842.7027	38.12	-19.87	46.00	Vertical	PASS

(Antenna Vertical, 30MHz to 1GHz)



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Antenna	Verdict
1642.0642	48.12	-23.62	74.00	Vertical	PASS
2501.9636	40.45	-20.30	74.00	Vertical	PASS
2627.1627	49.03	-19.30	74.00	Vertical	PASS
3198.7199	48.94	-17.29	74.00	Vertical	PASS
7530.1530	49.93	-4.42	74.00	Vertical	PASS
13307.5308	49.71	5.11	74.00	Vertical	PASS

(Antenna Vertical, 1GHz to 18GHz)

END OF REPORT