FCC Test Report
(Class II Permissive Change)

Product Name	Multimedia device with Bluetooth and WLAN
Model No	AIVI2SBXM
FCC ID.	2AUXS-AIVI2SBXM

Applicant	Robert Bosch GmbH
Address	Robert-Bosch-Strasse 200 Hildesheim, 31139 Germany

Date of Receipt	Sep. 21, 2020
Issue Date	Nov. 16, 2021
Report No.	21A0126R-RFUSWL2V01-A
Report Version	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test Report

Issue Date: Nov. 16, 2021
Report No.: 21A0126R-RFUSWL2V01-A

Product Name	Multimedia device with Bluetooth and WLAN
Applicant	Robert Bosch GmbH
Address	Robert-Bosch-Strasse 200 Hildesheim, 31139 Germany
Manufacturer	Robert Bosch GmbH
Model No.	AIVI2SBXM
FCC ID.	2AUXS-AIVI2SBXM
EUT Rated Voltage	DC 12V (Power by battery)
EUT Test Voltage	DC 12V (Power by battery)
Trade Name	Bosch
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : April Chen

(Senior Project Specialist / April Chen)

Tested By : Ivan Chuang

(Senior Engineer / Ivan Chuang)

Approved By : Jack Hsu

(Senior Engineer / Jack Hsu)

TABLE OF CONTENTS

Revision History

Report No.	Version	Description	Issued Date
21A0126R-RFUSWL2V01-A	V1.0	Initial issue of report.	Nov. 16, 2021

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Multimedia device with Bluetooth and WLAN
Trade Name	Bosch
Model No.	AIVI2SBXM
FCC ID.	2AUXS-AIVI2SBXM
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2462MHz for 802.11n-40MHz
Number of Channels	802.11b/g/n-20MHz: 11, 802.11n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna type	Metal Plate Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	N/A	VPMASF-10849-AF	Metal Plate Antenna	-0.42dBi for 2.4GHz
2	MITSUBISHI ELECTRIC CORPORATION	DU-7NW233AL-SAMPLE1	Metal Plate Antenna	0.94dBi for 2.4GHz
3	Faurecia Clarion Electronics CO., LTD.	ZM-8100	Metal Plate Antenna	-1.91dBi for 2.4GHz

Note: The antenna of EUT is conforming to FCC 15.203.

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz	Channel 06:	2437 MHz
Channel 07:	2442 MHz	Channel 08:	2447 MHz	Channel 09:	2452 MHz		

Note:

1. The EUT is a Multimedia device with Bluetooth and WLAN with built-in WLAN (802.11a/b/g/n/ac) with Bluetooth V4.2、V2.1+EDR transceiver, this report for 2.4GHz WLAN.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. These tests are conducted on a sample for the purpose of demonstrating compliance of transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance of transmitter with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
5. This is to request a Class II permissive change for FCC ID: 2AUXS-AIVI2SBXM, originally granted on 11/19/2020.
   According to the major change, DEKRA tests Radiated Emission and Radiated Band Edge items, and other testing data refer to original reports.
   The major change filed under this application is: Additional antenna for WLAN which type is same as original grant and the antenna gain is higher than original grant.

Test Mode:	Mode 1: Transmit

Note: The antenna for the final tests is antenna 2.

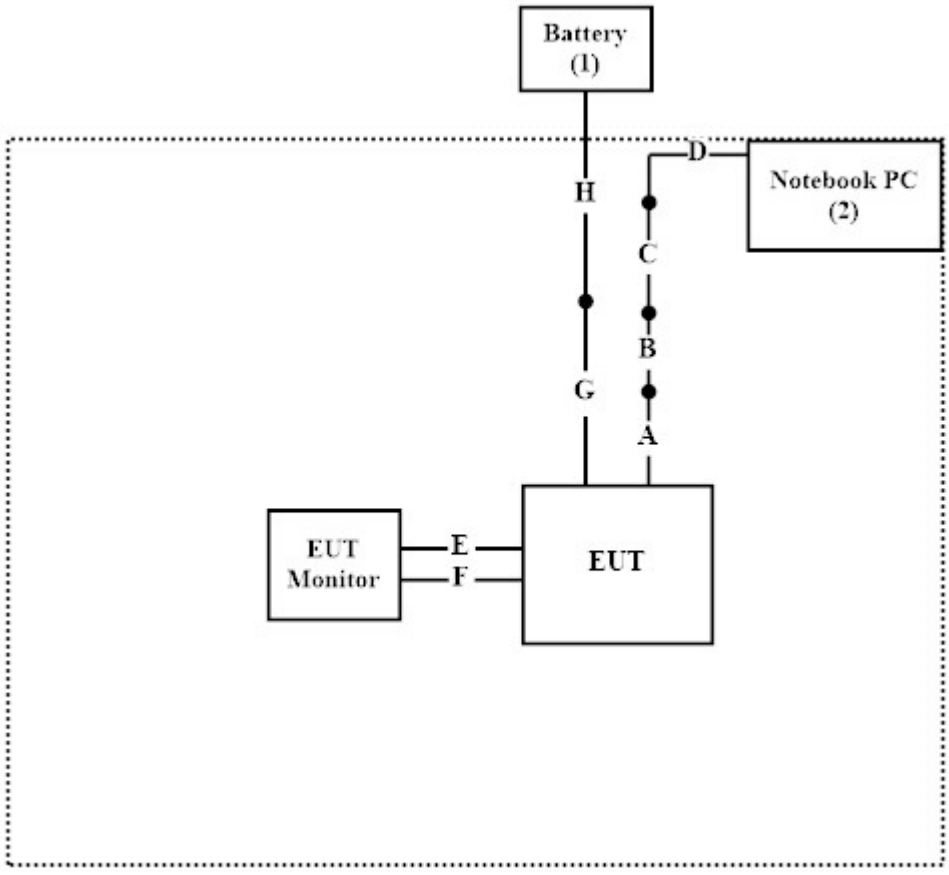
1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Battery	YUASA	55D23L-SMF	N/A	N/A
2	Notebook PC	DELL	Latitude E5440	FS9TK32	N/A

Signal Cable Type		Signal cable Description
A	USB to mini USB Cable	Non-shielded, 0.2m
B	USB to LAN Cable	Non-shielded, 0.2m
C	LAN Cable	Non-shielded, 1m
D	USB to LAN Cable	Non-shielded, 0.2m
E	Orange connector Cable	Non-shielded, 1.8m
F	Green connector Cable	Non-shielded, 2m
G	Power Cable	Non-shielded, 1m
H	Power Cable	Non-shielded, 1m

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “Dut labtool 2.0.0.89” on the EUT.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Radiated Emission	Temperature (°C)	10~40 °C	22.6°C
	Humidity (%RH)	10~90 %	52.5%
Band Edge	Temperature (°C)	10~40 °C	22.6°C
	Humidity (%RH)	10~90 %	52.5%

USA : FCC Registration Number: TW0033
Canada : IC Registration Number: 26930

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No. 5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan
Performed Location : No. 26, Huaya 1st Rd., Guishan Dist.,Taoyuan City 333411, Taiwan, R.O.C.
Phone number : +886-3-275-7255
Fax number : +866-3-327-8031
Email address : info.tw@dekra.com
Website : http://www.dekra.com.tw

1.6. List of Test Item and Equipment

For Radiated measurements / 966-3

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-675	2021.08.11	2022.08.10
X	Horn Antenna	ETS-Lindgren	3117	00227700	2021.10.12	2022.10.11
X	Horn Antenna	Com-Power	AH-840	101101	2020.11.19	2021.11.18
X	Pre-Amplifier	EMCI	EMC001330	980254	2021.01.20	2022.01.19
X	Pre-Amplifier	EMCI	EMC051835SE	980313	2020.11.25	2021.11.24
X	Pre-Amplifier	EMCI	EMC05820SE	980310	2021.07.07	2022.07.06
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2021.06.24	2022.06.23
X	Filter	MICRO TRONICS	BRM50702	G251	2021.09.16	2022.09.15
X	Filter	MICRO TRONICS	BRM50716	G188	2021.09.16	2022.09.15
X	EMI Test Receiver	R&S	ESR	102793	2020.12.17	2021.12.16
X	Spectrum Analyzer	R&S	FSV3044	101115	2021.02.03	2022.02.02
X	Coaxial Cable	SGH, EMCI	HA800 , SGH18	HY2103-001C	2021.03.03	2022.03.02
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2021.06.25	2022.06.24

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : AUDIX e3 V9

1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

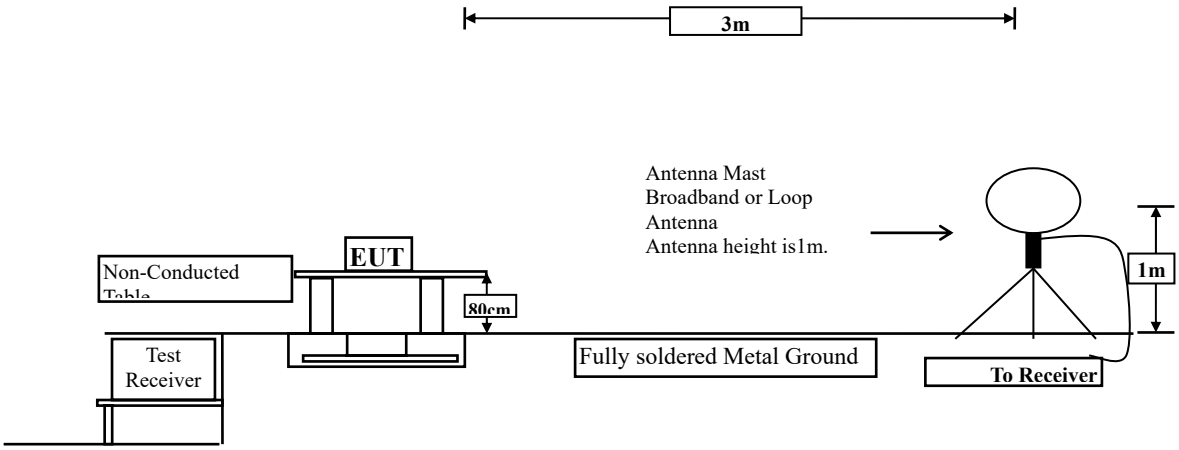
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty	
Radiated Emission	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Band Edge	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Duty Cycle	±2.31 ms	

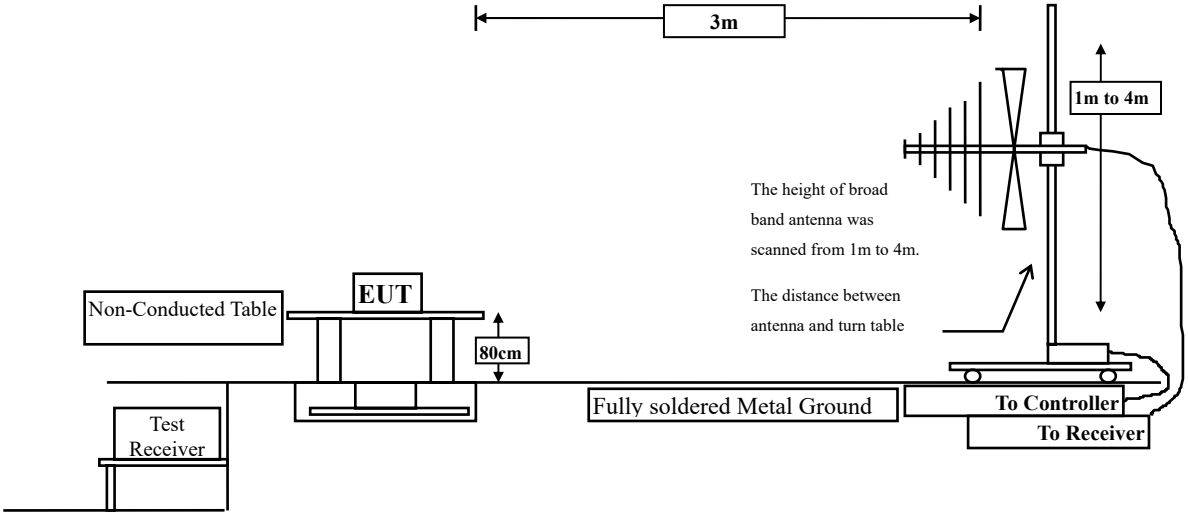
2. Radiated Emission

2.1. Test Setup

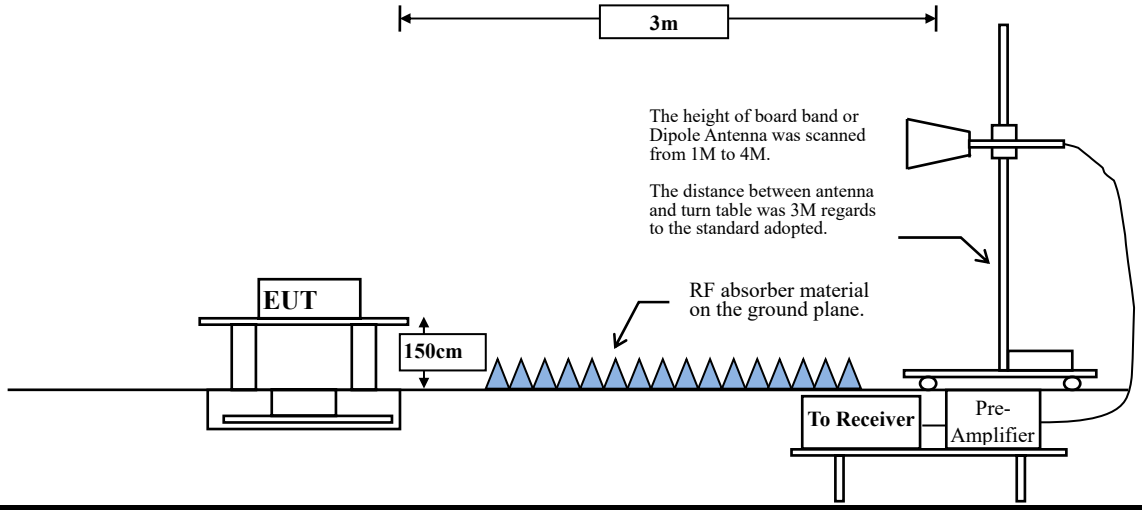
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



2.2. Limits

➢ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

2.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to C63.10:2013 Section 11.12.1 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

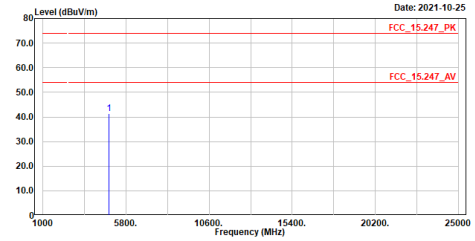
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11 b	100.00	1.0000	1000	10
802.11 g	98.63	3.1304	319	10
802.11 n20	100.00	1.0000	1000	10
802.11 n40	98.65	4.7609	210	10

Note: Duty Cycle Refer to Section 4.

2.4. Test Result of Radiated Emission

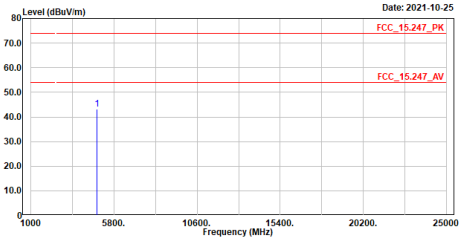
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	41.46	74.00	-32.54	40.88	0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

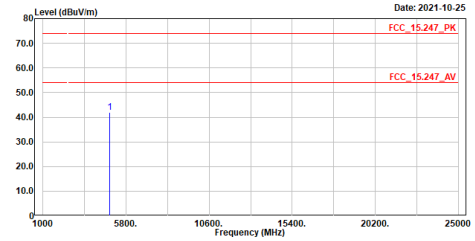
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	43.21	74.00	-30.79	42.63	0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

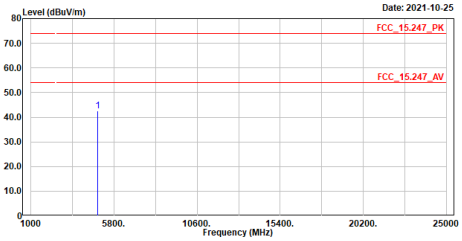
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_b_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.91	74.00	-32.09	41.29	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

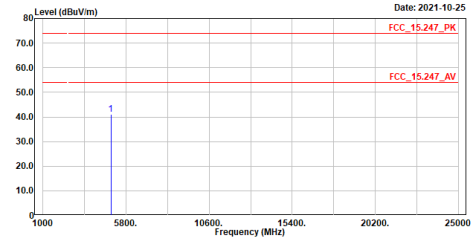
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_b_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	42.70	74.00	-31.30	42.08	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

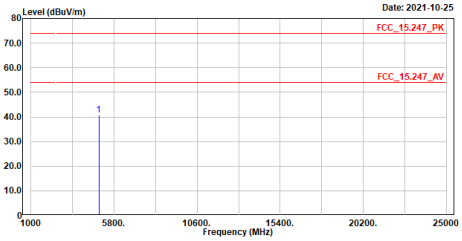
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	41.13	74.00	-32.87	40.52	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

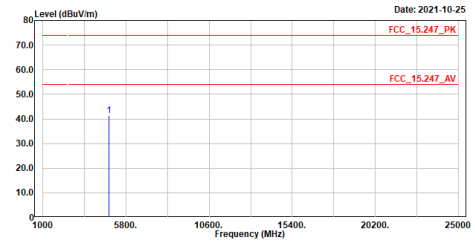
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	40.79	74.00	-33.21	40.18	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

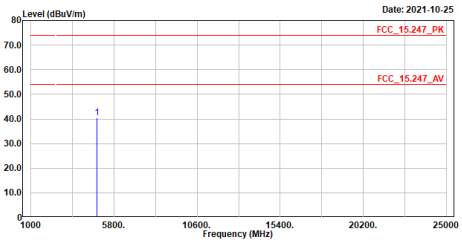
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	41.38	74.00	-32.62	40.80	0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

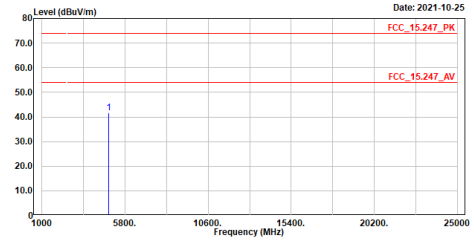
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	40.57	74.00	-33.43	40.00	0.57	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

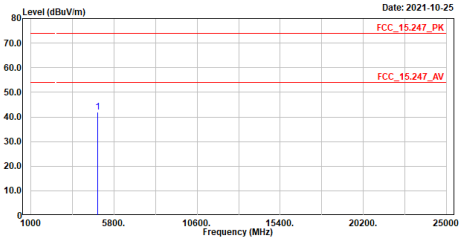
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_g_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.60	74.00	-32.40	40.98	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

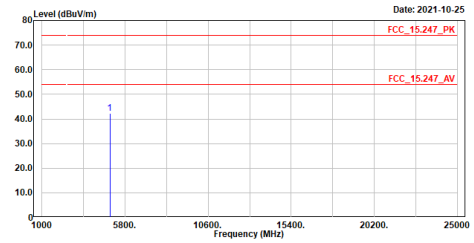
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_g_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.86	74.00	-32.14	41.24	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

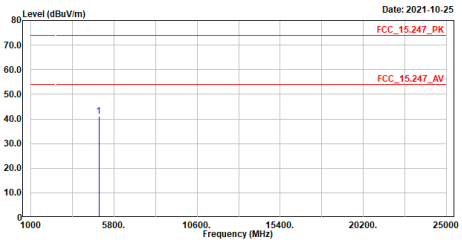
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	42.31	74.00	-31.69	41.70	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

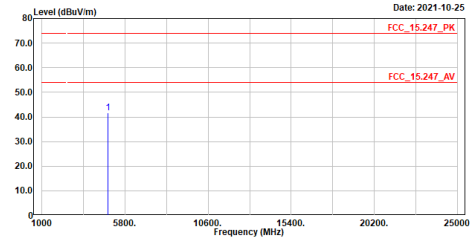
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	41.13	74.00	-32.87	40.52	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

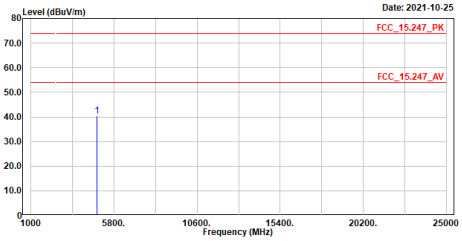
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	41.57	74.00	-32.43	40.99	0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

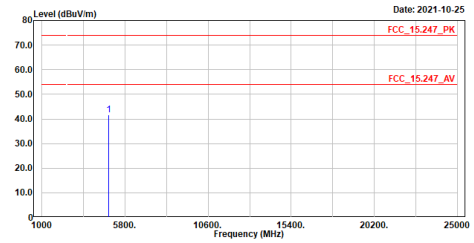
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4824.000	40.46	74.00	-33.54	39.88	0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

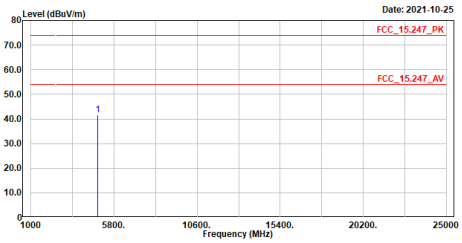
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n20_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.72	74.00	-32.28	41.10	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

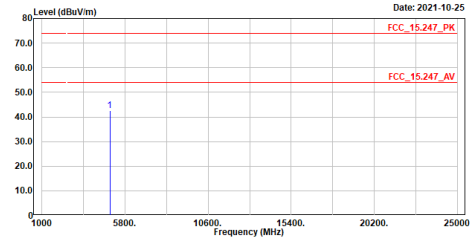
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n20_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.68	74.00	-32.32	41.06	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

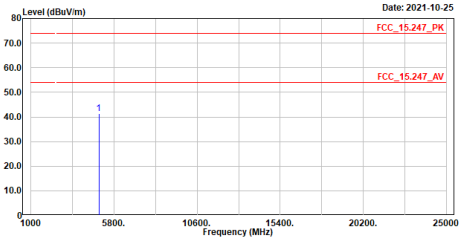
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	42.56	74.00	-31.44	41.95	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

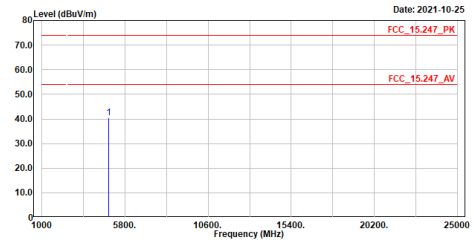
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4924.000	41.46	74.00	-32.54	40.85	0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

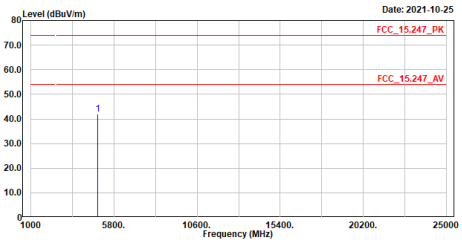
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4844.000	40.41	74.00	-33.59	39.74	0.67	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

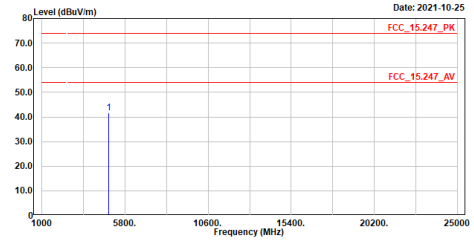
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4844.000	41.91	74.00	-32.09	41.24	0.67	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

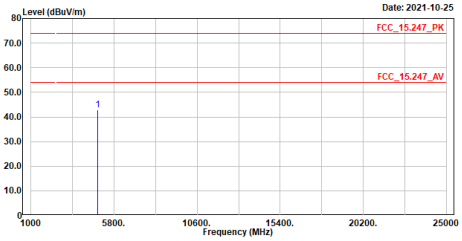
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n40_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	41.66	74.00	-32.34	41.04	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

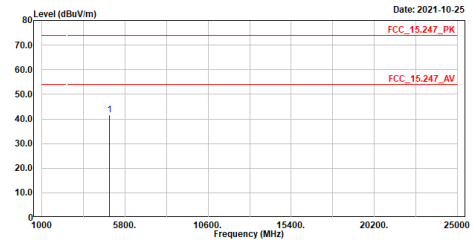
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n40_2437MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4874.000	42.77	74.00	-31.23	42.15	0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

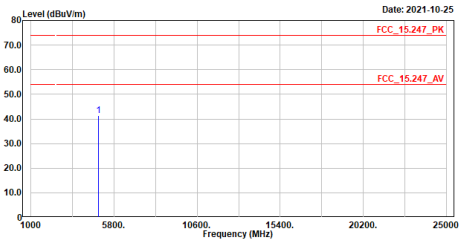
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4904.000	41.63	74.00	-32.37	41.08	0.55	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

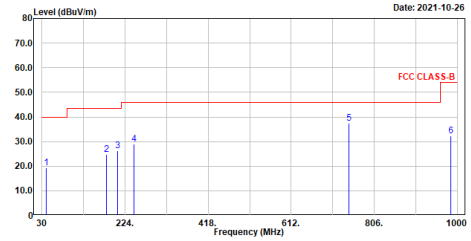
Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4904.000	41.46	74.00	-32.54	40.91	0.55	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

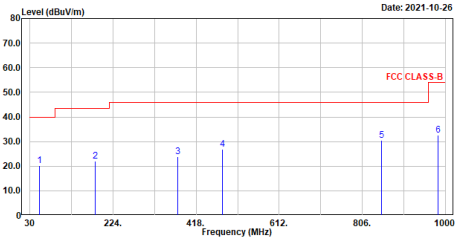
Site :966-3
Condition :3m ,HORIZONTAL
Mode :TX_n40_2437MHz
TEST BY :Ashton Chiu



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	40.670	19.29	40.00	-20.71	31.24	-11.95	QP
2	181.320	24.69	43.50	-18.81	37.38	-12.69	QP
3	206.540	26.14	43.50	-17.36	40.11	-13.97	QP
4	245.340	28.85	46.00	-17.15	41.19	-12.34	QP
5	746.830	37.48	46.00	-8.52	38.83	-1.35	QP
6	984.480	32.19	54.00	-21.81	31.02	1.17	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

Site :966-3
Condition :3m ,VERTICAL
Mode :TX_n40_2437MHz
TEST BY :Ashton Chiu



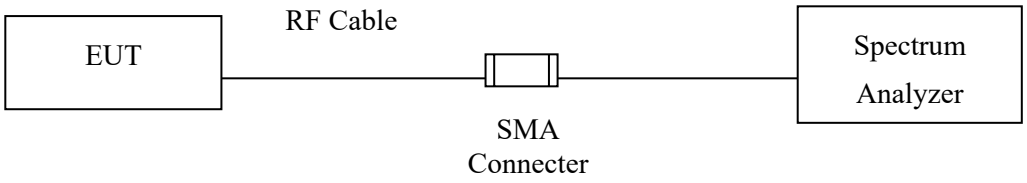
No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	52.310	20.26	40.00	-19.74	32.07	-11.81	QP
2	182.290	22.00	43.50	-21.50	34.78	-12.78	QP
3	375.320	23.73	46.00	-22.27	32.53	-8.80	QP
4	480.080	26.77	46.00	-19.23	33.06	-6.29	QP
5	850.620	30.55	46.00	-15.45	31.00	-0.45	QP
6	983.510	32.70	54.00	-21.30	31.53	1.17	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

3. Band Edge

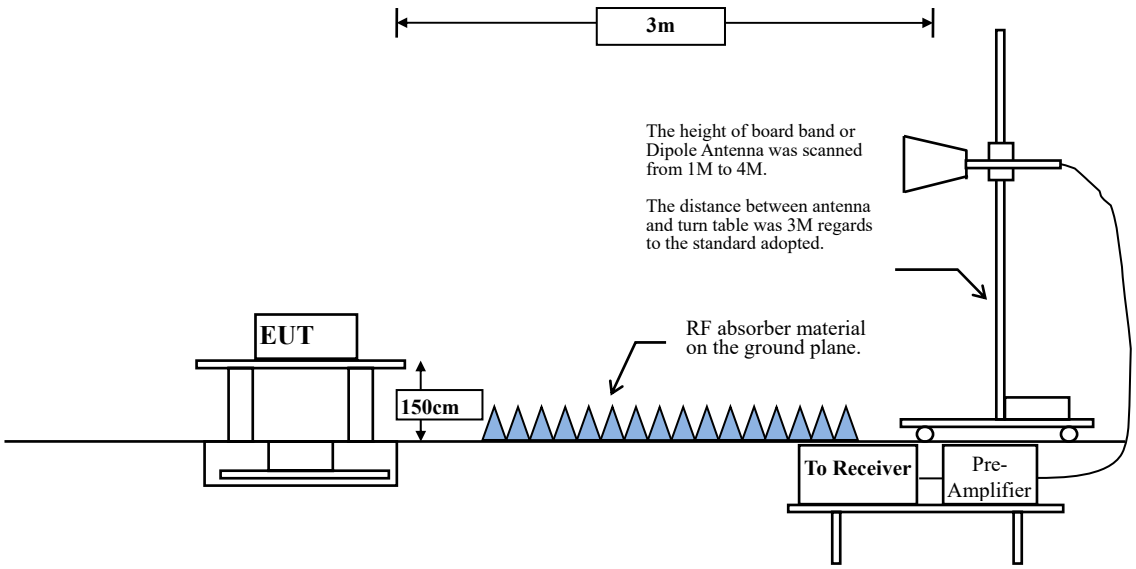
3.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



3.2. Limits

According to FCC Section 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 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, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

3.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to C63.10:2013 Section 11.12.1 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

RBW and VBW Parameter setting:

According to C63.10 Section 11.12.2.4 Peak measurement procedure.

RBW = as specified in Table 1.

VBW ≥ 3 x RBW.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to C63.10 Section 11.12.2.5 Average measurement procedure.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

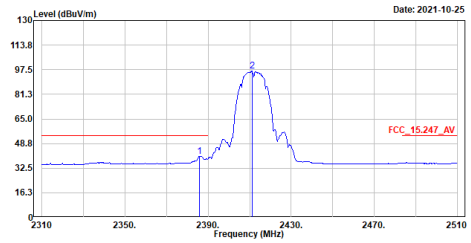
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11b	100.00	1.0000	1000	10
802.11g	98.63	3.1304	319	10
802.11n20	100.00	1.0000	1000	10
802.11n40	98.65	4.7609	210	10

Note: Duty Cycle Refer to Section 4.

3.4. Test Result of Band Edge

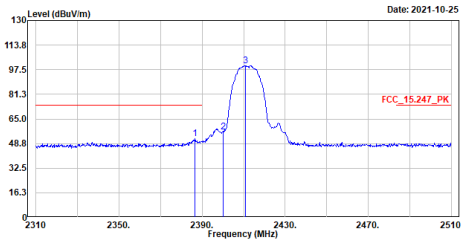
Site :966-3
Condition :3m ,Horizontal
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2386.000	40.46	54.00	-13.54	26.04	14.42	Average
2	2411.200	96.52	------	------	82.09	14.43	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

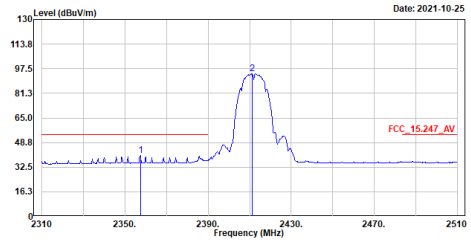
Site :966-3
Condition :3m ,Horizontal
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2386.400	51.77	74.00	-22.23	37.35	14.42	Peak
2	2400.000	56.36	------	------	41.92	14.44	Peak
3	2410.800	100.23	------	------	85.80	14.43	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

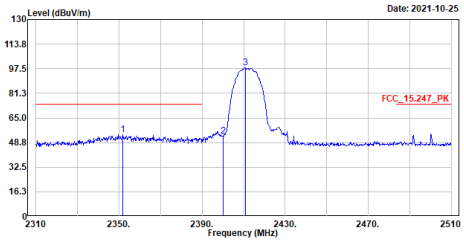
Site :966-3
Condition :3m ,Vertical
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2357.400	40.40	54.00	-13.60	26.02	14.38	Average
2	2411.200	94.31	------	------	79.88	14.43	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

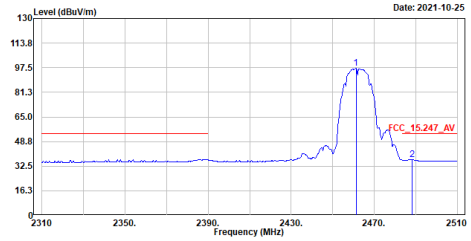
Site :966-3
Condition :3m ,Vertical
Mode :TX_b_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2352.000	53.77	74.00	-20.23	39.40	14.37	Peak
2	2400.000	52.76	------	------	38.32	14.44	Peak
3	2410.800	97.96	------	------	83.53	14.43	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

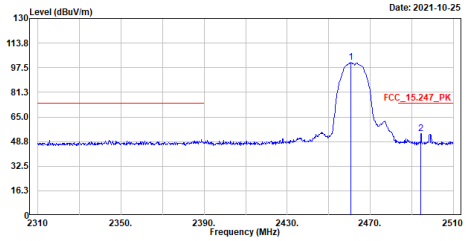
Site :966-3
Condition :3m ,Horizontal
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2461.200	97.11	------	------	82.68	14.43	Average
2	2488.200	37.02	54.00	-16.98	22.54	14.48	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

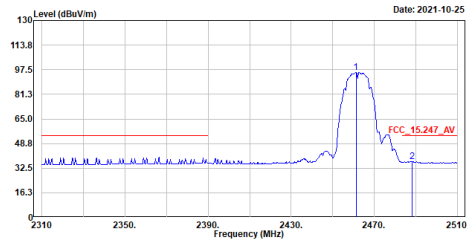
Site :966-3
Condition :3m ,Horizontal
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2460.800	100.83	------	------	86.40	14.43	Peak
2	2494.400	54.04	74.00	-19.96	39.56	14.48	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

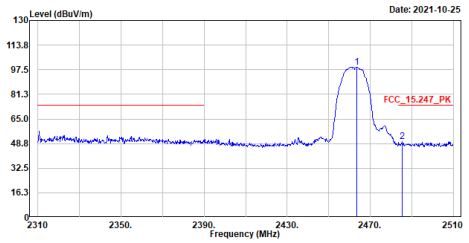
Site :966-3
Condition :3m ,Vertical
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2461.200	95.68	------	------	81.25	14.43	Average
2	2488.200	36.88	54.00	-17.12	22.40	14.48	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

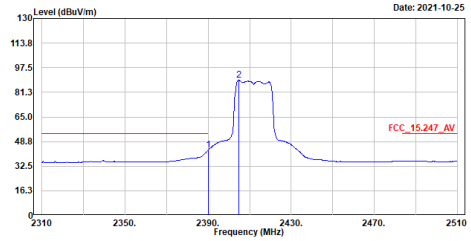
Site :966-3
Condition :3m ,Vertical
Mode :TX_b_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2463.400	99.32	------	------	84.89	14.43	Peak
2	2485.200	50.12	74.00	-23.88	35.66	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

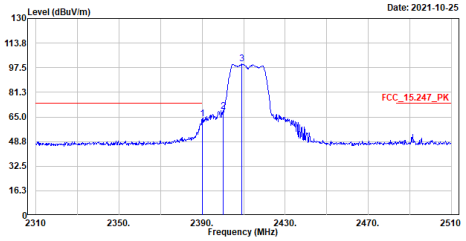
Site :966-3
Condition :3m ,Horizontal
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	43.18	54.00	-10.82	28.76	14.42	Average
2	2404.800	89.09	------	------	74.65	14.44	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

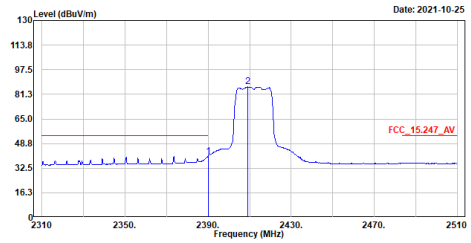
Site :966-3
Condition :3m ,Horizontal
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	63.73	74.00	-10.27	49.31	14.42	Peak
2	2400.000	68.69	------	------	54.25	14.44	Peak
3	2409.200	99.88	------	------	85.45	14.43	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

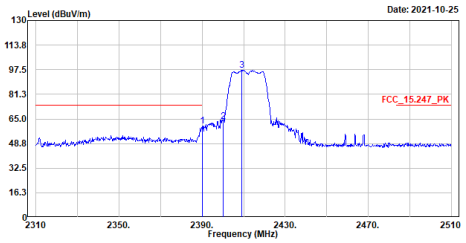
Site :966-3
Condition :3m ,Vertical
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	40.27	54.00	-13.73	25.85	14.42	Average
2	2409.200	86.14	------	------	71.71	14.43	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

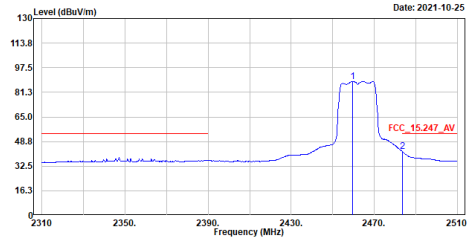
Site :966-3
Condition :3m ,Vertical
Mode :TX_g_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	60.32	74.00	-13.68	45.90	14.42	Peak
2	2400.000	63.18	------	------	48.74	14.44	Peak
3	2409.000	97.30	------	------	82.87	14.43	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

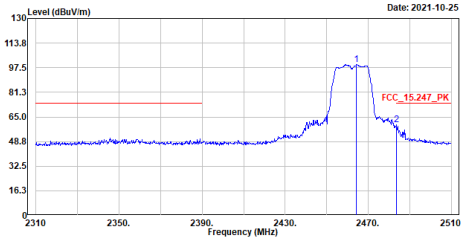
Site :966-3
Condition :3m ,Horizontal
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2459.600	88.40	------	------	73.97	14.43	Average
2	2483.600	42.11	54.00	-11.89	27.65	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

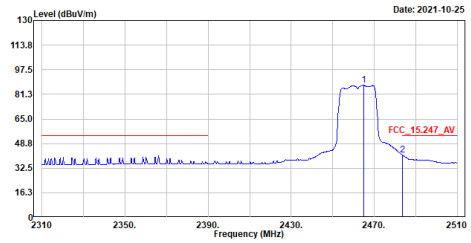
Site :966-3
Condition :3m ,Horizontal
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2464.400	99.73	------	------	85.29	14.44	Peak
2	2483.600	59.69	74.00	-14.31	45.23	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

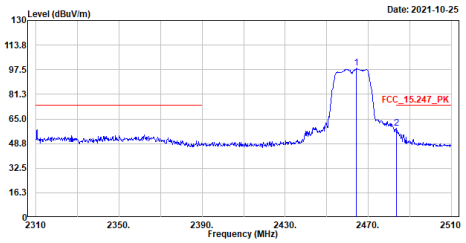
Site :966-3
Condition :3m ,Vertical
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2464.800	87.22	------	------	72.78	14.44	Average
2	2483.600	41.14	54.00	-12.86	26.68	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

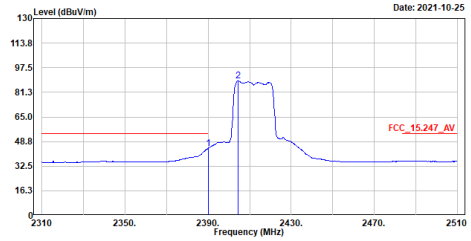
Site :966-3
Condition :3m ,Vertical
Mode :TX_g_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2464.400	98.54	------	------	84.10	14.44	Peak
2	2483.600	58.81	74.00	-15.19	44.35	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

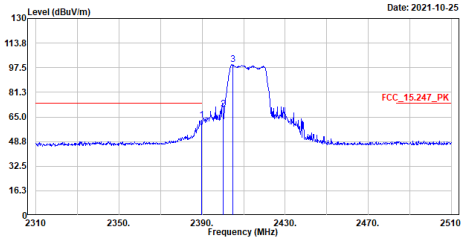
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	44.24	54.00	-9.76	29.82	14.42	Average
2	2404.400	88.71	------	------	74.27	14.44	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

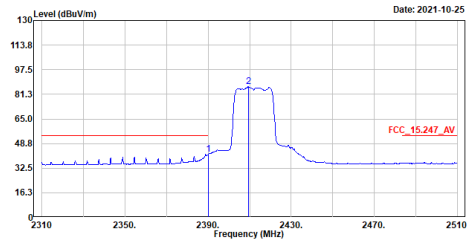
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2389.800	63.03	74.00	-10.97	48.61	14.42	Peak
2	2400.000	70.11	------	------	55.67	14.44	Peak
3	2404.800	99.58	------	------	85.14	14.44	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

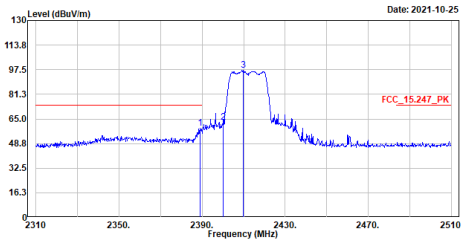
Site :966-3
Condition :3m ,Vertical
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	41.53	54.00	-12.47	27.11	14.42	Average
2	2409.400	86.25	------	------	71.82	14.43	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

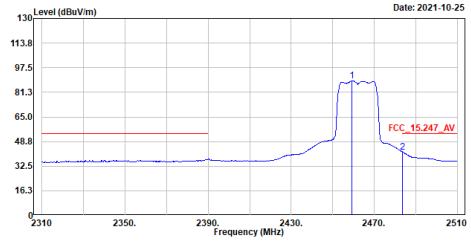
Site :966-3
Condition :3m ,Vertical
Mode :TX_n20_2412MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2389.800	59.10	74.00	-14.90	44.68	14.42	Peak
2	2400.000	62.80	------	------	48.36	14.44	Peak
3	2409.800	97.08	------	------	82.65	14.43	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

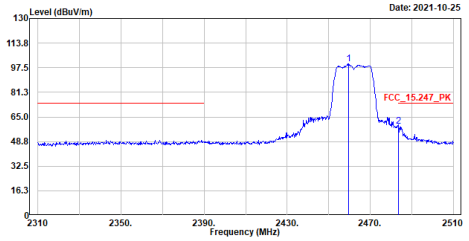
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2459.400	88.76	------	------	74.33	14.43	Average
2	2483.600	41.89	54.00	-12.11	27.43	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

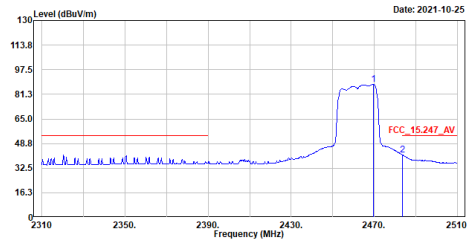
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2459.600	100.10	------	------	85.67	14.43	Peak
2	2483.600	58.98	74.00	-15.02	44.52	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

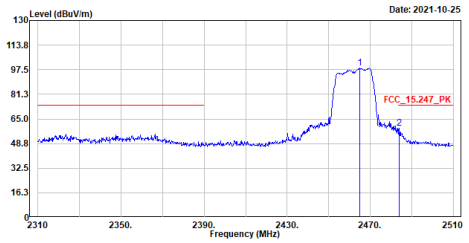
Site :966-3
Condition :3m ,Vertical
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2469.600	87.94	------	------	73.49	14.45	Average
2	2483.600	41.18	54.00	-12.82	26.72	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

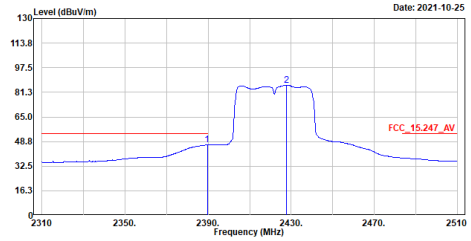
Site :966-3
Condition :3m ,Vertical
Mode :TX_n20_2462MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2464.800	98.46	------	------	84.02	14.44	Peak
2	2483.800	58.66	74.00	-15.34	44.20	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

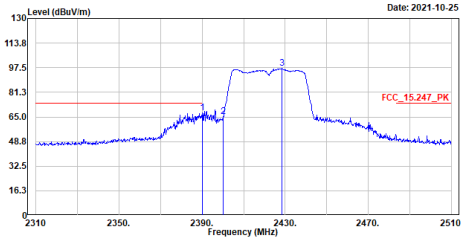
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2389.600	46.72	54.00	-7.28	32.30	14.42	Average
2	2427.800	85.99	------	------	71.57	14.42	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

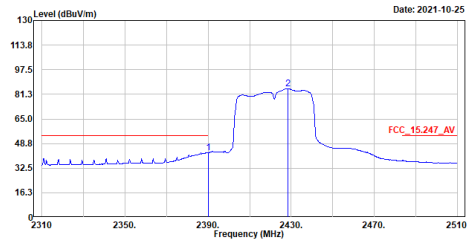
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	67.91	74.00	-6.09	53.49	14.42	Peak
2	2400.000	65.28	------	------	50.84	14.44	Peak
3	2428.400	97.08	------	------	82.66	14.42	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

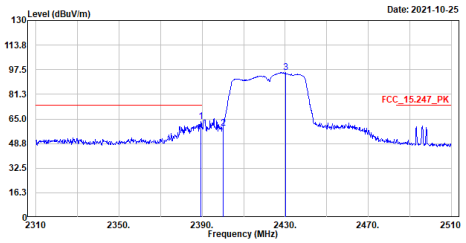
Site :966-3
Condition :3m ,Vertical
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2390.000	42.75	54.00	-11.25	28.33	14.42	Average
2	2428.400	84.87	------	------	70.45	14.42	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

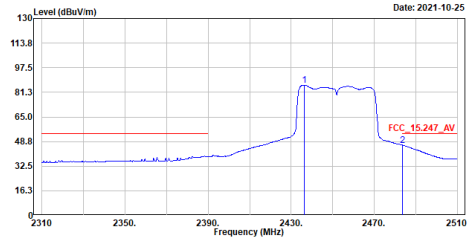
Site :966-3
Condition :3m ,Vertical
Mode :TX_n40_2422MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2389.400	63.22	74.00	-10.78	48.80	14.42	Peak
2	2400.000	58.65	------	------	44.21	14.44	Peak
3	2430.400	95.67	------	------	81.25	14.42	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

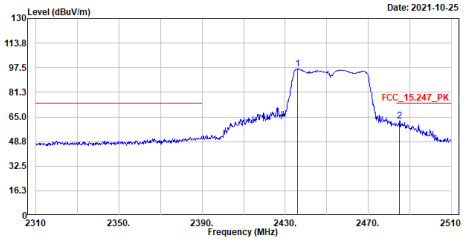
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2436.200	86.07	------	------	71.65	14.42	Average
2	2483.600	46.34	54.00	-7.66	31.88	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

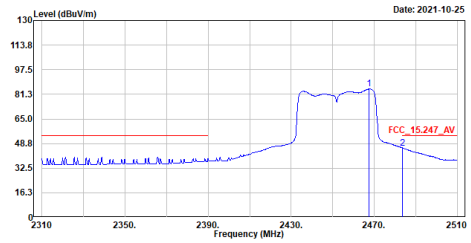
Site :966-3
Condition :3m ,Horizontal
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2435.800	96.71	------	------	82.29	14.42	Peak
2	2485.000	62.49	74.00	-11.51	48.03	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

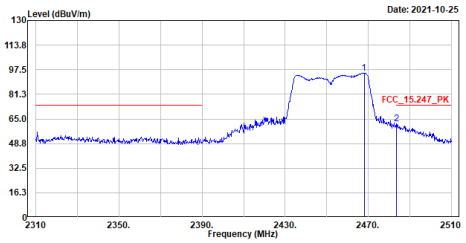
Site :966-3
Condition :3m ,Vertical
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2467.400	84.73	------	------	70.29	14.44	Average
2	2483.600	45.78	54.00	-8.22	31.32	14.46	Average

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

Site :966-3
Condition :3m ,Vertical
Mode :TX_n40_2452MHz
TEST BY :Carlos Chen

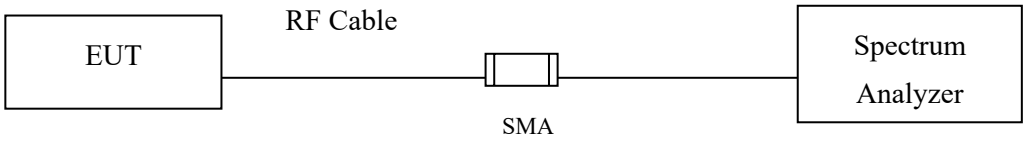


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	2468.000	95.38	------	------	80.94	14.44	Peak
2	2483.600	61.87	74.00	-12.13	47.41	14.46	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

4. Duty Cycle

4.1. Test Setup



4.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to ANSI C63.10 2013 for compliance to FCC 47CFR 15.247 requirements.

4.3. Test Result of Duty Cycle

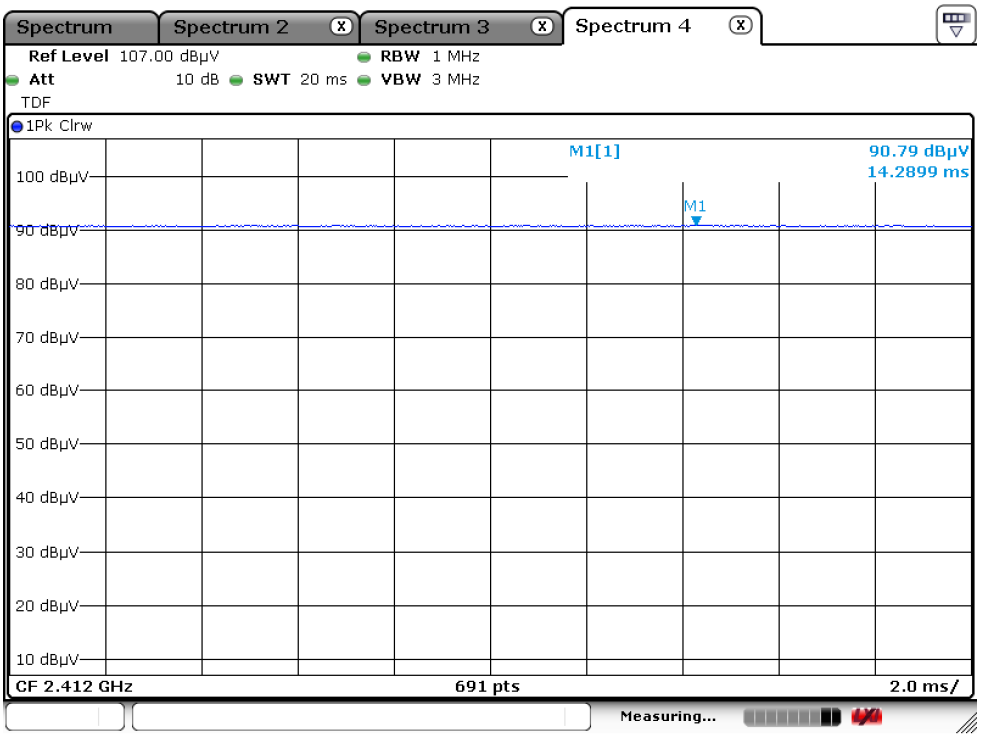
Product : Multimedia device with Bluetooth and WLAN
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:
Duty Cycle = Ton / (Ton + Toff)
Duty Factor = 10 Log (1/Duty Cycle)

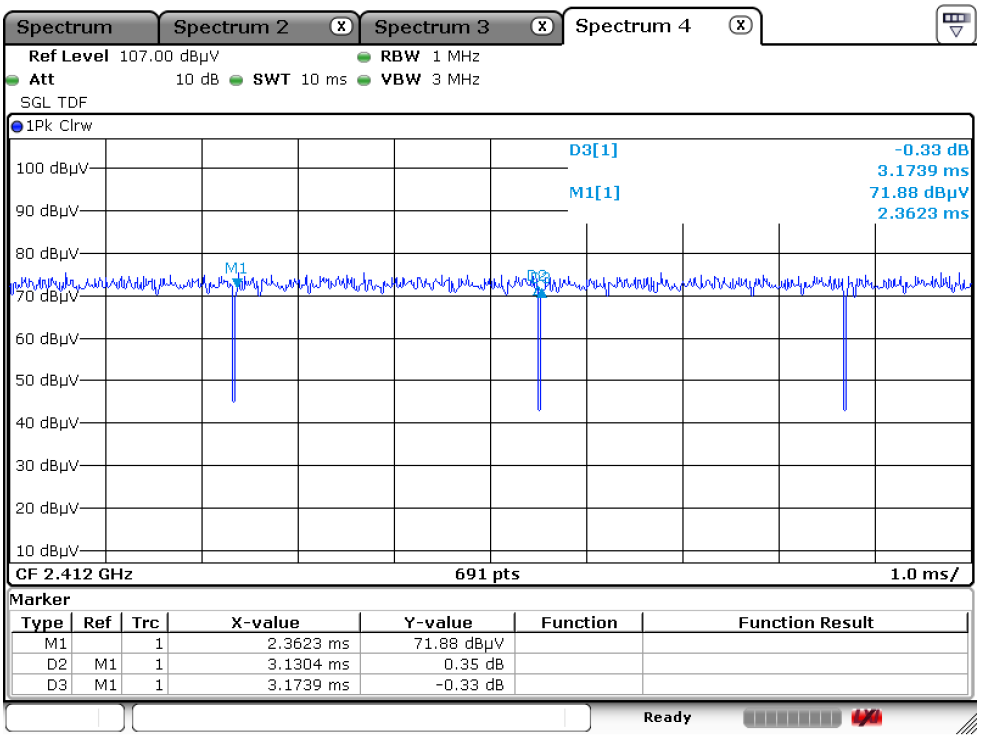
Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	1.0000	1.0000	100.00	0.00
802.11g	3.1304	3.1739	98.63	0.06
802.11n20	1.0000	1.0000	100.00	0.00
802.11n40	4.7609	4.8261	98.65	0.06

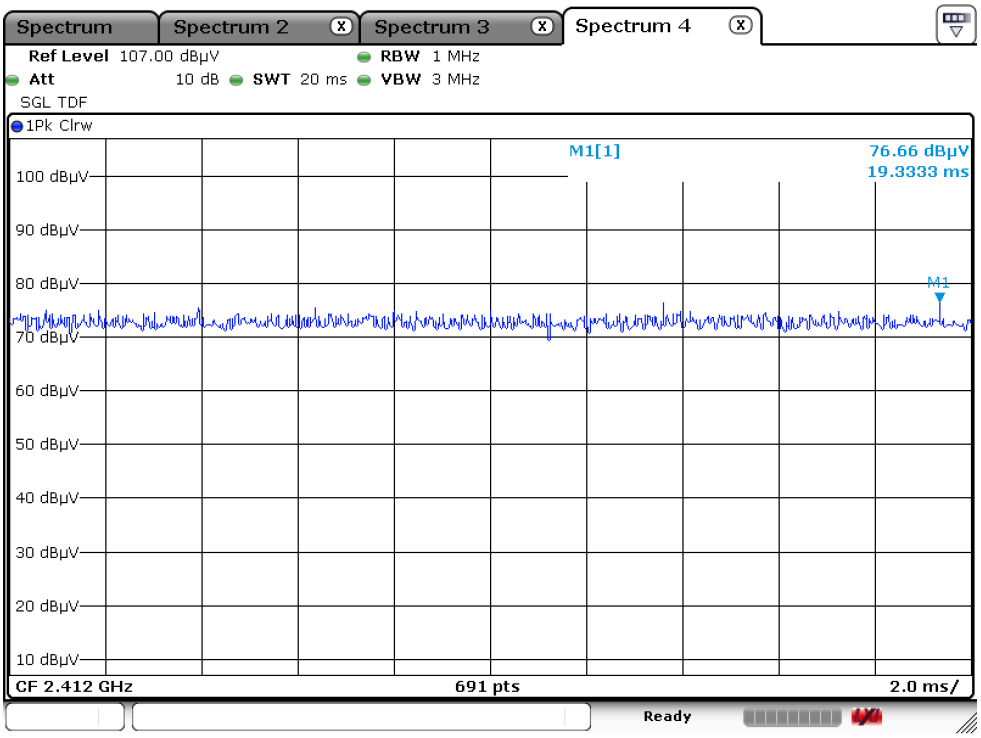
802.11b



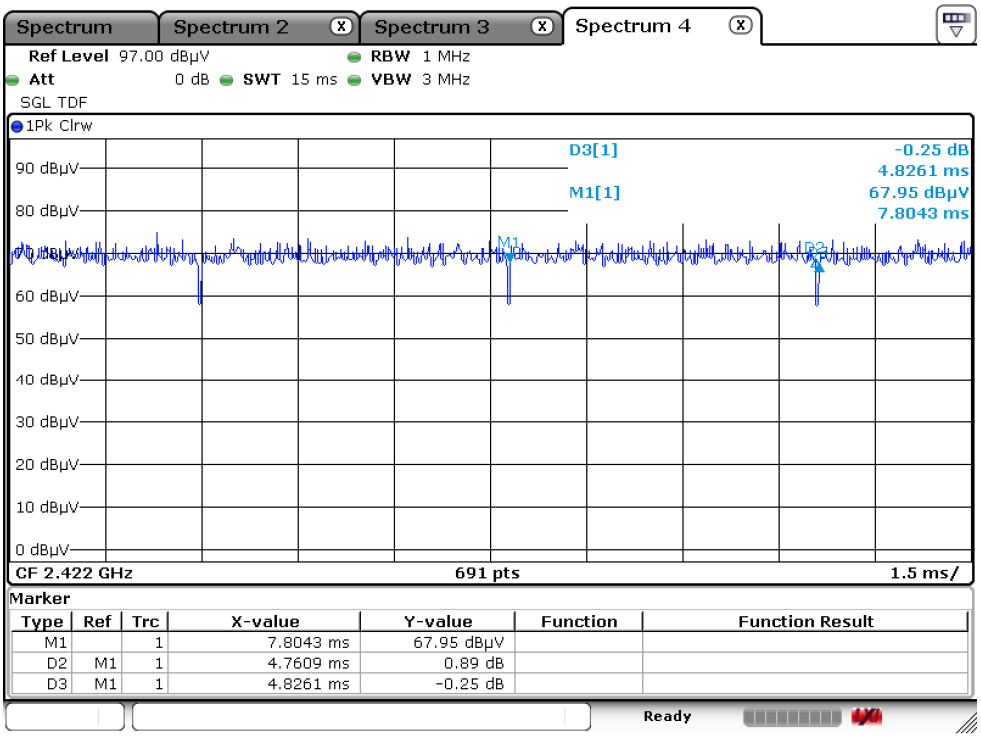
802.11g



802.11n20



802.11n40



5. EMI Reduction Method During Compliance Testing

No modification was made during testing.