FCC Radio Test Report

FCC ID: 2AXU3CC2500A1S

Report No.	:	TB-FCC176406
Applicant	:	Shenzhen Jinghua Displays Electronics Co., Ltd.
Equipment Under Test (EUT)		
EUT Name	:	CC2500A1S RF Module
Model No.	:	CC2500A1S
Series Model No.	:	N/A
Brand Name	:	N/A
Sample ID	:	TBBJ-20200909-12-1#&TBBJ-20200909-12-1#
Receipt Date	:	2020-09-28
Test Date	:	2020-09-29 to 2021-01-19
Issue Date	:	2021-01-20
Standards	:	FCC Part 15, Subpart C 15.249
Test Method	:	ANSI C63.10: 2013
Conclusions	:	**PASS**

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC requirements

Test/Witness Engineer	:	Rebeca	Rebeca
Engineer Supervisor	:	IVAN SU	Ivan Su
Approved & Authorized	:	Ray Lai	Ray Lai

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Revision History

Report No.	Version	Description	Issued Date
TB-FCC176406	Rev.01	Initial issue of report	2021-01-20

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Jinghua Displays Electronics Co., Ltd.
Address	:	Jinghua Displays Park, No.3 Liuhe Road, Longgang District Shenzhen China
Manufacturer	:	Shenzhen Jinghua Displays Electronics Co., Ltd.
Address	:	Jinghua Displays Park, No.3 Liuhe Road, Longgang District Shenzhen China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	CC2500A1S RF Module	
Model No.	:	CC2500A1S	
Model Difference	:	N/A	
Product Description	:	Operation Frequency:	2414.5~2449.5 MHz
		Number of Channel:	8 Channels **see note (2)**
		Output power:	88.83dBuV/m@3m Peak 88.48dBuV/m@3m Avg
		Antenna Gain:	0 dBi PCB Antenna
		Modulation Type:	MSK
Power Rating	:	DC 3.3V.	
Software Version	:	N/A	
Hardware Version	:	V1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

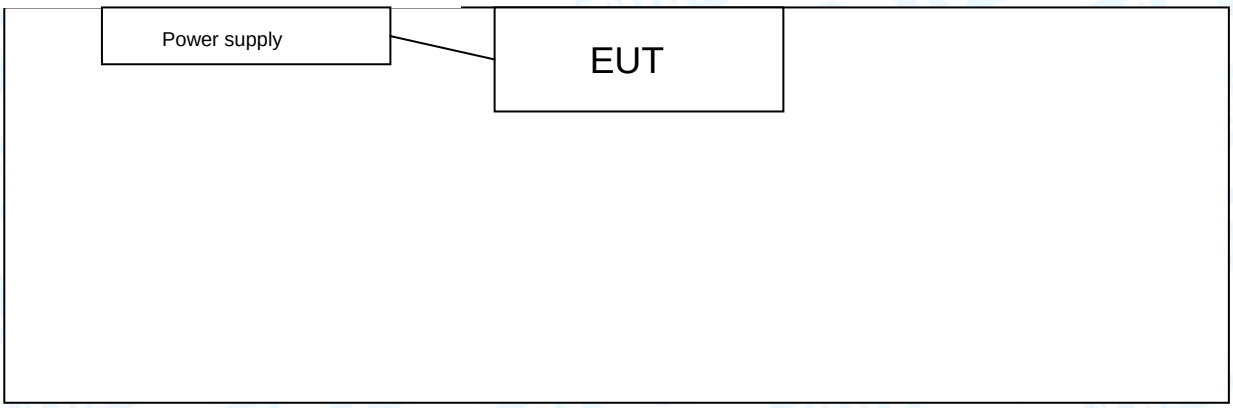
(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

	Channel							
	CH1	**CH2**	**CH3**	**CH4**	**CH5**	**CH6**	**CH7**	**CH8**
FRE	**2414.5MHz**	2419.5MHz	2424.5MHz	**2429.5MHz**	2434.5MHz	2439.5MHz	2444.5MHz	**2449.5MHz**
Note: The Channel 2414.5MHz, 2429.5MHz, 2449.5MHz were selected for test.								

1.3 Block Diagram Showing the Configuration of System Tested

Mode 1: TX Mode



1.4 Description of Support Units

Equipment Information				
Name	**Model No.**	**Serial No.**	**Manufacturer**	**Used "√"**
DC Power Supply	MPS-3005L-3	D806050W	D806050W MATRIX	√

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test	
Final Test Mode	**Description**
Mode 1	Charging+TX Mode
For Radiated Test	
Final Test Mode	**Description**
Mode 1	TX Mode(2414.5MHz/2429.5MHz/2449.5MHz)

Note:

For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

(1)According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels.

(2)During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.

(3) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel & Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF mode.

Product SW/HW Version :	N/A		
Radio SW/HW Version:	N/A		
Test Software Version	Adjust and control the corresponding transmission frequency through the EUT entity key.		
Frequency	2414.5MHz	2429.5MHz	2449.5MHz

1.7 Measurement Uncertainty

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.50 dB ±3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)
The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025：2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351.
Designation Number: CN1223.

IC Registration No.: (11950A)
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A.

2. Test Summary

FCC Part 15 Subpart C(15.249)				
Standard Section	**Test Item**	**Test Sample(s)**	**Judgment**	**Remark**
15.203	Antenna Requirement	TBBJ-20200909-12-1#	PASS	N/A
15.205	Restricted Bands	TBBJ-20200909-12-1#	PASS	N/A
15.207	AC Power Conducted Emission	TBBJ-20200909-12-2#	PASS	N/A
15.249 &15.209	Radiated Spurious Emission	TBBJ-20200909-12-1# TBBJ-20200909-12-2#	PASS	N/A
15.215(C)	20dB Bandwidth	TBBJ-20200909-12-1#	PASS	N/A
Note: N/A is an abbreviation for Not Applicable.				

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
RF Conducted Measurement	MTS-8310	MWRFtest	V2.0.0.0

4. Test Equipment

Conducted Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 06, 2020	Jul. 05, 2021
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 06, 2020	Jul. 05, 2021
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 06, 2020	Jul. 05, 2021
LISN	Rohde & Schwarz	ENV216	101131	Jul. 06, 2020	Jul. 05, 2021
Radiation Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 06, 2020	Jul. 05, 2021
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	BBHA 9170	BBHA9170582	Mar.01, 2020	Feb. 28, 2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 07, 2020	Jul. 06, 2021
Pre-amplifier	Sonoma	310N	185903	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	HP	8449B	3008A00849	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	SKET	LNPA_1840G-50	SK201904032	Mar.01, 2020	Feb. 28, 2021
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.01, 2020	Feb. 28, 2021
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2020	Sep. 10, 2021
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 11, 2020	Sep. 10, 2021
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 11, 2020	Sep. 10, 2021
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 11, 2020	Sep. 10, 2021

5. Conducted Emission Test

5.1 Test Standard and Limit

5.1.1Test Standard

FCC Part 15.207

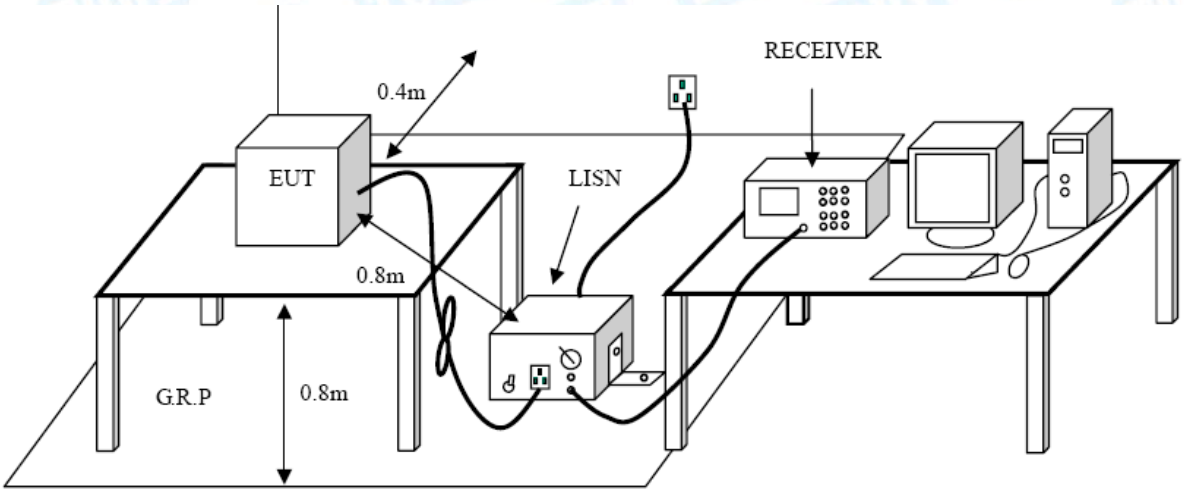
5.1.2 Test Limit

Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:
(1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequencies.
(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2 Test Setup



5.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

5.4 EUT Operating Mode

Please refer to the description of test mode.

5.5 Deviation From Test Standard

No deviation

5.6 Test Data

Please refer to the Attachment A.

6. Radiated Emission Test

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.209

6.1.2 Test Limit

Radiated Emission Limit (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
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

Radiated Emission Limit (Above 1000MHz)

Frequency (MHz)	(dBuV/m)(at 3 M)	
	Peak	Average
Above 1000	74	54

Note:

(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(Uv/m)

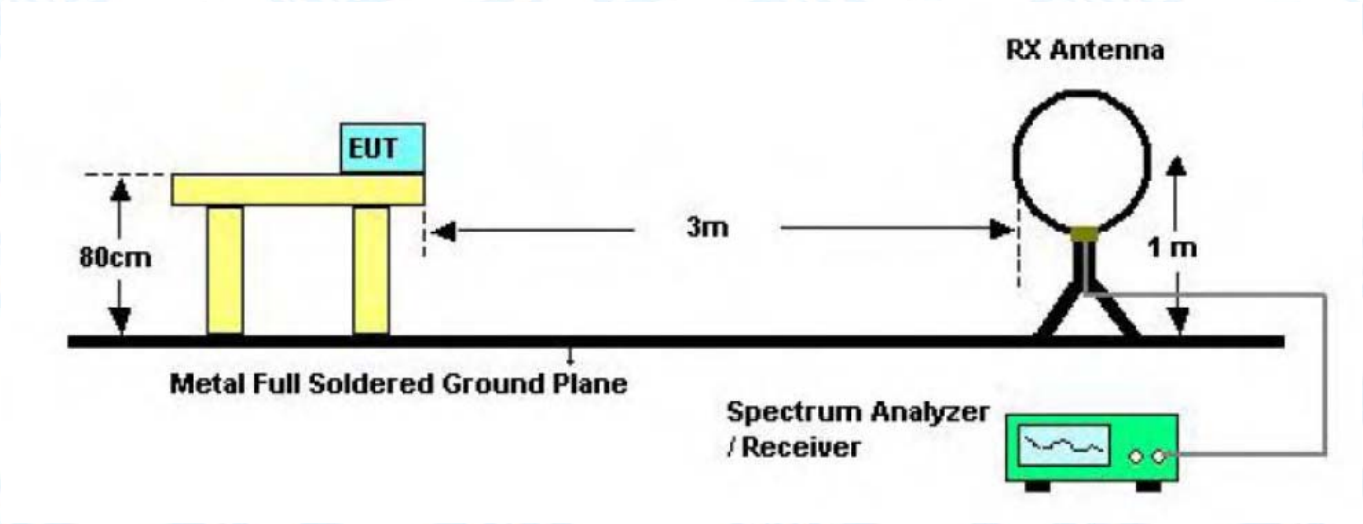
Limits of radiated emission measurement (15.249)

FCC Part 15 (15.249), Subpart C	
Limit	**Frequency Range (MHz)**
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	2400~2483.5
Field strength of fundamental 500 μV/m (54 dBμV/m) @ 3 m	Above 2483.5

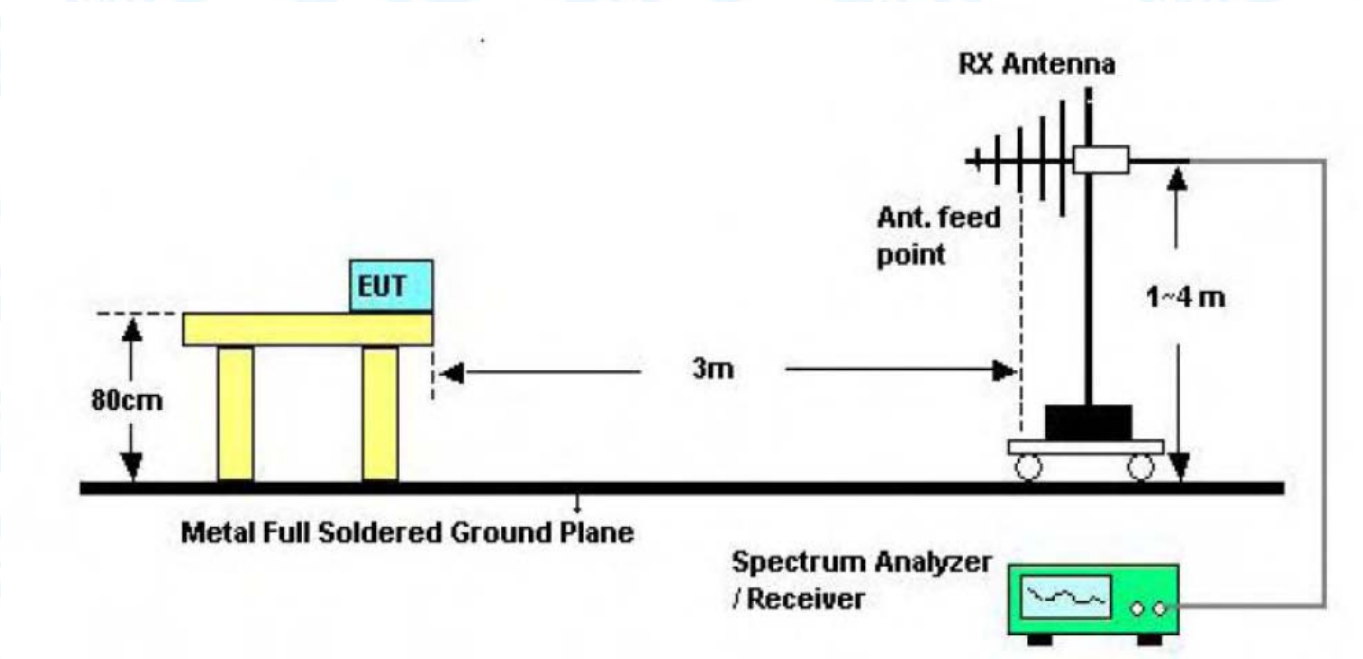
Restricted bands requirement for equipment operating in 2400MHz to 2483.5 MHz (15.249)

Restricted Frequency Band (MHz)	(dBuV/m)(at 3 M)
2310~2390	Attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation
2483.5~2500	

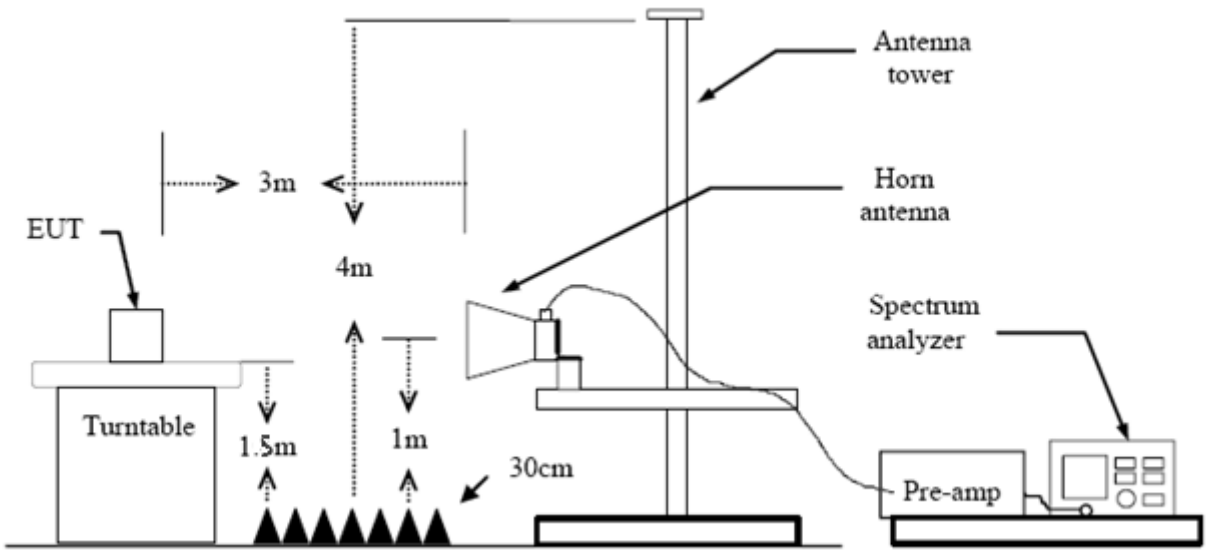
6.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

6.3 Test Procedure

(1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.

(2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.

(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

(4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

(5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

(6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.

(7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

(8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The EUT was set to Continual Transmitting in maximum power, and new batteries are used during testing.

6.5 Deviation From Test Standard

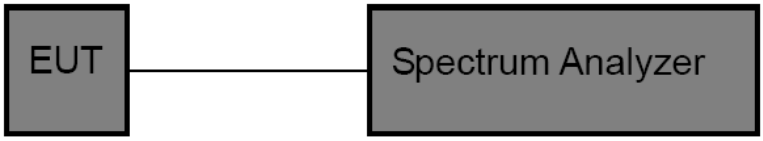
No deviation

6.6 Test Data

Please refer to the Attachment B.

7. Bandwidth Test

7.1 Test Setup



7.2 Test Procedure

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

(2) Spectrum Setting:

Bandwidth: RBW=1%-5% OBW, VBW⩾3RBW.

(3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.

7.3 EUT Operating Condition

The EUT was set to continuously transmitting for the Bandwidth Test.

7.4 Deviation From Test Standard

No deviation

7.5 Test Data

Please refer to the Attachment C.

8. Antenna Requirement

8.1 Standard Requirement

8.1.1 Standard

FCC Part 15.203

8.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

8.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 0 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

8.3 Deviation From Test Standard

No deviation

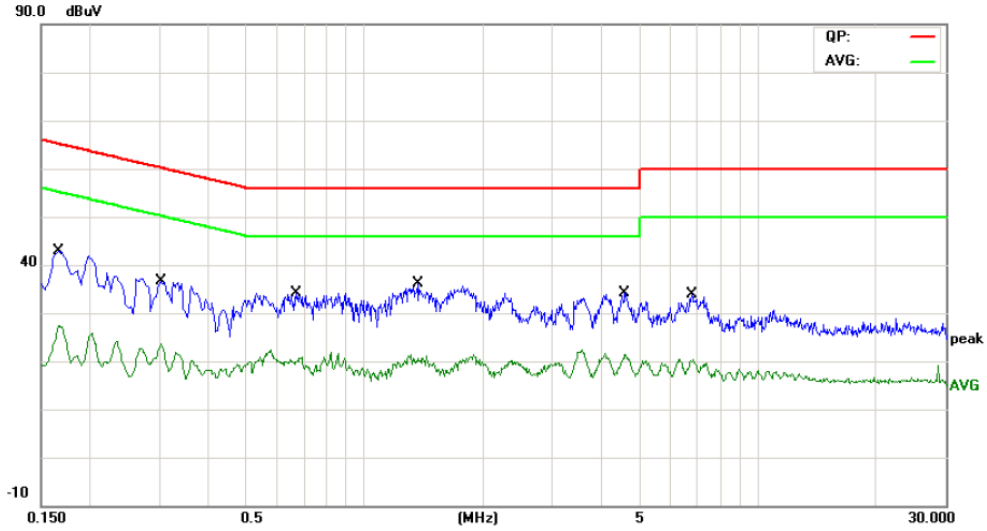
8.4 Result

The EUT antenna is a PCB Antenna. It complies with the standard requirement.

Antenna Type
☑ Permanent attached antenna
☐ Unique connector antenna
☐ Professional installation antenna

Attachment A--Conducted Emission Test Data

Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	AC 120V/60Hz		
Terminal:	Line		
Test Mode:	Charging+TX Mode		
Remark:	Only worse case is reported		

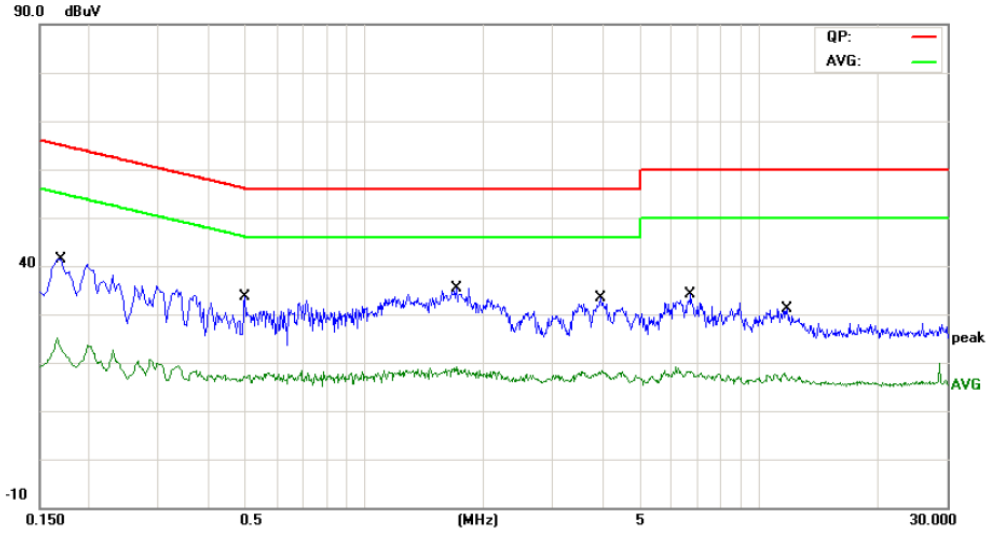


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1660	29.73	9.70	39.43	65.15	-25.72	QP
2		0.1660	15.53	9.70	25.23	55.15	-29.92	AVG
3		0.3020	23.07	9.70	32.77	60.19	-27.42	QP
4		0.3020	13.10	9.70	22.80	50.19	-27.39	AVG
5		0.6700	18.07	9.70	27.77	56.00	-28.23	QP
6		0.6700	9.41	9.70	19.11	46.00	-26.89	AVG
7		1.3660	20.37	9.76	30.13	56.00	-25.87	QP
8		1.3660	10.04	9.76	19.80	46.00	-26.20	AVG
9		4.5860	16.71	9.90	26.61	56.00	-29.39	QP
10		4.5860	10.16	9.90	20.06	46.00	-25.94	AVG
11		6.7980	17.09	9.81	26.90	60.00	-33.10	QP
12		6.7980	9.56	9.81	19.37	50.00	-30.63	AVG

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	AC 120V/60Hz		
Terminal:	Neutral		
Test Mode:	Charging+TX Mode		
Remark:	Only worse case is reported		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1700	27.83	9.80	37.63	64.96	-27.33	QP
2		0.1700	13.21	9.80	23.01	54.96	-31.95	AVG
3		0.4980	14.82	9.80	24.62	56.03	-31.41	QP
4		0.4980	6.31	9.80	16.11	46.03	-29.92	AVG
5	*	1.7100	19.64	9.80	29.44	56.00	-26.56	QP
6		1.7100	7.81	9.80	17.61	46.00	-28.39	AVG
7		3.9820	16.22	9.80	26.02	56.00	-29.98	QP
8		3.9820	7.58	9.80	17.38	46.00	-28.62	AVG
9		6.7060	16.81	9.89	26.70	60.00	-33.30	QP
10		6.7060	7.54	9.89	17.43	50.00	-32.57	AVG
11		11.7700	12.40	9.94	22.34	60.00	-37.66	QP
12		11.7700	5.91	9.94	15.85	50.00	-34.15	AVG

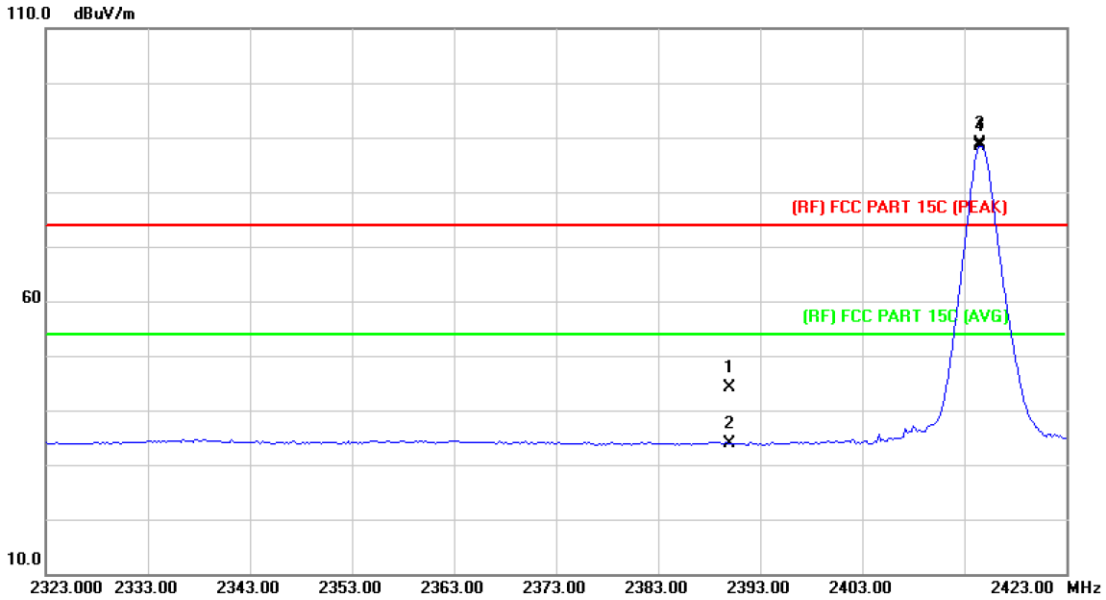
*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

Attachment B-- Radiated Emission Test Data

Field Strength of the Fundamental

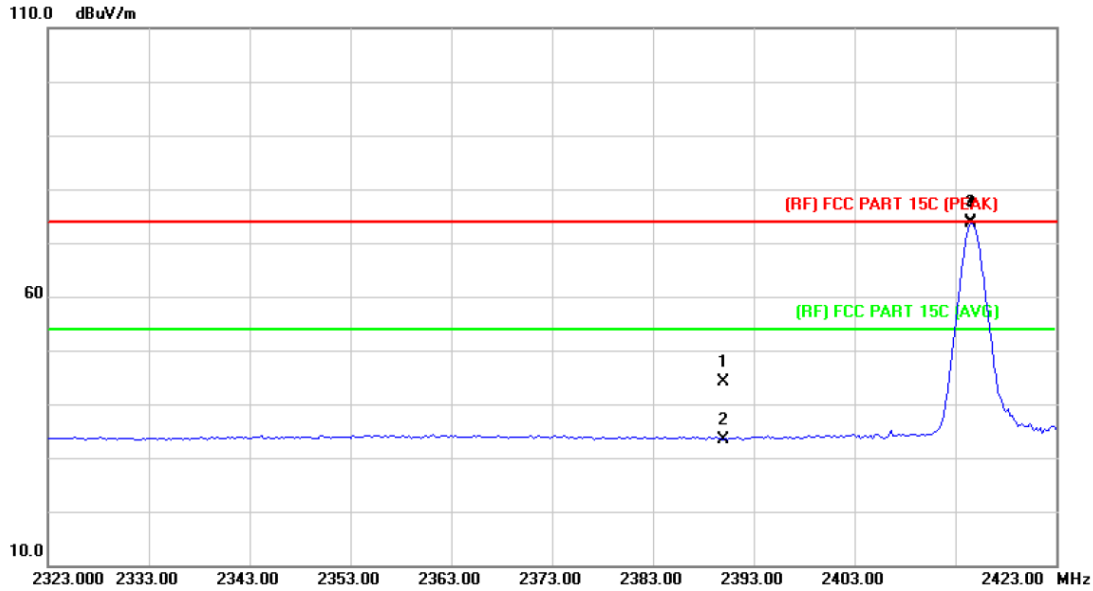
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2414.5MHz		
Remark:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	42.92	1.28	44.20	74.00	-29.80	peak
2		2390.000	32.64	1.28	33.92	54.00	-20.08	AVG
3	X	2414.600	87.42	1.41	88.83	**114.00**	**-25.17**	peak
4	*	2414.600	87.07	1.41	88.48	**94.00**	**-5.52**	AVG

Emission Level= Read Level+ Correct Factor

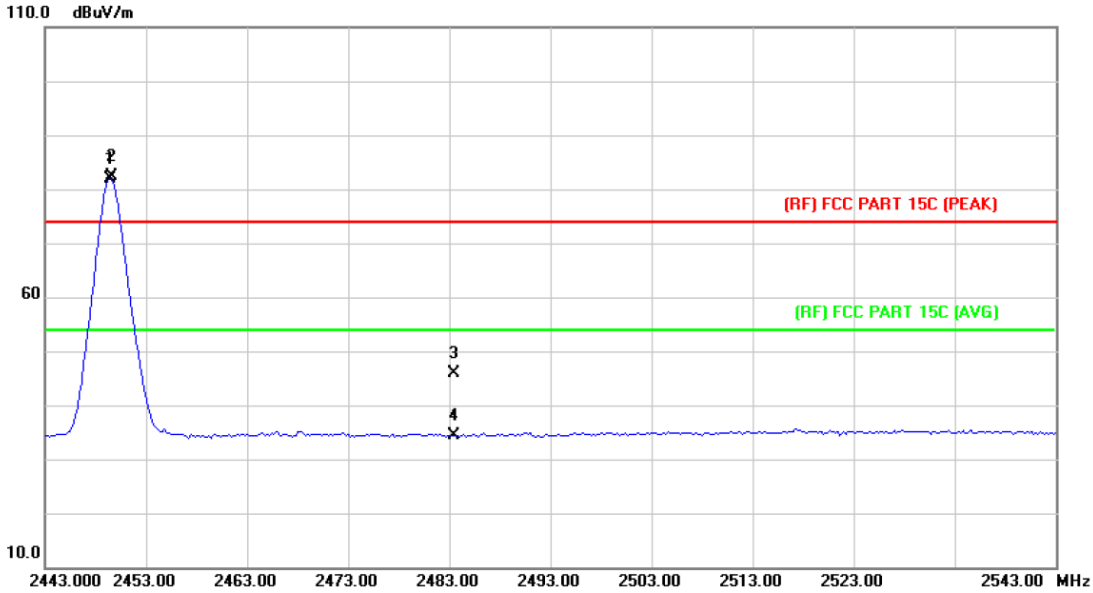
Temperature:	23.5 ℃	Relative Humidity:	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX 2414.5MHz		
Remark:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	42.86	1.28	44.14	74.00	-29.86	peak
2		2390.000	32.18	1.28	33.46	54.00	-20.54	AVG
3		2414.600	72.55	1.41	73.96	**114.00**	**-40.04**	peak
4	*	2414.600	72.20	1.41	73.61	**94.00**	**-20.39**	AVG

Emission Level= Read Level+ Correct Factor

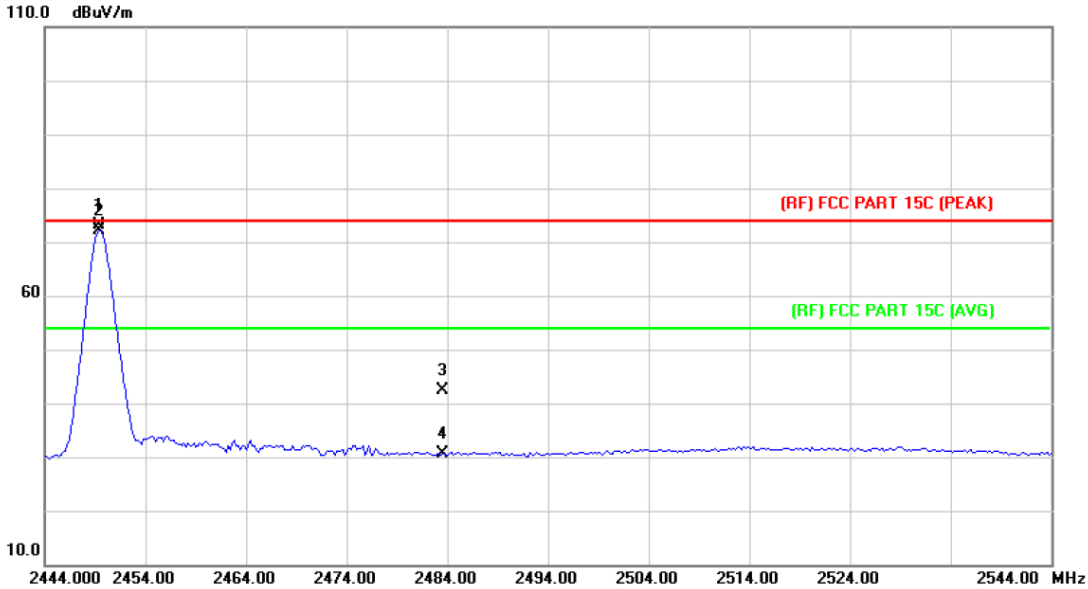
Temperature:	23.5 ℃	Relative Humidity:	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2449.5MHz		
Remark:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2449.400	80.20	1.65	81.85	**94.00**	**-12.15**	AVG
2	X	2449.600	80.63	1.65	82.28	**114.00**	**-31.72**	peak
3		2483.500	43.90	1.88	45.78	74.00	-28.22	peak
4		2483.500	32.41	1.88	34.29	54.00	-19.71	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	23.5 ℃	Relative Humidity:	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX 2449.5MHz		
Remark:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2449.400	71.37	1.65	73.02	**114.00**	**-40.98**	peak
2	*	2449.400	70.42	1.65	72.07	**94.00**	**-21.93**	AVG
3		2483.500	40.44	1.88	42.32	74.00	-31.68	peak
4		2483.500	28.87	1.88	30.75	54.00	-23.25	AVG

Emission Level= Read Level+ Correct Factor

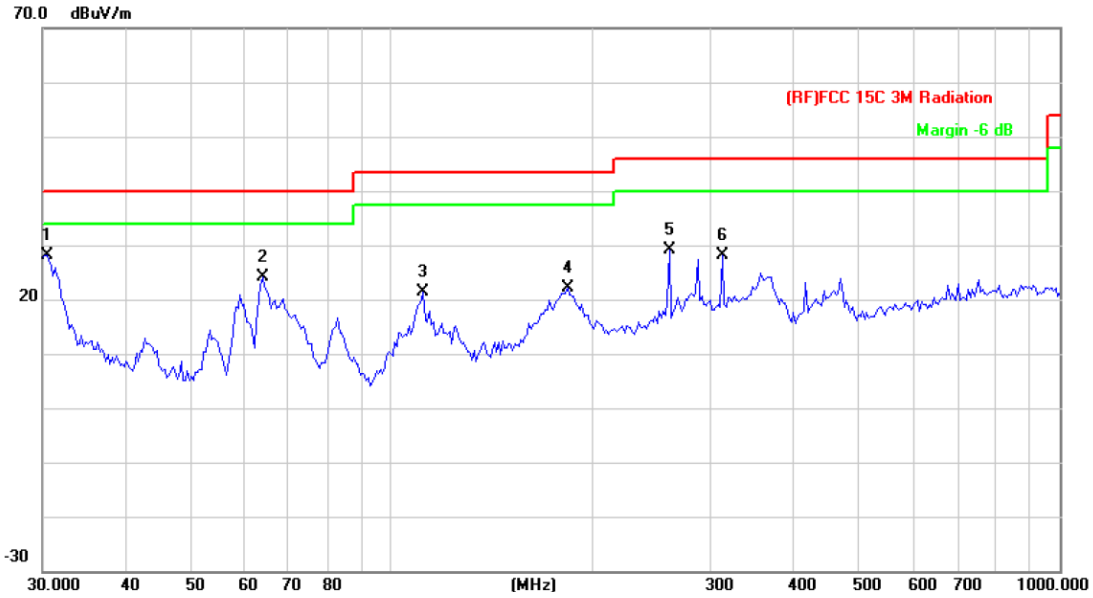
9 KHz to 30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz-1GHz

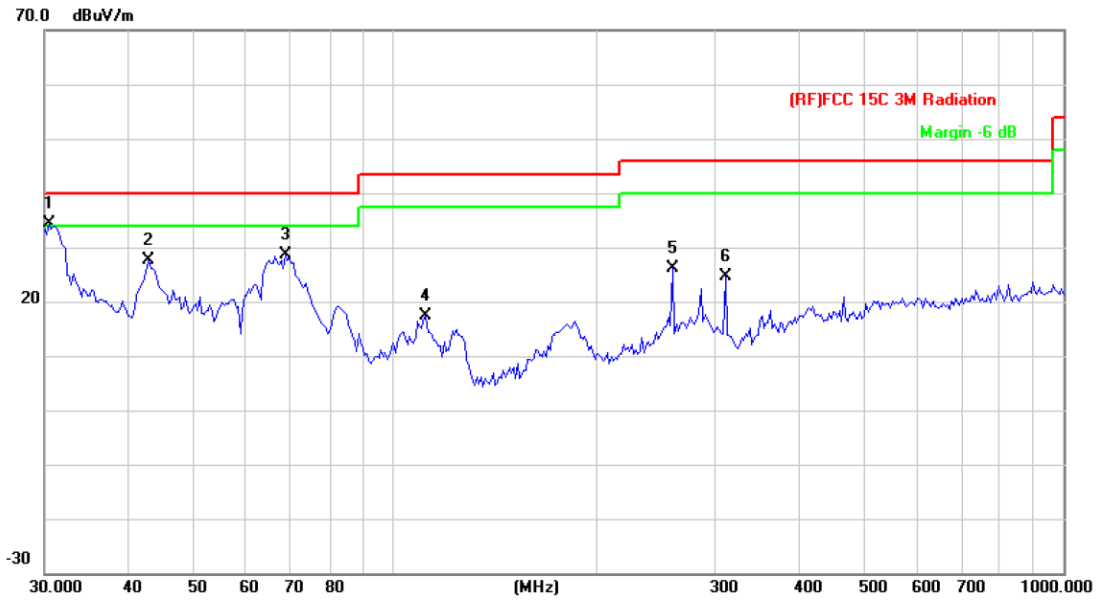
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	30.4238	41.49	-13.27	28.22	40.00	-11.78	peak
2		63.9828	48.02	-23.89	24.13	40.00	-15.87	peak
3		111.3468	43.57	-22.28	21.29	43.50	-22.21	peak
4		183.2005	42.10	-20.01	22.09	43.50	-21.41	peak
5		260.1444	46.11	-17.03	29.08	46.00	-16.92	peak
6		312.1794	44.13	-15.88	28.25	46.00	-17.75	peak

Emission Level= Read Level+ Correct Factor

Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX Mode		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		

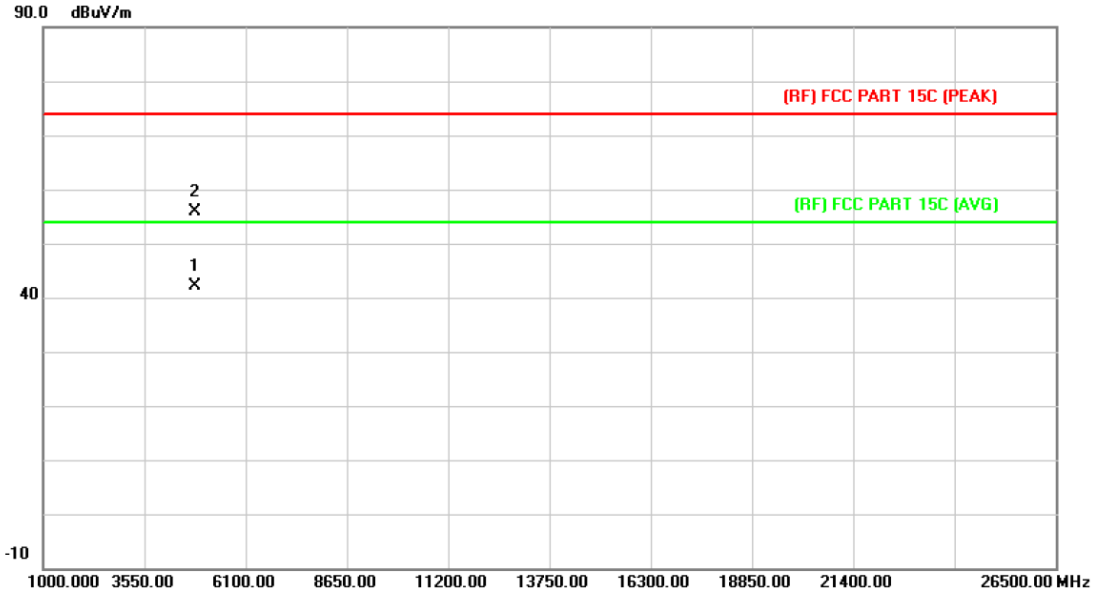


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	30.4238	47.53	-13.27	34.26	40.00	-5.74	peak
2		42.8998	48.10	-20.40	27.70	40.00	-12.30	peak
3		68.6310	52.05	-23.51	28.54	40.00	-11.46	peak
4		111.3468	39.57	-22.28	17.29	43.50	-26.21	peak
5		260.1444	43.13	-17.03	26.10	46.00	-19.90	peak
6		312.1794	40.54	-15.88	24.66	46.00	-21.34	peak

Emission Level= Read Level+ Correct Factor

Radiated Spurious Emission (Above 1 GHz)

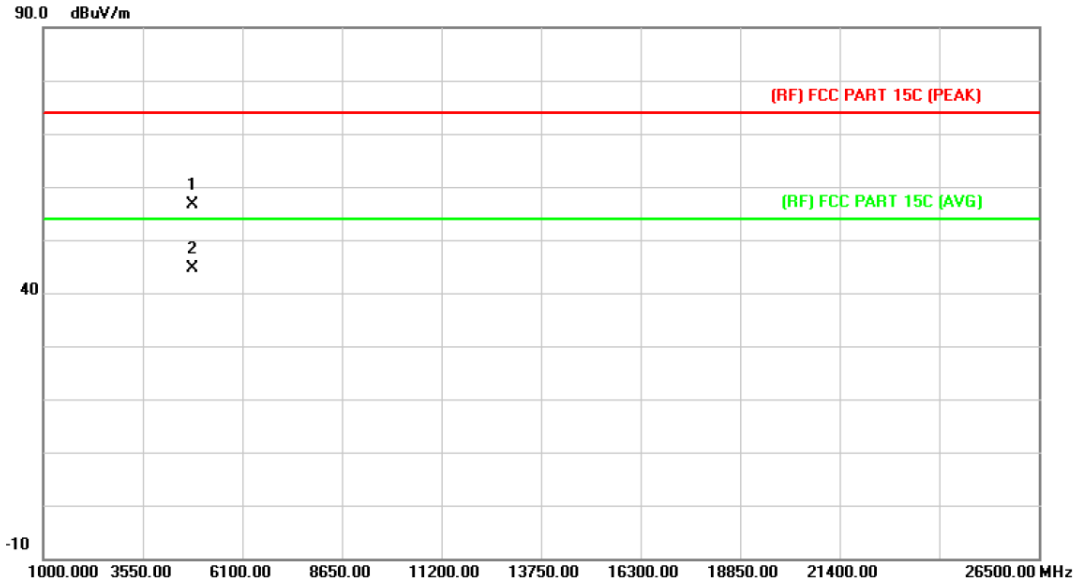
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2414.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4828.782	28.97	13.19	42.16	54.00	-11.84	AVG
2		4828.950	42.79	13.19	55.98	74.00	-18.02	peak

Emission Level= Read Level+ Correct Factor

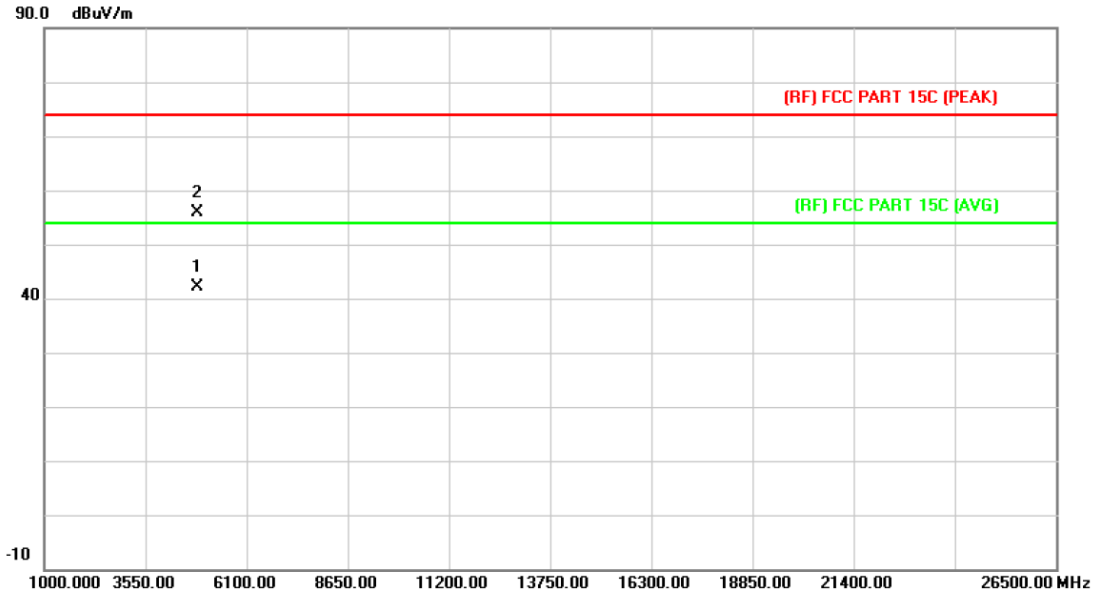
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX 2414.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4828.730	43.49	13.19	56.68	74.00	-17.32	peak
2	*	4828.946	31.46	13.19	44.65	54.00	-9.35	AVG

Emission Level= Read Level+ Correct Factor

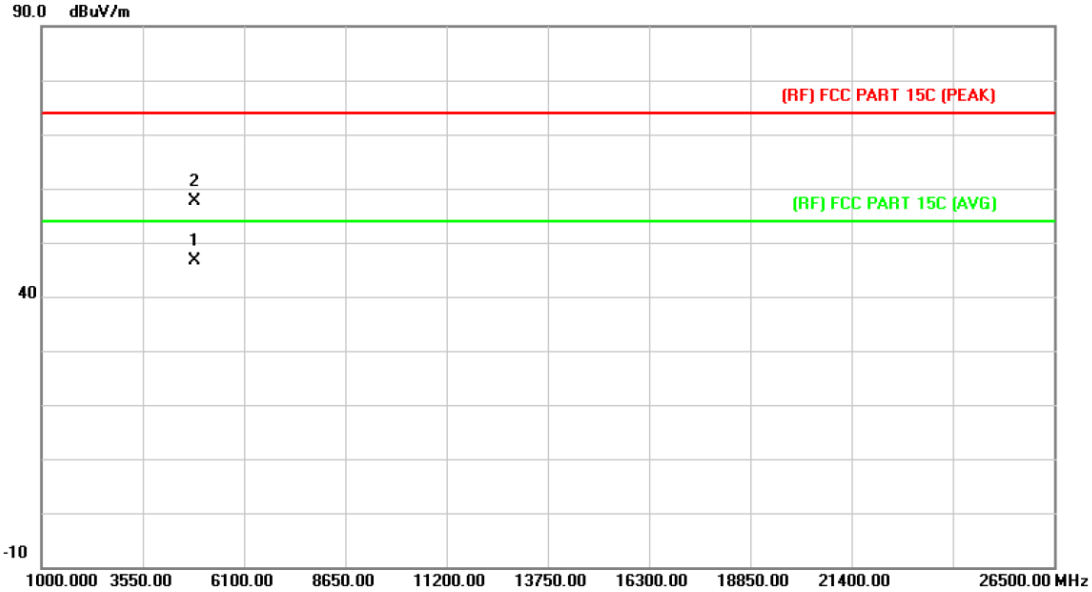
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2429.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4859.120	28.83	13.42	42.25	54.00	-11.75	AVG
2		4859.306	42.53	13.42	55.95	74.00	-18.05	peak

Emission Level= Read Level+ Correct Factor

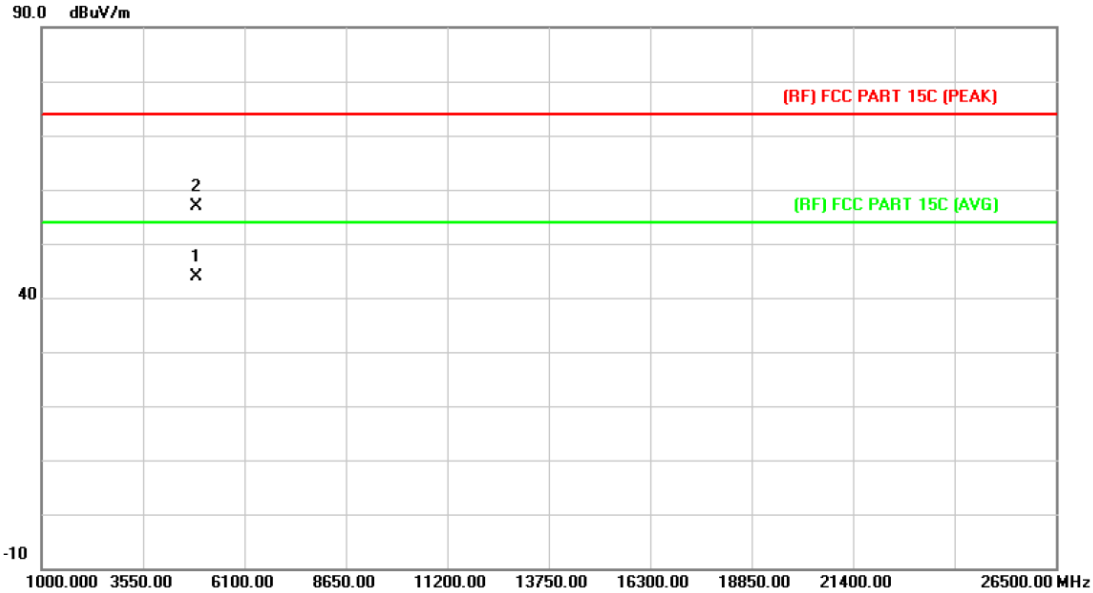
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX 2429.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4858.948	33.13	13.42	46.55	54.00	-7.45	AVG
2		4859.068	44.19	13.42	57.61	74.00	-16.39	peak

Emission Level= Read Level+ Correct Factor

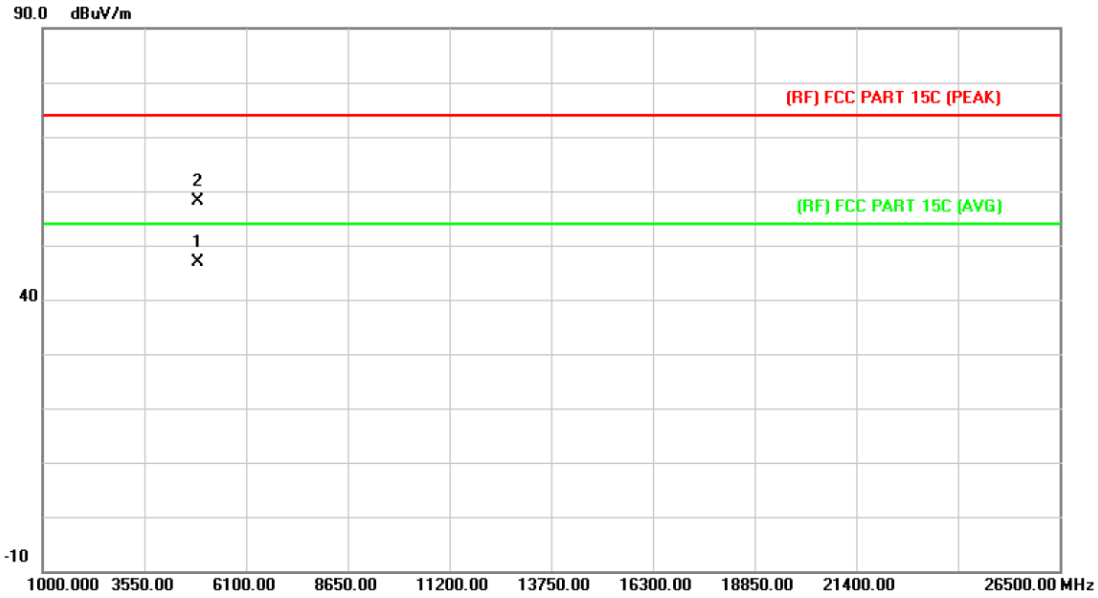
Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2449.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4899.062	30.26	13.72	43.98	54.00	-10.02	AVG
2		4899.354	43.06	13.72	56.78	74.00	-17.22	peak

Emission Level= Read Level+ Correct Factor

Temperature:	23.5 ℃	**Relative Humidity:**	43%
Test Voltage:	DC 3.3V		
Ant. Pol.	Vertical		
Test Mode:	TX 2449.5MHz		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



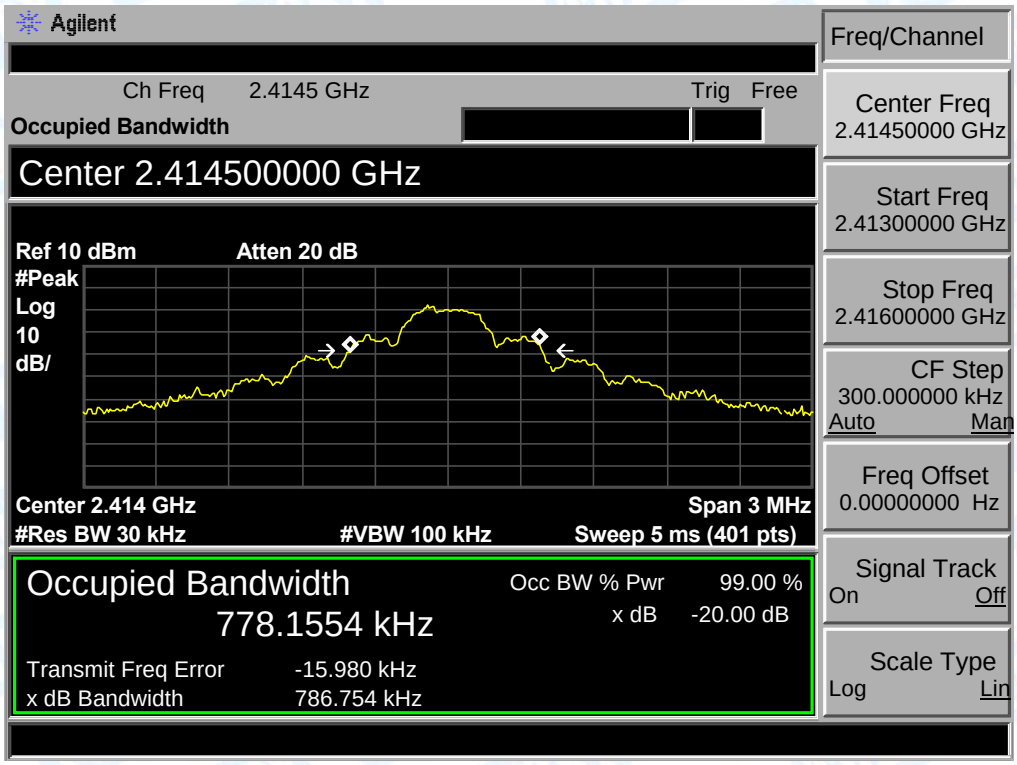
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4899.018	33.25	13.72	46.97	54.00	-7.03	AVG
2		4899.102	44.31	13.72	58.03	74.00	-15.97	peak

Emission Level= Read Level+ Correct Factor

Attachment C--Bandwidth Data

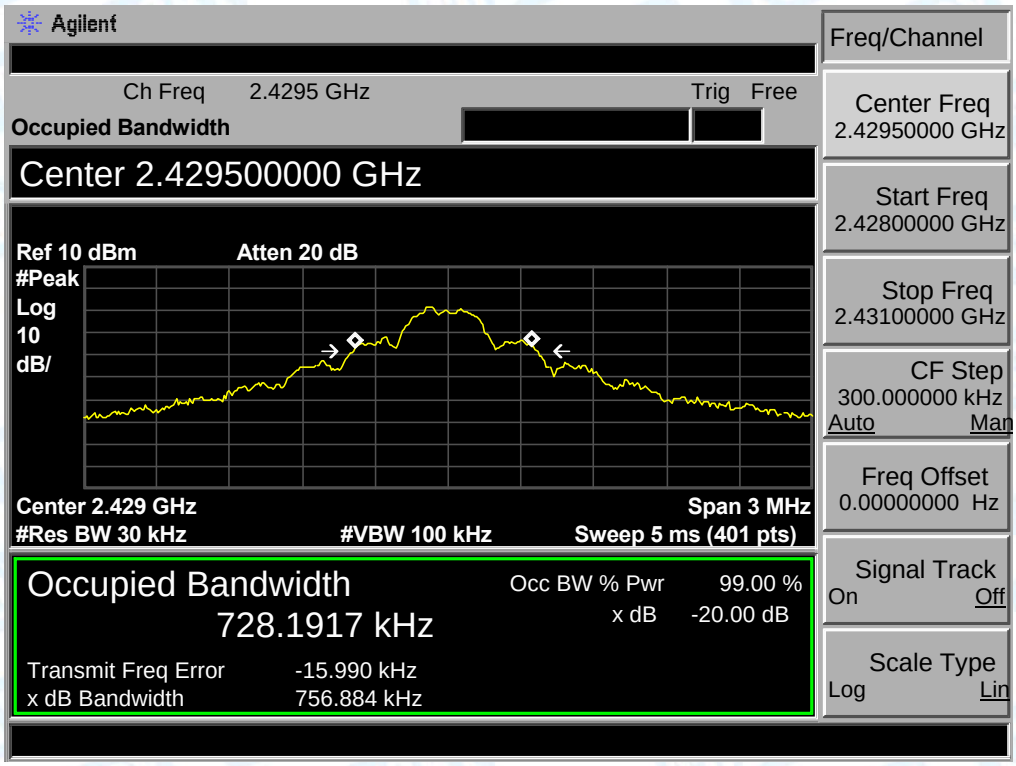
Low Channel Frequency (MHz)	20dB Bandwidth (KHz)
2414.5	786.754

2414.5 MHz



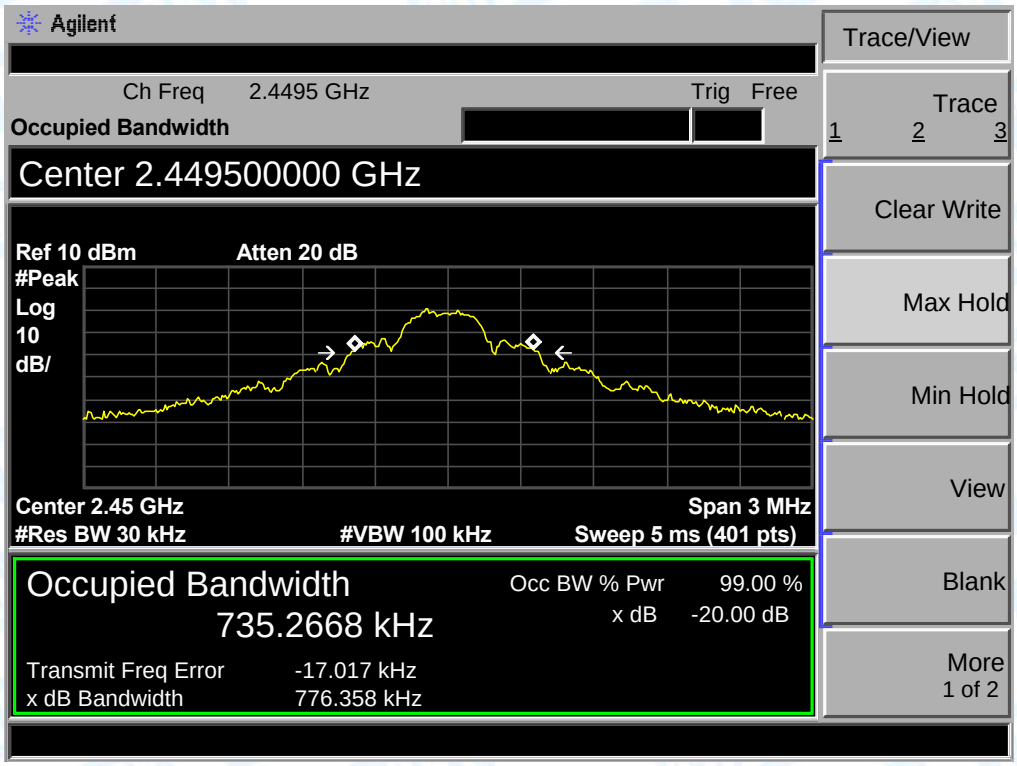
MID Channel Frequency (MHz)	20dB Bandwidth (KHz)
2429.5	756.884

2429.5 MHz



HIGH Channel Frequency (MHz)	20dB Bandwidth (KHz)
2449.5	776.358

2449.5 MHz



-----End of Report----