

TEST REPORT

Report No.:	BCTC2308750920E
Applicant:	Guangdong Laureii Intelligent Technology Co., Ltd
Product Name:	ShortCam_Lite
Model/Type reference:	LC-AS20
Tested Date:	2023-08-08 to 2023-09-15
Issued Date:	2023-09-26
She	enzhen BCTC Testing Co., Ltd.

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FCC ID: 2BCVJ-LC-AS20

Product Name:	ShortCam_Lite		
Trademark:	LAUREII 朗翼智像		
Model/Type reference:	LC-AS20,LY-AS20		
Prepared For:	Guangdong Laureii Intelligent Technology Co., Ltd		
Address:	Room 215,Building 7,Zhangqi Technology,Business Incubator,No.70, Torch Development Zone, Zhongshan,City, Guangdong,China		
Manufacturer:	Guangdong Laureii Intelligent Technology Co., Ltd		
Address:	Room 215,Building 7,Zhangqi Technology,Business Incubator,No.70, Torch Development Zone, Zhongshan,City, Guangdong,China		
Prepared By:	Shenzhen BCTC Testing Co., Ltd.		
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhanche ng , Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Sample Received Date:	2023-08-08		
Sample tested Date:	2023-08-08 to 2023-09-15		
Report No.:	BCTC2308750920E		
Test Standards:	FCC Part15.247 ANSI C63.10-2013		
Test Results:	PASS		
Remark:	This is WIFI-2.4GHz band radio test report.		

Tested by:

Brave Zeng/ Project Handler

Approved by:

Zero Zhou/Reviewer

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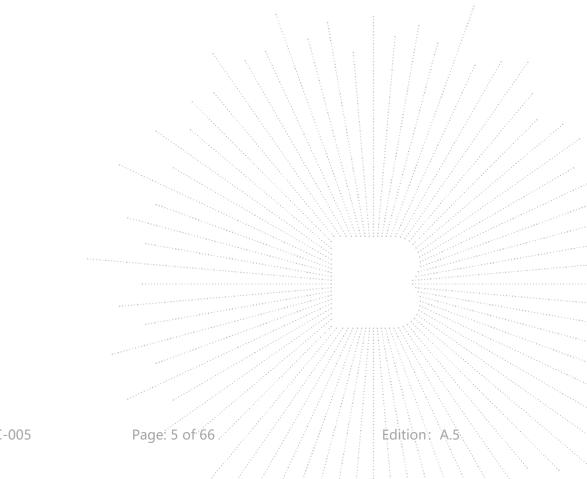
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1. Version

Report No.	Issue Date	Description	Approved
BCTC2308750920E	2023-09-26	Original	Valid



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2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Conducted Emission	15.207	PASS
2	6dB Bandwidth	15.247 (a)(2)	PASS
3	Peak Output Power	15.247 (b)	PASS
4	Radiated Spurious Emission	15.247 (d)	PASS
5	Power Spectral Density	15.247 (e)	PASS
6	Restricted Band of Operation	15.205	PASS
7	Band Edge (Out of Band Emissions)	15.247 (d)	PASS
8	Antenna Requirement	15.203	PASS
		•	

NOTE1: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.

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3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(9KHz-30MHz)	U=3.7dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission (150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C

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4. Product Information and Test Setup

4.1 Product Information

Model/Type Ref.	LC-AS20,LY-AS20
Model differences:	The following models of units we produce are identical in electrical, mechanical and physical structure; The difference is only in the model name, we finally have LC-AS20 as test model.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11b 802.11g 802.11n(20 channel bandwidth)
Operation Frequency:	802.11b/g/n20:2412~2462 MHz
Type of Modulation:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Number Of Channel:	11 channels for 802.11b/g/n(HT20);
Antenna installation:	Internal antenna
Antenna gain:	4dBi
Ratings:	AC 100-240,50/60Hz

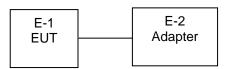
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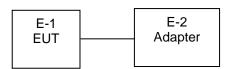
4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP Photographs for the actual connections between Product and support equipment.

Conducted Emission:



Radiated Spurious Emission:



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	ShortCam_Lite	N/A	LC-AS20	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	Subsidiary

ltem	Shielded Type	Ferrite Core	Length	Note
N/A	N/A	N/A	N/A	N/A

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

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4.4 Channel List

	Channel List for 802.11b/g/n(20)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
01	2412	02	2417	03	2422	
04	2427	05	2432	06	2437	
07	2442	08	2447	09	2452	
10	2457	11	2462			

4.5 Test Mode

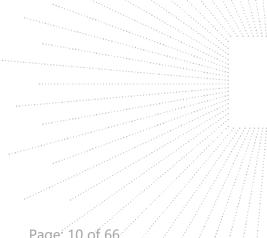
To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration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

For All Mode	Description	Modulation Type		
Mode 1	CH 01			
Mode 2	CH 06	802.11b		
Mode 3	CH 11			
Mode 4	CH 01			
Mode 5	CH 06	802.11g		
Mode 6	CH 11			
Mode 7	CH 01			
Mode 8	CH 06	802.11n20		
Mode 9	CH 11	N N N M		
Mode 10	Transmitting (Conducted em	Transmitting (Conducted emission & Radiated emission)		

Notes:

1. The measurements are performed at the highest, middle, lowest available channels.

2. The measurements are performed at all Bit Rate of Transmitter, the worst data was reported 3. According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b,6Mbps for 802.11g,13Mbps for 802.11n20, 54Mbps ,



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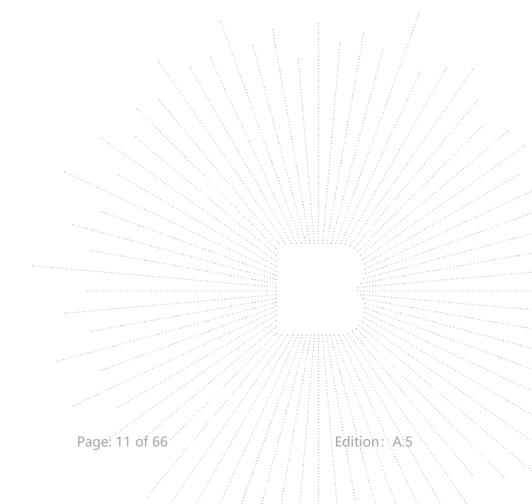
Edition:



4.6 Table Of Parameters Of Text 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

Test software Version	CMD						
Frequency	2412 MHz	2437 MHz	2462 MHz				
Parameters DEF		DEF	DEF				



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5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing C o., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuha i Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in con formance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

	Conducted Emissions Test						
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.		
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024		
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024		
Software	Frad	EZ-EMC	EMC-CON 3A1	/	\		
Attenuator	/	10dB DC-6GHz	1650	May 15, 2023	May 14, 2024		

5.2 Test Instrument Used

RF Conducted Test						
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.	
Power Metter	Keysight	E4419		May 15, 2023	May 14, 2024	
Power Sensor (AV)	Keysight	E9300A	and the second sec	May 15, 2023	May 14, 2024	
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024	
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40		May 15, 2023	May 14, 2024	

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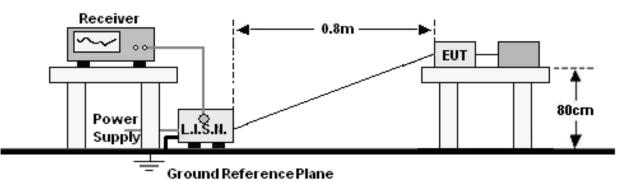


Radiated Emissions Test (966 Chamber)							
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.		
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026		
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024		
Receiver	R&S	ESRP	101154	May 15, 2023	May 14, 2024		
Amplifier	SKET	LAPA_01G18 G-45dB	١	May 15, 2023	May 14, 2024		
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 15, 2023	May 14, 2024		
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 15, 2023	May 14, 2024		
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 15, 2023	May 14, 2024		
Horn Antenn(18GH z-40GHz)	Schwarzbeck	BBHA9170	00822	May 15, 2023	May 14, 2024		
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 15, 2023	May 14, 2024		
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 15, 2023	May 14, 2024		
RF cables1(9kHz- 30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-000 8	May 15, 2023	May 14, 2024		
RF cables2(30MH z-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 15, 2023	May 14, 2024		
RF cables3(1GHz -40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 15, 2023	May 14, 2024		
Power Metter	Keysight	E4419		May 15, 2023	May 14, 2024		
Power Sensor (AV)	Keysight	E9300A	A Constraint of the second sec	May 15, 2023	May 14, 2024		
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024		
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	1997 - 19	May 15, 2023	May 14, 2024		
Software	Frad	EZ-EMC	FA-03A2 RE	\mathbf{V}			



6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

	Limit (dBuV)			
Frequency (MHz)	Quas-peak	Average		
0.15 -0.5	66 - 56 *	56 - 46 *		
0.50 -5.0	56.00	46.00		
5.0 -30.0	60.00	50.00		

Notes:

1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

6.3 Test procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 EUT operating Conditions

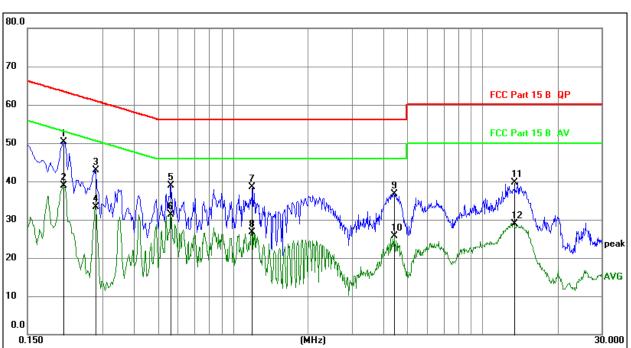
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

No.: BCTC/RF-EMC-005



6.5 Test Result

Temperature:	24 ℃	Relative Humidity:	51%
Pressure:	101KPa	Test Voltage :	AC120V/60Hz
Test Mode:	Mode 10	Polarization :	L



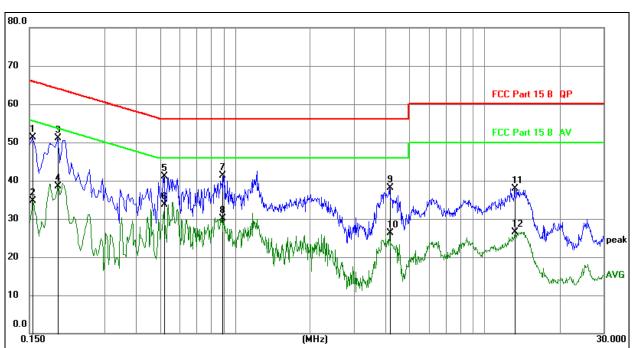
Remark:

- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.
 Measurement = Reading Level + Correct Factor
 Over = Measurement Limit

No. M.k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			_
	MHz		dÐ	dBuV	dBuV	dB	Detector	Comment	_
1 *	0.2085	40.11	10.24	50.35	63.26	-12.91	QP		_
2	0.2085	28.64	10.24	38.88	53.26	-14.38	AVG		_
3	0.2805	32.58	10.24	42.82	60.80	-17.98	QP		_
4	0.2805	23.04	10.24	33.28	50.80	-17.52	AVG		_
5	0.5639	28.60	10.24	38.84	56.00	-17.16	QP		_
6	0.5639	21.05	10.24	31.29	46.00	-14.71	AVG		_
7	1.1895	28.30	10.16	38.46	56.00	-17.54	QP		
8	1.1895	16.61	10.16	26.77	46.00	-19.23	AVG		_
9	4.4250	26.53	10.25	36.78	56.00	-19.22	QP		_
10	4.4250	15.48	10.25	25.73	46.00	-20.27	AVG		_
11	13.3530	29.35	10.42	39.77	60.00	-20.23	QP		_
12	13.3530	18.42	10.42	28.84	50.00	-21.16	AVG		
									—



Temperature:	24 ℃	Relative Humidity:	51%
Pressure:	101KPa	Test Voltage :	AC120V/60Hz
Test Mode:	Mode 13	Polarization :	Ν



Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.

3. Measurement = Reading Level + Correct Factor

4. Over = Measurement - Limit

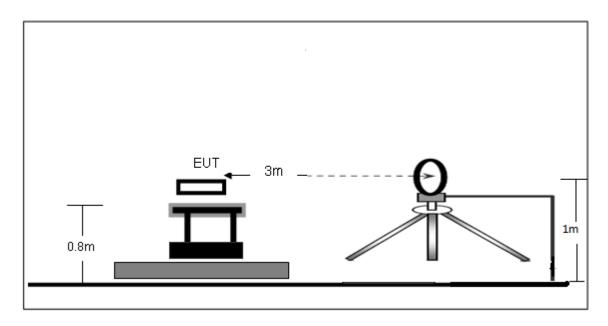
		Reading	Correct	Measure				
No. M.k.	Freq.	Level	Factor	ment	Limit	Over		
	MHz		dB	dBuV	dBuV	dB	Detector	Comment
1	0.1545	40.99	10.23	51.22	65.75	-14.53	QP	
2	0.1545	24.55	10.23	34.78	55.75	-20.97	AVG	
3	0.1949	40.89	10.24	51.13	63.83	-12.70	QP	
4	0.1949	28.32	10.24	38.56	53.83	-15.27	AVG	
5	0.5190	30.86	10.24	41.10	56.00	-14.90	QP	
6*	0.5190	23.43	10.24	33.67	46.00	-12.33	AVG	
7	0.8880	31.16	10.15	41.31	56.00	-14.69	QP	
8	0.8880	20.05	10.15	30.20	46.00	-15.80	AVG	
9	4.1730	27.94	10.25	38.19	56.00	-17.81	QP	
10	4.1730	16.14	10.25	26.39	46.00	-19.61	AVG	
11	13.2225	27.45	10.41	37.86	60.00	-22.14	QP	
12	13.2225	16.17	10.41	26.58	50.00	-23.42	AVG	
					+ -			



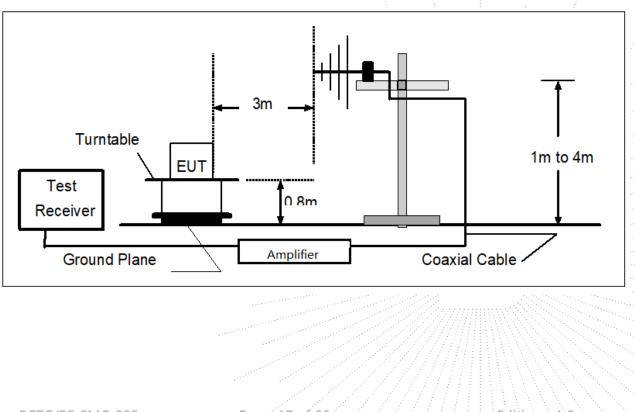
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

(A) Radiated Emission Test-Up Frequency Below 30MHz



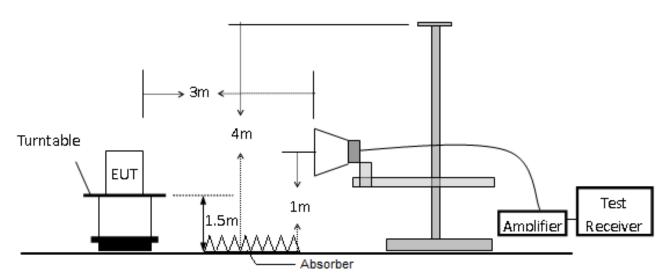
(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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(C) Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance			
(MHz)	uV/m	(m)	uV/m	dBuV/m		
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log ^{(2400/F(kHz))} + 80		
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log ^{(24000/F(kHz))} + 40		
1.705 ~ 30	30	30	100 * 30	20log ⁽³⁰⁾ + 40		
30 ~ 88	100	3	100	20log ⁽¹⁰⁰⁾		
88 ~ 216	150	3	150	20log ⁽¹⁵⁰⁾		
216 ~ 960	200	3	200	20log ⁽²⁰⁰⁾		
Above 960	500	3	500	20log ⁽⁵⁰⁰⁾		

Limits Of Radiated Emission Measurement (Above 1000MHz)

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

Notes:

(1)The limit for radiated test was performed according to FCC PART 15C.

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

(3) Emission level (dBuV/m)=20log Emission level (uV/m).



Frequency Range Of Radiated Measurement

(a) For an intentional radiator the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(4) If the intentional radiator operates at or above 95 GHz: To the third harmonic of the highest fundamental frequency or to 750 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(5) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a) (1)through (4) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this section, whichever is the higher frequency range of investigation.

7.3 Test procedure

Receiver Parameter	Setting
Attenuation	Auto
9kHz~150kHz	RBW 200Hz for QP
150kHz~30MHz	RBW 9kHz for QP
30MHz~1000MHz	RBW 120kHz for QP

Spectrum Parameter	Setting	
1-25GHz	RBW 1 MHz /VBW 1 MHz for Peak, RBW 1 MHz / VBW 10Hz for Average	

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



Above 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middlest channel, the Highest channel. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

7.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

7.5 Test Result

Below 30MHz

Temperature:	24 ℃	Relative Humidity: 51%
Pressure:	101KPa	Test Voltage : AC120V/60Hz
Test Mode:	Mode 10	Polarization:

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
		1999 - 1999 -		PASS
				PASS

Note:

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

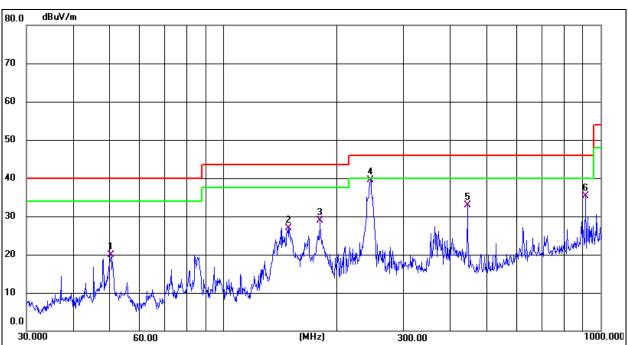
Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz - 1GHz

Temperature:	24 ℃	Relative Humidity:	51%
Pressure:	101KPa	Test Voltage :	AC120V/60HZ
Test Mode:	Mode 10	Polarization :	Horizontal



Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

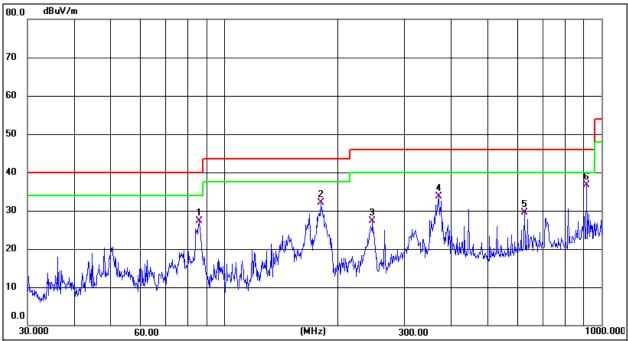
2. Measurement = Reading Level + Correct Factor

3. Over = Measurement - Limit

•	0101 11								
	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	,
	1	50.2324	41.14	-21.31	19.83	40.00	-20.17	QP	-
	2	148.9625	44.79	-17.79	27.00	43.50	-16.50	QP	,
	3	180.0165	49.17	-20.31	28.86	43.50	-14.64	QP	
	4 *	245.0900	59.21	-19.75	39.46	46.00	-6.54	QP	
	5	443.2943	45.14	-12.31	32.83	46.00	-13.17	QP	
	6	912.8620	37.74	-2.35	35.39	46.00	-10.61	QP	



Temperature:	24 ℃	Relative Humidity:	51%
Pressure:	101KPa	Test Voltage :	AC120V/60HZ
Test Mode:	Mode 13	Polarization :	Vertical



Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.
 Measurement = Reading Level + Correct Factor

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	85.5977	51.14	-23.87	27.27	40.00	-12.73	QP
2	180.0165	52.38	-20.31	32.07	43.50	-11.43	QP
3	246.8149	46.94	-19.64	27.30	46.00	-18.70	QP
4	369.4047	48.54	-14.74	33.80	46.00	-12.20	QP
5	625.0780	37.55	-8.03	29.52	46.00	-16.48	QP
6 *	912.8620	39.01	-2.35	36.66	46.00	-9.34	QP



Between 1GHz – 25GHz

802.11b

Polar	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
		Lo	w channel:2	412MHz			
V	4824.00	70.33	-19.95	50.38	74.00	-23.62	PK
V	4824.00	60.46	-19.95	40.51	54.00	-13.49	AV
V	7236.00	62.30	-14.14	48.16	74.00	-25.84	PK
V	7236.00	52.22	-14.14	38.08	54.00	-15.92	AV
Н	4824.00	66.97	-19.95	47.02	74.00	-26.98	PK
Н	4824.00	57.32	-19.95	37.37	54.00	-16.63	AV
Н	7236.00	60.49	-14.14	46.35	74.00	-27.65	PK
Н	7236.00	51.66	-14.14	37.52	54.00	-16.48	AV
		Mid	dle channel:	2437MHz			
V	4874.00	68.32	-19.85	48.47	74.00	-25.53	PK
V	4874.00	61.89	-19.85	42.04	54.00	-11.96	AV
V	7311.00	60.40	-13.93	46.47	74.00	-27.53	PK
V	7311.00	52.05	-13.93	38.12	54.00	-15.88	AV
Н	4874.00	64.80	-19.85	44.95	74.00	-29.05	PK
Н	4874.00	54.58	-19.85	34.73	54.00	-19.27	AV
Н	7311.00	58.58	-13.93	44.65	74.00	-29.35	PK
Н	7311.00	49.91	-13.93	35.98	54.00	-18.02	AV
		Hi	gh channel:2	462MHz			
V	4924.00	69.45	-19.75	49.70	74.00	-24.30	PK
V	4924.00	59.62	-19.75	39.87	54.00	-14.13	AV
V	7386.00	62.13	-13.72	48.41	74.00	-25.59	PK
V	7386.00	51.46	-13.72	37.74	54.00	-16.26	AV
Н	4924.00	67.74	-19.75	47.99	74.00	-26.01	PK
Н	4924.00	57.01	-19.75	37.26	54.00	-16.74	AV
Н	7386.00	60.86	-13.72	47.14	74.00	-26.86	PK
Н	7386.00	52.31	-13.72	38.59	54.00	-15.41	AV

Remark:

1.Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier. Over= Emission Level - Limit

2. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



			802.11g	I	1	20102000	
Polar	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
	·	Lo	w channel:2	412MHz			
V	4824.00	72.79	-19.95	52.84	74.00	-21.16	PK
V	4824.00	63.50	-19.95	43.55	54.00	-10.45	AV
V	7236.00	65.38	-14.14	51.24	74.00	-22.76	PK
V	7236.00	55.20	-14.14	41.06	54.00	-12.94	AV
Н	4824.00	70.76	-19.95	50.81	74.00	-23.19	PK
Н	4824.00	61.04	-19.95	41.09	54.00	-12.91	AV
Н	7236.00	63.09	-14.14	48.95	74.00	-25.05	PK
Н	7236.00	55.78	-14.14	41.64	54.00	-12.36	AV
		Mid	dle channel:	2437MHz			
V	4874.00	70.92	-19.85	51.07	74.00	-22.93	PK
V	4874.00	63.59	-19.85	43.74	54.00	-10.26	AV
V	7311.00	61.27	-13.93	47.34	74.00	-26.66	PK
V	7311.00	51.98	-13.93	38.05	54.00	-15.95	AV
Н	4874.00	68.55	-19.85	48.70	74.00	-25.30	PK
Н	4874.00	57.64	-19.85	37.79	54.00	-16.21	AV
Н	7311.00	59.62	-13.93	45.69	74.00	-28.31	PK
Н	7311.00	51.50	-13.93	37.57	54.00	-16.43	AV
		Hiç	gh channel:2	462MHz			
V	4924.00	72.61	-19.75	52.86	74.00	-21.14	PK
V	4924.00	63.49	-19.75	43.74	54.00	-10.26	AV
V	7386.00	65.52	-13.72	51.80	74.00	-22.20	PK
V	7386.00	55.25	-13.72	41.53	54.00	-12.47	AV
Н	4924.00	70.74	-19.75	50.99	74.00	-23.01	PK
Н	4924.00	60.71	-19.75	40.96	54.00	-13.04	AV
Н	7386.00	63.67	-13.72	49.95	74.00	-24.05	PK
Н	7386.00	56.66	-13.72	42.94	54.00	-11.06	AV

Remark:

1.Emission Level = Meter Reading + Factor,

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Over= Emission Level - Limit

In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
 The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



			802.11n2	20	•		
Polar	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	Туре
		Lo	w channel:2	412MHz			
V	4824.00	71.96	-19.95	52.01	74.00	-21.99	PK
V	4824.00	62.14	-19.95	42.19	54.00	-11.81	AV
V	7236.00	64.39	-14.14	50.25	74.00	-23.75	PK
V	7236.00	54.64	-14.14	40.50	54.00	-13.50	AV
Н	4824.00	67.26	-19.95	47.31	74.00	-26.69	PK
Н	4824.00	58.20	-19.95	38.25	54.00	-15.75	AV
Н	7236.00	61.73	-14.14	47.59	74.00	-26.41	PK
Н	7236.00	54.49	-14.14	40.35	54.00	-13.65	AV
		Mid	dle channel:	2437MHz			
V	4874.00	68.61	-19.85	48.76	74.00	-25.24	PK
V	4874.00	61.20	-19.85	41.35	54.00	-12.65	AV
V	7311.00	60.62	-13.93	46.69	74.00	-27.31	PK
V	7311.00	52.27	-13.93	38.34	54.00	-15.66	AV
Н	4874.00	65.25	-19.85	45.40	74.00	-28.60	PK
Н	4874.00	55.13	-19.85	35.28	54.00	-18.72	AV
Н	7311.00	58.57	-13.93	44.64	74.00	-29.36	PK
Н	7311.00	50.72	-13.93	36.79	54.00	-17.21	AV
		Hiç	gh channel:2	462MHz			
V	4924.00	70.87	-19.75	51.12	74.00	-22.88	PK
V	4924.00	60.50	-19.75	40.75	54.00	-13.25	AV
V	7386.00	63.29	-13.72	49.57	74.00	-24.43	PK
V	7386.00	53.93	-13.72	40.21	54.00	-13.79	AV
Н	4924.00	69.72	-19.75	49.97	74.00	-24.03	PK
Н	4924.00	59.53	-19.75	39.78	54.00	-14.22	AV
Н	7386.00	61.86	-13.72	48.14	74.00	-25.86	PK
Н	7386.00	54.36	-13.72	40.64	54.00	-13.36	AV

Remark:

1.Emission Level = Meter Reading + Factor,

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Over= Emission Level - Limit

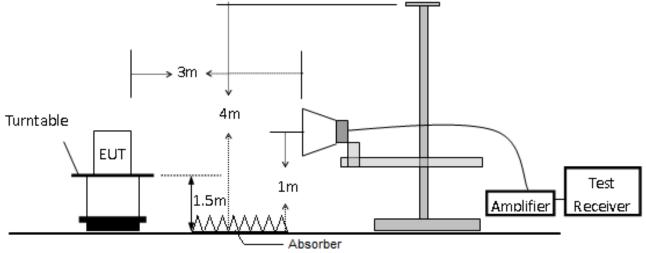
In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
 The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



8. Radiated Band Emission Measurement and Restricted Bands Of Operation

8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Above 1GHz

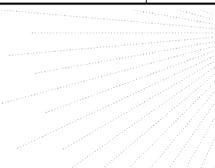


8.2 Limit

FCC Part15 C Section 15.209 and 15.205

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			





Limits Of Radiated Emission Measurement (Above 1000MHz)

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

Notes:

(1)The limit for radiated test was performed according to FCC PART 15C.

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

(3)Emission level (dBuV/m)=20log Emission level (uV/m).

8.3 Test procedure

Receiver Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Above 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b.The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c.The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d.For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e.The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middlest channel, the Highest channel. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

8.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



8.5 Test Result

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level	Correct Factor	Measure- ment (dBuV/m)	Lim (dBu		Result	
mode	(1.7.7)	(dBuV/m) (dB)	(dBuV/m) (dB) PK	РК	PK	AV			
		I	Lov	w Channel 2	412MHz				
	Н	2390.00	70.88	-19.46	51.42	74.00	54.00	PASS	
	Н	2400.00	72.45	-19.42	53.03	74.00	54.00	PASS	
	V	2390.00	71.77	-19.46	52.31	74.00	54.00	PASS	
802.11b	V	2400.00	72.12	-19.42	52.70	74.00	54.00	PASS	
002.110			Hig	h Channel 2	462MHz				
	Н	2483.50	70.88	-19.05	51.83	74.00	54.00	PASS	
	Н	2500.00	66.23	-18.98	47.25	74.00	54.00	PASS	
	V	2483.50	71.41	-19.05	52.36	74.00	54.00	PASS	
	V	2500.00	67.70	-18.95	48.75	74.00	54.00	PASS	
			Lov	w Channel 2	412MHz				
	Н	2390.00	69.31	-19.46	49.85	74.00	54.00	PASS	
	Н	2400.00	70.61	-19.42	51.19	74.00	54.00	PASS	
	V	2390.00	70.11	-19.46	50.65	74.00	54.00	PASS	
902 11a	V	2400.00	69.96	-19.42	50.54	74.00	54.00	PASS	
802.11g			Hig	h Channel 2	462MHz				
	Н	2483.50	68.25	-19.05	49.20	74.00	54.00	PASS	
	Н	2500.00	66.27	-18.98	47.29	74.00	54.00	PASS	
	V	2483.50	69.32	-19.05	50.27	74.00	54.00	PASS	
	V	2500.00	65.88	-18.95	46.93	74.00	54.00	PASS	
Remark:									

1. Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss - Pre-amplifier. Over= Emission Level - Limit

2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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K PK	A\/	
	AV	
Z		
41 74.00	54.00	PASS
52 74.00	54.00	PASS
94 74.00	54.00	PASS
19 74.00	54.00	PASS
z		
54 74.00	54.00	PASS
28 74.00	54.00	PASS
26 74.00	54.00	PASS
99 74.00	54.00	PASS
	41 74.00 52 74.00 94 74.00 19 74.00 z 54 74.00 28 74.00 26 74.00	41 74.00 54.00 52 74.00 54.00 94 74.00 54.00 19 74.00 54.00 z 54 74.00 54.00 28 74.00 54.00 26 74.00 54.00

Remark:

1. Emission Level = Meter Reading + Factor, Factor = Antenna Factor + Cable Loss – Pre-amplifier. Over= Emission Level – Limit

2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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9. Power Spectral Density Test

9.1 Block Diagram Of Test Setup



9.2 Limit

	FCC Part	15 (15.247) , Subpart C		
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

Limits Of Radiated Emission Measurement (Above 1000MHz)

9.3 Test procedure

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW to: 3 kHz
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.

10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

9.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing. Note: Power Spectral Density(dBm)=Reading+Cable Loss

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9.5 Test Result

Temperature:	22 °C	Relative Humidity:	50%	
Pressure:	101KPa	Test Voltage:	AC120V/60HZ	
Test Mode	Frequency	Power Spectral Density (dBm/3kHz)	/ Limit (dBm/3kHz)	Result
	2412 MHz	-10.59	8	PASS
TX b Mode	2437 MHz	-10.38	8	PASS
	2462 MHz	-10.94	8	PASS
	2412 MHz	-18.05	8	PASS
TX g Mode	2437 MHz	-17.26	8	PASS
	2462 MHz	-17.52	8	PASS
	2412 MHz	-20.19	8	PASS
TX n Mode(20M)	2437 MHz	-18.29	8	PASS
	2462 MHz	-19.88	8	PASS

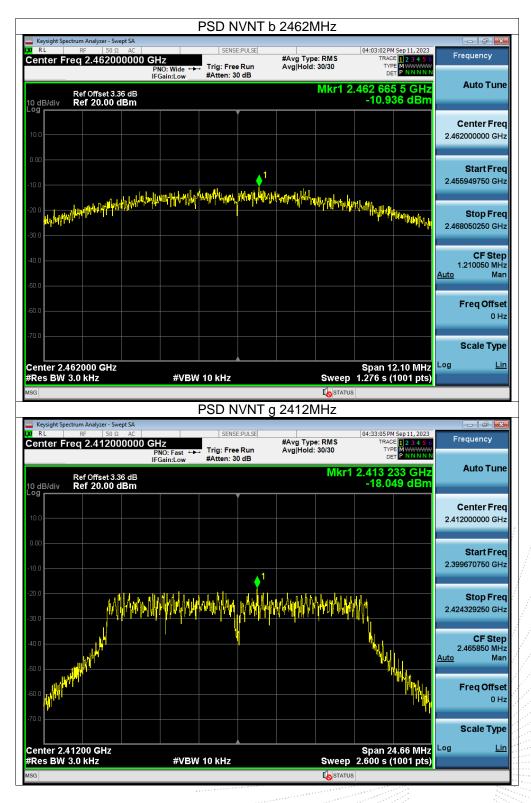
No.: BCTC/RF-EMC-005

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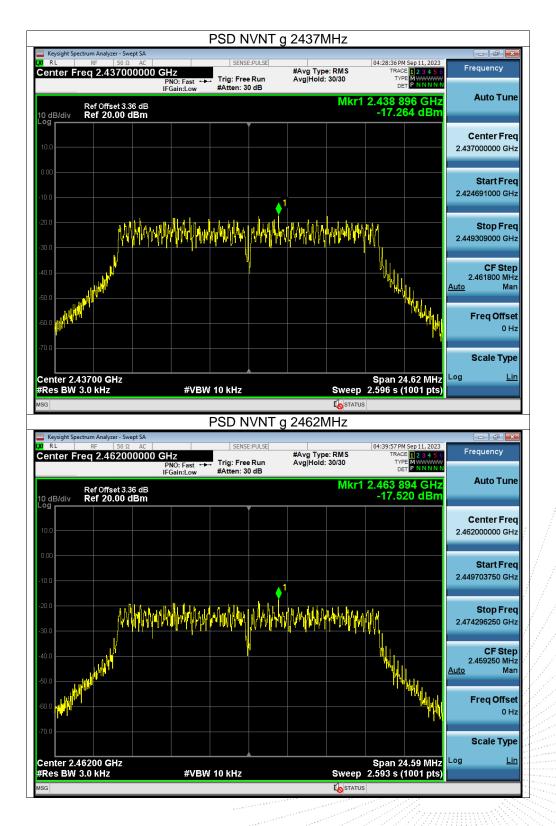
	C		Graphs F b 2412MH:	7		
Keysight Spectrum Analyzer - Swept SA	Г			۷.		
RL RF 50 Ω AC enter Freq 2.412000000 G		SENSE:PULSE	#Avg Type: RM		M Sep 11, 2023 CE 1 2 3 4 5 6	Frequency
	PNO: Fast ++++ IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold: 50/5	0 T)	PE MWWWWW ET P NNNNN	
	IFGain:Low	#Atten: 50 ub	Λ	/kr1 2.412		Auto Tun
Ref Offset 3.36 dB) dB/div Ref 20.00 dBm				-10.5	87 dBm	
pg						Center Fre
0.0						2.412000000 GH
.00						Start Fre
0.0			<u></u>			2.405808750 GH
0.0	warden harden	nter winter hard self	They we have the state of the s	line to the of		
			and had do to		munitur	Stop Fre
					· · · · · · · · · · · · · · · · · · ·	2.418191250 GH
0.0						
0.0						CF Ste 1.238250 MH
						Auto Ma
0.0						
0.0						Freq Offse
						0 H
0.0						Ocala 7
						Scale Typ
enter 2.412000 GHz	///			Span ′	2.38 MHz	Log <u>Li</u>
Res BW 3.0 kHz	#VBW	TU KHZ	Sv			
				veep 1.306 s	(1001 pts)	
			ų.	STATUS	(1001 pts)	
	F	SD NVN		STATUS	(1001 pts)	
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC			Г <u>b 243</u> 7МН:	STATUS Z 03:58:19 F	M Sep 11, 2023	
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC enter Freq 2.437000000 G	Hz PNO: Fast ↔	SENSE:PULSE	ų.	STATUS 2 03:58:19 F S TRA	M Sep 11, 2023 CE 1 2 3 4 5 6	ा छि 💌
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC enter Freq 2.437000000 G	GHz	SENSE:PULSE	T b 2437MH #Avg Type: RM Avg Hold: 30/30	STATUS Z IS TRA 0 Th C	M Sep 11, 2023 CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	Frequency
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC enter Freq 2.437000000 C Ref Offset 3.36 dB cdB(div Ref 20 00 dBm	Hz PNO: Fast ↔	SENSE:PULSE	T b 2437MH #Avg Type: RM Avg Hold: 30/30	STATUS Z IS TRA D TR D TR D TR D TR D TR D TR D TR D TR	M Sep 11, 2023 CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	Frequency
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω AC enter Freq 2.437000000 C Ref Offset 3.36 dB QB(div Ref 20 00 dBm	Hz PNO: Fast ↔	SENSE:PULSE	T b 2437MH #Avg Type: RM Avg Hold: 30/30	STATUS Z IS TRA D TR D TR D TR D TR D TR D TR D TR D TR	M Sep 11, 2023 CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N N 574 GHz	Frequency Auto Tun
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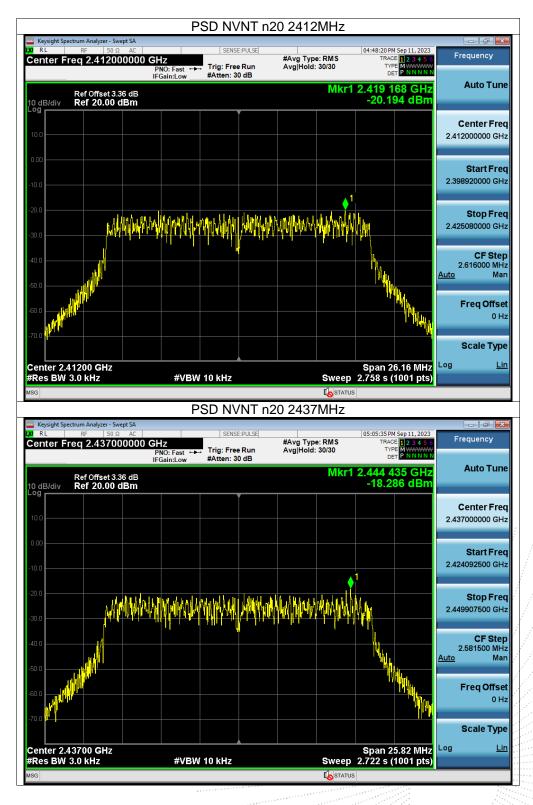




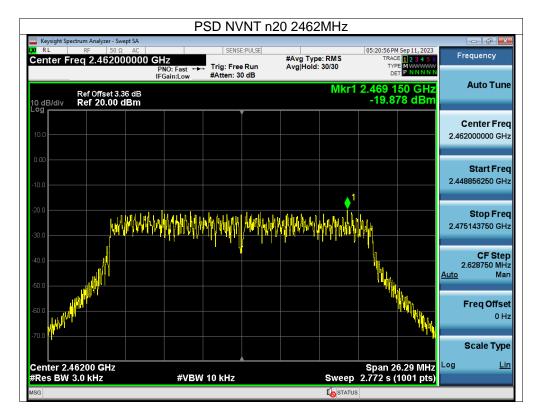
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10. -6dB Bandwidth Test

10.1 Block Diagram Of Test Setup



10.2 Limit

FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(a)(2)	Bandwidth	>= 500KHz (-6dB bandwidth)	2400-2483.5	PASS	

10.3 Test procedure

- 1. Set RBW = 100 kHz.
- 2. Set the video bandwidth (VBW) \ge 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.

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

10.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

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10.5 Test Result

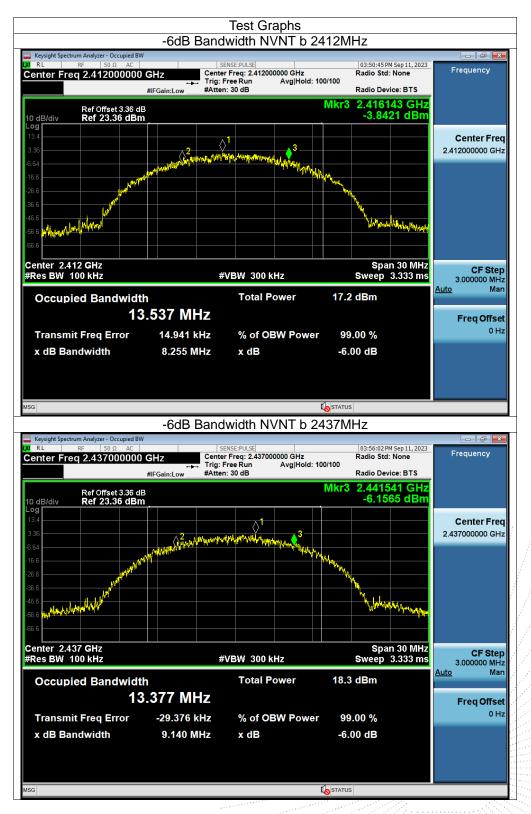
Temperature:	22 ℃	Relative Humidity:	50%
Pressure:	101KPa	Test Voltage:	AC120V/60HZ

Test Mode	Frequency (MHz)	-6dB bandwidth (MHz)	Limit (kHz)	Result
	2412	8.255	500	Pass
TX b Mode	2437	9.14	500	Pass
	2462	8.067	500	Pass
	2412	16.439	500	Pass
TX g Mode	2437	16.412	500	Pass
	2462	16.395	500	Pass
	2412	17.44	500	Pass
TX n Mode(20M)	2437	17.21	500	Pass
	2462	17.525	500	Pass

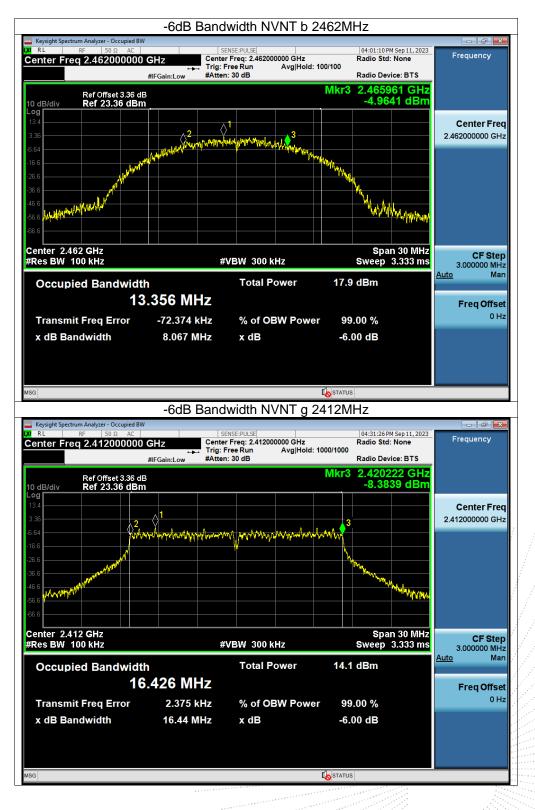
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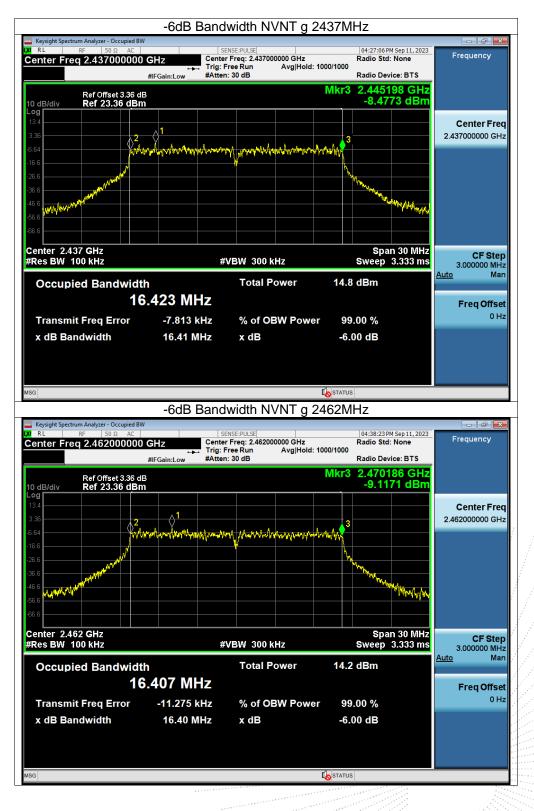




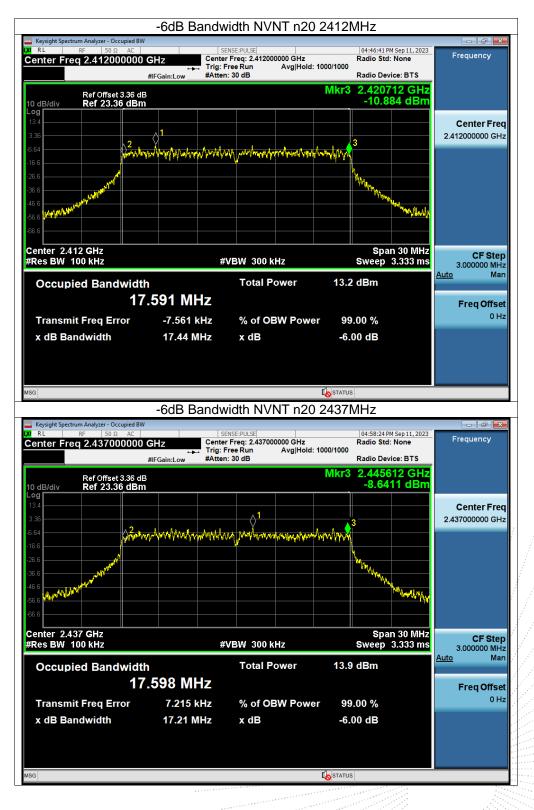




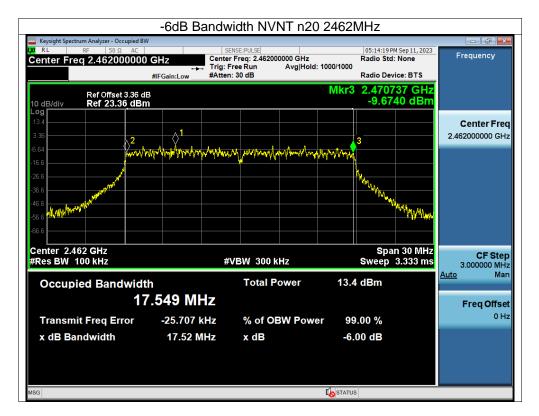












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11. Peak Output Power Test

11.1 Block Diagram Of Test Setup



11.2 Limit

FCC Part15 (15.247) , Subpart C						
Section	Section Test Item Limit Frequency Range (MHz)					
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS		

11.3 Test Procedure

a. The EUT was directly connected to the Power meter

11.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing. Note: Power Spectral Density(dBm)=Reading+Cable Loss

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11.5 Test Result

Temperature:	22 ℃	Relative Humidity:	50%
Pressure:	101KPa	Test Voltage:	AC120V/60HZ

Test Mode	Frequency(MHz)	Maximum Conducted Output Power(PK) (dBm)	Limit (dBm)
	2412	15.07	30
802.11b	2437	15.88	30
	2462	15.23	30
	2412	13.21	30
802.11g	2437	13.3	30
	2462	13.23	30
	2412	12.29	30
802.11n20	2437	12.92	30
	2462	12.45	30

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12. 100 kHz Bandwidth Of Frequency Band Edge

12.1 Block Diagram Of Test Setup



12.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

12.3 Test Procedure

Using the following spectrum analyzer setting:

- a) Set the RBW = 100KHz.
- b) Set the VBW = 300KHz.
- c) Sweep time = auto couple.
- d) Detector function = peak.
- e) Trace mode = max hold.
- f) Allow trace to fully stabilize..

12.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing. Note: Power Spectral Density(dBm)=Reading+Cable Loss

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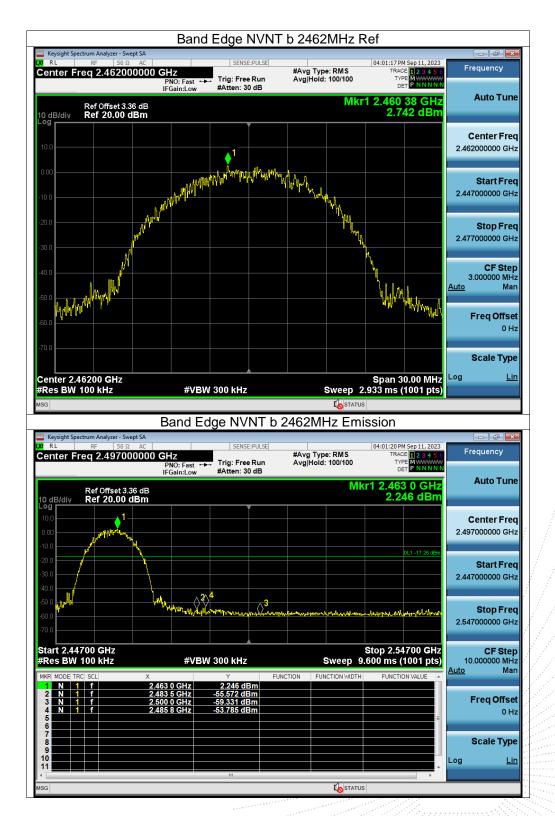


12.5 Test Result



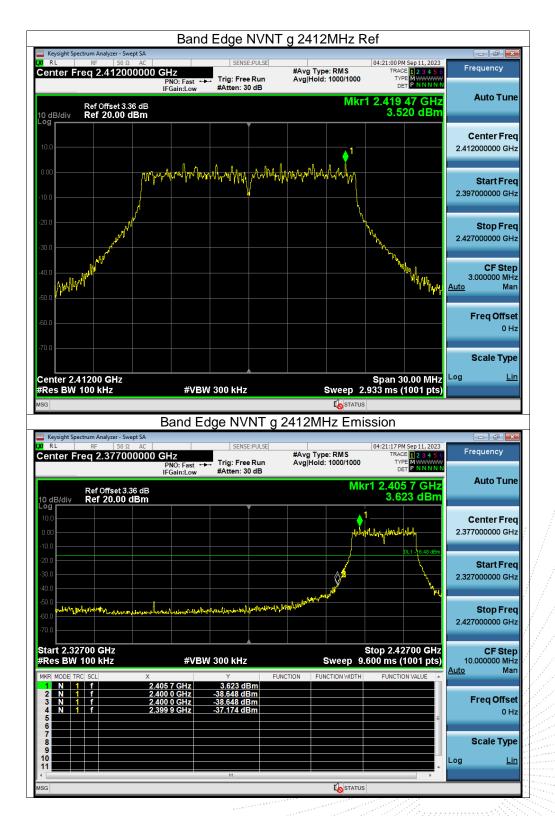






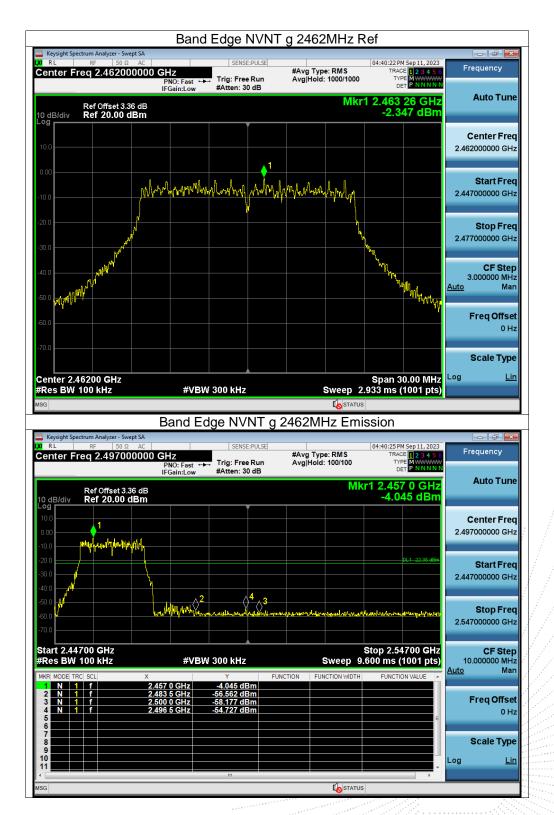
















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Res BW 100 kHz	#V	BW 300 kHz		epan conce min		
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L Keysight Spectrum Analyzer - Swe	Band E	dge NVNT n2	0 2412MHz En	nission	Frequency	
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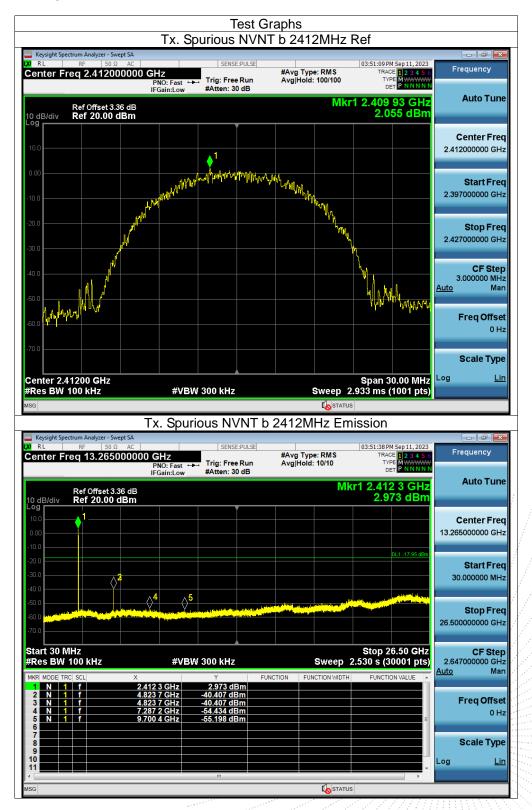


RL RF 50 Ω	AC	SENSE:PULSE		05:21:28 PM Sep 11, 2023	
enter Freq 2.462000		➡ Trig: Free Run #Atten: 30 dB	#Avg Type: RMS Avg Hold: 1000/1000	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNN	Frequency
Ref Offset 3.36 dB/div Ref 20.00 dB	dB		Mkr	1 2.455 73 GHz -3.102 dBm	Auto Tun
og 10.0					Center Fre 2.462000000 G⊢
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G					
Keysight Spectrum Analyzer - Swep		ge NVNT n2	0 2462MHz En	nission	
RL RF 50 Ω					
enter Freq 2.497000	0000 GHz PNO: Fast ↔	Trig: Free Run	#Avg Type: RMS Avg Hold: 1000/1000	05:21:46 PM Sep 11, 2023 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
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Ref Offset 3.36 Ref 20.00 dl 99 100 100 100 100 100	0000 GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Hold: 1000/1000	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNNN	Frequency Auto Tun Center Fre
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Ref Offset 3.36 0 dB/div Ref 20.00 dl 9 d 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000 GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Hold: 1000/1000	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNNN	Frequency Auto Tun Center Fre 2.49700000 GH Start Fre 2.447000000 GH
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Ref Offiset 3.36 Ref 20.00 dl 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1	20000 GHz PNO: Fast → IFGain:Low 3 dB Bm 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Trig: Free Run #Atten: 30 dB	Avg Hold: 1000/1000	r1 2.457 0 GHz -3.340 dBm	Frequency Auto Tun Center Fre 2.497000000 GF Start Fre 2.447000000 GF Stop Fre 2.547000000 GF CF Ste 10.000000 MF Auto Tun Auto Tun Stop Fre 10.000000 MF Auto Freq Offsa
0 dB/div Ref 20.00 dI 9 dB/div Ref 20.00 dI 9 dB/div Algorithm 1 000 1 000	2.457 0 GHz 2.457 0 GHz 2.500 GHz	► Trig: Free Run #Atten: 30 dB	Avg Hold: 1000/1000	TRACE 12.34.5 6 TYPE 1000000000000000000000000000000000000	Auto Tun Center Fre 2.497000000 GH Start Fre 2.447000000 GH Stop Fre 2.547000000 GH

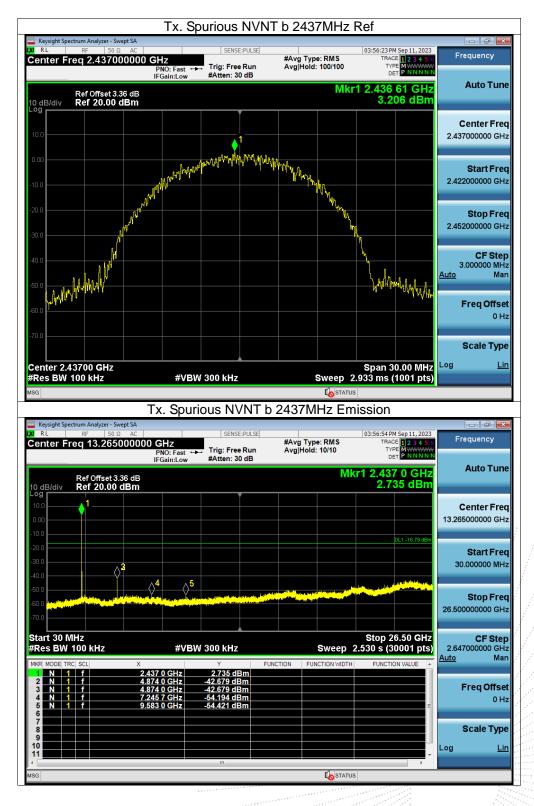
Edition: A.5



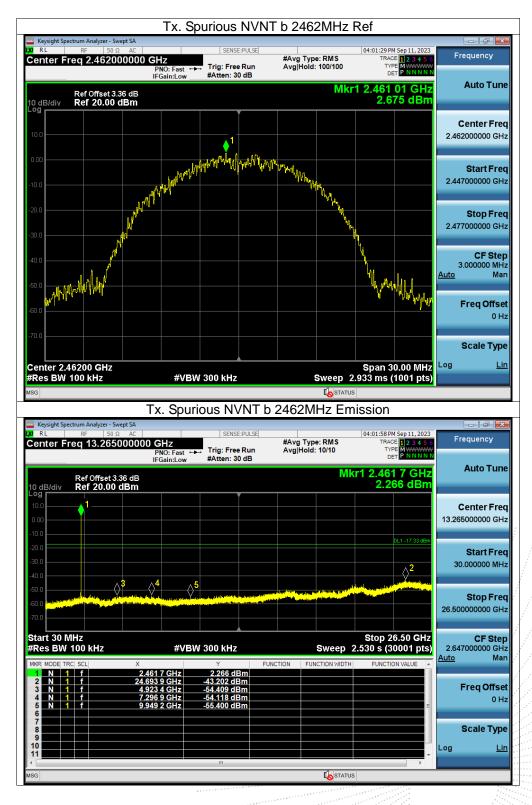
Conducted RF Spurious Emission



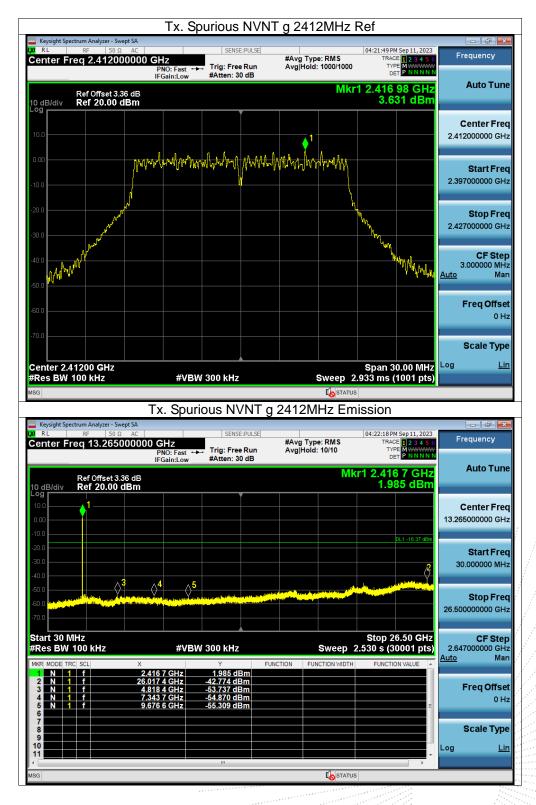




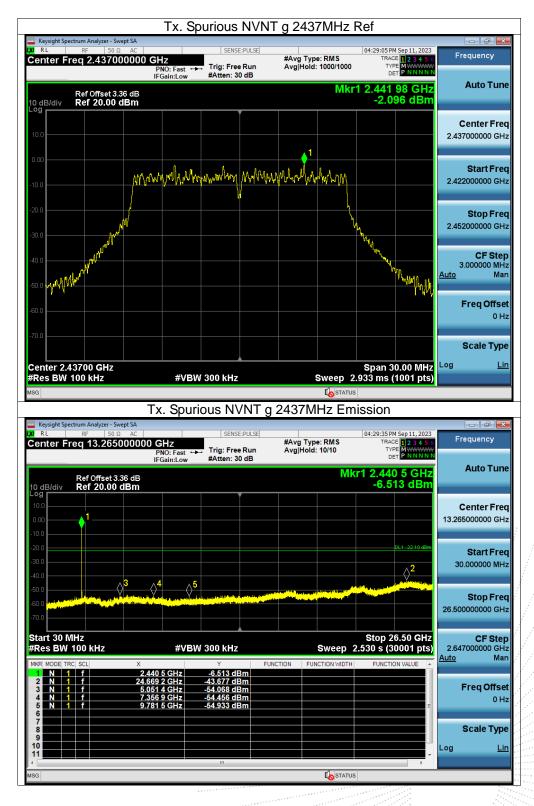




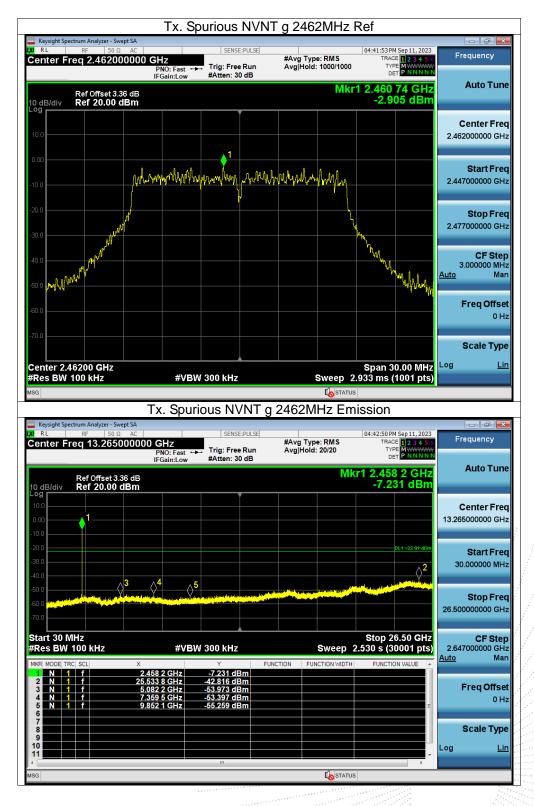




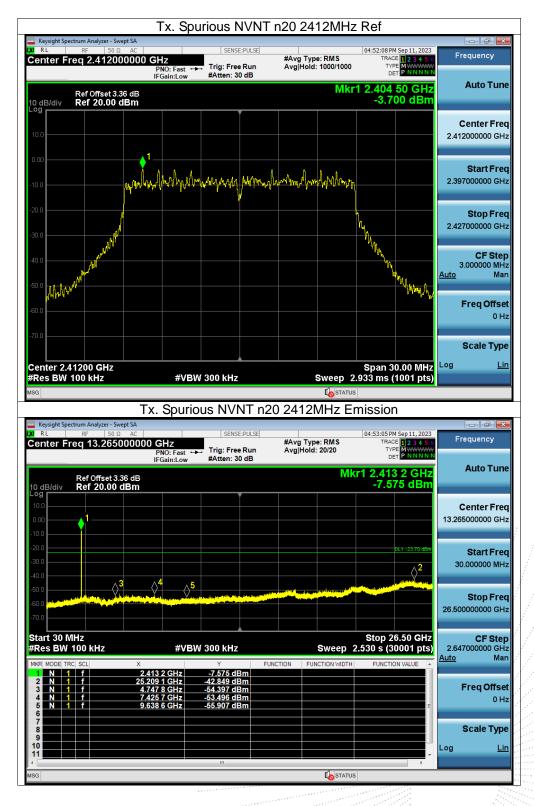




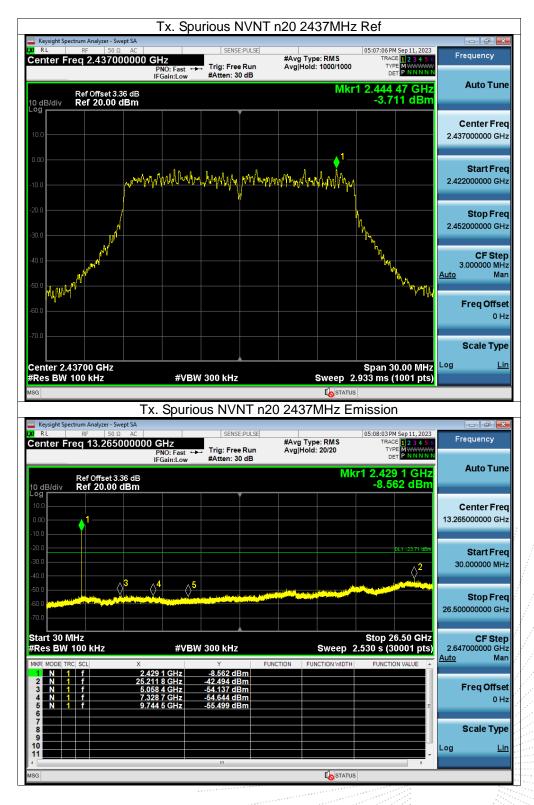




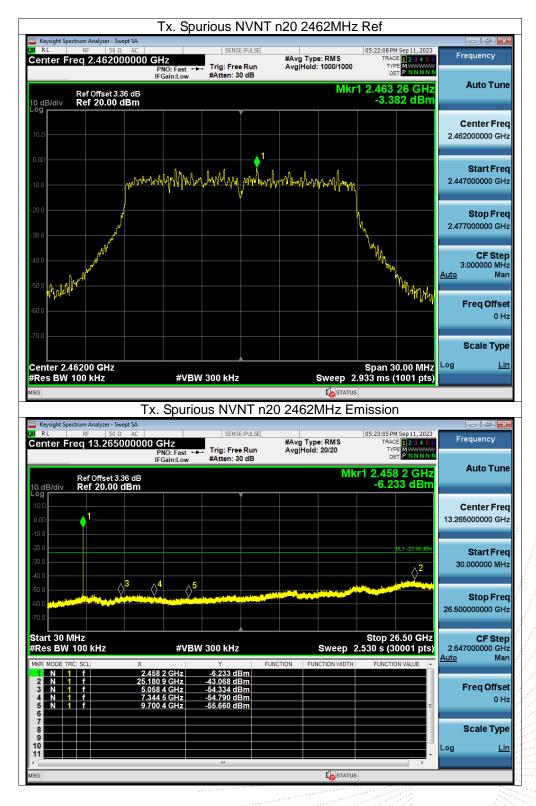














13. Duty Cycle Of Test Signal

13.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

13.2 Formula

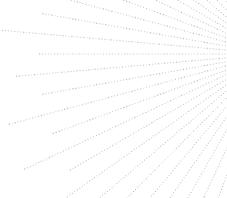
Duty Cycle = Ton / (Ton+Toff)

13.3 Test Procedure

- 1.Set span = Zero
- 2. RBW = 8MHz
- 3. VBW = 8MHz,
- 4. Detector = Peak

13.4 Test Result

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	100	0	0
NVNT	b	2462	100	0	0
NVNT	g	2412	100	0	0
NVNT	g	2462	100	0	0
NVNT	n20	2412	100	0	0
NVNT	n20	2462	100	0	0





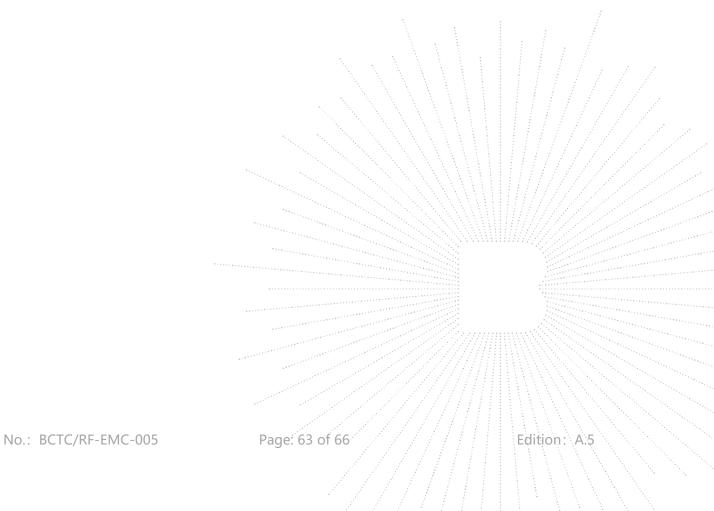
14. Antenna Requirement

14.1 Limit

15.203 requirements: For intentional device, according to 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.

14.1 Test Result

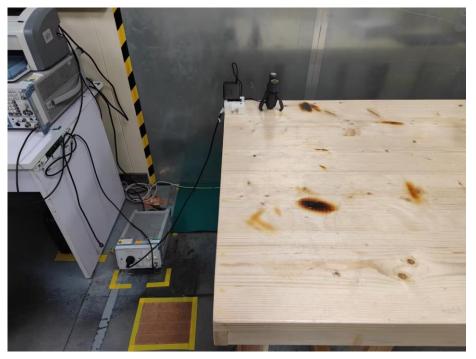
The EUT antenna is internal antenna, fulfill the requirement of this section.





15. EUT Test Setup Photographs

Conducted emissions Photo

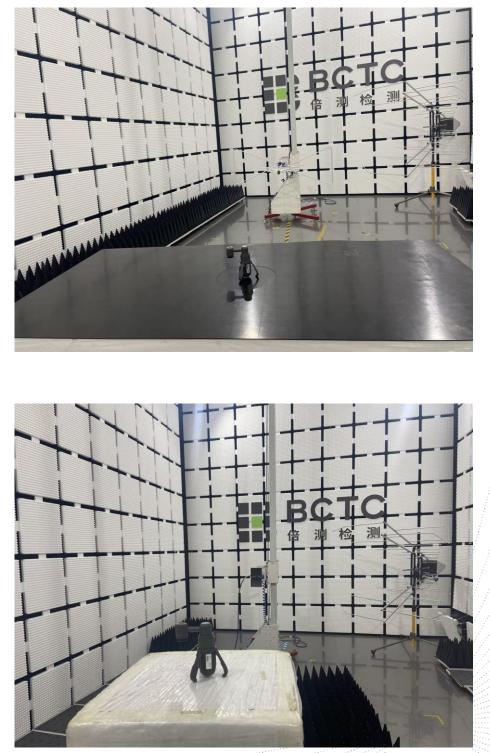


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Radiated Measurement Photos



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STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without stamp of laboratory.

4. The test report is invalid without signature of person(s) testing and authorizing.

5. The test process and test result is only related to the Unit Under Test.

6.The quality system of our laboratory is in accordance with ISO/IEC17025.

7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng , Fuhai S ubdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

E-Mail: bctc@bctc-lab.com.cn

***** END *****

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