

TEST REPORT

Report No.:	BCTC2401636497-1E
Applicant:	Shenzhen Creality 3D Technology Co., Ltd.
Product Name:	3D Printer
Test Model:	Sermoon M500
Tested Date:	2024-01-18 to 2024-03-21
Issued Date:	2024-03-21
She	nzhen BCTC Testing Co., Ltd.
No.: BCTC/RF-EMC-005	Page: 1 of 43



FCC ID: 2AXH6-SERMOONM500

Product Name:



Trademark:





Model/Type reference:	Sermoon M500
Prepared For:	Shenzhen Creality 3D Technology Co., Ltd.
Address:	18F, JinXiuHongDu Building, Meilong Blvd., Longhua Dist., Shenzhen, China 518131
Manufacturer:	Shenzhen Creality 3D Technology Co., Ltd.
Address:	18F, JinXiuHongDu Building, Meilong Blvd., Longhua Dist., Shenzhen, China 518131
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2024-01-18
Sample tested Date:	2024-01-18 to 2024-03-21
Issue Date:	2024-03-21
Report No.:	BCTC2401636497-1E
Test Standards:	FCC Part15.247 ANSI C63.10-2013
Test Results:	PASS
Remark:	This is Bluetooth BLE radio test report.

Tested by:

chen

Lei Chen/Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

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(Note: N/A Means Not Applicable)

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2401636497-1E	2024-03-21	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), 15.205	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

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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(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
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	Ü=0.59°Ċ

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4. Product Information And Test Setup

4.1 Product Information

Model/Type reference:	Sermoon M500
Model differences:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	2402-2480MHz
Type of Modulation:	GFSK
Number Of Channel	40CH
Antenna installation:	FPC antenna
	2.27dBi
Antenna Gain:	Remark: The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	AC100-240V 50/60Hz

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



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4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
		CREALITY	Sermoon M500	N/A	EUT
E-1	E-1 3D Printer				
			CREALITY 创想三维		

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.

4.4 Channel List

	Channel List				
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	11	2422	21	2442
02	2404	12	2424	22	2444
03	2406	13	2426	23	2446
~	~	~	~	1 1	~
09	2418	19	2438	39	2478
10	2420	20	2440	40	2480

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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	CH01		
Mode 2	CH20	GFSK	
Mode 3	CH40		
Mode 4	Link Mode		

Note:

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

(2) Fully-charged battery is used during the test

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	Fcc test tool v1.6		
Frequency	2402 MHz	2440 MHz	2480 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 Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance 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	١	١	
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	Sept. 22, 2023	Sept 21, 2024	

5.2 Test Instrument Used

	RF Conducted Test				
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	١	May 15, 2023	May 14, 2024
Power Sensor (AV)	Keysight	E9300A	\	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	100363	May 15, 2023	May 14, 2024
Radio frequency control box	MAIWEI	MW100-RFC B	I		
Software	MAIWEI	MTS 8310	·····	······	1



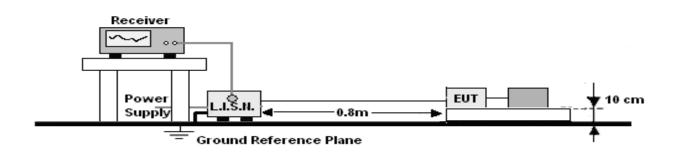
Radiated Emissions Test (966 Chamber02)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	SKET	966 Room	966	Nov. 02. 2021	Nov. 01.2024
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
Receiver	R&S	ESRI7	100010	Nov. 13. 2023	Nov. 12, 2024
Amplifier	SKET	LNPA-30M01 G-30	SK2021082004	Nov. 13. 2023	Nov. 12, 2024
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	Mar. 06, 2022	Mar. 05, 2024
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 31, 2023	May 30, 2024
Amplifier	SKET	LAPA_01G18 G-45dB	SK202104090 1	May 15, 2023	May 14, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 31, 2023	May 30, 2024
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 15, 2023	May 14, 2024
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 31, 2023	May 30, 2024
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

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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.

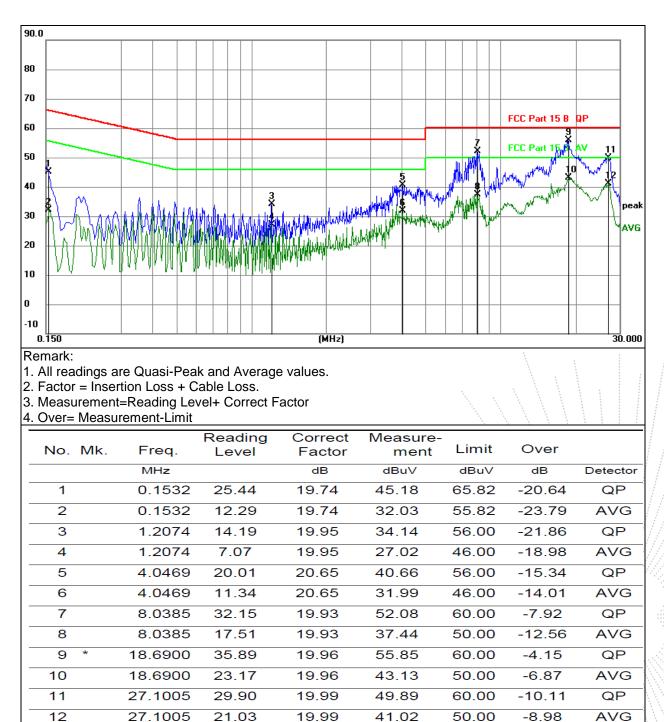
6.4 EUT Operating Conditions

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.



6.5 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz



12

41.02

50.00

-8.98

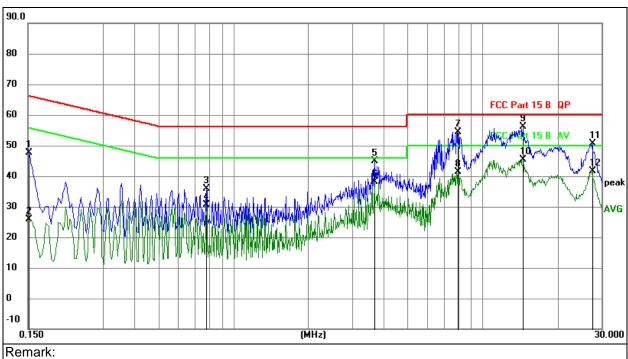
19.99

21.03

AVG



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Ν
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz



All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.

- 3. Measurement=Reading Level+ Correct Factor
- 4. Over= Measurement-Limit

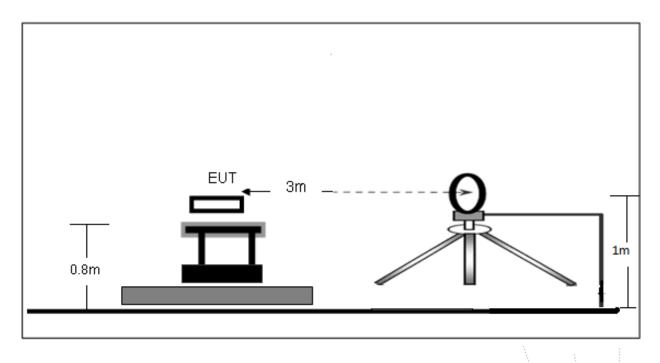
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz		dB	dBuV	dBuV	dB	Detector
1	0.1515	28.02	19.73	47.75	65.92	-18.17	QP
2	0.1515	6.13	19.73	25.86	55.92	-30.06	AVG
3	0.7793	16.01	19.87	35.88	56.00	-20.12	QP
4	0.7793	10.80	19.87	30.67	46.00	-15.33	AVG
5	3.6806	24.23	20.55	44.78	56.00	-11.22	QP
6	3.6806	17.54	20.55	38.09	46.00	-7.91	AVG
7	7.9353	34.55	19.93	54.48	60.00	-5.52	QP
8	7.9353	21.47	19.93	41.40	50.00	- <mark>8</mark> .60	AVG
9 *	14.5171	36.13	19.88	56.01	60.00	-3.99	QP
10	14.5171	25.61	19.88	45.49	50.00	-4.51	AVG
11	27.5616	30.59	19.99	50.58	60.00	-9.42	QP
12	27.5616	21.53	19.99	41.52	50.00	-8.48	AVG



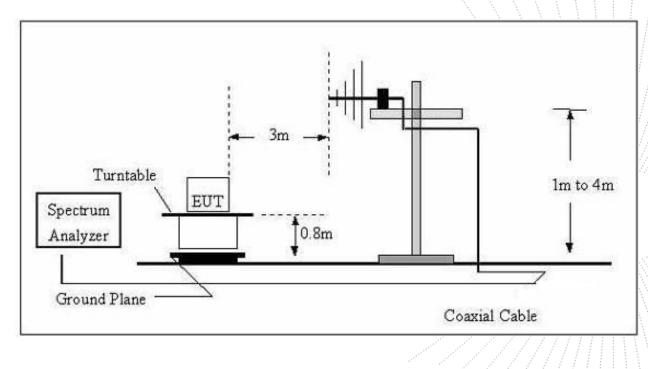
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

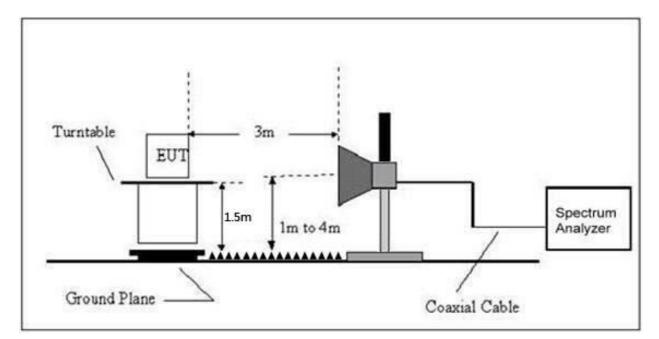
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



(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 Li	mit 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)

	Limit (d	BuV/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).



FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

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 chamber. 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:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).

h. Test the EUT in the lowest channel ,the middle 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.



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 chamber. 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 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:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	AC 120V/60Hz
Test Mode:	Mode 4	Polarization :	

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				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 – 1GHzTemperature:26 °CRelative Humidity:54%						
Pressure:	101KPa	Phase :	Horizontal			
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz			



30.0	dBu∀/n	n								1						_
70																_
50										FCC Part15	RF-Class	R 30.	1000	Hz		_
50										argin -6 dl		. 0_30	10001			f
40											4 ×			5 X		_
30		1							3	NA .						ł
20	party and	Å	M	\mathcal{J}	M	UM4	\checkmark	he man down	C Van W.	What	n h M	KAAL	Willia	MILIA	MW POW	-
10	an M	*		wr				14040								_
)																_
10																_
20	0.000			0.00				(MHz)		300.00					10	

Remark:

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

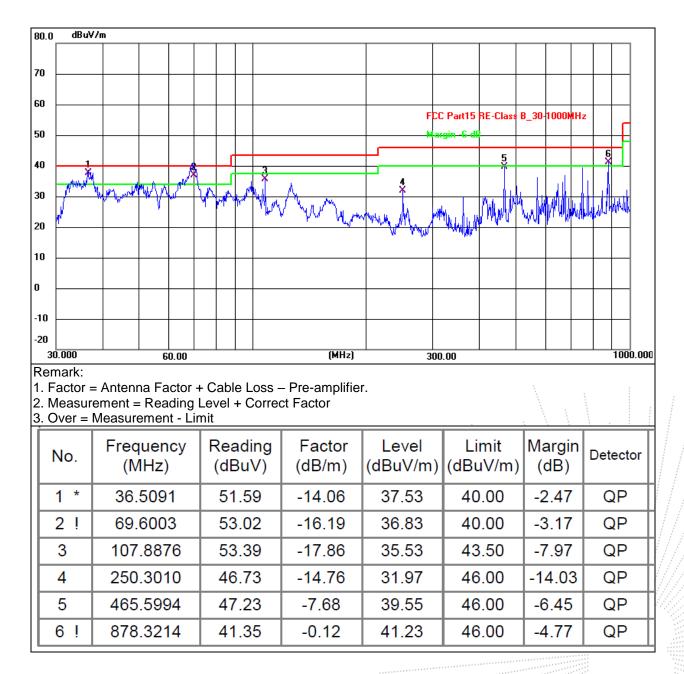
2. Measurement = Reading Level + Correct Factor

3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	42.6000	37.74	-13.66	24.08	40.00	- <mark>1</mark> 5.92	QP
2 *	69.8449	49.24	-16.21	33.03	40.00	-6.97	QP
3	212.2694	44.98	-16.51	28.47	43.50	- <mark>1</mark> 5.03	QP
4	465.5994	43.71	-7.68	36.03	46.00	-9.97	QP
5	750.1082	40.13	-2.34	37.79	46.00	-8.21	QP
6	948.7609	36.07	0.90	36.97	46.00	-9.03	QP



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Test Voltage :	AC 120V/60Hz





			GF	SK			
Polar	Fre- quency	Reading Level	Correct Factor	Measure- ment	Limits	Over	Detector
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Туре
	-		Low c	hannel			
V	4804.00	68.00	-19.99	48.01	74.00	-25.99	PK
V	4804.00	59.18	-19.99	39.19	54.00	-14.81	AV
V	7206.00	58.31	-14.22	44.09	74.00	-29.91	PK
V	7206.00	48.65	-14.22	34.43	54.00	-19.57	AV
Н	4804.00	63.79	-19.99	43.80	74.00	-30.20	PK
Н	4804.00	52.87	-19.99	32.88	54.00	-21.12	AV
Н	7206.00	57.24	-14.22	43.02	74.00	-30.98	PK
Н	7206.00	50.00	-14.22	35.78	54.00	-18.22	AV
			Middle	channel			
V	4880.00	65.40	-19.84	45.56	74.00	-28.44	PK
V	4880.00	57.57	-19.84	37.73	54.00	-16.27	AV
V	7320.00	54.63	-13.90	40.73	74.00	-33.27	PK
V	7320.00	46.09	-13.90	32.19	54.00	-21.81	AV
Н	4880.00	61.97	-19.84	42.13	74.00	-31.87	PK
Н	4880.00	51.03	-19.84	31.19	54.00	-22.81	AV
Н	7320.00	52.93	-13.90	39.03	74.00	-34.97	PK
Н	7320.00	45.16	-13.90	31.26	54.00	-22.74	AV
	-		High c	hannel			
V	4960.00	67.93	-19.68	48.25	74.00	-25.75	PK
V	4960.00	57.87	-19.68	38.19	54.00	-15.81	AV
V	7440.00	60.44	-13.57	46.87	74.00	-27.13	PK
V	7440.00	50.34	-13.57	36.77	54.00	-17.23	AV
Н	4960.00	65.45	-19.68	45.77	74.00	-28.23	PK
Н	4960.00	56.27	-19.68	36.59	54.00	-17.41	AV
Н	7440.00	57.96	-13.57	44.39	74.00	-29.61	PK
Н	7440.00	49.40	-13.57	35.83	54.00	-18.17	AV

Between 1GHz – 25GHz

Remark:

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - Limit

2.If peak below the average limit, the average emission was no test.

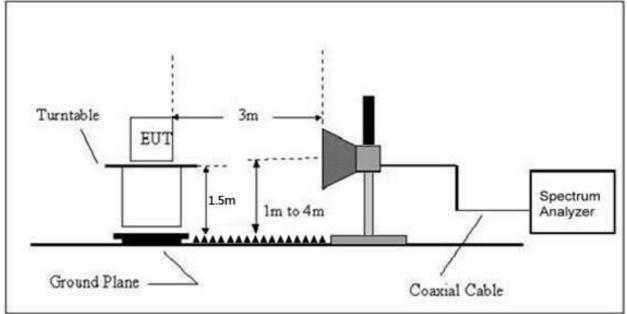
3. In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



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)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)				
FREQUENCI (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 chamber. 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 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

	Polar (H/V)	Fre- quency	Reading Level	Correct Factor	Measure- ment (dBuV/m)		nits IV/m)	Result			
		(MHz)	(dBuV/m)	(dB)	PK	PK	AV				
	Low Channel 2402MHz										
	Н	2390.00	71.44	-25.43	46.01	74.00	54.00	PASS			
	Н	2400.00	75.22	-25.40	49.82	74.00	54.00	PASS			
	V	2390.00	72.43	-25.43	47.00	74.00	54.00	PASS			
GFSK	V	2400.00	76.55	-25.40	51.15	74.00	54.00	PASS			
GFSK	High Channel 2480MHz										
	Н	2483.50	75.93	-25.15	50.78	74.00	54.00	PASS			
	Н	2500.00	69.23	-25.10	44.13	74.00	54.00	PASS			
	V	2483.50	75.61	-25.15	50.46	74.00	54.00	PASS			
	V	2500.00	71.80	-25.10	46.70	74.00	54.00	PASS			

Remark:

1. Measurement = Reading Level + Correct Factor,

Correct Factor = Antenna Factor + Cable Loss - Pre-amplifier,

Over= Measurement - 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 Part15 (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 \ge 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

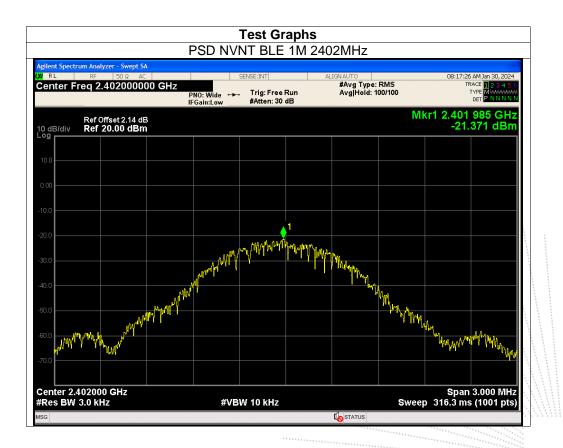
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing. Note: Power Spectral Density(dBm)=Reading+Cable Loss

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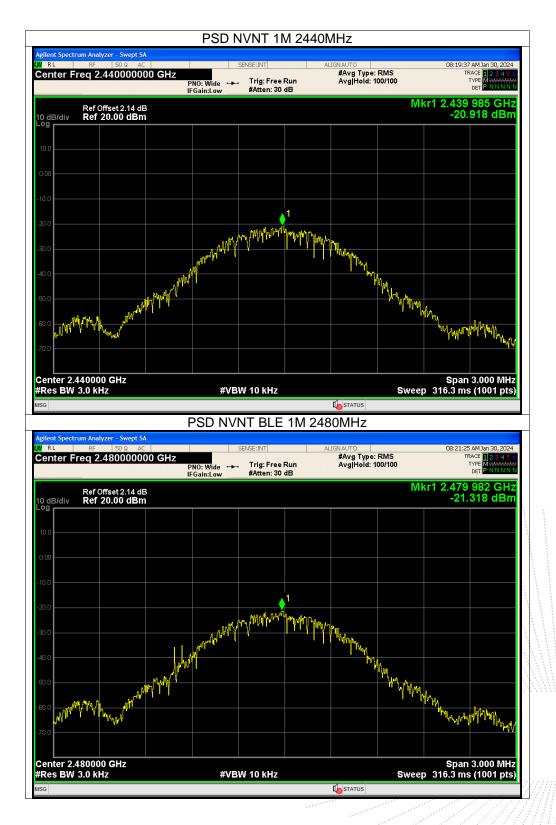


9.5 Test Result

Temperature:	26 °C		Relative Humidity	: 54%	
Test Mode:	GFSK		Test Voltage:	AC 120V/6	0Hz
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	-21.37	8	Pass
NVNT	BLE 1M	2440	-20.92	8	Pass
NVNT	BLE 1M	2480	-21.32	8	Pass









10. 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:	26 ℃		Relative Humidity	<i>'</i> :	54%	
Test Mode:	GFSK		Test Voltage:		AC 120V/60	OHz
						I
Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Ba	nit -6 dB ndwidth (MHz)	Verdict
NVNT	BLE 1M	2402	0.711		0.5	Pass
NVNT	BLE 1M	2440	0.715		0.5	Pass
NVNT	BLE 1M	2480	0.73		0.5	Pass



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ent Spectrum Analyzer - Occupied B RL RF 50 Ω AC		SENSE:INT	ALIGNAUTO	08:18:58 AM Jan 30, 2024
nter Freq 2.44000000	GHz	Center Freq: 2.4400 . Trig: Free Run	00000 GHz Avg Hold: 100/100	Radio Std: None
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS Mkr3 2.440327 GHz
Ref Offset 2.14 d dB/div Ref 22.14 dBn	B n			-12.626 dBm
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9				
9				
enter 2.44 GHz				Span 3 MHz
es BW 100 kHz		#VBW 300	KHZ	Sweep 1.333 ms
Occupied Bandwidt	h			
1.	1108 MHz			
Transmit Freq Error	-30.351 kHz	OBW Power	99.00 %	
k dB Bandwidth	715.4 kHz	x dB	-6.00 dB	
			1	
		th NVNT BLE	1M 2480MHz	
ent Spectrum Analyzer - Occupied B RL RF 50 Ω AC		SENSE:INT	ALIGNAUTO	08:20:46 AM Jan 30, 2024
nter Freq 2.48000000		Center Freq: 2.48000 Trig: Free Run	00000 GHz Avg Hold: 100/100	Radio Std: None
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
Ref Offset 2.14 d dB/div Ref 22.14 dBn	B			Mkr3 2.480335 GHz -12.537 dBm
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				Span 3 MHz
enter 2.48 GHz BW 100 kHz		#VBW 300		Span 3 MHz Sweep 1.333 ms
nter 2.48 GHz es BW 100 kHz	b	#VBW 300		
Inter 2.48 GHz es BW 100 kHz Occupied Bandwidt		#VBW 300		
nter 2.48 GHz es BW 100 kHz Occupied Bandwidt	1116 MHz		kHz	
enter 2.48 GHz les BW 100 kHz Occupied Bandwidt 1. Transmit Freq Error	1116 MHz -29.690 kHz	OBW Power	kHz 99.00 %	
Inter 2.48 GHz Inter 2.48 GHz Occupied Bandwidt 1.	1116 MHz		kHz	
Inter 2.48 GHz es BW 100 kHz Occupied Bandwidt 1. Transmit Freq Error	1116 MHz -29.690 kHz	OBW Power	kHz 99.00 %	



11. Peak Output Power Test

11.1 Block Diagram Of Test Setup



11.2 Limit

		FCC Part15 (15.247) ,	Subpart C	
Section	Test Item	Limit	Frequency Range (MHz)	Result
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

11.5 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Test Mode:	GFSK	Test Voltage:	AC 120V/60Hz

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	mit (dBm) Verdict
NVNT	BLE 1M	2402	-4.15	30 Pass
NVNT	BLE 1M	2440	-3.69	30 Pass
NVNT	BLE 1M	2480	-4.2	30 Pass



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..

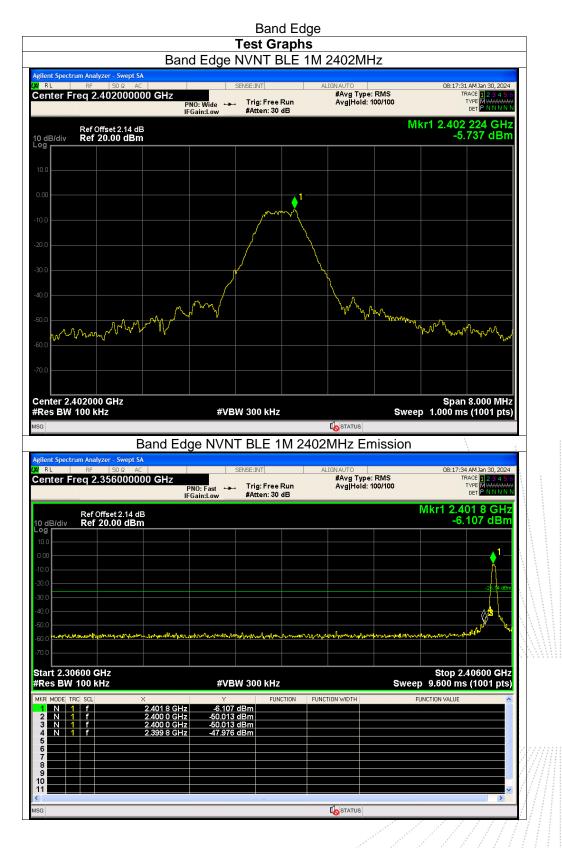
12.4 EUT Operating Conditions

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





ilent Spectrum Analyz R L RF	50 Ω AC			SENSE:INT		ALIGN AUTO		08:21:	30 AM Jan 30, 2024
enter Freq 2.4	1800000	Р	NO: Wide 🔸	. Trig: Free #Atten: 30	Run dB	#Avg Ty Avg Hold	be: RMS 1: 100/100		TRACE 12345 TYPE MWWWWWW DET PNNNN
Ref Of dB/div Ref 2	fset 2.14 dE 0.00 dBm	3					N	1kr1 2.48 -{	0 240 GHz 5.854 dBm
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ilent Spectrum Analyz	zer - Swept SA	I		T BLE 1		30MHz E			
ilent Spectrum Analyz R L RF	<mark>zer - Swept SA</mark> 50 Ω AC	00 GHz	ge NVN	T BLE 1	IM 248	BOMHZ E		08:21:	33 AM Jan 30, 2024
ilent Spectrum Analyz RL RF enter Freq 2.5	2er - Swept SA 50 Ω AC 52600000	00 GHz		T BLE 1	IM 248	BOMHZ E	mission	08:21:	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 0 TYPE M WWWWW DET P N N N N
ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of D dE/div Ref 2	<mark>zer - Swept SA</mark> 50 Ω AC	00 GHz	ge NVN	T BLE 1 SENSE: INT	IM 248	BOMHZ E		08:21: Mkr1 2.4	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 0 TYPE M WWWWW DET P N N N N
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of 0 dB/div Ref 2 0 0	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN	T BLE 1 SENSE: INT	IM 248	BOMHZ E		08:21: Mkr1 2.4	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N 479 8 GHz
RL RF enter Freq 2.5 Ref Of 0 dB/div Ref 2	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN	T BLE 1 SENSE: INT	IM 248	BOMHZ E		08:21: Mkr1 2.4	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N 479 8 GHz
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of odB/div Ref 2 od 0 0 0 0 0 0 0 0	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN	T BLE 1 SENSE: INT	IM 248	BOMHZ E		08:21: Mkr1 2.4	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N 479 8 GHz
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of o dB/div Ref 2 o d 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN	T BLE 1 SENSE: INT	IM 248	BOMHZ E		08:21: Mkr1 2.4	33 AM an 30, 2024 TRACE 12 3 4 5 5 UTYPE MIXAMANA DET P NNNN 479 8 GHz 3.216 dBm
ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of od B/div Ref 2 00 01 01 02 00 00 00 00 00 00 00 00 00	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN PNO: Fast Gain:Low	T BLE 1 SENSE:INT . Trig: Free #Atten: 30	Run dB	BOMHZ E	mission se: RMS 4: 100/100	08:21: Mkr1 2.4	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 TYPE MWWWWW DET PNNNN 479 8 GHz 2.216 dBm
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of od B/div Ref 2 00 01 00 00 00 00 00 00 00 00	zer - Swept SA 50 Ω AC 52600000	00 GHz	ge NVN PNO: Fast Gain:Low	T BLE 1 SENSE:INT . Trig: Free #Atten: 30	Run dB	ALIGNAUTO #Avg Tyj Avg Hold	mission se: RMS 4: 100/100	08:21: Mkr1 2 -6	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 TYPE MWWWWW DET PNNNN 479 8 GHz 2.216 dBm
ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of O dB/div Ref 2 O d O d O d O d O d O d O d O d	2er - Swept SA 50 Ω AC 52600000 Test 2.14 dE 10.00 dBm	00 GHz	ge NVN PNO: Fast	T BLE 1 SENSE:INT . Trig: Free #Atten: 30	Run dB	ALIGNAUTO #Avg Tyj Avg Hold	mission	06:21: Mkr1 2.4 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6	33 AM Jan 30, 2024 TRACE 1 2 3 4 5 TYPE MWWWWW DET P NNNN 479 8 GHz 2.25 85 dBm 25 85 dBm 2.57600 GHz
ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of dB/div Ref 2 0 0 0 0 0 0 0 0 0 0 0 0 0	2er - Swept SA 520 2 acc 52600000 Fset 2.14 dE 0.00 dBm	X DO GHZ F F S S S S S S S S S S S S S	ge NVN PNO: Fast Gain:Low #VB	T BLE 1 SENSE:INT . Trig: Free #Atten: 30		ALIGNAUTO #Avg Tyj Avg Hold	E RMS E: 100/100	06:21: Mkr1 2.4 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6	33 AM Ian 30, 2024 TRACE 2 3 4 5 t TYPE 2 3 4 5 t Der 2 3 4 5
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of OdB/div Ref 2 Og 1 O 1 O 2 O 2 Ref Of 2 O 1 O 2 O 2 O 2 O 2 O 2 O 2	2er - Swept SA 520 2 acc 52600000 Fset 2.14 dE 0.00 dBm	2.479.8 GHz 2.479.8 GHz 2.2500 0 GHz	ge NVN SNO: Fast Gain:Low #VB 4.47 -6.216 -52.338 -56.924	T BLE 1 SENSE:INT Trig: Free #Atten: 30		ALIGN AUTO #Avg Tyj Avg Hold	E RMS E: 100/100	08:21: Mkr1 2.4 -6	33 AM Ian 30, 2024 TRACE 2 3 4 5 t TYPE 2 3 4 5 t Der 2 3 4 5
Ilent Spectrum Analyz RL RF Rt RF enter Freq 2.5 Ref Of OdB/div Ref 2 0.0 1 0.0 1 0.0 1 0.0 1 0.0 1 0.0 1 0.0 2 0.0 1 0.0 2 0.0 2 0.0 2 0.0 2 0.0 2 0.0 1 1 1 1 1 2 1 1 1 3 1 1 1 4 1 1 1 1 5 1 1 1 1	2er - Swept SA 520 2 acc 52600000 Fset 2.14 dE 0.00 dBm	2.479 8 GHz	ge NVN SNO: Fast Gain:Low #VB 4.47 -6.216 -52.338 -56.924	T BLE 1 SENSE:INT Trig: Free #Atten: 30		ALIGN AUTO #Avg Tyj Avg Hold	E RMS E: 100/100	08:21: Mkr1 2.4 -6	33 AM Ian 30, 2024 TRACE 2 3 4 5 t TYPE 2 3 4 5 t Der 2 3 4 5
enter Freq 2.5 Ref Of 0 dB/div Ref 2 0 d 0 d 0 d 0 d 0 d 0 d 0 d 0 d	2er - Swept SA 520 2 acc 52600000 Fset 2.14 dE 0.00 dBm	2.479.8 GHz 2.479.8 GHz 2.2500 0 GHz	ge NVN SNO: Fast Gain:Low #VB 4.47 -6.216 -52.338 -56.924	T BLE 1 SENSE:INT Trig: Free #Atten: 30		ALIGN AUTO #Avg Tyj Avg Hold	E RMS E: 100/100	08:21: Mkr1 2.4 -6	33 AM Ian 30, 2024 TRACE 2 3 4 5 t TYPE 2 3 4 5 t Der 2 3 4 5
Ilent Spectrum Analyz RL RF enter Freq 2.5 Ref Of 0 dB/div Ref 2 0 d 0 d 0 d 0 d 0 d 0 d 0 d 0 d	2er - Swept SA 520 2 acc 52600000 Fset 2.14 dE 0.00 dBm	2.479.8 GHz 2.479.8 GHz 2.2500 0 GHz	ge NVN SNO: Fast Gain:Low #VB 4.47 -6.216 -52.338 -56.924	T BLE 1 SENSE:INT Trig: Free #Atten: 30		ALIGN AUTO #Avg Tyj Avg Hold	E RMS E: 100/100	08:21: Mkr1 2.4 -6	33 AM Ian 30, 2024 TRACE 2 3 4 5 t TYPE 2 3 4 5 t Der 2 3 4 5







ent Spectrum Analyzer - Swe RL RF 50 Ω	AC	SE	NSE:INT	ALIGNAUTO	08:19:42 AM Jan 30, 2024
nter Freq 2.44000	PN	IO: Wide ↔ Sain:Low	Trig: Free Run #Atten: 30 dB	#Avg Type: RMS Avg Hold: 100/10	TRACE 1 2 3 4 5 TYPE M MANAMM DET P N N N N
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ent Spectrum Analyzer - Sw		us NVN1	۲ BLE 1M 2	440MHz Emis	
RL RF 50Ω	ept SA AC D00000 GHz	SE	NSE:INT	440MHz Emis	sion 08:20:12 AM Jan 30, 2024
RL RF 50Ω	ept SA AC 000000 GHz Pt			440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 3 4 5 TYPE DET PNNNN
RL RF 50 Ω nter Freq 13.2650 	ept SA AC DOOOOOO GHZ PP IFC	SE NO: Fast ↔	NSE:INT	440MHz Emis	sion 08:20:12 AM Jan 30, 2024
RL RF 150 Q nter Freq 13.2650 Ref Offset 2. dB/div Ref 20.00 (ept SA AC DOOOOOO GHZ PP IFC	SE NO: Fast ↔	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 23 4 5 TYPE MANAGEMENT DET P N N N N Mkr1 2,439 GHz
RL RF 50 9 nter Freq 13.2650 Ref Offset 2. dB/div Ref 20.00 (0 0 1 1	ept SA AC DOOOOOO GHZ PP IFC	SE NO: Fast ↔	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 23 4 5 TYPE MANAGEMENT DET P N N N N Mkr1 2,439 GHz
Ref Offset 2: dB/div Ref 20.00 (ept SA AC DOOOOOO GHZ PP IFC	SE NO: Fast ↔	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 23 4 5 TYPE MANAGEMENT DET P N N N N Mkr1 2,439 GHz
RE Offset2: Bidiv Ref 20.00 of a bidiv Ref	ept SA AC DOOOOOO GHZ PP IFC	SE NO: Fast ↔	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 3 4 5 TYPE MKr1 2.439 GHz -5.531 dBm
RL RF Freq 13.2650 Ref Offset2. dB/div Ref 20.00 o	ept SA AC DOOOOOO GHZ PP IFC	NO: Fast +>+ Sain:Low	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 3 4 5 TYPE MKr1 2.439 GHz -5.531 dBm
Rt Offset 2: Birline Ref Offset 2: Birline Ref 20:00 (Birline Ref 20	ept SA AC DOOOOOO GHZ PP IFC	NO: Fast +>+ Sain:Low	NSE:INT	440MHz Emis	Sion
RE Offset 2: dB/div Ref 20:00 d	ept SA AC DOOOOOO GHZ PP IFC	NO: Fast +++ Sain:Low	NSE:INT	440MHz Emis	Sion 08:20:12 AM Jan 30, 2024 TRACE 12 3 4 5 TYPE MKr1 2.439 GHz -5.531 dBm
RE SEW TRC SCI N N 1 F	ept SA AC D000000 GHz PIFC 14 dB dBm	NO: Fast → Sain:Low #VBW	NSE:INT Trig: Free Run #Atten: 30 dB	440MHz Emis	Sion 08:20:12 AM Ian 30, 2024 TRACE 12.3 4 5 TYPE 12.439 GHz -5.531 dBm -25.531 dBm
RE 0 Freq 13.2650 Ref Offset 2: dB/div Ref 20.00 (AC 000000 GHz Pr IFC 14 dB dBm 3 4 2.439 GHz 2.6315 GHz 4.874 GHz	NO: Fast →→ Sain:Low #VBW #VBW Y -5.531 di -47.992 di	NSE:INT Trig: Free Run #Atten: 30 dB	440MHz Emis	Sion
RL 0 RF 50 Q nter Freq 13.2650 Ref Offset 2: dB/div Ref 20.00 (1 1 1 1 1 1 1 1 1 1 1 1 1	ept SA AC D000000 GHz PP IFC 14 dB dBm	N0: Fast →→ Sain:Low 5 #VBW ¥VBW 25.531 di -37.750 di	NSE:INT	440MHz Emis	Sion
RL RF 50 Ω nter Freq 13.2650 Ref Offset 2: dEJ/div Ref 20.00 d att 30 MHz es BW 100 kHz MODE TRC SCL N 1 f N 1 f N 1 f N 1 f N 1 f N 1 f N 1 f	AC AC AC AC AC P P P P P P P P P P P P P	N0: Fast → Sain:Low #VBW ¥VBW Ŷ 5.551 di -37.750 di -49.333 di	NSE:INT	440MHz Emis	Sion



<mark>ilent Spectrum Analyzer - Swe</mark> RL RF 50 Ω	pt SA	•	E:INT	1M 2480MHz	08:22:29 AM Jan 30, 2024
enter Freq 2.48000	0000 GHz	IO:Wide ↔ 1	Frig: Free Run Atten: 30 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 123456 TYPE MWWWWW DET PNNNNN
Ref Offset 2.1- dB/div Ref 20.00 d	4 dB IBm				Mkr1 2.480 232 5 GHz -6.090 dBm
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enter 2.4800000 GHz	 :				Span 1.500 MHz
		#VBW :	300 kHz		Sweep 1.000 ms (1001 pts)
				STATUS	
s lent Spectrum Analyzer - Swe	pt SA	us NVNT	BLE 1M 2	2480MHz Emiss	sion
lent Spectrum Analyzer - Swe RL RF 50 Ω	pt SA AC 000000 GHz			STATUS	
ו Ient Spectrum Analyzer - Swe RL אד 50 ס enter Freq 13.2650 Ref Offset 2.1	Pt SA AC 00000 GHz Pi IFC 4 dB		BLE 1M 2	2480MHz Emiss	sion 08:22:59 AM Jan 30, 2024
lent Spectrum Analyzer - Swe RL RF 50 2 enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d	Pt SA AC 00000 GHz Pi IFC 4 dB		BLE 1M 2	2480MHz Emiss	08:22:59 AMJan 30, 2024 TRACE 12 3 4 5 6 TYPE MUNININ DET PUNINN N MKr1 2.492 GHZ
Ient Spectrum Analyzer - Swe RL RF 50 2 enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d	Pt SA AC 00000 GHz Pi IFC 4 dB		BLE 1M 2	2480MHz Emiss	08:22:59 AMJan 30, 2024 TRACE 12 3 4 5 6 TYPE MUNININ DET PUNINN N MKr1 2.492 GHZ
Ient Spectrum Analyzer - Swe RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d	Pt SA AC 00000 GHz Pi IFC 4 dB		BLE 1M 2	2480MHz Emiss	08:22:59 AMJan 30, 2024 TRACE 12 3 4 5 6 TYPE MUNININ DET PUNINN N MKr1 2.492 GHZ
S Ient Spectrum Analyzer - Swe RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d	AC AC 00000 GHz PI IFC 4 dB IBm		BLE 1M 2	2480MHz Emiss	08:22:59 AMJan 30, 2024 TRACE 12 3 4 5 6 TYPE MUNININ DET PUNINN N MKr1 2.492 GHZ
RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d 00 1 00 1	Pt SA AC 00000 GHz Pi IFC 4 dB		BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AM Jan 30, 2024 ITRACE 12 2 4 5 6 TYPET MANNIN Mkr1 2.492 GHz -6.423 dBm
Ient Spectrum Analyzer - Swe RL RF 50 Ω enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d	AC AC 00000 GHz PI IFC 4 dB IBm		BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AM Jan 30, 2024 ITRACE 12 2 4 5 6 TYPET MANNIN Mkr1 2.492 GHz -6.423 dBm
Ient Spectrum Analyzer - Swe RL RF 50 Q enter Freq 13.2650 Ref Offset 2.1 Ref 20.00 d g g g g g g g g g g g g g g g g g g g	AC AC 00000 GHz PI IFC 4 dB IBm	NO: Fast	BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AMIan 30,2024 TRACE 12 3 4 5 6 TYPE MININN Mkr1 2.492 GHz -6.423 dBm
Ient Spectrum Analyzer - Swe RL RF 50 Q enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d 9 0 0 0 0 0 0 0 0 0 0 0 0 0	AC AC 000000 GHz PP IFC 4 dB IBm	NO: Fast	BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AMJan 30, 2024 TRACE 12 23 4.5 G TYPE MOMMMM OFF P 111 N1 N1 Mkr1 2.492 GHz -6.423 dBm -26.99 dbm -26.9
a RL RF 50 Q enter Freq 13.2650 Ref Offset 2.1 dB/div Ref 20.00 d 1 1 1 1 00 1 1 1 1 1 1 1 1 1 1	AC AC 00000 GHz P IFC 4 dB Bm	NO: Fast	BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AM Jan 30, 2024 TRACE 12 2 3 4 5 G TYPE M SWAWN Mkr1 2.492 GHz -6.423 dBm -26.99 dBm -26.90 d
Ient Spectrum Analyzer - Swe RL RF 50 2 enter Freq 13.26500 Ref Offset 2.1 dB/div Ref 20.00 d 00 1 01 1 02 1 03 1 04 1 05 1 06 1 07 1 08 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AC AC 000000 GHz PP IFC 4 dB IBm	NO: Fast	BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AM Jan 30, 2024 TRACE 12 2 3 4 5 G TYPE M SWAWN Mkr1 2.492 GHz -6.423 dBm -26.99 dBm -26.90 d
dB/div Ref 20.00 d Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1 Q 1	AC AC 000000 GHz PP IFC 4 dB IBm	NO: Fast	BLE 1M 2	2480MHz Emiss	Sion 08:22:59 AM Jan 30, 2024 TRACE 12 2 3 4 5 G TYPE M SWAWN Mkr1 2.492 GHz -6.423 dBm -26.99 dBm -26.90 d



13. Antenna Requirement

13.1 Limit

15.203 requirement: 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.

13.2 Test Result

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



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14. EUT Photographs

EUT Photo 1



EUT Photo 2



NOTE: Appendix-Photographs Of EUT Constructional Details.

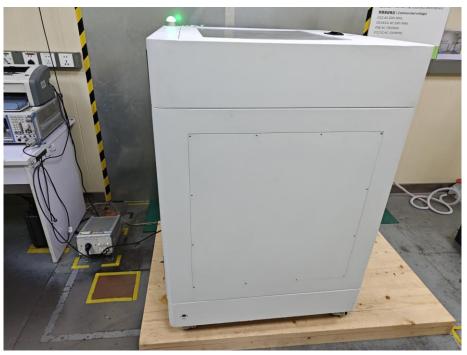
No.: BCTC/RF-EMC-005

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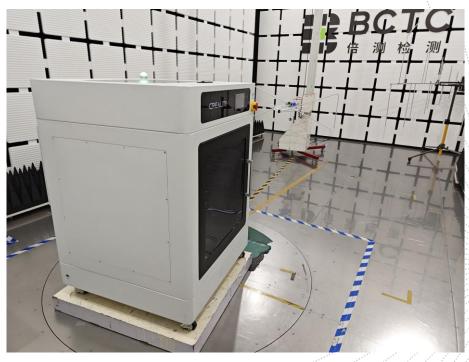


15. EUT Test Setup Photographs

Conducted Measurement Photo



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 the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

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

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

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

8. If there is any objection to this test 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 Subdistrict, 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 *****

No.: BCTC/RF-EMC-005

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