

FCC Test Report

Report No.: AGC10288180101FE05

FCC ID : 2A093PI0NL02000100
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : Nebulae Module V2
BRAND NAME : Nebulae
MODEL NAME : PI0NL02000100
CLIENT : System Level Solutions (India) Pvt. Ltd
DATE OF ISSUE : Mar. 15, 2018
STANDARD(S) : FCC Part 15.247
TEST PROCEDURE(S)
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar. 15, 2018	Valid	Initial Release

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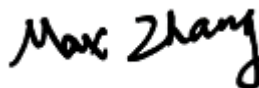
1. VERIFICATION OF CONFORMITY

Applicant	System Level Solutions (India) Pvt. Ltd.
Address	Plot#32, Zone-D/4, Phase-1, GIDC Estate, V.U. Nagar -388 121, Gujarat, India
Manufacturer	System Level Solutions (India) Pvt. Ltd.
Address	Plot#32, Zone-D/4, Phase-1, GIDC Estate, V.U. Nagar -388 121, Gujarat, India
Product Designation	Nebulae Module V2
Brand Name	Nebulae
Test Model	PI0NL02000100
Date of test	Feb. 08, 2018 to Mar. 15, 2018
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BGN/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Tested by



Max Zhang(Zhang Yi)

Mar. 15, 2018

Reviewed by



Bart Xie(Xie Xiaobin)

Mar. 15, 2018

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “Nebulae Module V2”. It is designed by way of utilizing the OQPSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.405 GHz~2.480GHz
Output Power	7.589dBm(Peak)
Modulation	OQPSK
Number of channels	16
Hardware Version	V1C
Software Version	V1.0
Antenna Designation	U.FL Connector and RP-SMA-Female connector
Antenna Gain	3.0dBi
Power Supply	DC 3.3V by Serial com.

2.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	1	2405 MHZ
	2	2410 MHZ
	3	2415 MHZ
	4	2420 MHZ
	5	2425 MHZ
	6	2430 MHZ
	7	2435 MHZ
	8	2440 MHZ
	9	2445 MHZ
	10	2450 MHZ
	11	2455 MHZ
	12	2460 MHZ
	13	2465 MHZ
	14	2470 MHZ
	15	2475 MHZ
	16	2480 MHZ

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2.3. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2A093PI0NL02000100** filing to comply with the FCC PART 15.247 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

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3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission, $U_c = \pm 3.2$ dB
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9$ dB
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8$ dB

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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX
4	Normal operating

Note:

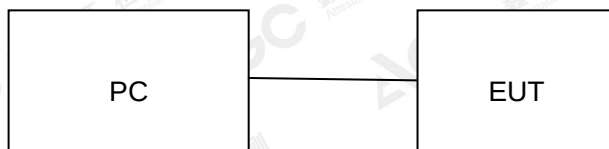
1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the EUT is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED

Item	Equipment	Model No.	ID or Specification	Remark
1	Nebulae Module V2	PI0NL02000100	2AO93PI0NL02000100	EUT
2	PC	Vrosto2421	DELL	A.E.

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	Output Power	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247	Conducted Spurious Emission	Compliant
§15.247	Maximum Conducted Output Power SPECTRAL Density	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant

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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2F., Bldg.2, No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District B112-B113, Bldg.12, Baoan Bldg Materials Center, No.1 of Xixiang Inner Ring Road, Baoan District, Shenzhen 518012
NVLAP LAB CODE	600153-0
Designation Number	CN5028
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by National Voluntary Laboratory Accreditation program, NVLAP Code 600153-0

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun.20, 2017	Jun.19, 2018
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec.08, 2017	Dec.07, 2018
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.20, 2017	Sep.19, 2018
preamplifier	ChengYi	EMC184045SE	980508	Sep.15, 2017	Sep.14, 2018
Active loop antenna (9K-30MHz)	A.H.	SAS-562B	N/A	Mar.01, 2016	Feb.28, 2018
				Feb. 27, 2018	Feb. 28, 2018
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May.18, 2017	Feb. 26, 2020
Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-205	Jun.20, 2017	Jun.19, 2018
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.28, 2017	Sep.27, 2018

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7. OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

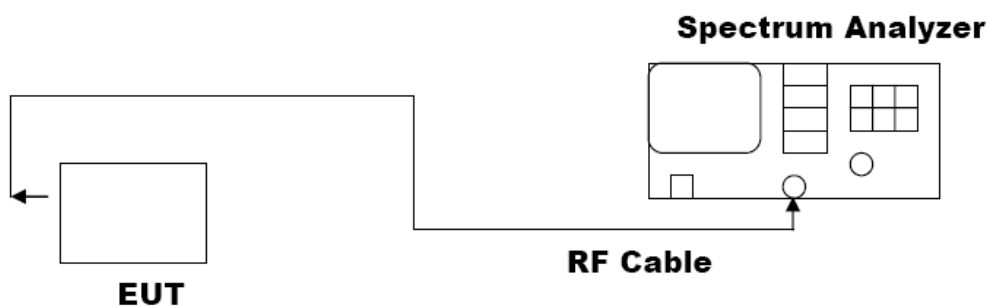
For peak power test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. $RBW \geq DTS$ bandwidth
3. $VBW \geq 3 \times RBW$.
4. $SPAN \geq VBW$.
5. Sweep: Auto.
6. Detector function: Peak.
7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

Note : The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

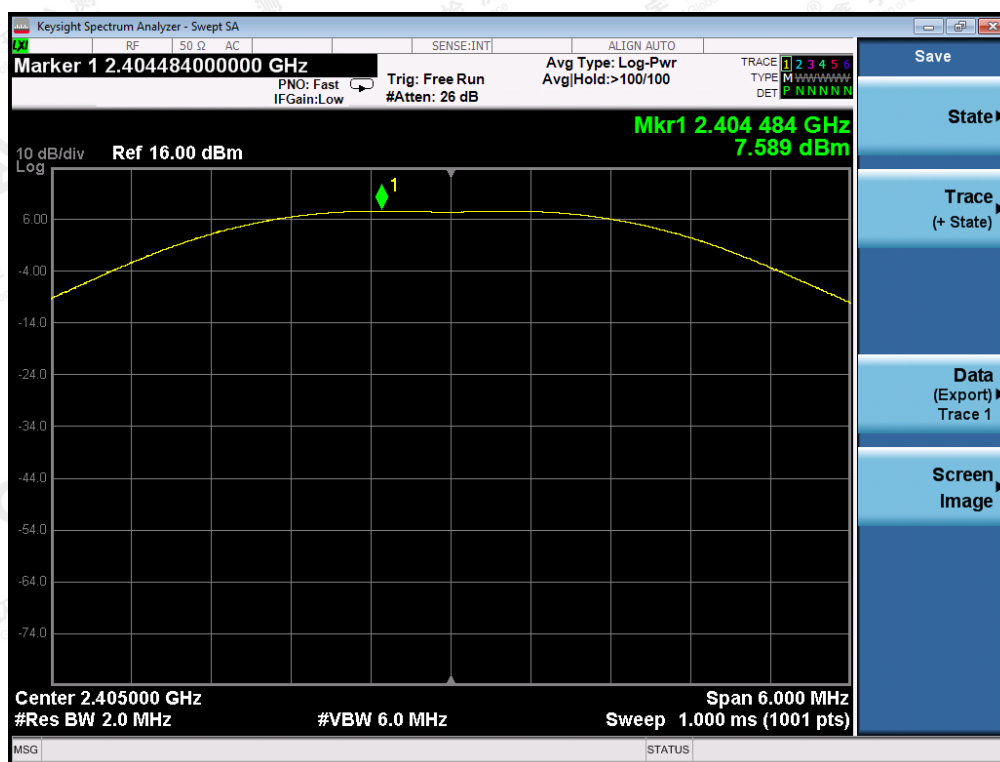


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7.3. LIMITS AND MEASUREMENT RESULT

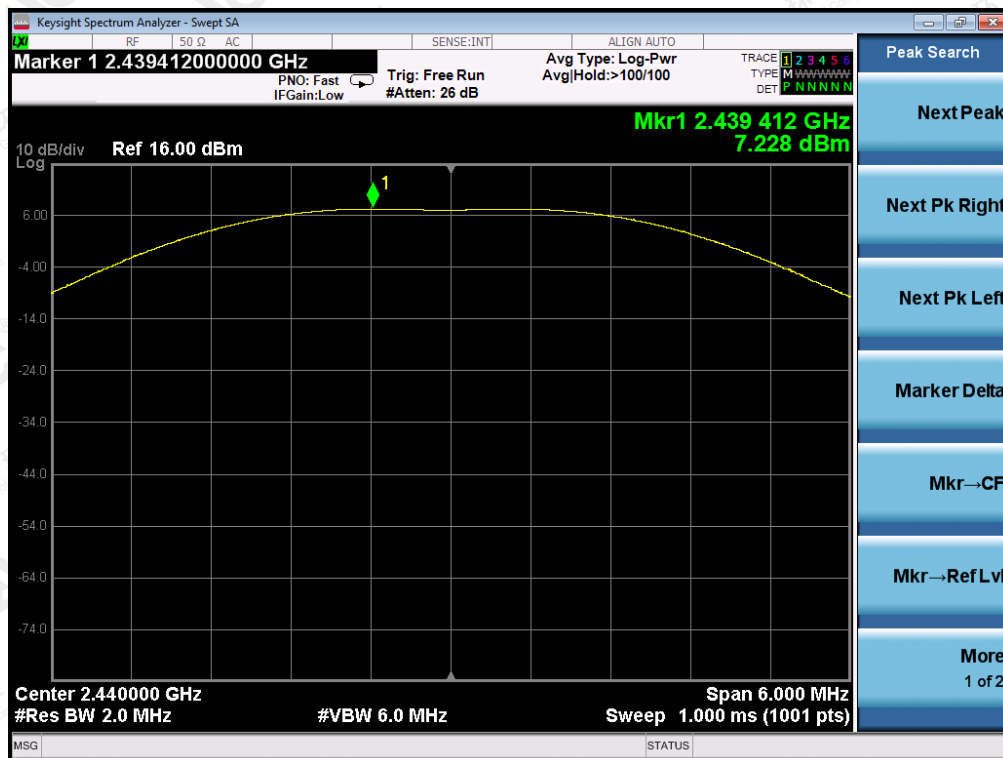
PEAK OUTPUT POWER MEASUREMENT RESULT FOR OQPSK MODULATION			
Frequency (GHz)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.405	7.589	30	Pass
2.440	7.228	30	Pass
2.480	6.837	30	Pass

Low Channel

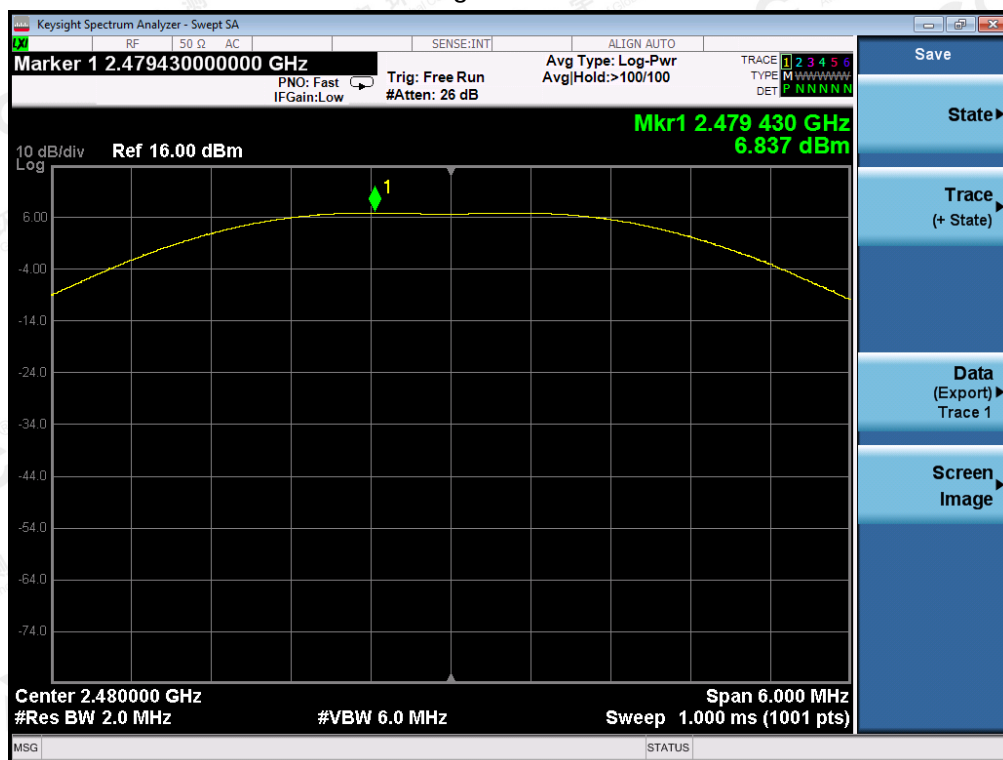


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Middle Channel



High Channel



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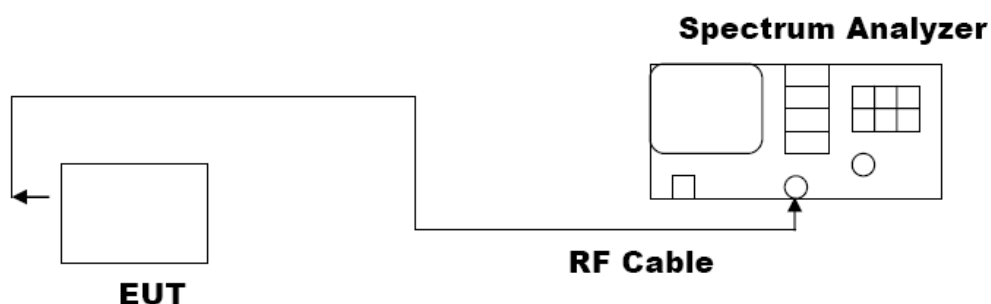
8. 6 DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW $\geq 3 \times$ RBW.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

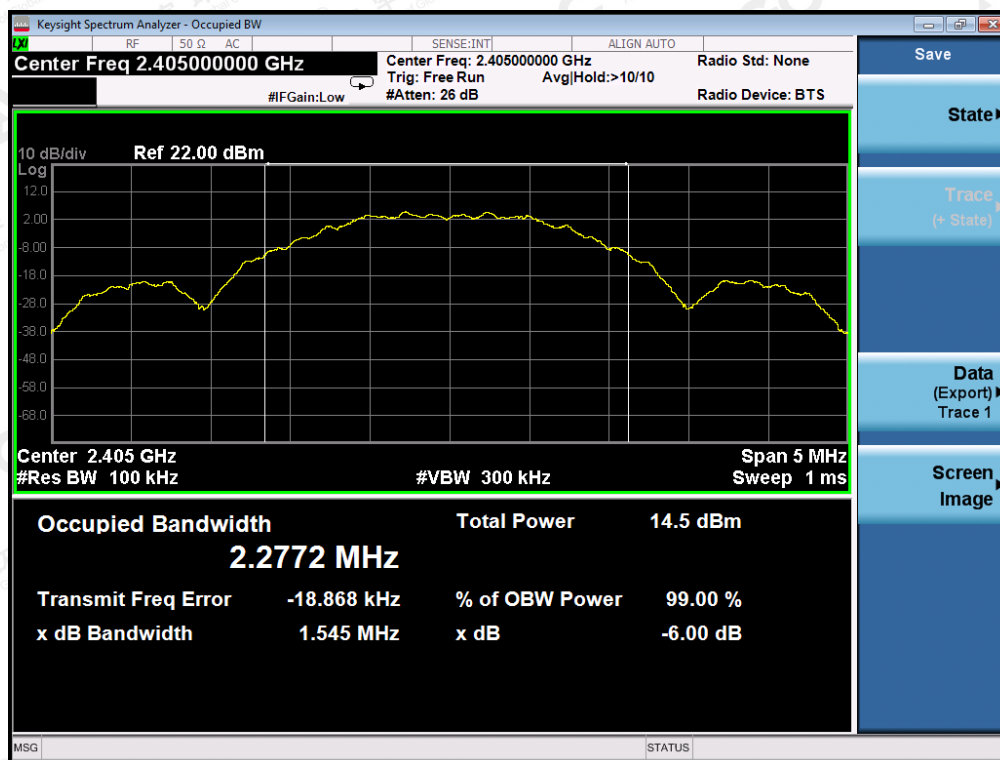


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8.3. LIMITS AND MEASUREMENT RESULTS

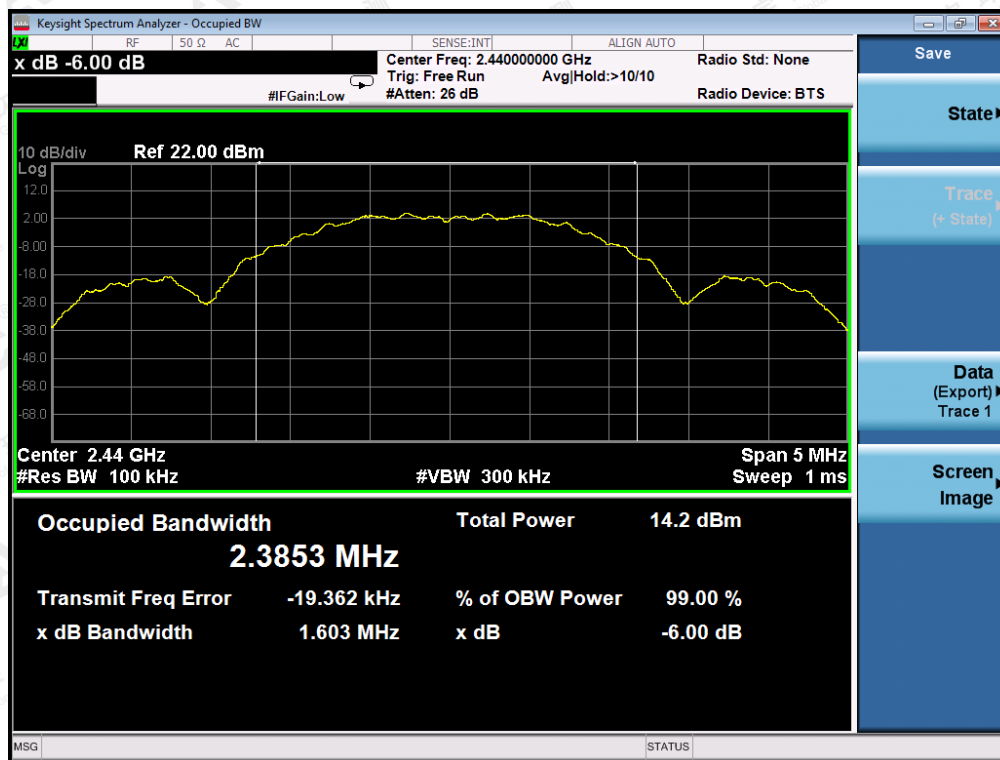
LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Applicable Limits		
	Test channel	Test Data (kHz)	Criteria
>500KHZ	Low Channel	1545	PASS
	Middle Channel	1603	PASS
	High Channel	1623	PASS

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

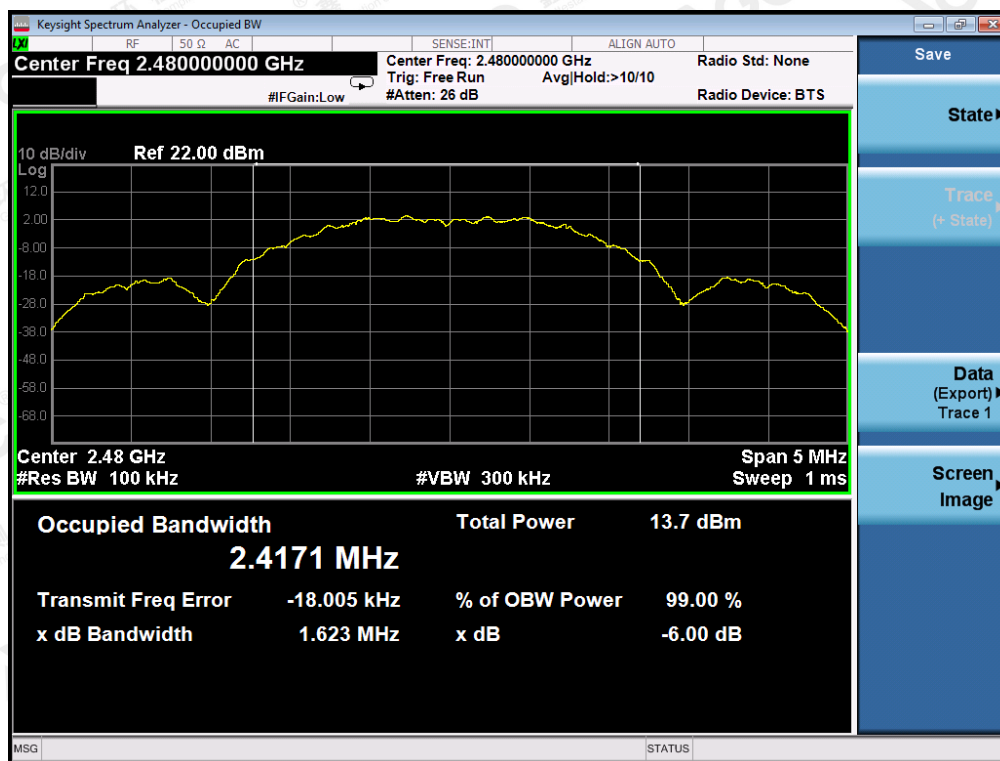


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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW > RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW > RBW) are conform to the requirement.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

9.3. MEASUREMENT EQUIPMENT USED

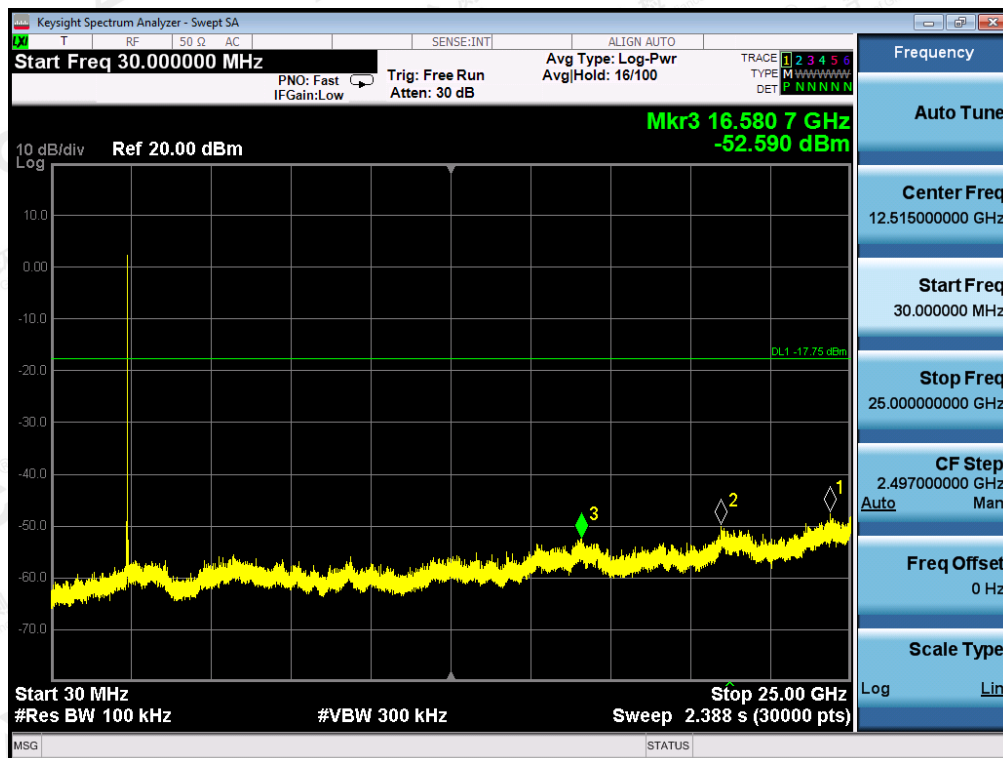
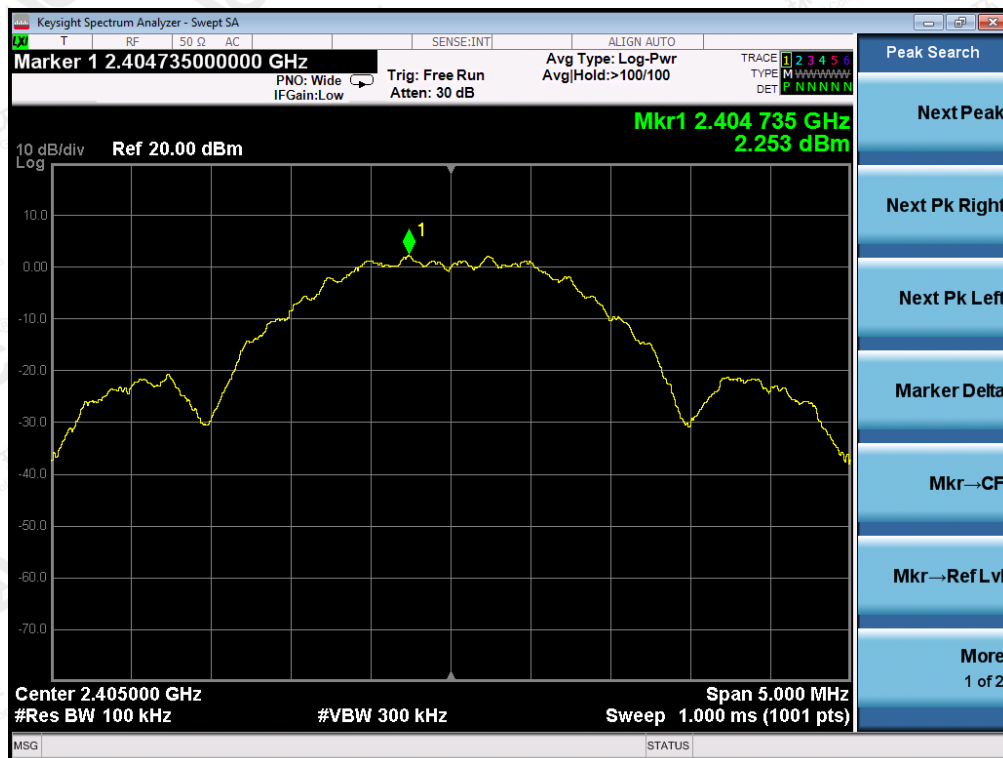
The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test Data	Criteria
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
	At least -20dBc than the limit Specified on the TOP Channel	PASS

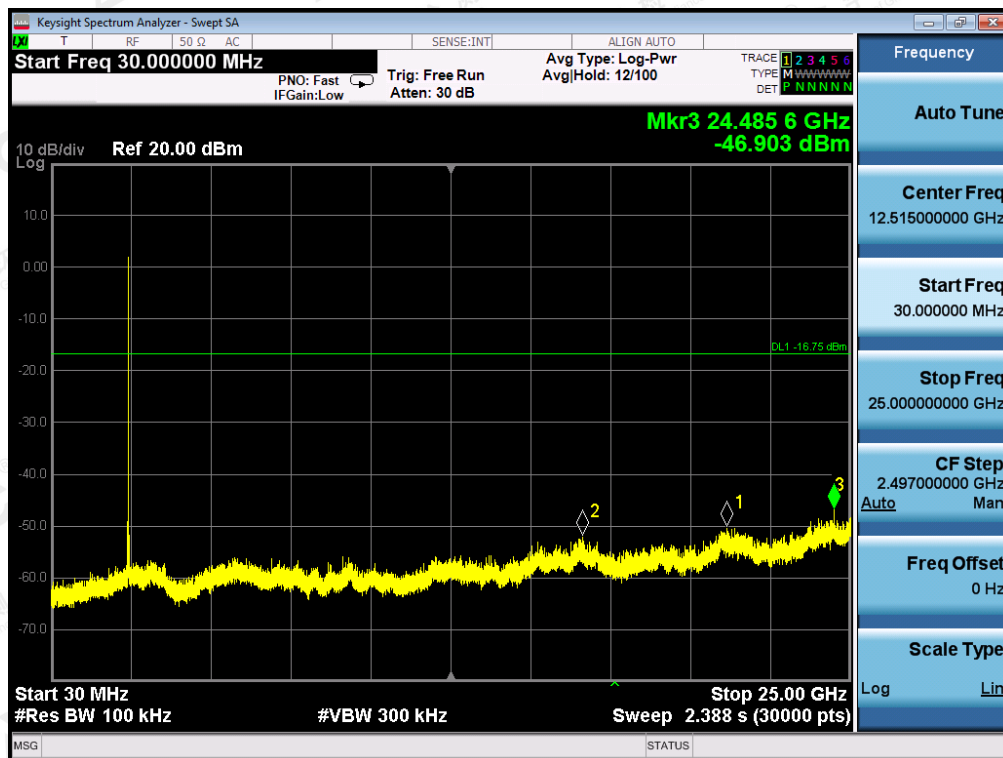
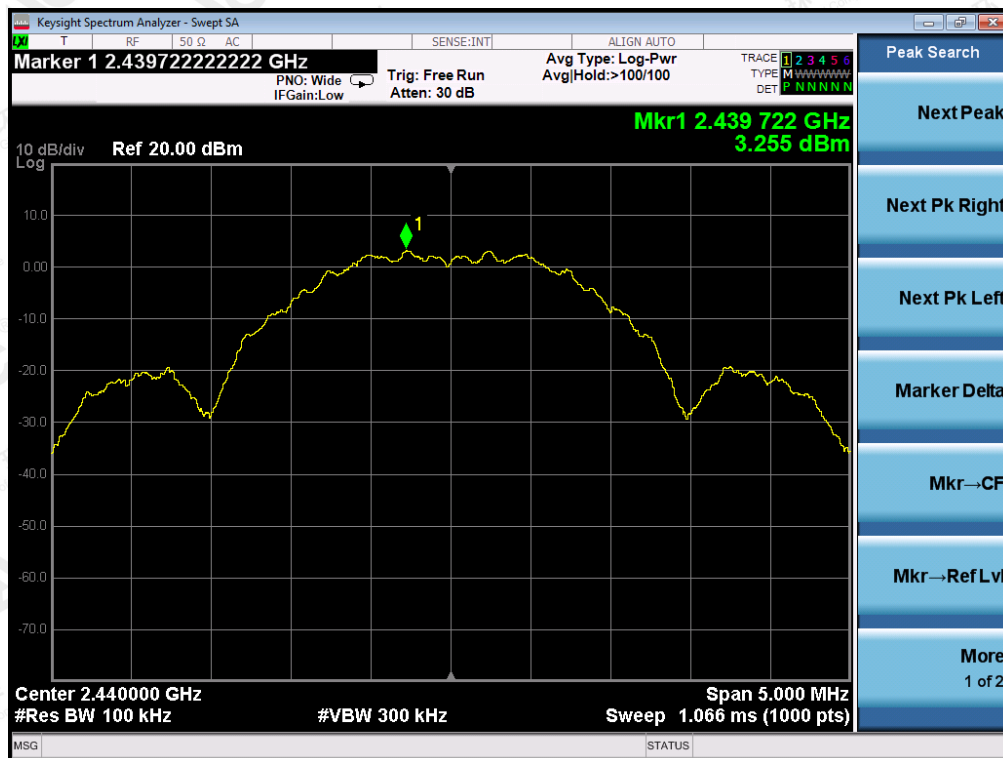
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TEST PLOT OF OUT OF BAND EMISSIONS FOR LOW CHANNEL



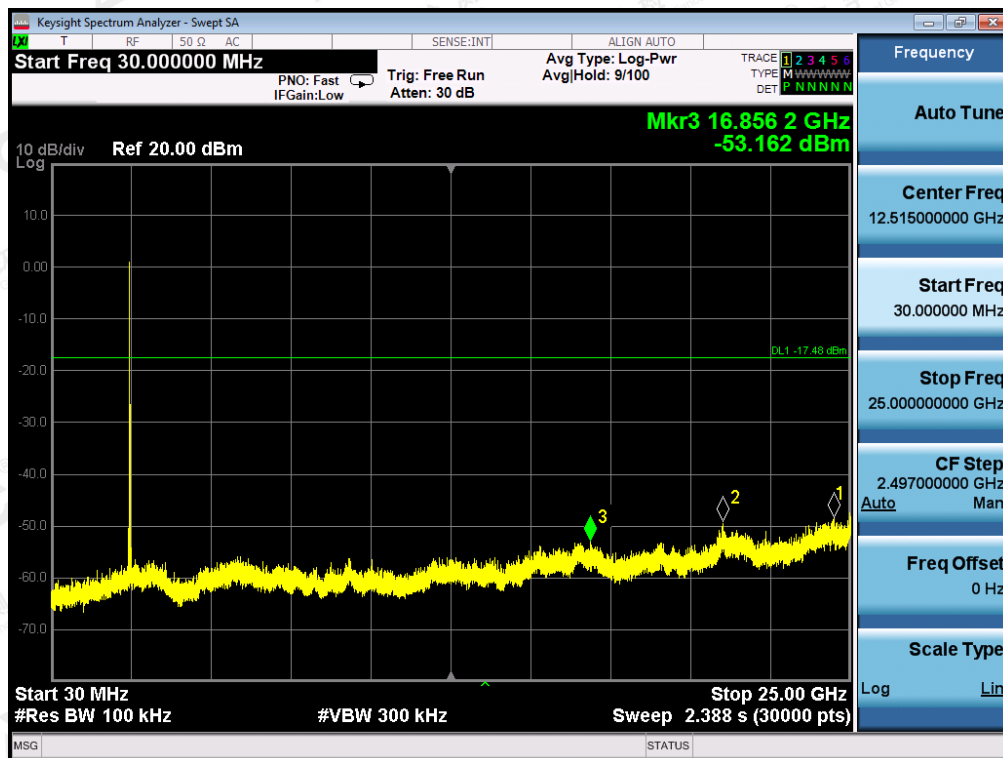
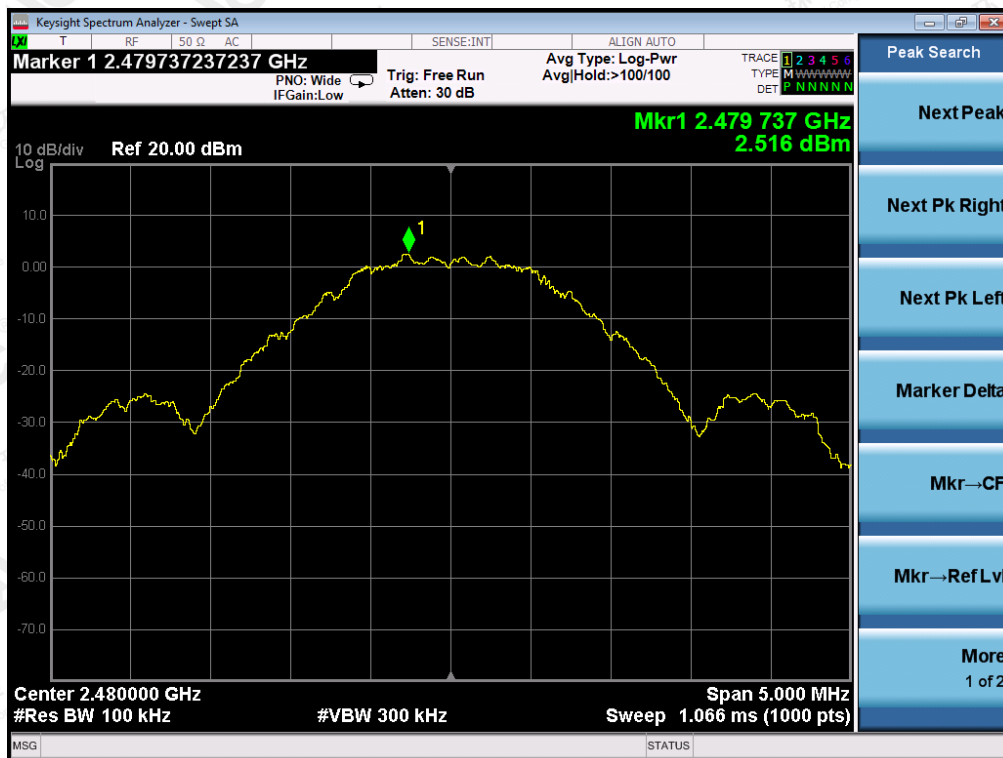
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TEST PLOT OF OUT OF BAND EMISSIONS FOR MIDDLE CHANNEL



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TEST PLOT OF OUT OF BAND EMISSIONS FOR HIGH CHANNEL



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10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1 MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD was used in this testing.

10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

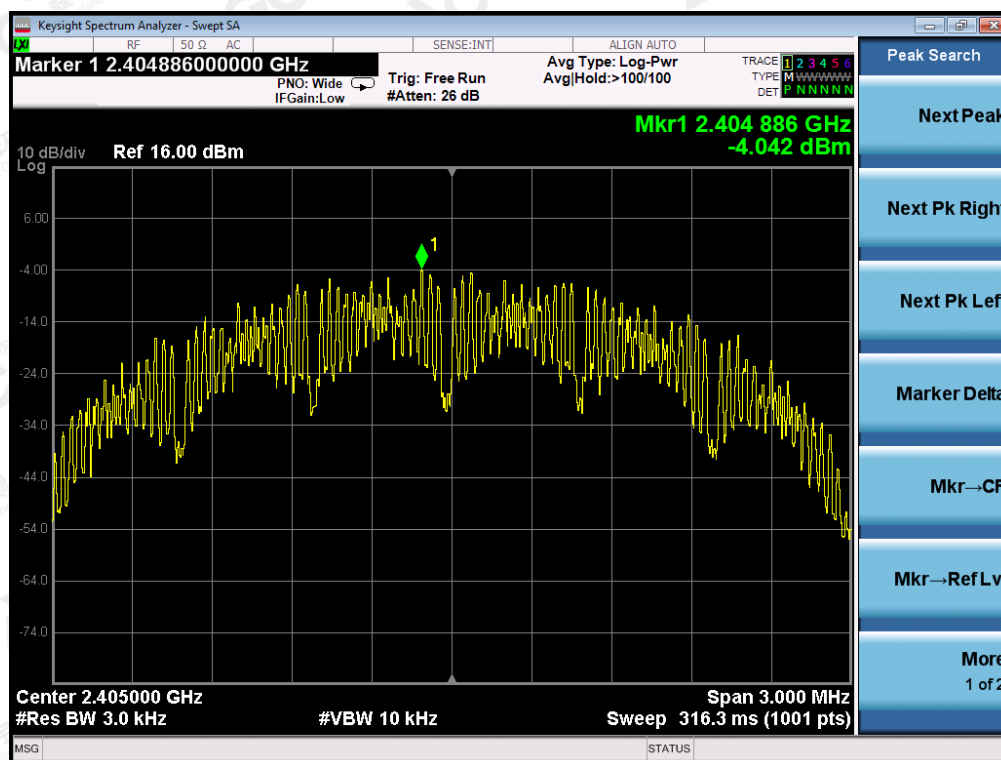
10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

10.4 LIMITS AND MEASUREMENT RESULT

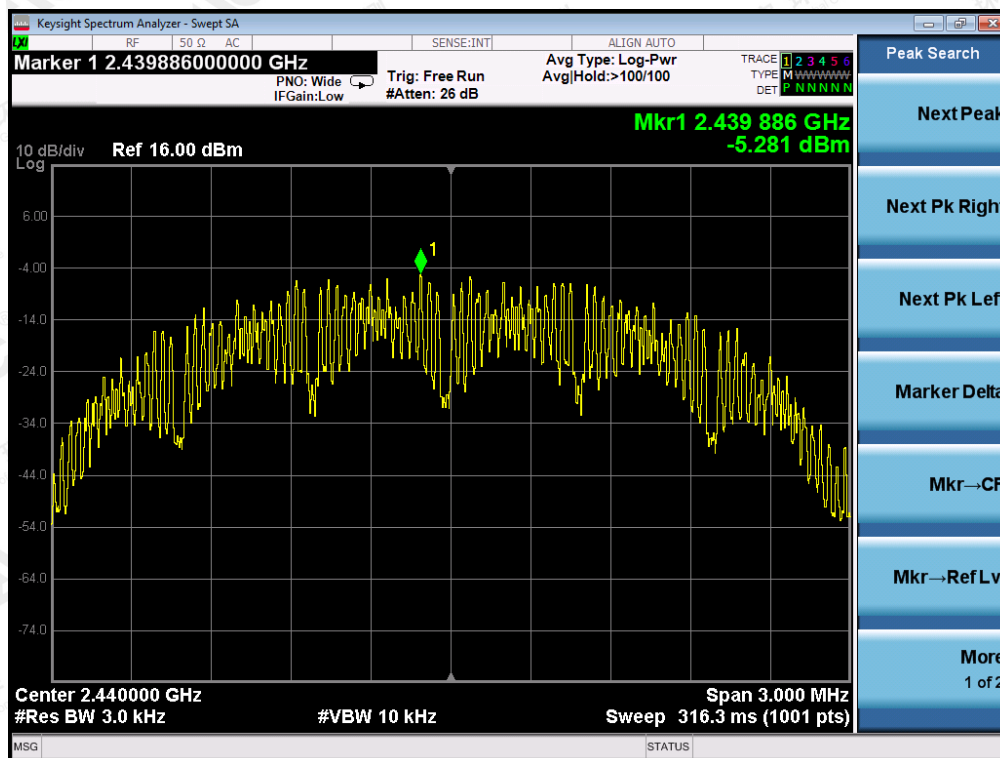
Channel No.	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-4.042	8	Pass
Middle Channel	-5.281	8	Pass
High Channel	-5.631	8	Pass

TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

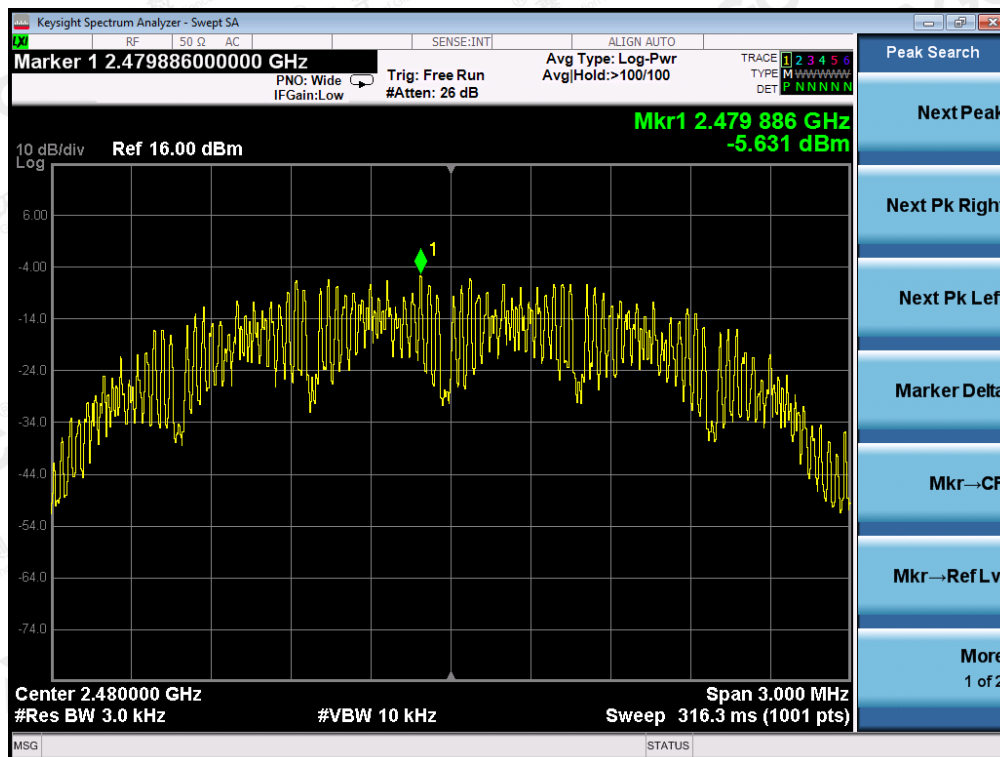


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TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



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11. RADIATED EMISSION

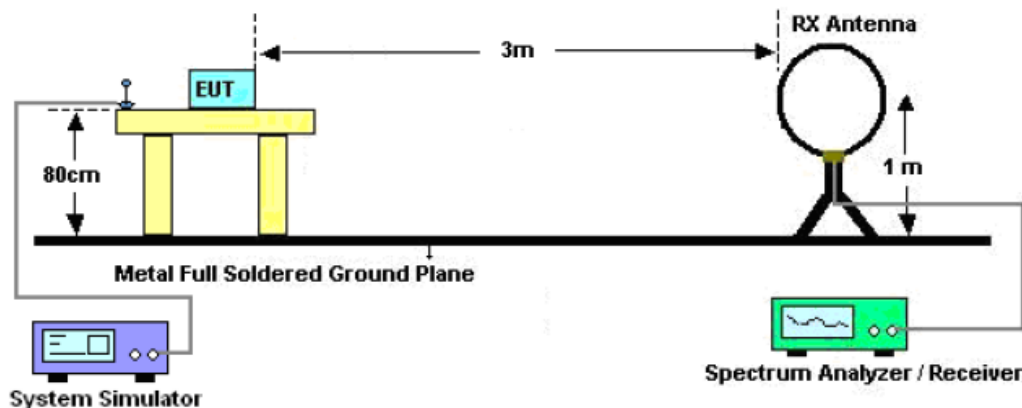
11.1. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

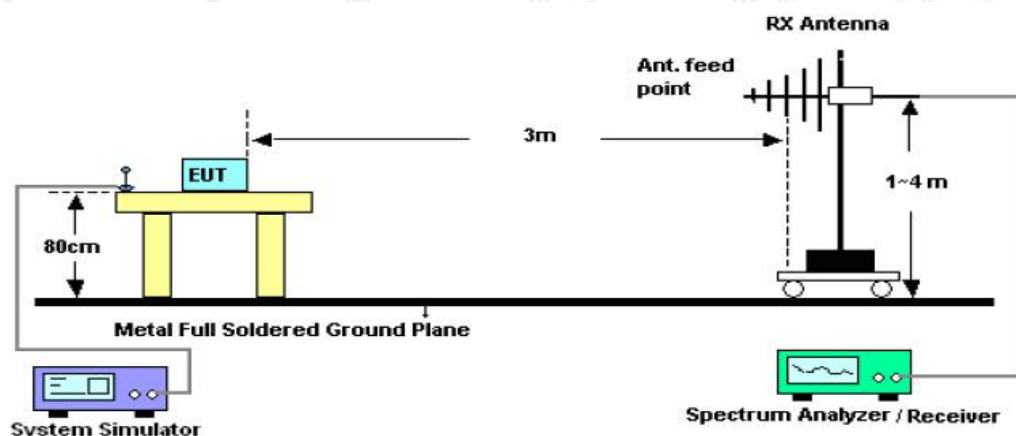
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11.2. TEST SETUP

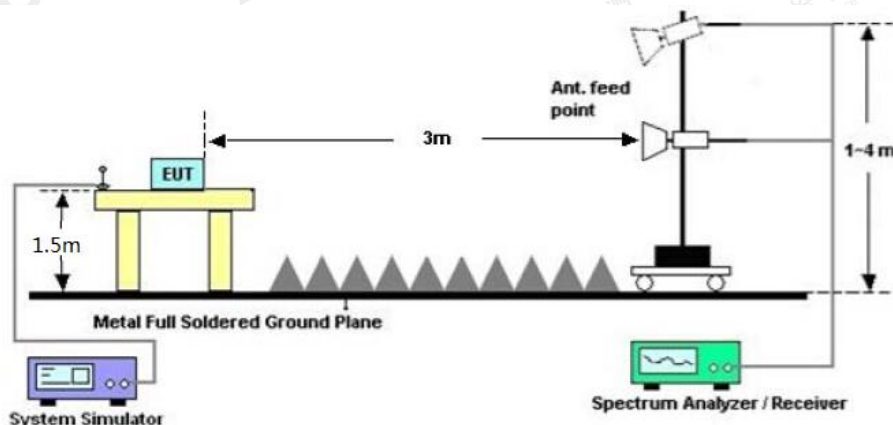
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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11.3. LIMITS AND MEASUREMENT RESULT

FCC part 15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

11.4. TEST RESULT

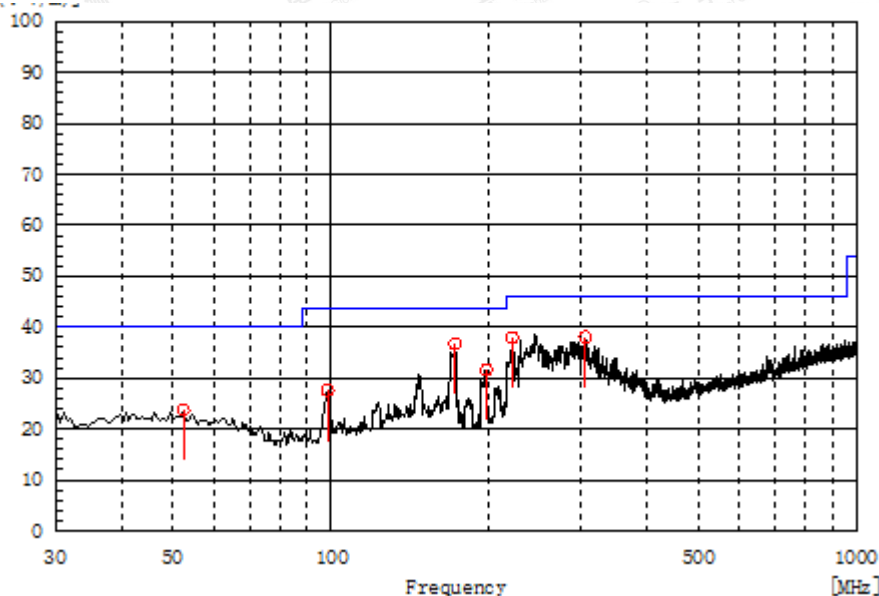
RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

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RADIATED EMISSION BELOW 1GHZ

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

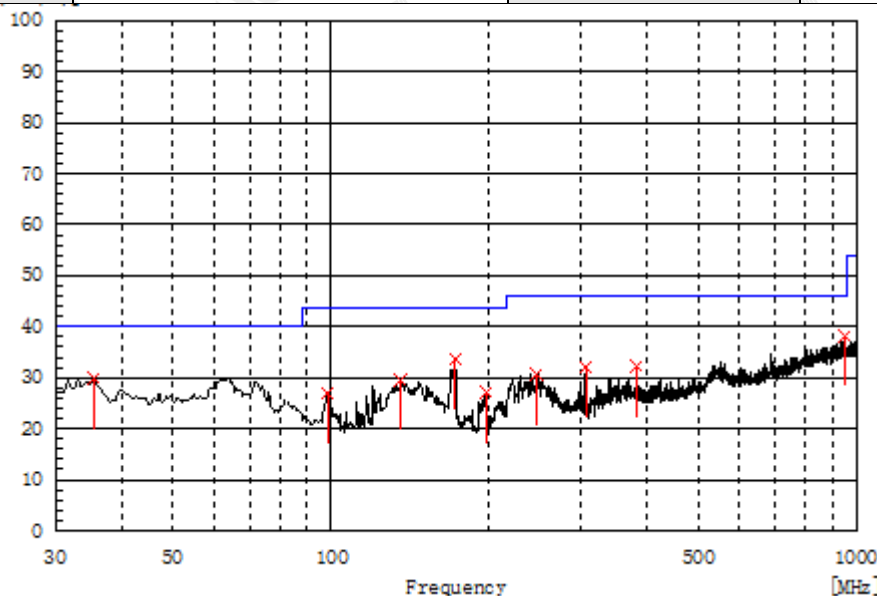


Frequency, MHz	Polarization	Reading, dB(uV)	Factor, dB (1/m)	Level, dB(uV/m) PK	Limit, dB(uV/m) QP	Margin, dB	Pass/Fail	Height, cm	Angle, deg
52.310	H	6.9	16.9	23.8	40.0	16.2	Pass	100.0	118.7
98.385	H	14.4	13.2	27.6	43.5	15.9	Pass	100.0	11.7
172.105	H	21.2	15.6	36.8	43.5	6.7	Pass	100.0	320.0
197.325	H	18.1	13.5	31.6	43.5	11.9	Pass	100.0	2.1
221.090	H	23.2	14.8	38.0	46.0	8.0	Pass	100.0	7.6
304.995	H	20.6	17.5	38.1	46.0	7.9	Pass	100.0	172.2

RESULT: PASS

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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



Frequency., MHz.,	Polarization.,	Reading., dB(uV),	Factor., dB., (1/m),	Level., dB(uV/m), PK.,	Limit., dB(uV/m), QP.,	Margin., dB.,	Pass/Fail.,	Height., cm.,	Angle., deg.,
35.335.,	V.,	13.5.,	16.3.,	29.8.,	40.0.,	10.2.,	Pass.,	100.0.,	277.0.,
98.385.,	V.,	13.8.,	13.2.,	27.0.,	43.5.,	16.5.,	Pass.,	100.0.,	148.4.,
135.730.,	V.,	13.0.,	16.6.,	29.6.,	43.5.,	13.9.,	Pass.,	100.0.,	75.2.,
172.105.,	V.,	18.0.,	15.6.,	33.6.,	43.5.,	9.9.,	Pass.,	100.0.,	355.0.,
197.810.,	V.,	13.7.,	13.5.,	27.2.,	43.5.,	16.3.,	Pass.,	100.0.,	140.2.,
246.795.,	V.,	14.6.,	16.1.,	30.7.,	46.0.,	15.3.,	Pass.,	100.0.,	51.7.,
305.480.,	V.,	14.6.,	17.5.,	32.1.,	46.0.,	13.9.,	Pass.,	100.0.,	71.0.,
381.140.,	V.,	12.1.,	20.1.,	32.2.,	46.0.,	13.8.,	Pass.,	100.0.,	43.2.,
951.985.,	V.,	7.5.,	30.7.,	38.2.,	46.0.,	7.8.,	Pass.,	100.0.,	178.6.,

RESULT: PASS

Note:

1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.
2. The "Factor" value can be calculated automatically by software of measurement system.
3. All test modes had been pre-tested. The Mode 1 is the worst case and recorded in the report.

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RADIATED EMISSION ABOVE 1GHZ

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4810	44.42	7.12	51.54	74	22.46	Peak
4810	38.85	7.12	45.97	54	8.03	Average
7215	39.95	9.84	49.79	74	24.21	Peak
7215	32.21	9.84	42.05	54	11.95	Average

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4810	44.24	7.12	51.36	74	22.64	Peak
4810	41.04	7.12	48.16	54	5.84	Average
7215	36.91	9.84	46.75	74	27.25	Peak
7215	33.54	9.84	43.38	54	10.62	Average

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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4880	43.83	7.12	50.95	74	23.05	Peak
4880	39.01	7.12	46.13	54	7.87	Average
7320	39.20	9.84	49.04	74	24.96	Peak
7320	31.96	9.84	41.80	54	12.20	Average

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4880	45.41	7.12	52.53	74	21.47	Peak
4880	38.76	7.12	45.88	54	8.12	Average
7320	37.81	9.84	47.65	74	26.35	Peak
7320	34.50	9.84	44.34	54	9.66	Average

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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4960	40.85	7.12	47.97	74	26.03	Peak
4960	40.09	7.12	47.21	54	6.79	Average
7440	38.86	9.84	48.70	74	25.30	Peak
7440	32.39	9.84	42.23	54	11.77	Average

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Reading Level	Factor	Emission Level	Limit	Margin	Value type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4960	43.96	7.12	51.08	74	22.92	Peak
4960	40.30	7.12	47.42	54	6.58	Average
7440	39.52	9.84	49.36	74	24.64	Peak
7440	32.63	9.84	42.47	54	11.53	Average

RESULT: PASS

Note:

Other emissions from 1G to 25 GHz are considered as ambient noise. No recording in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Marin= Limit-Emission level.

The "Factor" value can be calculated automatically by software of measurement system.

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12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

12.2. TEST SET-UP

same as 11.2

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μV) to represent the Amplitude. Use the F dB(μV/m) to represent the Field Strength. So A=F.

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12.3. TEST RESULT

EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

PK



AV



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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

PK



AV



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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

PK



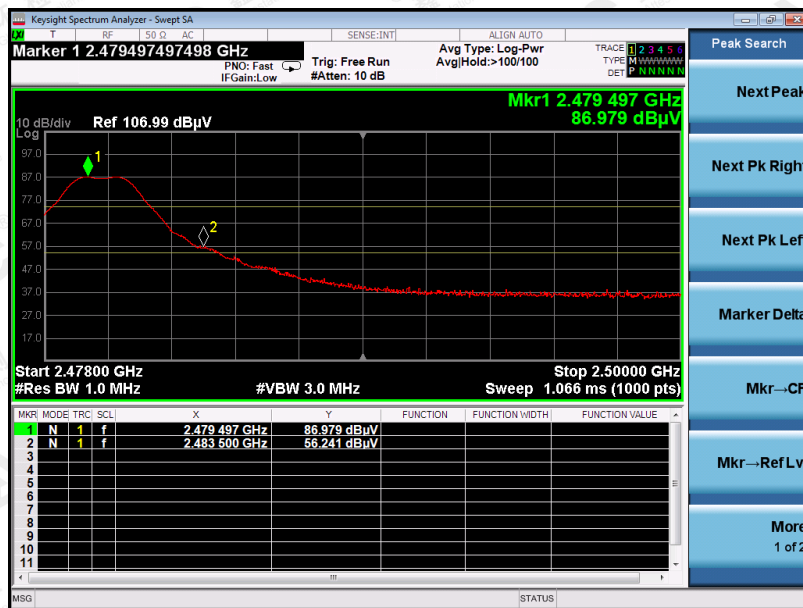
AV



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EUT	NEBULAE MODULE V2	Model Name	PIONL02000100
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

PK

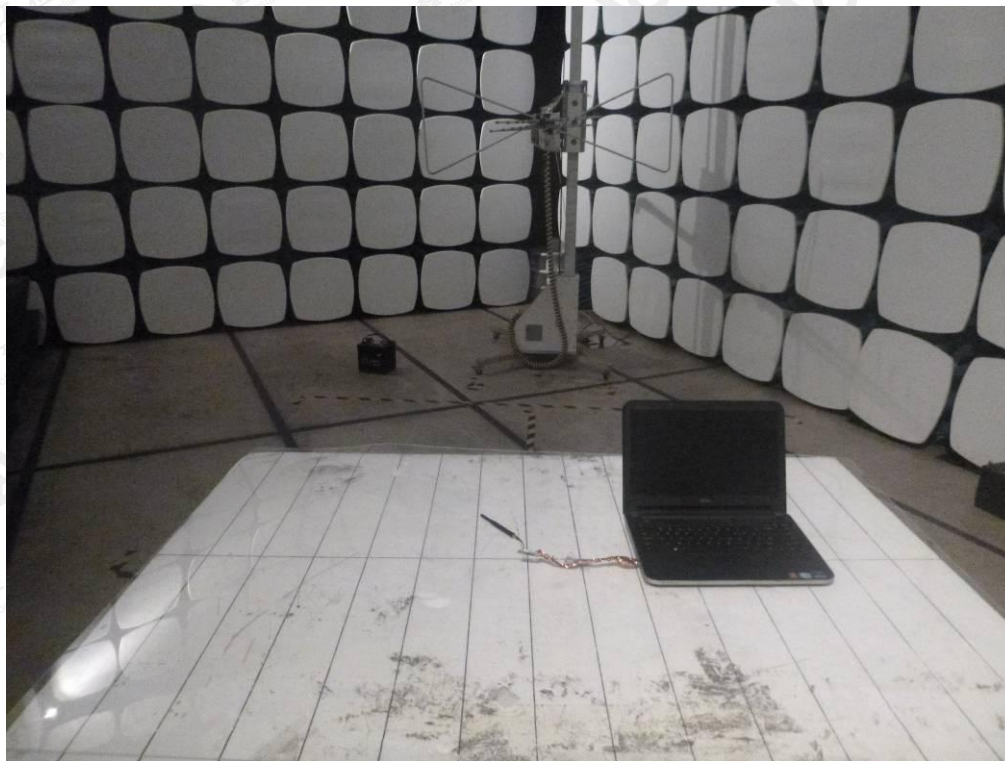


AV

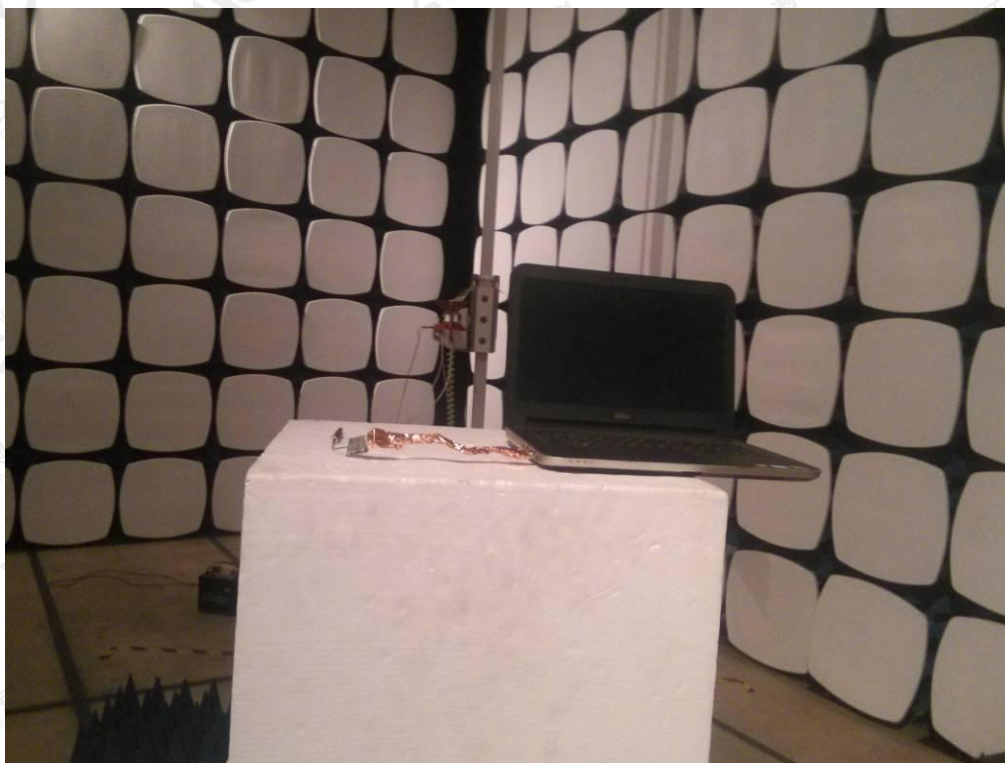


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APPENDIX A: PHOTOGRAPHS OF TEST SETUP
RADIATED EMISSION TEST SETUP BELOW 1GHZ

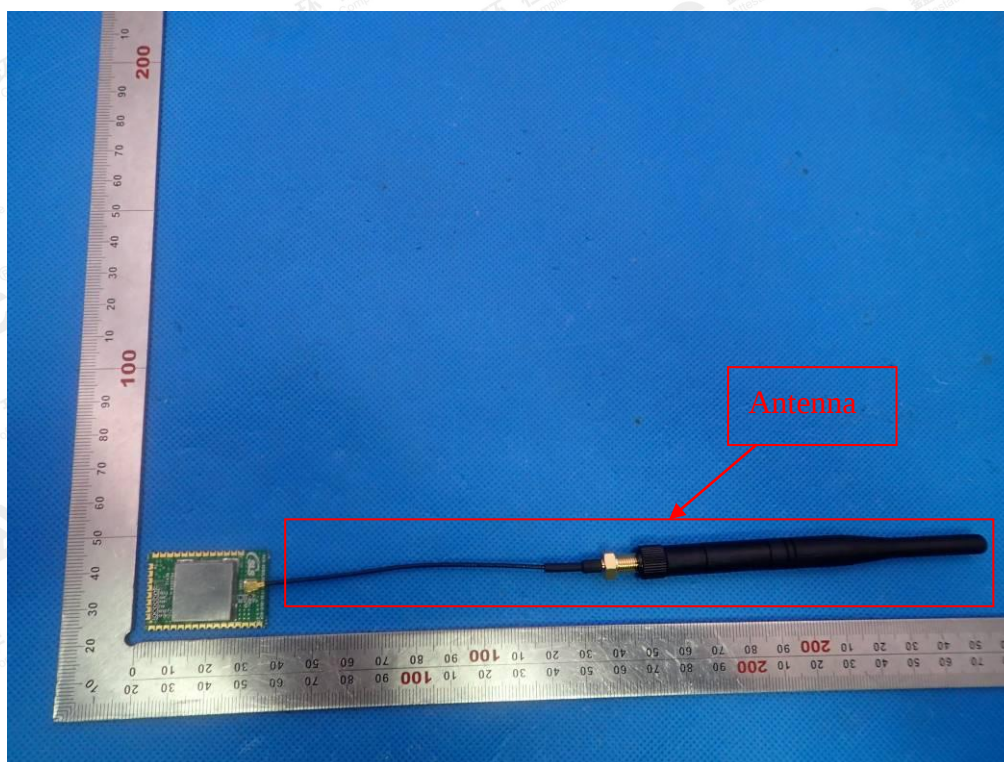


RADIATED EMISSION TEST SETUP ABOVE 1GHZ

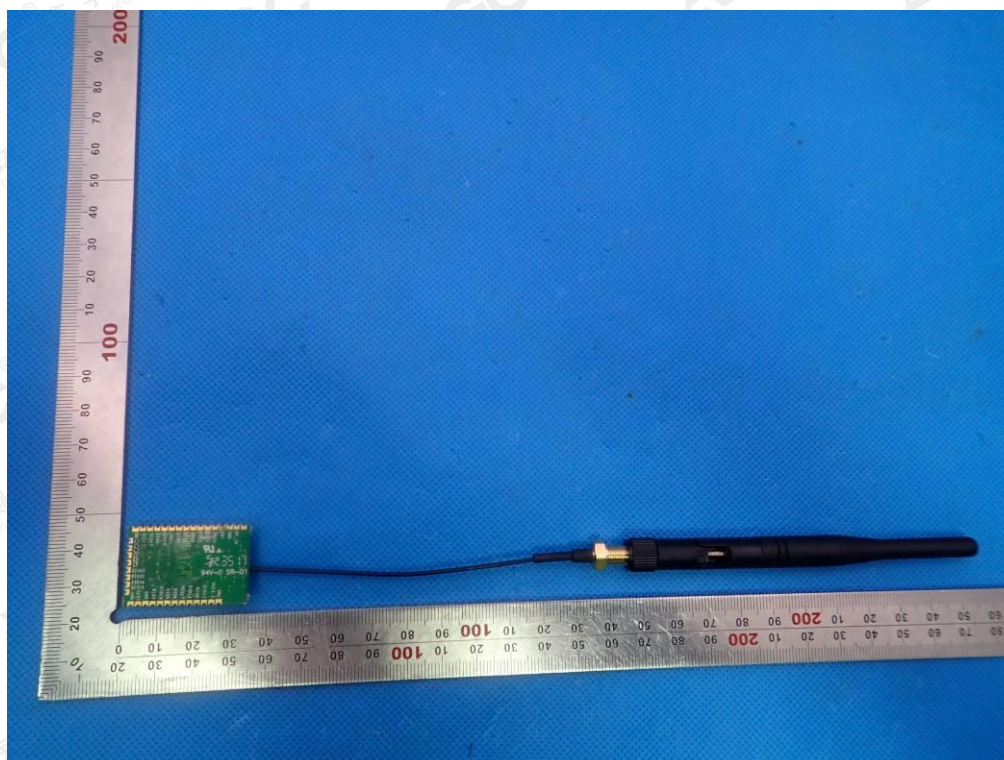


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APPENDIX B: PHOTOGRAPHS OF EUT
TOP VIEW OF EUT

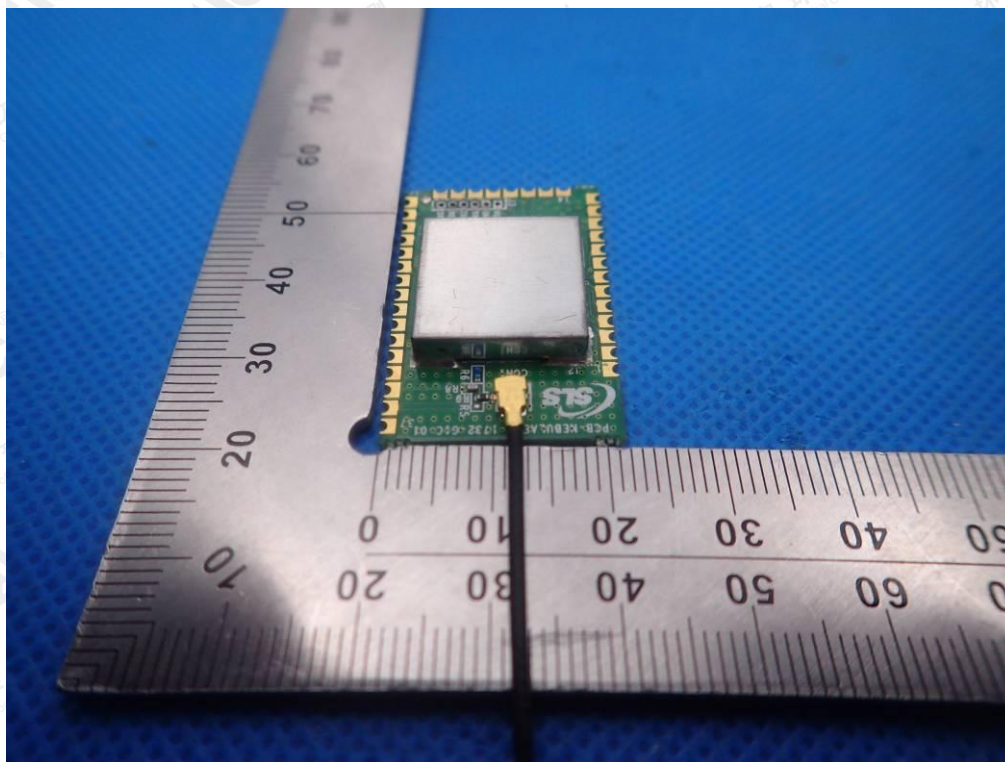


BOTTOM VIEW OF EUT

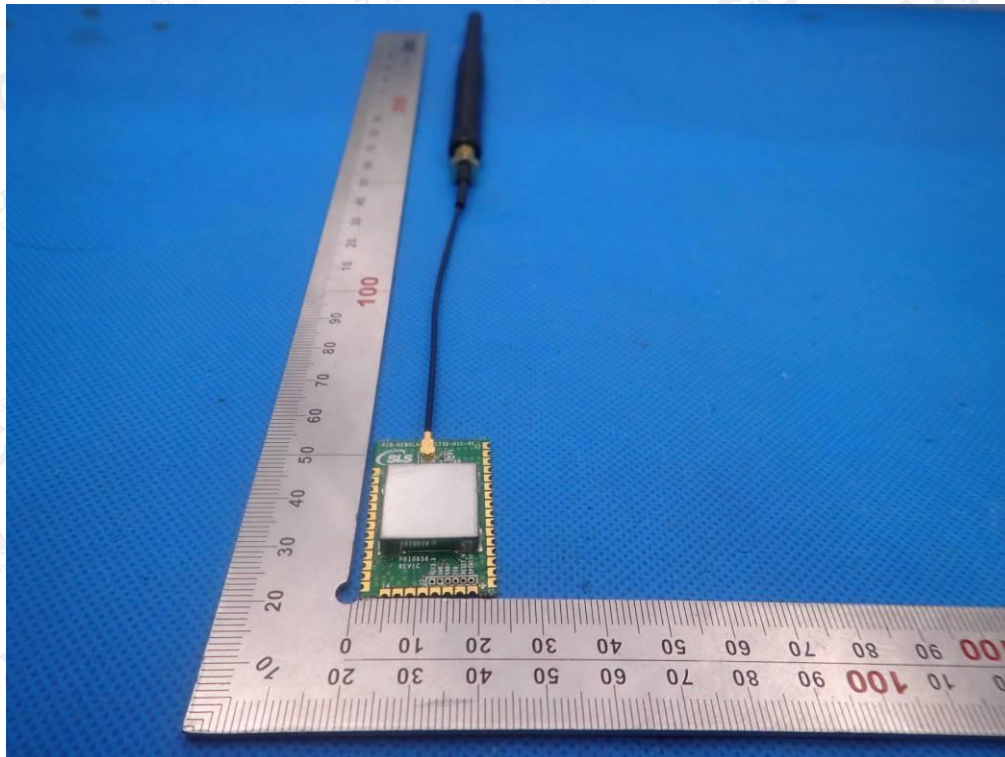


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FRONT VIEW OF EUT

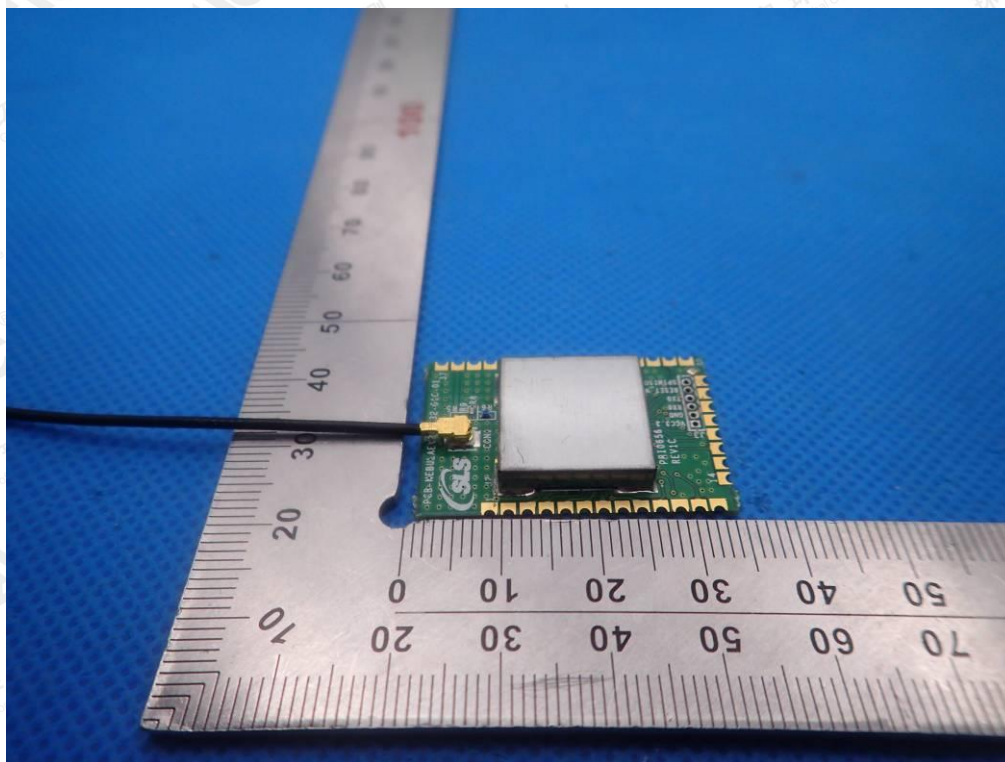


BACK VIEW OF EUT

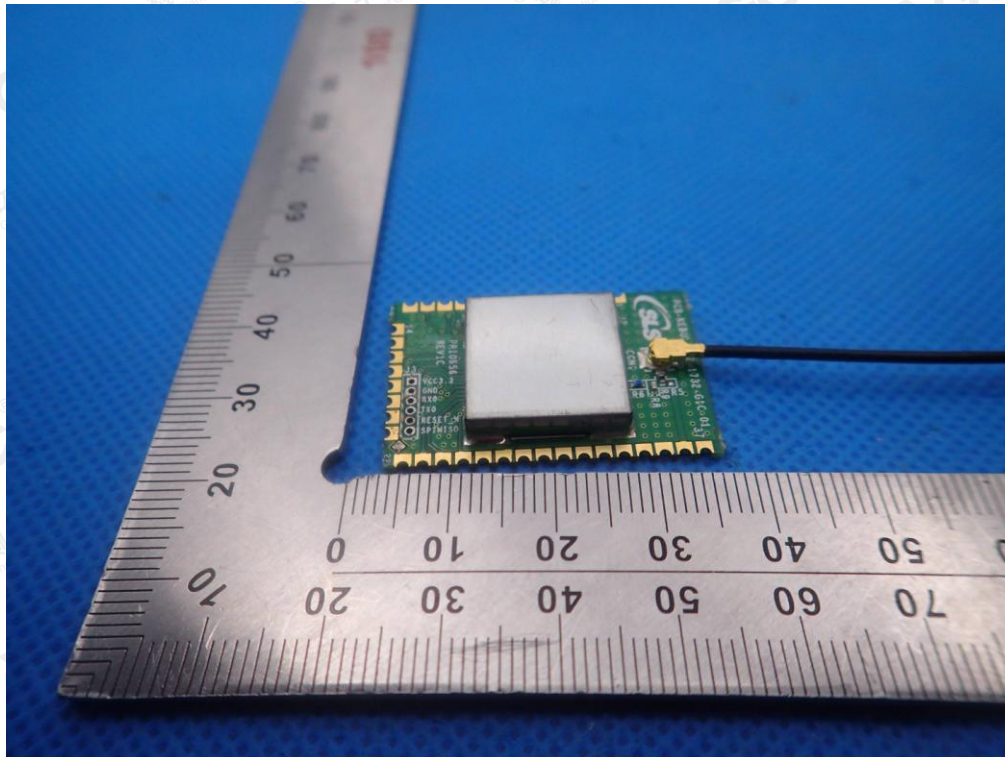


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LEFT VIEW OF EUT

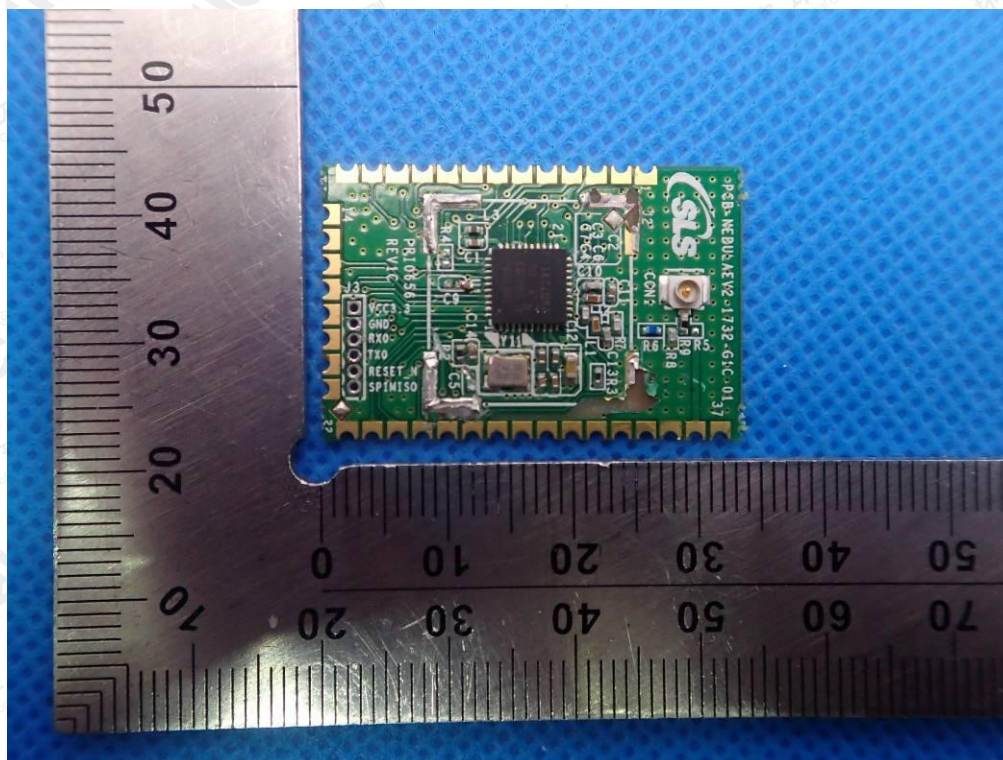


RIGHT VIEW OF EUT

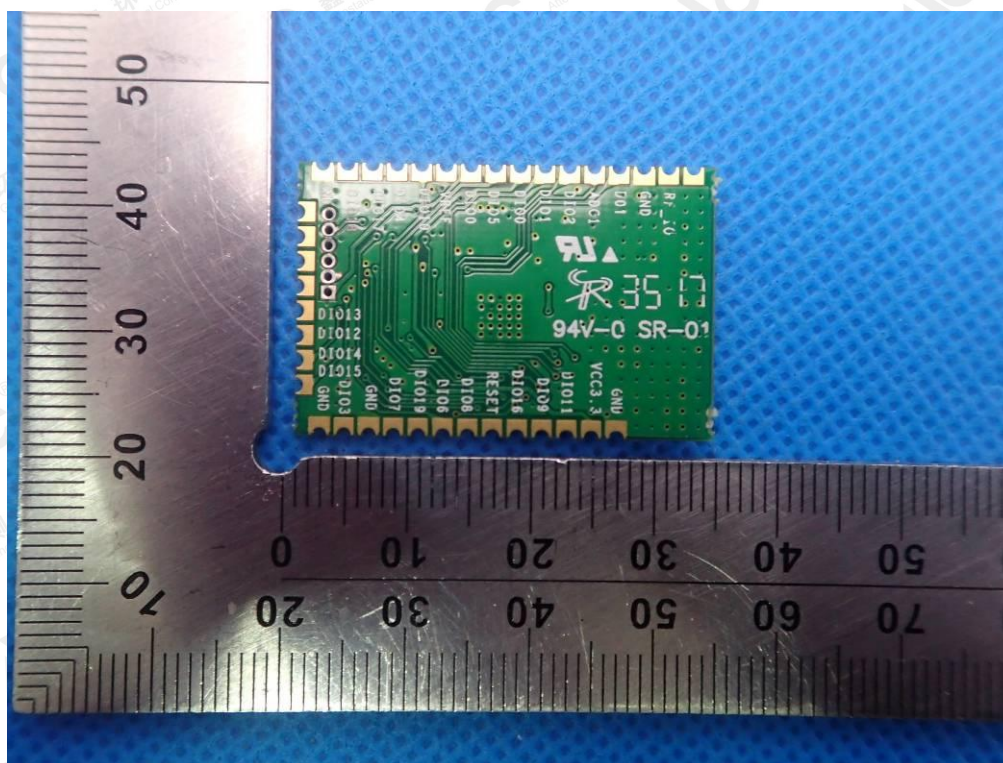


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PCB VIEW OF EUT-1

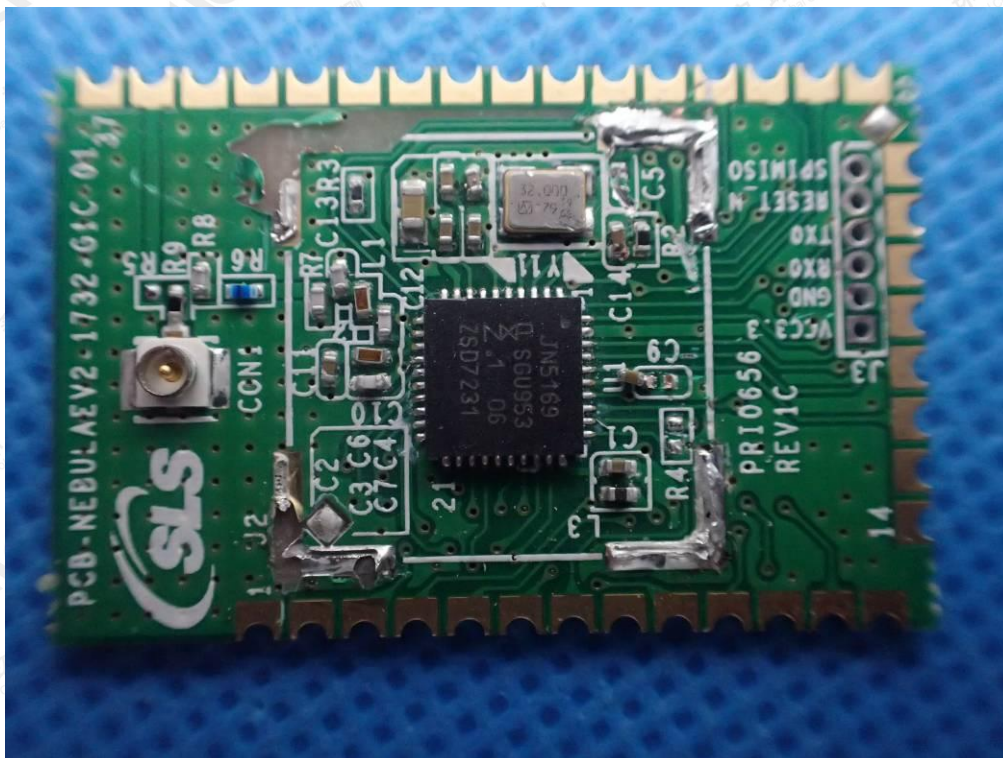


PCB VIEW OF EUT-2



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IC VIEW OF EUT



----END OF REPORT----

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