FCC PART 15.247

TEST REPORT

For

Chengdu Ebyte Electronic Technology Co., Ltd

Building B2, Mould Industrial Park, 199# Xi-Qu Ave, West High-tech Zone, Chengdu, 611731, Sichuan, China

Tested Model: E22-900T22S
FCC ID: 2A8C3-240501

Report Type: Original Report	**Product Name:** wireless module
Report Number:	RSC240611001-0C
Date of Report Issue:	2024-07-22
Reviewed By:	Sula Huang
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Chengdu) No.5040, Huilongwan Plaza, No. 1, Shawan Road, Jinniu District, Chengdu, Sichuan, China Tel: +86-28-65525123 Fax: +86-28-65525125 www.baclcorp.com

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Chengdu Ebyte Electronic Technology Co., Ltd
Address	Building B2, Mould Industrial Park, 199# Xi-Qu Ave, West High-tech Zone, Chengdu, 611731, Sichuan, China
Email	157768495@qq.com
Product	wireless module
Tested Model	E22-900T22S
Multiple Models	E220-900T22S, E32-900T20S (Difference statement was presented in model difference letter)
FCC ID	2A8C3-240501
Frequency*	920.3 - 924.8 MHz
Modulation Type*	LoRa
RF output power	13.91 dBm
Voltage*	DC 2.7-5.5V(Typical: 3.3V)
Measure approximately	26mm (L)×16mm (W)×3.15mm (H)
Sample serial number	240611001/01 (RF Radiated Test & RF Conducted Test) (assigned by the BACL, Chengdu)
Sample/EUT Status	The test sample was in good condition and received: 2024-06-11

Note: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Objective

This report is prepared on behalf of **Chengdu Ebyte Electronic Technology Co., Ltd** in accordance with Part 2, Subpart J, Part 15, Subparts A and C of the Federal Communications Commission's rules.

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Measurement Uncertainty

Item			Measurement Uncertainty	U_{cispr}
AC power line conducted emission			2.79 dB	3.4 dB
Radiated Emission	9kHz-30MHz		4.48dB	-
	30MHz-200MHz	H	4.34dB	6.3dB
	30MHz-200MHz	V	4.59dB	6.3dB
	200MHz-1GHz	H	4.69dB	6.3dB
	200MHz-1GHz	V	5.79dB	6.3dB
	1GHz-6GHz		4.58dB	5.2dB
	6GHz-18GHz		4.58dB	5.5dB

Item	Measurement Uncertainty
RF output power, conducted	±0.61dB
Occupied Bandwidth	±1.69%
Power Spectrum Density, conducted	±2.52dB
Humidity	±5%
Temperature	±1℃
Voltage(DC)	±0.4%
Voltage(AC,<10kHz)	±1%
Time	1%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the corresponding inclusion factor K when the inclusion probability is about 95%.

Test Methodology

All measurements contained in this report were conducted with:

1. ANSI C63.10-2020 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

2. KDB558074 D01 15.247 Meas Guidance v05r02.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Chengdu) to collect test data is located No.5040, Huilongwan Plaza, No. 1, Shawan Road, Jinniu District, Chengdu, Sichuan, China.

Bay Area Compliance Laboratories Corp. (Chengdu) lab is accredited to ISO/IEC 17025 by NVLAP (Lab code: 600346-0) and the FCC designation No.: CN5056. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Description of Test Configuration*

The system was configured in testing mode, which was provided by manufacturer.

For 500 kHz mode, 10 channels are provided for testing:

Channel	Frequency (MHz)
1	**920.3**
2	920.8
3	921.3
4	921.8
5	**922.3**
6	922.8
7	923.3
8	923.8
9	924.3
10	**924.8**

The EUT was tested with channel 1, 5 and 10.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software*

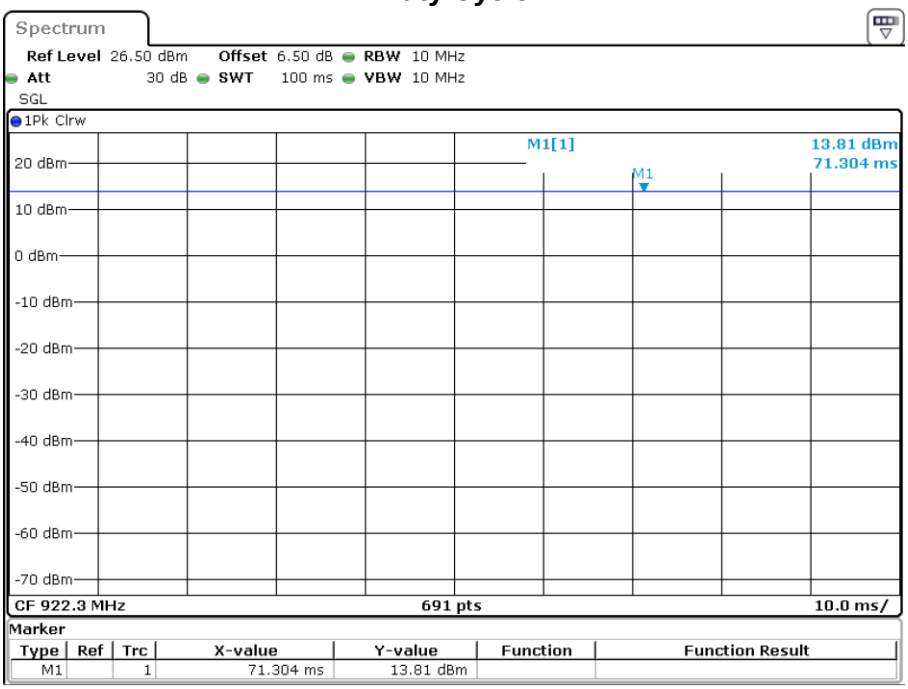
The setting by the software as following table:

Test Mode	Test Software	XCOM V2.6		
500 kHz	Test Frequency (MHz)	920.3	922.3	924.8
	Power Level	14	14	14

Duty Cycle information is below:

Mode	T_{on}	T_p	Duty Cycle
	(ms)	(ms)	(%)
500 kHz	100	100	100

Duty Cycle



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:29:06

Support Test Devices Description

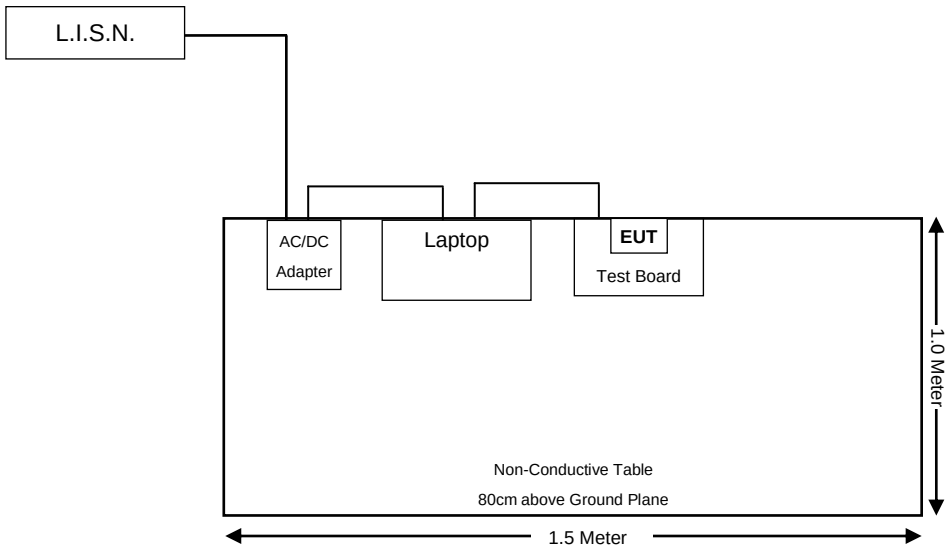
Manufacturer	Device Name	Model	Serial Number
Local			
Ebyte	Test Board	V1.0	10553
Lenovo	Laptop	L540	No
Lenovo	AC/DC Adapter	ADLX45NDC2A	SA10E75790

Support Test Cable Description

Cable Description	Length (m)	From / Port	To
Unshielded AC Power Cable	1.5	L.I.S.N.	AC/DC Adapter
Unshielded DC Power Cable	1.5	AC/DC Adapter	Laptop
Unshielded USB Power Cable	0.5 or 1.3	Laptop	Test Board

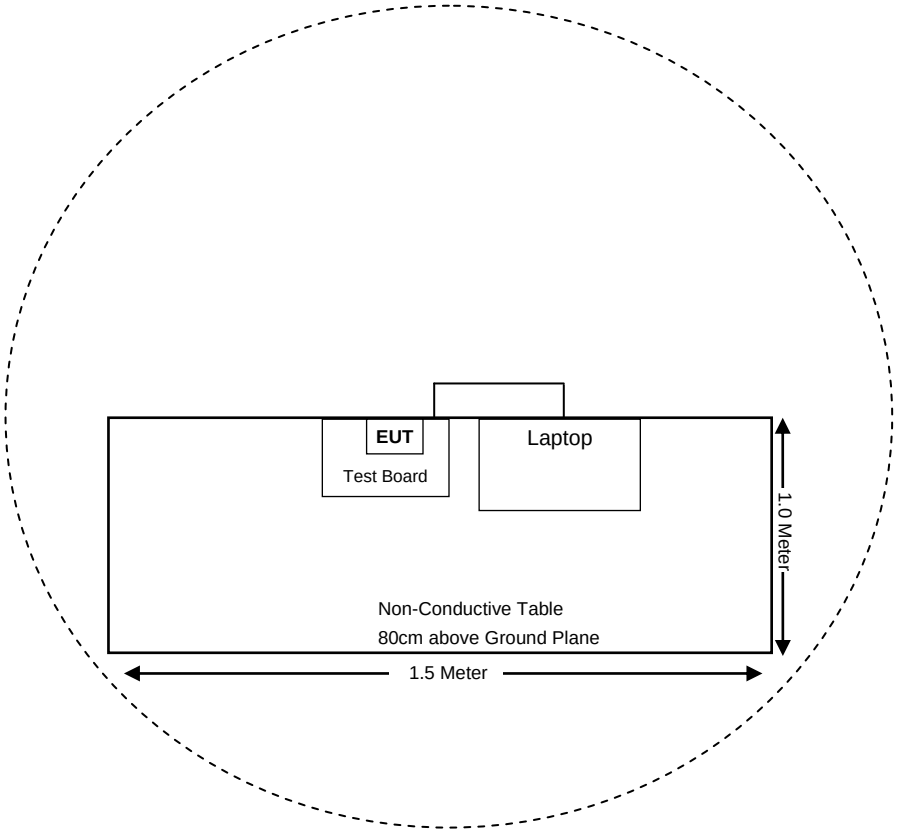
Block Diagram of Test Setup

Conducted Emissions:

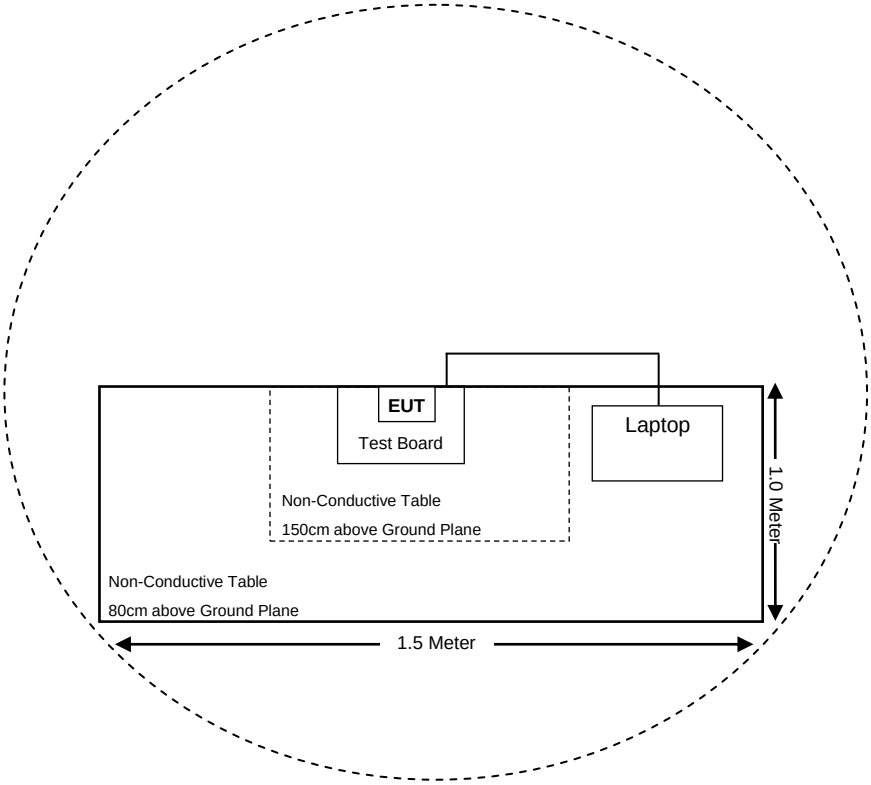


Radiated Emissions

Below 1GHz:



Above 1GHz:


EUT
Test Board
Laptop
Non-Conductive Table
150cm above Ground Plane
Non-Conductive Table
80cm above Ground Plane
1.0 Meter
1.5 Meter

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 & §1.1310 & §2.1091	Maximum Permissible Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Raidated Spurious Emissions	Compliant
§15.247(d)	Conducted Spurious Emissions at Antenna Terminal	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum conducted output power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

TEST EQUIPMENTS LIST

Manufacturer	Description	Model Number	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions					
Rohde & Schwarz	EMI Test Receiver	ESCI 3	100028	2024-04-10	2025-04-09
Rohde & Schwarz	L.I.S.N.	ENV216	3560.6550.16	2024-04-10	2025-04-09
HP	RF Limiter	11947A	3107A01270	2023-08-11	2024-08-10
UTIFLEX	Conducted Cable	L-E-003	000003	2023-08-03	2024-08-02
Rohde & Schwarz	EMC32	EMC32	V 8.52.0	NCR	NCR
Radiated Emissions (9kHz-30MHz)					
EMCT	Semi-Anechoic Chamber	966	001	2023-04-15	2028-04-14
Rohde & Schwarz	EMI Test Receiver	ESR3	102456	2024-04-11	2025-04-10
BACL CORP	Active Loop Antenna	1313-1A	4031411	2024-05-20	2025-05-19
Xin Hang Xun Wei Bo	RF Cable (Below 1GHz)	XH500A-N/J-N/J-2M-A	T-E271	2023-11-30	2024-11-29
Xin Hang Xun Wei Bo	RF Cable (Below 1GHz)	XH500A-N/J-N/J-7M-A	T-E268	2023-11-30	2024-11-29
Rohde & Schwarz	EMC32	EMC32	V9.10.00	NCR	NCR
Radiated Emissions (30MHz-1GHz)					
EMCT	Semi-Anechoic Chamber	966	001	2023-04-15	2028-04-14
SONOMA INSTRUMENT	Pre-Amplifier	310 N	186684	2023-08-08	2024-08-07
SUNOL SCIENCES	Broadband Antenna	JB3	A121808	2024-01-24	2025-01-23
INMET	Attenuator	18N-6dB	64671	2024-01-24	2025-01-23
Rohde & Schwarz	EMI Test Receiver	ESR3	102456	2024-04-11	2025-04-10
HUBER+SUHENER	RF Cable (Below 1GHz)	L-E-015	MY4345/EA	2023-11-30	2024-11-29
Xin Hang Xun Wei Bo	RF Cable (Below 1GHz)	XH500A-N/J-N/J-2M-A	T-E271	2023-11-30	2024-11-29
Xin Hang Xun Wei Bo	RF Cable (Below 1GHz)	XH500A-N/J-N/J-7M-A	T-E268	2023-11-30	2024-11-29
MICRO-TRONICS	900MHz Notch Filter	BRM50706	G216	2024-05-18	2025-05-17
Rohde & Schwarz	EMC32	EMC32	V9.10.00	NCR	NCR

Manufacturer	Description	Model Number	Serial Number	Calibration Date	Calibration Due Date
Radiated Emissions (1GHz-10GHz)					
EMCT	Semi-Anechoic Chamber	966	001	2023-04-15	2028-04-14
Rohde & Schwarz	Spectrum Analyzer	FSU26	200835	2024-04-11	2025-04-10
ETS	Horn Antenna	3115	003-6076	2023-08-16	2024-08-15
A.H. Systems, inc.	Pre-Amplifier	PAM-0118P	509	2023-11-11	2024-11-10
Xin Hang Xun Wei Bo	RF Cable (Above 1GHz)	XH500A-SMA/J -N/J-2M-A	L-E-016	2024-01-05	2025-01-04
Xin Hang Xun Wei Bo	RF Cable (Above 1GHz)	XH500A-SMA/J -N/J-5M-A	L-E-017	2024-01-05	2025-01-04
MICRO-TRONICS	900MHz Notch Filter	BRM50706	G216	2024-05-18	2025-05-17
MICRO-TRONICS	High Pass Filter	HPM50111	G216	2024-05-18	2025-05-17
Rohde & Schwarz	EMC32	EMC32	V9.10.00	NCR	NCR
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSV40	101943	2024-04-10	2025-04-09
MIDWEST	6dB Attenuator	219	AA4305	2024-03-01	2025-03-01
Astrolab	RF Coaxial Cable	MINIREND-5	1206	2023-10-18	2024-10-17

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Chengdu) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.247 & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE

Applicable Standard

According to subpart 15.247 and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	※(100)	30
1.34–30	824/f	2.19/f	※($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; ※ = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = PG/4\pi R^2$$

Where:
S = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode	Frequency Range (MHz)	Antenna Gain*		Tune-up Conducted Power*		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
500 kHz	920.3 - 924.8	3.5	2.24	14.0	25.12	20	0.0112	0.614

Result: The device meets FCC MPE at ⩾20 cm distance.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Antenna Information*

The EUT has one external monopole antenna with RP-SMA connector and the maximum antenna gain is 3.5dBi, which fulfill the requirement of this section. Please refer to the EUT photos.

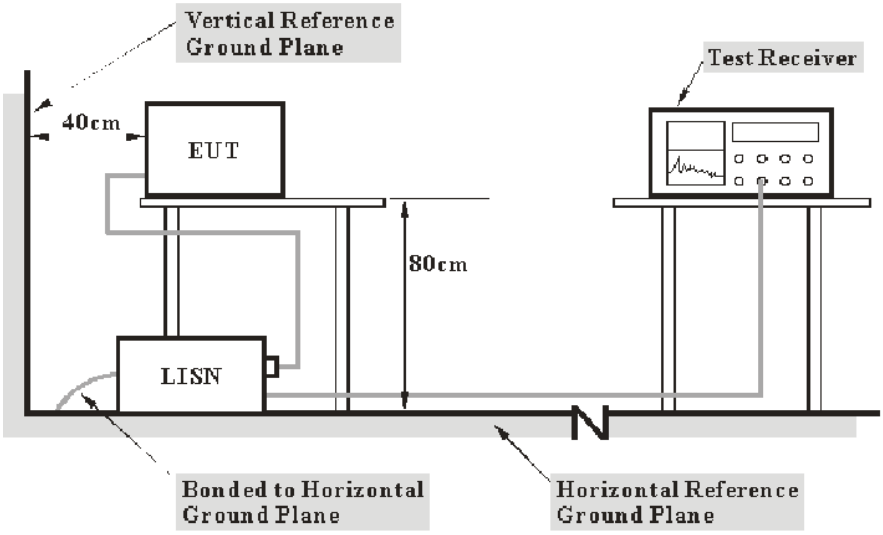
Result: Compliance

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter of laptop was connected to the first L.I.S.N.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
V_C (cord. Reading): corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN
C_f: Correction Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Data

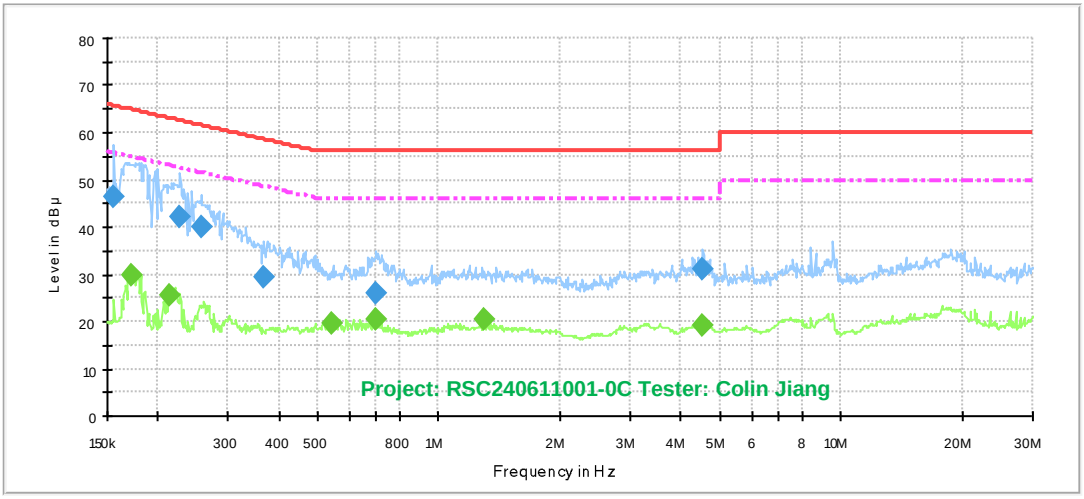
Test Environment Conditions

Temperature:	25 °C
Relative Humidity:	59 %
ATM Pressure:	96.1 kPa

The testing was performed by Colin Jiang on 2024-07-18.

Test Mode: Transmitting_low channel_worst case

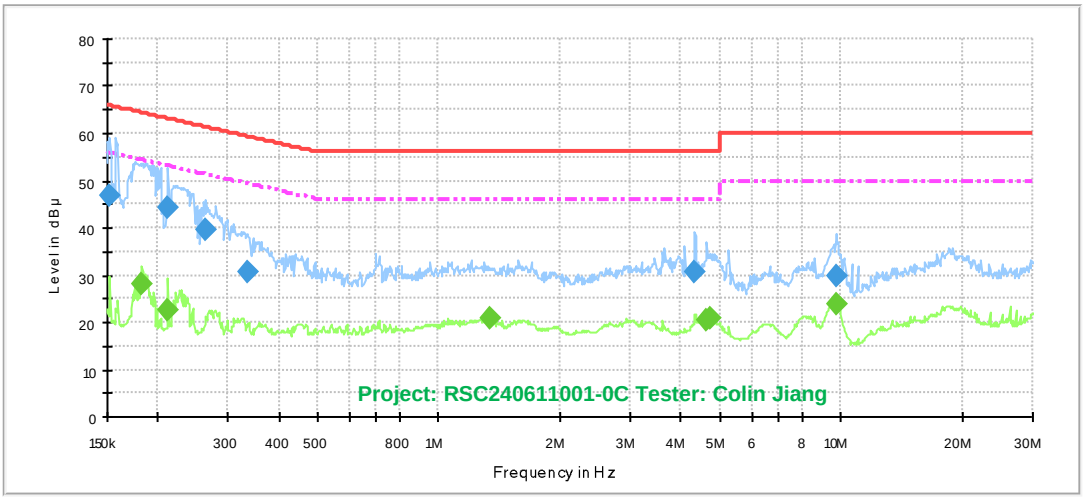
AC120V/60Hz, Line:



Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)
0.156106	46.2	5000.0	9.000	L1	20.8	19.5	65.7
0.226921	42.3	5000.0	9.000	L1	20.6	20.2	62.6
0.257055	40.2	5000.0	9.000	L1	20.7	21.4	61.5
0.368114	29.4	5000.0	9.000	L1	20.8	29.1	58.5
0.697009	26.0	5000.0	9.000	L1	20.7	30.0	56.0
4.546506	31.0	5000.0	9.000	L1	21.0	25.0	56.0

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)
0.171623	30.0	5000.0	9.000	L1	20.7	24.9	54.9
0.214807	25.6	5000.0	9.000	L1	20.6	27.4	53.0
0.540467	19.4	5000.0	9.000	L1	20.9	26.6	46.0
0.697009	20.5	5000.0	9.000	L1	20.7	25.5	46.0
1.300158	20.4	5000.0	9.000	L1	20.8	25.6	46.0
4.546506	19.3	5000.0	9.000	L1	21.0	26.7	46.0

AC120V/60Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)
0.152261	46.9	5000.0	9.000	N	20.9	18.9	65.9
0.212675	44.1	5000.0	9.000	N	21.0	19.0	63.1
0.263546	39.4	5000.0	9.000	N	20.9	21.9	61.3
0.334832	30.8	5000.0	9.000	N	20.9	28.6	59.3
4.325309	30.5	5000.0	9.000	N	20.7	25.5	56.0
9.751810	29.9	5000.0	9.000	N	20.7	30.1	60.0

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)
0.183119	28.2	5000.0	9.000	N	20.9	26.1	54.3
0.212675	22.7	5000.0	9.000	N	21.0	30.4	53.1
1.346352	21.0	5000.0	9.000	N	20.8	25.0	46.0
4.638121	20.6	5000.0	9.000	N	20.8	25.4	46.0
4.708041	20.8	5000.0	9.000	N	20.8	25.2	46.0
9.751810	23.7	5000.0	9.000	N	20.7	26.3	50.0

Note:
1) Correction Factor =LISN VDF (Voltage Division Factor) + Cable Loss + Transient Limiter Attenuation
The corrected factor has been input into the transducer of the test software.
2) Corrected Amplitude = Reading + Correction Factor
3) Margin = Limit – Corrected Amplitude

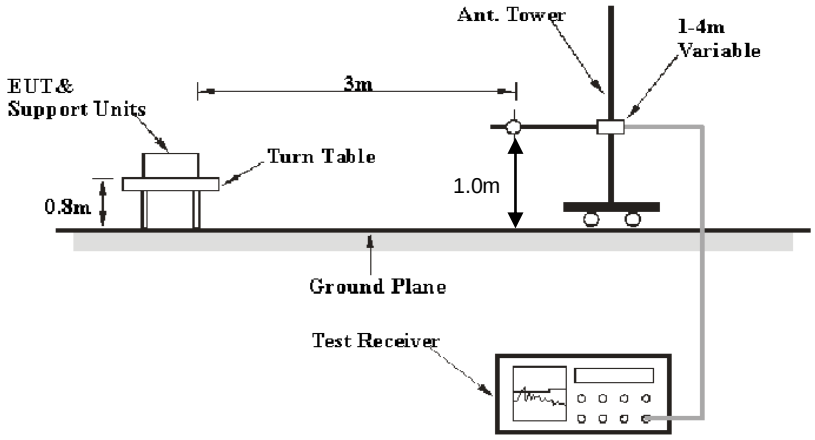
FCC §15.209, §15.205 & §15.247(d) - RADIATED SPURIOUS EMISSIONS & BAND EDGE

Applicable Standard

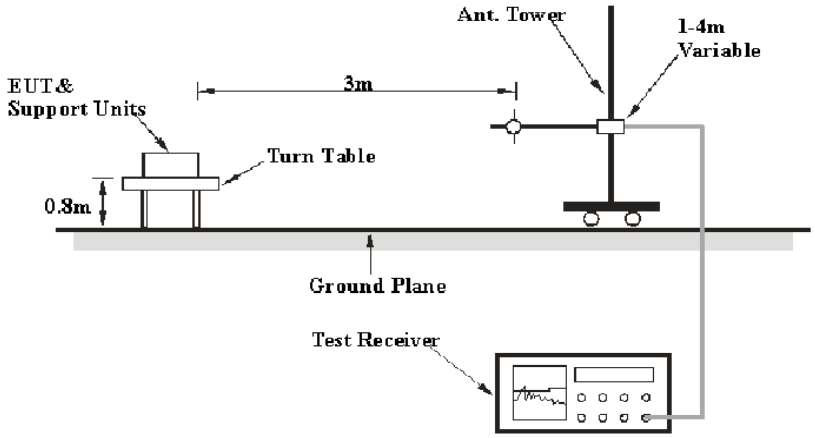
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

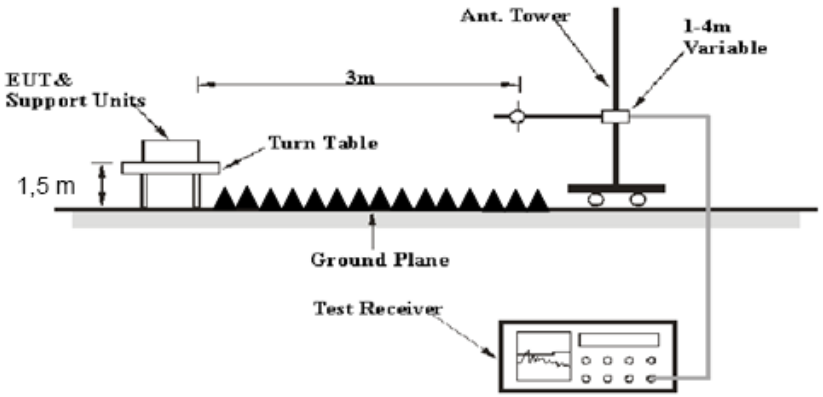
9kHz - 30MHz:



30MHz - 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 10 GHz.

During the radiated emission test, the EMI test receiver Setup or Spectrum Analyzer was set with the following configurations:

Frequency Range	RBW	Video B/W	Duty Cycle	Measurement
9 kHz – 90 kHz	200 Hz	1 kHz	/	AV
90 kHz –110 kHz	200 Hz	1 kHz	/	QP
110 kHz – 150 kHz	200 Hz	1 kHz	/	AV
150 kHz – 490 kHz	9 kHz	30 kHz	/	AV
490 kHz – 30 MHz	9 kHz	30 kHz	/	QP
30 MHz – 1000 MHz	120 kHz	300 kHz	/	QP
Above 1 GHz	1 MHz	3 MHz	Any	PK
	1 MHz	10 Hz	＞98%	AV
	1 MHz	1/T	＜98%	AV

Note: T is minimum transmission duration.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

The test software EMC 32 setting is as below:

Frequency Range	RBW	Video B/W	Measurement
9 kHz – 150 kHz	200 Hz	1 kHz	PK
150 kHz – 30 MHz	9 kHz	30 kHz	PK
30 MHz – 1000 MHz	120 kHz	300 kHz	QP
Above 1 GHz	1 MHz	3 MHz	PK
	1 MHz	3 MHz	AV

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (MaxPeak or QuasiPeak)= Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

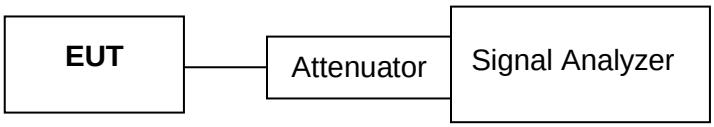
Margin = Limit –Corrected Amplitude

Conducted Spurious Emission At Antenna Port:

Connect the antenna port through an attenuator to the spectrum analyzer input; in the results, account for all losses between the unlicensed wireless device output and the spectrum analyzer. The instrument shall span 30 MHz to 10 times the operating frequency in GHz, with a resolution bandwidth of 100 kHz, video bandwidth of 300 kHz, and a coupled sweep time with a peak detector.

a) Set the center frequency and span to encompass frequency range to be measured.
b) Set the RBW = 100 kHz.
c) Set the VBW ≥ [3 × RBW].
d) Detector = peak.
e) Sweep time = No faster than coupled (auto) time.
f) Trace mode = max-hold.
g) Allow trace to fully stabilize.
h) Use the peak marker function to determine the maximum unwanted emissions amplitude level.

Test Setup Block



Test Data

Test Environment Conditions

Test Measurement:	Radiated	Conducted
Test Date:	2024-07-09	2024-07-17
Temperature:	28 °C	26 °C
Relative Humidity:	56 %	54 %
ATM Pressure:	96.2 kPa	95.4 kPa

The testing was performed by Colin Jiang.

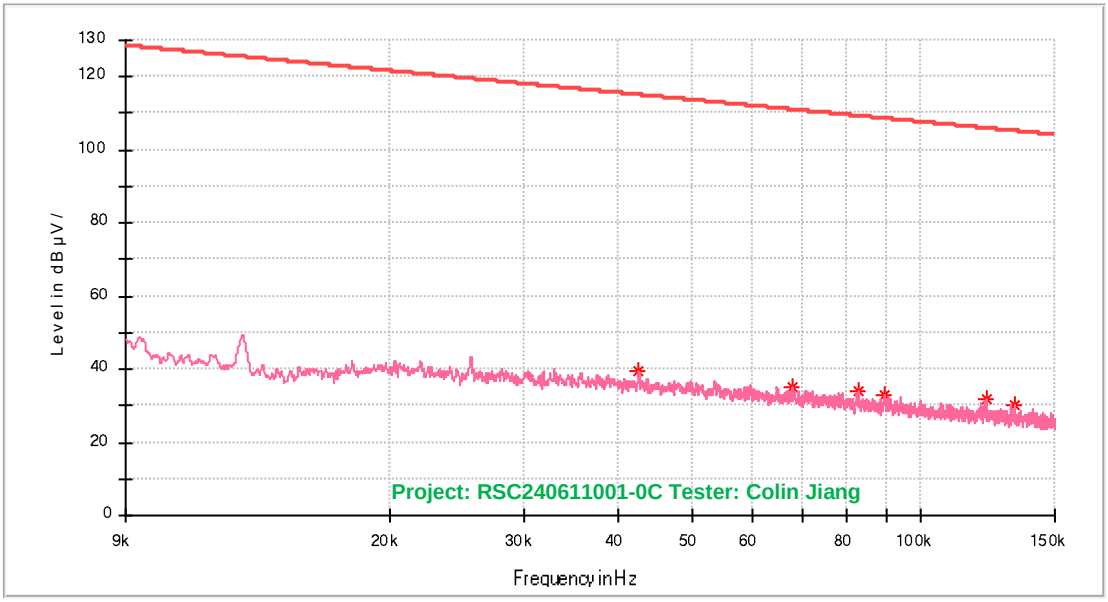
Test Mode: Transmitting

Note: Pre-scan and configuration EUT with X, Y and Z-axis, the Y-axis is the worst case.

Radiated Spurious Emissions:

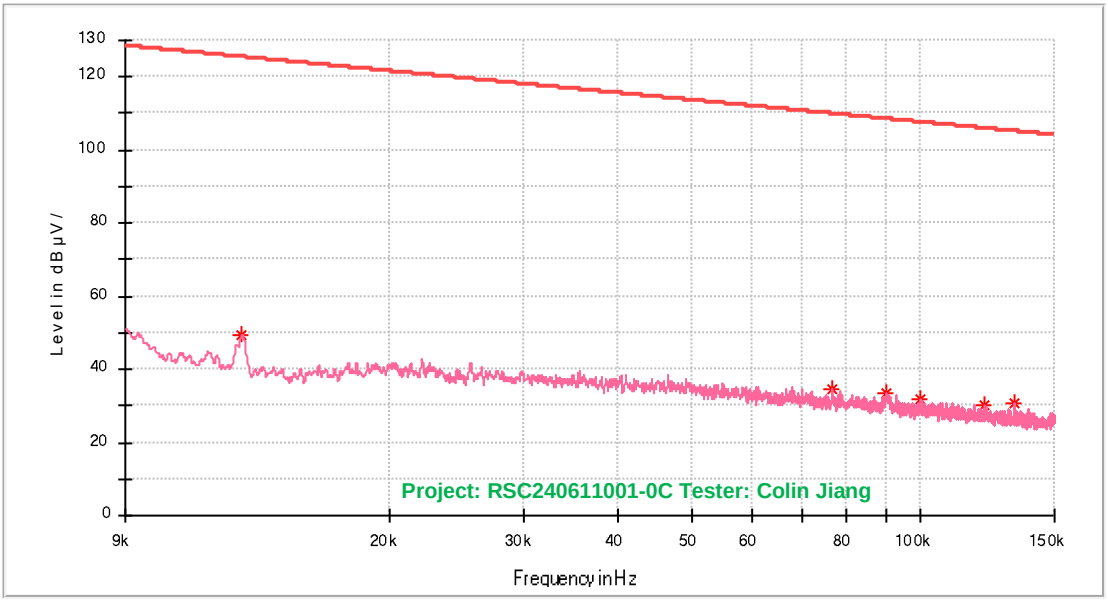
1) 9 kHz to 150 kHz_low channel_worst case

Parallel



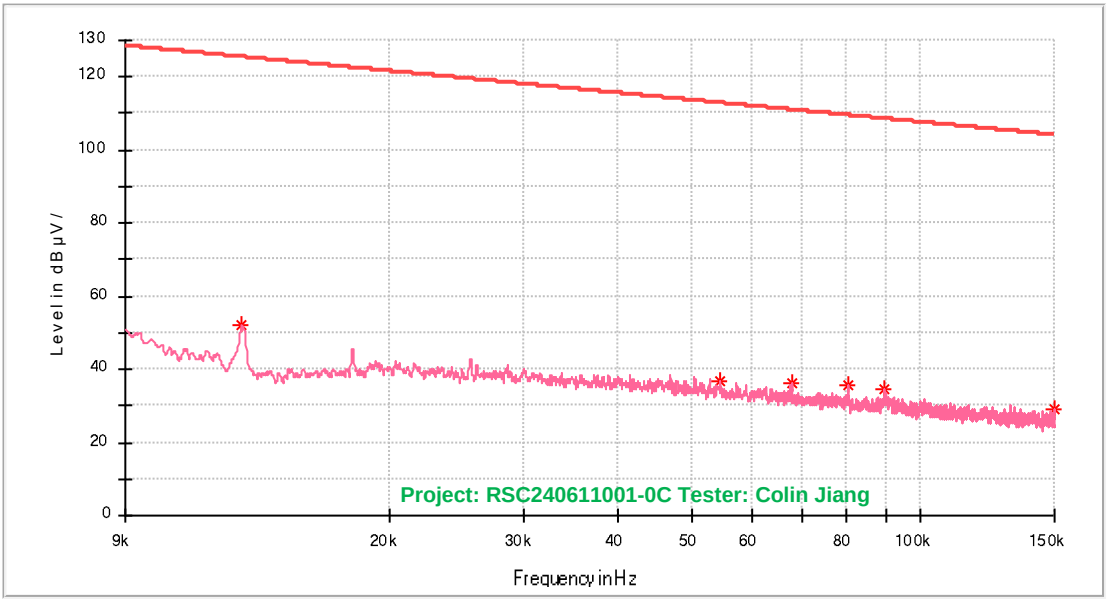
Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.042593	39.47	115.01	75.54	100.0	0.0	20.3
0.067779	35.04	110.97	75.93	100.0	0.0	17.0
0.082954	33.74	109.22	75.48	100.0	0.0	15.5
0.089758	33.01	108.53	75.53	100.0	0.0	14.9
0.121712	31.77	105.89	74.12	100.0	0.0	12.4
0.133115	30.18	105.11	74.93	100.0	0.0	11.6

Perpendicular



Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.012825	49.55	125.43	75.88	100.0	0.0	22.9
0.076486	34.69	109.92	75.23	100.0	0.0	16.1
0.090251	33.41	108.49	75.08	100.0	0.0	14.8
0.100192	31.73	107.58	75.85	100.0	0.0	14.0
0.121641	30.12	105.90	75.77	100.0	0.0	12.4
0.132780	30.84	105.14	74.29	100.0	0.0	11.6

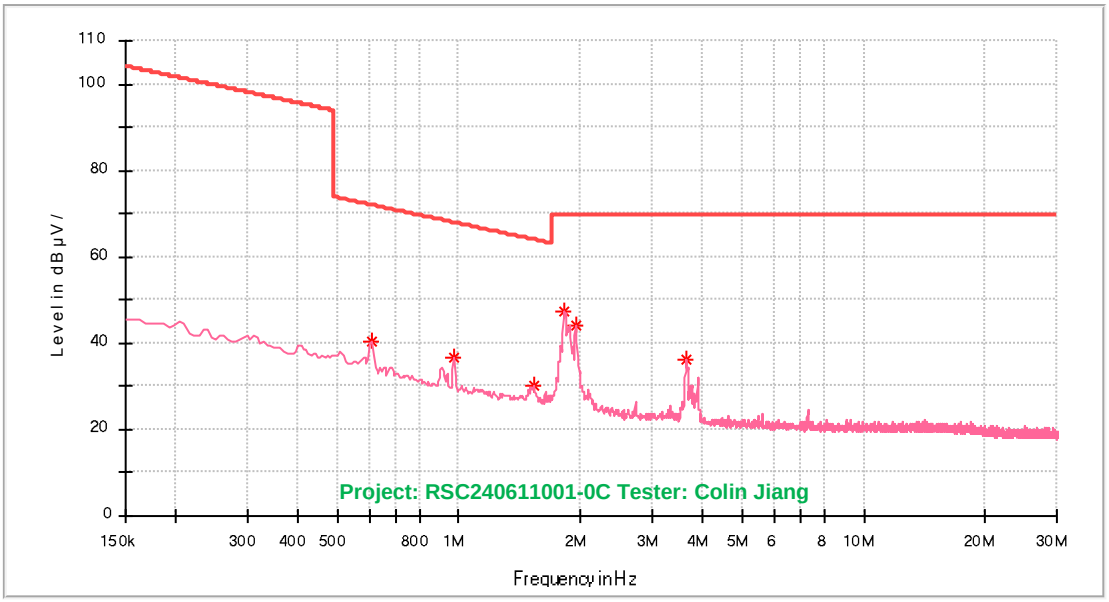
Ground Parallel



Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.012825	51.89	125.43	73.54	100.0	0.0	22.9
0.054561	36.95	112.86	75.91	100.0	0.0	18.7
0.067656	35.94	110.99	75.05	100.0	0.0	17.0
0.080469	35.41	109.48	74.07	100.0	0.0	15.7
0.089793	34.76	108.53	73.77	100.0	0.0	14.9
0.149648	29.07	104.10	75.03	100.0	0.0	10.6

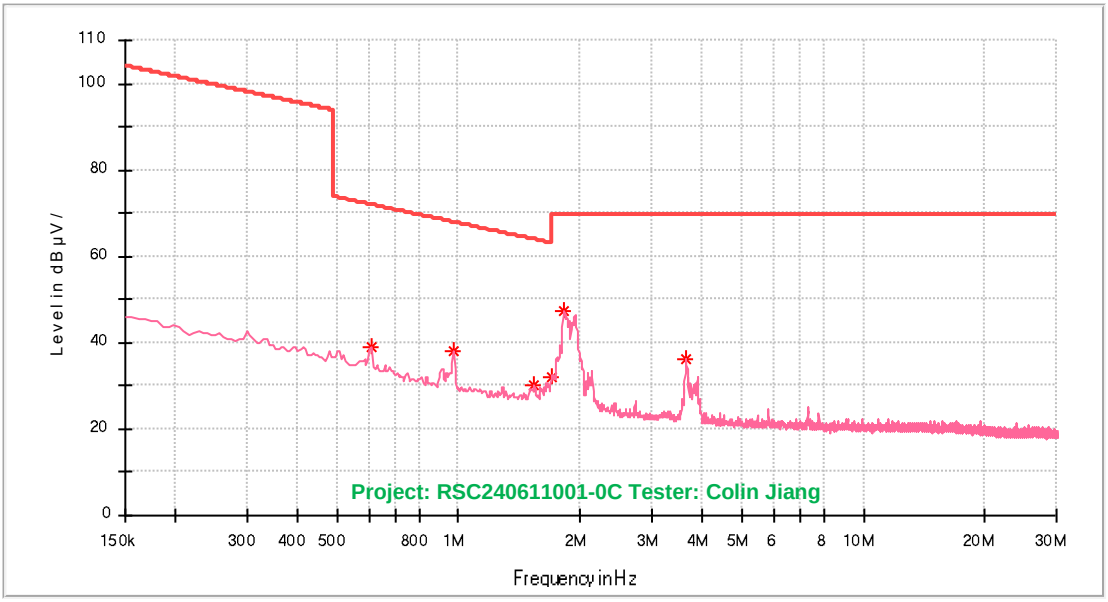
2) 150 kHz to 30 MHz_low channel_worst case

Parallel



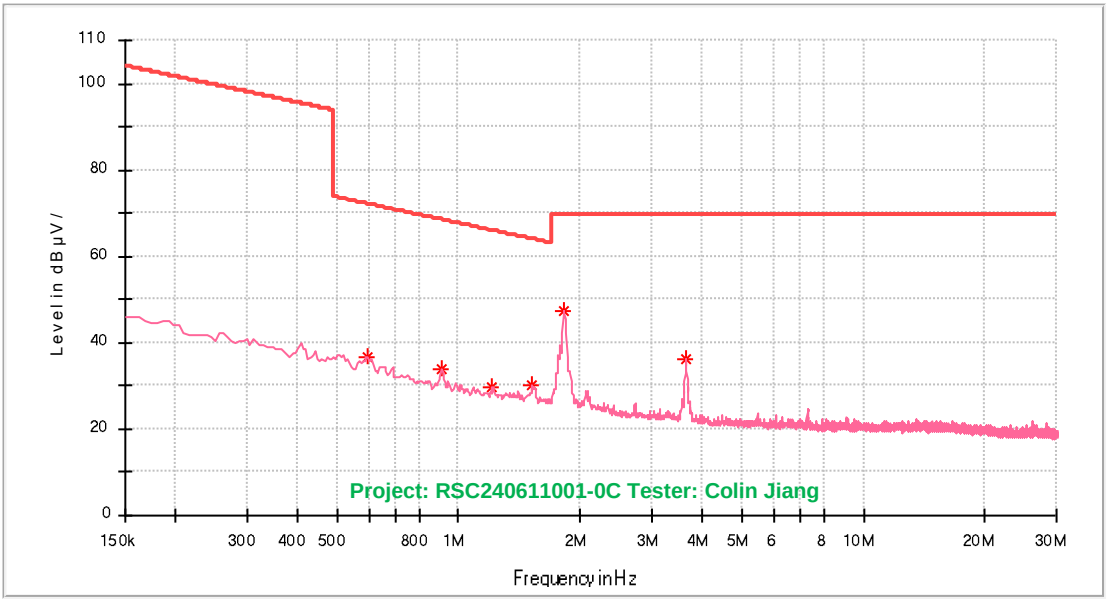
Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.609690	40.29	71.91	31.61	100.0	59.0	-0.9
0.967890	36.67	67.90	31.24	100.0	59.0	-3.9
1.529070	29.95	63.94	33.99	100.0	0.0	-6.1
1.815630	47.43	69.50	22.07	100.0	11.0	-6.9
1.946970	44.03	69.50	25.47	100.0	59.0	-7.2
3.642450	36.41	69.50	33.09	100.0	19.0	-8.4

Perpendicular



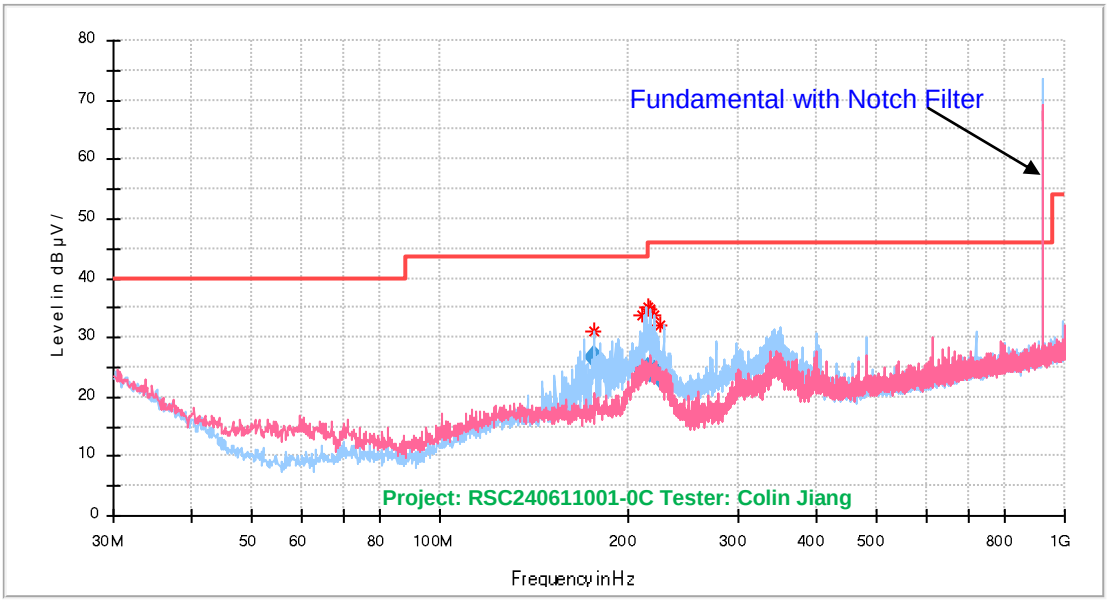
Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.609690	38.78	71.91	33.13	100.0	46.0	-0.9
0.967890	38.18	67.90	29.73	100.0	165.0	-3.9
1.541010	30.15	63.88	33.72	100.0	21.0	-6.1
1.702200	31.89	63.01	31.12	100.0	161.0	-6.6
1.821600	47.54	69.50	21.96	100.0	9.0	-6.9
3.642450	36.28	69.50	33.22	100.0	0.0	-8.4

Ground Parallel



Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Corr. (dB)
0.597750	36.47	72.08	35.61	100.0	74.0	-0.7
0.908190	34.03	68.46	34.42	100.0	157.0	-3.6
1.212660	29.91	65.95	36.04	100.0	161.0	-5.0
1.523100	30.07	63.98	33.91	100.0	4.0	-6.1
1.821600	47.34	69.50	22.16	100.0	13.0	-6.9
3.642450	36.25	69.50	33.25	100.0	17.0	-8.4

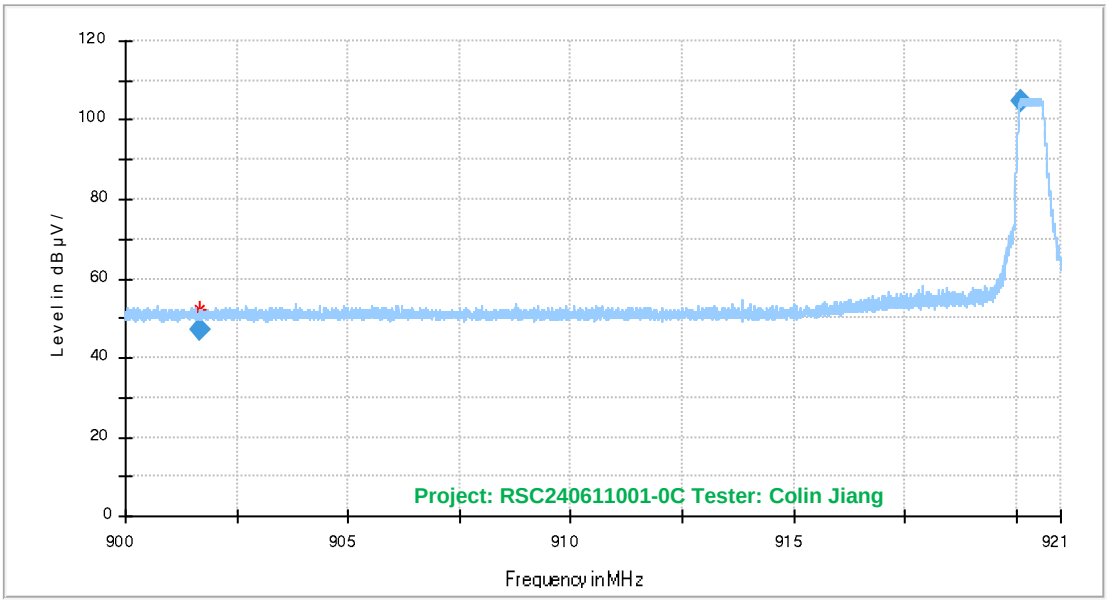
3) 30 MHz to 1 GHz_low channel_worst case



Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
176.326500	26.60	43.50	16.90	1000.0	120.000	130.0	H	253.0	-13.3
211.078500	24.65	43.50	18.85	1000.0	120.000	152.0	H	93.0	-13.4
215.282750	24.55	43.50	18.95	1000.0	120.000	145.0	H	253.0	-13.2
217.148500	24.38	46.00	21.62	1000.0	120.000	163.0	H	251.0	-13.1
220.041250	24.39	46.00	21.61	1000.0	120.000	145.0	H	237.0	-12.9
225.820250	23.23	46.00	22.77	1000.0	120.000	165.0	H	112.0	-12.7

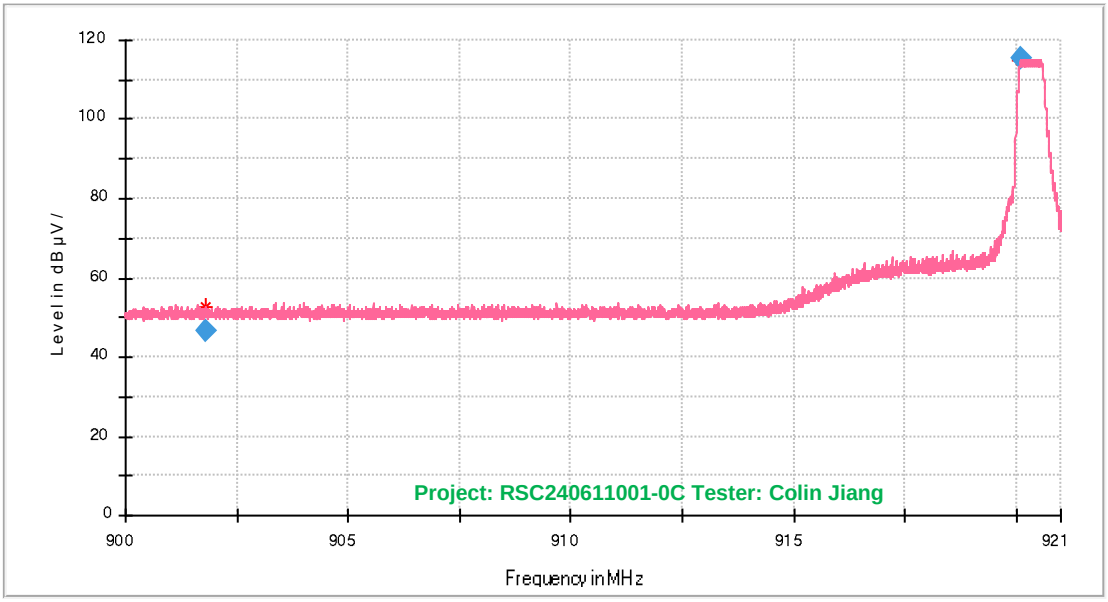
Band Edge (Tested without Pre-Amplifier)

Left_ Horizontal



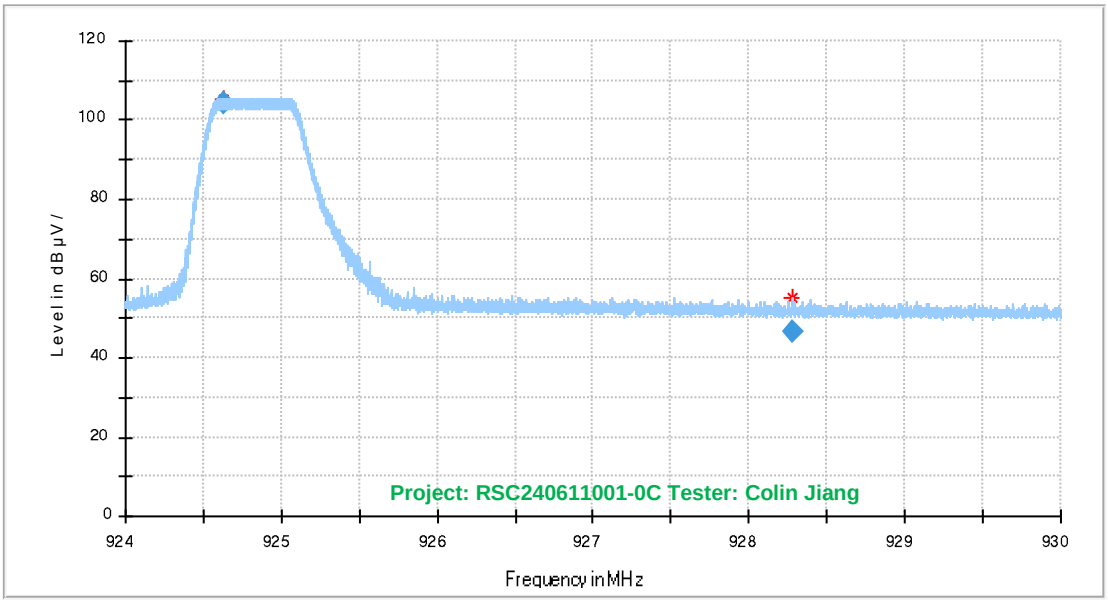
Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
901.682625	47.02	85.00	37.98	1000.0	120.000	154.0	H	78.0	31.8
920.103750	105.00	---	---	1000.0	120.000	156.0	H	79.0	31.8

Left_Vertical



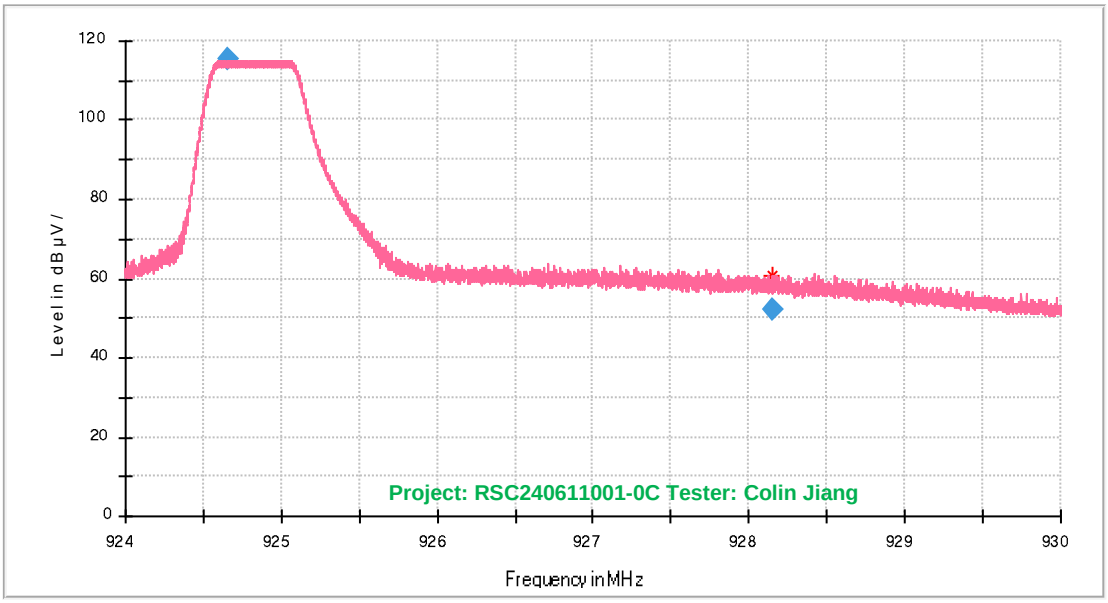
Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
901.806000	46.57	95.60	49.03	1000.0	120.000	114.0	V	70.0	31.8
920.100125	115.60	---	---	1000.0	120.000	113.0	V	71.0	31.8

Right_Horizontal



Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
924.626750	104.49	---	---	1000.0	120.000	151.0	H	78.0	32.0
928.273500	46.79	84.49	37.70	1000.0	120.000	151.0	H	76.0	32.0

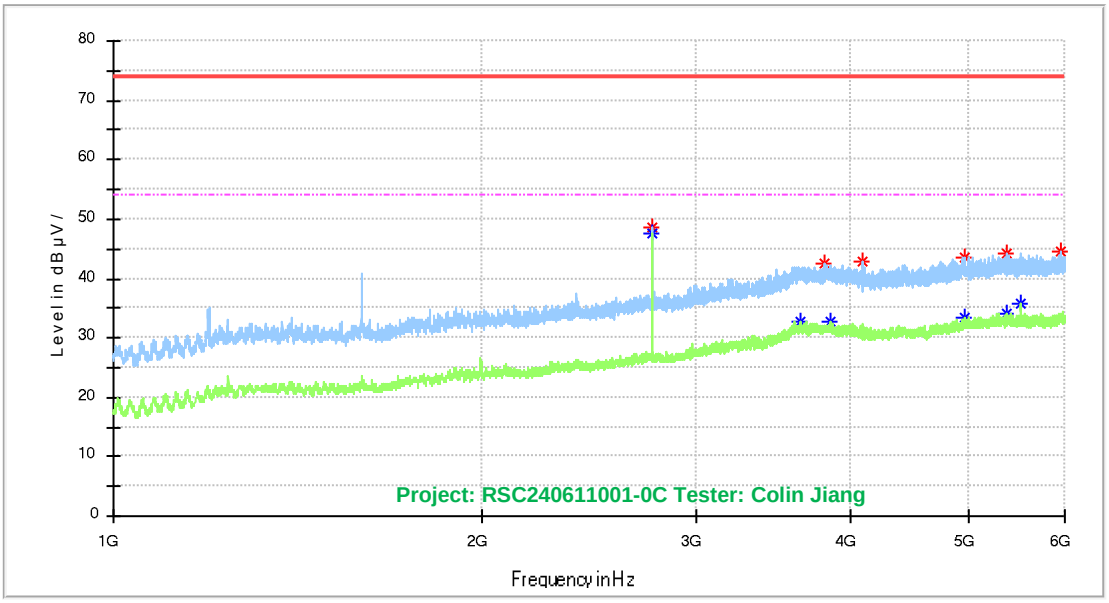
Right_Vertical



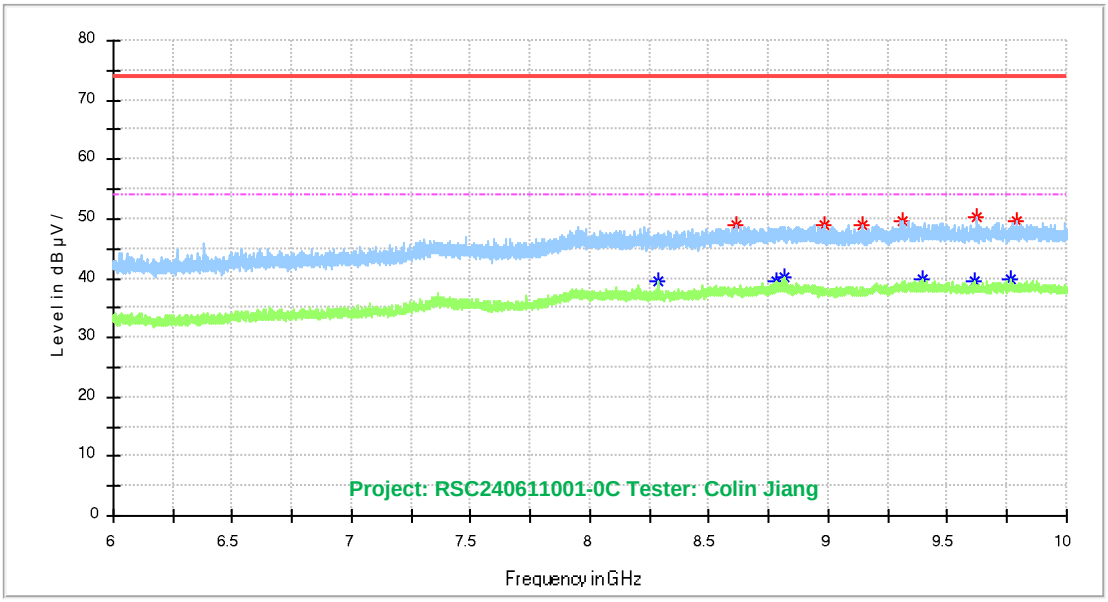
Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
924.649898	115.37	---	---	1000.0	120.000	115.0	V	70.0	32.0
928.150500	52.39	95.37	42.98	1000.0	120.000	115.0	V	69.0	32.0

4) 1GHz-10GHz

Low Channel_Horizontal

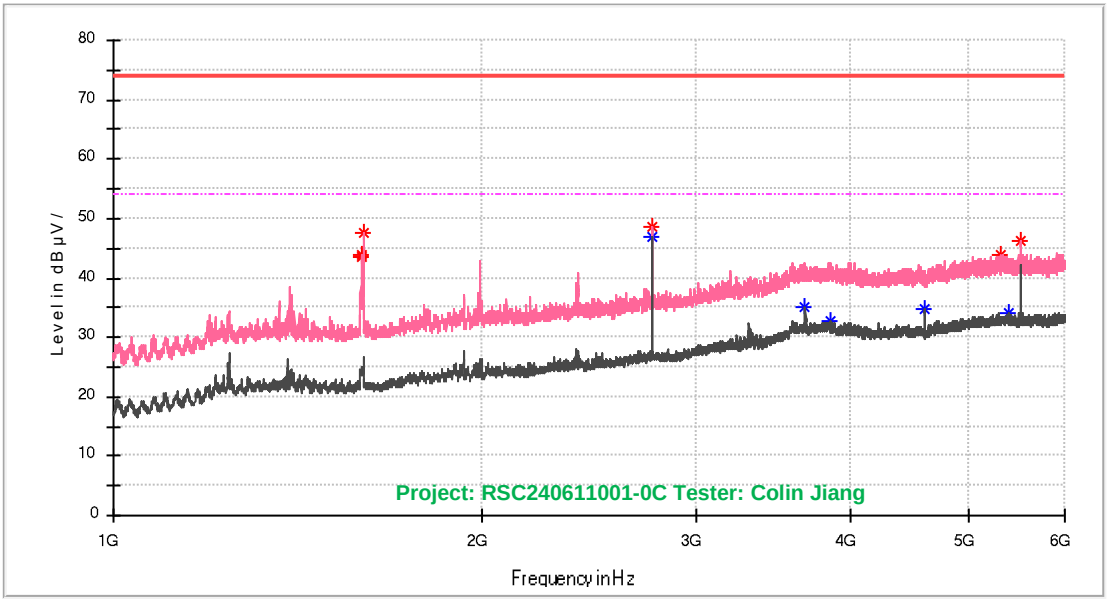


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2761.000000	48.63	---	74.00	25.37	150.0	H	53.0	-11.0
2761.000000	---	47.69	54.00	6.31	150.0	H	53.0	-11.0
3644.000000	---	32.73	54.00	21.27	150.0	H	66.0	-5.9
3820.500000	42.37	---	74.00	31.63	150.0	H	80.0	-5.9
3860.000000	---	32.66	54.00	21.34	200.0	H	313.0	-5.8
4103.000000	42.75	---	74.00	31.25	200.0	H	56.0	-6.5
4975.500000	---	33.48	54.00	20.52	150.0	H	227.0	-4.8
4977.500000	43.64	---	74.00	30.36	150.0	H	172.0	-4.8
5372.500000	44.08	---	74.00	29.92	150.0	H	6.0	-4.2
5374.500000	---	34.07	54.00	19.93	200.0	H	0.0	-4.2
5521.500000	---	35.70	54.00	18.30	150.0	H	206.0	-4.3
5944.500000	44.55	---	74.00	29.45	200.0	H	205.0	-3.8

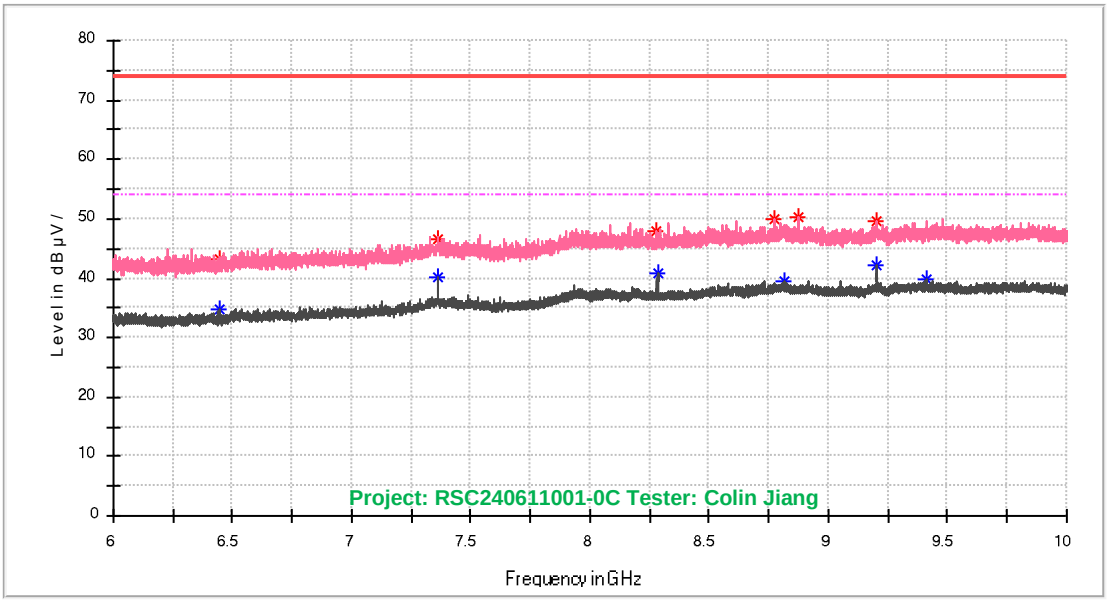


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
8284.000000	---	39.49	54.00	14.51	150.0	H	14.0	0.3
8611.200000	48.99	---	74.00	25.01	150.0	H	236.0	1.1
8782.800000	---	39.63	54.00	14.37	150.0	H	34.0	1.6
8818.000000	---	40.08	54.00	13.92	200.0	H	208.0	1.6
8984.400000	49.03	---	74.00	24.97	200.0	H	309.0	1.0
9144.000000	48.84	---	74.00	25.16	150.0	H	46.0	0.7
9310.400000	49.54	---	74.00	24.46	150.0	H	136.0	1.6
9394.000000	---	39.66	54.00	14.34	150.0	H	54.0	1.7
9610.400000	---	39.36	54.00	14.64	150.0	H	8.0	1.5
9622.800000	50.14	---	74.00	23.86	150.0	H	202.0	1.5
9766.800000	---	39.89	54.00	14.11	150.0	H	277.0	1.5
9792.000000	49.59	---	74.00	24.41	200.0	H	89.0	1.4

Low Channel_Vertical

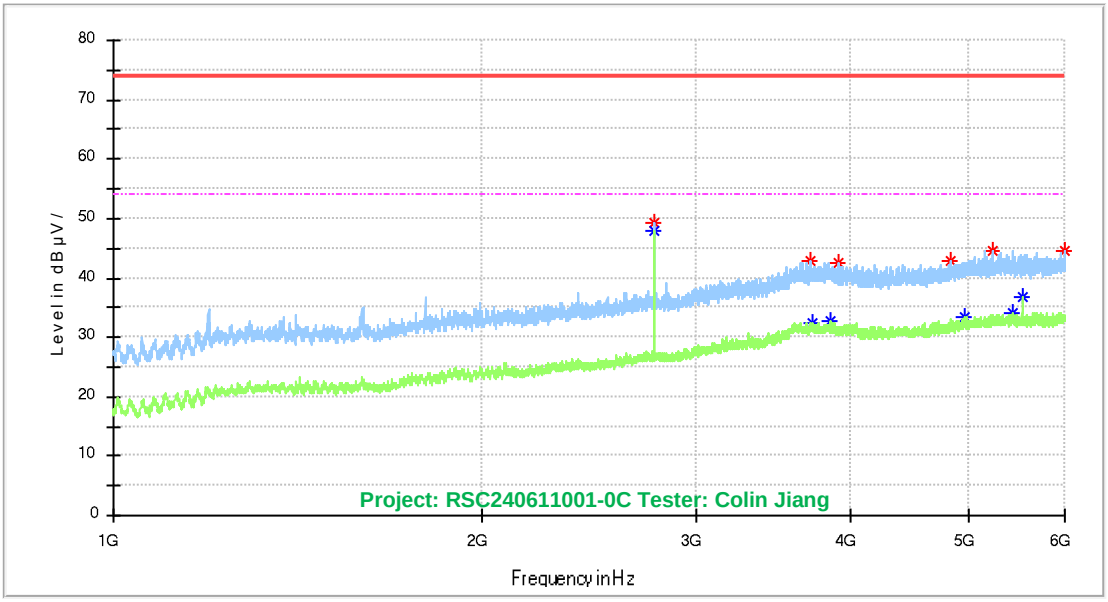


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1597.000000	43.40	---	74.00	30.60	200.0	V	305.0	-16.4
1598.500000	44.00	---	74.00	30.00	150.0	V	190.0	-16.4
1600.000000	47.44	---	74.00	26.56	150.0	V	52.0	-16.4
2761.000000	---	46.79	54.00	7.21	150.0	V	109.0	-11.0
2761.500000	48.51	---	74.00	25.49	150.0	V	116.0	-11.0
3681.000000	---	35.20	54.00	18.80	150.0	V	244.0	-6.0
3864.500000	---	32.65	54.00	21.35	150.0	V	80.0	-5.8
4601.000000	---	34.83	54.00	19.17	150.0	V	136.0	-6.4
5327.500000	43.88	---	74.00	30.12	200.0	V	338.0	-4.2
5397.500000	---	34.02	54.00	19.98	150.0	V	46.0	-4.2
5523.500000	---	42.24	54.00	11.76	150.0	V	351.0	-4.3
5523.500000	46.36	---	74.00	27.64	200.0	V	218.0	-4.3

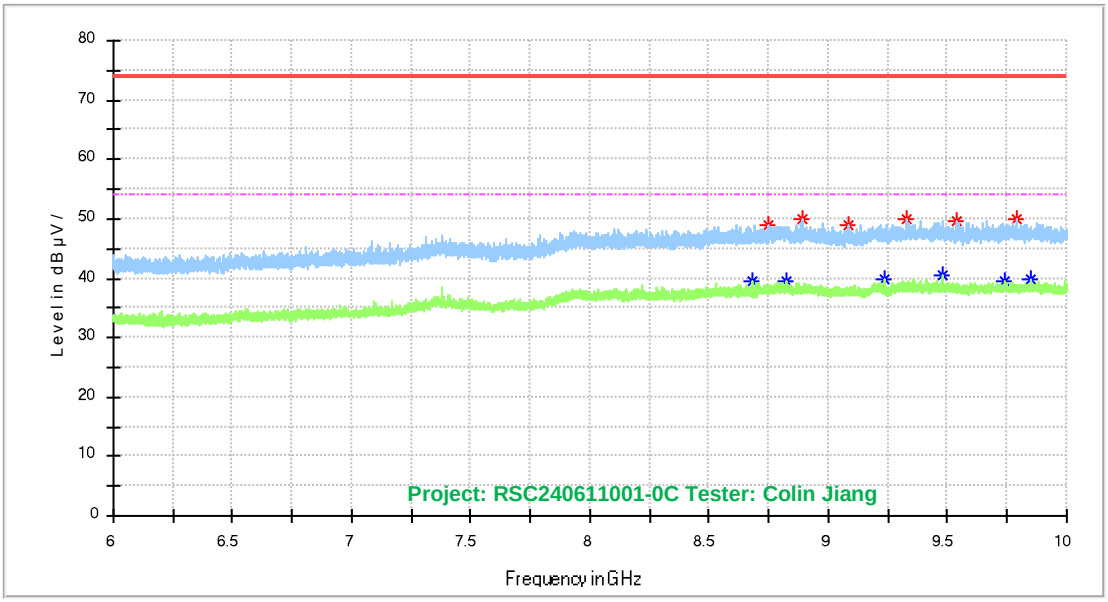


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
6443.200000	43.35	---	74.00	30.65	150.0	V	333.0	-3.9
6443.200000	---	34.78	54.00	19.22	150.0	V	333.0	-3.9
7360.800000	46.71	---	74.00	27.29	150.0	V	0.0	-1.2
7361.600000	---	40.33	54.00	13.67	200.0	V	269.0	-1.2
8278.800000	48.07	---	74.00	25.93	150.0	V	56.0	0.3
8284.400000	---	40.78	54.00	13.22	150.0	V	262.0	0.3
8773.600000	50.03	---	74.00	23.97	150.0	V	0.0	1.6
8813.200000	---	39.60	54.00	14.40	150.0	V	66.0	1.7
8872.400000	50.24	---	74.00	23.76	150.0	V	66.0	1.5
9204.000000	49.74	---	74.00	24.26	150.0	V	297.0	1.3
9204.000000	---	42.29	54.00	11.71	150.0	V	297.0	1.3
9408.400000	---	39.76	54.00	14.24	200.0	V	195.0	1.7

Middle Channel_Horizontal

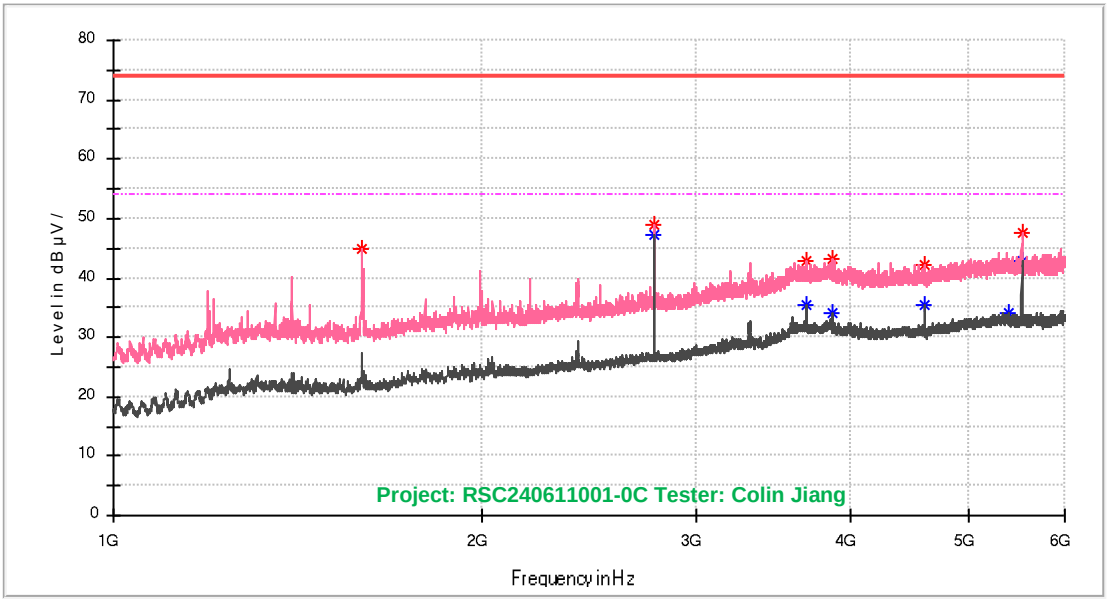


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2766.500000	49.20	---	74.00	24.80	150.0	H	55.0	-11.0
2767.000000	---	47.87	54.00	6.13	150.0	H	48.0	-11.0
3717.000000	42.87	---	74.00	31.13	200.0	H	24.0	-6.1
3729.500000	---	32.35	54.00	21.65	200.0	H	10.0	-6.0
3853.000000	---	32.67	54.00	21.33	200.0	H	105.0	-5.7
3919.000000	42.44	---	74.00	31.56	200.0	H	276.0	-6.0
4835.500000	42.78	---	74.00	31.22	200.0	H	126.0	-5.2
4969.500000	---	33.32	54.00	20.68	150.0	H	194.0	-4.8
5246.000000	44.56	---	74.00	29.44	150.0	H	273.0	-4.5
5445.000000	---	34.00	54.00	20.00	150.0	H	212.0	-4.2
5535.000000	---	36.78	54.00	17.22	200.0	H	202.0	-4.2
5999.000000	44.54	---	74.00	29.46	200.0	H	1.0	-3.9

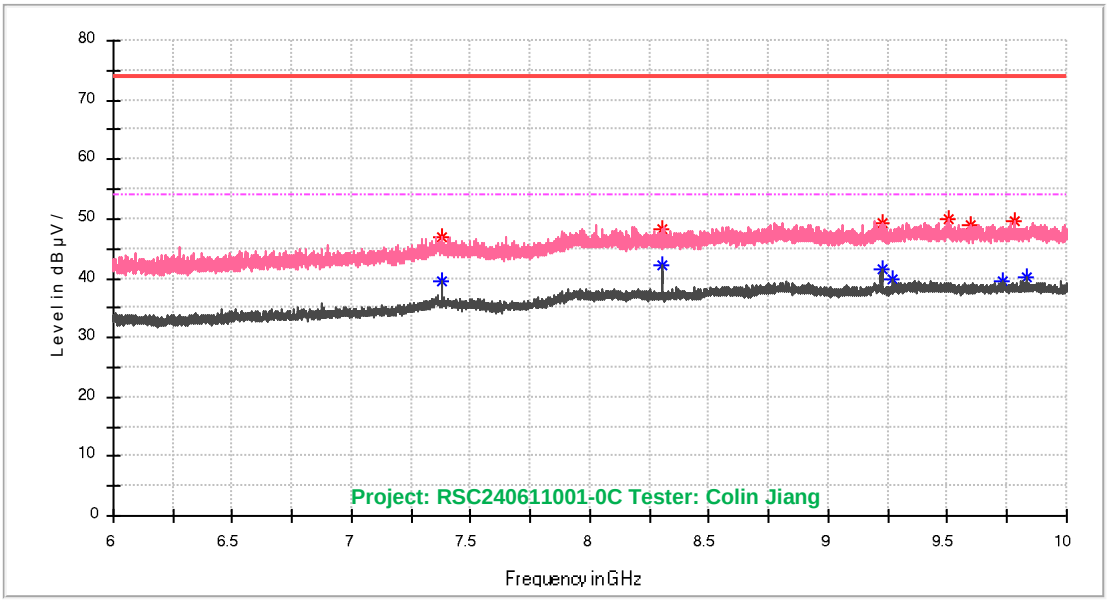


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
8684.000000	---	39.39	54.00	14.61	150.0	H	10.0	1.3
8749.600000	49.10	---	74.00	24.90	200.0	H	192.0	1.5
8820.800000	---	39.48	54.00	14.52	150.0	H	240.0	1.6
8889.600000	49.93	---	74.00	24.07	150.0	H	71.0	1.6
9083.200000	48.93	---	74.00	25.07	200.0	H	165.0	0.9
9234.800000	---	39.67	54.00	14.33	200.0	H	25.0	0.9
9328.000000	50.10	---	74.00	23.90	200.0	H	338.0	1.6
9475.600000	---	40.41	54.00	13.59	150.0	H	359.0	1.8
9535.600000	49.68	---	74.00	24.32	200.0	H	354.0	1.6
9737.200000	---	39.52	54.00	14.48	150.0	H	84.0	1.6
9786.800000	49.94	---	74.00	24.06	200.0	H	0.0	1.4
9852.800000	---	39.82	54.00	14.18	150.0	H	18.0	1.6

Middle Channel_Vertical

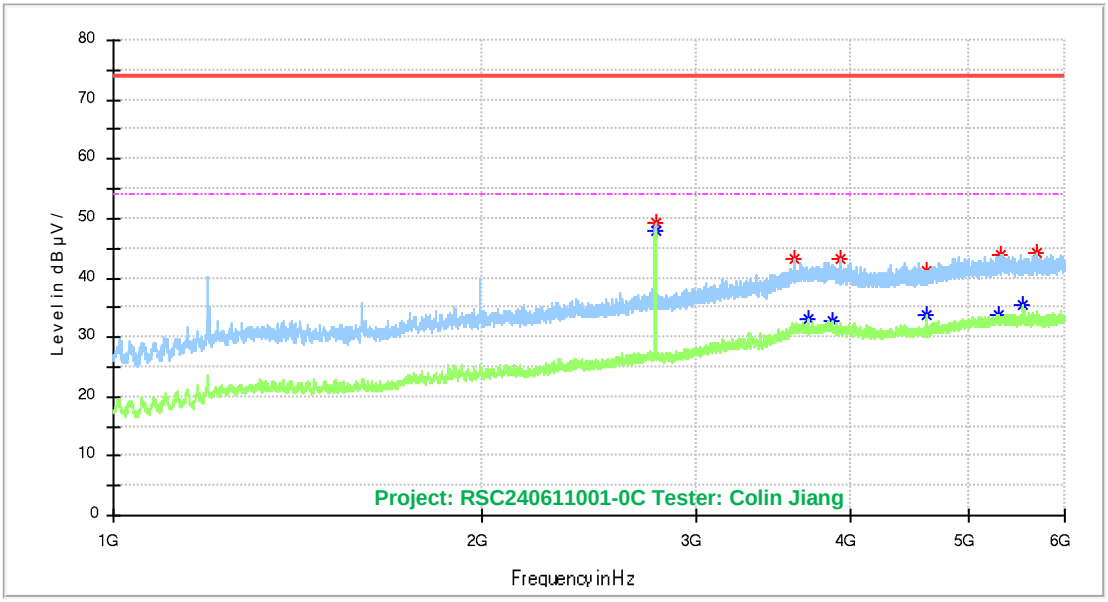


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1597.500000	44.83	---	74.00	29.17	150.0	V	48.0	-16.4
2767.000000	---	47.13	54.00	6.87	150.0	V	109.0	-11.0
2767.000000	48.93	---	74.00	25.07	150.0	V	109.0	-11.0
3689.000000	42.76	---	74.00	31.24	200.0	V	248.0	-6.1
3690.000000	---	35.40	54.00	18.60	150.0	V	233.0	-6.1
3868.000000	43.28	---	74.00	30.72	200.0	V	63.0	-5.8
3868.000000	---	33.99	54.00	20.01	200.0	V	63.0	-5.8
4611.000000	---	35.58	54.00	18.42	200.0	V	186.0	-6.3
4611.000000	42.34	---	74.00	31.66	150.0	V	48.0	-6.3
5399.500000	---	34.02	54.00	19.98	200.0	V	43.0	-4.2
5534.500000	47.57	---	74.00	26.43	150.0	V	344.0	-4.2
5534.500000	---	42.74	54.00	11.26	150.0	V	344.0	-4.2

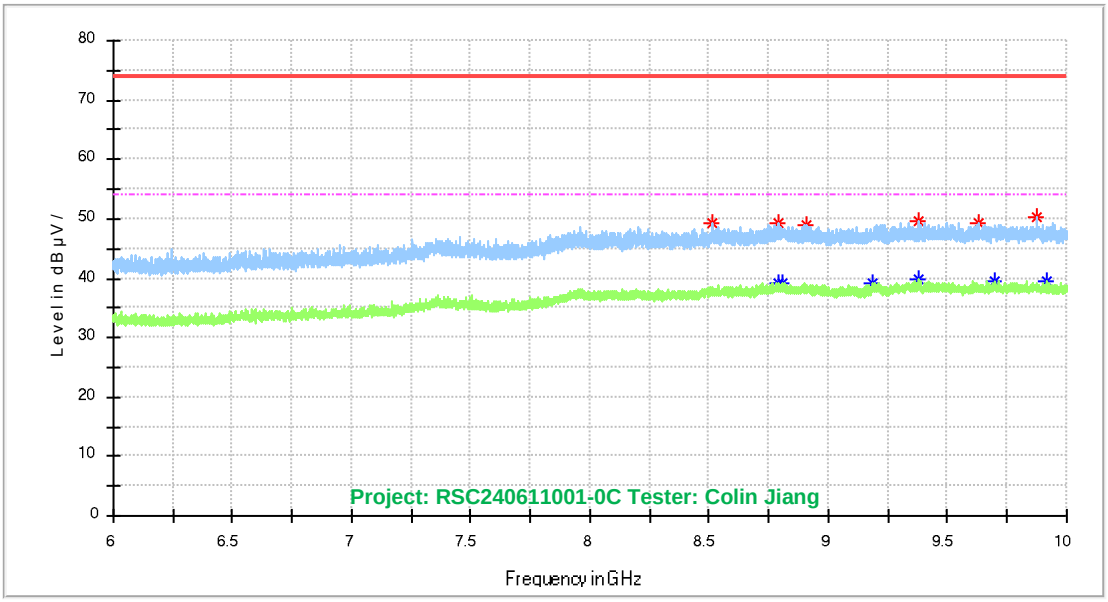


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
7379.600000	---	39.43	54.00	14.57	150.0	V	222.0	-1.2
7380.000000	46.90	---	74.00	27.10	200.0	V	304.0	-1.2
8300.800000	48.30	---	74.00	25.70	150.0	V	1.0	0.4
8301.600000	---	42.24	54.00	11.76	200.0	V	79.0	0.4
9225.200000	49.29	---	74.00	24.71	200.0	V	127.0	1.0
9225.200000	---	41.56	54.00	12.44	150.0	V	91.0	1.0
9265.200000	---	39.71	54.00	14.29	200.0	V	270.0	1.0
9502.000000	49.96	---	74.00	24.04	150.0	V	243.0	1.8
9598.000000	49.10	---	74.00	24.90	200.0	V	243.0	1.5
9730.800000	---	39.41	54.00	14.59	150.0	V	131.0	1.6
9784.400000	49.46	---	74.00	24.54	200.0	V	79.0	1.4
9833.200000	---	40.00	54.00	14.00	200.0	V	134.0	1.5

High Channel_Horizontal

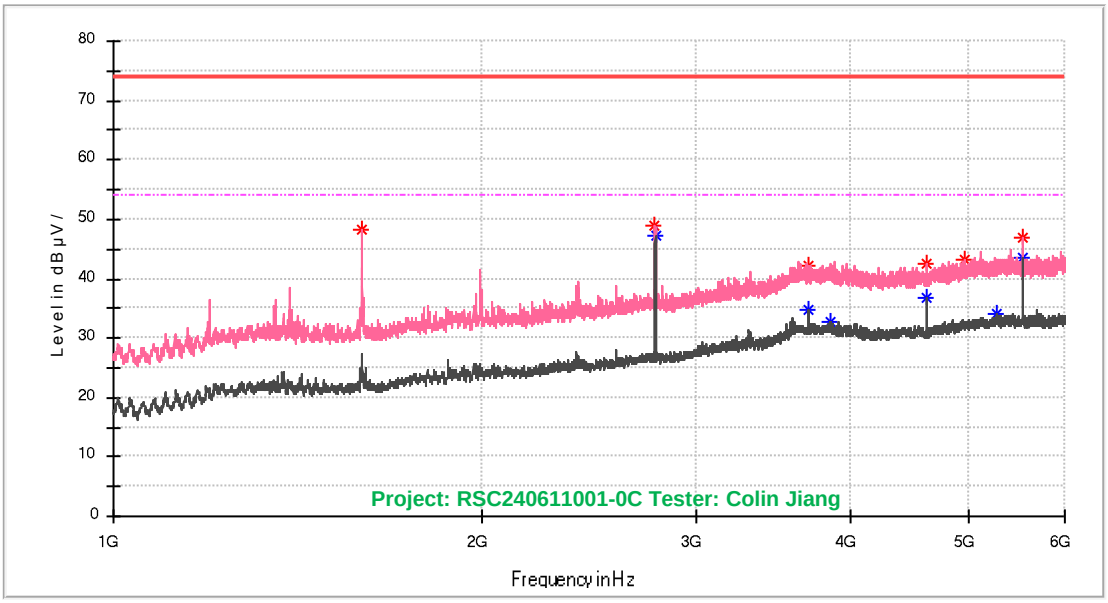


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2774.500000	---	47.91	54.00	6.09	200.0	H	66.0	-11.0
2774.500000	49.41	---	74.00	24.59	200.0	H	66.0	-11.0
3603.000000	43.22	---	74.00	30.78	150.0	H	12.0	-6.1
3698.500000	---	33.07	54.00	20.93	150.0	H	136.0	-6.1
3868.000000	---	32.75	54.00	21.25	150.0	H	40.0	-5.8
3938.500000	43.23	---	74.00	30.77	200.0	H	300.0	-6.0
4624.000000	---	33.84	54.00	20.16	200.0	H	259.0	-6.3
4624.500000	41.23	---	74.00	32.77	200.0	H	259.0	-6.3
5289.500000	---	33.92	54.00	20.08	200.0	H	0.0	-4.2
5321.500000	43.84	---	74.00	30.16	200.0	H	253.0	-4.1
5549.000000	---	35.46	54.00	18.54	150.0	H	227.0	-4.2
5681.000000	44.25	---	74.00	29.75	200.0	H	340.0	-4.1

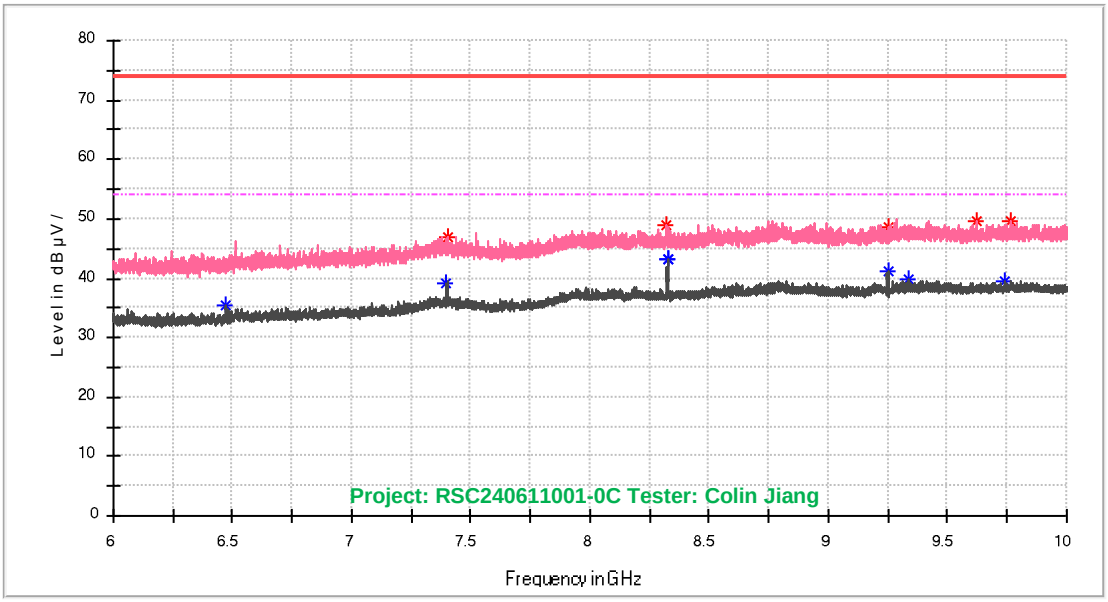


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
8510.400000	49.18	---	74.00	24.82	150.0	H	76.0	0.9
8789.600000	49.43	---	74.00	24.57	150.0	H	260.0	1.7
8791.600000	---	39.26	54.00	14.74	150.0	H	199.0	1.7
8809.600000	---	39.26	54.00	14.74	200.0	H	141.0	1.7
8909.600000	49.11	---	74.00	24.89	200.0	H	291.0	1.5
9185.600000	---	39.29	54.00	14.71	200.0	H	45.0	1.1
9380.800000	49.74	---	74.00	24.26	150.0	H	111.0	1.7
9381.600000	---	39.69	54.00	14.31	150.0	H	253.0	1.7
9627.600000	49.39	---	74.00	24.61	200.0	H	335.0	1.5
9701.600000	---	39.41	54.00	14.59	150.0	H	253.0	1.7
9872.000000	50.36	---	74.00	23.64	150.0	H	213.0	1.5
9919.600000	---	39.54	54.00	14.46	150.0	H	340.0	1.4

High Channel_Vertical



Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1594.000000	48.21	---	74.00	25.79	150.0	V	255.0	-16.4
2774.000000	48.85	---	74.00	25.15	150.0	V	109.0	-11.0
2774.500000	---	47.11	54.00	6.89	150.0	V	255.0	-11.0
3699.500000	42.21	---	74.00	31.79	150.0	V	201.0	-6.1
3700.000000	---	34.81	54.00	19.19	150.0	V	228.0	-6.1
3863.000000	---	32.83	54.00	21.17	200.0	V	62.0	-5.8
4623.500000	42.49	---	74.00	31.51	200.0	V	126.0	-6.3
4625.000000	---	36.67	54.00	17.33	150.0	V	75.0	-6.3
4962.000000	43.31	---	74.00	30.69	150.0	V	34.0	-4.7
5280.500000	---	33.98	54.00	20.02	200.0	V	0.0	-4.3
5548.500000	---	43.67	54.00	10.33	150.0	V	102.0	-4.2
5549.000000	46.87	---	74.00	27.13	150.0	V	102.0	-4.2

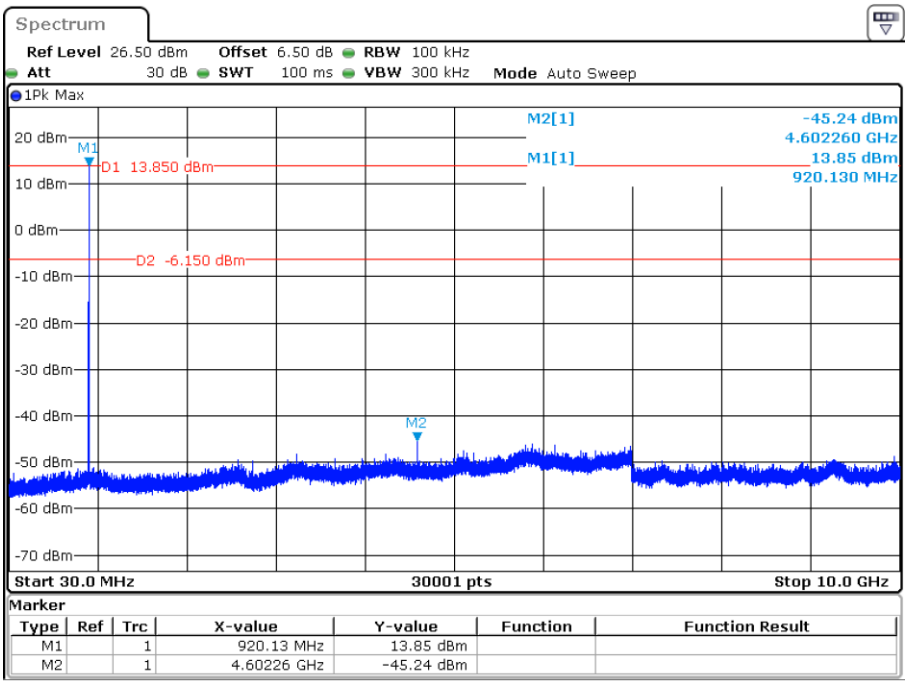


Frequency (MHz)	MaxPeak (dBµ V/m)	Average (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
6472.400000	---	35.37	54.00	18.63	200.0	V	258.0	-3.8
7398.800000	---	39.26	54.00	14.74	150.0	V	24.0	-1.2
7399.200000	46.79	---	74.00	27.21	200.0	V	345.0	-1.2
8322.800000	48.86	---	74.00	25.14	150.0	V	211.0	0.3
8325.200000	---	43.27	54.00	10.73	200.0	V	76.0	0.3
8325.200000	---	43.27	54.00	10.73	200.0	V	76.0	0.3
9250.000000	48.66	---	74.00	25.34	150.0	V	249.0	0.8
9250.400000	---	41.19	54.00	12.81	150.0	V	211.0	0.8
9335.200000	---	39.83	54.00	14.17	150.0	V	165.0	1.6
9618.800000	49.61	---	74.00	24.39	200.0	V	278.0	1.5
9742.800000	---	39.46	54.00	14.54	200.0	V	32.0	1.6
9764.000000	49.75	---	74.00	24.25	150.0	V	304.0	1.5

Note:
Corrected Amplitude (MaxPeak or QuasiPeak) = Corrected Factor + Reading
Corrected Factor=Antenna factor (RX) + Cable Loss – Amplifier Factor or Antenna factor (RX) + Cable Loss
Margin = Limit- Corr. Amplitude

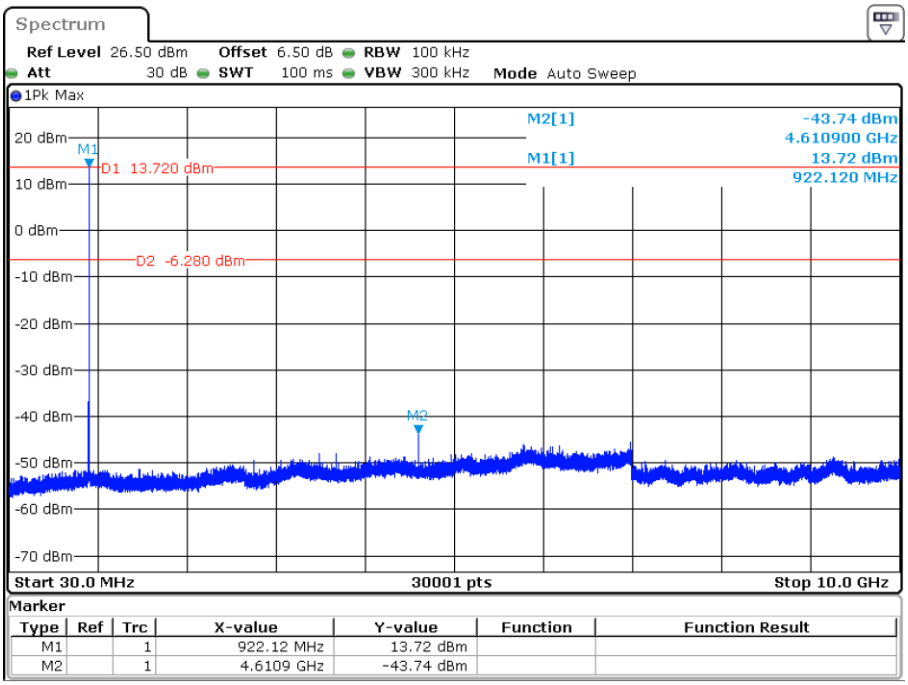
Conducted Spurious Emission At Antenna Port:

Low Channel



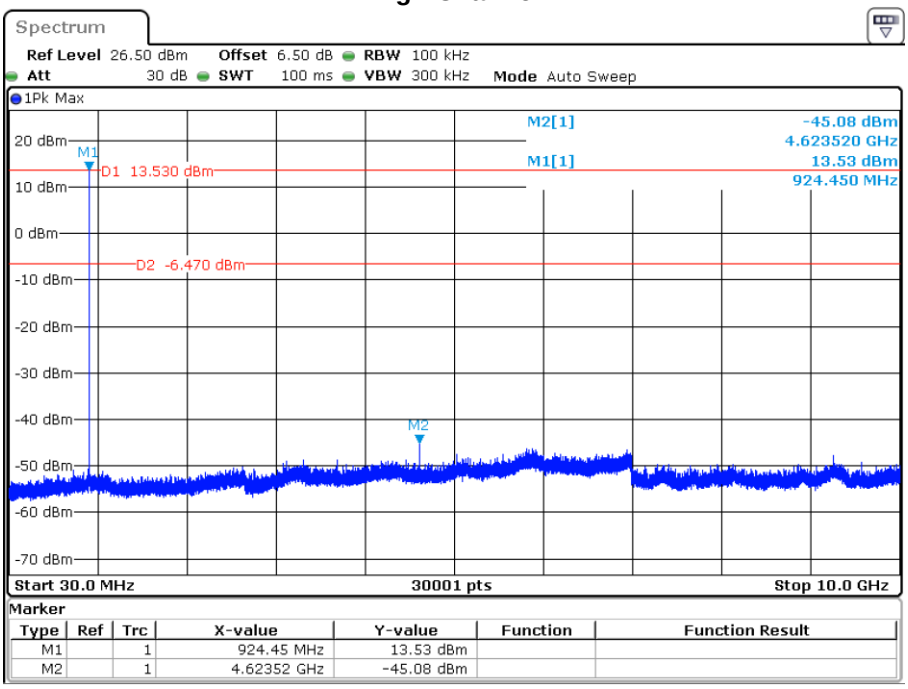
Project:RSC240611001-0C Tester:Colin Jiang
Date: 17.JUL.2024 15:54:21

Middle Channel



Project:RSC240611001-0C Tester:Colin Jiang
Date: 17.JUL.2024 15:56:47

High Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:58:25

FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

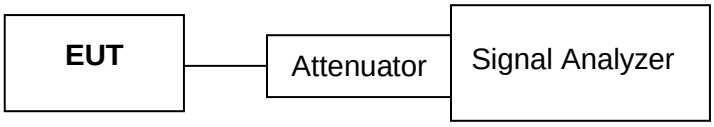
Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, 5725–5850 MHz bands.
The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

ANSI C63.10-2020 Clause 11.8.1 Option 1

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3×RBW
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) 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.

Test Setup Block



Note: Offset (6.5dB) = 6dB Attenuator(6dB) + RF cable loss(0.5dB)

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	54 %
ATM Pressure:	95.4 kPa

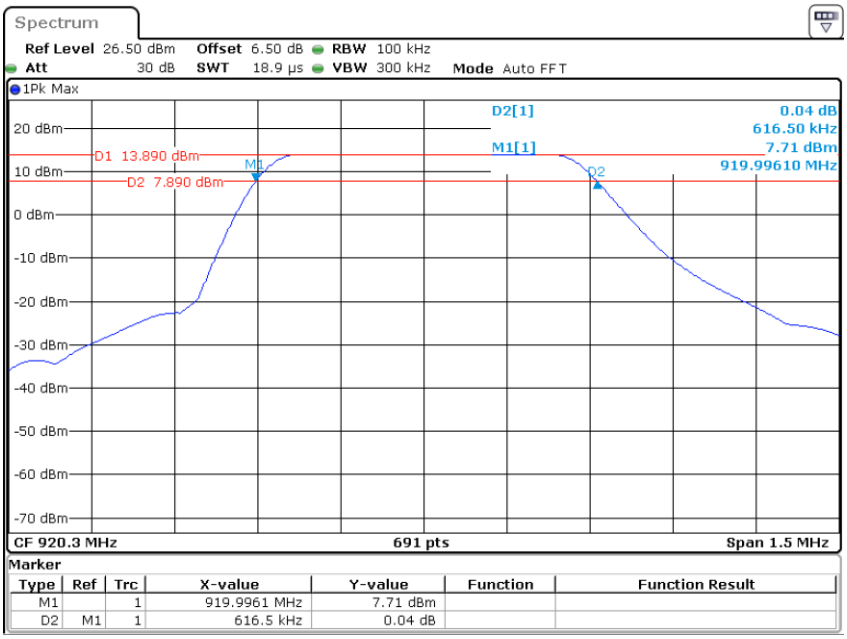
The testing was performed by Colin Jiang on 2024-07-17.

Test Mode: Transmitting

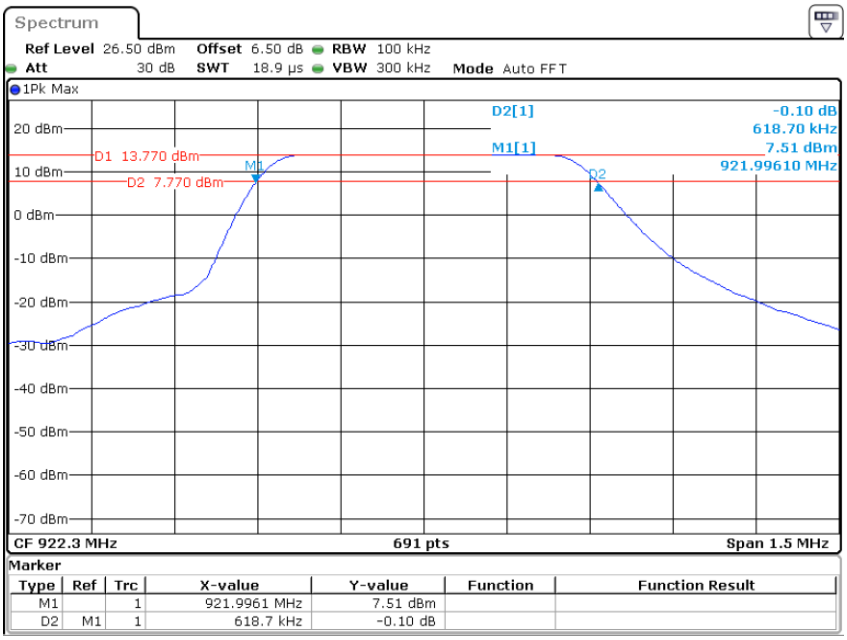
Test Result: Compliance. Please refer to the following table and plots.

Mode	Channel	Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)
500 kHz	Low	920.3	616.5	≥ 500
	Middle	922.3	618.7	≥ 500
	High	924.8	625.2	≥ 500

Low Channel



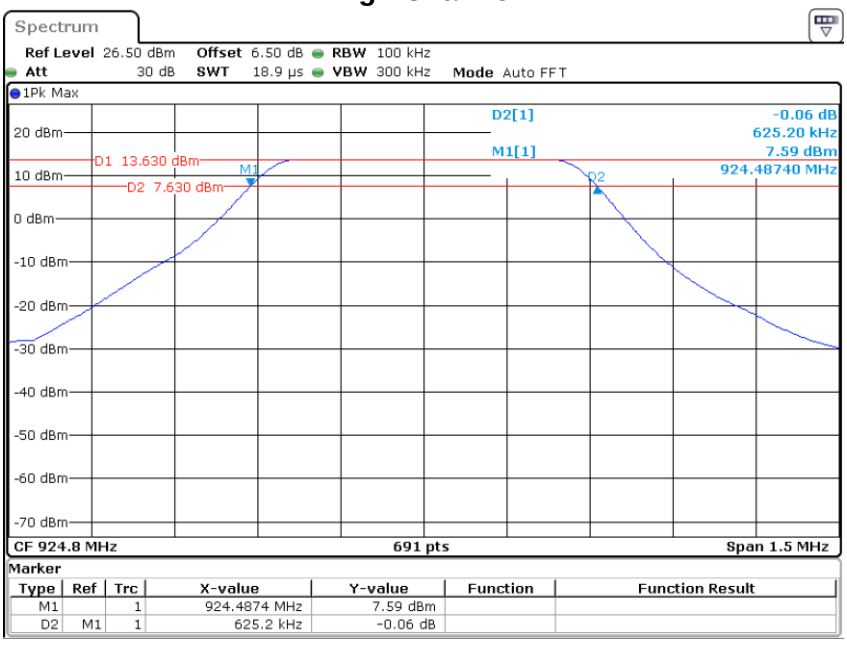
Middle Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:20:56

High Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:16:04

FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

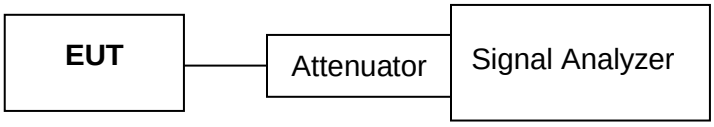
Test Procedure

ANSI C63.10-2020 Clause 11.9.1.1 RBW ≥ DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = No faster than coupled (auto) time.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

Test Setup Block



Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	54 %
ATM Pressure:	95.4 kPa

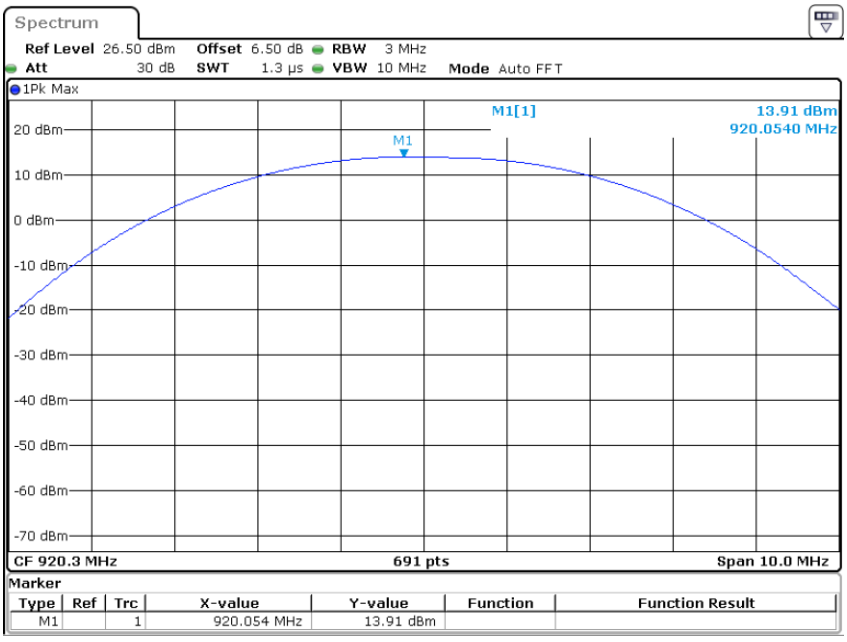
The testing was performed by Colin Jiang on 2024-07-17.

Test Mode: Transmitting

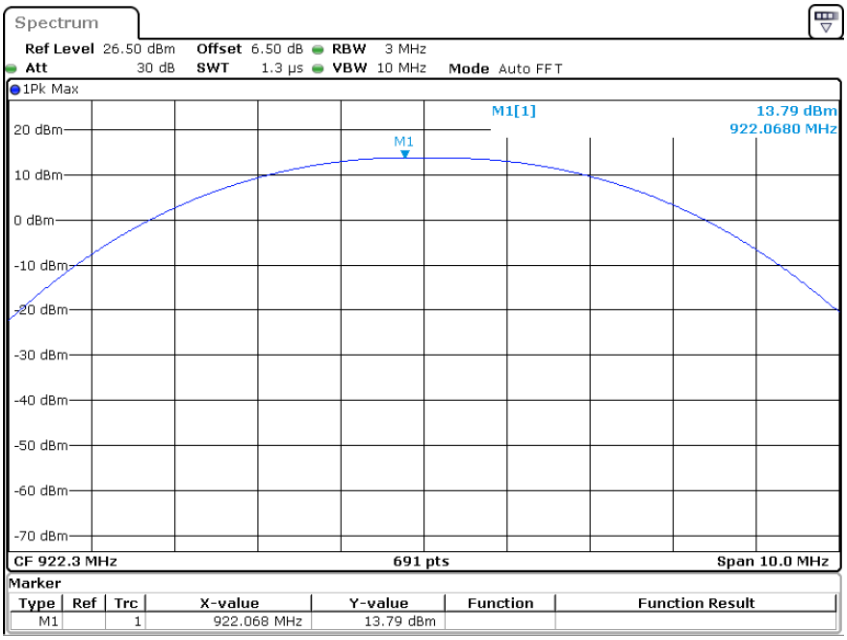
Test Result: Compliance. Please refer to the following table and plots.

Mode	Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)
500 kHz	Low	920.3	13.91	≤30
	Middle	922.3	13.79	≤30
	High	924.8	13.65	≤30

Low Channel



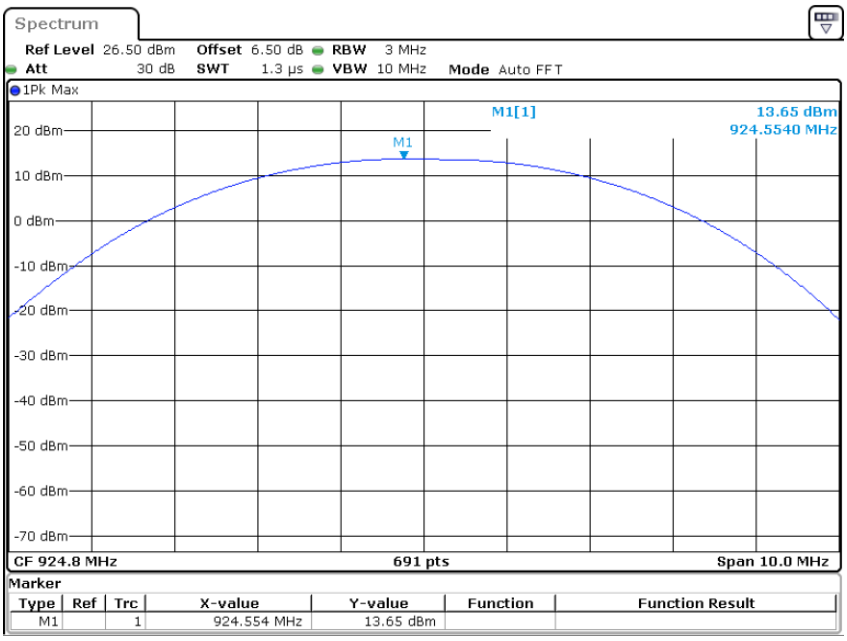
Middle Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 14:52:16

High Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 14:53:06

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

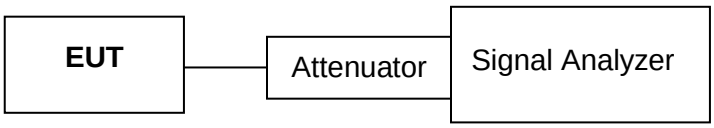
Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated 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) (see §15.205(c)).

Test Procedure

1. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including100 kHz bandwidth from band edge.
2. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
3. Repeat above procedures until all measured frequencies were complete.

Test Setup Block



Test Data

Environmental Conditions

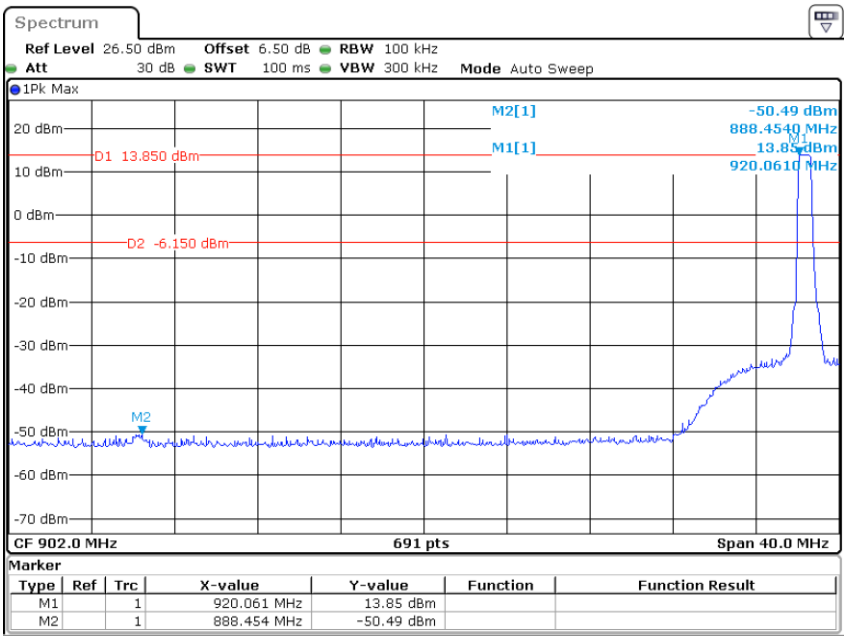
Temperature:	26 °C
Relative Humidity:	54 %
ATM Pressure:	95.4 kPa

The testing was performed by Colin Jiang on 2024-07-17.

Test mode: Transmitting

Test Result: Compliance. Please refer to following plots.

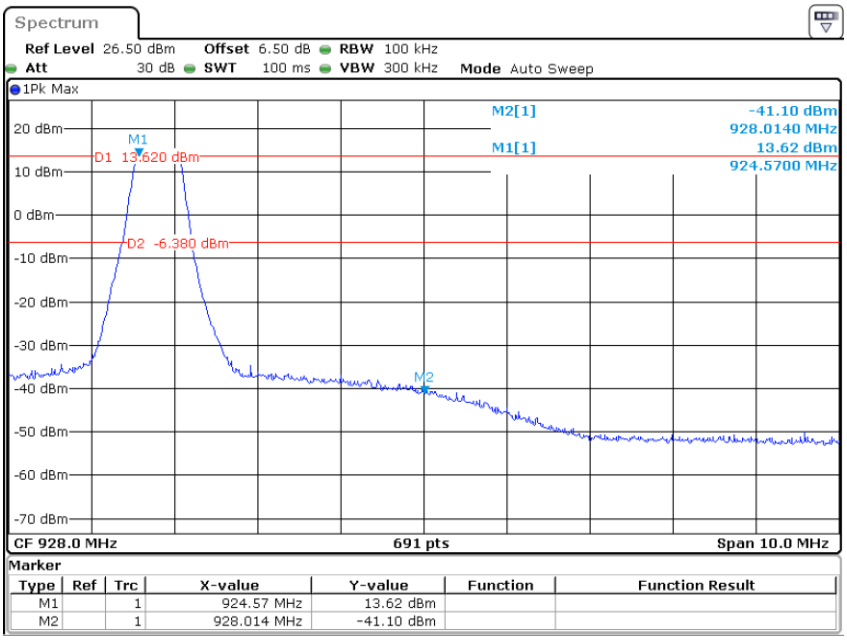
Band Edge, Left Side



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:49:26

Band Edge, Right Side



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 15:45:08

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

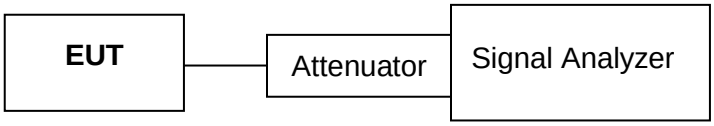
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

ANSI C63.10-2020 Clause 11.10.2(PKPSD)

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3×RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Setup Block



Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	54 %
ATM Pressure:	95.4 kPa

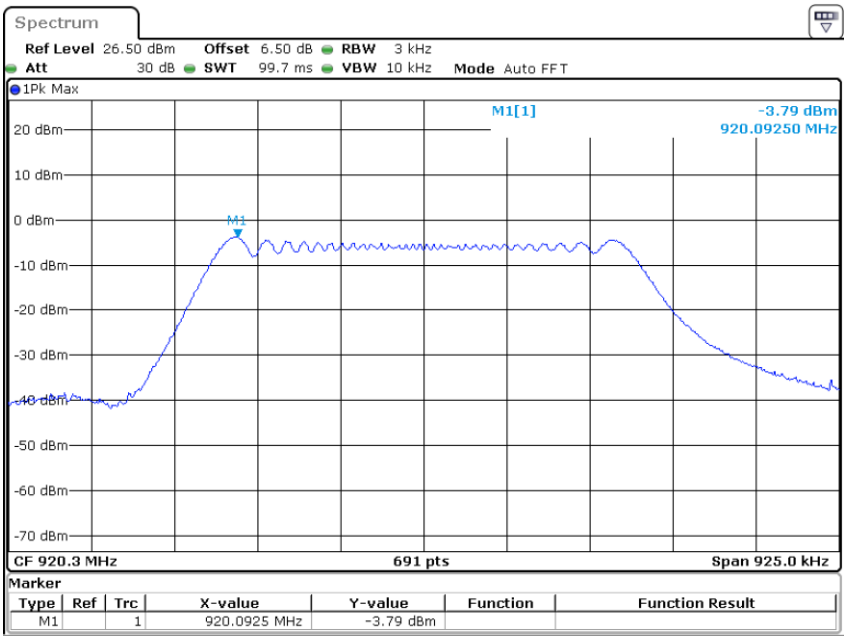
The testing was performed by Colin Jiang on 2024-07-17.

Test Mode: Transmitting

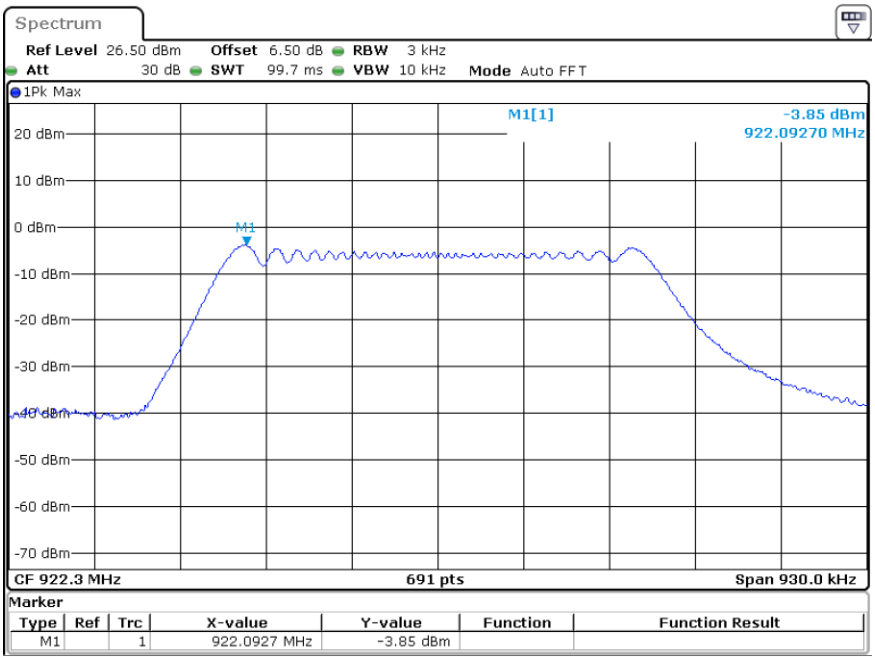
Test Result: Compliance. Please refer to the following table and plots.

Mode	Channel	Frequency (MHz)	PKPSD (dBm/3KHz)	Limit (dBm/3kHz)
500 kHz	Low	920.3	-3.79	≤8
	Middle	922.3	-3.85	≤8
	High	924.8	-4.57	≤8

Power Spectral Density, Low Channel



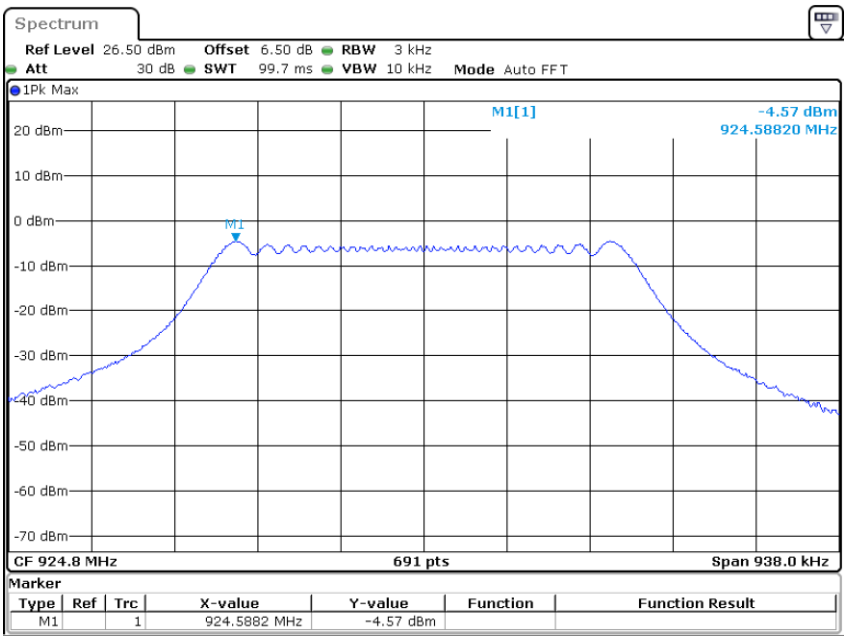
Power Spectral Density, Middle Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 16:08:06

Power Spectral Density, High Channel



Project:RSC240611001-0C Tester:Colin Jiang

Date: 17.JUL.2024 16:09:26

END OF REPORT