



中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



TEST REPORT

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FCC ID: 2ASYE-T-DISPLAY-PRO

Product Name: T-Display-S3 Pro

Standard(s): 47 CFR Part 15, Subpart C(15.247)
ANSI C63.10-2013
KDB 558074 D01 15.247 Meas Guidance v05r02

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: CR231062966-00A

Date Of Issue: 2024/1/15

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Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

Declarations

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

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR231062966-00A	Original Report	2024/1/15

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	T-Display-S3 Pro
EUT Model:	T-Display-S3 Pro (White/Orange/White Orange/Black Shell OV5640 Camera)
Multiple Models:	T-Display-S3 Pro (White/Orange/White Orange/Black Shell), T-Display-S3 Pro (White/Orange/White Orange/Black Shell GC0308 Camera)
Trade Name:	LILYGO
Operation Frequency:	2402-2480 MHz
Maximum Conducted Peak Output Power:	2.7dBm
Modulation Type:	GFSK
Rated Input Voltage:	T-Display-S3 Pro (White/Orange/White Orange/Black Shell OV5640 Camera): DC 5V from Type-C Port or DC 3.8V from Battery T-Display-S3 Pro (White/Orange/White Orange/Black Shell): DC 5V from Type-C Port or DC 3.7V from Battery T-Display-S3 Pro (White/Orange/White Orange/Black Shell GC0308 Camera): DC 5V from Type-C Port or DC 3.8V from Battery
Serial Number:	T-Display-S3 Pro (White Shell OV5640 Camera): RF: 2CS0-3, CE/RE: 2CRZ-5 T-Display-S3 Pro (White Shell): 2CS0-4 T-Display-S3 Pro (White Shell GC0308 Camera): 2CRZ-4
EUT Received Date:	2023/10/27
EUT Received Status:	Good
Note: The Multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer. All tests were performed with model T-Display-S3 Pro (White Shell OV5640 Camera), except Radiated Emission test (9kHz-1GHz) test with all models (White Shell).	

Operation Frequency Detail:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	...	...
...	...	...	...
...	...	...	...
..	...	38	2478
19	2440	39	2480
Per section 15.31(m), the below frequencies were performed the test as below:			
Test Channel		Frequency (MHz)	
Lowest		2402	
Middle		2440	
Highest		2480	

Antenna Information Detail▲:

Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
Metal	50	2.4~2.5GHz	4.9dBi
The Method of §15.203 Compliance: ☒ Antenna was permanently attached to the unit. ☐ Antenna use a unique type of connector to attach to the EUT. ☐ Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.			

Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.		
Equipment Modifications:	No		
EUT Exercise Software:	EspRFTTestTool_V3.6		
The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:			
Test Modes	Power Level Setting		
	Lowest Channel	Middle Channel	Highest Channel
1Mbps	9	9	9
2Mbps	9	9	9

1.2.2 Support Equipment List and Details

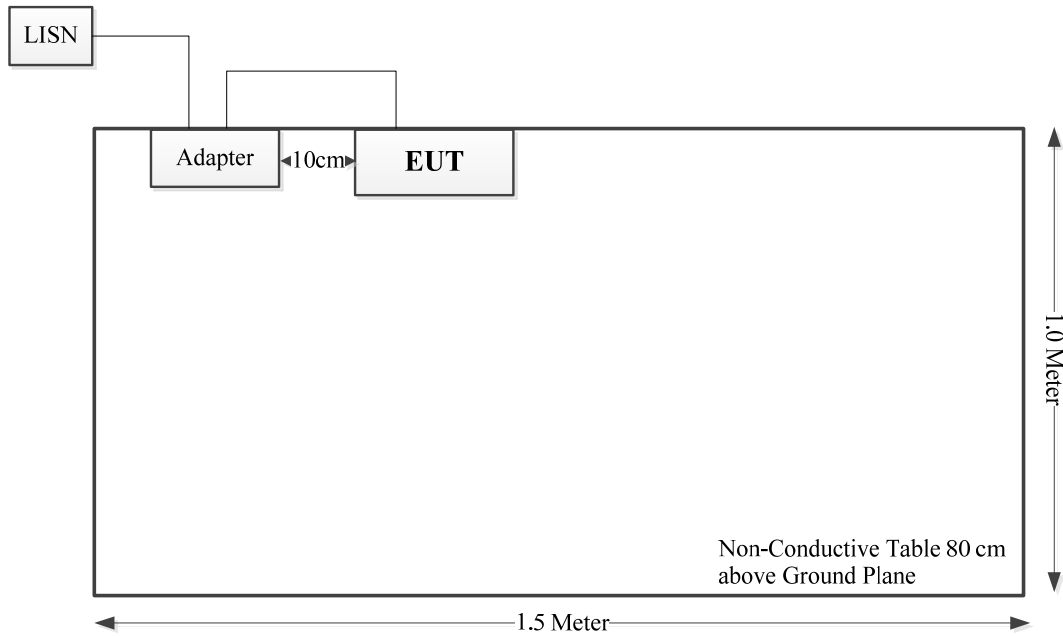
Manufacturer	Description	Model	Serial Number
infinix	Adapter	U330XSA	Unknown

1.2.3 Support Cable List and Details

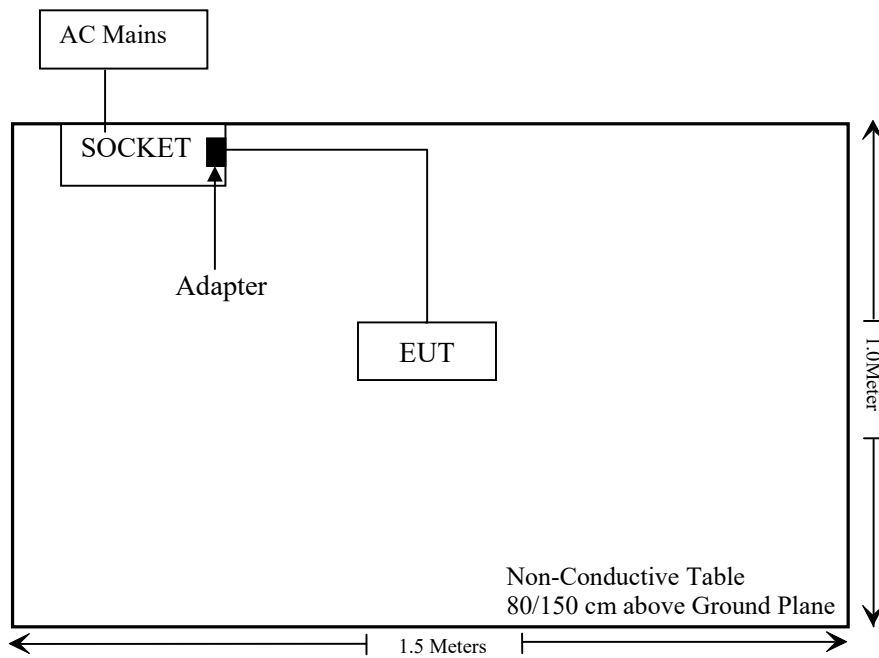
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	1.0	EUT	Adapter

1.2.4 Block Diagram of Test Setup

AC Line Conducted Emissions:



Spurious emissions:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	$\pm 5\%$
RF output power, conducted	$\pm 0.61\text{dB}$
Power Spectral Density, conducted	$\pm 0.61\text{ dB}$
Unwanted Emissions, radiated	9kHz~30MHz: 4.12dB, 30M~200MHz: 4.15 dB, 200M~1GHz: 5.61 dB, 1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Unwanted Emissions, conducted	$\pm 1.26\text{ dB}$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 0.4\%$
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
§15.207(a)	AC line conducted emissions	Not Applicable
§15.205, §15.209, §15.247(d)	Radiated Spurious Emissions	Compliant
§15.247 (a)(2)	Minimum 6 dB Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(e)	Power Spectral Density	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.203	Antenna Requirement	Compliant
§15.247 (i) & §1.1310	RF Exposure Evaluation	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μ V within the frequency band 535-1705 kHz, as measured using a 50 μ H/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 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 C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 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

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase (“hot”) line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = attenuation caused by cable loss + voltage division factor of AMN

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

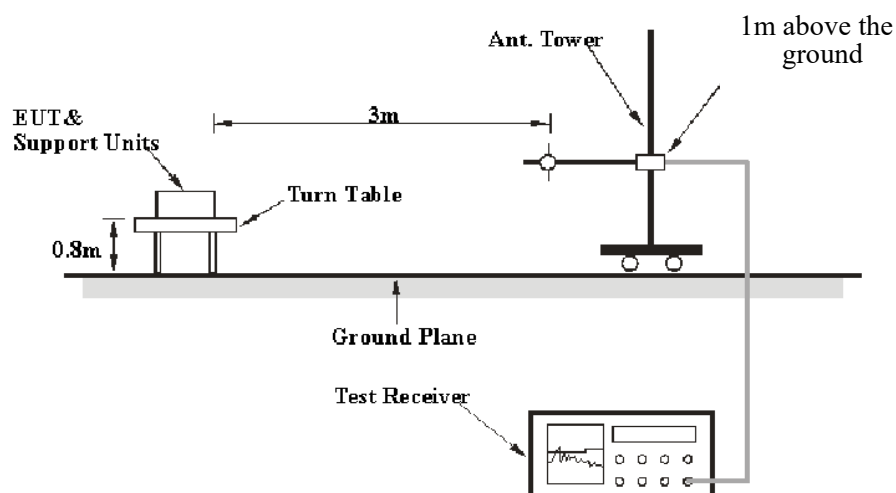
3.2.1 Applicable Standard

FCC §15.247 (d);

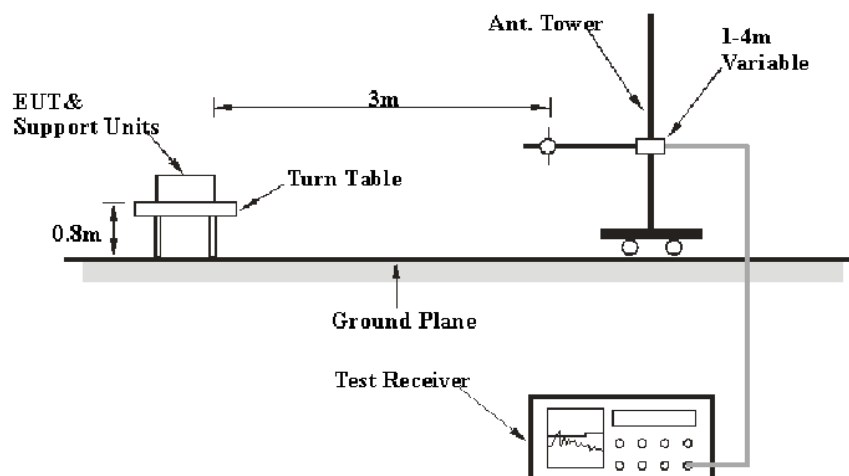
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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)).

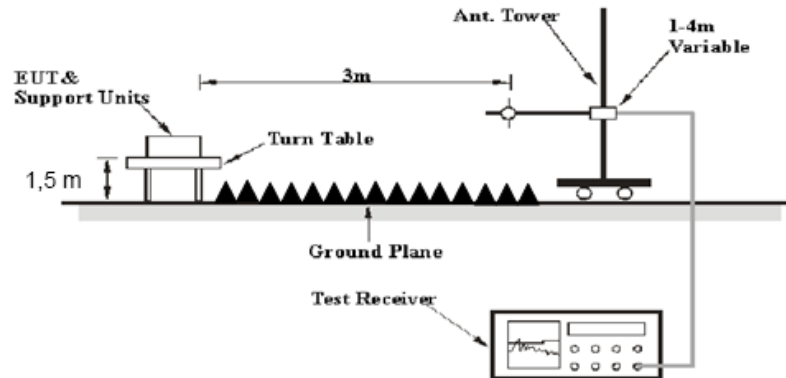
3.2.2 EUT Setup

9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:

The radiated emissions were performed in the 3 meters distance, using the setup accordance with the ANSI C63.10-2013. 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.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25 GHz.

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

9 kHz-1000MHz:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	/	/	200 Hz	QP
	300 Hz	1 kHz	/	PK
150 kHz – 30 MHz	/	/	9 kHz	QP
	10 kHz	30 kHz	/	PK
30 MHz – 1000 MHz	/	/	120 kHz	QP
	100 kHz	300 kHz	/	PK

1GHz- 25GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	$\geq 1/T$

Note: T is minimum transmission duration

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.

3.2.4 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 9 kHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = Antenna Factor + Cable Loss- Amplifier Gain

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

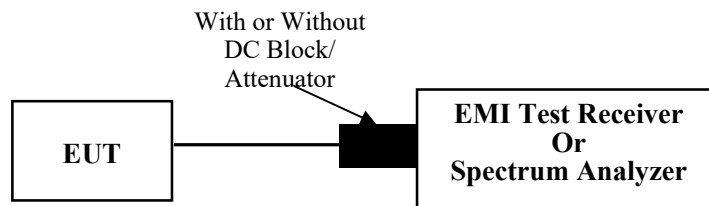
3.3 Minimum 6 dB Bandwidth

3.3.1 Applicable Standard

FCC §15.247 (a)(2)

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

3.3.2 EUT Setup



3.3.3 Test Procedure

According to ANSI C63.10-2013 Section 11.8

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- 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.

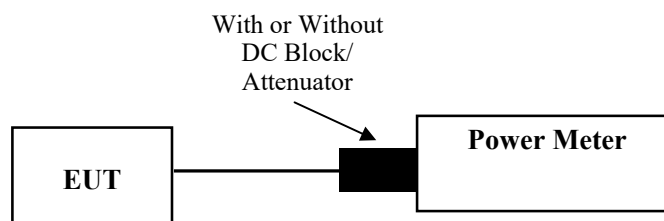
3.4 Maximum Conducted Output Power

3.4.1 Applicable Standard

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.

3.4.2 EUT Setup



3.4.3 Test Procedure

According to ANSI C63.10-2013 Section 11.9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

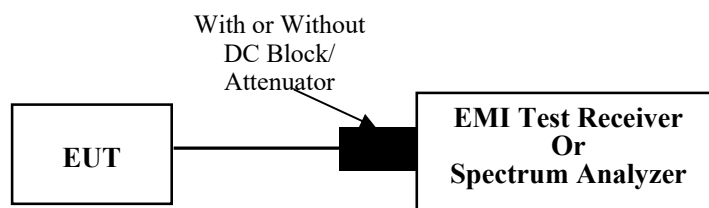
3.5 Maximum power spectral density

3.5.1 Applicable Standard

FCC §15.247 (e)

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.

3.5.2 EUT Setup



3.5.3 Test Procedure

According to ANSI C63.10-2013 Section 11.10.2

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

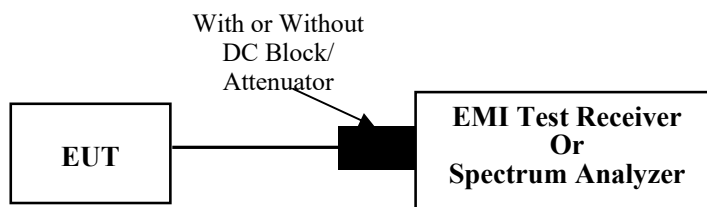
3.6 100 kHz Bandwidth of Frequency Band Edge

3.6.1 Applicable Standard

FCC §15.247 (d);

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)).

3.6.2 EUT Setup



3.6.3 Test Procedure

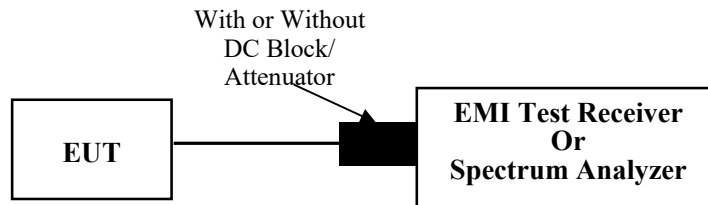
According to ANSI C63.10-2013 Section 11.11

- Set the center frequency and span to encompass frequency range to be measured.
- Set the RBW = 100 kHz.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

3.7 Duty Cycle

3.7.1 EUT Setup



3.7.2 Test Procedure

According to ANSI C63.10-2013 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
- 3) Set $VBW \geq RBW$. Set detector = peak or average.
- 4) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)

3.8 Antenna Requirement

3.8.1 Applicable Standard

FCC §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 use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.8.2 Judgment

Compliant. Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	2CRZ-5	Test Date:	2023/11/11
Test Site:	CE	Test Mode:	Transmitting (maximum output power mode, BLE 1Mbps, Low Channel)
Tester:	David Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.5	Relative Humidity: (%)	57	ATM Pressure: (kPa)	101.1
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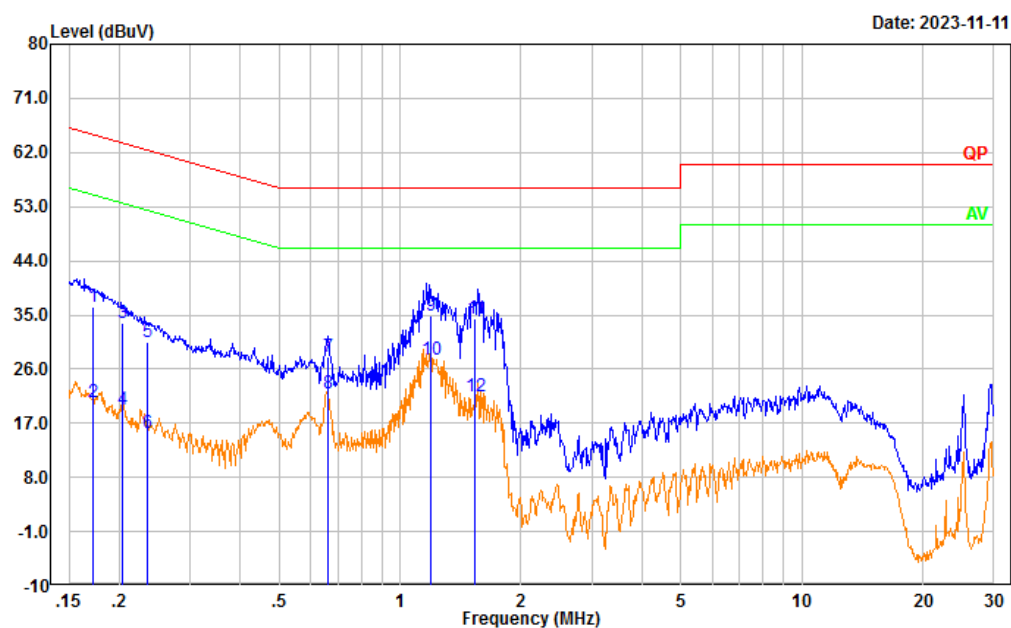
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/03/31	2024/03/30
R&S	EMI Test Receiver	ESR3	102726	2023/03/31	2024/03/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/08/06	2024/08/05
Audix	Test Software	E3	190306 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

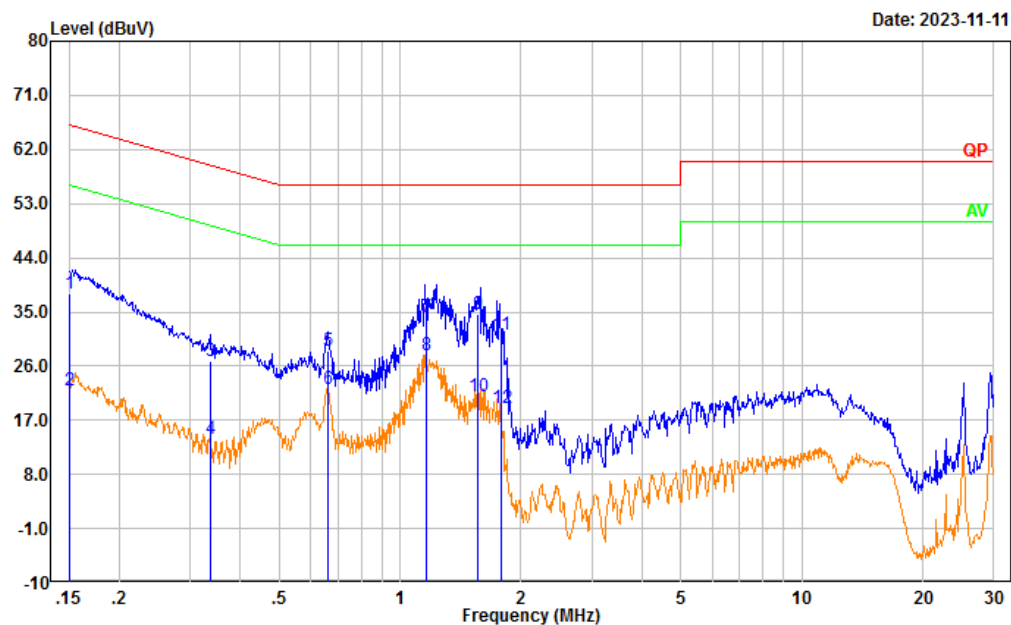
Test Data:

Project No.: CR231062966-RF
 Tester: David Huang
 Port: Line
 Note: Transmitting(BLE)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.172	26.73	9.61	36.34	64.85	28.51	QP
2	0.172	10.78	9.61	20.39	54.85	34.46	Average
3	0.204	24.09	9.61	33.70	63.43	29.73	QP
4	0.204	9.73	9.61	19.34	53.43	34.09	Average
5	0.236	20.92	9.61	30.53	62.25	31.72	QP
6	0.236	5.78	9.61	15.39	52.25	36.86	Average
7	0.663	18.49	9.62	28.11	56.00	27.89	QP
8	0.663	12.30	9.62	21.92	46.00	24.08	Average
9	1.190	25.29	9.62	34.91	56.00	21.09	QP
10	1.190	17.93	9.62	27.55	46.00	18.45	Average
11	1.539	24.85	9.63	34.48	56.00	21.52	QP
12	1.539	11.86	9.63	21.49	46.00	24.51	Average

Project No.: CR231062966-RF
 Tester: David Huang
 Port: neutral
 Note: Transmitting(BLE)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.150	28.45	9.61	38.06	66.00	27.94	QP
2	0.150	12.24	9.61	21.85	56.00	34.15	Average
3	0.336	17.14	9.61	26.75	59.29	32.54	QP
4	0.336	4.36	9.61	13.97	49.29	35.32	Average
5	0.660	18.83	9.62	28.45	56.00	27.55	QP
6	0.660	12.67	9.62	22.29	46.00	23.71	Average
7	1.165	24.61	9.62	34.23	56.00	21.77	QP
8	1.165	18.26	9.62	27.88	46.00	18.12	Average
9	1.561	25.11	9.63	34.74	56.00	21.26	QP
10	1.561	11.37	9.63	21.00	46.00	25.00	Average
11	1.781	21.62	9.63	31.25	56.00	24.75	QP
12	1.781	9.46	9.63	19.09	46.00	26.91	Average

4.2 Radiation Spurious Emissions

Serial Number:	2CS0-4, 2CRZ-4, 2CRZ-5	Test Date:	2023/11/13~2024/1/5
Test Site:	966-2, 966-1	Test Mode:	Transmitting
Tester:	Jeff Luo, Mack Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	24.7~26.7	Relative Humidity: (%)	40~63	ATM Pressure: (kPa)	101.0~101.8

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
BACL	Loop Antenna	1313-1P	3092721	2023/10/20	2026/10/19
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
Audix	Test Software	E3	201021 (V9)	N/A	N/A
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/2/22	2026/2/21
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/8	2024/11/7
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5
E-Microwave	Band Rejection Filter	2400-2483.5MHz	OE01902424	2023/8/6	2024/8/5
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/8/6	2024/8/5

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

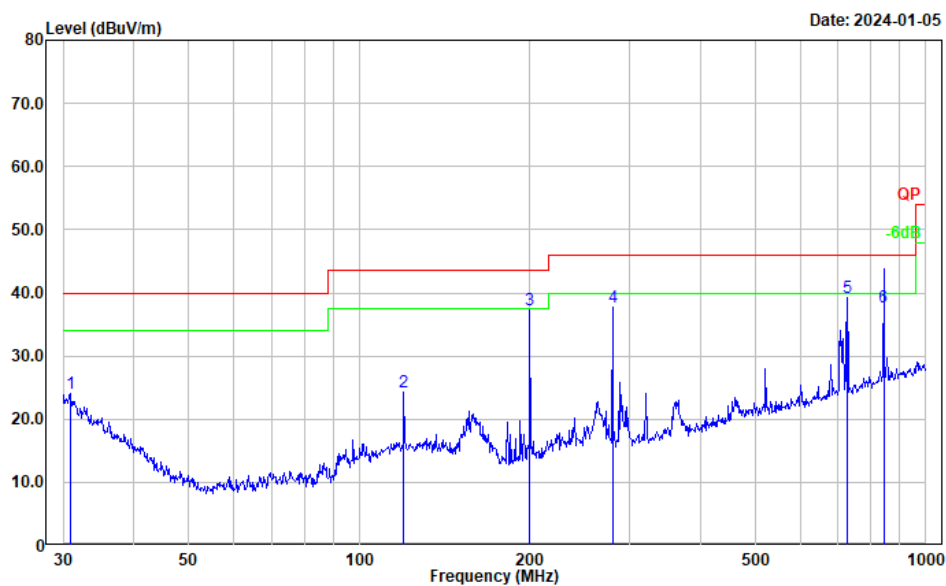
For 9kHz-30MHz, The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

1) 30MHz-1GHz (Maximum output power mode, BLE 1Mbps)

Model T-Display-S3 Pro (White Shell OV5640 Camera):

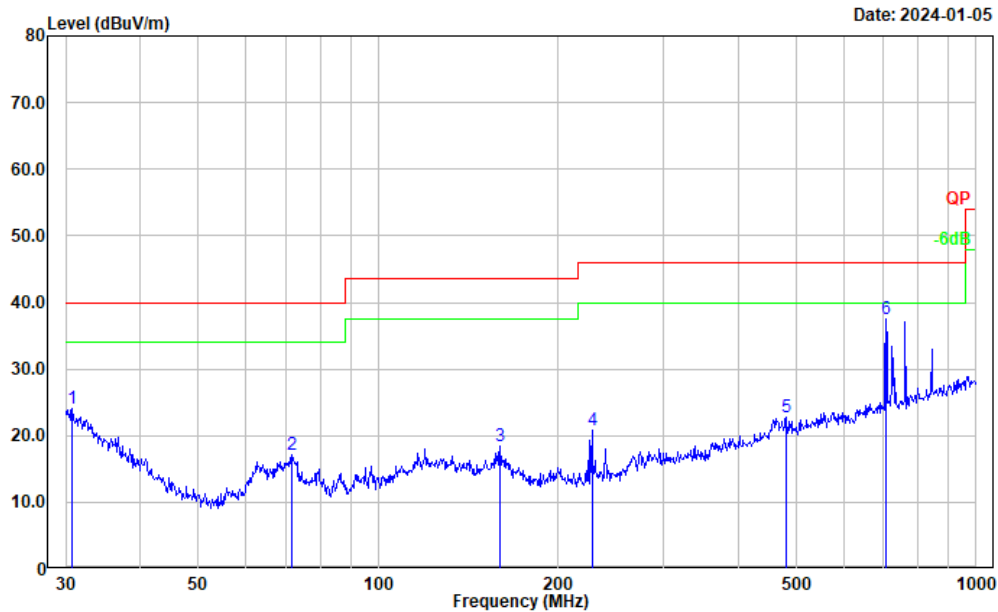
Low channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.853	28.25	-4.15	24.10	40.00	15.90	Peak
2	119.856	35.46	-11.07	24.39	43.50	19.11	Peak
3	199.986	49.48	-12.20	37.28	43.50	6.22	Peak
4	280.024	48.61	-10.88	37.73	46.00	8.27	Peak
5	726.805	41.93	-2.69	39.24	46.00	6.76	Peak
6	842.130	38.62	-0.81	37.81	46.00	8.19	QP

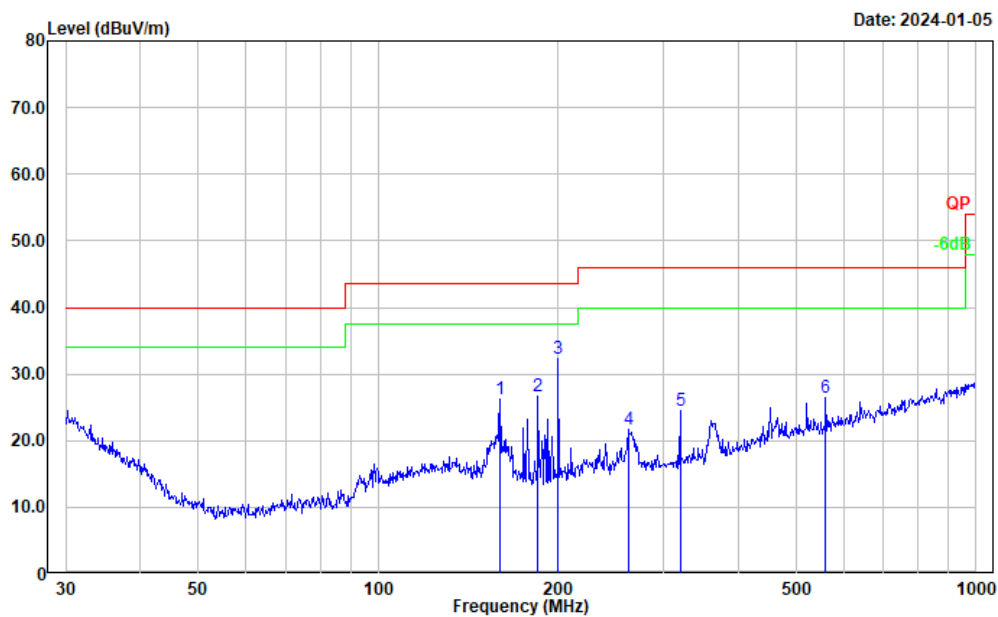
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.745	28.25	-4.09	24.16	40.00	15.84	Peak
2	71.832	34.15	-17.00	17.15	40.00	22.85	Peak
3	159.784	30.22	-11.77	18.45	43.50	25.05	Peak
4	227.691	34.21	-13.33	20.88	46.00	25.12	Peak
5	480.528	28.80	-6.07	22.73	46.00	23.27	Peak
6	706.700	40.39	-2.96	37.43	46.00	8.57	Peak

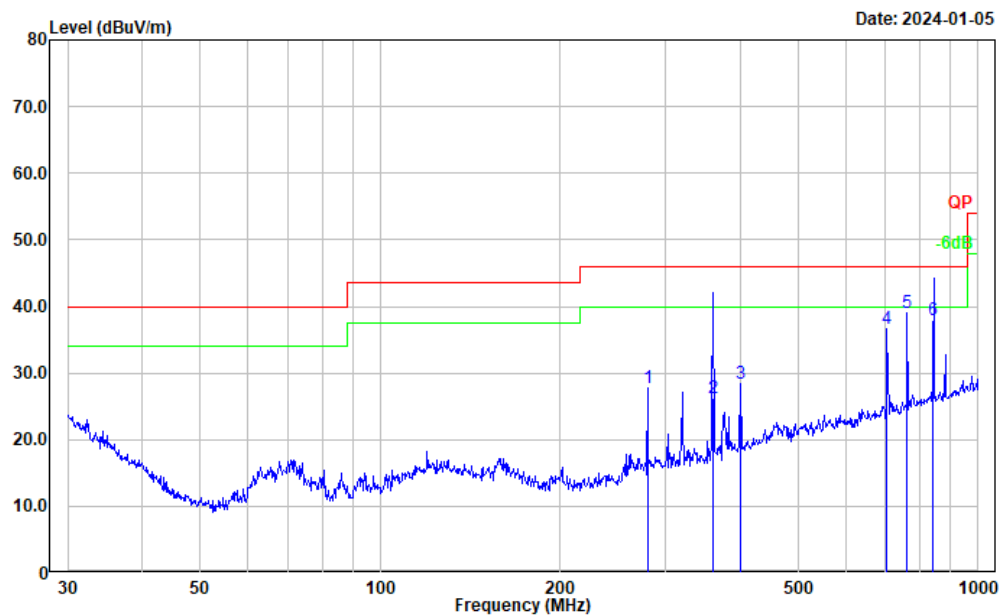
Middle channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	159.784	38.11	-11.77	26.34	43.50	17.16	Peak
2	185.138	40.35	-13.75	26.60	43.50	16.90	Peak
3	199.986	44.49	-12.20	32.29	43.50	11.21	Peak
4	261.975	33.22	-11.48	21.74	46.00	24.26	Peak
5	319.937	34.73	-10.13	24.60	46.00	21.40	Peak
6	560.693	31.60	-5.20	26.40	46.00	19.60	Peak

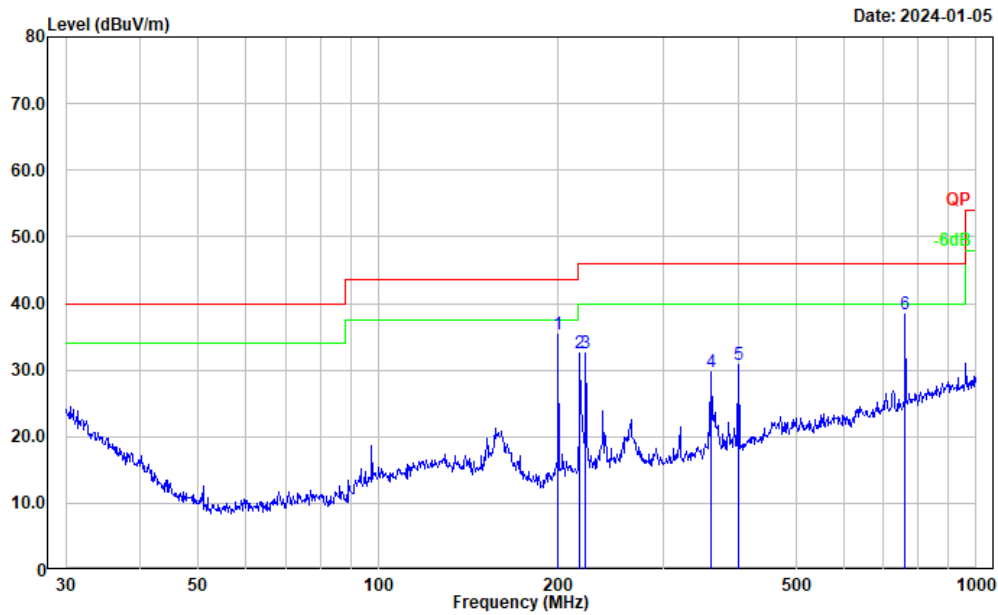
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	280.024	38.52	-10.88	27.64	46.00	18.36	Peak
2	360.131	35.59	-9.37	26.22	46.00	19.78	QP
3	400.432	36.52	-8.04	28.48	46.00	17.52	Peak
4	704.226	39.60	-3.00	36.60	46.00	9.40	Peak
5	760.704	41.44	-2.40	39.04	46.00	6.96	Peak
6	840.043	38.77	-0.83	37.94	46.00	8.06	QP

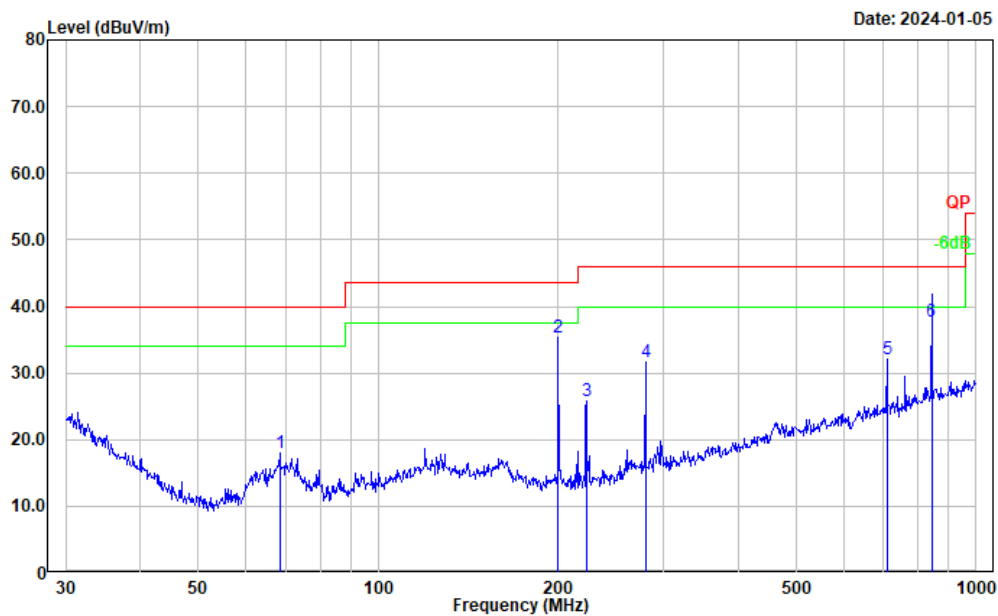
High channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	199.986	47.47	-12.20	35.27	43.50	8.23	Peak
2	217.544	46.26	-13.70	32.56	46.00	13.44	Peak
3	222.170	46.09	-13.54	32.55	46.00	13.45	Peak
4	360.448	38.98	-9.36	29.62	46.00	16.38	Peak
5	400.432	38.79	-8.04	30.75	46.00	15.25	Peak
6	760.704	40.77	-2.40	38.37	46.00	7.63	Peak

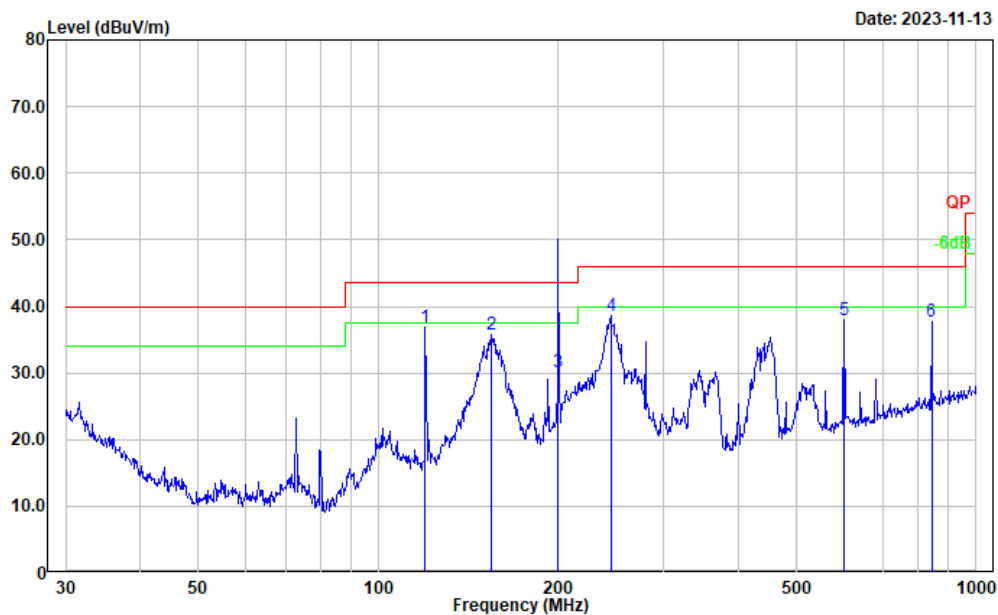
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	68.391	34.90	-17.00	17.90	40.00	22.10	Peak
2	199.986	47.53	-12.20	35.33	43.50	8.17	Peak
3	222.950	39.32	-13.51	25.81	46.00	20.19	Peak
4	280.024	42.50	-10.88	31.62	46.00	14.38	Peak
5	709.182	34.94	-2.94	32.00	46.00	14.00	Peak
6	842.130	38.55	-0.81	37.74	46.00	8.26	QP

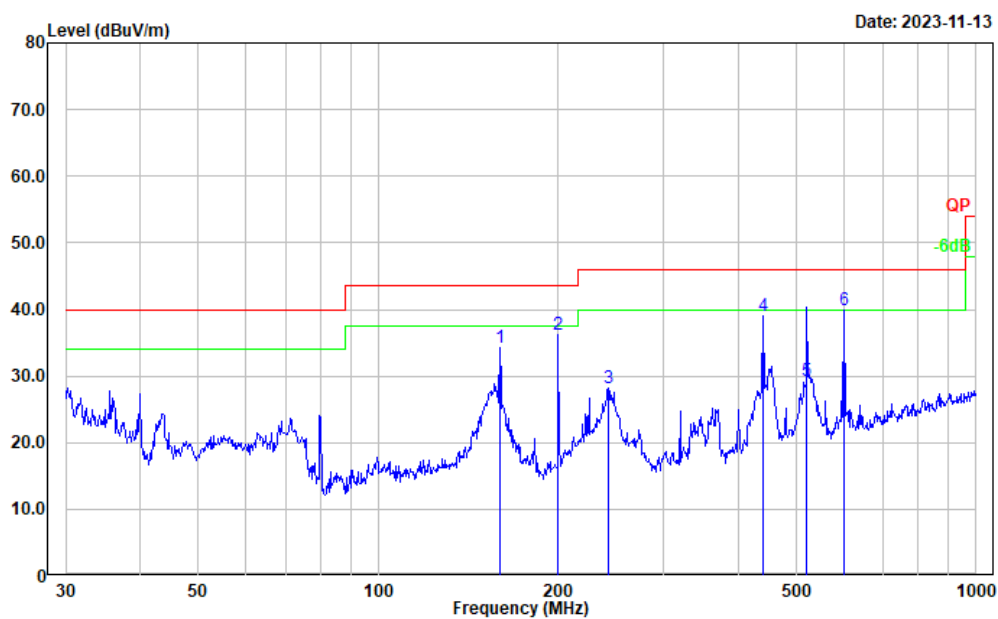
Model T-Display-S3 Pro (White Shell):
Low channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	119.856	48.27	-11.45	36.82	43.50	6.68	Peak
2	154.821	47.70	-11.95	35.75	43.50	7.75	Peak
3	199.986	42.33	-12.21	30.12	43.50	13.38	QP
4	245.090	51.62	-13.06	38.56	46.00	7.44	Peak
5	601.427	42.96	-5.03	37.93	46.00	8.07	Peak
6	842.130	39.33	-1.71	37.62	46.00	8.38	Peak

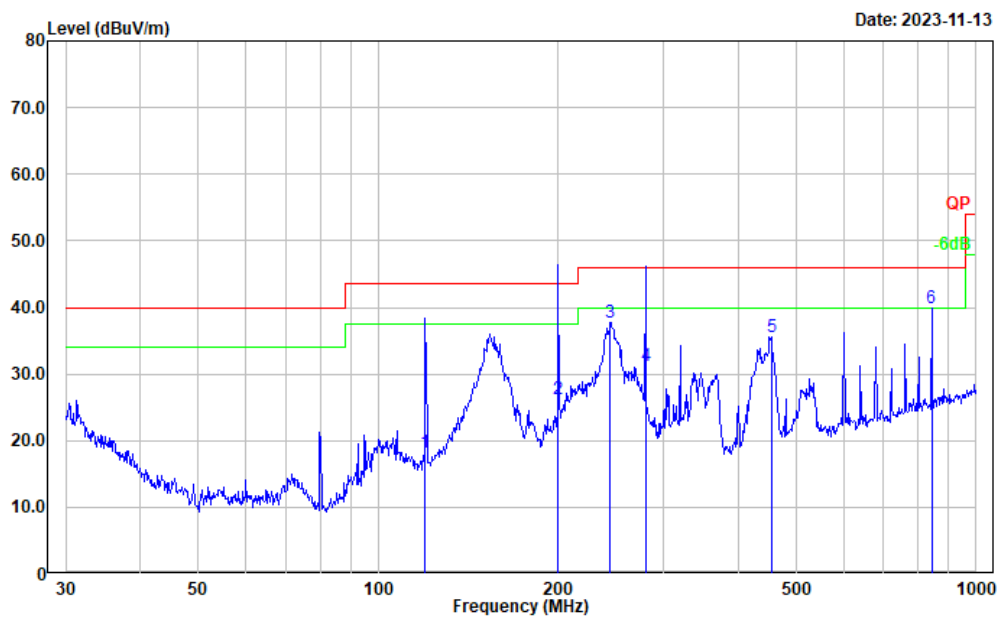
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	159.784	46.21	-11.95	34.26	43.50	9.24	Peak
2	199.986	48.41	-12.21	36.20	43.50	7.30	Peak
3	242.525	41.22	-13.08	28.14	46.00	17.86	Peak
4	440.196	46.31	-7.28	39.03	46.00	6.97	Peak
5	520.888	35.15	-5.85	29.30	46.00	16.70	QP
6	601.427	44.82	-5.03	39.79	46.00	6.21	Peak

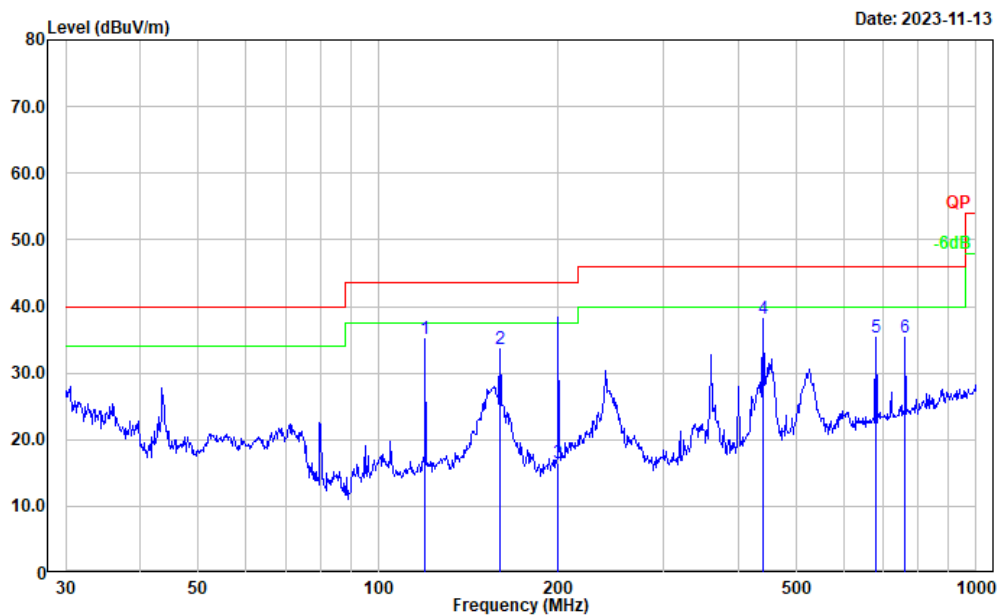
Middle channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	119.856	29.76	-11.45	18.31	43.50	25.19	QP
2	199.986	38.55	-12.21	26.34	43.50	17.16	QP
3	244.232	50.84	-13.06	37.78	46.00	8.22	Peak
4	280.024	42.86	-11.70	31.16	46.00	14.84	QP
5	454.310	42.40	-6.80	35.60	46.00	10.40	Peak
6	842.130	41.60	-1.71	39.89	46.00	6.11	Peak

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note:

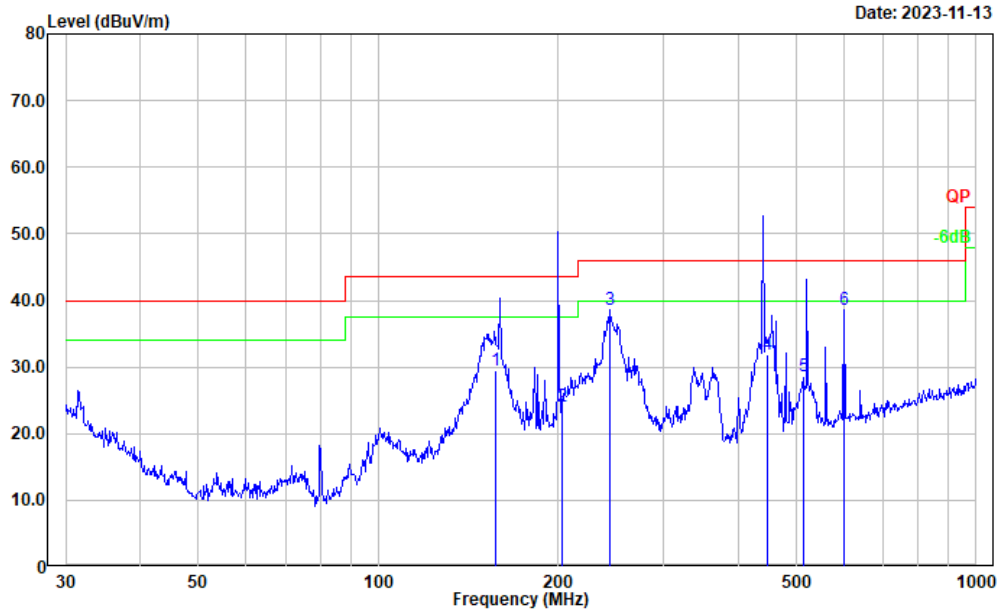


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	119.856	46.65	-11.45	35.20	43.50	8.30	Peak
2	159.784	45.49	-11.95	33.54	43.50	9.96	Peak
3	199.986	28.69	-12.21	16.48	43.50	27.02	QP
4	440.196	45.44	-7.28	38.16	46.00	7.84	Peak
5	679.960	39.13	-3.86	35.27	46.00	10.73	Peak
6	760.704	38.34	-2.91	35.43	46.00	10.57	Peak

High channel:

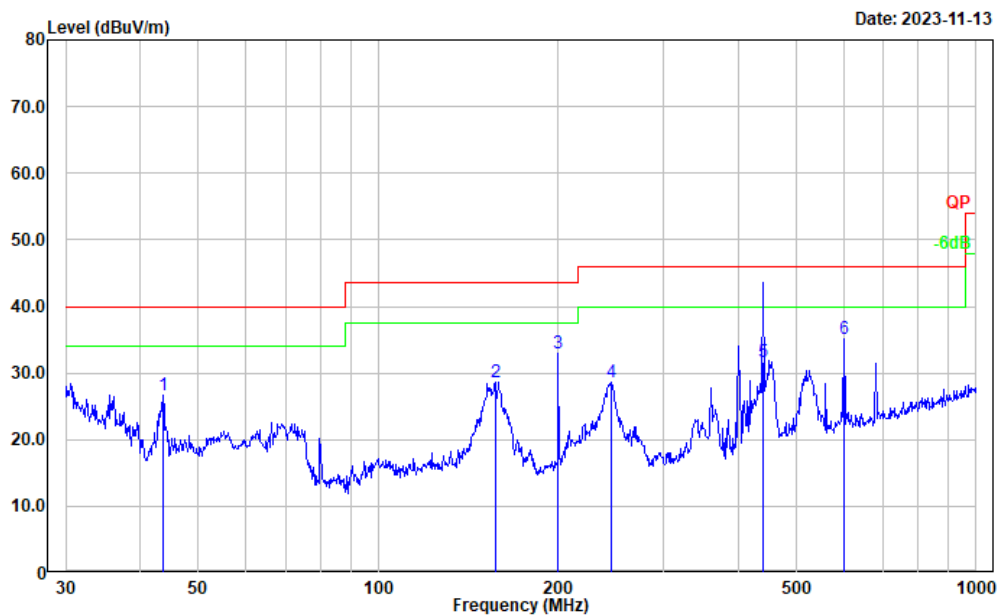
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note:

Date: 2023-11-13



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	157.345	41.34	-11.95	29.39	43.50	14.11	QP
2	203.446	36.30	-12.32	23.98	43.50	19.52	QP
3	244.232	51.59	-13.06	38.53	46.00	7.47	Peak
4	447.760	38.97	-7.03	31.94	46.00	14.06	QP
5	513.894	34.45	-5.83	28.62	46.00	17.38	QP
6	601.427	43.67	-5.03	38.64	46.00	7.36	Peak

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note:

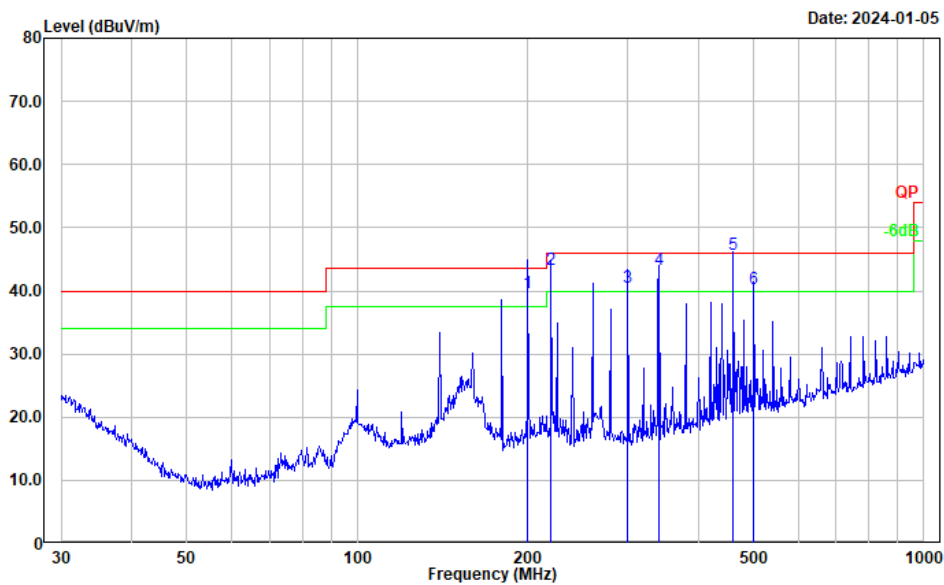


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	43.659	40.07	-13.49	26.58	40.00	13.42	Peak
2	157.007	40.59	-11.94	28.65	43.50	14.85	Peak
3	199.986	45.14	-12.21	32.93	43.50	10.57	Peak
4	245.090	41.65	-13.06	28.59	46.00	17.41	Peak
5	440.196	38.90	-7.28	31.62	46.00	14.38	QP
6	601.427	40.22	-5.03	35.19	46.00	10.81	Peak

Model T-Display-S3 Pro (White Shell GC0308 Camera):

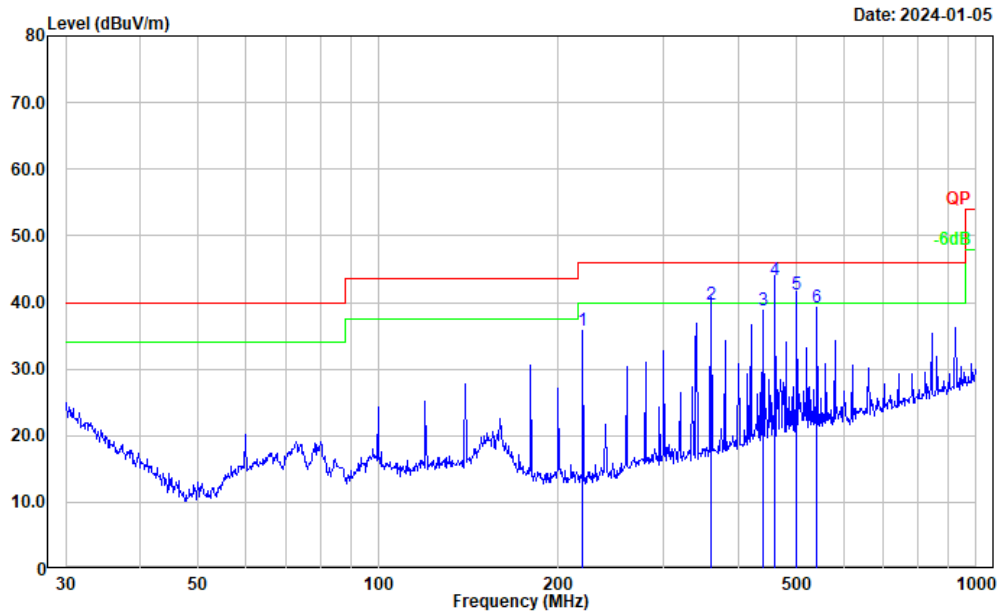
Low channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	200.010	51.82	-12.20	39.62	43.50	3.88	QP
2	219.845	57.03	-13.63	43.40	46.00	2.60	Peak
3	300.019	50.85	-10.32	40.53	46.00	5.47	QP
4	340.019	53.03	-9.61	43.42	46.00	2.58	QP
5	460.010	52.28	-6.58	45.70	46.00	0.30	QP
6	499.997	46.20	-5.81	40.39	46.00	5.61	QP

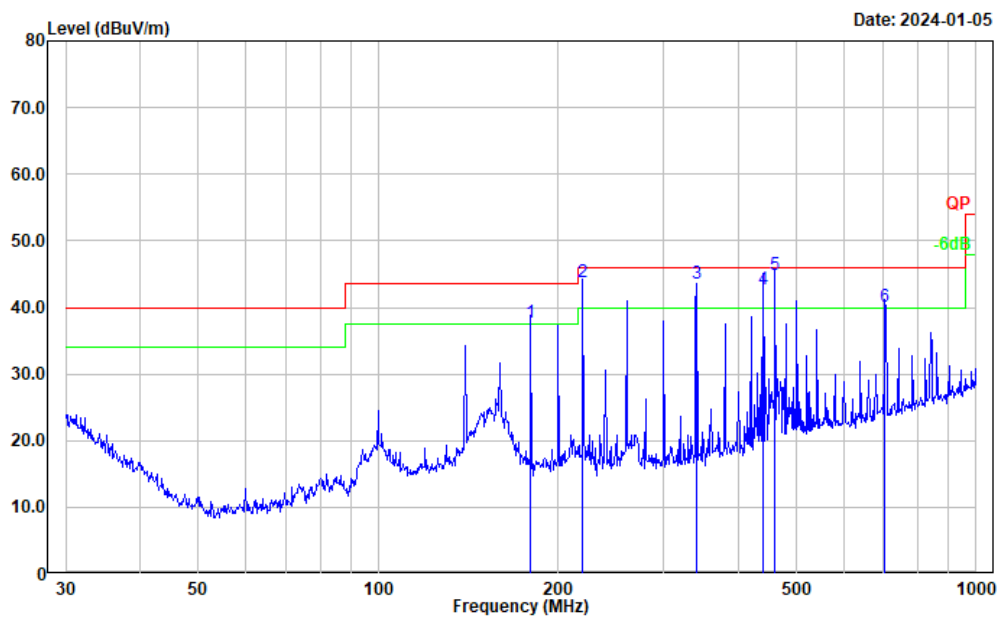
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	219.845	49.32	-13.63	35.69	46.00	10.31	Peak
2	360.448	49.14	-9.36	39.78	46.00	6.22	QP
3	440.196	45.70	-6.85	38.85	46.00	7.15	Peak
4	460.010	49.90	-6.58	43.32	46.00	2.68	QP
5	499.997	47.05	-5.81	41.24	46.00	4.76	QP
6	541.373	44.71	-5.39	39.32	46.00	6.68	Peak

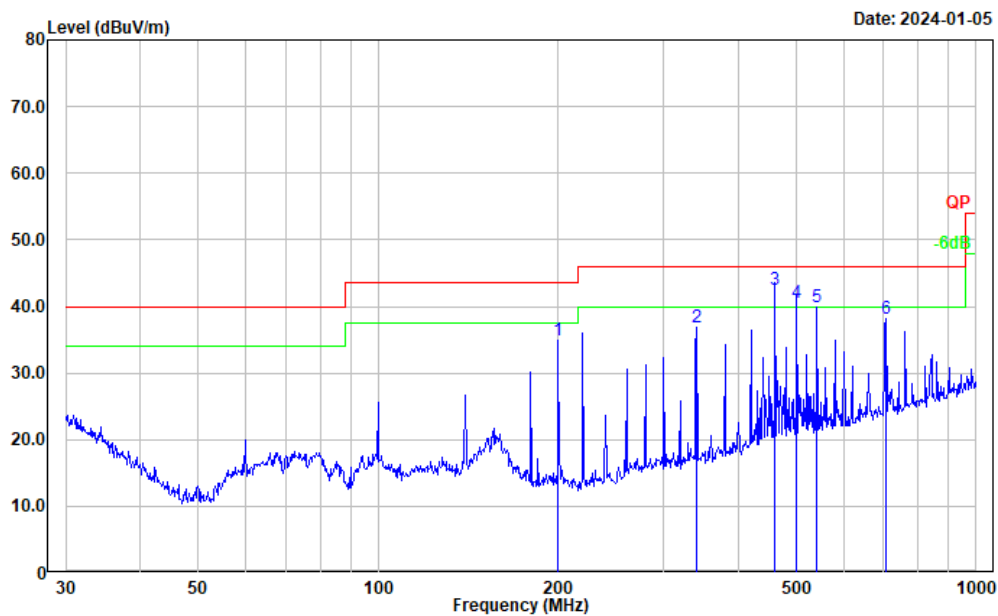
Middle channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	180.017	51.08	-13.45	37.63	43.50	5.87	QP
2	220.003	57.44	-13.62	43.82	46.00	2.18	QP
3	340.005	53.08	-9.61	43.47	46.00	2.53	QP
4	440.002	49.59	-6.85	42.74	46.00	3.26	QP
5	460.028	51.50	-6.58	44.92	46.00	1.08	QP
6	704.226	43.09	-3.00	40.09	46.00	5.91	QP

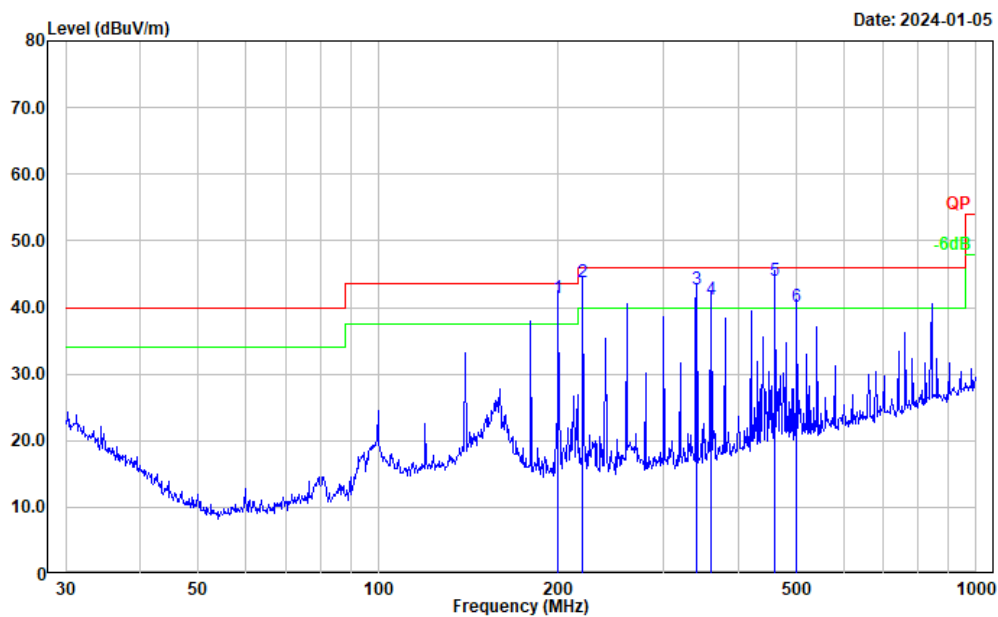
Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	199.986	47.13	-12.20	34.93	43.50	8.57	Peak
2	340.782	46.41	-9.62	36.79	46.00	9.21	Peak
3	460.727	49.10	-6.53	42.57	46.00	3.43	QP
4	501.179	46.36	-5.78	40.58	46.00	5.42	QP
5	541.373	45.26	-5.39	39.87	46.00	6.13	Peak
6	706.700	41.09	-2.96	38.13	46.00	7.87	Peak

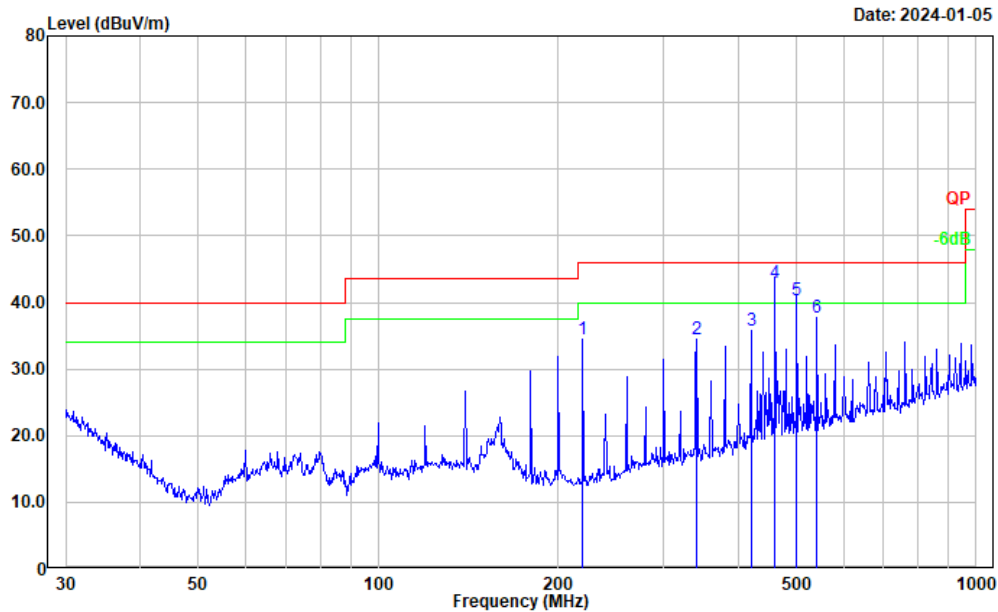
High channel:

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: horizontal
Note: Transmitting(BLE 1Mbps)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	199.986	53.58	-12.20	41.38	43.50	2.12	QP
2	219.845	57.36	-13.63	43.73	46.00	2.27	QP
3	340.782	52.23	-9.62	42.61	46.00	3.39	QP
4	360.448	50.59	-9.36	41.23	46.00	4.77	QP
5	460.727	50.47	-6.53	43.94	46.00	2.06	QP
6	501.179	45.95	-5.78	40.17	46.00	5.83	QP

Project No.: CR231062966-RF
Tester: Jeff Luo
Polarization: vertical
Note: Transmitting(BLE 1Mbps)



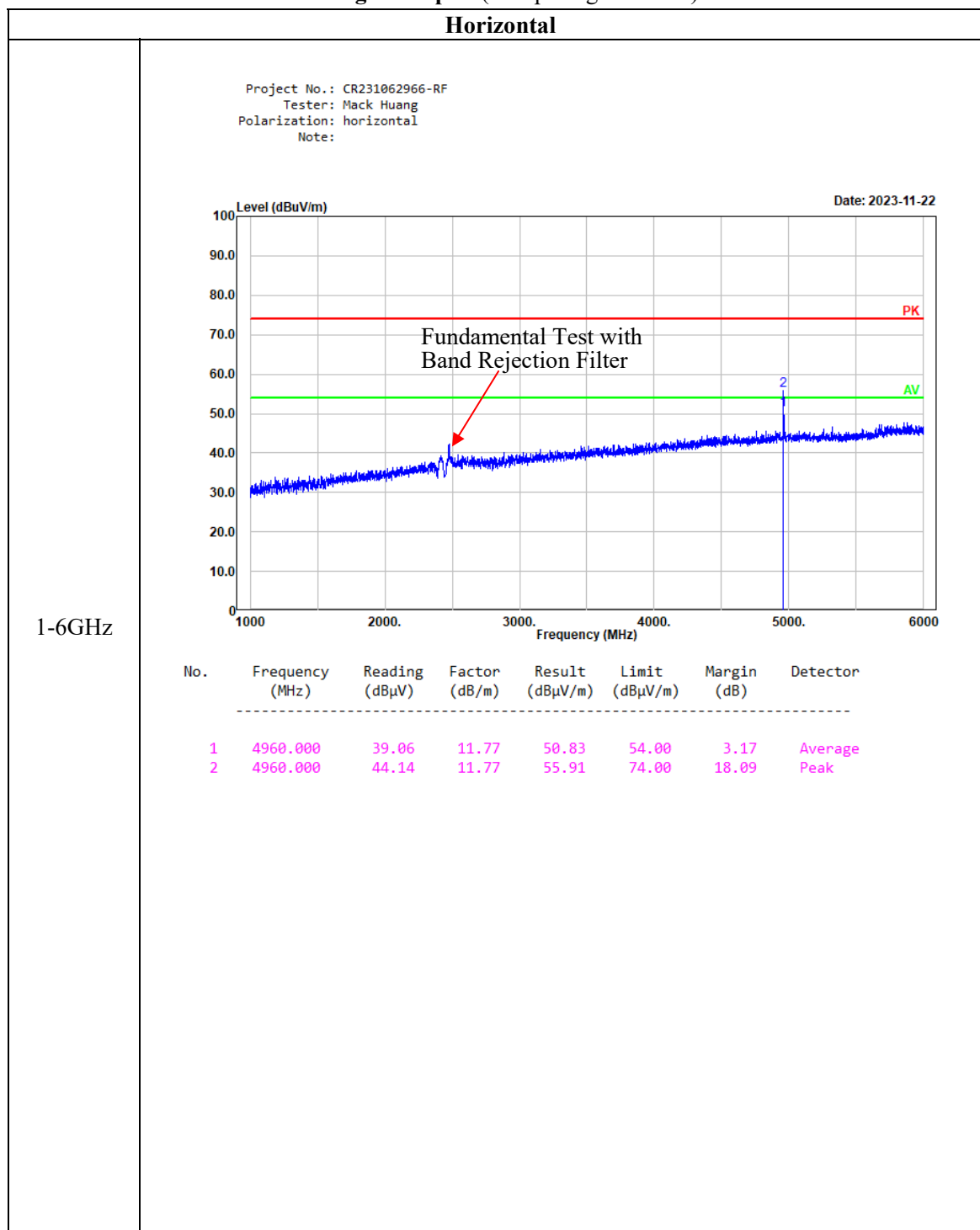
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	219.845	48.17	-13.63	34.54	46.00	11.46	Peak
2	340.782	44.01	-9.62	34.39	46.00	11.61	Peak
3	420.580	43.26	-7.57	35.69	46.00	10.31	Peak
4	460.727	49.40	-6.53	42.87	46.00	3.13	QP
5	501.179	46.07	-5.78	40.29	46.00	5.71	QP
6	541.373	43.01	-5.39	37.62	46.00	8.38	Peak

2) 1-25GHz:**1Mbps**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 2402 MHz							
2390.000	26.61	PK	H	31.71	58.32	74.00	15.68
2390.000	15.40	AV	H	31.71	47.11	54.00	6.89
2390.000	26.81	PK	V	31.71	58.52	74.00	15.48
2390.000	15.88	AV	V	31.71	47.59	54.00	6.41
4804.000	45.76	PK	H	11.19	56.95	74.00	17.05
4804.000	39.55	AV	H	11.19	50.74	54.00	3.26
4804.000	45.97	PK	V	11.19	57.16	74.00	16.84
4804.000	41.04	AV	V	11.19	52.23	54.00	1.77
Middle Channel: 2440 MHz							
4880.000	44.38	PK	H	11.48	55.86	74.00	18.14
4880.000	39.44	AV	H	11.48	50.92	54.00	3.08
4880.000	45.17	PK	V	11.48	56.65	74.00	17.35
4880.000	40.13	AV	V	11.48	51.61	54.00	2.39
High Channel: 2480 MHz							
2483.500	26.57	PK	H	32.19	58.76	74.00	15.24
2483.500	15.38	AV	V	32.19	47.57	54.00	6.43
2483.500	26.12	PK	V	32.19	58.31	74.00	15.69
2483.500	15.81	AV	V	32.19	48	54.00	6.00
4960.000	44.14	PK	H	11.77	55.91	74.00	18.09
4960.000	39.06	AV	H	11.77	50.83	54.00	3.17
4960.000	45.82	PK	V	11.77	57.59	74.00	16.41
4960.000	40.71	AV	V	11.77	52.48	54.00	1.52

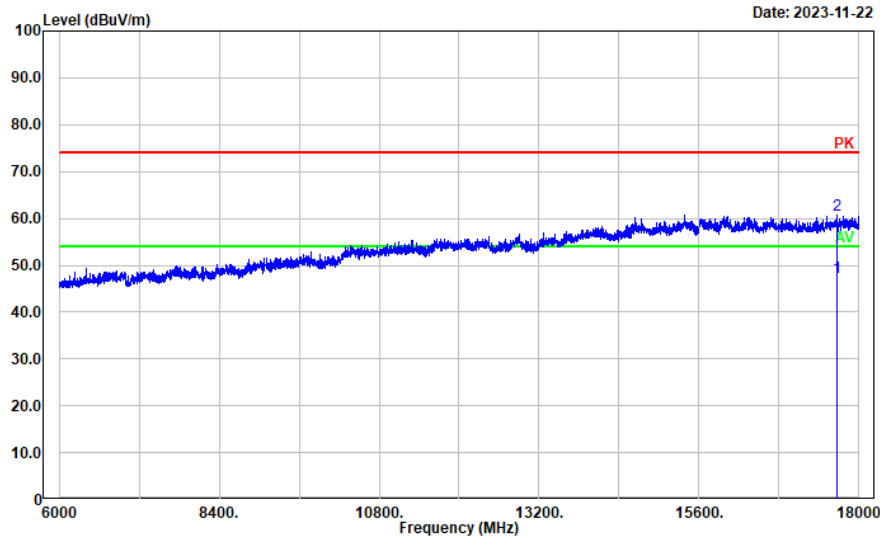
2Mbps

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 2402 MHz							
2390.000	26.16	PK	H	31.71	57.87	74.00	16.13
2390.000	15.85	AV	H	31.71	47.56	54.00	6.44
2390.000	26.53	PK	V	31.71	58.24	74.00	15.76
2390.000	15.45	AV	V	31.71	47.16	54.00	6.84
4804.000	45.23	PK	H	11.19	56.42	74.00	17.58
4804.000	36.12	AV	H	11.19	47.31	54.00	6.69
4804.000	46.08	PK	V	11.19	57.27	74.00	16.73
4804.000	37.15	AV	V	11.19	48.34	54.00	5.66
Middle Channel: 2440 MHz							
4880.000	44.48	PK	H	11.48	55.96	74.00	18.04
4880.000	35.43	AV	H	11.48	46.91	54.00	7.09
4880.000	44.66	PK	V	11.48	56.14	74.00	17.86
4880.000	36.10	AV	V	11.48	47.58	54.00	6.42
High Channel: 2480 MHz							
2483.500	26.39	PK	H	32.19	58.58	74.00	15.42
2483.500	15.22	AV	V	32.19	47.41	54.00	6.59
2483.500	26.21	PK	V	32.19	58.4	74.00	15.60
2483.500	14.95	AV	V	32.19	47.14	54.00	6.86
4960.000	44.04	PK	H	11.77	55.81	74.00	18.19
4960.000	34.15	AV	H	11.77	45.92	54.00	8.08
4960.000	44.67	PK	V	11.77	56.44	74.00	17.56
4960.000	35.99	AV	V	11.77	47.76	54.00	6.24

Listed with the worst harmonic margin test plot (1Mbps High channel)

Horizontal

Project No.: CR231062966-RF
Tester: Mack Huang
Polarization: horizontal
Note:

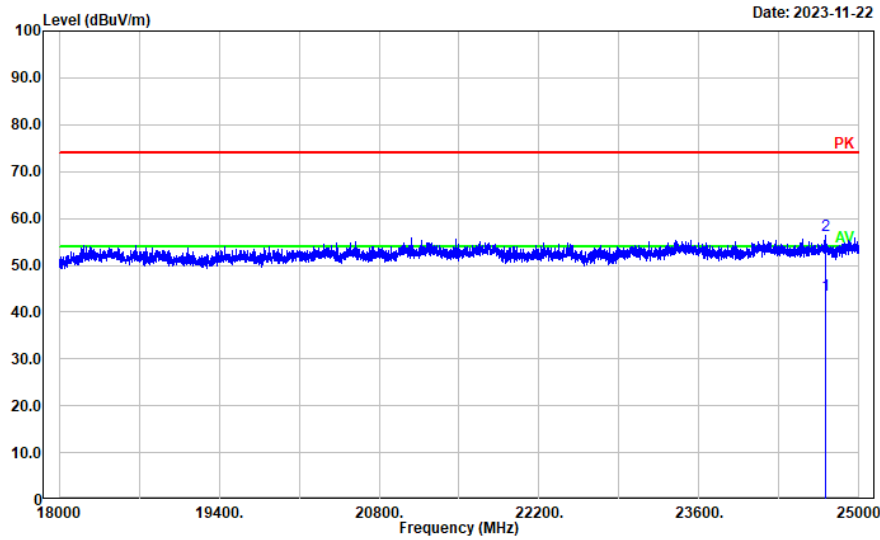


6-18GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	17661.530	16.55	31.01	47.56	54.00	6.44	Average
2	17661.530	29.74	31.01	60.75	74.00	13.25	Peak

Horizontal

Project No.: CR231062966-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



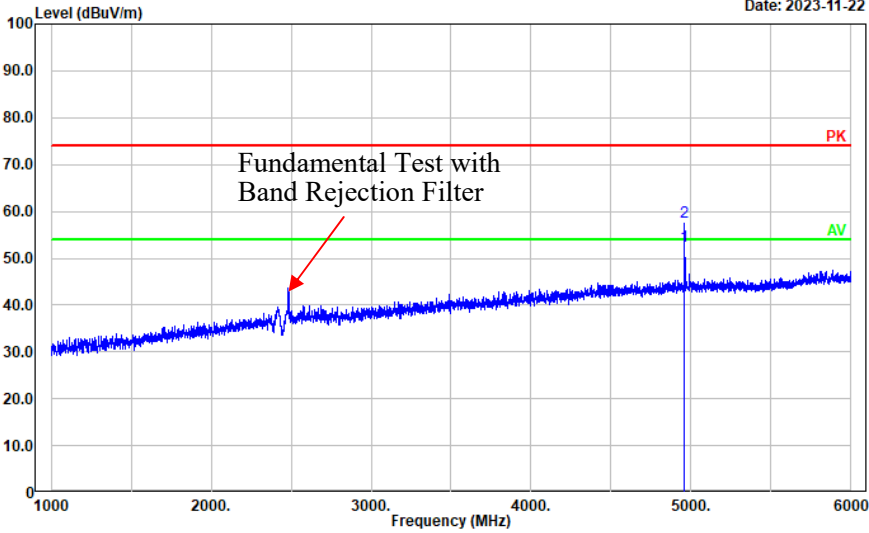
18-25GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	24708.740	38.27	5.40	43.67	54.00	10.33	Average
2	24708.740	51.05	5.40	56.45	74.00	17.55	Peak

Vertical

Project No.: CR231062966-RF
Tester: Mack Huang
Polarization: vertical
Note:

Date: 2023-11-22



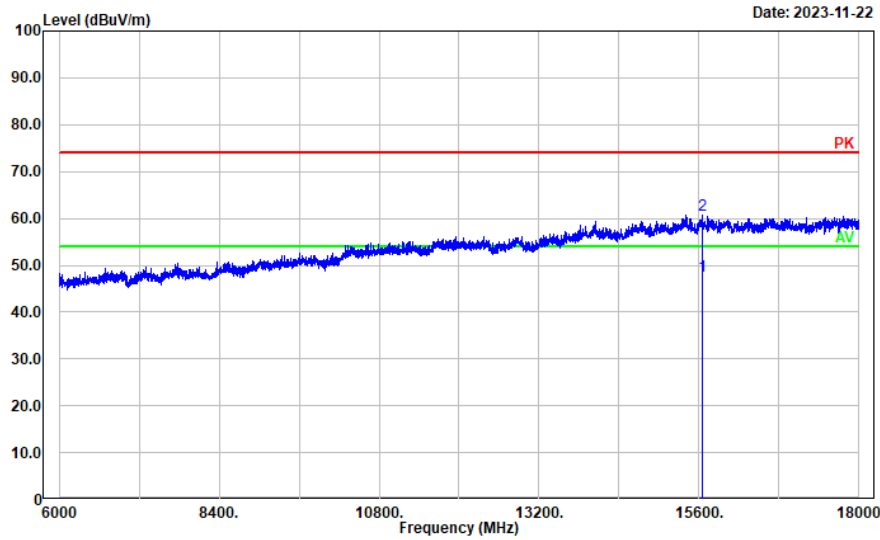
1-6GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	4960.000	40.71	11.77	52.48	54.00	1.52	Average
2	4960.000	45.82	11.77	57.59	74.00	16.41	Peak

Vertical

6-18GHz

Project No.: CR231062966-RF
Tester: Mack Huang
Polarization: vertical
Note:

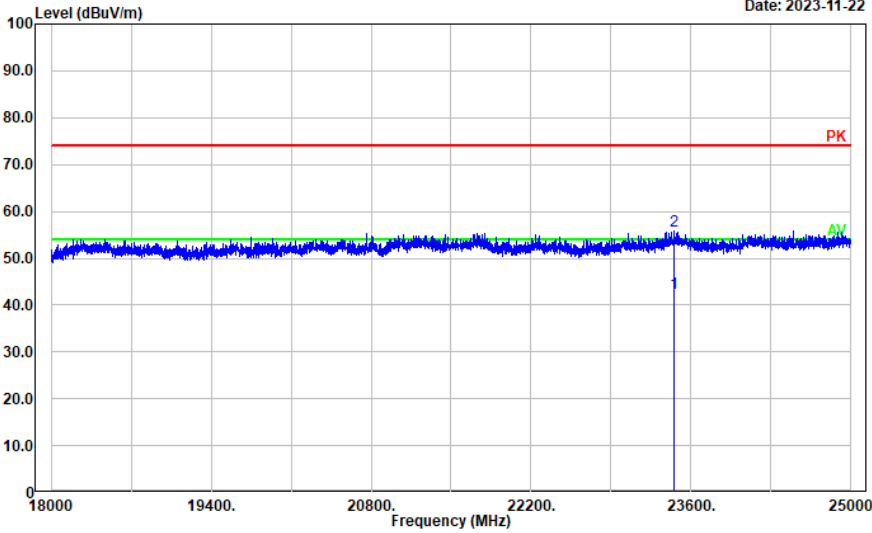


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	15645.130	22.91	24.74	47.65	54.00	6.35	Average
2	15645.130	36.03	24.74	60.77	74.00	13.23	Peak

Vertical

Project No.: CR231062966-RF
Tester: Mack Huang
Polarization: vertical
Note:

Date: 2023-11-22



18-25GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	23451.290	37.17	5.39	42.56	54.00	11.44	Average
2	23451.290	50.42	5.39	55.81	74.00	18.19	Peak

4.3 6 dB Emission Bandwidth

Serial Number:	2CS0-3	Test Date:	2023/11/14
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.8	Relative Humidity: (%)	40	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

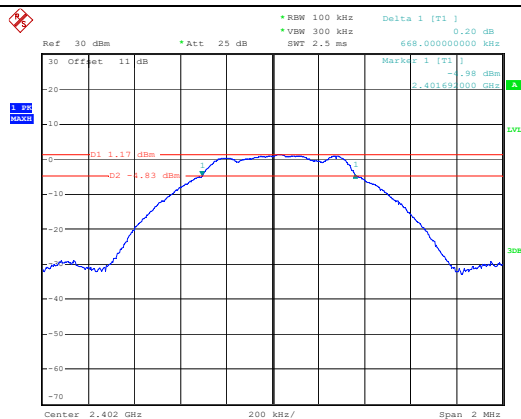
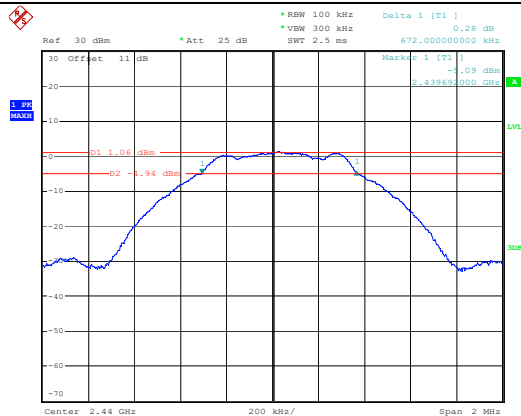
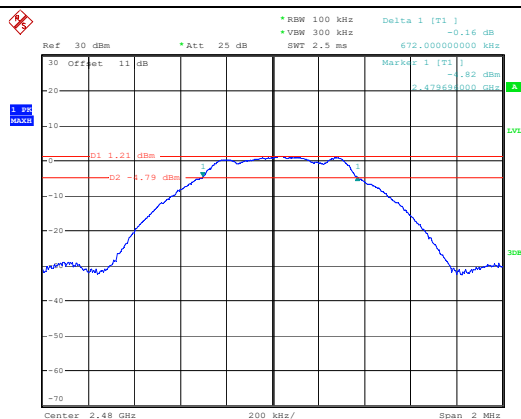
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

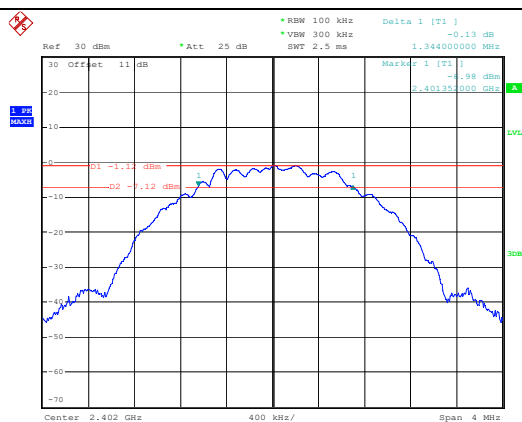
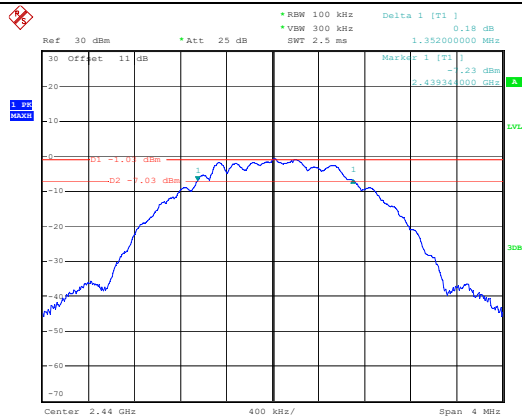
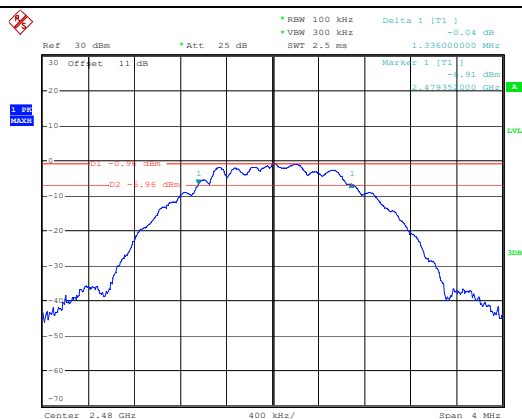
Test Data:

Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
1Mbps	2402	0.668	≥ 0.5
	2440	0.672	≥ 0.5
	2480	0.672	≥ 0.5
2Mbps	2402	1.344	≥ 0.5
	2440	1.352	≥ 0.5
	2480	1.336	≥ 0.5

6dB Emission Bandwidth

1Mbps
Lowest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:36:121Mbps
Middle ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:46:551Mbps
Highest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:48:30

6dB Emission Bandwidth

2Mbps
Lowest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:51:082Mbps
Middle ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:52:182Mbps
Highest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:53:25

4.4 Maximum Conducted Output Power

Serial Number:	2CS0-3	Test Date:	2023/11/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25	Relative Humidity: (%)	48	ATM Pressure: (kPa)	101.5
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Anritsu	Power Meter	ML2495A	1106009	2023/8/4	2024/8/3
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Anritsu	Pulse Power Sensor	MA2411A	10780	2023/8/4	2024/8/3

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Test Modes	Test Frequency (MHz)	Maximum Conducted Peak Output Power (dBm)	Limit (dBm)
1Mbps	2402	2.70	≤30
	2440	2.55	≤30
	2480	2.64	≤30
2Mbps	2402	2.44	≤30
	2440	2.50	≤30
	2480	2.54	≤30

4.5 Maximum power spectral density

Serial Number:	2CS0-3	Test Date:	2023/11/14
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.8	Relative Humidity: (%)	40	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

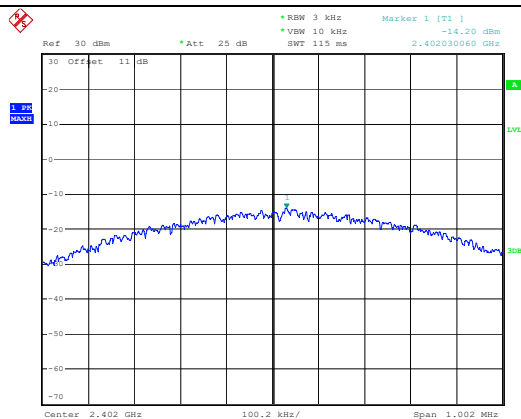
* *Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Modes	Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
1Mbps	2402	-14.20	≤8.00
	2440	-13.85	≤8.00
	2480	-13.70	≤8.00
2Mbps	2402	-19.43	≤8.00
	2440	-19.26	≤8.00
	2480	-18.61	≤8.00

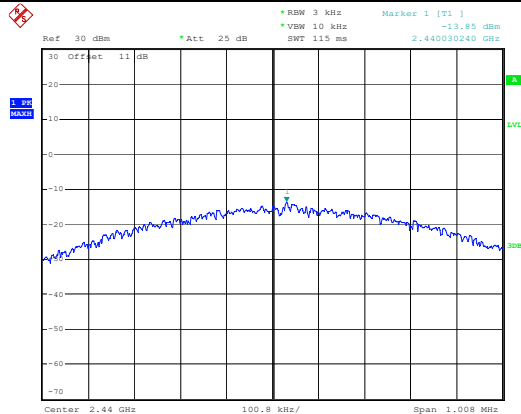
Maximum power spectral density

1Mbps
Lowest Channel



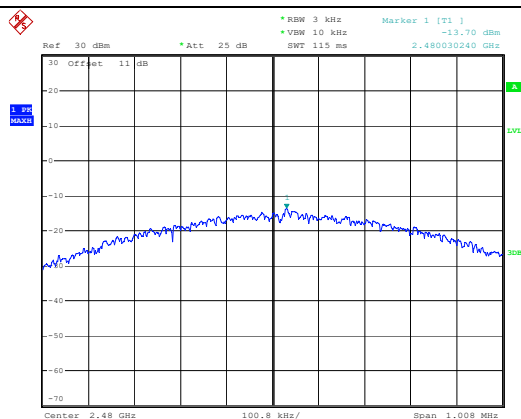
ProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:36:39

1Mbps
Middle Channel

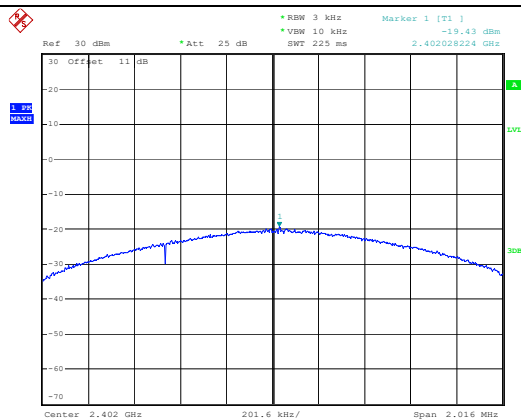
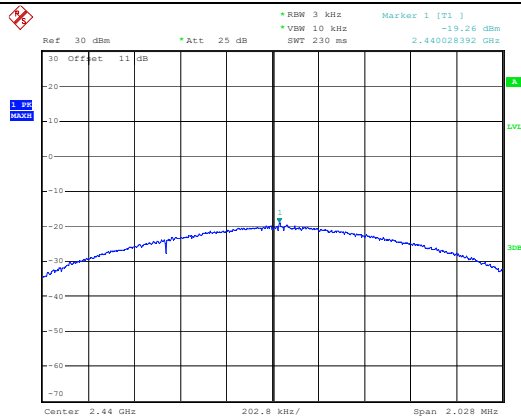
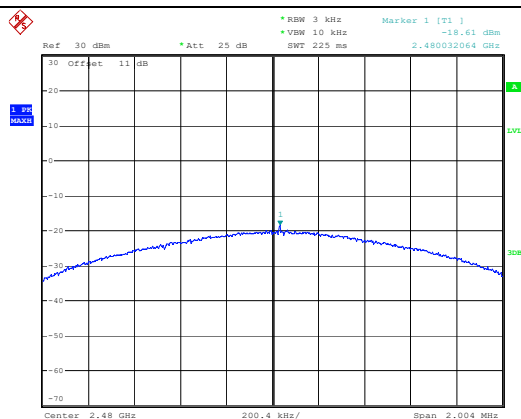


ProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:47:22

1Mbps
Highest Channel



ProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:49:00

Maximum power spectral density2Mbps
Lowest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:51:352Mbps
Middle ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:52:452Mbps
Highest ChannelProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:53:55

4.6 100 kHz Bandwidth of Frequency Band Edge

Serial Number:	2CS0-3	Test Date:	2023/11/14
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

Environmental Conditions:

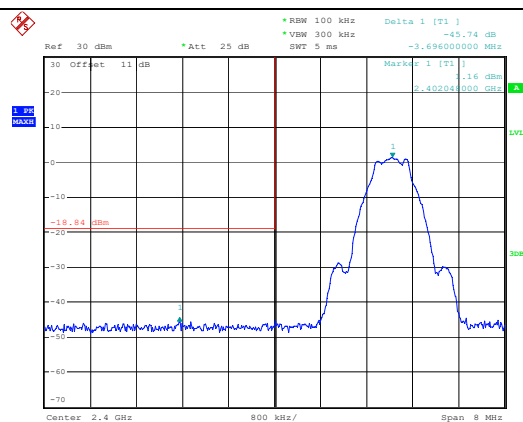
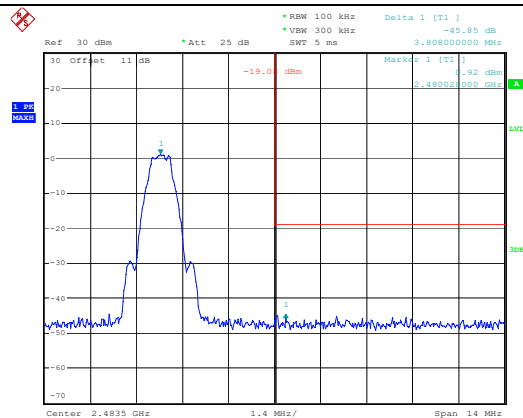
Temperature: (°C)	25.8	Relative Humidity: (%)	40	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

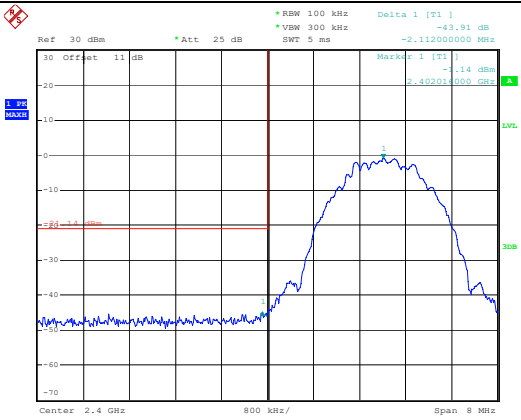
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

100 kHz Bandwidth of Frequency Band EdgeLowest Band edge
1MbpsProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:36:50Highest Band edge
1MbpsProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:49:11

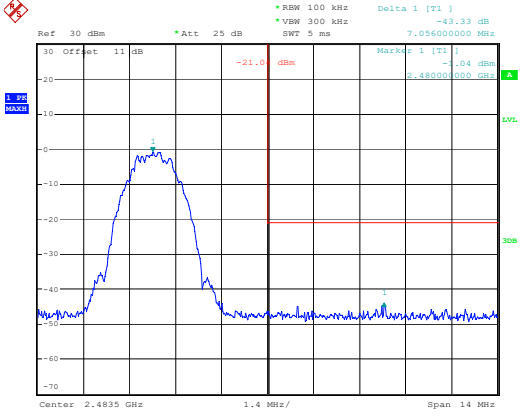
100 kHz Bandwidth of Frequency Band Edge

Lowest Band edge
2Mbps



ProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:51:43

Highest Band edge
2Mbps



ProjectNo.:CR231062966-RF Tester:Rod Luo
Date: 14.NOV.2023 11:54:06

4.7 Duty Cycle

Serial Number:	2CS0-3	Test Date:	2023/12/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	N/A

Environmental Conditions:

Temperature: (°C)	27.5	Relative Humidity: (%)	49	ATM Pressure: (kPa)	101.3
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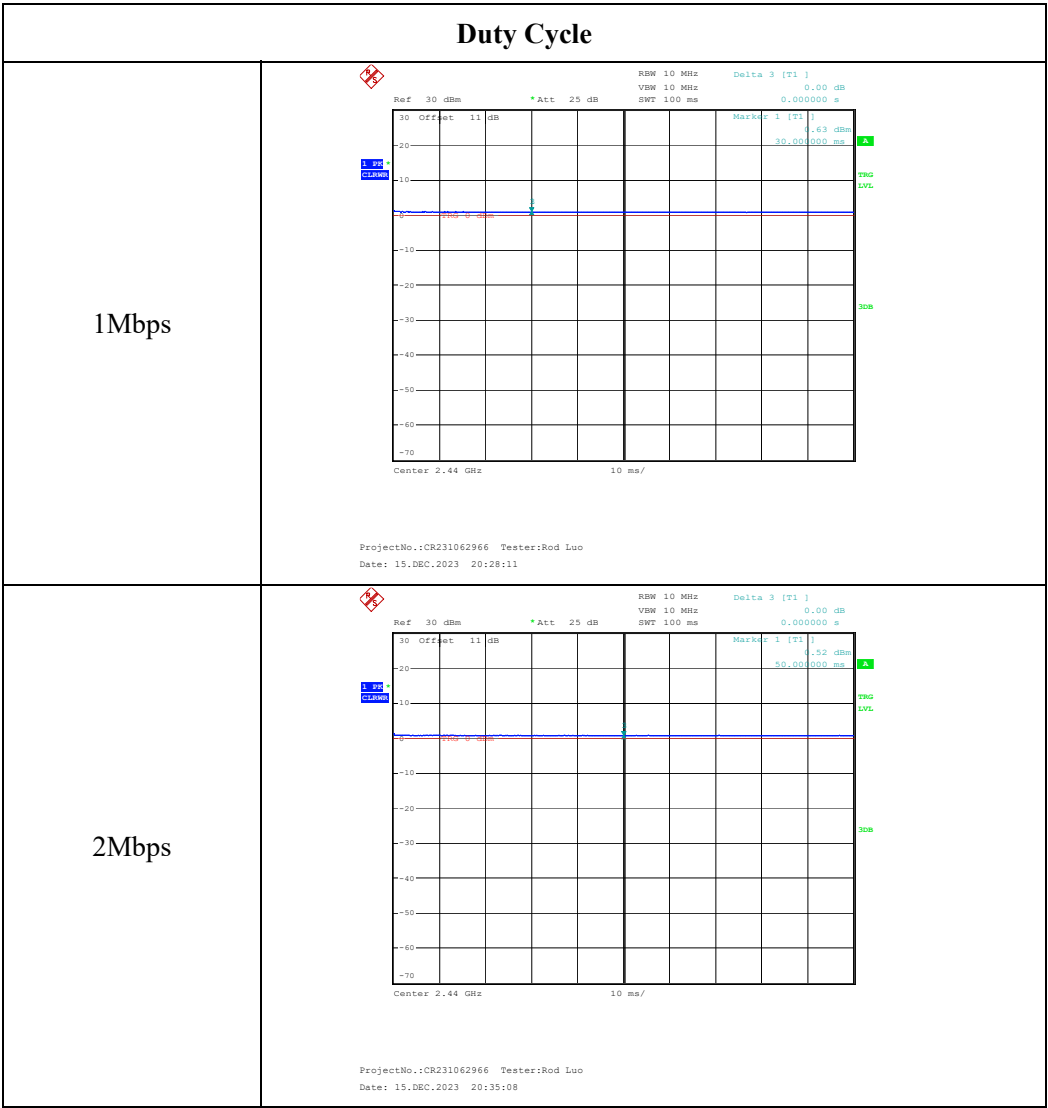
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200120	2023/3/31	2024/3/30
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Test Modes	Test Frequency (MHz)	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW Setting (Hz)
1Mbps	2440	100	100	100.00	/	10
2Mbps	2440	100	100	100.00	/	10



5. RF EXPOSURE EVALUATION

5.1 Applicable Standard

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

According to KDB447498 D01 General RF Exposure Guidance v06:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

5.2 Measurement Result

The max conducted power including tune-up tolerance is 3.0dBm (2.0mW).

$[(\text{max. power of channel, mW})/(\text{min. test separation distance, mm})][\sqrt{f(\text{GHz})}]$
 $= 2.0/5 \cdot (\sqrt{2.480}) = 0.6 < 3.0$

Result: Compliant. The stand-alone SAR evaluation is not necessary.

6. EUT PHOTOGRAPHS

Please refer to the attachment CR231062966-EXP EUT EXTERNAL PHOTOGRAPHS and CR231062966-INP EUT INTERNAL PHOTOGRAPHS

7. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR231062966-00A-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT =====