

TEST REPORT

Product : Camera G510 (Battery)
Trade mark : N/A
Model/Type reference : CH-C33D, CH-C33E
Serial Number : N/A
Report Number : EED32S812285
FCC ID : 2AKIT-CHC33
Date of Issue : Aug. 21, 2026
Test Standards : 47 CFR FCC Part 15C §15.255,
KDB 364244 D01 Meas 15.255 Radars v01r01
Test result : PASS

Prepared for:

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Check No.: 9547020626

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2 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47 CFR Part 15C Section §15.203	N/A	PASS
Operation Restriction and Group Installation	47 CFR Part 15C Section §15.255(a),(b),(h)	N/A	PASS
AC Power Conducted Emissions	47 CFR FCC Part 15C §15.207	ANSI C63.10:2020	PASS
99% Occupied Bandwidth	47 CFR FCC Part 15C §15.255(e), 47 CFR Part 2, Subpart J Section §2.1049	ANSI C63.10:2020	PASS
20dB down Emission Bandwidth	47 CFR FCC Part 15C §15.255(e), 47 CFR Part 2, Subpart J Section §2.1049	ANSI C63.10:2020	PASS
EIRP (Effective Isotropic Radiated Power) & Timing Requirements	47 CFR FCC Part 15C section § 15.255 (c) (2) (iii) (A)	ANSI C63.10:2020	PASS
Peak Conducted Power	47 CFR FCC Part 15C §15.255(e)	ANSI C63.10:2020	PASS
Spurious Emissions	47 CFR FCC Part 15C §15.255(d) & §15.209	ANSI C63.10:2020	PASS
Frequency Stability	47 CFR FCC Part 15C §15.255(f)	ANSI C63.10:2020	PASS

Remark:

Company Name and Address shown on Report, the sample(s) and sample Information were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

Model No.: CH-C33D, CH-C33E

Only the model CH-C33E was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being model name.

3 General Information

3.1 Client Information

Applicant:	Lumi United Technology Co., Ltd
Address of Applicant:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
Manufacturer:	Lumi United Technology Co., Ltd
Address of Manufacturer:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China

3.2 General Description of EUT

Product Name:	Camera G510 (Battery)	
Model No.:	CH-C33D, CH-C33E	
Test Model No.:	CH-C33E	
Trade Mark:	N/A	
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location	
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)	
Operating Frequency	57GHz to 64GHz	
Test Power Grade:	Default (manufacturer declare)	
Test Software of EUT:	RF Test (manufacturer declare)	
Antenna Type:	Antenna in Package	
Antenna Gain:	7.17dBi	
Power Supply:	USB Port:	DC 5.0V
	Battery:	DC 3.65V,9800mAh
Test Voltage:	DC 3.65V	
Sample Received Date:	Jun. 02, 2026	
Sample tested Date:	Jun. 02, 2026 to Jul. 24, 2026	

3.3 Test Environment

Operating Environment:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar

3.4 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
POWER ADAPTER	Guangdong Sangu Technology Co.,Ltd	SG-050200012AU	FCC sDOC	CTI

3.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park,Zone 70,Bao'an District,Shenzhen,Guangdong,China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

Designation Number: CN1164

Test Firm Registration Number: 260439

ISED test site number:7408A, CAB identifier number : CN0037

3.6 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.3dB (30MHz-1GHz)
		4.5dB (1GHz-18GHz)
		3.4dB (18GHz-40GHz)
		4.62dB (40GHz-60GHz)
		4.80dB (60GHz-90GHz)
		4.90dB (90GHz-140GHz)
		5.11dB (140GHz-220GHz)
4	Conduction emission	5.14dB (220GHz-325GHz)
		3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

4 Equipment List

3M Semi-anechoic Chamber (2)					
Equipment	Manufacturer	Model	Serial No.	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	01-13-2024	01-12-2027
Receiver	R&S	ESCI7	100938-003	09-03-2025	09-02-2026
Spectrum Analyzer	R&S	FSV40	101200	08-11-2025	08-10-2026
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	03-29-2026	03-28-2027
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-618	05-11-2026	05-10-2027
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	03-31-2026	03-30-2027
Horn Antenna	A.H.SYSTEMS	SAS-574	374	05-16-2026	05-15-2027
Preamplifier	Agilent	11909A	12-1	02-06-2026	02-05-2027
Preamplifier	EMCI	EMC051845SE	980380	11-25-2025	11-24-2026
Preamplifier	CD	PAP-1840-60	6041.6042	05-16-2026	05-15-2027

3M full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Fully Anechoic Chamber	TDK	FAC-3	---	01-09-2024	01-08-2027
Receiver	Keysight	N9038A	MY57290136	12-22-2025	12-21-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	12-22-2025	12-21-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	12-22-2025	12-21-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	03-29-2026	03-28-2027
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-03-2026	04-02-2027
Horn Antenna	ETS-LINDGREN	3117	57407	05-10-2026	05-09-2027
Preamplifier	EMCI	EMC001330	980563	02-06-2026	02-05-2027
Preamplifier	Tonscend	TAP-011858	AP21B806112	06-22-2026	06-21-2027
Preamplifier	Tonscend	EMC051845SE	980380	11-25-2025	11-24-2026
Communication test set	R&S	CMW500	102898	12-22-2025	12-21-2026
Temperature/Humidity Indicator	biaozhi	GM1360	EE1186631	03-24-2026	03-23-2027
RSE Automatic test software	JS Tonscend	JS36-RSE	V4.0.0.0	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001		---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---
Spectrum Analyzer	R&S	FSW43	102978	08-22-2025	08-21-2026
Receive unit	R&S	TC-RSE60	100729	08-22-2025	08-21-2026
Receive unit	R&S	TC-RSE90	100721	08-22-2025	08-21-2026
Receive unit	R&S	TC-RSE140	101254	08-22-2025	08-21-2026
Receive unit	R&S	TC-RSE220	100716	08-22-2025	08-21-2026
Receive unit	R&S	TC-RSE325	100638	08-22-2025	08-21-2026

Conducted Emissions Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100435	04-07-2026	04-06-2027
LISN	R&S	ENV216	100098	09-13-2025	09-12-2026
Capacitive voltage probe	Schwarzbeck	CVP 9222C	00124	06-10-2026	06-09-2027
ISN	TESEQ	ISN T800	30297	11-24-2025	11-23-2026
Barometer	Changchun	DYM3	1188	---	---
Temperature/ Humidity Indicator	Defu	TH128	---	03-24-2026	03-23-2027
Test software	Fara	EZ-EMC	EMC-CON 3A1.1	---	---

5 Test results and Measurement Data

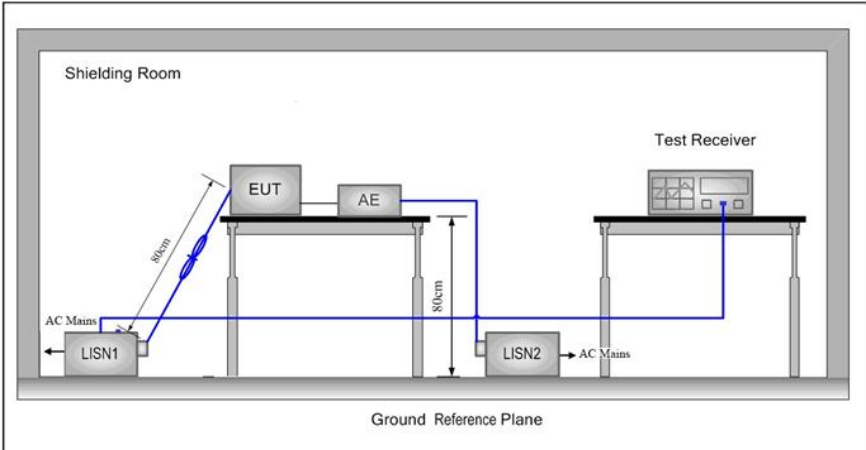
5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section §15.203
§15.203 requirement: 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, 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.	
EUT Antenna:	Please see Internal photos
The antenna is permanently attached on the main PCB. Therefore this EUT complies with the requirement of §15.203;	

5.2 Operation Restriction and Group Installation

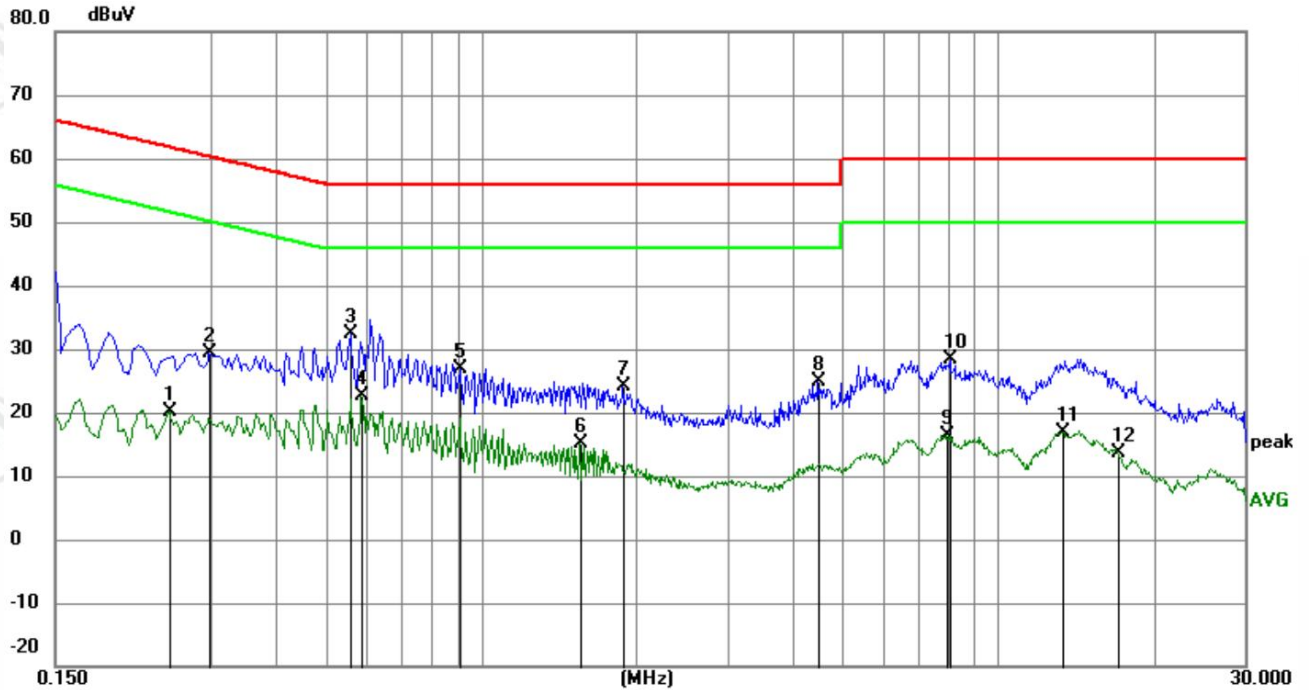
Standard requirement:	47 CFR Part 15C Section §15.255(a),(b),(h)
§15.255(a),(b) requirement: Operation is not permitted for the following products: (1) Equipment used on aircraft or satellites. (2) Field disturbance sensors, including vehicle radar systems, unless the field disturbance sensors are employed for fixed operation.	
§15.255(h) requirement: Operation is not permitted for the following products: (1) External phase-locking.	
Conclusion: (1) Manufacturer declares that EUT will not be used on aircraft or satellites. Then user manual will include a statement to caution EUT is not permitted for use on aircraft or satellites. (2) The frequency, amplitude and phase of the transmit signal are set within the EUT. There are no external phase-locking inputs or any other means of combining two or more units together to realize a beam-forming array.	

5.3 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section §15.207		
Test Method:	ANSI C63.10:2020		
Test Frequency Range:	150kHz to 30MHz		
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=Auto		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		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.			
Test Setup:			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2020 on conducted measurement.		
Test Mode:	TX mode_Make EUT continuously emit radar signals.		
Test Results:	Pass		

Measurement Data

Live line:

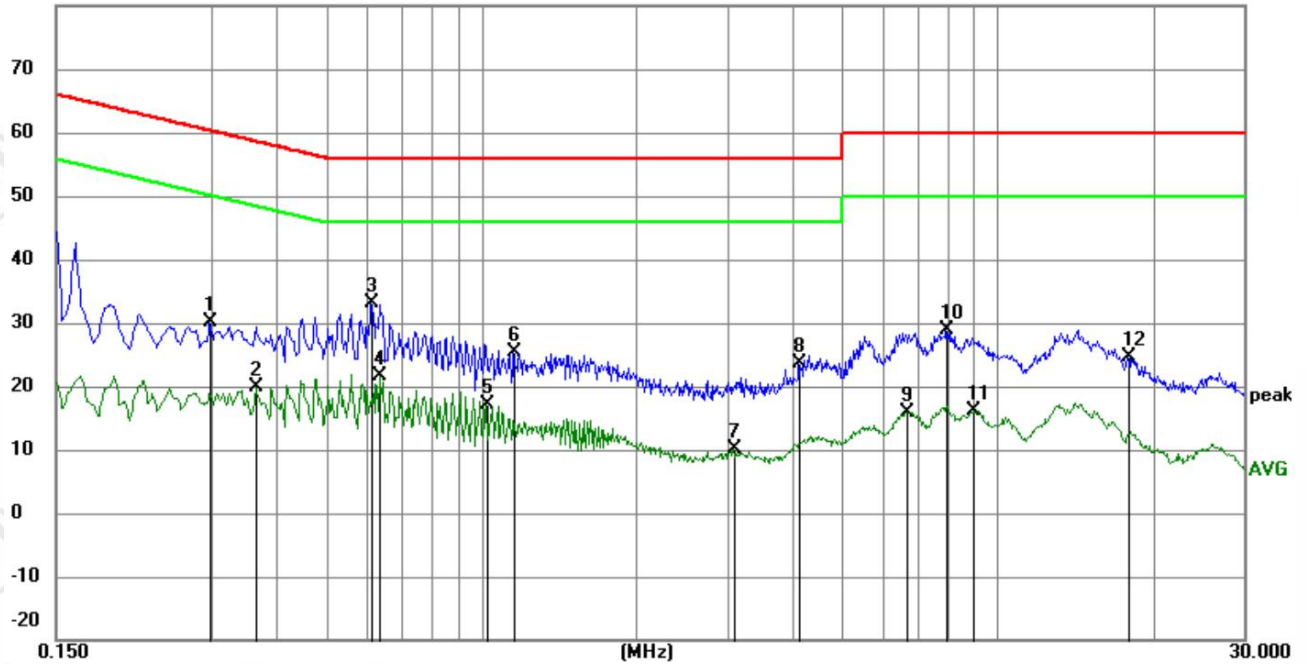


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
1		0.2490	10.07	10.17	20.24	51.79	-31.55	AVG	
2		0.2985	19.23	10.13	29.36	60.28	-30.92	QP	
3		0.5595	22.28	10.09	32.37	56.00	-23.63	QP	
4	*	0.5865	12.45	10.10	22.55	46.00	-23.45	AVG	
5		0.9105	16.68	10.17	26.85	56.00	-29.15	QP	
6		1.5540	4.85	10.17	15.02	46.00	-30.98	AVG	
7		1.8825	13.85	10.17	24.02	56.00	-31.98	QP	
8		4.4835	14.69	10.08	24.77	56.00	-31.23	QP	
9		7.9530	6.35	10.00	16.35	50.00	-33.65	AVG	
10		8.0925	18.28	10.00	28.28	60.00	-31.72	QP	
11		13.3125	7.06	9.89	16.95	50.00	-33.05	AVG	
12		17.0745	3.69	9.84	13.53	50.00	-36.47	AVG	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:
80.0 dBuV

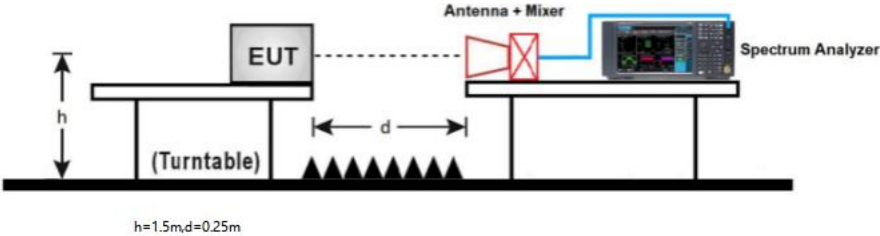


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2985	19.96	10.13	30.09	60.28	-30.19	QP	
2		0.3660	9.84	10.10	19.94	48.59	-28.65	AVG	
3	*	0.6134	23.07	10.10	33.17	56.00	-22.83	QP	
4		0.6360	11.46	10.11	21.57	46.00	-24.43	AVG	
5		1.0230	6.88	10.18	17.06	46.00	-28.94	AVG	
6		1.1580	15.09	10.18	25.27	56.00	-30.73	QP	
7		3.0750	-0.09	10.13	10.04	46.00	-35.96	AVG	
8		4.1235	13.42	10.09	23.51	56.00	-32.49	QP	
9		6.6390	5.89	10.04	15.93	50.00	-34.07	AVG	
10		7.9710	18.82	10.00	28.82	60.00	-31.18	QP	
11		8.9655	6.26	9.98	16.24	50.00	-33.76	AVG	
12		17.9025	14.85	9.83	24.68	60.00	-35.32	QP	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

5.4 99% Occupied Bandwidth

Test Requirement:	47 CFR FCC Part 15C §15.255(e), 47 CFR Part 2, Subpart J Section §2.1049
Test Method:	ANSI C63.10:2020
Limit:	Within the designated 57GHz ~ 71GHz frequency band
Test Setup:	 h=1.5m, d=0.25m
Test Procedure:	a) The following procedure shall be used for measuring 99% Occupied Bandwidth: Use the following spectrum analyzer settings: 1) Span equal to approximately 1.5 times the OBW, centered on the carrier frequency. 2) RBW, prefer 1% to 5% of OBW, or a minimum of 1 MHz if this is not possible due to a large OBW. 3) VBW approximately $3 \times$ RBW. 4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation. 5) Sweep = No faster than coupled (auto) time. 6) Detector function = peak. 7) Trace = max-hold. b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize. c) Use the 99% channel power function to measure the signal power. d) Repeat this test for each modulation scheme.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

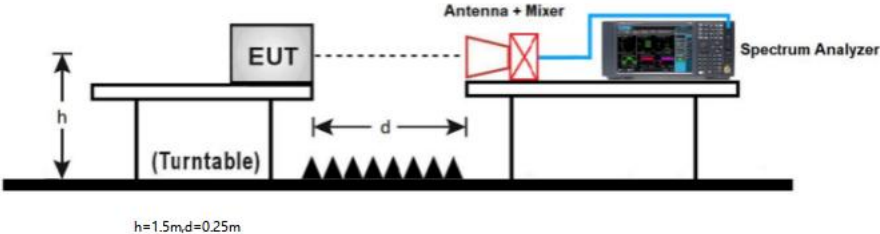
99% Occupied Bandwidth (GHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
1.289927015	60.62307	61.91300	57 to 71	Pass

Test graph:



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5.5 20dB down Emission Bandwidth

Test Requirement:	47 CFR FCC Part 15C §15.255(e), 47 CFR Part 2, Subpart J Section §2.1049
Test Method:	ANSI C63.10:2020
Limit:	Within the designated 57GHz ~ 71GHz frequency band
Test Setup:	 $h=1.5m, d=0.25m$
Test Procedure:	The following procedure shall be used for measurement of the bandwidth for millimeter-wave devices. - Use the following spectrum analyzer settings: - Span equal to approximately 2~3 times the 20dB down Emission Bandwidth, centered on the carrier frequency. - RBW, as specified in the requirement. - VBW, as specified in the requirement, or $VBW \geq RBW$ if not specified. - Sweep = auto. - Detector function = peak. - Trace = max hold. - The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize. - Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure the specified 20dB down one side of the emission. - Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. - If this value varies with different modes of operation (data rate, modulation format, etc.), then repeat this test for each variation.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

20dB down Emission Bandwidth (GHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
1.3487	60.6042	61.9529	57 to 71	Pass

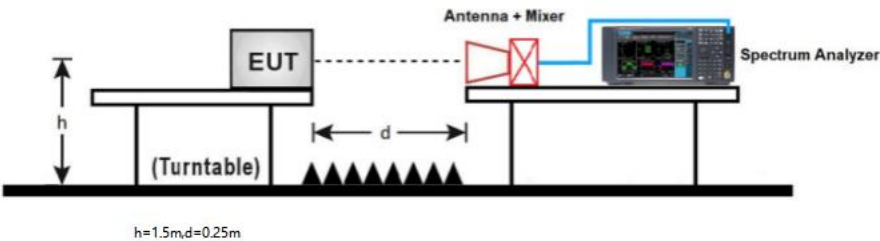
Note: 20dB down Emission Bandwidth(GHz)=Highest Frequency(GHz)-Lowest Frequency(GHz);

Test graph:



05:32:03 PM 07/19/2026

5.6 EIRP(Effective Isotropic Radiated Power) & Timing Requirements & Peak Conducted Power

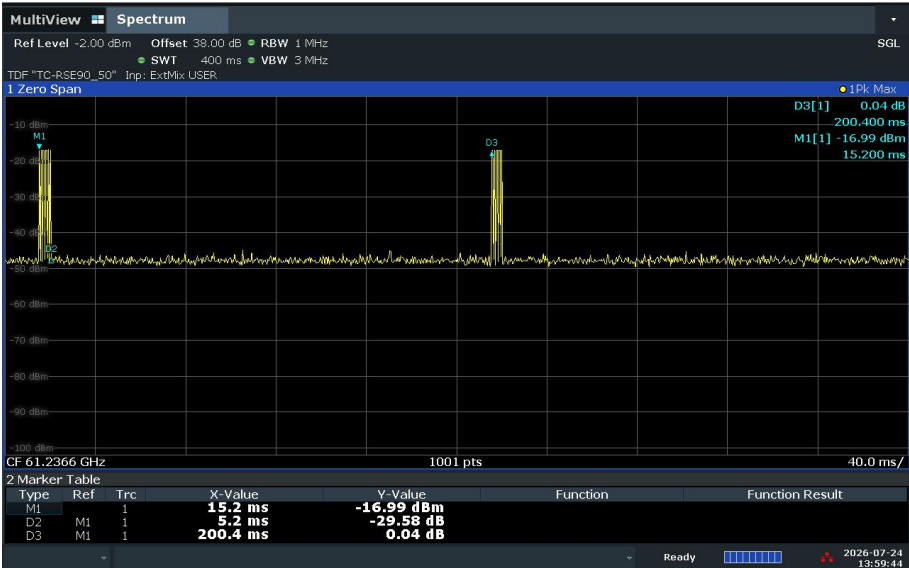
Test Requirement:	47 CFR FCC Part 15C section § 15.255 (c) (2) (iii) (A), 47 CFR FCC Part 15C section § 15.255 (e) (1)
Test Method:	ANSI C63.10:2020
Limit:	47 CFR FCC Part 15C section § 15.255 (c) (2) (iii) (A): The peak EIRP shall not exceed 14 dBm, and the sum of continuous transmitter off-times of at least two milliseconds shall equal at least 25.5 milliseconds within any contiguous interval of 33 milliseconds, except as specific in paragraph (c)(2)(iii)(B) of this section; 47 CFR FCC Part 15C section § 15.255 (e) (1): (e) Limits on transmitter conducted output power. (1) Except as specified in paragraph (e)(2) of this section, the peak transmitter conducted output power of devices other than field disturbance sensors/radars shall not exceed 500mW (*26.9897dBm). Depending on the gain of the antenna, it may be necessary to operate the intentional radiator using a lower peak transmitter output power in order to comply with the EIRP limits specified in paragraph (c) of this section.
Test Setup:	 h=1.5m,d=0.25m
Test Procedure:	Maximum peak power(EIRP) – Peak detector 1. Set RBW = 1MHz; 2. Set VBW ≥ 3*RBW; 3. Span to 2~3*OBW; 4. Detector = Peak; 5. Set number of points in sweep ≥ 2*Span/RBW; 6. Sweep time=Auto couple; 7. Trace = Max hold;
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

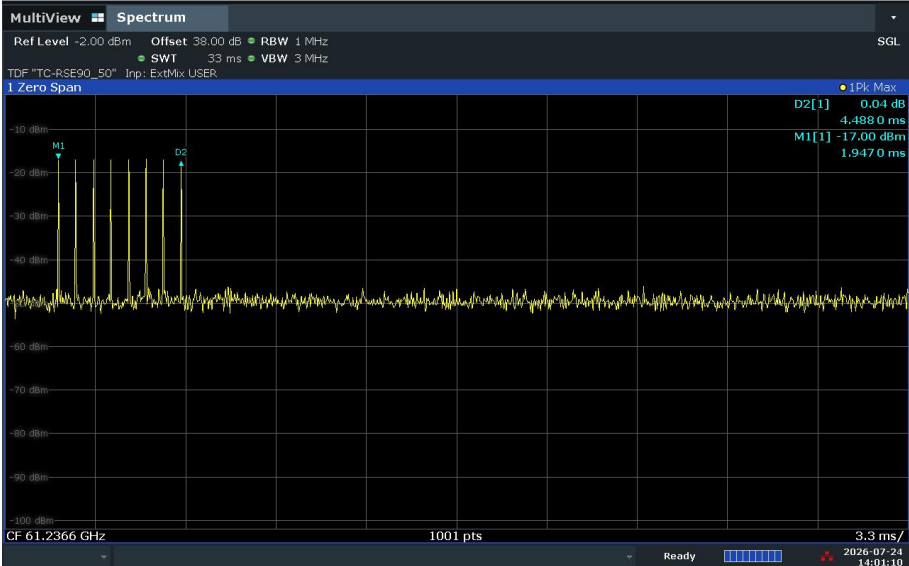
Transmission Time Restriction	
Total OFF Time(ms)	
Result	27.8
OFF Time Limit(ms)	Pass
	≥25.5

Note: OFF Time(ms)=33ms-5.2ms=27.8ms;

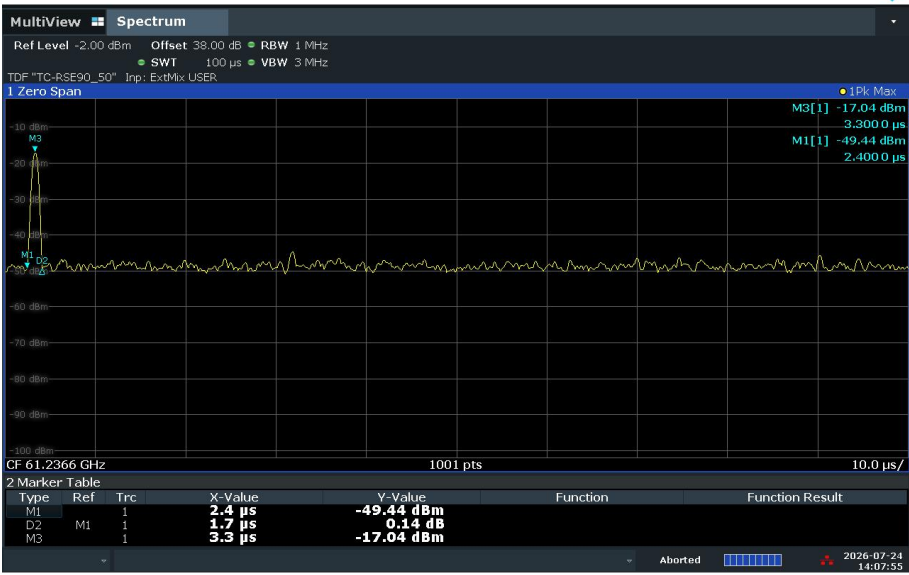
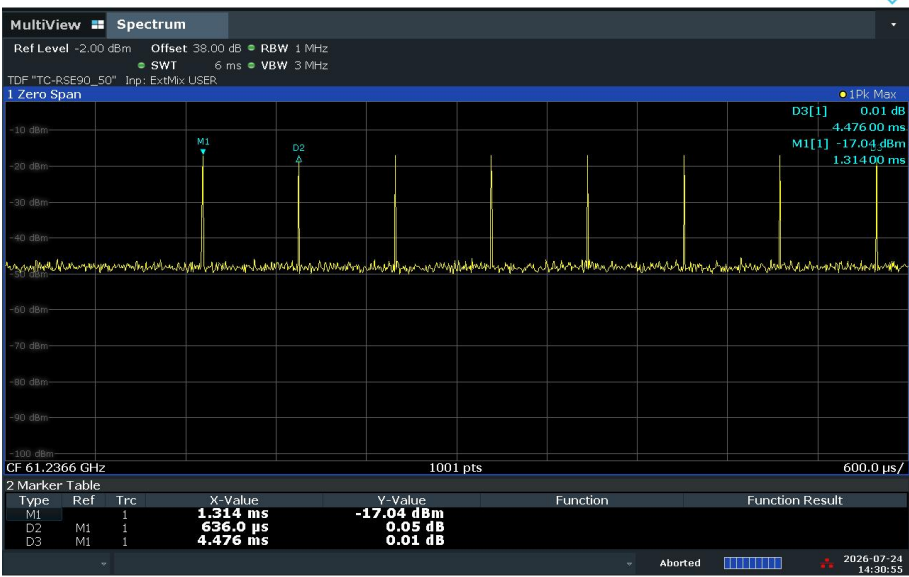
Test graph:



01:59:45 PM 07/24/2026



02:01:10 PM 07/24/2026



Frequency (GHz)	EIRP (dBm)	FMCW Chirps Correction Factor (dB)	Corrected EIRP (dBm)	EIRP Limit (dBm)	Peak Conducted Power (dBm)	Limits on transmitter conducted output power (dBm)	Result	Remark
61.2366	-7.37	16.48	9.11	≤14	1.94	≤26.9897	Pass	Peak

Remark:

- ① This is a radiated test, and test distance of 0.25m was used for the fundamental emissions measurement.
- ② EIRP(dBm) has added free space loss of 0.25m distance.
- ③ The FMCW Chirps Correction Factor was calculated using the formula:

$$CF_{\text{chirp}} = 5 * \log \left(1 + K * \left(\frac{\text{Span}}{t * RBW^2} \right)^2 \right)$$

With t being the length of the chirp and K a correction factor for the setting process of the gaussian shaped filter (~0.1947).

Sample calculation for FMCW chirps correction factor:

$$CF_{\text{chirp}} = 5 * \log_{10} (1 + 0.1947 * (1289.927015 \text{ MHz} / (12.8 \mu\text{s} * 1 \text{ MHz}^2))^2) = 16.48 \text{ dB}$$

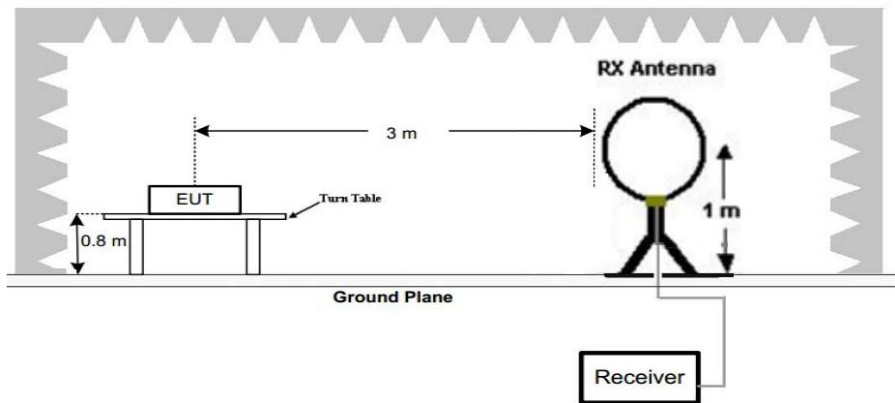
Note: Span is the measured maximum occupied bandwidth, refer to the section of 5.4, t claimed by the customer.

- ④ Guidance for calculating the correction factor is from Application Note 1EF107-1E Rohde & Schwarz Peak and Mean Power measurements on wideband FMCW radar signals.
- ⑤ Corrected EIRP(dBm)=EIRP(dBm)+FMCW Chirps Correction Factor(dB).
- ⑥ Peak Conducted Power(dBm)=Corrected EIRP(dBm)-Antenna gain(dBi);
- ⑦ Only the worst case data was recorded in the report.

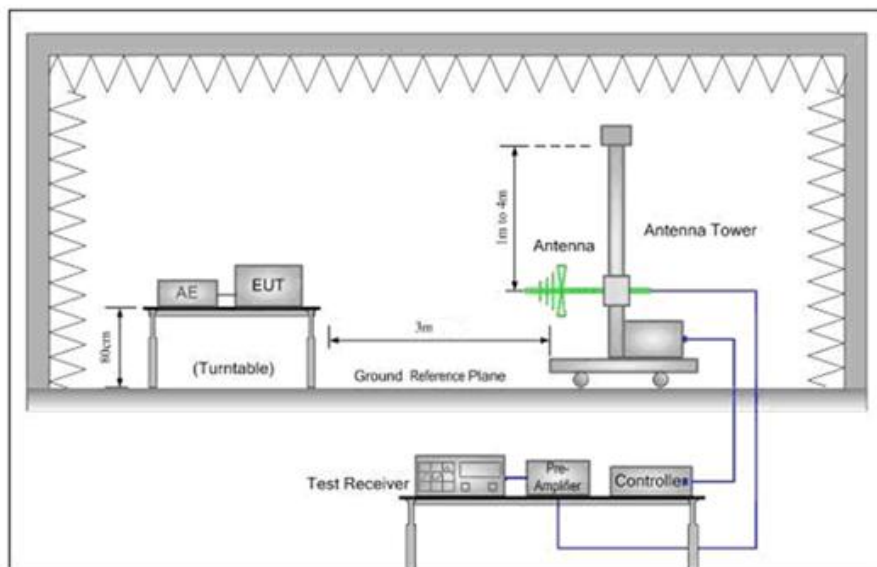
Test graph:



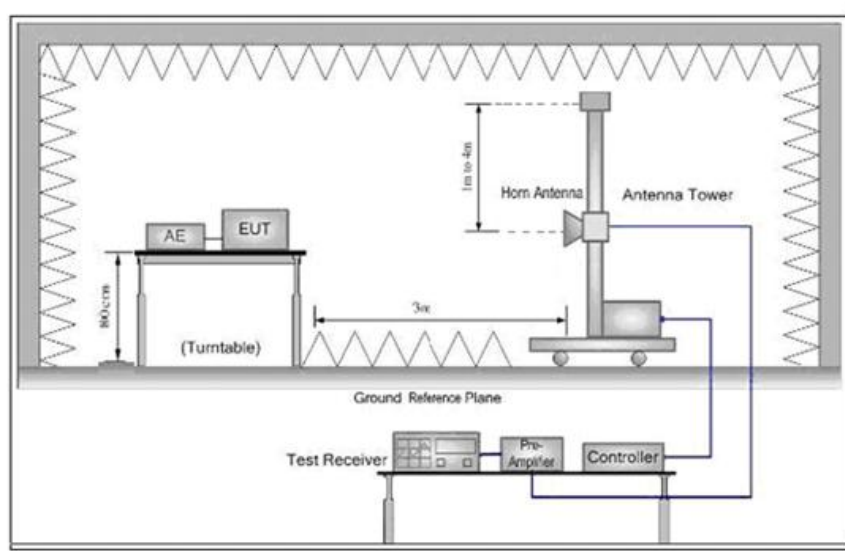
5.7 Spurious Emissions

Test Requirement:	47 CFR FCC Part 15C §15.255(d) & §15.209																																																			
Test Method:	ANSI C63.10:2020																																																			
Limit:	47 CFR FCC Part 15C §15.255(d) Limit: <table><tr><th>Frequency Range</th><th>Limit</th></tr><tr><td>Radiated emissions below 40GHz</td><td>47 CFR FCC Part 15C §15.209 90pW/cm²@3m</td></tr><tr><td>Radiated emissions above 40GHz to 200GHz</td><td>(Equivalent EIRP:101.79uW or -9.92dBm and Electric field strength of 85.33dBuV/m@3m)</td></tr></table> Note: (1)For the applicable limit,see 47 CFR FCC Part 15C §15.255(d); (2)Spurious emissions shall not exceed the level of the fundamental emission. (3)Power density(pW/cm²)=10^{EIRP/1MHz(dBm)-10}∗10⁻⁹÷[4∗π∗(3m∗100)²]; 47 CFR FCC Part 15C §15.209 Limit: <table><tr><th>Frequency</th><th>Field strength (microvolt/meter)</th><th>Limit (dBuV/m)</th><th>Remark</th><th>Measurement distance (m)</th></tr><tr><td>0.009MHz-0.490MHz</td><td>2400/F(kHz)</td><td>-</td><td>-</td><td>300</td></tr><tr><td>0.490MHz-1.705MHz</td><td>24000/F(kHz)</td><td>-</td><td>-</td><td>30</td></tr><tr><td>1.705MHz-30MHz</td><td>30</td><td>-</td><td>-</td><td>30</td></tr><tr><td>30MHz-88MHz</td><td>100</td><td>40.0</td><td>Quasi-peak</td><td>3</td></tr><tr><td>88MHz-216MHz</td><td>150</td><td>43.5</td><td>Quasi-peak</td><td>3</td></tr><tr><td>216MHz-960MHz</td><td>200</td><td>46.0</td><td>Quasi-peak</td><td>3</td></tr><tr><td>960MHz-1GHz</td><td>500</td><td>54.0</td><td>Quasi-peak</td><td>3</td></tr><tr><td>Above 1GHz</td><td>500</td><td>54.0</td><td>Average</td><td>3</td></tr></table> Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.	Frequency Range	Limit	Radiated emissions below 40GHz	47 CFR FCC Part 15C §15.209 90pW/cm²@3m	Radiated emissions above 40GHz to 200GHz	(Equivalent EIRP:101.79uW or -9.92dBm and Electric field strength of 85.33dBuV/m@3m)	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30	1.705MHz-30MHz	30	-	-	30	30MHz-88MHz	100	40.0	Quasi-peak	3	88MHz-216MHz	150	43.5	Quasi-peak	3	216MHz-960MHz	200	46.0	Quasi-peak	3	960MHz-1GHz	500	54.0	Quasi-peak	3	Above 1GHz	500	54.0	Average	3
Frequency Range	Limit																																																			
Radiated emissions below 40GHz	47 CFR FCC Part 15C §15.209 90pW/cm²@3m																																																			
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Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)																																																
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Above 1GHz	500	54.0	Average	3																																																
Test Setup:	Below 30MHz: 																																																			

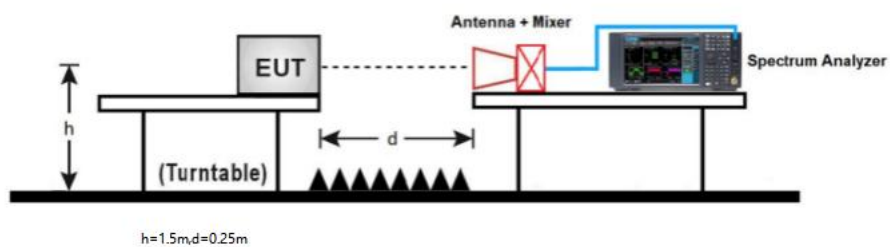
30MHz-1GHz:



1GHz-41GHz:



Above 41GHz:



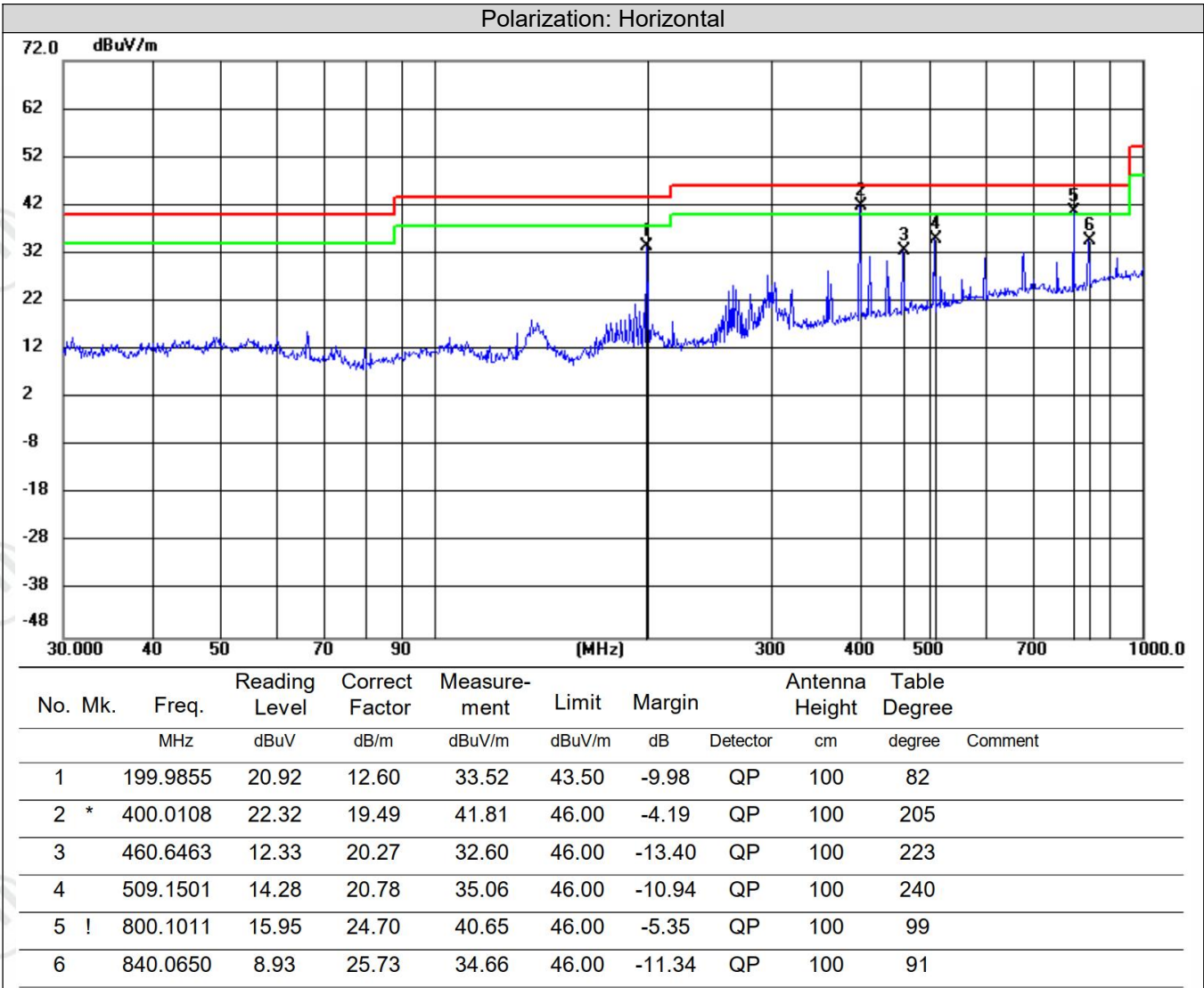
Test Procedure:	Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2020 on radiated measurement. The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz. Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas. The measurement is divided into the Preliminary Measurement and the Final Measurement. The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The measurement frequency range form 9kHz to 200GHz was investigated.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Radiated Spurious Emission below 30MHz:

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

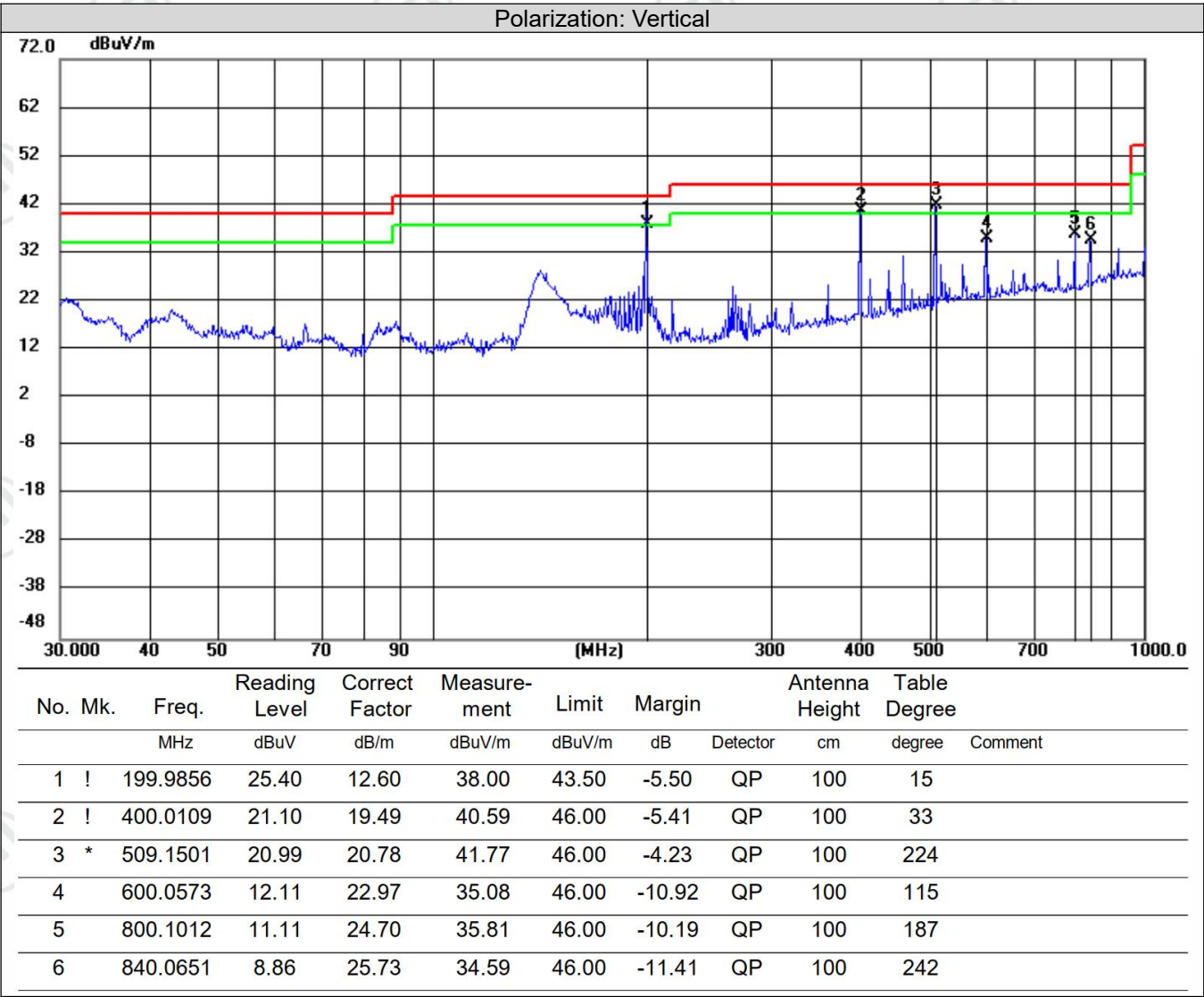
Radiated Spurious Emission 30MHz-1GHz:

Test data:



Note:

- ①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);
- ②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);



Note:

- ①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);
- ②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Radiated Spurious Emission 1GHz-18GHz:

Test data:

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1783.2522	14.26	35.98	50.24	74.00	23.76	PASS	Horizontal	PK
2	2973.1982	17.92	35.82	53.74	74.00	20.26	PASS	Horizontal	PK
3	4841.1227	-8.50	54.59	46.09	74.00	27.91	PASS	Horizontal	PK
4	7755.317	-1.50	51.45	49.95	74.00	24.05	PASS	Horizontal	PK
5	12622.6415	4.59	51.39	55.98	74.00	18.02	PASS	Horizontal	PK
6	16816.9211	11.92	48.17	60.09	74.00	13.91	PASS	Horizontal	PK
7	12582.6388	4.56	40.75	45.31	54.00	8.69	PASS	Horizontal	AV
8	16825.9217	12.28	36.09	48.37	54.00	5.63	PASS	Horizontal	AV
9	1825.3884	14.37	37.29	51.66	74.00	22.34	PASS	Vertical	PK
10	2947.3298	17.63	36.16	53.79	74.00	20.21	PASS	Vertical	PK
11	4942.1295	-8.06	53.42	45.36	74.00	28.64	PASS	Vertical	PK
12	7684.3123	-1.88	51.81	49.93	74.00	24.07	PASS	Vertical	PK
13	12569.638	4.45	52.01	56.46	74.00	17.54	PASS	Vertical	PK
14	16351.8901	11.53	49.66	61.19	74.00	12.81	PASS	Vertical	PK
15	12556.6371	4.34	40.56	44.90	54.00	9.10	PASS	Vertical	AV
16	16414.8943	10.27	37.84	48.11	54.00	5.89	PASS	Vertical	AV

Radiated Spurious Emission 18GHz-41GHz:

Test data:

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19130.7252	-26.13	62.26	36.13	74.00	37.87	PASS	Horizontal	PK
2	21409.6564	-25.88	61.17	35.29	74.00	38.71	PASS	Horizontal	PK
3	24688.6675	-21.91	57.00	35.09	74.00	38.91	PASS	Horizontal	PK
4	28026.5611	-21.21	58.23	37.02	74.00	36.98	PASS	Horizontal	PK
5	32124.405	-19.79	54.46	34.67	74.00	39.33	PASS	Horizontal	PK
6	36808.3123	-16.91	50.47	33.56	74.00	40.44	PASS	Horizontal	PK
7	19274.251	-25.90	61.41	35.51	74.00	38.49	PASS	Vertical	PK
8	21447.3779	-25.85	61.29	35.44	74.00	38.56	PASS	Vertical	PK
9	24373.0949	-21.80	57.86	36.06	74.00	37.94	PASS	Vertical	PK
10	27664.0666	-21.40	57.54	36.14	74.00	37.86	PASS	Vertical	PK
11	31316.6127	-19.85	55.69	35.84	74.00	38.16	PASS	Vertical	PK
12	36605.9042	-15.79	50.40	34.61	74.00	39.39	PASS	Vertical	PK

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) For 40GHz to 41GHz,the limit is 90pW/cm² equivalent to an electric field strength of 85.33dBuV/m@3m.
Only the worst case data was recorded in the report.

Radiated Spurious Emission 41GHz-200GHz:

Test data:

Test Frequency (GHz)	Polarity	EIRP/1MHz (dBm)	Power density(pW/cm ²) @3m distance	Limit of Power density(pW/cm ²) @3m distance	Result
41.00450	Horizontal	-48.19	0.0134	≤90	Pass
53.28200	Horizontal	-51.64	0.0061	≤90	Pass
69.56500	Horizontal	-55.43	0.0025	≤90	Pass
70.84400	Horizontal	-57.07	0.0017	≤90	Pass
89.98500	Horizontal	-66.24	0.0002	≤90	Pass
90.03500	Horizontal	-65.79	0.0002	≤90	Pass
101.42400	Horizontal	-66.89	0.0002	≤90	Pass
111.12400	Horizontal	-67.30	0.0002	≤90	Pass
129.26600	Horizontal	-67.73	0.0001	≤90	Pass
130.31070	Horizontal	-67.71	0.0001	≤90	Pass
138.86910	Horizontal	-58.57	0.0012	≤90	Pass
141.37400	Horizontal	-52.84	0.0046	≤90	Pass
151.58300	Horizontal	-56.64	0.0019	≤90	Pass
164.34100	Horizontal	-57.06	0.0017	≤90	Pass
173.91100	Horizontal	-55.20	0.0027	≤90	Pass
188.09700	Horizontal	-57.58	0.0015	≤90	Pass
199.28600	Horizontal	-57.79	0.0015	≤90	Pass

Test Frequency (GHz)	Polarity	EIRP/1MHz (dBm)	Power density(pW/cm ²) @3m distance	Limit of Power density(pW/cm ²) @3m distance	Result
41.00450	Vertical	-48.40	0.0128	≤90	Pass
53.15200	Vertical	-52.53	0.0049	≤90	Pass
69.29600	Vertical	-53.82	0.0037	≤90	Pass
70.67400	Vertical	-60.53	0.0008	≤90	Pass
89.95500	Vertical	-66.43	0.0002	≤90	Pass
90.06500	Vertical	-65.78	0.0002	≤90	Pass
101.88300	Vertical	-67.05	0.0002	≤90	Pass
110.74400	Vertical	-67.34	0.0002	≤90	Pass
123.32200	Vertical	-67.68	0.0002	≤90	Pass
131.10990	Vertical	-67.76	0.0001	≤90	Pass
138.86110	Vertical	-58.55	0.0012	≤90	Pass
142.12300	Vertical	-52.92	0.0045	≤90	Pass
150.24500	Vertical	-56.53	0.0020	≤90	Pass
162.93200	Vertical	-57.05	0.0017	≤90	Pass
174.40100	Vertical	-55.32	0.0026	≤90	Pass
187.60700	Vertical	-56.96	0.0018	≤90	Pass
198.44700	Vertical	-57.96	0.0014	≤90	Pass

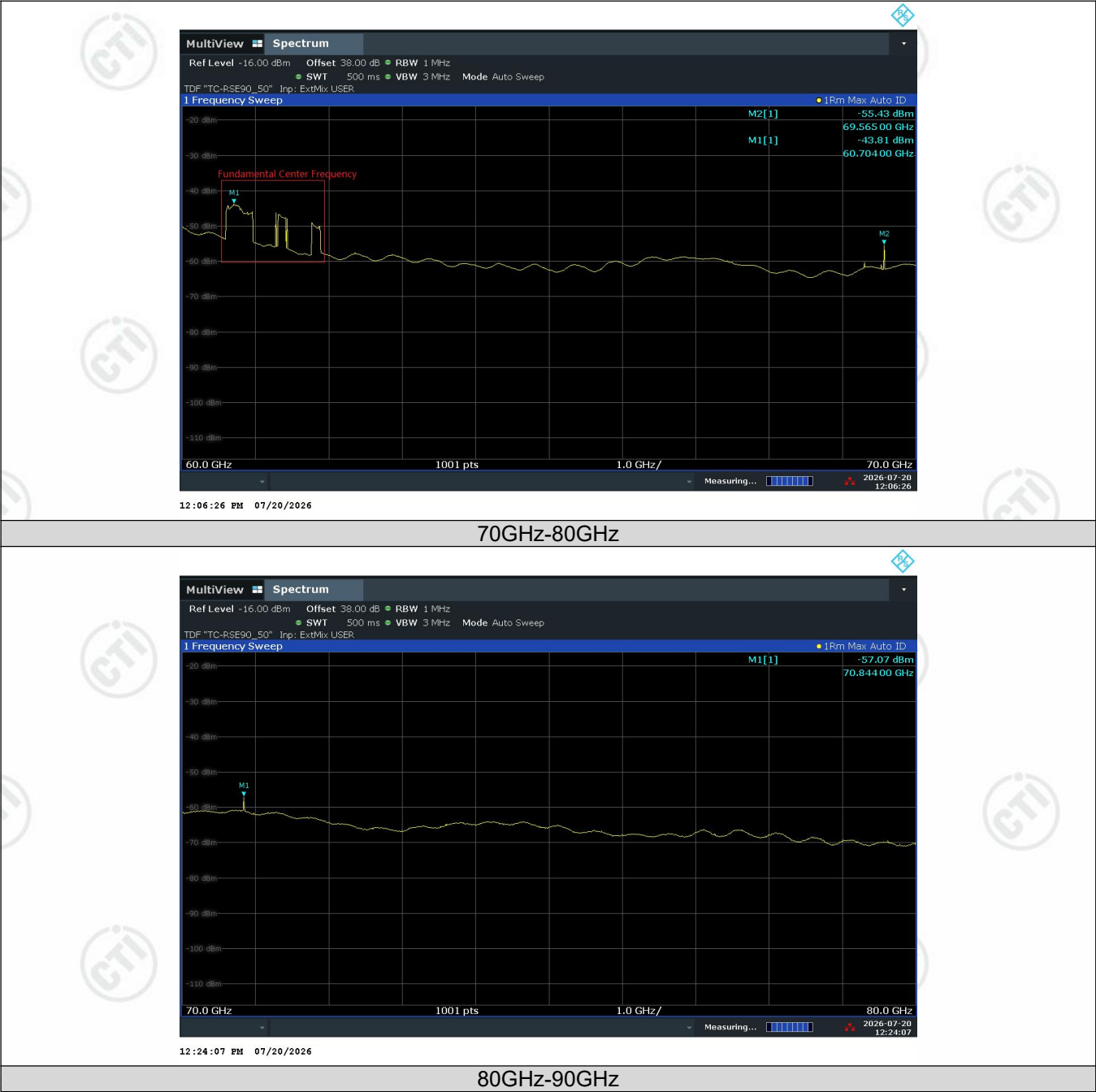
Note:

- ① EIRP(dBm/MHz) has added free space loss of 0.25m distance.
- ② Only the worst case data was recorded in the report.
- ③ $\text{Power density(pW/cm}^2\text{)} = 10^{\text{EIRP/1MHz(dBm)} + 10} \cdot 10^9 \div [4 \cdot \pi \cdot (3\text{m} \cdot 100)^2]$;

Test graph:

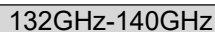
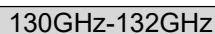
Horizontal:

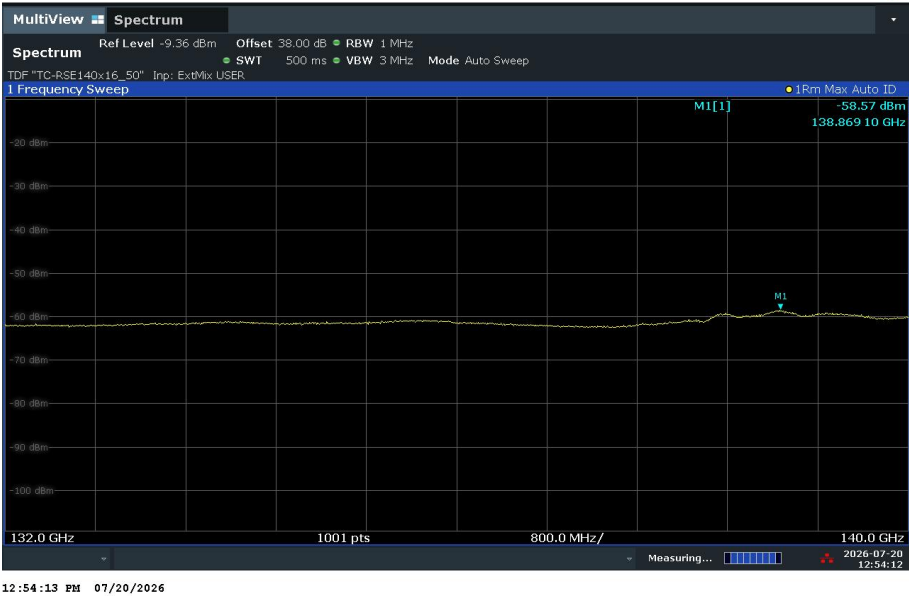












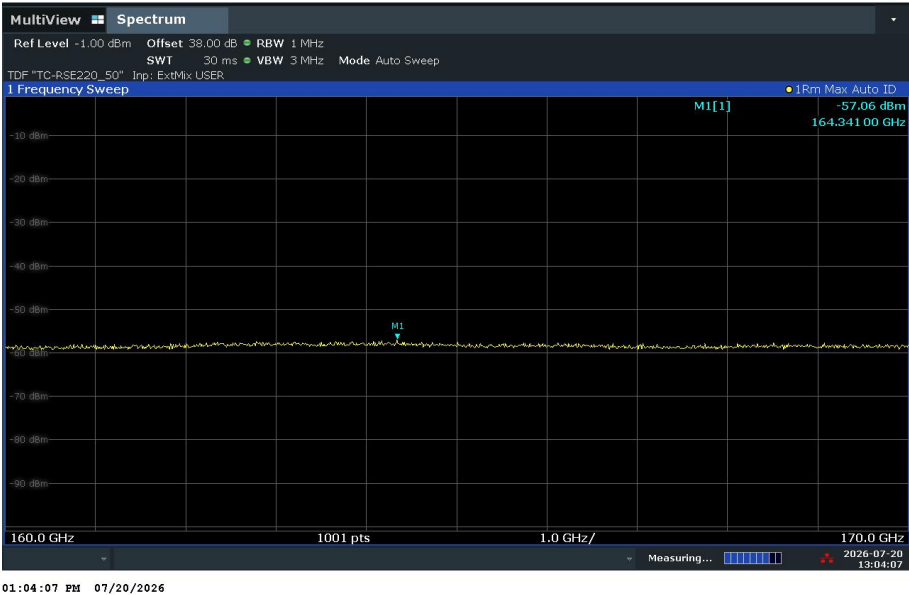
140GHz-150GHz



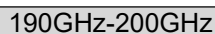
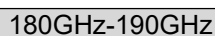
150GHz-160GHz

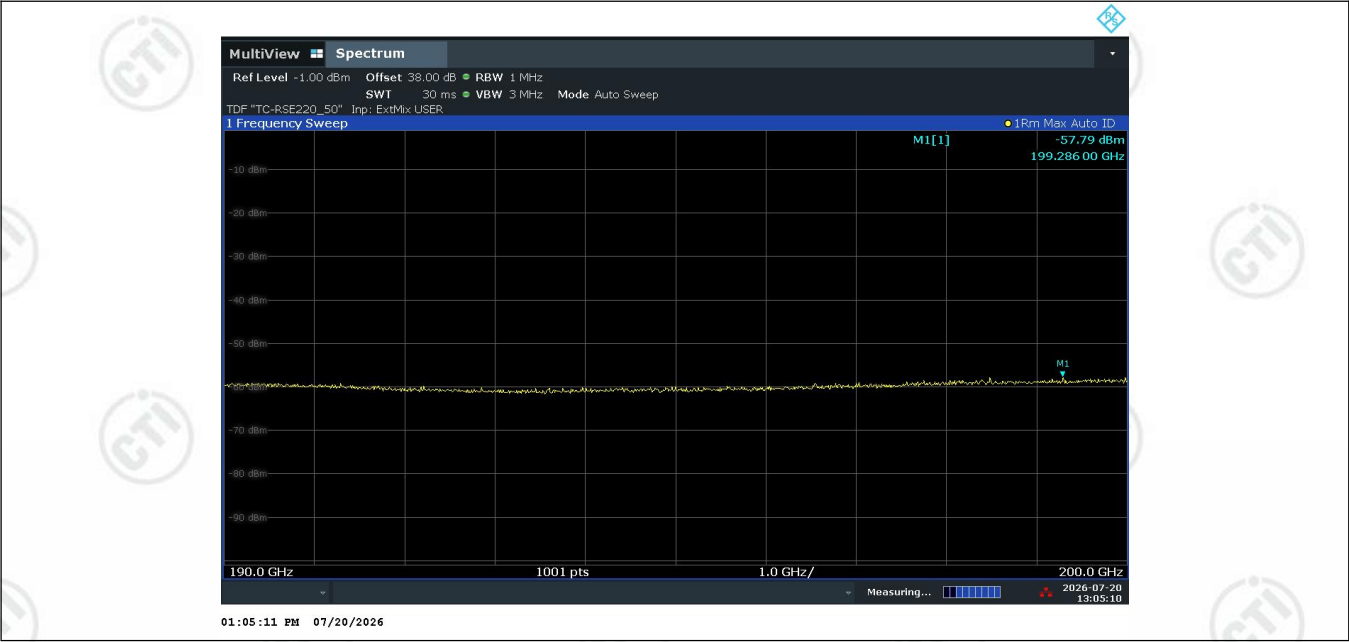


160GHz-170GHz



170GHz-180GHz



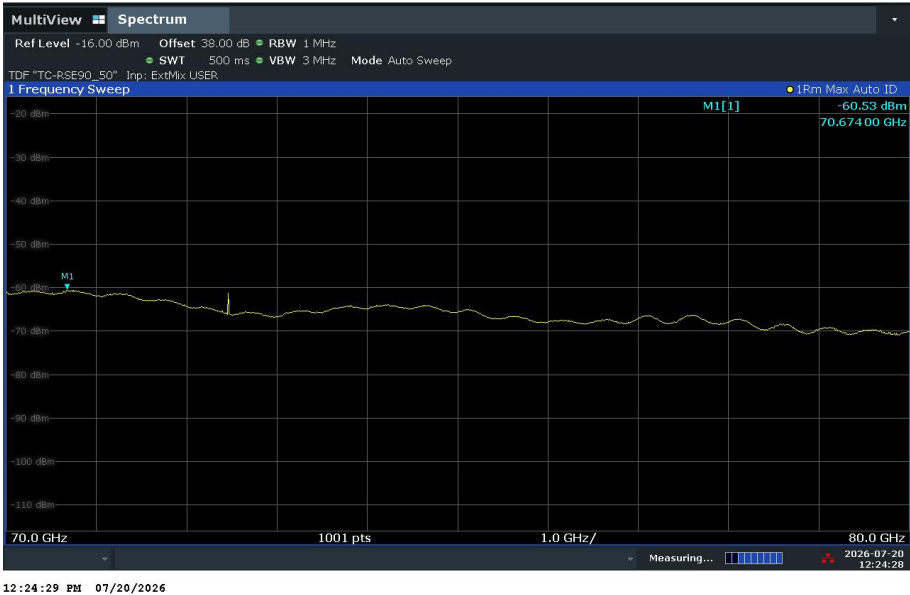


Vertical:





70GHz-80GHz



80GHz-90GHz



