

TEST REPORT

Product : eufy FamiLock E40
Trade mark : eufy
Model/Type reference : T85M0
Serial Number : N/A
Report Number : EED32R82301903
FCC ID : 2AOKB-T85M0
Date of Issue : Jan. 12, 2026
Test Standards : 47 CFR FCC Part 15C §15.255
Test result : PASS

Prepared for:

Anker Innovations Limited
Unit 56, 8th Floor, Tower 2, Admiralty Centre,
18 Harcourt Road, Hong Kong

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385



Compiled by:

Frazer Li

Frazer Li

Approved by:

Aaron Ma

Aaron Ma

Reviewed by:

Keven Tan

Keven Tan

Date:

Jan. 12, 2026

Check No.:3951251125

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2 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47 CFR Part 15C Section §15.203	/	PASS
Operation Restriction and Group Installation	47 CFR Part 15C Section §15.255(a),(b),(h)	/	PASS
AC Power Conducted Emissions	47 CFR FCC Part 15C §15.207	ANSI C63.10-2020 Section 6.2	N/A
99% Occupied Bandwidth	47 CFR FCC Part 15C §15.255(e), 47 CFR Part 2, Subpart J Section §2.1049	ANSI C63.10-2020 Section 9.4	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 Section 9.3	PASS
Duty Cycle, Off Time Requirement	47 CFR FCC Part 15C §15.255(c)(2)(ii)	/	PASS
EIRP (Effective Isotropic Radiated Power)	47 CFR FCC Part 15C §15.255(c)	ANSI C63.10-2020 Section 9.8	PASS
Spurious Emissions	47 CFR FCC Part 15C §15.255(d) & §15.209	ANSI C63.10-2020 Section 9.10 & Section 9.11	PASS
Frequency Stability	47 CFR FCC Part 15C §15.255(f)	ANSI C63.10-2020 Section 9.5	PASS

Remark:

N/A:The product is power by battery.In this whole report not application.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

3 General Information

3.1 Client Information

Applicant:	Anker Innovations Limited
Address of Applicant:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Manufacturer:	Anker Innovations Limited
Address of Manufacturer:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

3.2 General Description of EUT

Product Name:	eufy FamiLock E40	
Model No.:	T85M0	
Trade mark:	eufy	
Product Type:	Fixed-Use	
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)	
Operating Frequency	58GHz to 61GHz	
Test Power Grade:	6	
Test Software of EUT:	SSCOM V5.13.1	
Antenna Type:	PCB Antenna	
Antenna Gain:	7.43dBi	
Power Supply:	Battery:	DC 3.85V,15000mAh,57.75Wh
Test Voltage:	DC 3.85V	
Sample Received Date:	Nov. 28, 2025	
Sample tested Date:	Nov. 28, 2025 to Jan. 06, 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
Netbook	Asus	FL8700JP1065-0D8GXYQ2X10	FCC&CE	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.

FCC Designation No.: CN1164, Test Firm Registration No.: 260439

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-150kHz)
5	Temperature test	3.1dB (150kHz-30MHz)
6	Humidity test	0.64°C
7	DC power voltages	3.8%
		0.026%

4 Equipment List

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	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
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-618	05-14-2025	05-13-2026
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-07-2025	04-06-2026
Microwave Preamplifier	Tonscend	EMC051845SE	980380	11-25-2025	11-24-2026
Horn Antenna	A.H.SYSTEMS	SAS-574	374	07-02-2023	07-01-2026
Horn Antenna	ETS-LINGREN	BBHA 9120D	9120D-1869	04-07-2025	04-06-2026
Preamplifier	Agilent	11909A	12-1	03-03-2025	03-02-2026
Preamplifier	CD	PAP-1840-60	6041.6042	05-26-2025	05-25-2026
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---
Cable line	Fulai(7M)	SF106	5219/6A	01-13-2024	01-12-2027
Cable line	Fulai(6M)	SF106	5220/6A	01-13-2024	01-12-2027
Cable line	Fulai(3M)	SF106	5216/6A	01-13-2024	01-12-2027
Cable line	Fulai(3M)	SF106	5217/6A	01-13-2024	01-12-2027
Spectrum Analyzer	R&S	FSW43	102978	08-11-2025	08-10-2026
Receive unit	R&S	TC-RSE60	100729	Note1	Note1
Receive unit	R&S	TC-RSE90	100721	Note1	Note1
Receive unit	R&S	TC-RSE140	101254	Note1	Note1
Receive unit	R&S	TC-RSE220	100716	Note1	Note1
Receive unit	R&S	TC-RSE325	100638	Note1	Note1

Note1: Calibrated by the equipment manufacturer.

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	01-04-2025 12-22-2025	01-03-2026 12-21-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	01-14-2025	01-13-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	01-14-2025	01-13-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-12-2025	04-11-2026
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-12-2025	04-11-2026
Horn Antenna	ETS-LINDGREN	3117	57407	06-29-2025	06-28-2026
Preamplifier	EMCI	EMC001330	980563	03-03-2025	03-02-2026
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-07-2025	07-06-2026
Preamplifier	Tonscend	EMC051845SE	980380	11-25-2025	11-24-2026
Communication test set	R&S	CMW500	102898	01-04-2025 12-22-2025	01-03-2026 12-21-2026
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	03-31-2025	03-30-2026
RSE Automatic test software	JS Tonscend	JS36-RSE	V4.0.0.0	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-09-2024	01-08-2027
Cable line	Times	EMC104-NMNM-1000	SN160710	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-09-2024	01-08-2027
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-09-2024	01-08-2027
Spectrum Analyzer	R&S	FSW43	102978	08-11-2025	08-10-2026
Receive unit	R&S	TC-RSE60	100729	Note1	Note1
Receive unit	R&S	TC-RSE90	100721	Note1	Note1
Receive unit	R&S	TC-RSE140	101254	Note1	Note1
Receive unit	R&S	TC-RSE220	100716	Note1	Note1
Receive unit	R&S	TC-RSE325	100638	Note1	Note1

Note1: Calibrated by the equipment manufacturer.

5 Test results and Measurement Data

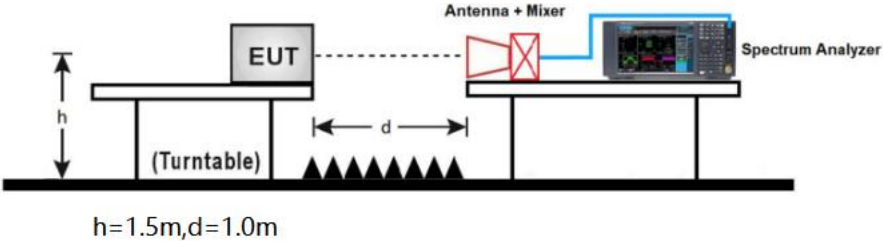
5.1 Antenna Requirement

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 been used 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 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 Section 9.4
Limit:	Within the designated 57GHz ~ 71GHz frequency band
Test Setup:	 h=1.5m, d=1.0m
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.

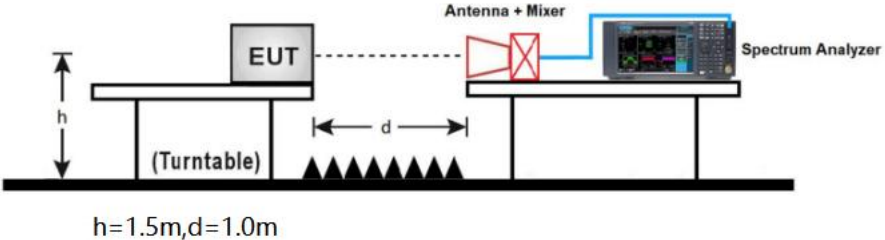
Test data:

99% emission bandwidth (GHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
2.089112376	58.023536	60.112648	57 to 71	Pass

Test graph:



5.4 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 Section 9.3
Limit:	Within the designated 57GHz ~ 71GHz frequency band
Test Setup:	 $h=1.5m, d=1.0m$
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
2.1575	57.97915	60.13665	57 to 71	Pass

Note:

- ①Highest Frequency(GHz)=Frequency of M1+ΔD2=59.80465+332.0/1000=60.13665GHz;
- ②Lowest Frequency(GHz)=Frequency of M1+ΔD3=59.80465-1.8255=57.97915GHz;
- ③20dB down Emission Bandwidth(MHz)=Highest Frequency(GHz)-Lowest Frequency(GHz)=60.13665-57.97915=2.1575GHz;

Test graph:

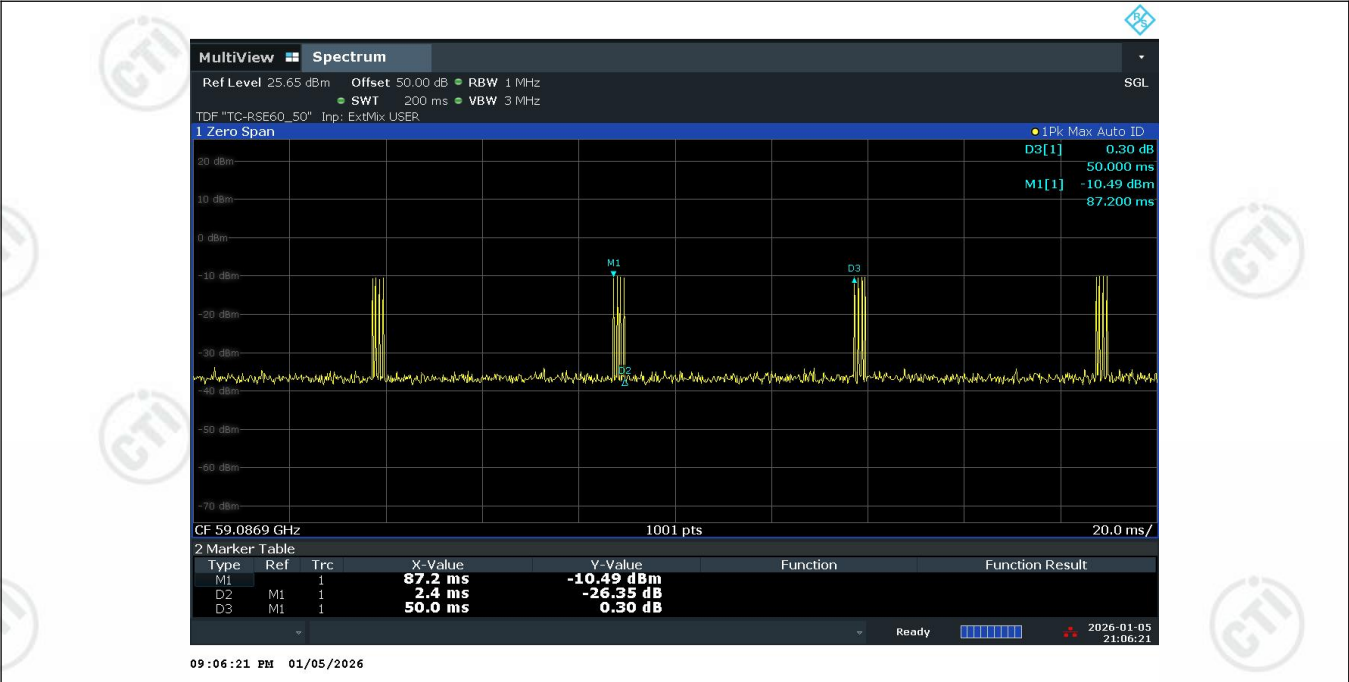


Test Requirement:	47 CFR FCC Part 15C §15.255(c)(2)(ii)
Test Method:	/
Limit:	The sum of continuous transmitter off-times of at least two milliseconds shall equal at least 16.5 milliseconds within any contiguous interval of 33 milliseconds.
Test Setup:	$h=1.5\text{m}, d=1.0\text{m}$
Test Procedure:	The duty cycle(Off Time) was tested with the spectrum analyzer set to zero-span.
Test Mode:	TX mode Make EUT continuously emit radar signals.

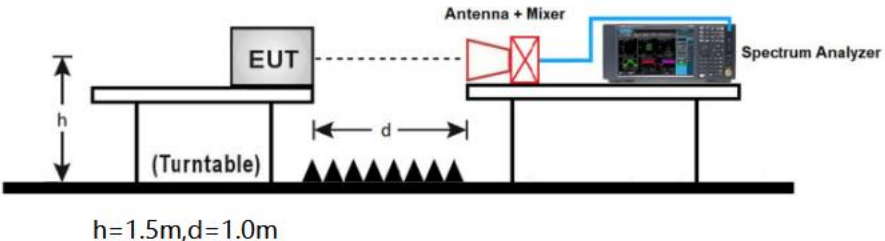
Observation time (ms)	TX On Time (ms)	TX Off Time (ms)	TX Off Time Limit (ms)	Result
33	2.2110	30.7890	≥ 16.5	Pass

$$\text{TX Off Time Limit(ms)} = \text{Observation time(ms)} - \text{TX On Time(ms)};$$

Duty Cycle



5.6 EIRP(Effective Isotropic Radiated Power)

Test Requirement:	47 CFR FCC Part 15C §15.255(c)(2)(ii)	
Test Method:	ANSI C63.10-2020 Section 9.8	
Limit:	Use Condition	Peak EIRP
	Field disturbance sensors/radars within the frequency band 57.0-61.56 GHz	≤20dBm
Test Setup:	 h=1.5m,d=1.0m	
Test Procedure:	(1)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; (2)Maximum power(EIRP) – Averaging detector Note: The maximum power(averaging detector) measurements are performed using the “channel power” measurement capability and integrated over the 99% OBW to obtain the result. 1. Measurement capability of instrument = Channel power; 2. Set RBW = 1MHz; 3. Set VBW ≥ 3*RBW; 4. Span to 2~3*OBW; 5. Channel bandwidth setting of instrument ≥ OBW; 6. Detector = Power averaging (RMS); 7. Set number of points in sweep ≥ 2*Span/RBW; 8. Sweep time = Auto couple; 9. Trace = Averaging;	
Test Mode:	TX mode_Make EUT continuously emit radar signals.	

Test data:

Frequency (GHz)	Distance (m)	EIRP (dBm)	FMCW Chirps Correction Factor (dB)	Corrected EIRP (dBm)	EIRP Limit (dBm)	Result	Remark
59.0869	1.0	6.70	12.06	18.76	≤20.00	Pass	Peak

Remark:

- ①This is a radiated test,and test distance of 1.0m was used for the fundamental emissions measurement.
- ②EIRP(dBm) has added free space loss of 1.0m distance.
- ③The FMCW Chirps Correction Factor was calculated using the formula:

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

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:

$$CF_{\text{chirp}} = 5 * \log_{10}(1 + 0.1947 * (2.089112376 * 1000 \text{ MHz} / (57.5 \mu\text{s} * 1 \text{ MHz}^2))^2) = 12.06 \text{ dB}$$

Note: Span is the measured maximum occupied bandwidth, refer to the section of 5.3, 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).

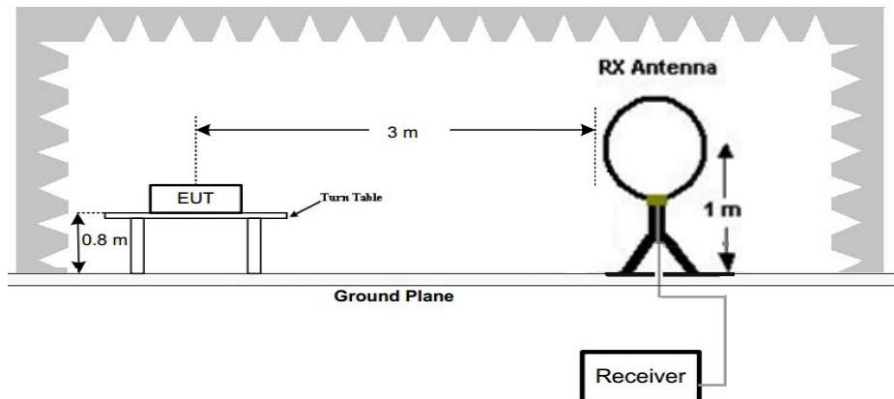
⑥ Peak Conducted Power(dBm) = Corrected EIRP(dBm) - Antenna gain(dBi);

⑦ Only the worst case data was recorded in the report.

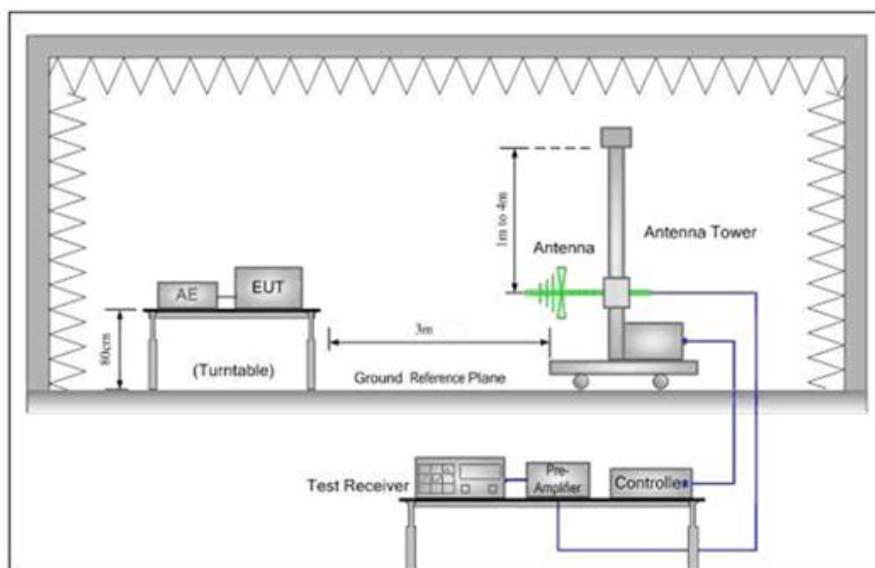
Test graph:



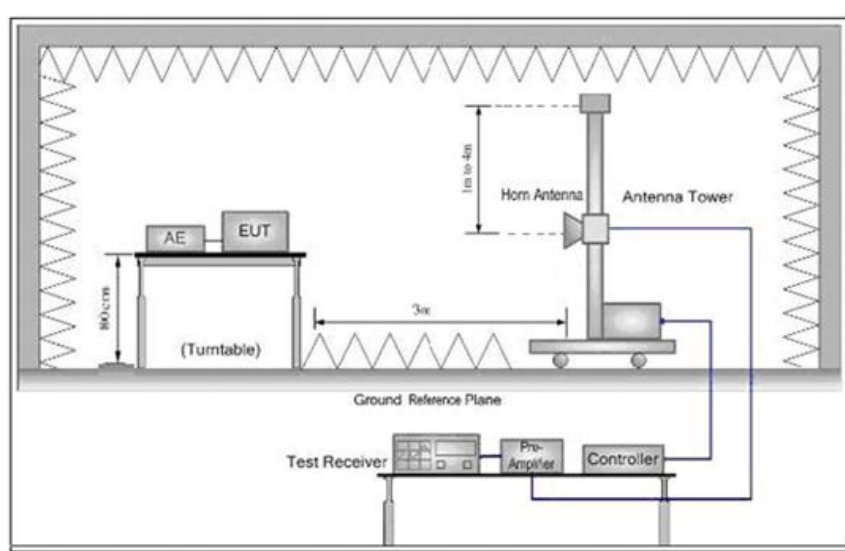
5.7 Spurious Emissions

Test Requirement:	47 CFR FCC Part 15C §15.255(d) & §15.209																																																			
Test Method:	ANSI C63.10-2020 Section 9.10 & Section 9.11																																																			
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)=$10^{EIRP/1MHz(dBm)+10*10^9/[4*\pi*(3m*100)^2]}$; 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/cm ² @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/cm ² @3m																																																			
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0.009MHz-0.490MHz	2400/F(kHz)	-	-	300																																																
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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																																																
Test Setup:	Below 30MHz: 																																																			

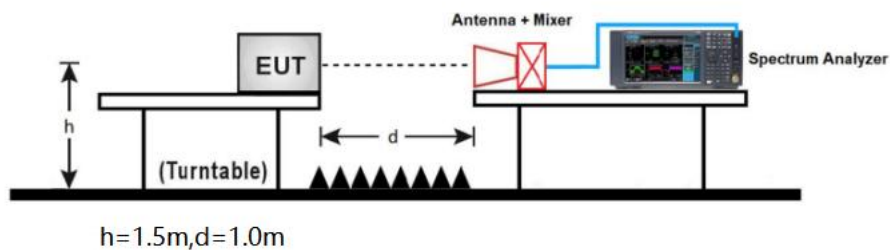
30MHz-1GHz:



1GHz-41GHz:



Above 41GHz:



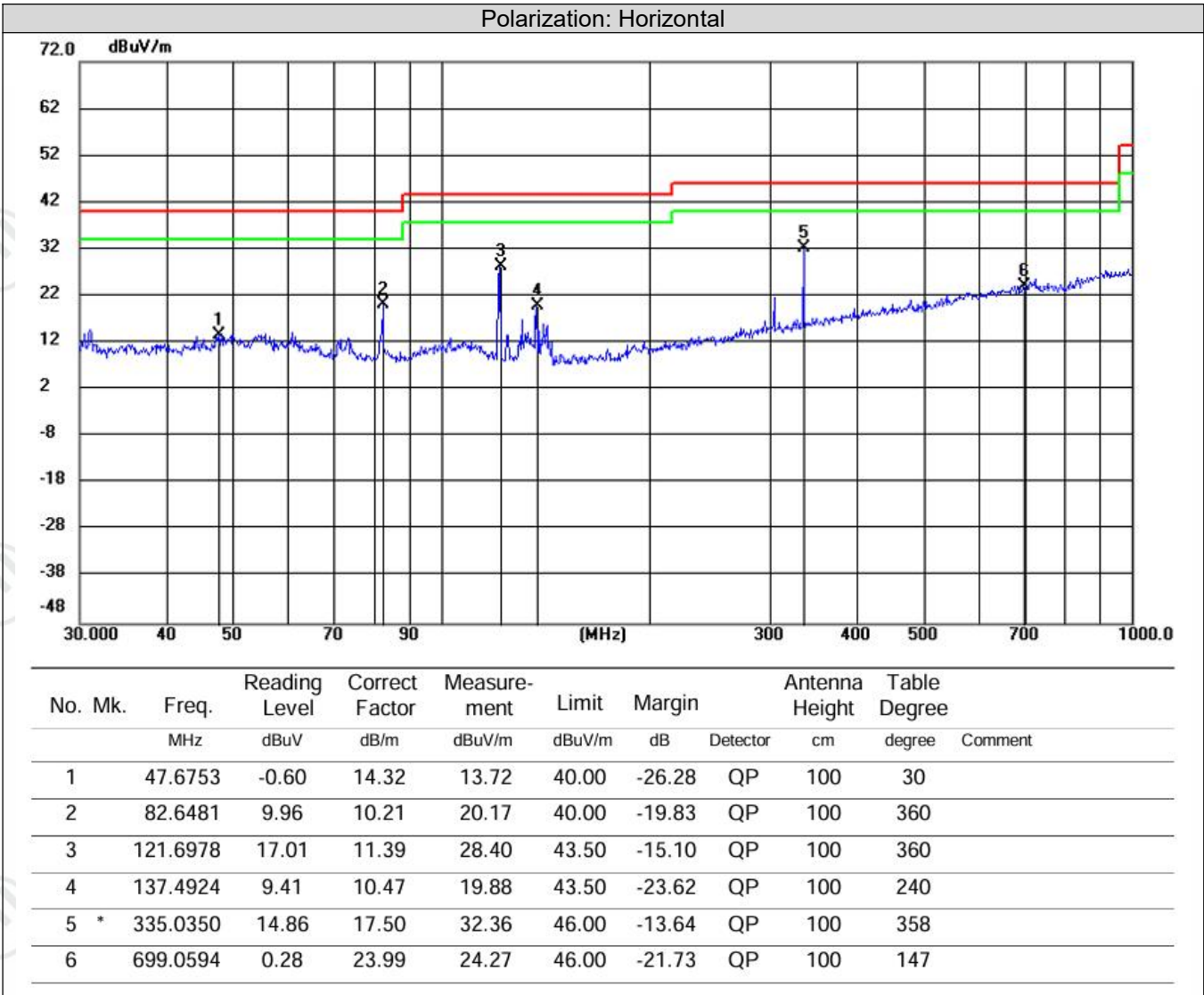
Test Procedure:	Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position 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.

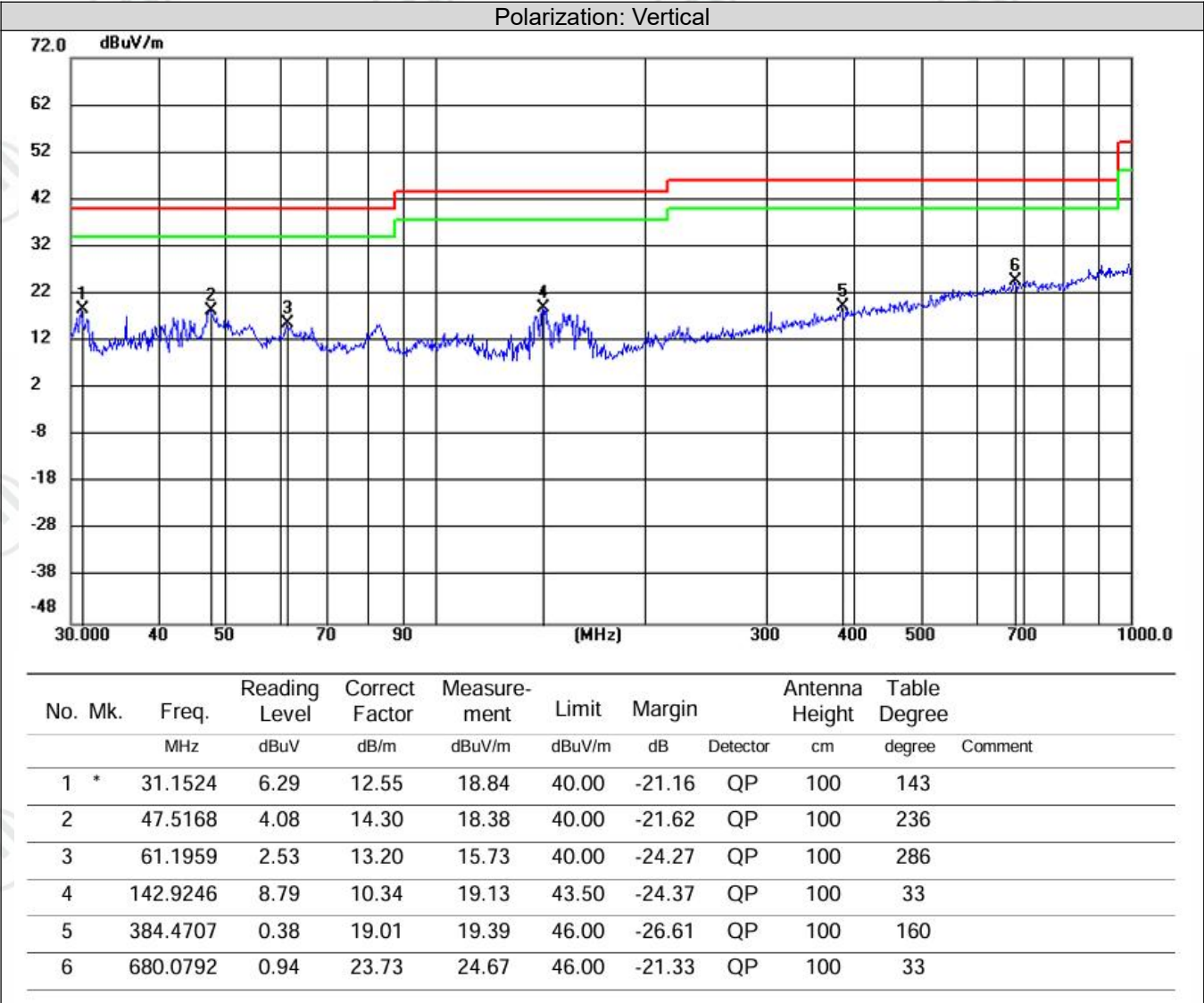
Radiated Spurious Emission 30MHz-1GHz:

Test data:



Note:

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



Note:

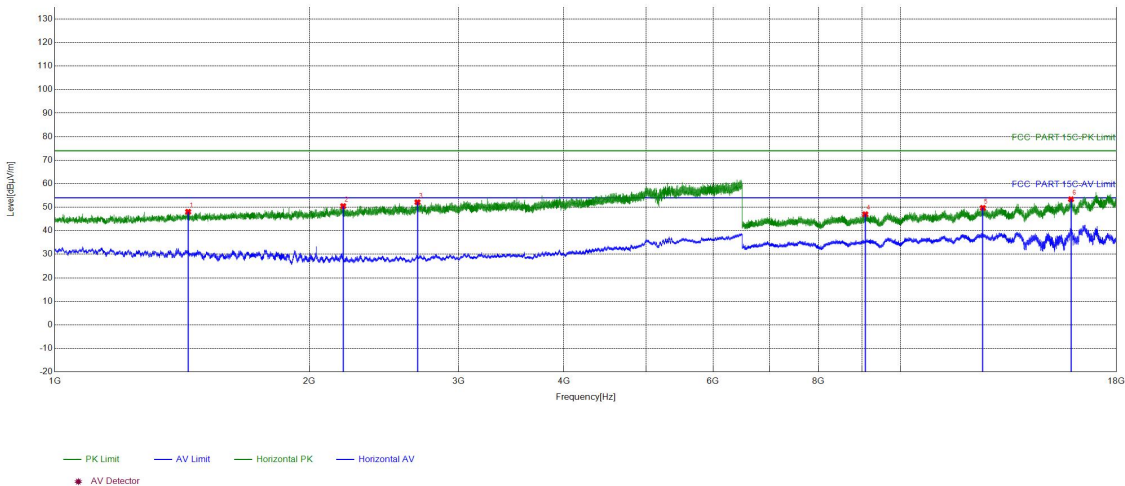
- ①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);
- ②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Radiated Spurious Emission 1GHz-18GHz:

Test data:

Test_Mode	TX	Test_Frequency	59.0869GHz
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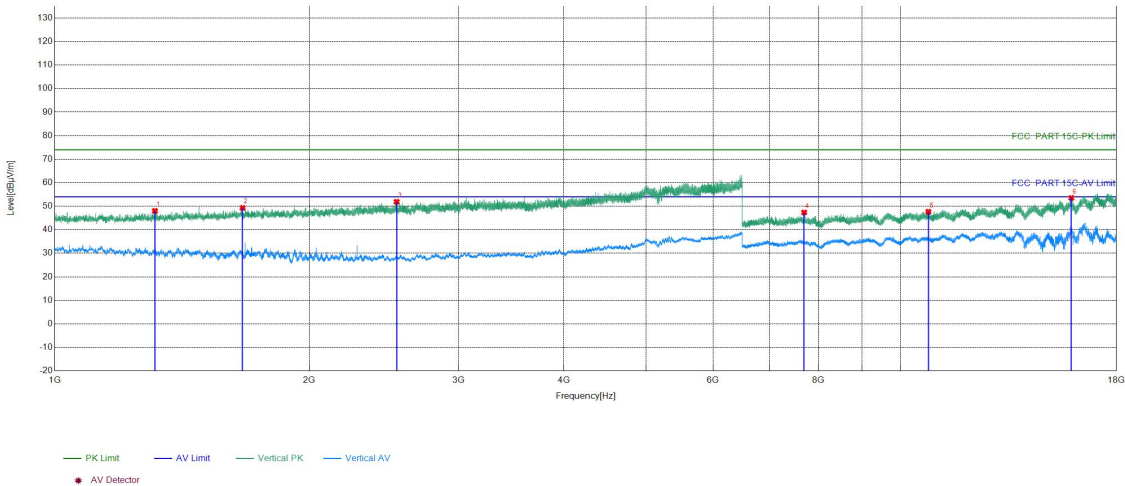
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1437.8175	13.09	34.96	48.05	74.00	25.95	PASS	Horizontal	PK
2	2192.6677	15.54	34.93	50.47	74.00	23.53	PASS	Horizontal	PK
3	2684.3874	17.36	34.76	52.12	74.00	21.88	PASS	Horizontal	PK
4	9085.3293	0.04	46.96	47.00	74.00	27.00	PASS	Horizontal	PK
5	12512.5006	4.65	45.06	49.71	74.00	24.29	PASS	Horizontal	PK
6	15906.3203	10.10	43.27	53.37	74.00	20.63	PASS	Horizontal	PK

Test_Mode	TX	Test_Frequency	59.0869GHz
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Test Graph



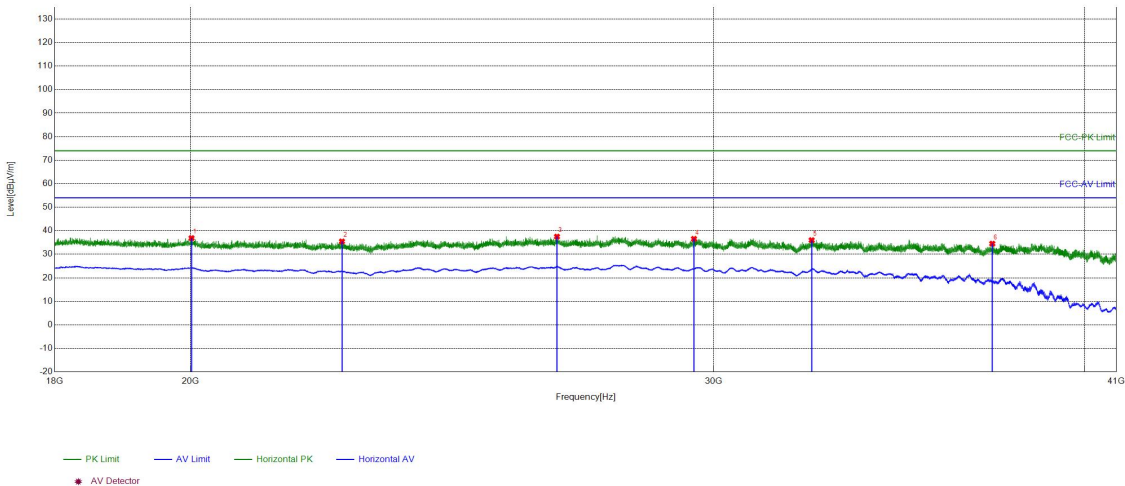
Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1313.2925	12.37	35.64	48.01	74.00	25.99	PASS	Vertical	PK
2	1667.5067	14.07	35.22	49.29	74.00	24.71	PASS	Vertical	PK
3	2535.8814	16.72	35.18	51.90	74.00	22.10	PASS	Vertical	PK
4	7692.6096	-1.77	49.13	47.36	74.00	26.64	PASS	Vertical	PK
5	10787.9894	1.99	45.64	47.63	74.00	26.37	PASS	Vertical	PK
6	15922.4211	10.00	43.53	53.53	74.00	20.47	PASS	Vertical	PK

Radiated Spurious Emission 18GHz-41GHz:

Test data:

Test_Mode	TX	Test_Frequency	59.0869GHz
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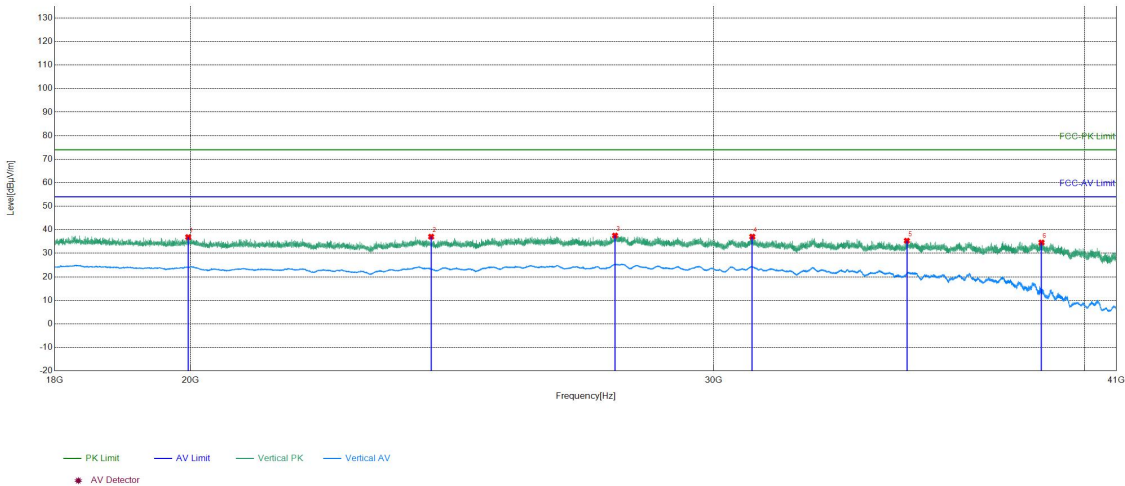
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20013.0405	-24.68	61.54	36.86	74.00	37.14	PASS	Horizontal	PK
2	22488.8596	-25.06	60.51	35.45	74.00	38.55	PASS	Horizontal	PK
3	26569.2228	-21.11	58.61	37.50	74.00	36.50	PASS	Horizontal	PK
4	29547.3819	-20.78	57.33	36.55	74.00	37.45	PASS	Horizontal	PK
5	32370.0548	-18.22	54.22	36.00	74.00	38.00	PASS	Horizontal	PK
6	37237.0495	-16.17	50.68	34.51	74.00	39.49	PASS	Horizontal	PK

Test_Mode	TX	Test_Frequency	59.0869GHz
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Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19962.4385	-24.74	61.61	36.87	74.00	37.13	PASS	Vertical	PK
2	24099.844	-22.29	59.34	37.05	74.00	36.95	PASS	Vertical	PK
3	27792.8717	-21.08	58.61	37.53	74.00	36.47	PASS	Vertical	PK
4	30914.5566	-19.46	56.52	37.06	74.00	36.94	PASS	Vertical	PK
5	34850.474	-16.39	51.72	35.33	74.00	38.67	PASS	Vertical	PK
6	38686.1074	-13.67	48.24	34.57	74.00	39.43	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:

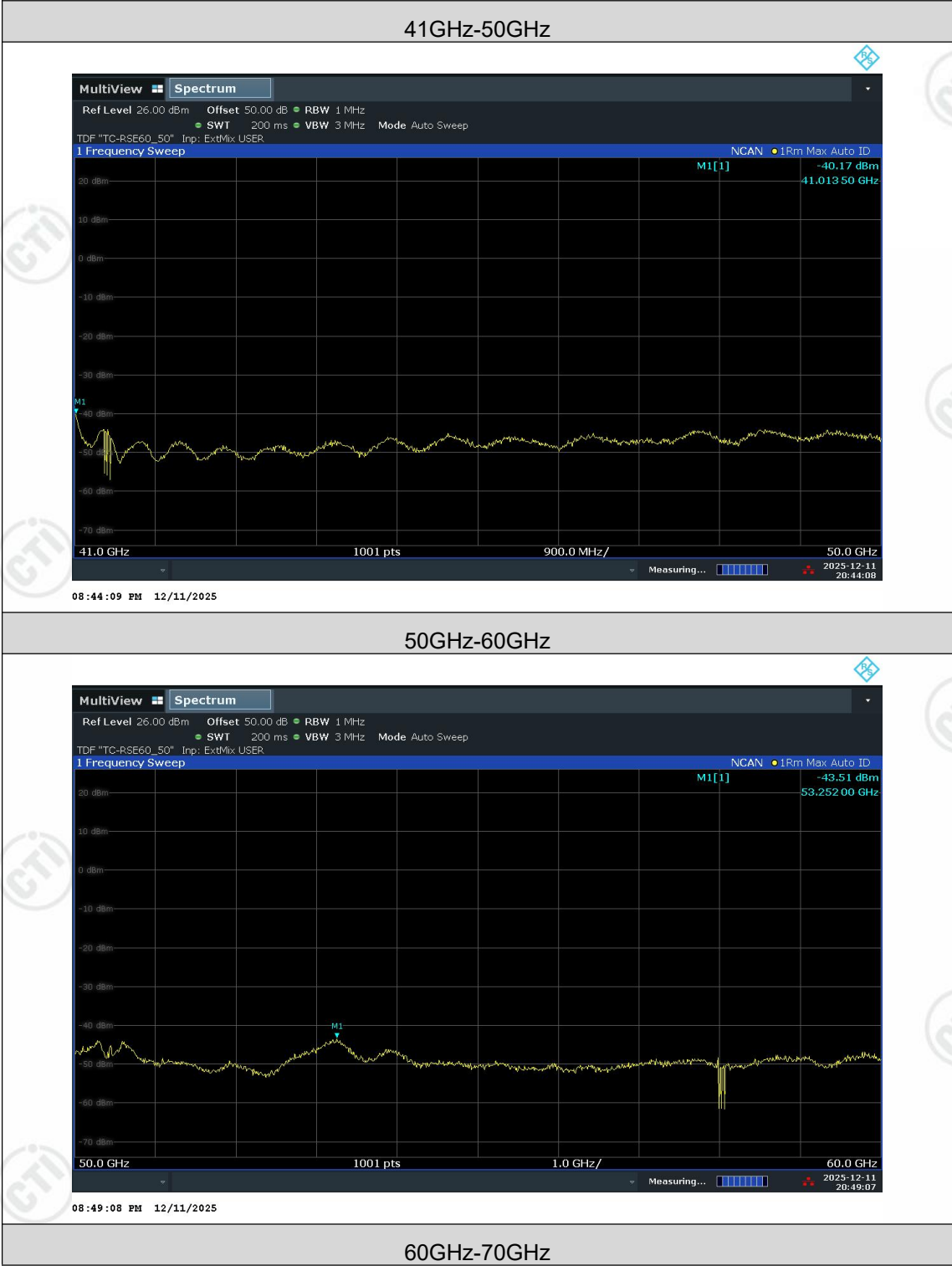
Test data:

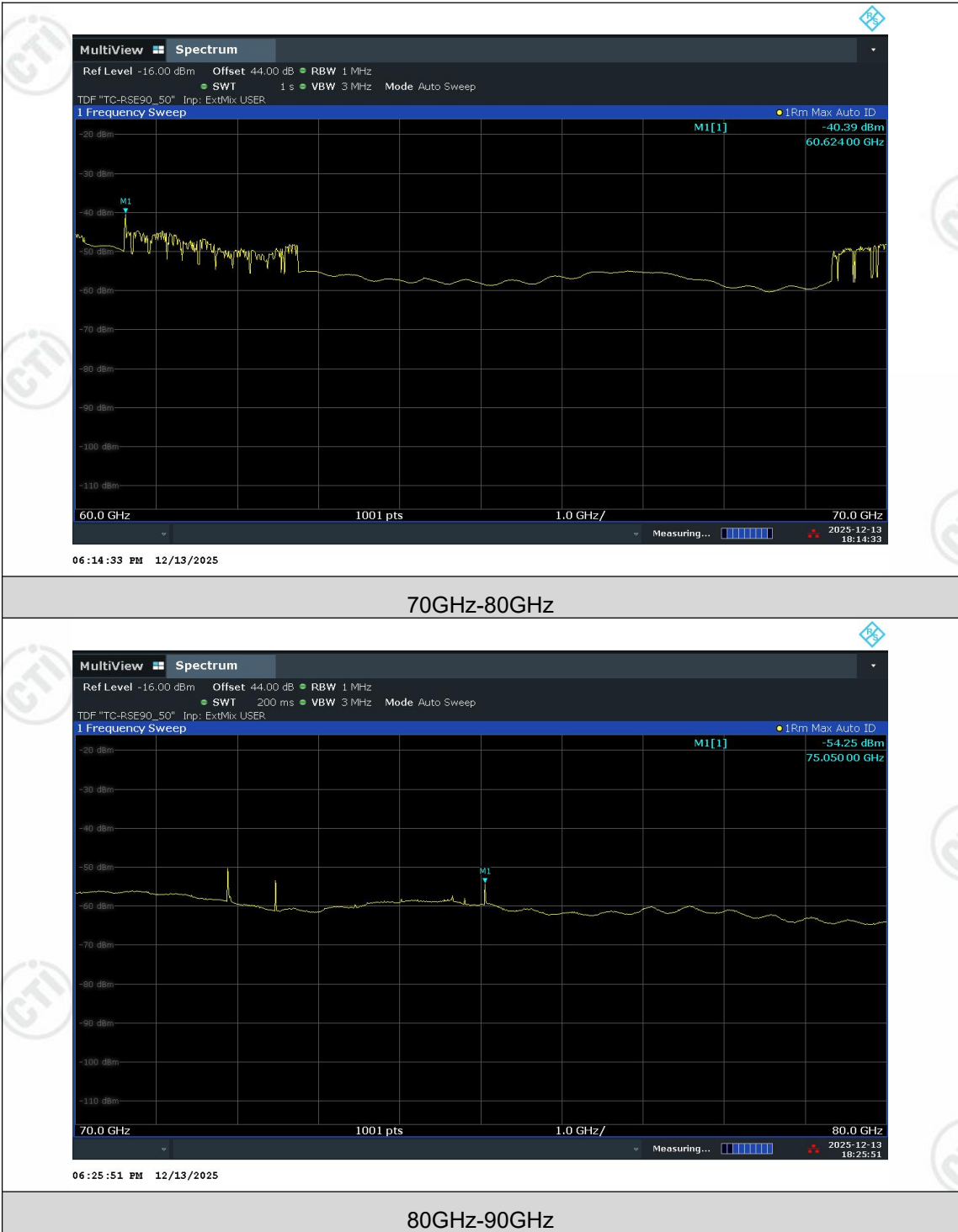
Test Frequency (GHz)	EIRP/1MHz (dBm)	Power density(pW/cm ²) @3m distance	Limit of Power density(pW/cm ²) @3m distance	Result
41.01350	-40.17	0.0850	≤90	Pass
53.25200	-43.51	0.0394	≤90	Pass
60.62400	-40.39	0.0808	≤90	Pass
75.05000	-54.25	0.0033	≤90	Pass
89.29600	-53.54	0.0039	≤90	Pass
99.39600	-42.29	0.0522	≤90	Pass
105.79900	-40.21	0.0842	≤90	Pass
114.20100	-44.13	0.0342	≤90	Pass
121.66300	-45.46	0.0252	≤90	Pass
138.39700	-65.04	0.0003	≤90	Pass
144.34100	-46.87	0.0182	≤90	Pass
152.96200	-48.36	0.0129	≤90	Pass
168.62600	-48.6	0.0122	≤90	Pass
173.51100	-48.07	0.0138	≤90	Pass
189.03600	-52.98	0.0045	≤90	Pass
199.69500	-51.09	0.0069	≤90	Pass

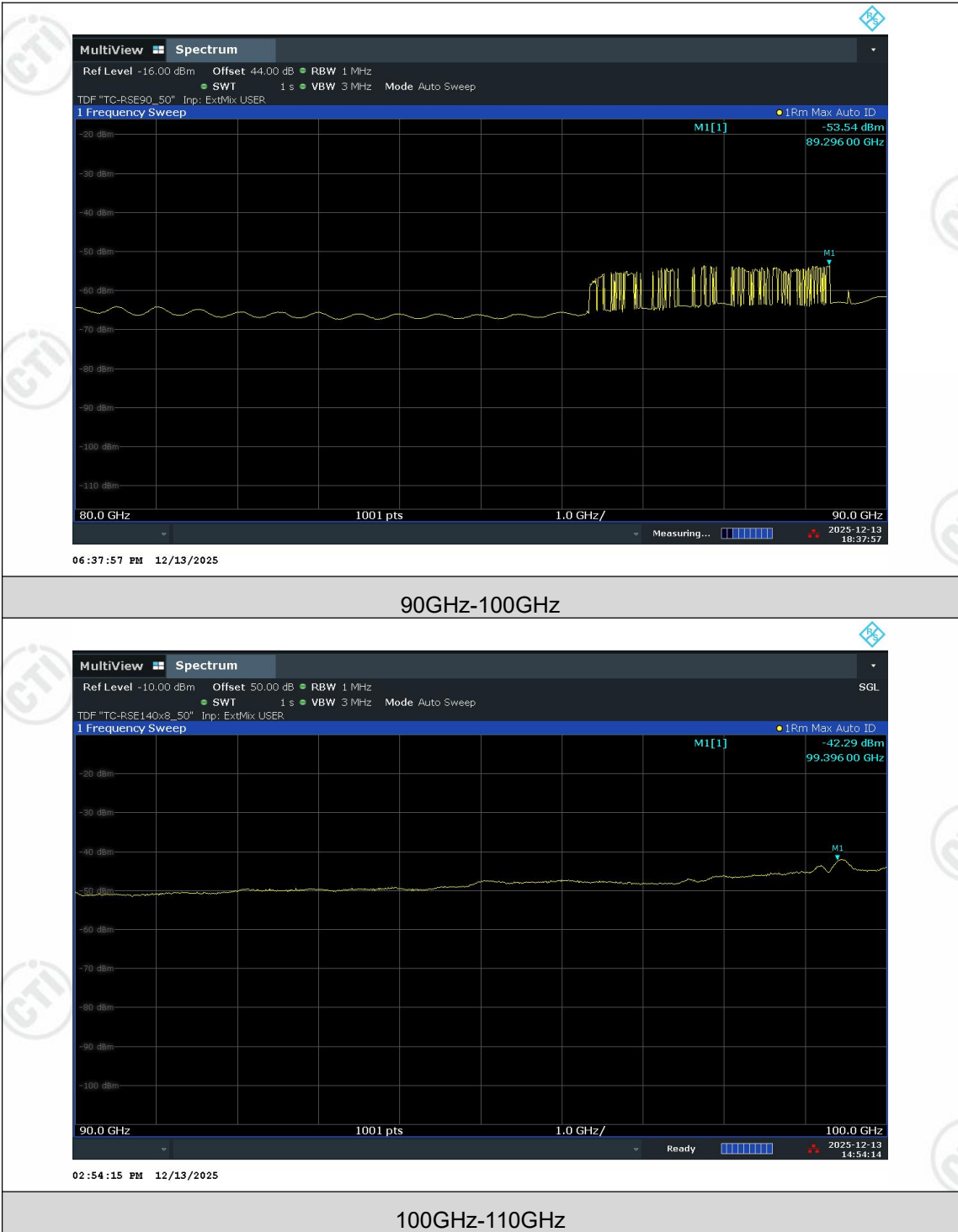
Note:

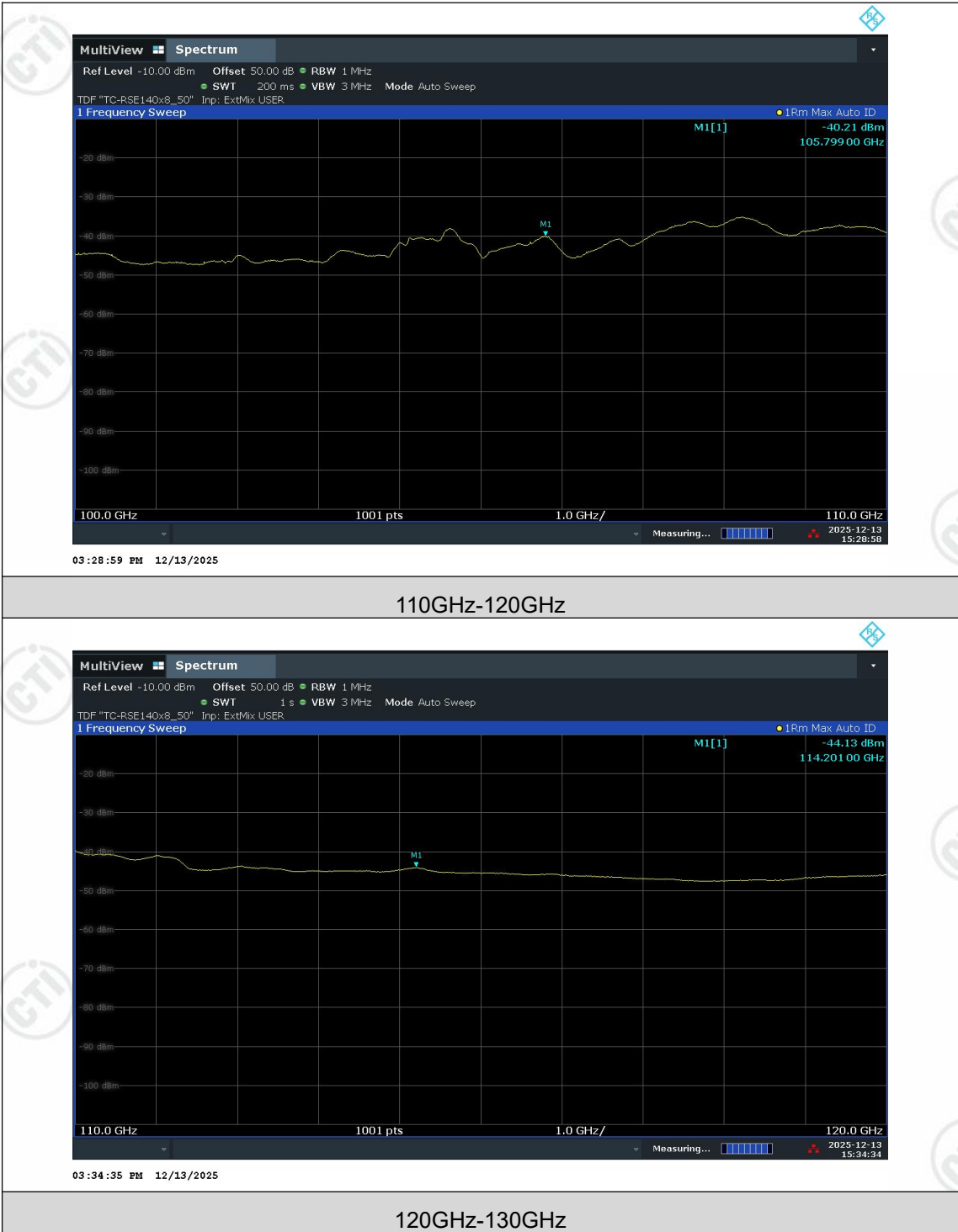
- ① EIRP(dBm/MHz) has added free space loss of 1.0m distance.
- ② Only the worst case data of horizontal was recorded in the report.
- ③ $\text{Power density(pW/cm}^2\text{)} = 10^{\text{EIRP/1MHz(dBm)} + 10} \div [4 * \pi * (3\text{m} * 100)^2]$;

Test graph:

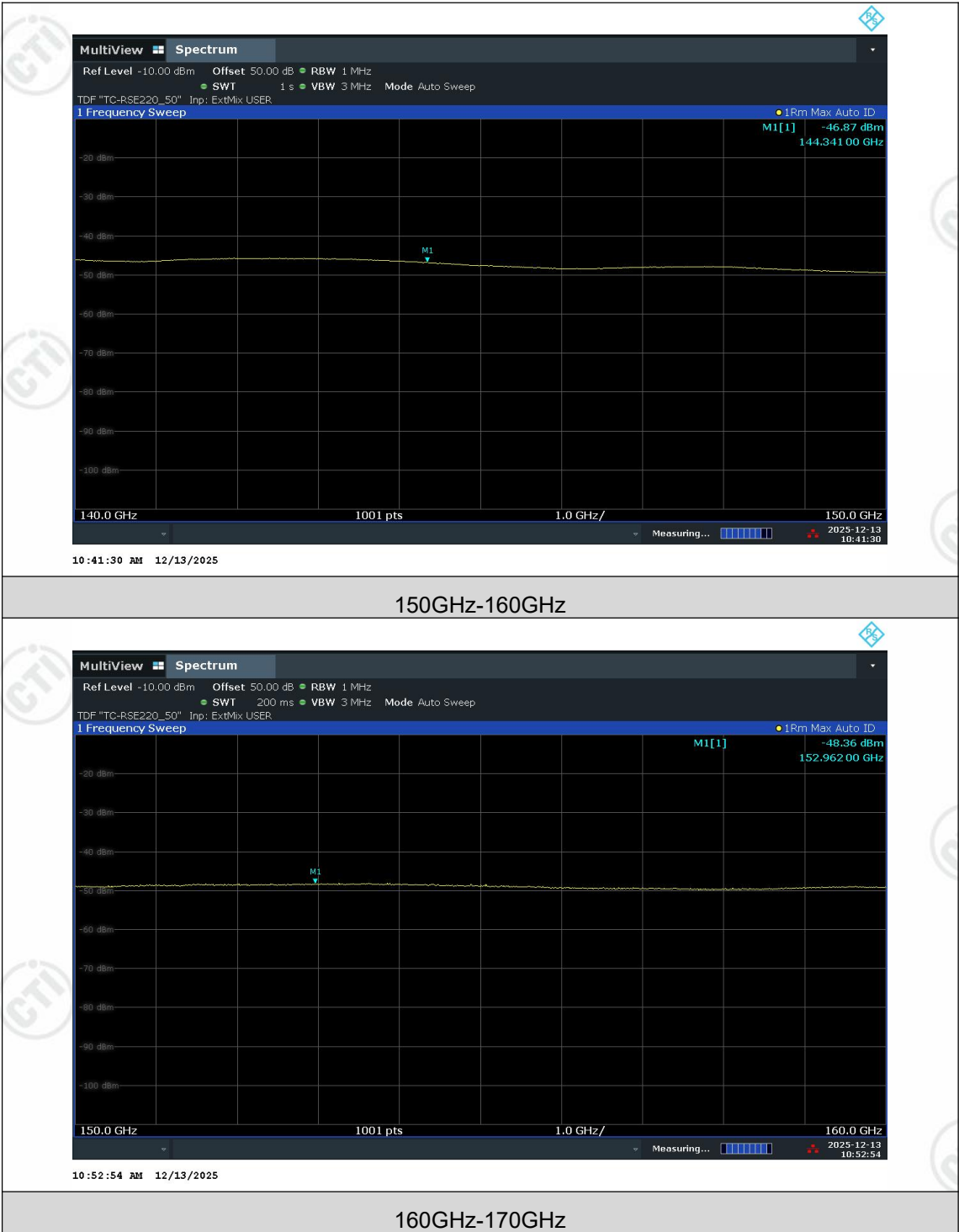


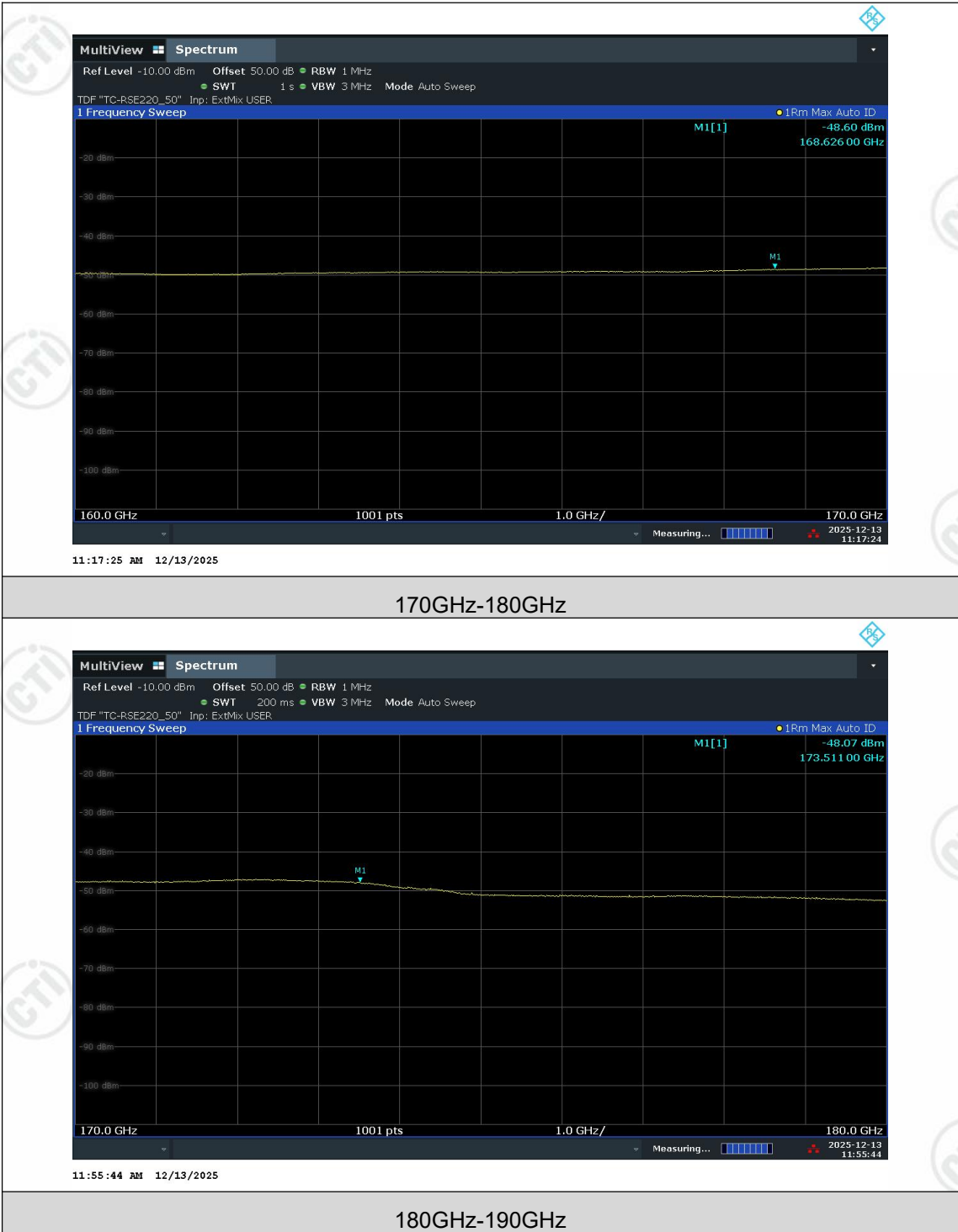






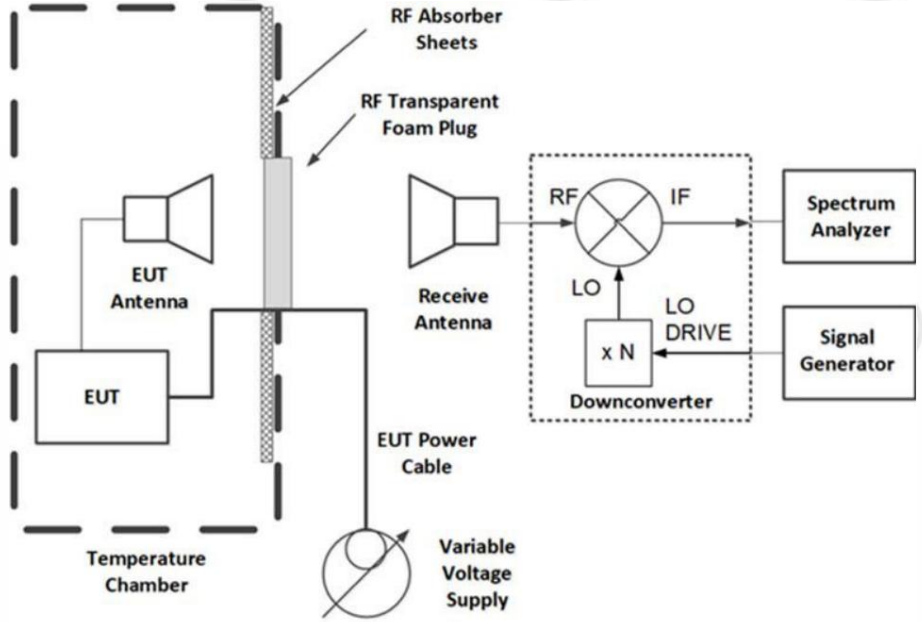








5.8 Frequency stability

Test Requirement:	47 CFR FCC Part 15C §15.255(f)
Test Method:	ANSI C63.10-2020 Section 9.5
Limit:	Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation.
Test Setup:	 Figure 23—Example of a frequency stability setup configuration
Test Procedure:	The carrier frequency of the transmitter is measured at room temperature. (20°C to provide a reference) At 10°C intervals of temperatures between -30°C and +50°C at the manufacturer's rated supply voltage, and At +20°C temperature and ±15% supply voltage variations. If a product is specified to operate over a range of input voltage then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage. Measurement data showing variation in transmitter output frequency from a cold start and the elapsed time necessary for the frequency to stabilize within the applicable tolerance. Tests shall be made after temperature stabilization at each of the ambient temperature levels; the lower temperature limit, 0°C and + 30°C with no primary power applied. Beginning at each temperature level , the frequency shall be measured within one minute after application of primary power to the transmitter and at intervals of no more than one minute thereafter until ten minutes have elapsed or until sufficient measurements are obtained to indicate clearly that the frequency has stabilized within the applicable tolerance, whichever time period is greater. During each test, the ambient temperature shall not be allowed to rise more than 10°C above the respective beginning ambient temperature level.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

Voltage (%)	Power (V/DC)	Temperature (°C)	Frequency Left (GHz)	Frequency Right (GHz)	Limit (GHz)	Result
100	3.850	-30	58.027977	60.113670	57 to 71	Pass
		-20	58.047293	60.121846	57 to 71	Pass
		-10	58.015690	60.138593	57 to 71	Pass
		0	58.045865	60.112021	57 to 71	Pass
		+10	58.046151	60.122834	57 to 71	Pass
		+20	58.043243	60.153109	57 to 71	Pass
		+30	58.038996	60.153858	57 to 71	Pass
		+40	58.015192	60.112850	57 to 71	Pass
		+50	58.009446	60.155688	57 to 71	Pass
		+60	58.057277	60.138343	57 to 71	Pass
		+70	58.034369	60.155906	57 to 71	Pass
115	4.235	+20	58.042342	60.139461	57 to 71	Pass
85	3.465	+20	58.039184	60.153248	57 to 71	Pass

Note:The extreme voltage and extreme temperature is specified by the manufacturer.

6 PHOTOGRAPHS

Refer to Appendix Photographs of Report No. ED32R82302601.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated,the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
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*** End of Report ***