TEST REPORT

Product	:	77GHz Multi Mode Radar
Trade mark	:	FURUKAWA
Model/Type reference	:	77GMMR30
Serial Number	:	N/A
Report Number	:	EED32S80523401
FCC ID	:	2AHE9-77GMMR30
Date of Issue	:	May 07, 2026
Test Standards	:	47 CFR Part 2 47 CFR Part 95 Subpart M
Test result	:	PASS

Prepared for:

FURUKAWA AUTOMOTIVE SYSTEMS INC.
1000 Amago, Koura-cho, Inukami-gun, 522-0242, Shiga, Japan

Prepared by:

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Check No.:8620170326

1 Content

1 CONTENT **2**

2 TEST SUMMARY **3**

3 GENERAL INFORMATION **4**

3.1 CLIENT INFORMATION 4
3.2 GENERAL DESCRIPTION OF EUT 4
3.3 TEST ENVIRONMENT 5
3.4 DESCRIPTION OF SUPPORT UNITS 5
3.5 TEST LOCATION 5
3.6 MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2) 6

4 EQUIPMENT LIST **7**

5 TEST RESULTS AND MEASUREMENT DATA **10**

5.1 EIRP(EFFECTIVE ISOTROPIC RADIATED POWER) 10
5.2 99% OCCUPIED BANDWIDTH 14
5.3 UNWANTED EMISSIONS 16
5.4 FREQUENCY STABILITY 40

6 PHOTOGRAPHS **42**

2 Test Summary

Test Item	Test Requirement	Result
EIRP (Effective Isotropic Radiated Power)	47 CFR Part 95, Subpart M Section 95.3367 47 CFR Part 2, Subpart J Section 2.1046	PASS
99% Occupied Bandwidth	47 CFR Part 2, Subpart J Section 2.1049	PASS
Unwanted emissions	47 CFR Part 95, Subpart M Section 95.3379 (a) 47 CFR Part 2, Subpart J Section 2.1053	PASS
Frequency stability	47 CFR Part 95, Subpart M Section 95.3379 (b) 47 CFR Part 2, Subpart J Section 2.1055	PASS
Remark: The product supports 4 antenna MIMO. All tests were in MIMO mode.		

3 General Information

3.1 Client Information

Applicant:	FURUKAWA AUTOMOTIVE SYSTEMS INC.
Address of Applicant:	1000 Amago, Koura-cho, Inukami-gun, 522-0242, Shiga, Japan
Manufacturer:	FURUKAWA AUTOMOTIVE SYSTEMS INC.
Address of Manufacturer:	1000 Amago, Koura-cho, Inukami-gun, 522-0242, Shiga, Japan
Factory:	FURUKAWA AUTOMOTIVE SYSTEMS INC.
Address of Factory:	20-16 Nobono-cho, Kameyama, Mie, Japan

3.2 General Description of EUT

Product Name:	77GHz Multi Mode Radar
Model No.:	77GMMR30
Trade mark:	FURUKAWA
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)
Operating Frequency	76GHz to 77GHz
Test Power Grade:	Default
Test Software of EUT:	N/A
Antenna Type:	Patch array Antenna
Antenna Gain:	ANT1: 9.5dBi ANT2: 10.5dBi ANT3: 10.5dBi ANT4: 11.5dBi
Power Supply:	DC 12V
Test Voltage:	DC 12V
Sample Received Date:	Mar. 17, 2026
Sample tested Date:	Mar. 30, 2026 to May 07, 2026

Remark:

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi

☒ (1)If transmit signals are correlated, then

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /N_{ANT}] dBi

[Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

Ant.1(dBi)	Ant.2(dBi)	Ant.3(dBi)	Ant.4(dBi)	DG(dBi)
9.5	10.5	10.5	11.5	16.55

☐ (2)If all transmit signals are completely uncorrelated, then

Directional gain = 10 log[$(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})$ /N_{ANT}] dBi

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 independently.

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)
		5.14dB (220GHz-325GHz)
4	Conduction emission	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)- 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
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	9163-618	05/14/2025	05/13/2026
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	03/29/2026	03/28/2027
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	03/31/2026	03/30/2027
Preamplifier	Agilent	11909A	12-1	02/06/2026	02/05/2027
Preamplifier	CD	PAP-1840-60	6041.6042	05/26/2025	05/25/2026
Spectrum Analyzer	R&S	FSW43	102978	08/11/2025	08/10/2026
Receive unit	R&S	TC-RSE60	100729	N/A	N/A
Receive unit	R&S	TC-RSE90	100721	N/A	N/A
Receive unit	R&S	TC-RSE140	101254	N/A	N/A
Receive unit	R&S	TC-RSE220	100716	N/A	N/A
Receive unit	R&S	TC-RSE325	100638	N/A	N/A

Note:
N/A:Calibrated by the equipment manufacturer.

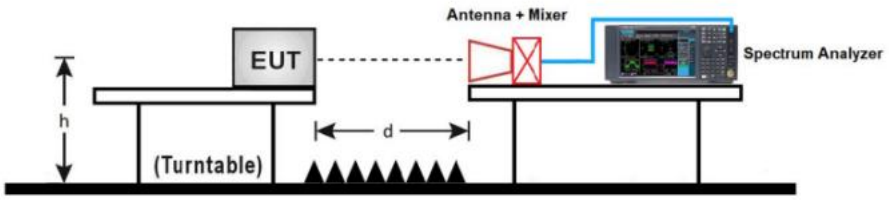
3M full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Fully Anechoic Chamber	TDK	FAC-3	---	01-29-2024	01-28-2027
Receiver	Keysight	N9038A	MY57290136	12-22-2025	12-21-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	12-21-2025	12-20-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	12-21-2025	12-20-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-12-2025 03-29-2026	04-11-2026 03-28-2027
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-12-2025 04-03-2026	04-11-2026 04-02-2027
Horn Antenna	ETS-LINDGREN	3117	57407	06-29-2025	06-28-2026
Preamplifier	EMCI	EMC001330	980563	02-06-2026	02-05-2027
Preamplifier	EMCI	EMC051845SE	980380	11-25-2025	11-24-2026
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-07-2025	07-06-2026
Communication test set	R&S	CMW500	104466	11-25-2025	11-24-2026
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	03-31-2025 03-24-2026	03-30-2026 03-23-2027
RSE Automatic test software	JS Tonscend	JS36-RSE	V5.0.0.1	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-29-2024	01-28-2027
Cable line	Times	EMC104-NMNM-1000	SN160710	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-29-2024	01-28-2027
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-29-2024	01-28-2027

Spectrum Analyzer	R&S	FSW43	102978	08/11/2025	08/10/2026
Receive unit	R&S	TC-RSE60	100729	N/A	N/A
Receive unit	R&S	TC-RSE90	100721	N/A	N/A
Receive unit	R&S	TC-RSE140	101254	N/A	N/A
Receive unit	R&S	TC-RSE220	100716	N/A	N/A
Receive unit	R&S	TC-RSE325	100638	N/A	N/A

Note:
N/A:Calibrated by the equipment manufacturer.

5 Test results and Measurement Data

5.1 EIRP(Effective Isotropic Radiated Power)

Test Requirement:	47 CFR Part 95, Subpart M Section 95.3367, KDB 653005 D01 76-81 GHz Radars v01r01 Section 4 a),b),c)
Test Method:	ANSI C63.26:2015 Section 5.2
Limit:	Peak EIRP ≤55dBm/MHz; Average EIRP ≤50dBm/MHz;
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)	Polarity	EIRP (dBm/MHz)	FMCW Chirps Correction Factor (dB)	Corrected EIRP (dBm/MHz)	EIRP Limit (dBm/MHz)	Result	Remark
76.45	1.0	Horizontal	21.64	12.05	33.69	≤55.0	Pass	Peak
		Vertical	21.55	12.05	33.60	≤55.0	Pass	Peak
		Horizontal	19.12	12.05	31.17	≤50.0	Pass	AVG
		Vertical	19.36	12.05	31.41	≤50.0	Pass	AVG

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

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

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

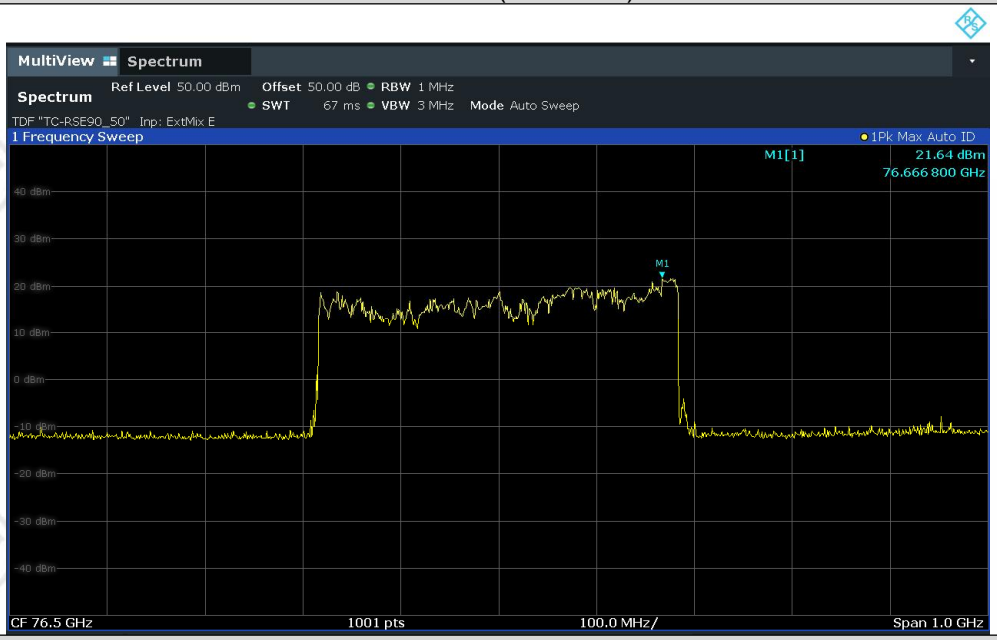
Sample calculation for FMCW chirps correction factor:

$$CF_{chirp}=5*\log_{10}(1+0.1947*(726MHz/(20\mu s*1MHz^2))^2=12.05dB$$

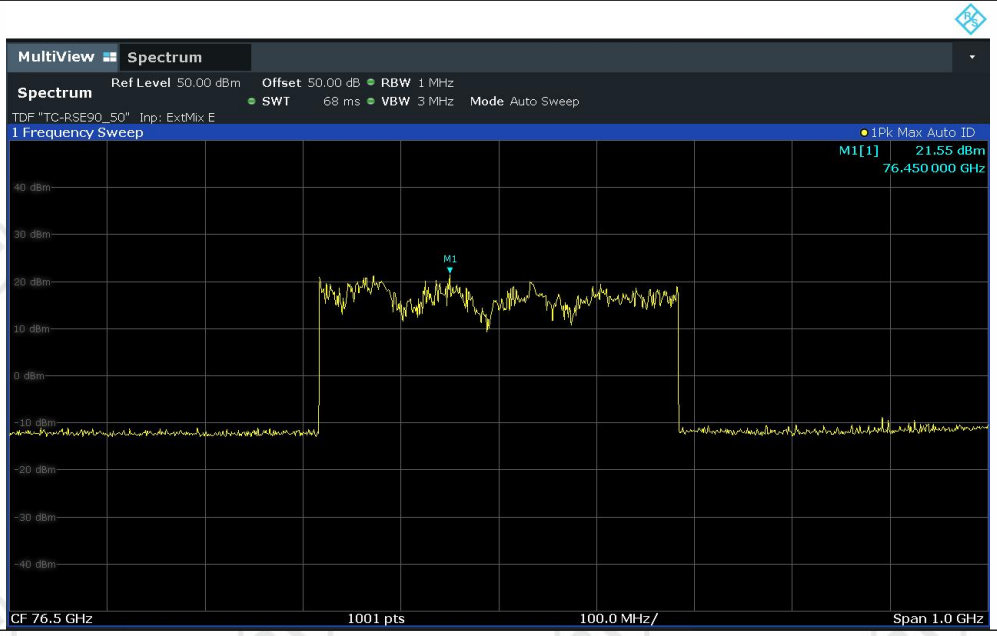
Note:Span is the measured maximum occupied bandwidth,refer to the section of 6.2,t claimed by the customer.
④Guidance for calculating the correction factor is from Application Note 1EF107-1E Rohde & Schwarz Peak and Mean Power measurements on wideband FMCW radar signals.
⑤Corrected EIRP(dBm/MHz)=EIRP(dBm/MHz)+FMCW Chirps Correction Factor(dB).
⑥Only the worst case data was recorded in the report.

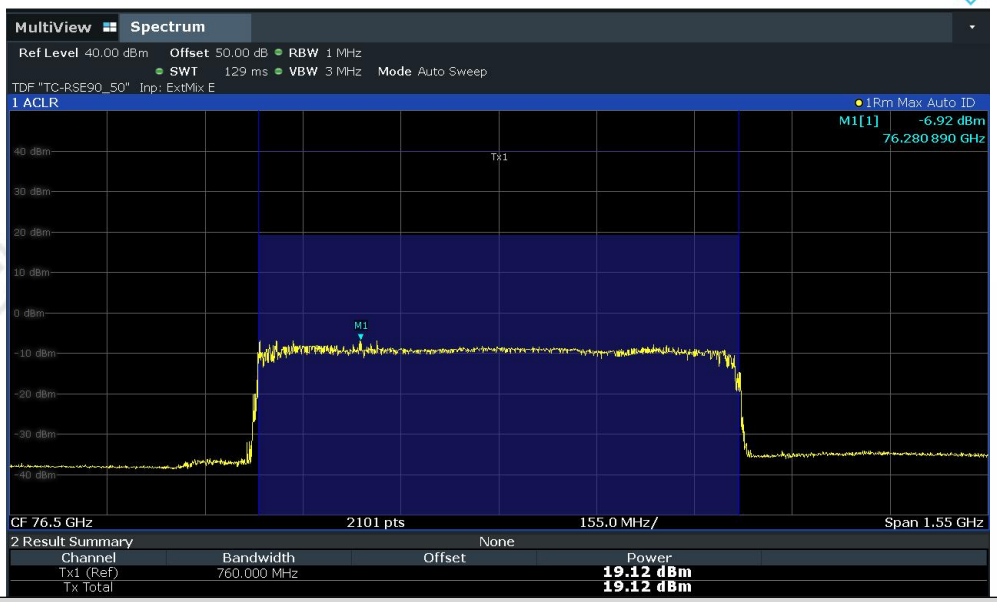
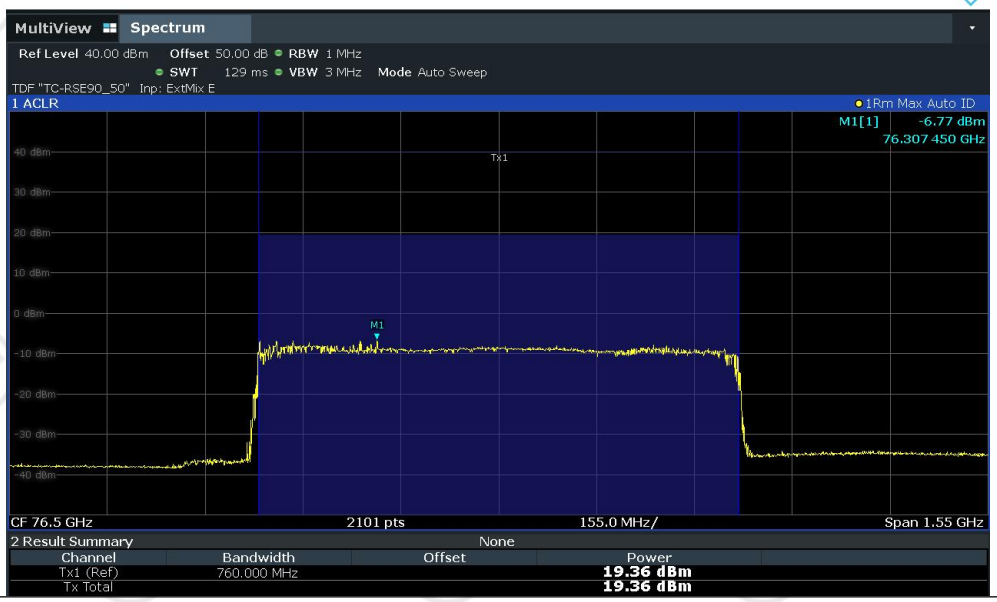
Test graph:

Peak EIRP (Horizontal)

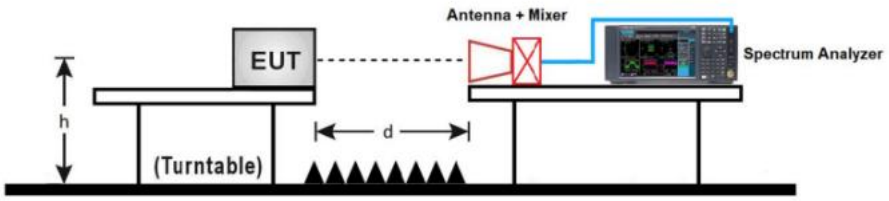


Peak EIRP (Vertical)



Average EIRP (Horizontal)

Average EIRP (Vertical)


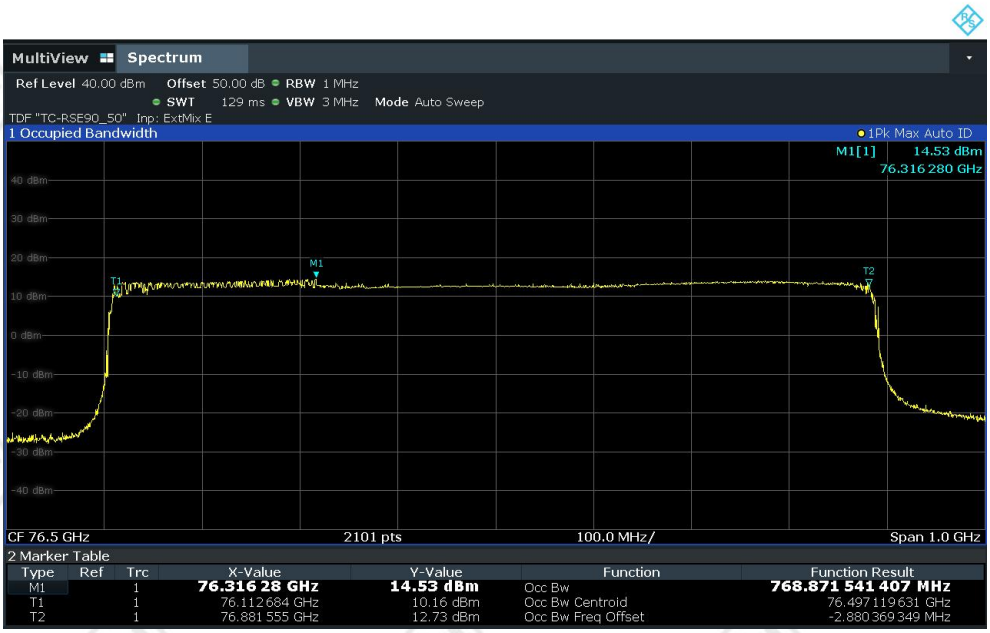
5.2 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 2, Subpart J Section 2.1049
Test Method:	ANSI C63.26:2015 Section 5.4
Limit:	Within the designated 76~81GHz frequency band
Test Setup:	 h=1.5m,d=1.0m
Test Procedure:	1.The signal analyzer`s automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediatepower nulls in the fundamental emission. 2.Span equal to approximately 1.5 times the OBW, centered on the carrier frequency. 3.RBW, prefer 1% to 5% of OBW, or a minimum of 1MHz if this is not possible due to a large OBW. 4.VBW approximately 3*RBW. 5.Detector = Peak. 6.Trance mode = Max hold. 7.Sweep = Auto couple. 8.The trace was allowed to stabilize. 9.If necessary, step 2~6 were repeated after changing the RBW such that it would be within 1%~5 % of the 99% occupied bandwidth observed in step 6. Note: The RBW and VBW were setting up to the limitations of the test equipment.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

99% emission bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
768.871	76.112684	76.881555	76 to 81	Pass

Test graph:

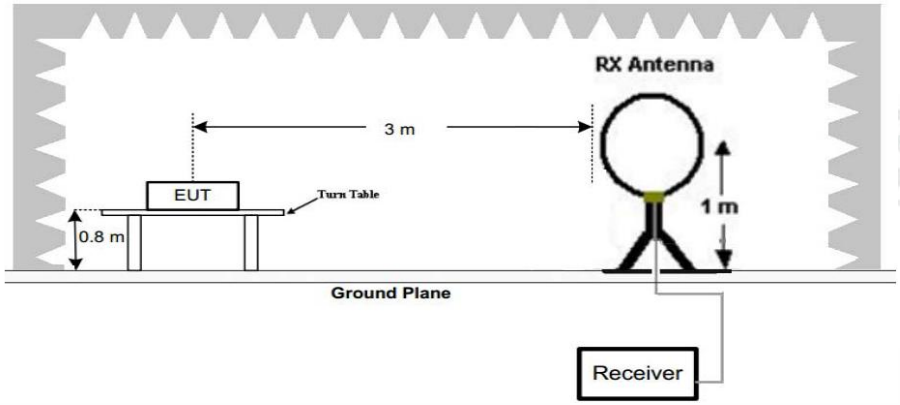
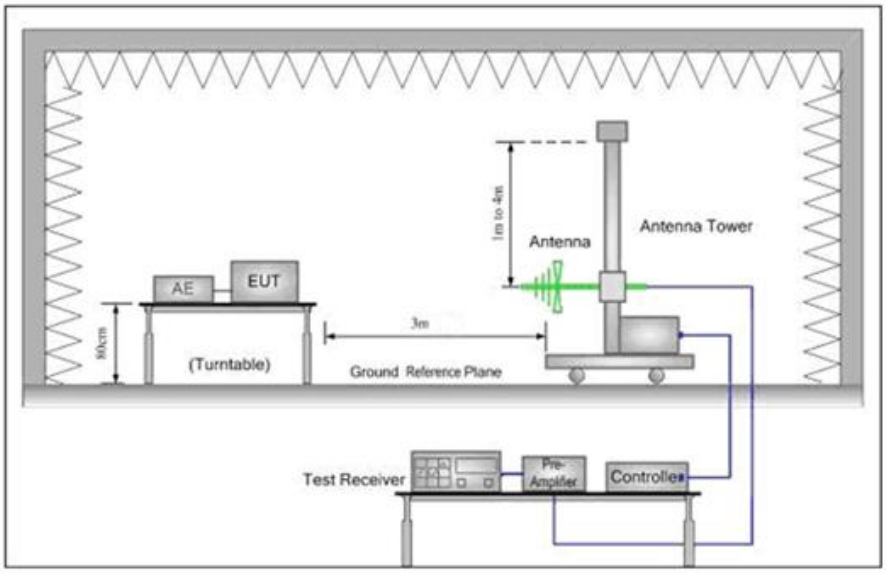


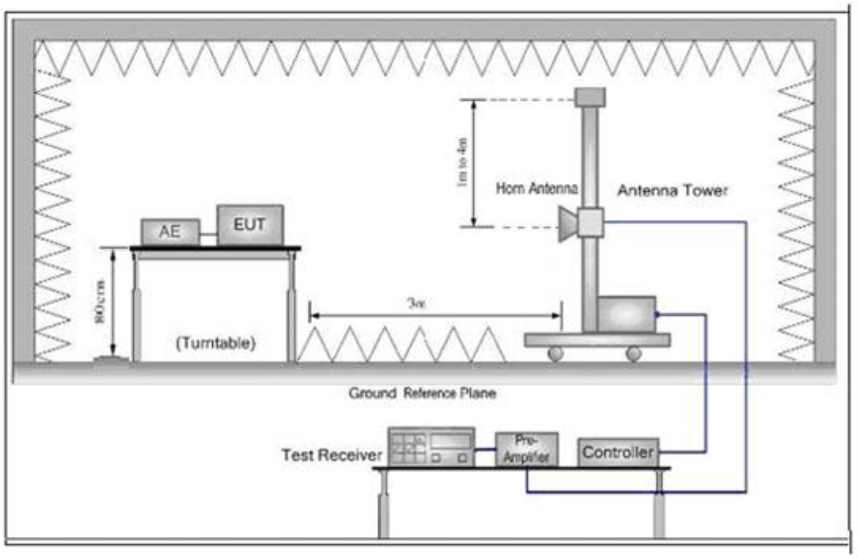
5.3 Unwanted emissions

Test Requirement:	47 CFR Part 95, Subpart M Section 95.3379 (a), KDB 653005 D01 76-81 GHz Radars v01r01 Section 4 e)
Test Method:	ANSI C63.26:2015 Section 5.5
Limit:	The power density of any emissions outside the 76GHz-81GHz band shall consist solely of spurious emissions and shall not exceed the following: (1) Radiated emissions below 40GHz shall not exceed the field strength as shown in the following emissions table.

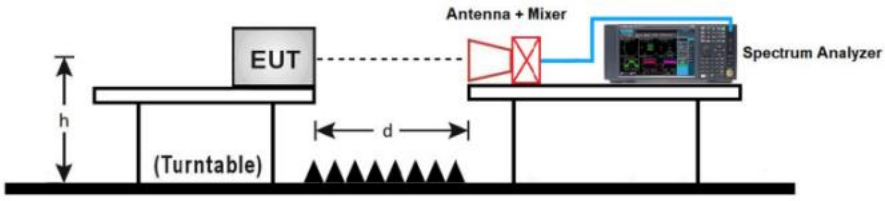
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

(i) The tighter limit applies at the band edges.
(ii) The limits in the table are based on the frequency of the unwanted emissions and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
(iii) The emissions limits shown in the table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90kHz,110kHz-490kHz,and above 1000MHz.Radiated emissions limits in these three bands are based on measurements employing an average detector with a 1MHz RBW.
(2) The power density of radiated emissions outside the 76GHz-81GHz band above 40GHz shall not exceed the following,based on measurements employing an average detector with a 1MHz.
(i) For radiated emissions between 40GHz and 200GHz: 600pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.
(ii) For radiated emissions above 200GHz: 1000pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.
(3) For field disturbance sensors and radar systems operating in the 76GHz-81GHz band, the spectrum shall be investigated up to 231GHz (preferably 243GHz). .

Test Setup:	Below 30MHz:  30MHz-1GHz:  1GHz-41GHz:



Above 41GHz:



h=1.5m,d=1.0m

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.

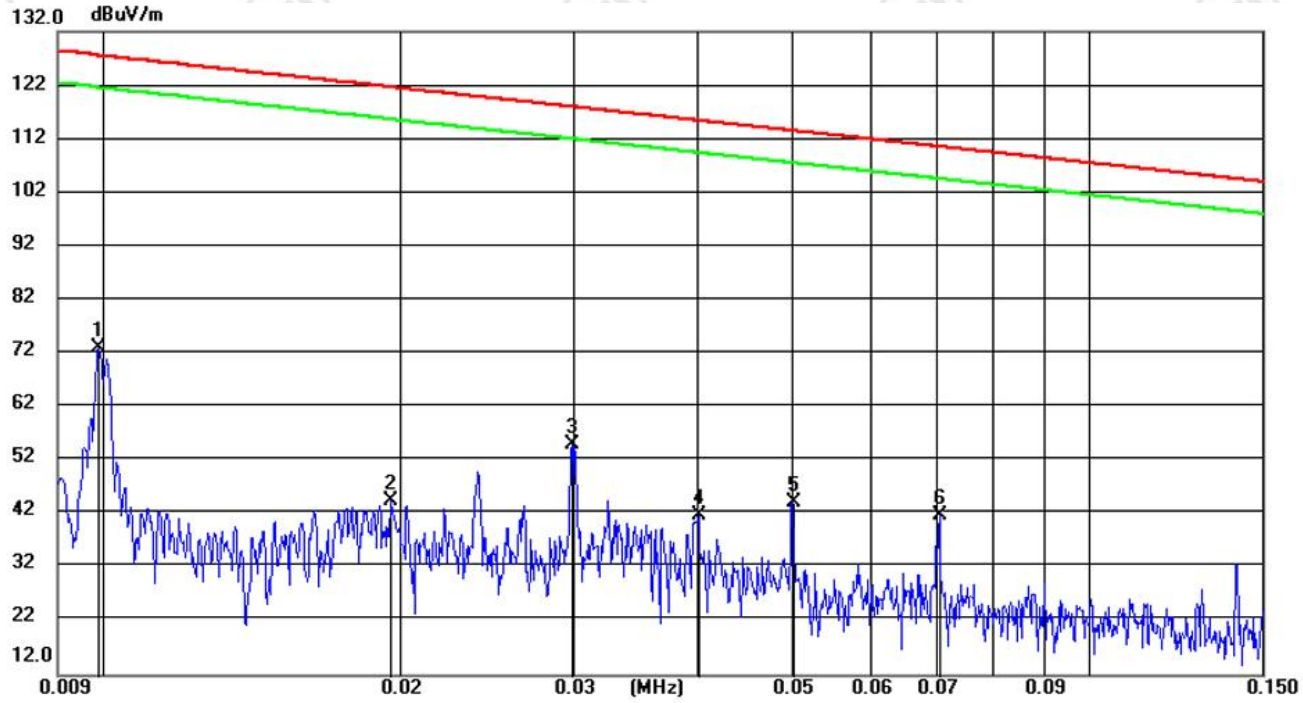
	The measurement frequency range form 9kHz - 231GHz was investigated (preferably 243GHz).
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Radiated Spurious Emission below 30MHz:

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

9 KHz~150 KHz:

X:



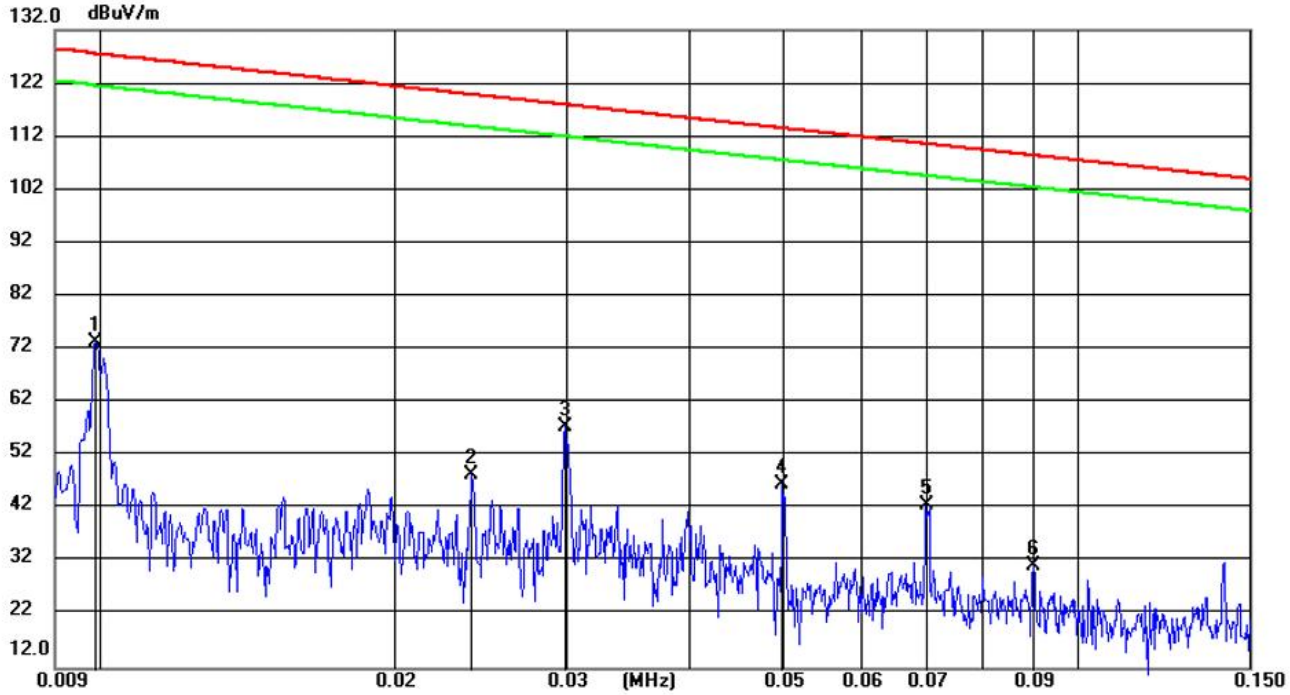
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	0.0099	52.59	20.43	73.02	127.48	-54.46	QP			
2		0.0196	24.13	20.49	44.62	121.59	-76.97	QP			
3		0.0299	34.51	20.55	55.06	117.94	-62.88	QP			
4		0.0401	21.17	20.62	41.79	115.41	-73.62	QP			
5		0.0501	23.64	20.68	44.32	113.49	-69.17	QP			
6		0.0706	21.29	20.59	41.88	110.52	-68.64	QP			

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Y:



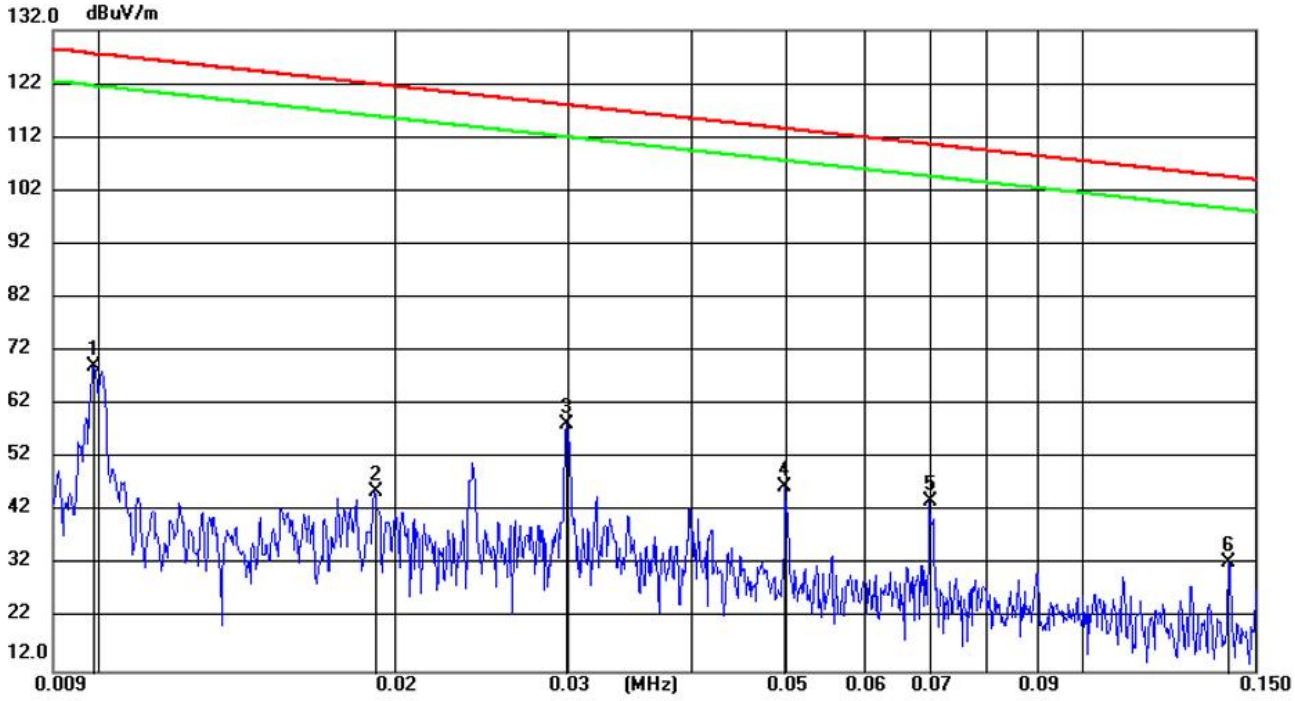
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	0.0099	52.99	20.43	73.42	127.48	-54.06	QP			
2		0.0240	28.07	20.51	48.58	119.84	-71.26	QP			
3		0.0299	37.05	20.55	57.60	117.94	-60.34	QP			
4		0.0499	25.95	20.68	46.63	113.52	-66.89	QP			
5		0.0700	22.07	20.59	42.66	110.60	-67.94	QP			
6		0.0901	10.67	20.54	31.21	108.42	-77.21	QP			

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Z:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	0.0099	48.87	20.43	69.30	127.58	-58.28	QP			
2		0.0191	25.29	20.48	45.77	121.89	-76.12	QP			
3		0.0299	37.83	20.55	58.38	118.01	-59.63	QP			
4		0.0499	25.88	20.68	46.56	113.58	-67.02	QP			
5		0.0700	23.22	20.59	43.81	110.65	-66.84	QP			
6		0.1409	12.14	20.28	32.42	104.59	-72.17	QP			

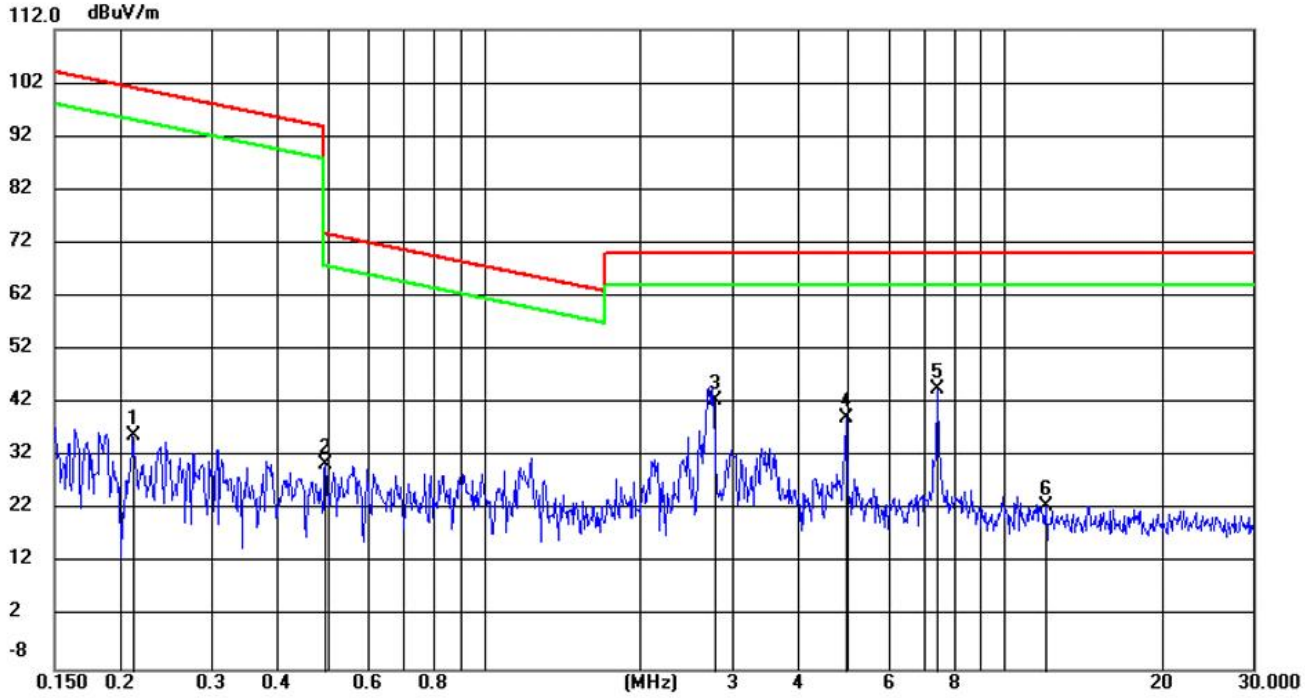
Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

150 KHz~30 MHz:

X:



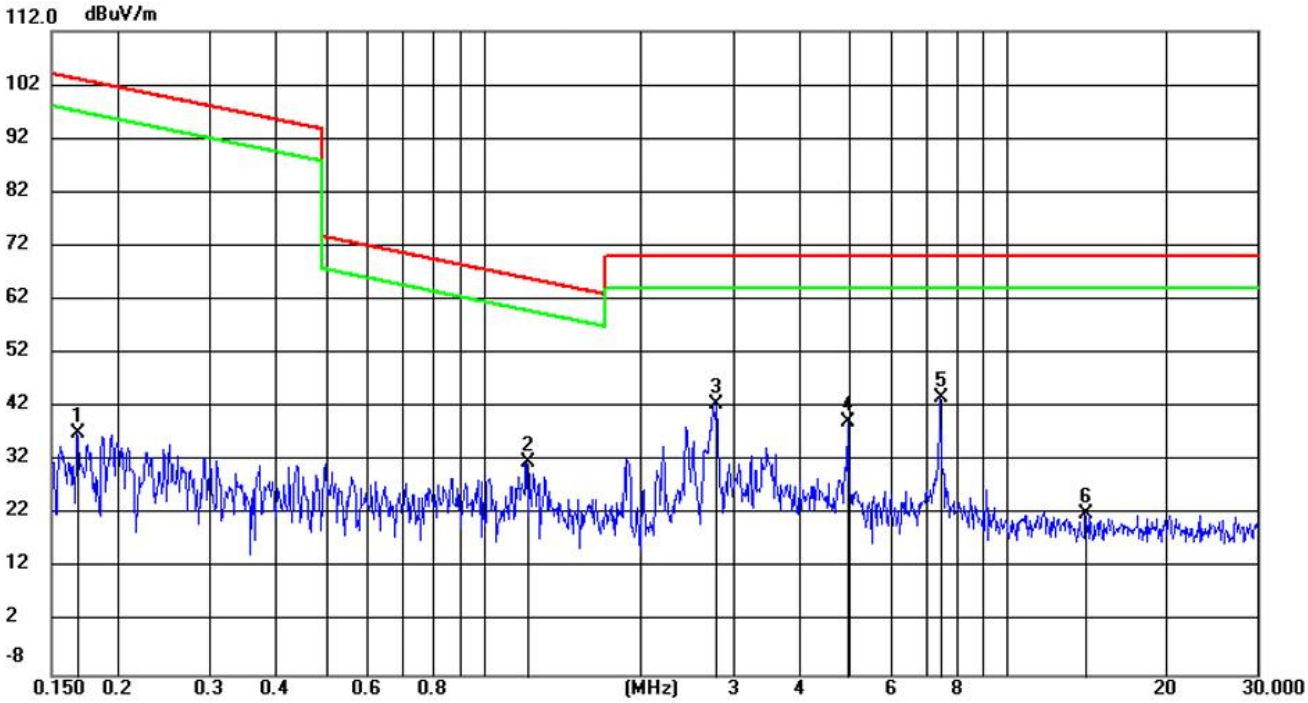
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.2117	15.64	20.23	35.87	101.07	-65.20	QP			
2		0.4967	10.79	19.81	30.60	73.68	-43.08	QP			
3		2.7648	22.79	19.66	42.45	70.00	-27.55	QP			
4		4.9519	19.67	19.62	39.29	70.00	-30.71	QP			
5	*	7.4071	24.81	19.72	44.53	70.00	-25.47	QP			
6		11.9961	3.23	19.59	22.82	70.00	-47.18	QP			

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Y:



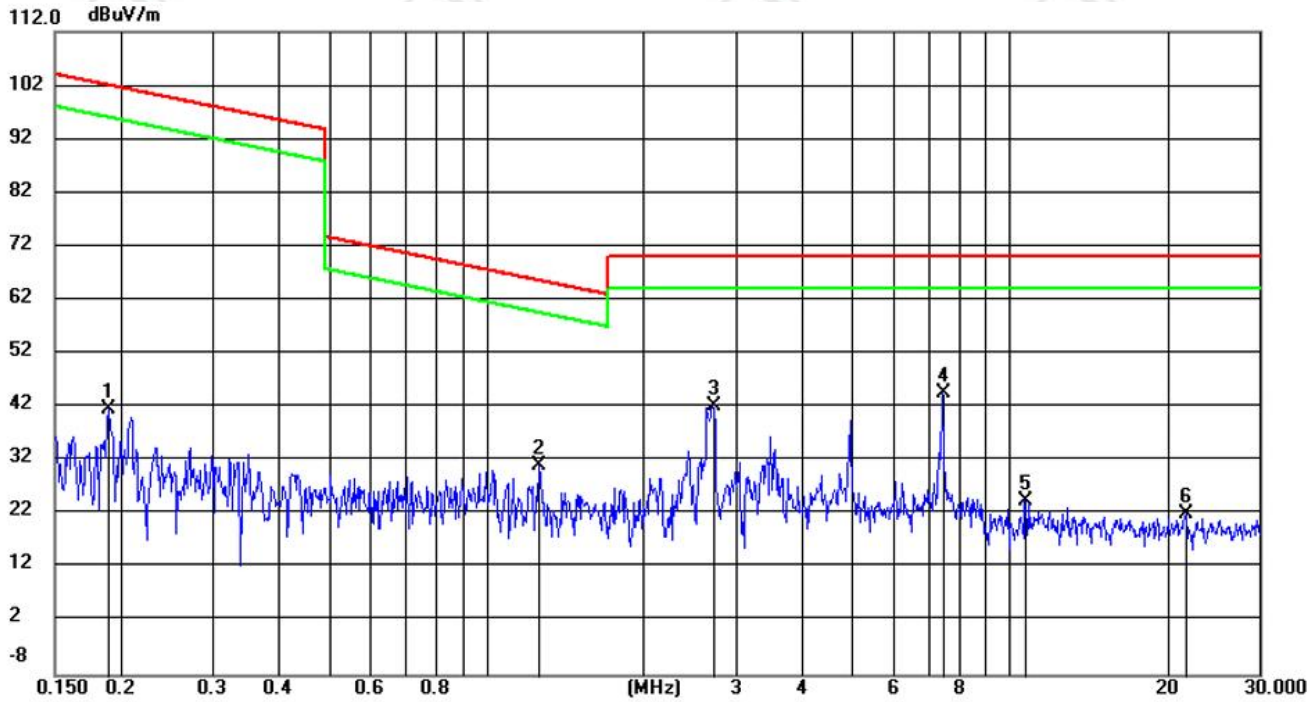
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.1677	16.97	20.17	37.14	103.06	-65.92	QP			
2		1.2098	11.85	19.77	31.62	65.97	-34.35	QP			
3		2.7794	22.82	19.66	42.48	70.00	-27.52	QP			
4		4.9519	19.53	19.62	39.15	70.00	-30.85	QP			
5	*	7.4465	24.01	19.72	43.73	70.00	-26.27	QP			
6		14.0629	2.78	19.44	22.22	70.00	-47.78	QP			

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Z:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		0.1894	21.32	20.21	41.53	102.03	-60.50	QP			
2		1.2621	11.36	19.77	31.13	65.61	-34.48	QP			
3		2.7068	22.55	19.66	42.21	70.00	-27.79	QP			
4	*	7.4465	24.91	19.72	44.63	70.00	-25.37	QP			
5		10.6763	4.87	19.65	24.52	70.00	-45.48	QP			
6		21.7149	2.49	19.77	22.26	70.00	-47.74	QP			

Note:

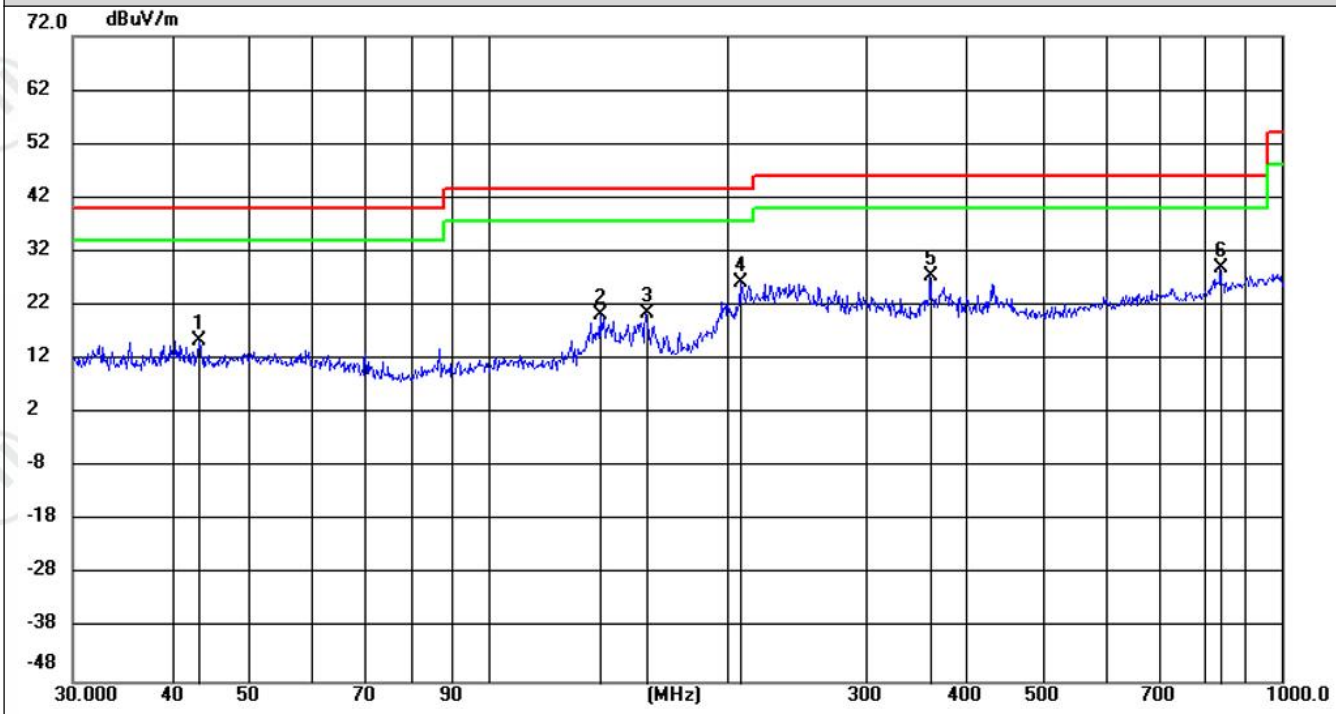
①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Radiated Spurious Emission 30MHz-1GHz:

Test data:

Polarization: Horizontal



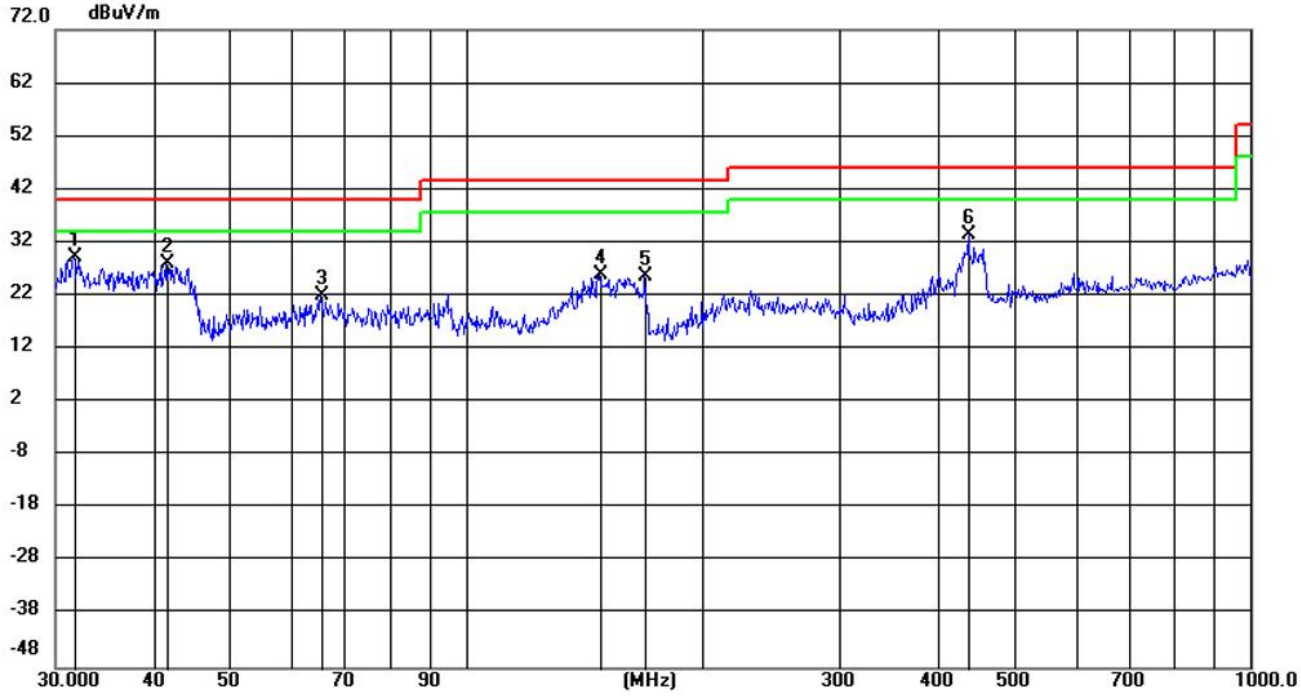
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		43.3534	1.93	13.66	15.59	40.00	-24.41	QP	100	23	
2		138.8734	9.90	10.42	20.32	43.50	-23.18	QP	100	92	
3		158.4453	10.05	10.53	20.58	43.50	-22.92	QP	100	101	
4		207.8501	13.28	12.84	26.12	43.50	-17.38	QP	100	66	
5		361.2702	9.17	18.28	27.45	46.00	-18.55	QP	100	196	
6	*	837.8585	3.23	25.68	28.91	46.00	-17.09	QP	100	266	

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	31.6812	16.55	12.59	29.14	40.00	-10.86	QP	100	114	
2		41.6619	14.60	13.39	27.99	40.00	-12.01	QP	100	0	
3		65.4923	10.01	12.14	22.15	40.00	-17.85	QP	100	283	
4		148.2589	15.82	10.27	26.09	43.50	-17.41	QP	100	106	
5		169.0350	14.52	11.00	25.52	43.50	-17.98	QP	100	141	
6		438.4248	13.64	19.79	33.43	46.00	-12.57	QP	100	159	

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

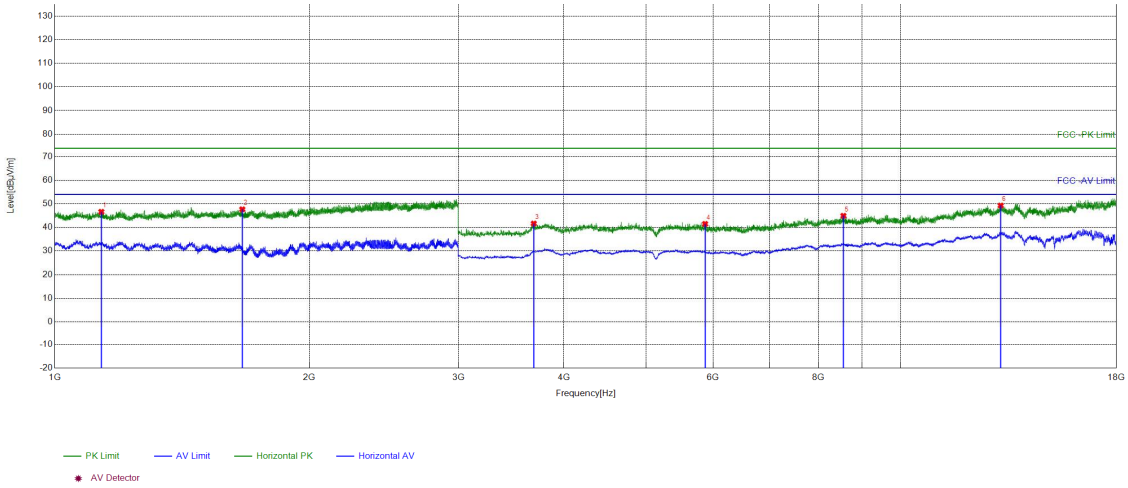
②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Radiated Spurious Emission 1GHz-18GHz:

Test data:

Test_Mode	TX	Test_Frequency	76.45GHZ
Remark:	/	Test_Date	2026/4/14

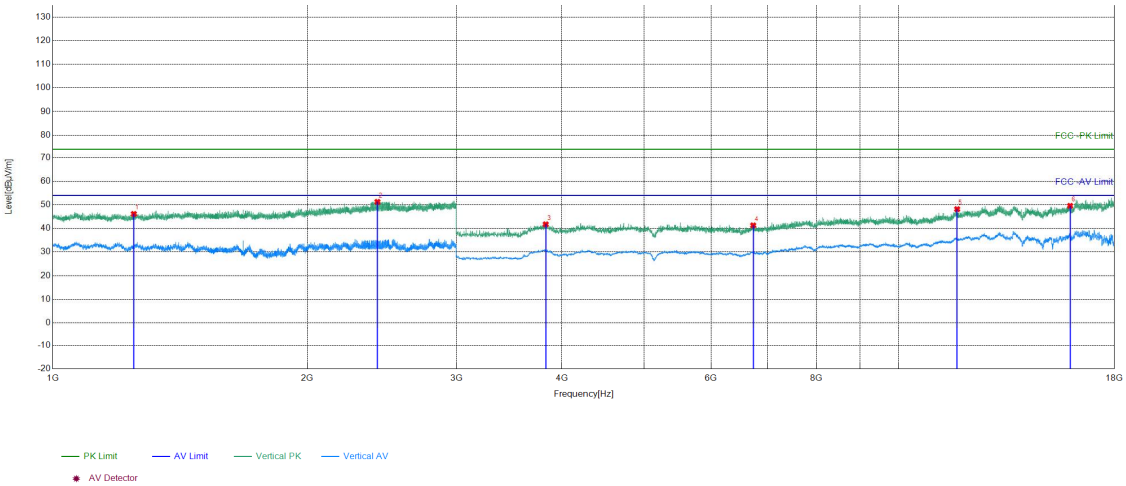
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	1135.0135	11.43	35.20	46.63	74.00	27.37	PASS	Horizon	PK
2	1666.0666	13.92	33.76	47.68	74.00	26.32	PASS	Horizon	PK
3	3684.0684	-12.81	54.47	41.66	74.00	32.34	PASS	Horizon	PK
4	5874.2874	-5.54	47.03	41.49	74.00	32.51	PASS	Horizon	PK
5	8559.556	-0.46	45.40	44.94	74.00	29.06	PASS	Horizon	PK
6	13135.0135	6.32	42.97	49.29	74.00	24.71	PASS	Horizon	PK

Test_Mode	TX	Test_Frequency	76.45GHZ
Remark:	/	Test_Date	2026/4/14

Test Graph



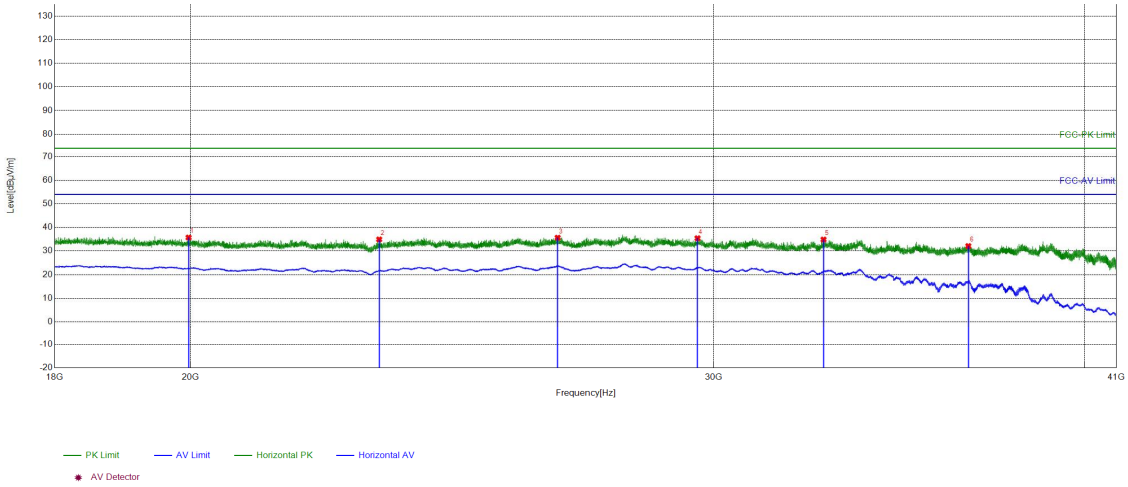
Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	1246.8247	11.61	34.54	46.15	74.00	27.85	PASS	Vertical	PK
2	2420.342	21.05	30.23	51.28	74.00	22.72	PASS	Vertical	PK
3	3826.5827	-12.25	54.00	41.75	74.00	32.25	PASS	Vertical	PK
4	6732.3732	-3.34	44.65	41.31	74.00	32.69	PASS	Vertical	PK
5	11730.8731	2.51	45.67	48.18	74.00	25.82	PASS	Vertical	PK
6	15955.2955	10.59	39.00	49.59	74.00	24.41	PASS	Vertical	PK

Radiated Spurious Emission 18GHz-41GHz:

Test data:

Test_Mode	TX	Test_Frequency	76.45GHZ
Remark:	/	Test_Date	2026/5/7

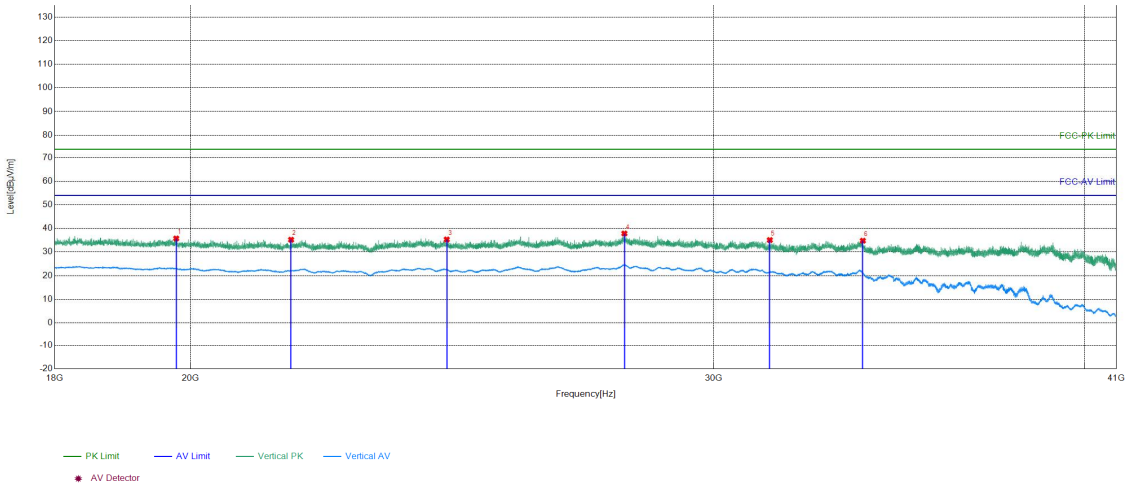
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	19967.9587	-24.72	60.45	35.73	74.00	38.27	PASS	Horizont	PK
2	23147.6059	-24.64	59.57	34.93	74.00	39.07	PASS	Horizont	PK
3	26583.9434	-21.11	56.76	35.65	74.00	38.35	PASS	Horizont	PK
4	29628.3451	-20.65	56.07	35.42	74.00	38.58	PASS	Horizont	PK
5	32669.9868	-18.86	53.74	34.88	74.00	39.12	PASS	Horizont	PK
6	36552.5421	-15.98	48.09	32.11	74.00	41.89	PASS	Horizont	PK

Test_Mode	TX	Test_Frequency	76.45GHZ
Remark:	/	Test_Date	2026/5/7

Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	19776.5911	-25.27	61.03	35.76	74.00	38.24	PASS	Vertical	PK
2	21619.4248	-25.72	60.94	35.22	74.00	38.78	PASS	Vertical	PK
3	24393.3357	-21.71	57.05	35.34	74.00	38.66	PASS	Vertical	PK
4	27995.2798	-21.20	59.05	37.85	74.00	36.15	PASS	Vertical	PK
5	31336.8535	-19.81	54.89	35.08	74.00	38.92	PASS	Vertical	PK
6	33681.1072	-17.52	52.33	34.81	74.00	39.19	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 600pW/cm^2 equivalent to an electric field strength of 93.57dBuV/m@3m.
   Only the worst case data was recorded in the report.

Radiated Spurious Emission 41GHz-243GHz:

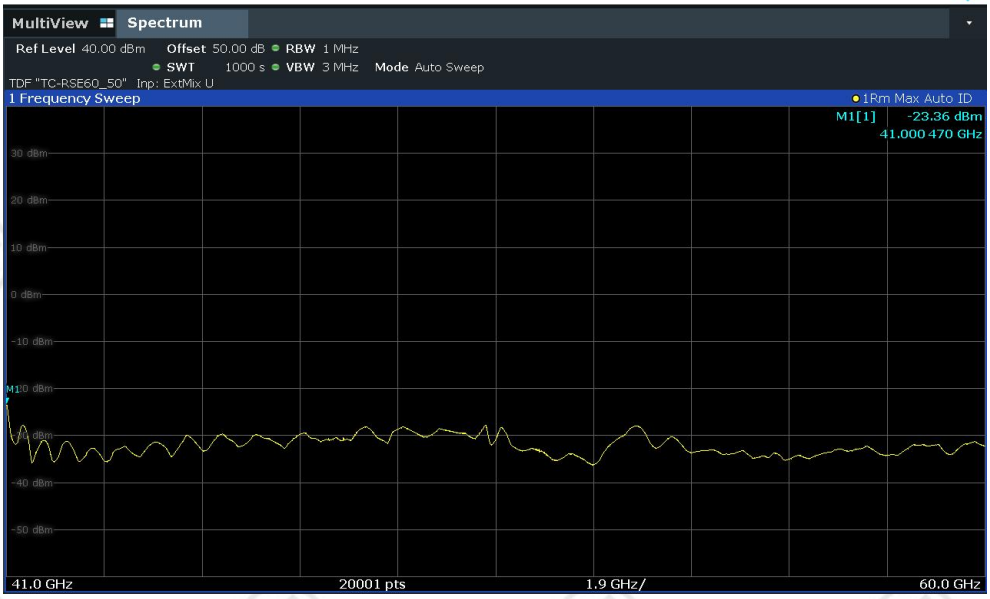
Test data:

Frequency Range(GHz)	Test Frequency (GHz)	Polarity	EIRP/1MHz (dBm)	Power density(pW/cm^2) @3m distance	Limit of Power density(pW/cm^2) @3m distance	Result
41~60	41.000470	Horizontal	-23.36	4.08	≤600	Pass
	50.278660	Vertical	-28.01	1.40	≤600	Pass
60~90	60.000500	Horizontal	-26.49	1.99	≤600	Pass
	67.233300	Vertical	-34.74	0.30	≤600	Pass
90~130	99.290300	Horizontal	-24.11	3.43	≤600	Pass
	99.851300	Vertical	-24.17	3.39	≤600	Pass
130~140	139.090600	Horizontal	-25.89	2.28	≤600	Pass
	135.735900	Vertical	-26.53	1.97	≤600	Pass
140~200	142.200500	Horizontal	-28.82	1.16	≤600	Pass
	141.652500	Vertical	-29.22	1.06	≤600	Pass
200~220	200.042500	Horizontal	-32.15	0.54	≤1000	Pass
	201.133400	Vertical	-32.28	0.52	≤1000	Pass
220~231	228.721700	Horizontal	-33.16	0.43	≤1000	Pass
	228.132800	Vertical	-33.22	0.42	≤1000	Pass

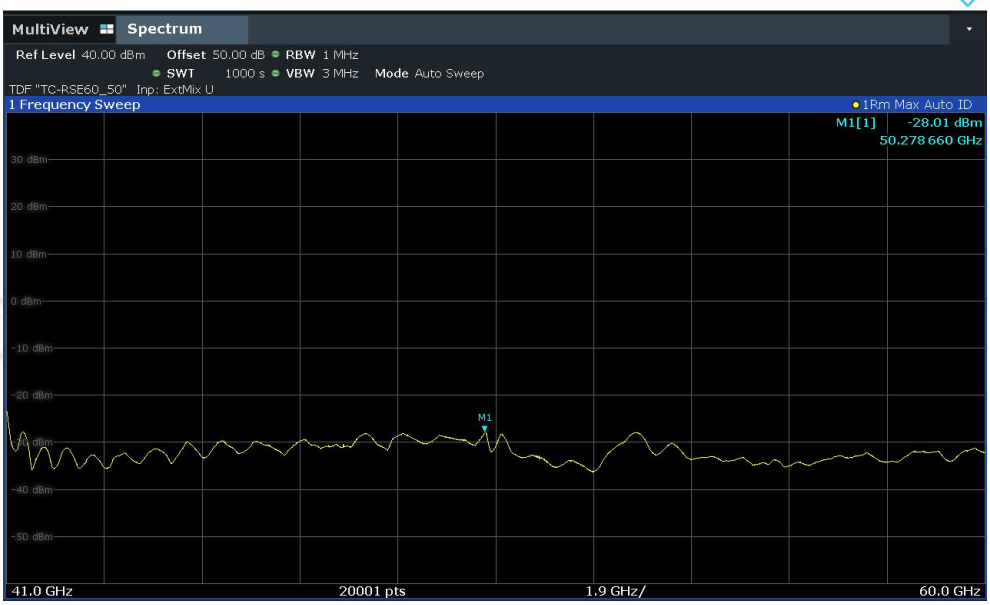
Note:
①EIRP(dBm/MHz) has added free space loss of 1.0m distance.
②Only the worst case data was recorded in the report.
③Power density(pW/cm^2)=$10^{EIRP/1MHz(dBm)\div 10}*10^9\div[4*\pi*(3m*100)^2]$;

Test graph:

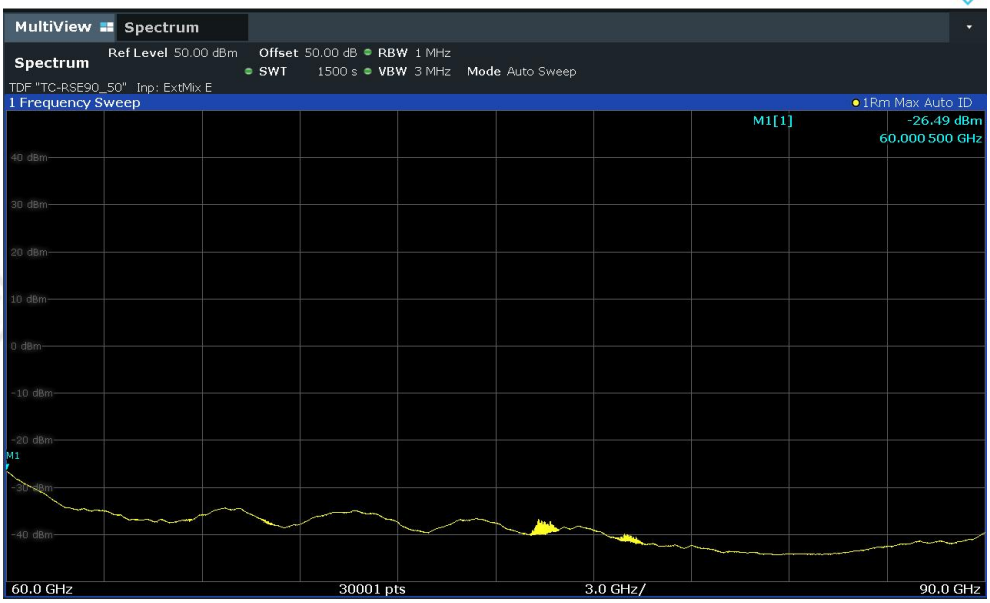
41GHz-60GHz (Horizontal)



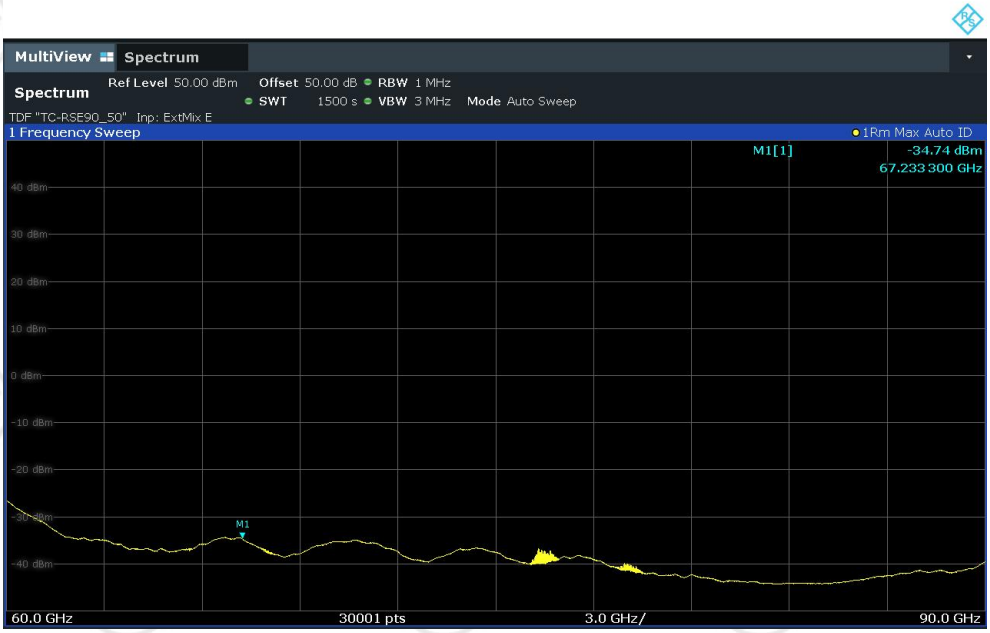
41GHz-60GHz (Vertical)

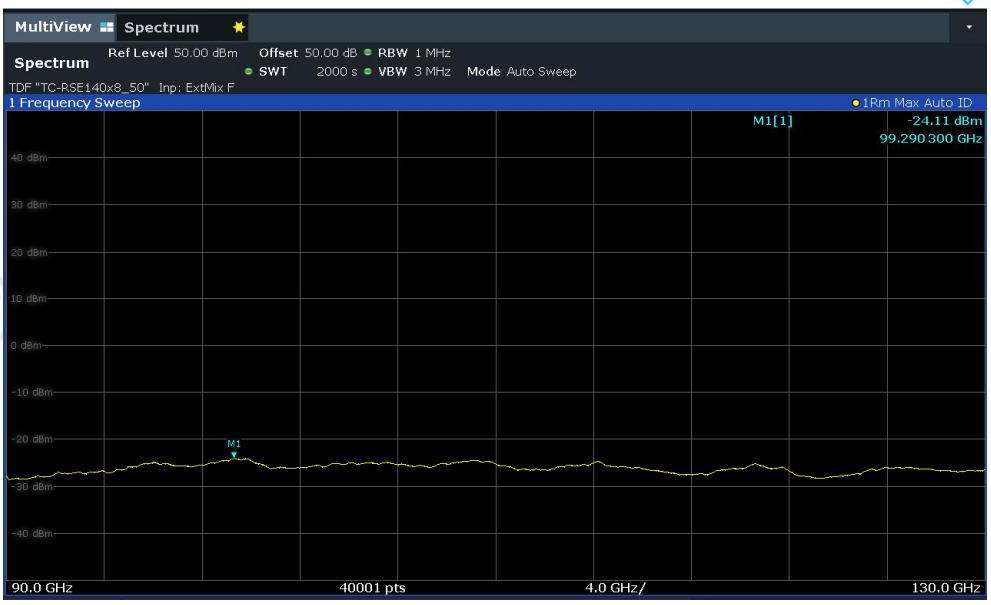
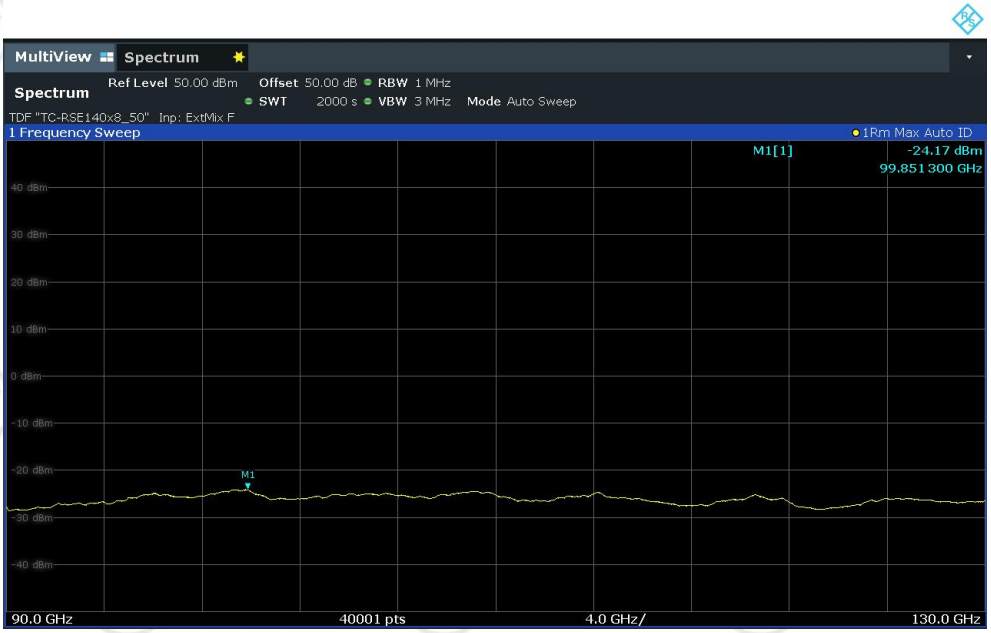


60GHz-90GHz (Horizontal)

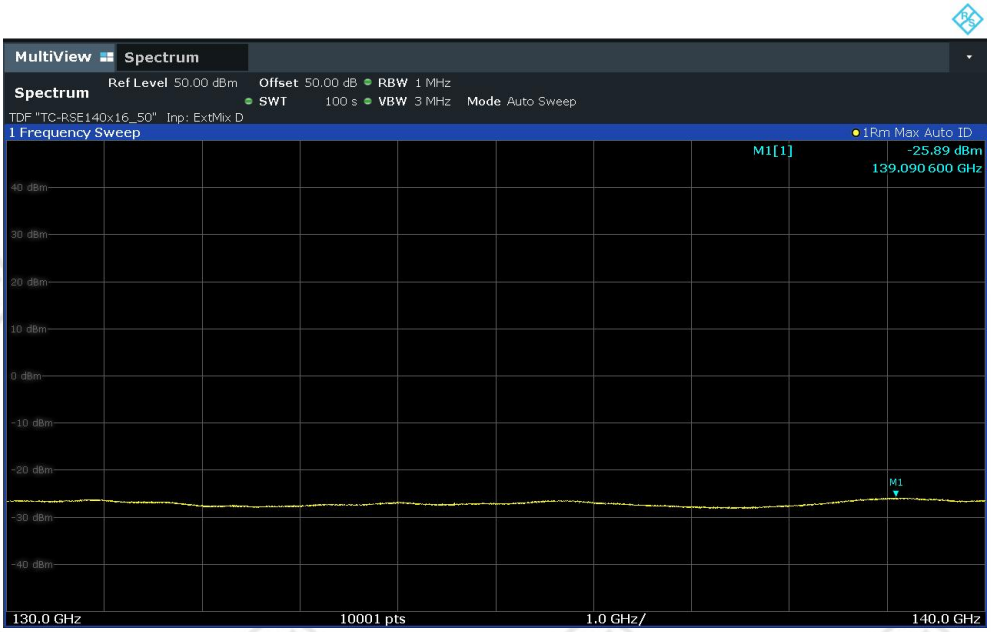


60GHz-90GHz (Vertical)

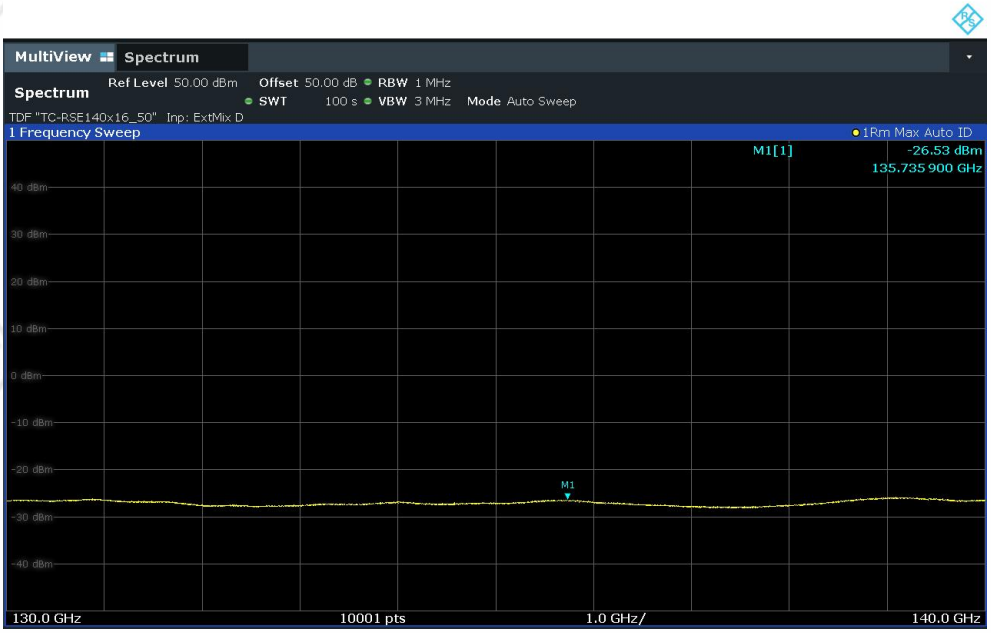


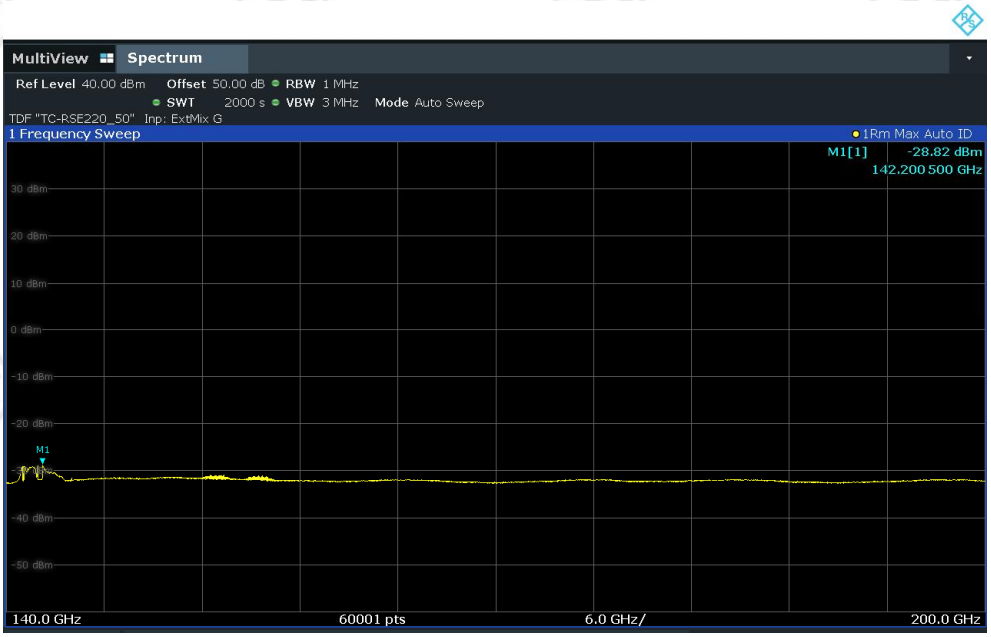
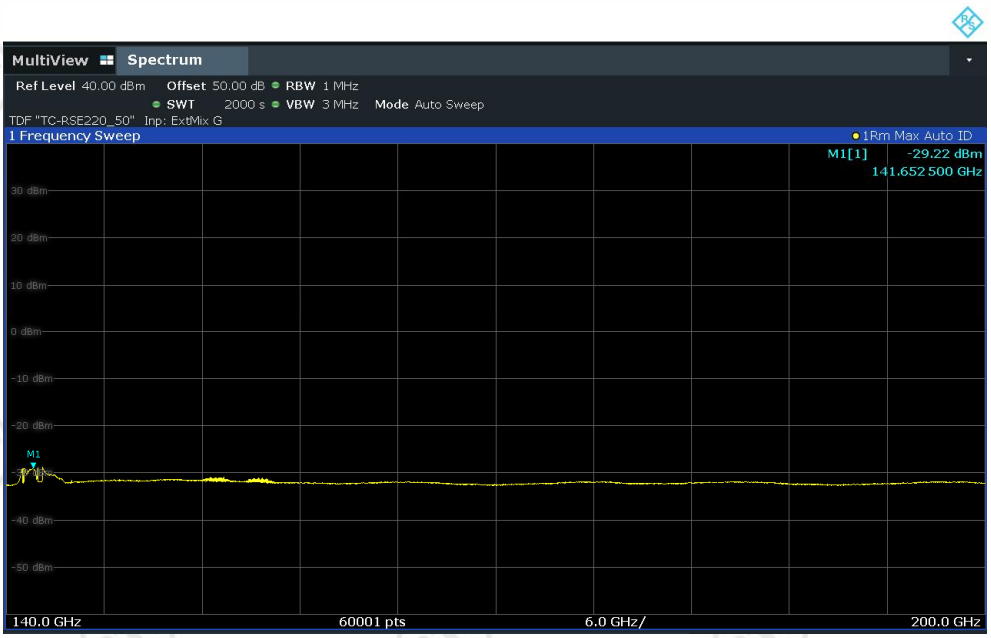
90GHz-130GHz (Horizontal)

90GHz-130GHz (Vertical)


130GHz-140GHz (Horizontal)

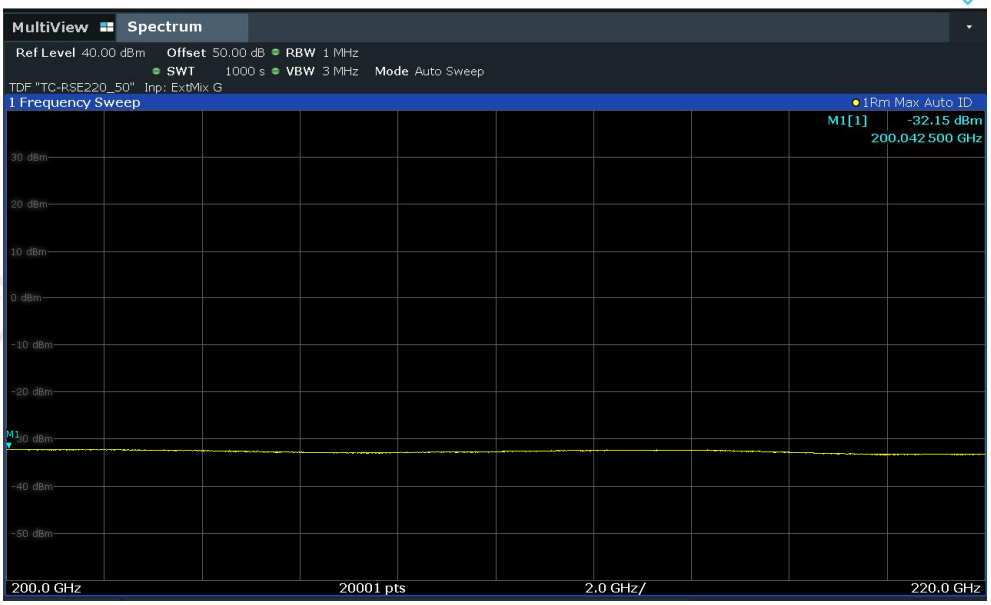


130GHz-140GHz (Vertical)

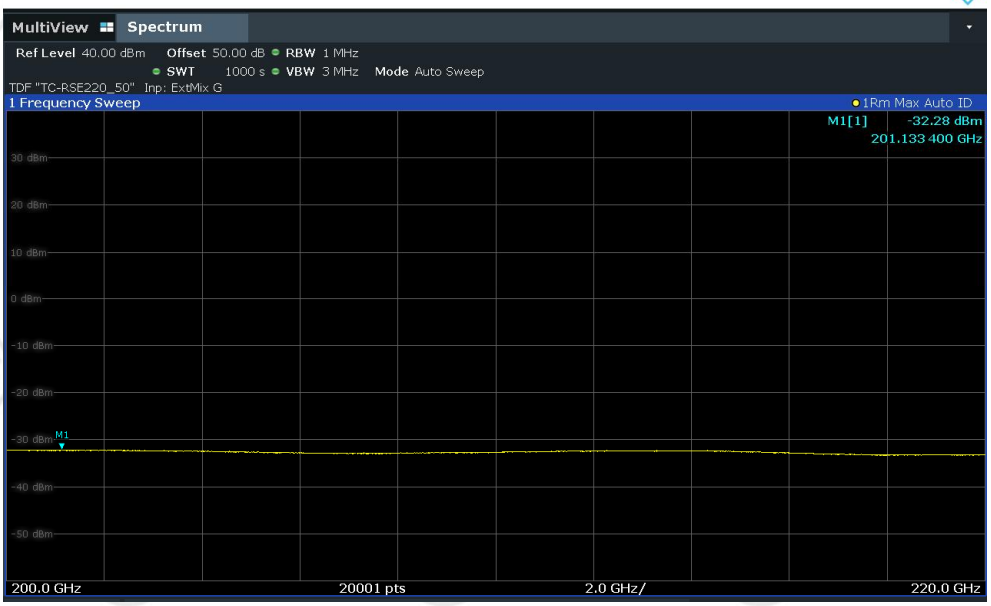


140GHz-200GHz (Horizontal)

140GHz-200GHz (Vertical)


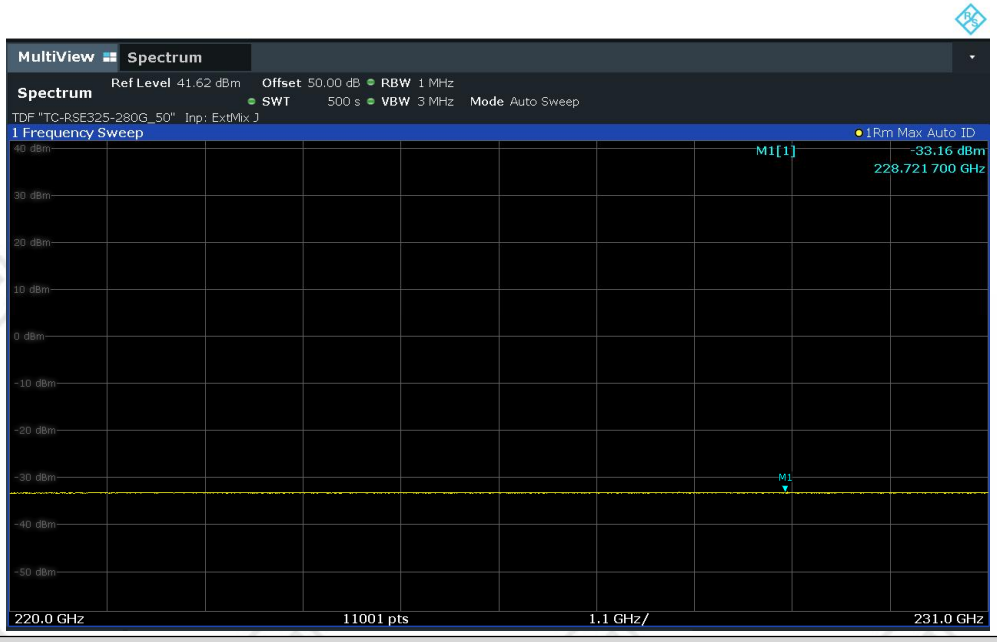
200GHz-220GHz (Horizontal)



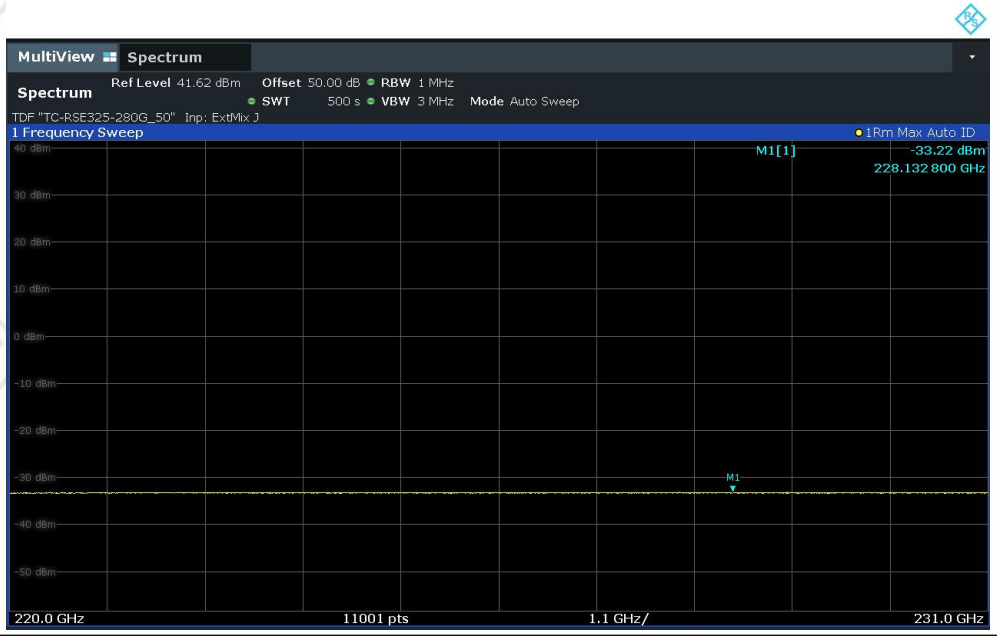
200GHz-220GHz (Vertical)



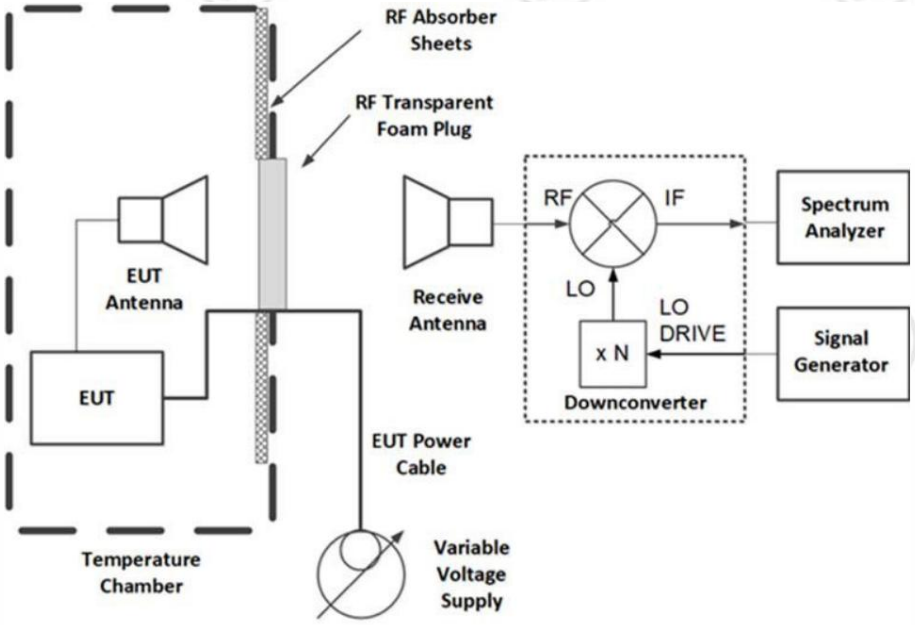
220GHz-231GHz (Horizontal)



220GHz-231GHz (Vertical)



5.4 Frequency stability

Test Requirement:	47 CFR Part 95, Subpart M Section 95.3379 (b), KDB 653005 D01 76-81 GHz Radars v01r01 Section 4 d)
Test Method:	ANSI C63.26:2015 Section 5.6
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℃ to provide a reference) At 10℃ intervals of temperatures between -30℃ and +50℃ at the manufacturer's rated supply voltage, and At +20℃ 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℃ and + 30℃ 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℃ above the respective beginning ambient temperature level.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

Voltage (%)	Power (V/DC)	Temperature (℃)	Frequency Left (GHz)	Frequency Right (GHz)	Limit (GHz)	Result
100	24.0	-40	76.131377	76.857194	76 to 81	Pass
		-30	76.131379	76.857194	76 to 81	Pass
		-20	76.131380	76.857195	76 to 81	Pass
		-10	76.131378	76.857194	76 to 81	Pass
		0	76.131380	76.857195	76 to 81	Pass
		+10	76.131379	76.857196	76 to 81	Pass
		+20	76.131379	76.857195	76 to 81	Pass
		+30	76.131379	76.857196	76 to 81	Pass
		+40	76.131380	76.857193	76 to 81	Pass
		+50	76.131380	76.857195	76 to 81	Pass
		+60	76.131378	76.857196	76 to 81	Pass
		+70	76.131380	76.857195	76 to 81	Pass
		+80	76.131381	76.857196	76 to 81	Pass
		+85	76.131379	76.857195	76 to 81	Pass
115	32.0	+20	76.131381	76.857193	76 to 81	Pass
85	9.0	+20	76.131378	76.857195	76 to 81	Pass

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

6 PHOTOGRAPHS

Refer to Appendix Photographs of Report No. EED32S80523401.

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;

5. Without written approval of CTI, this report can't be reproduced except in full;

*** End of Report ***