TEST REPORT

Product	:	SenseCAP Radar Rainfall All-in-One Weather Station
Trade mark	:	seeed studio
Model/Type reference	:	S700-A, S700-C, S100
Serial Number	:	N/A
Report Number	:	EED32R81216001
FCC ID	:	Z4T-WEATHER
Date of Issue	:	Aug. 15, 2025
Test Standards	:	47 CFR FCC Part 15C §15.255
Test result	:	PASS

Prepared for:

Seeed Technology Co.,Ltd
9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
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Compiled by: Keven Tan

Reviewed by: Frazer Li

Approved by: Aaron Ma

Date: Aug. 15, 2025

Check No.:2053170725

1 Content

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 C63.10-2013 Section 6.2	PASS
99% Occupied Bandwidth	47 CFR FCC Part 15C §15.255(c), 47 CFR Part 2, Subpart J Section §2.1049	ANSI C63.10-2013 Section 9.3	PASS
20dB down Emission Bandwidth	47 CFR FCC Part 15C §15.255(c), 47 CFR Part 2, Subpart J Section §2.1049	ANSI C63.10-2013 Section 9.3	PASS
EIRP (Effective Isotropic Radiated Power)	47 CFR FCC Part 15C §15.255(c) (1) (i)	ANSI C63.10-2013 Section 9.5	PASS
Peak Conducted Power	47 CFR FCC Part 15C §15.255(d)	ANSI C63.10-2013 Section 9.7	PASS
Spurious Emissions	47 CFR FCC Part 15C §15.255(d) & §15.209	ANSI C63.10-2013 Section 9.12 & Section 9.13	PASS
Frequency Stability	47 CFR FCC Part 15C §15.255(f)	ANSI C63.10-2013 Section 9.14	PASS

Remark:

Model No.: S700-A, S700-C, S100

All models have been tested. The three models use the same technical solution. Their electrical circuit design, layout, components used and internal wiring are identical.

The difference is that they are equipped with different sensors. Here is details:

S700-A：Temperature sensor, Humidity sensor, Pressure sensor, Wind speed sensor, Wind direction sensor, Radar Rainfall sensor, Light sensor

S700-C：Temperature sensor, Humidity sensor, Pressure sensor, Wind speed sensor, Wind direction sensor, Radar Rainfall sensor, solar radiation sensor

S100：Radar Rainfall sensor

3 General Information

3.1 Client Information

Applicant:	Seeed Technology Co.,Ltd
Address of Applicant:	9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China
Manufacturer:	Seeed Technology Co.,Ltd
Address of Manufacturer:	9F,Building G3, TCL International E City,Zhongshanyuan Road,Nanshan,Shenzhen, China
Factory:	Shenzhen Xinxian Technology Co.,Limited.
Address of Factory:	F5, Building B17, Hengfeng Industrial City,No. 739 Zhoushi Rd, Baoan District, Shenzhen,Guangdong, P.R.C.

3.2 General Description of EUT

Product Name:	SenseCAP Radar Rainfall All-in-One Weather Station
Model No.:	S700-A, S700-C, S100
Test model No.:	S700-A, S700-C, S100
Trade Mark:	seeed studio
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location Devices other than field disturbance sensors
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)
Operating Frequency	60-64GHz
Test Power Grade:	Default
Test Software of EUT:	N/A
Antenna Type:	PCB Antenna
Antenna Gain:	20 dBi
Power Supply:	DC 12-24V, 0.55W
Test Voltage:	DC 12V
Sample Received Date:	Jul. 17, 2025
Sample tested Date:	Jul. 17, 2025 to Aug. 12, 2025

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

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	09/07/2024	09/06/2025
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	12/05/2024	12/04/2025
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

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	01-03-2026
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	07-03-2024 06-29-2025	07-02-2025 06-28-2026
Preamplifier	EMCI	EMC001330	980563	03-03-2025	03-02-2026
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-18-2024 07-07-2025	07-17-2025 07-06-2026
Preamplifier	Tonscend	EMC051845SE	980380	12-05-2024	12-04-2025
Communication test set	R&S	CMW500	102898	01-04-2025	01-03-2026
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

5 Test results and Measurement Data

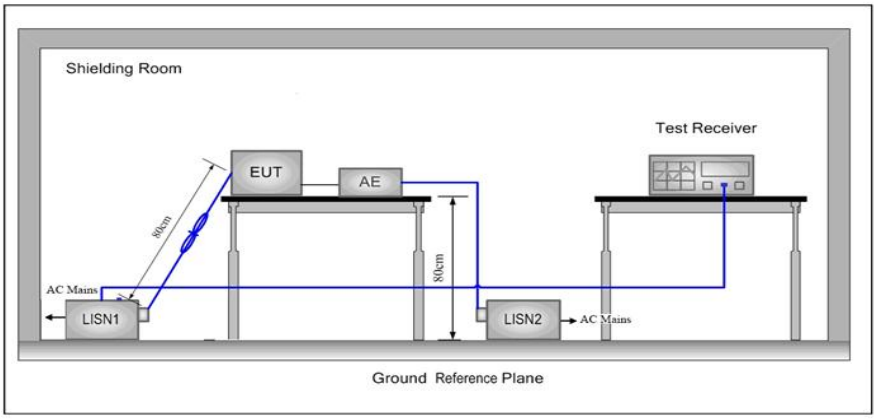
5.1 Antenna Requirement

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 PCB antenna. 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. Then user manual will include a statement to caution EUT is not permitted for 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.	

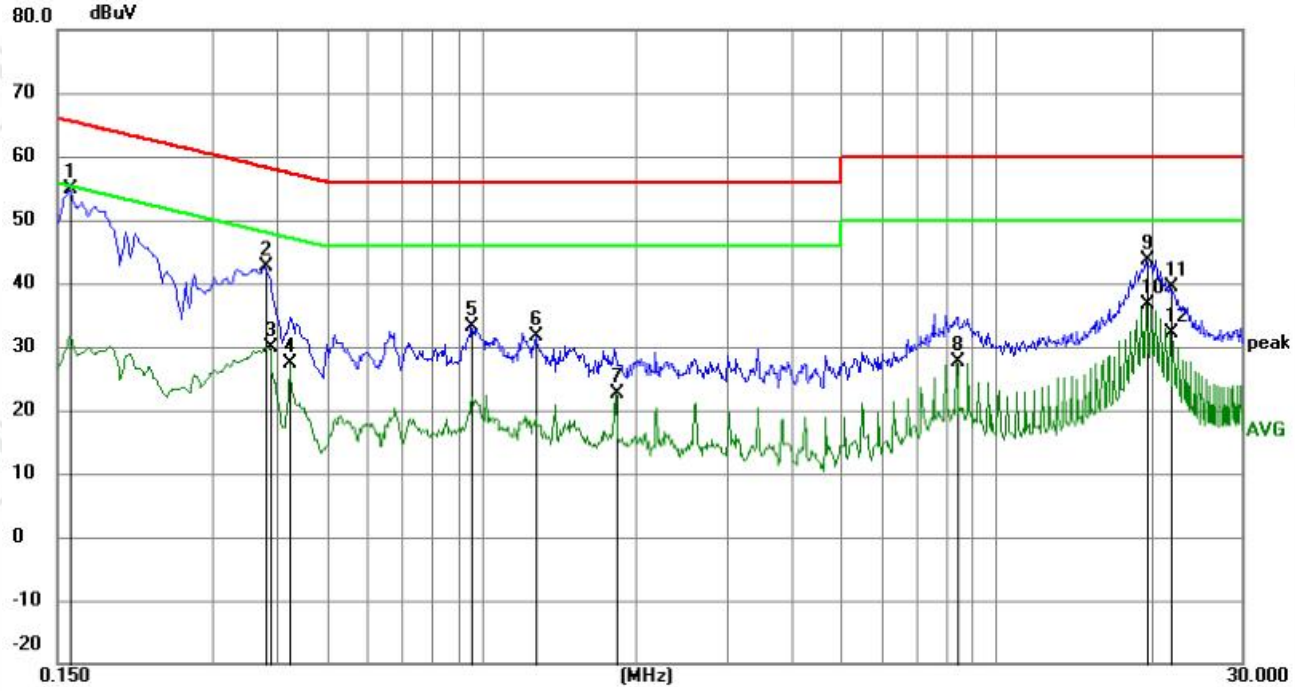
5.3 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section §15.207
Test Method:	ANSI C63.10-2013 Section 6.2
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 50Ω/50μH + 5Ω 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: 2013 on conducted measurement.
Test Mode:	TX mode_Make EUT continuously emit radar signals.
Test Results:	Pass

Measurement Data

Model: S700-A

Live line:

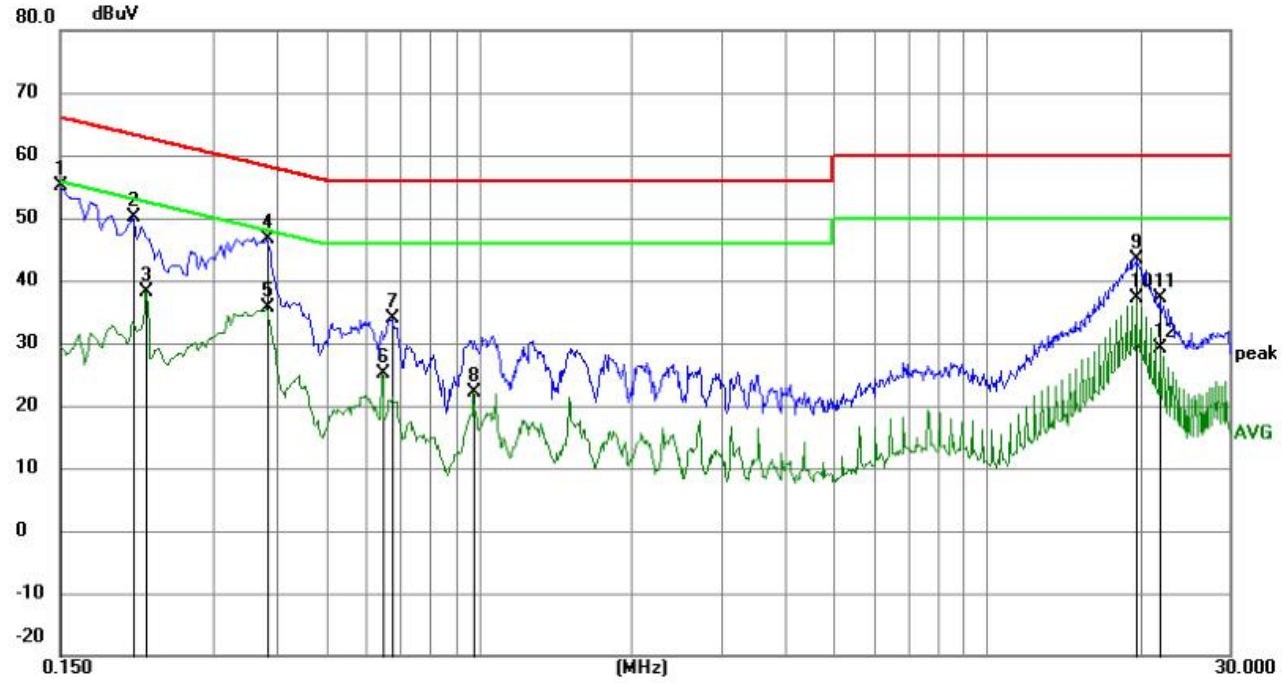


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1590	44.56	10.27	54.83	65.52	-10.69	QP	
2		0.3795	32.44	10.10	42.54	58.29	-15.75	QP	
3		0.3885	19.73	10.09	29.82	48.10	-18.28	AVG	
4		0.4245	17.29	10.09	27.38	47.36	-19.98	AVG	
5		0.9555	23.01	10.18	33.19	56.00	-22.81	QP	
6		1.2795	21.39	10.18	31.57	56.00	-24.43	QP	
7		1.8240	12.35	10.17	22.52	46.00	-23.48	AVG	
8		8.4030	17.70	9.99	27.69	50.00	-22.31	AVG	
9		19.5810	33.84	9.81	43.65	60.00	-16.35	QP	
10		19.5810	26.74	9.81	36.55	50.00	-13.45	AVG	
11		21.7365	29.58	9.80	39.38	60.00	-20.62	QP	
12		21.7365	22.35	9.80	32.15	50.00	-17.85	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:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	44.83	10.28	55.11	66.00	-10.89	QP	
2		0.2085	39.91	10.20	50.11	63.26	-13.15	QP	
3		0.2220	27.88	10.19	38.07	52.74	-14.67	AVG	
4		0.3840	36.52	10.10	46.62	58.19	-11.57	QP	
5		0.3840	25.60	10.10	35.70	48.19	-12.49	AVG	
6		0.6450	15.07	10.11	25.18	46.00	-20.82	AVG	
7		0.6765	23.67	10.12	33.79	56.00	-22.21	QP	
8		0.9780	12.02	10.18	22.20	46.00	-23.80	AVG	
9		19.7025	33.67	9.80	43.47	60.00	-16.53	QP	
10		19.7025	27.21	9.80	37.01	50.00	-12.99	AVG	
11		21.8490	27.28	9.80	37.08	60.00	-22.92	QP	
12		21.8490	19.33	9.80	29.13	50.00	-20.87	AVG	

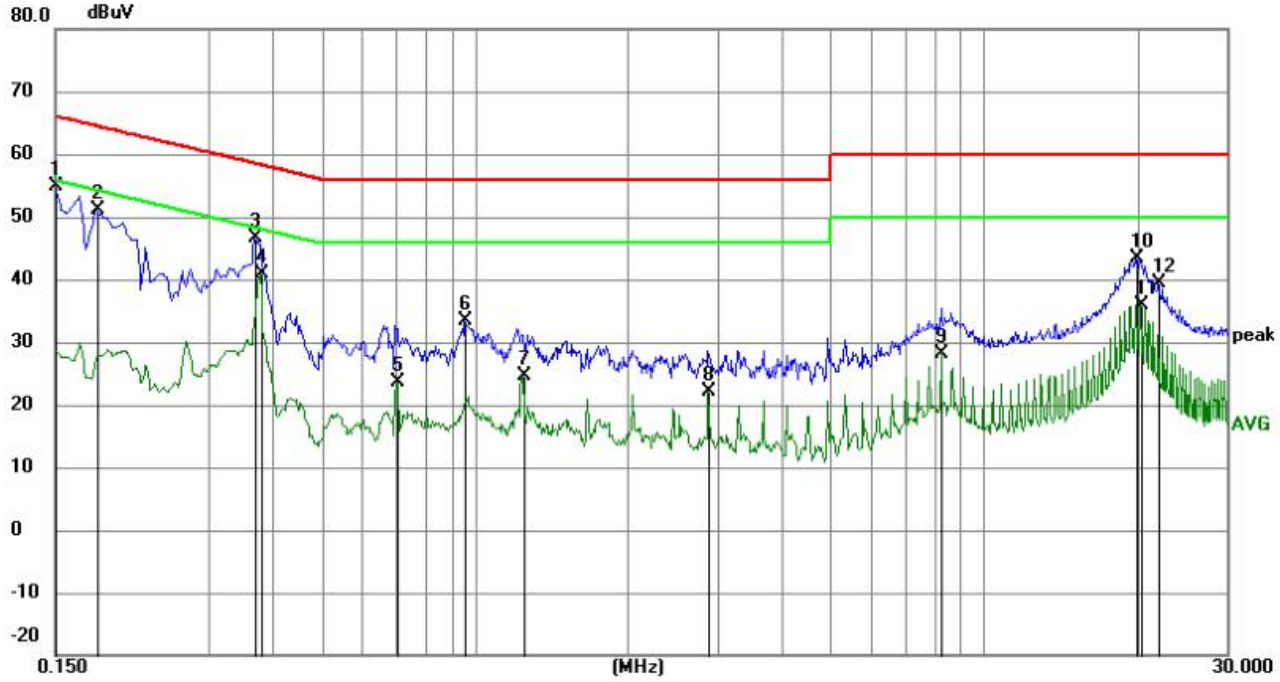
Remark:

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.

Measurement Data

Model: S700-C

Live line:

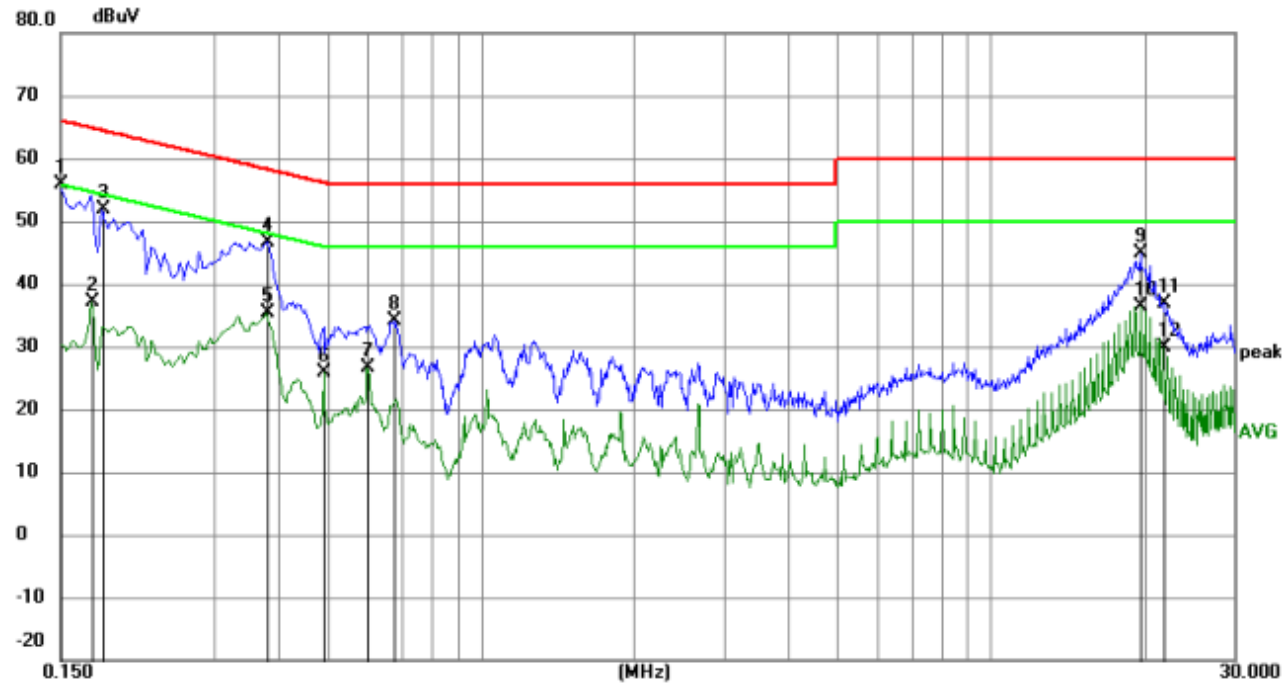


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	44.51	10.28	54.79	66.00	-11.21	QP	
2		0.1815	40.96	10.24	51.20	64.42	-13.22	QP	
3		0.3704	36.52	10.10	46.62	58.49	-11.87	QP	
4	*	0.3795	30.83	10.10	40.93	48.29	-7.36	AVG	
5		0.7080	13.54	10.13	23.67	46.00	-22.33	AVG	
6		0.9555	23.27	10.18	33.45	56.00	-22.55	QP	
7		1.2435	14.54	10.18	24.72	46.00	-21.28	AVG	
8		2.8815	12.01	10.14	22.15	46.00	-23.85	AVG	
9		8.2545	18.25	10.00	28.25	50.00	-21.75	AVG	
10		19.8645	33.69	9.80	43.49	60.00	-16.51	QP	
11		20.2919	26.15	9.80	35.95	50.00	-14.05	AVG	
12		22.0110	29.56	9.80	39.36	60.00	-20.64	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.

Neutral line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	45.51	10.28	55.79	66.00	-10.21	QP	
2		0.1725	27.00	10.25	37.25	54.84	-17.59	AVG	
3		0.1815	41.63	10.24	51.87	64.42	-12.55	QP	
4		0.3795	36.49	10.10	46.59	58.29	-11.70	QP	
5		0.3795	25.21	10.10	35.31	48.29	-12.98	AVG	
6		0.4920	15.88	10.08	25.96	46.13	-20.17	AVG	
7		0.6000	16.54	10.10	26.64	46.00	-19.36	AVG	
8		0.6765	24.08	10.12	34.20	56.00	-21.80	QP	
9		19.6485	35.01	9.80	44.81	60.00	-15.19	QP	
10		19.6485	26.46	9.80	36.26	50.00	-13.74	AVG	
11		21.7995	27.17	9.80	36.97	60.00	-23.03	QP	
12		21.7995	20.11	9.80	29.91	50.00	-20.09	AVG	

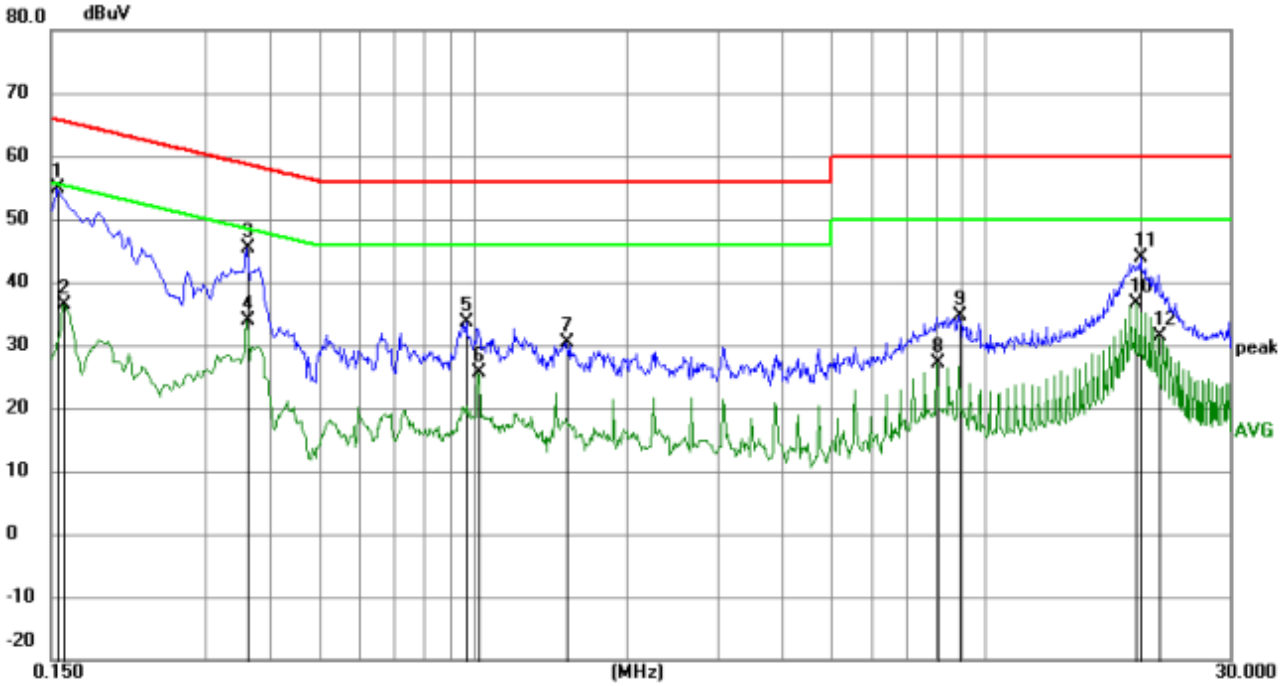
Remark:

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.

Measurement Data

Model: S100

Live line:

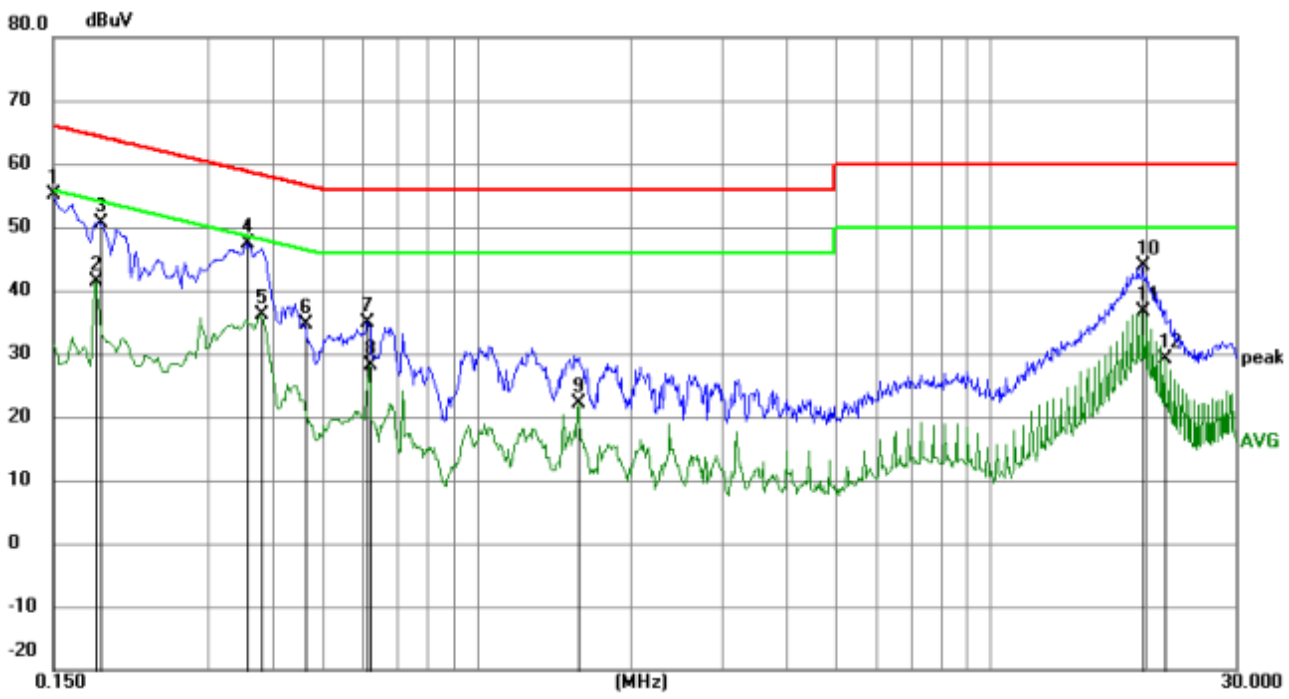


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1545	44.60	10.28	54.88	65.75	-10.87	QP	
2		0.1590	26.18	10.27	36.45	55.52	-19.07	AVG	
3		0.3615	35.36	10.11	45.47	58.69	-13.22	QP	
4		0.3615	23.74	10.11	33.85	48.69	-14.84	AVG	
5		0.9690	23.45	10.18	33.63	56.00	-22.37	QP	
6		1.0230	15.54	10.18	25.72	46.00	-20.28	AVG	
7		1.5225	20.28	10.17	30.45	56.00	-25.55	QP	
8		8.0385	17.18	10.00	27.18	50.00	-22.82	AVG	
9		8.8979	24.61	9.98	34.59	60.00	-25.41	QP	
10		19.6440	26.72	9.80	36.52	50.00	-13.48	AVG	
11		20.0805	34.00	9.80	43.80	60.00	-16.20	QP	
12		21.7950	21.59	9.80	31.39	50.00	-18.61	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:

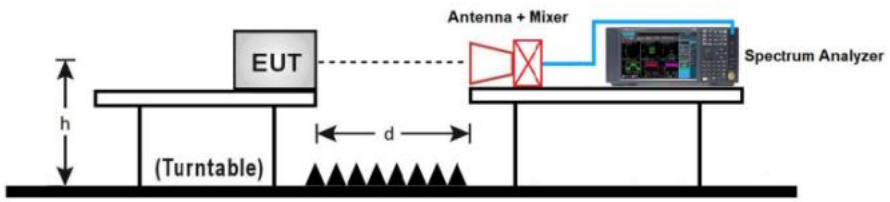


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	44.85	10.28	55.13	66.00	-10.87	QP	
2		0.1815	31.07	10.24	41.31	54.42	-13.11	AVG	
3		0.1860	40.45	10.23	50.68	64.21	-13.53	QP	
4		0.3570	37.22	10.11	47.33	58.80	-11.47	QP	
5		0.3795	25.97	10.10	36.07	48.29	-12.22	AVG	
6		0.4650	24.64	10.08	34.72	56.60	-21.88	QP	
7		0.6134	24.89	10.10	34.99	56.00	-21.01	QP	
8		0.6180	18.02	10.11	28.13	46.00	-17.87	AVG	
9		1.5809	12.06	10.17	22.23	46.00	-23.77	AVG	
10		19.7744	34.13	9.80	43.93	60.00	-16.07	QP	
11		19.7744	26.79	9.80	36.59	50.00	-13.41	AVG	
12		21.9209	19.38	9.80	29.18	50.00	-20.82	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.

5.4 99% Occupied Bandwidth

Test Requirement:	47 CFR FCC Part 15C §15.255(c), 47 CFR Part 2, Subpart J Section §2.1049
Test Method:	ANSI C63.10-2013 Section 9.3
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 × 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(S700-A):

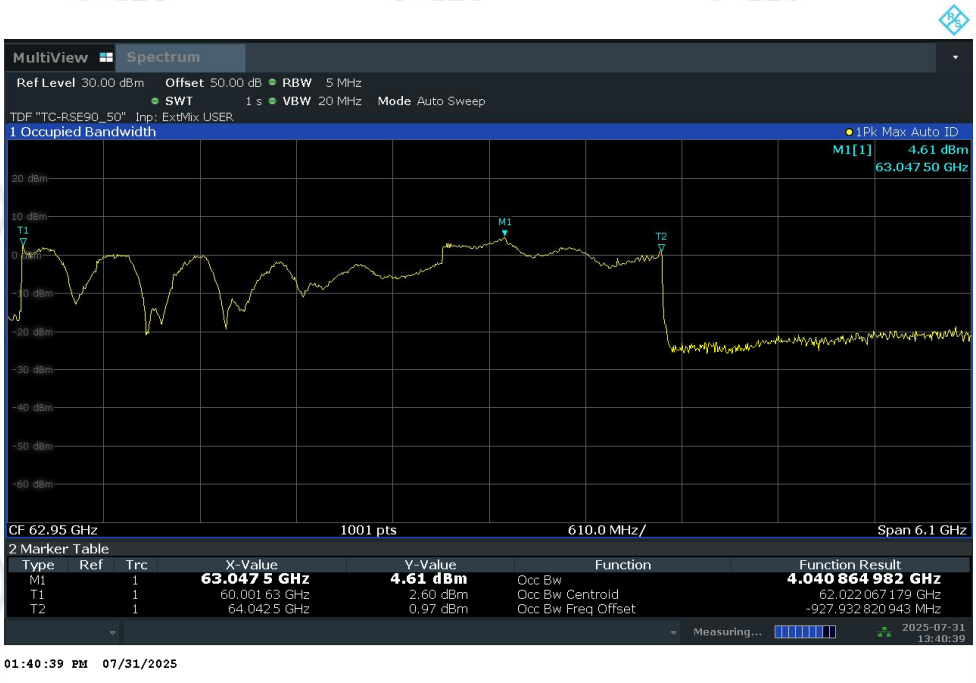
99% emission bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4041.554898	60.000172	64.04327	57 to 71	Pass

Test graph:

Test data(S700-C):

99% emission bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4040.864982	60.00163	64.0425	57 to 71	Pass

Test graph:

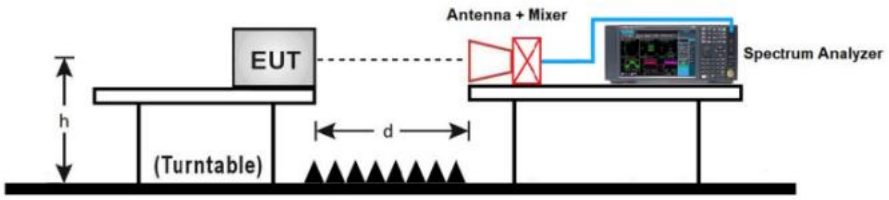


Test data(S100):

99% emission bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4042.660108	60.00488	64.04754	57 to 71	Pass

Test graph:

5.5 20dB down Emission Bandwidth

Test Requirement:	47 CFR FCC Part 15C §15.255(c), 47 CFR Part 2, Subpart J Section §2.1049
Test Method:	ANSI C63.10-2013 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. a) Use the following spectrum analyzer settings: 1) Span equal to approximately 2~3 times the 20dB down Emission Bandwidth, centered on the carrier frequency. 2) RBW, as specified in the requirement. 3) VBW, as specified in the requirement, or VBW ≥ RBW if not specified. 4) Sweep = auto. 5) Detector function = peak. 6) Trace = max hold. b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize. c) 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. d) 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. e) 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(S700-A):

20dB down Emission Bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4070.7	59.9823	64.053	57 to 71	Pass

Test graph:

Test data(S700-C):

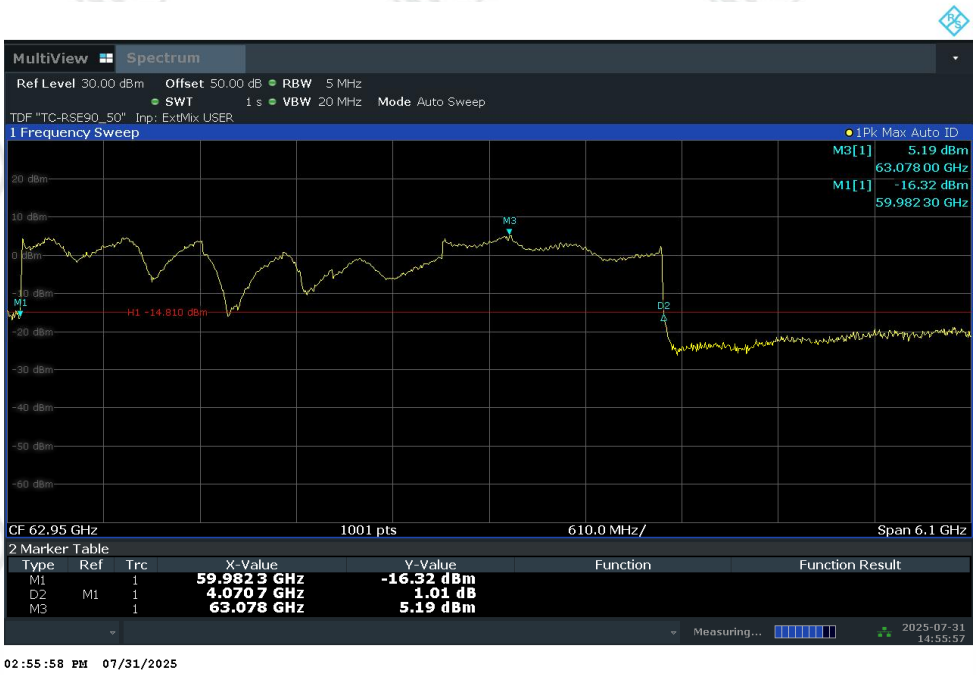
20dB down Emission Bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4070.7	59.9823	64.053	57 to 71	Pass

Test graph:

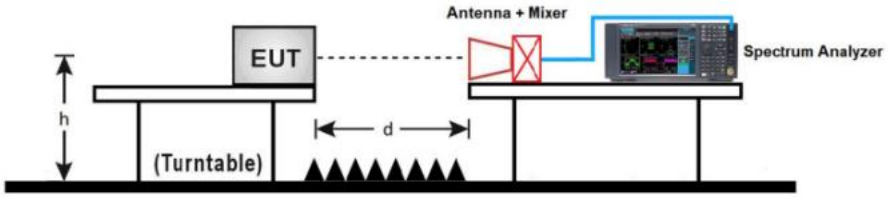
Test data(S100):

20dB down Emission Bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
4070.7	59.9823	64.053	57 to 71	Pass

Test graph:



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

<table>
<tr><td>Test Requirement:</td><td>47 CFR FCC Part 15C §15.255(c) (1) (i), (e)</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2013 Section 9.5 & Section 9.7</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td colspan="3">EIRP Power Limit</td></tr>
<tr><td>Use Condition</td><td>EIRP Peak Power</td><td>EIRP Average Power</td></tr>
<tr><td>Devices other than field disturbance sensors</td><td>43dBm</td><td>40dBm</td></tr>
</table>
<table>
<tr><td colspan="2">Peak Conducted Power Limit</td></tr>
<tr><td>20dB down Emission Bandwidth</td><td>Peak Conducted Power</td></tr>
<tr><td>＞100MHz</td><td>500mW (Equivalent 26.99dBm)</td></tr>
<tr><td>≤100MHz</td><td>500mW*(BW/100) (Equivalent 10*lg(5*BW)dBm)</td></tr>
</table>
Note:BW=20dB down Emission Bandwidth (measured at RBW 100kHz).
</td></tr>
<tr><td>Test Setup:</td><td> 

h=1.5m,d=1.0m</td></tr>
<tr><td>Test Procedure:</td><td>(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;</td></tr>
<tr><td>Test Mode:</td><td>TX mode_ Make EUT continuously emit radar signals.</td></tr>
</table>

Test data:

The EUT belongs to Devices other than field disturbance sensors:

Note: The report only recorded the worst data (S700-A).

Frequency (GHz)	Distance (m)	Polarity	EIRP (dBm)	FMCW Chirps Correction Factor (dB)	Corrected EIRP (dBm)	**EIRP Limit (dBm)**	Result	Remark
61	1.0	Horizontal	-14.47	19.50	5.03	**≤43.0**	Pass	Peak
		Vertical	4.83	19.50	24.33	**≤43.0**	Pass	Peak
		Horizontal	-22.03	19.50	-2.53	**≤40.0**	Pass	AVG
		Vertical	-3.43	19.50	16.07	**≤40.0**	Pass	AVG

20dB down Emission Bandwidth of the EUT ＞100MHz:

Frequency (GHz)	Distance (m)	Polarity	Corrected EIRP (dBm)	Antenna gain (dBi)	Peak Conducted Power (dBm)	**Peak Conducted Power Limit (dBm)**	Result	Remark
61	1.0	Horizontal	5.03	20	-14.97	**≤26.99**	Pass	Peak
		Vertical	24.33	20	4.33	**≤26.99**	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.
③Guidance for calculating the correction factor is from Application Note 1EF107-1E Rohde & Schwarz Peak and Mean Power measurements on wideband FMCW radar signals.
The FMCW Chirps Correction Factor was calculated using the formula:

K	Span(99% OBW)	RBW	t	CFchirp
0.1947	4042MHz	1MHz	20μs	19.50 dB

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

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

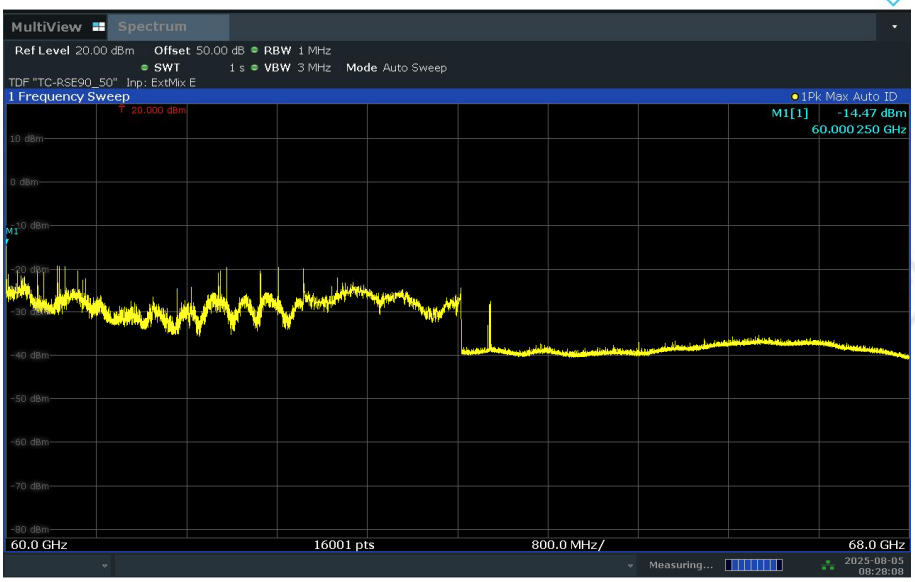
Sample calculation for FMCW chirps correction factor:

$$CF_{chirp}=5*\log_{10}(1+0.1947*(4042MHz/(20\mu s*1MHz^2))^2= 19.50\ dB$$

Note: Span is the measured maximum occupied bandwidth, refer to the section of 5.4, the Span(99% OBW) is 4042MHz. t=20μs claimed by the customer.
④Corrected EIRP(dBm)=EIRP(dBm)+FMCW Chirps Correction Factor(dB).
⑤Peak Conducted Power(dBm)=Corrected EIRP-Antenna gain.

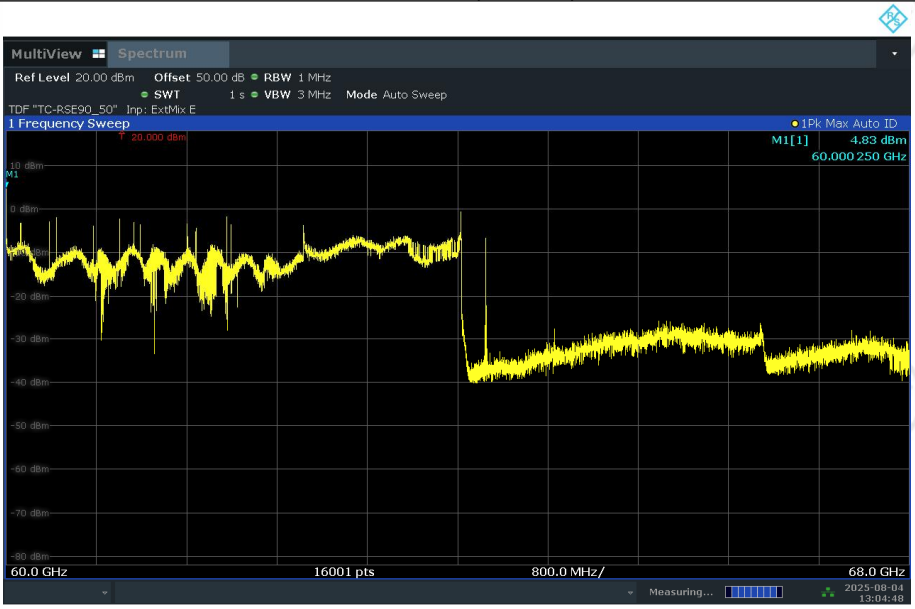
Test graph:

Peak EIRP (Horizontal)



08:28:08 AM 08/05/2025

Peak EIRP (Vertical)



01:04:49 PM 08/04/2025

Average EIRP (Horizontal)
 02:26:09 PM 08/05/2025
Average EIRP (Vertical)
 07:08:35 PM 08/05/2025

5.7 Spurious Emissions

Test Requirement:	47 CFR FCC Part 15C §15.255(d) & §15.209
Test Method:	ANSI C63.10-2013 Section 9.12 & Section 9.13
Limit:	47 CFR FCC Part 15C §15.255(d) Limit:

Frequency Range	Limit
Radiated emissions below 40GHz	47 CFR FCC Part 15C §15.209
Radiated emissions above 40GHz to 200GHz	90pW/cm2@3m (Equivalent EIRP:101.79uW or -9.92dBm and Electric field strength of 85.33dBuV/m@3m)

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/cm^2)=$10^{EIRP/1MHz(dBm)\div 10}$*$10^9$÷[4*π*(3m*100)^2];

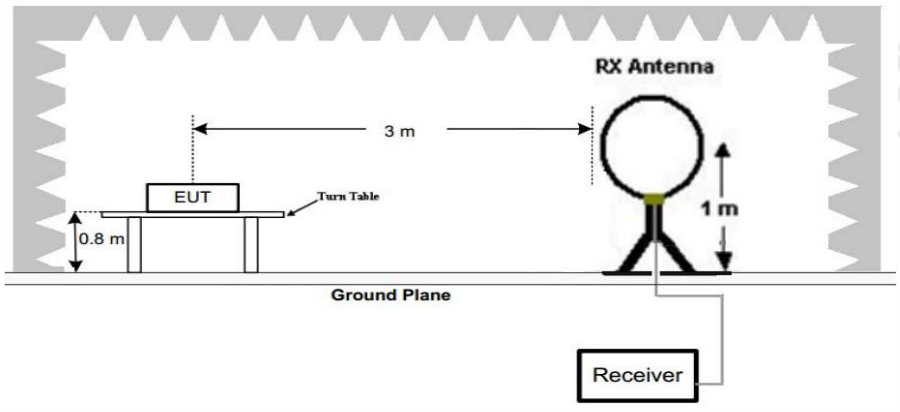
47 CFR FCC Part 15C §15.209 Limit:

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

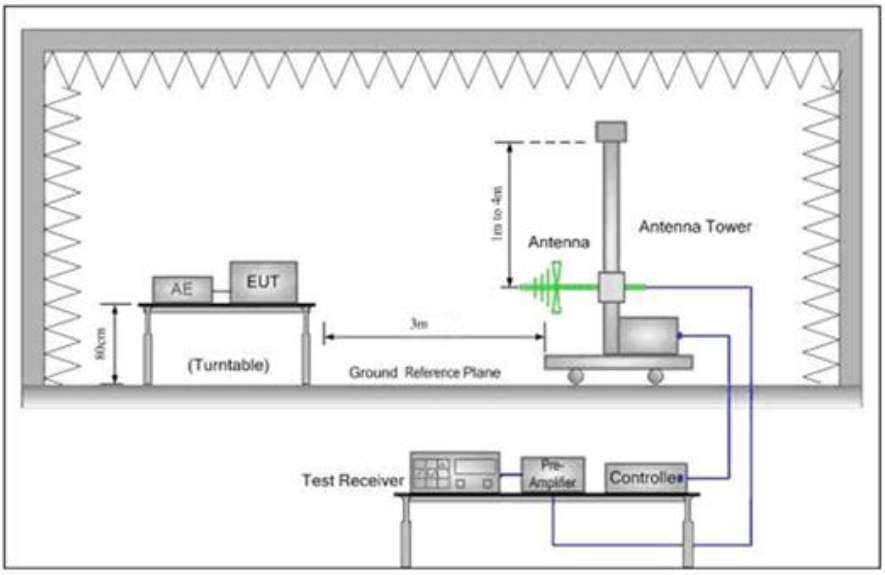
Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Setup:

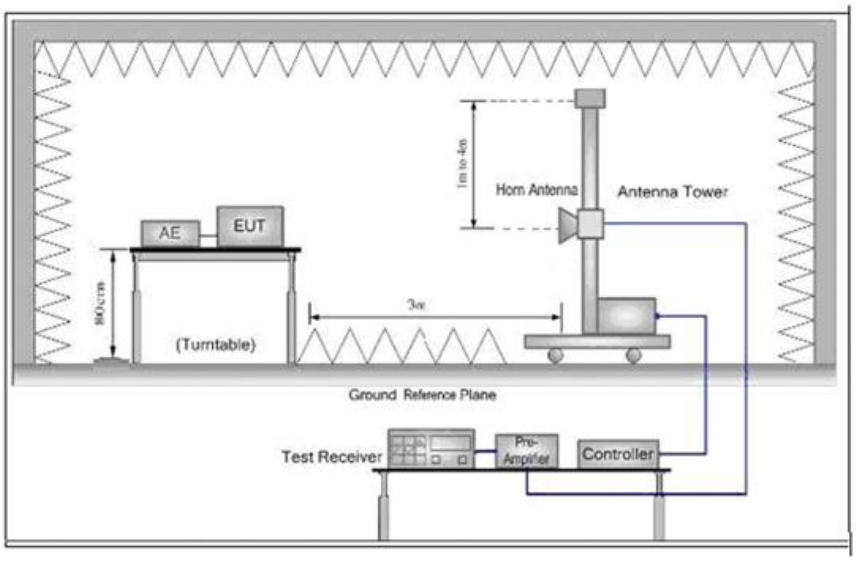
Below 30MHz:



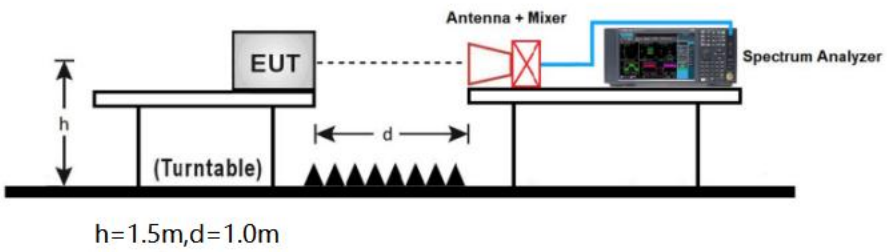
30MHz-1GHz:



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: 2013 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:

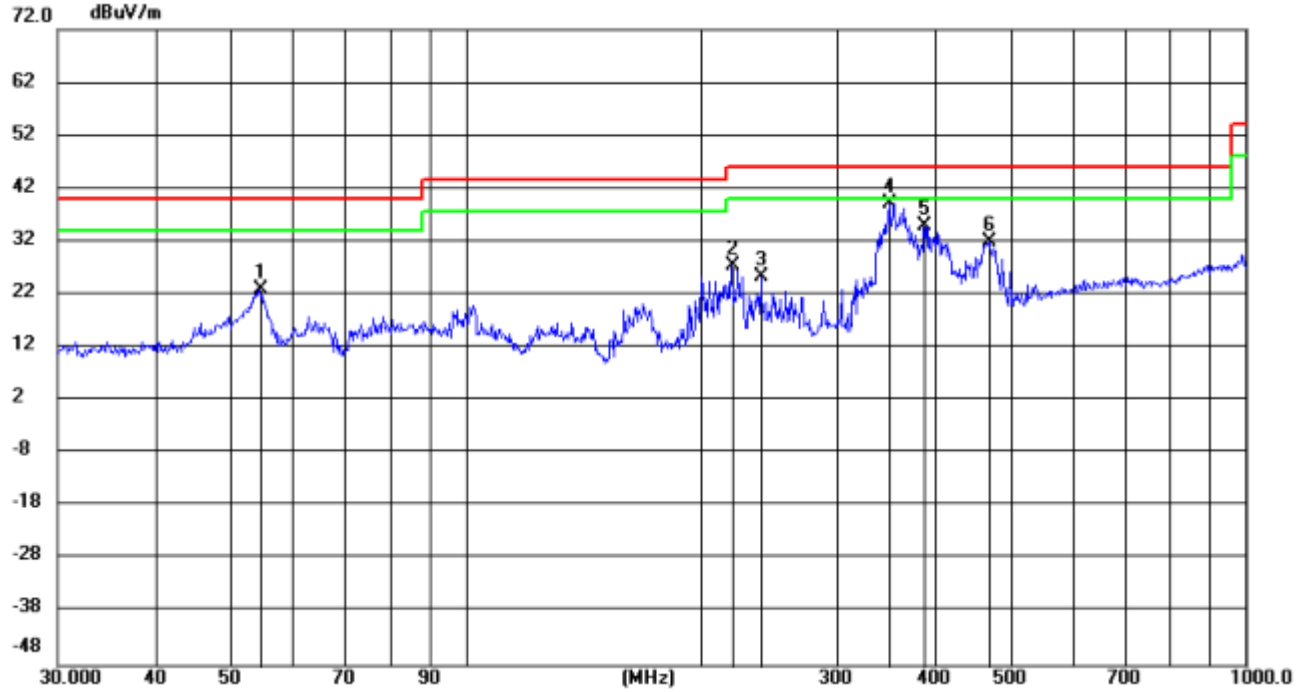
9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Radiated Spurious Emission 30MHz-1GHz:

Test data:

Polarization: Horizontal

Model: S700-C



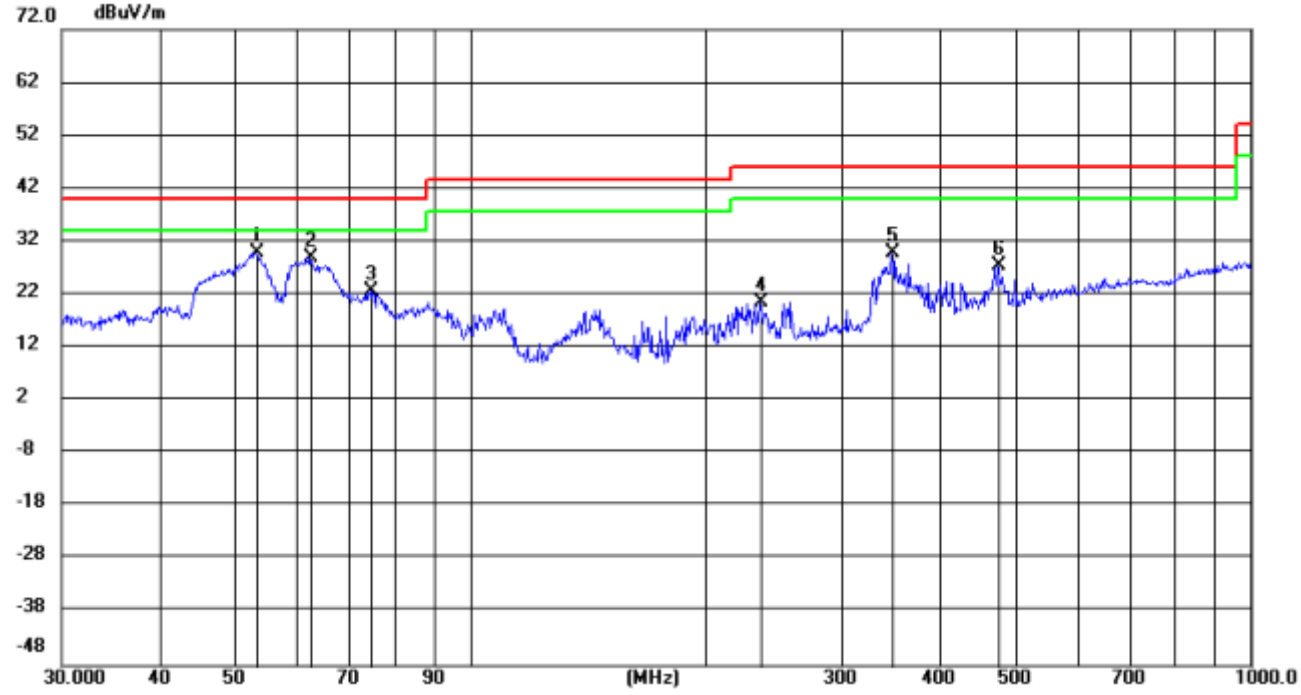
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		54.6141	8.84	14.13	22.97	40.00	-17.03	QP	100	184	
2		219.3443	14.31	13.19	27.50	46.00	-18.50	QP	100	65	
3		239.4829	11.25	14.07	25.32	46.00	-20.68	QP	100	305	
4	*	349.5562	21.19	17.94	39.13	46.00	-6.87	QP	100	90	
5		387.8559	15.73	19.11	34.84	46.00	-11.16	QP	100	90	
6		468.9584	11.64	20.27	31.91	46.00	-14.09	QP	199	66	

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	*	53.1406	15.59	14.29	29.88	40.00	-10.12	QP	100	133	
2		62.5409	16.00	12.87	28.87	40.00	-11.13	QP	100	239	
3		74.8272	12.25	10.41	22.66	40.00	-17.34	QP	200	222	
4		235.2795	6.79	13.89	20.68	46.00	-25.32	QP	200	14	
5		346.9307	11.99	17.87	29.86	46.00	-16.14	QP	100	353	
6		474.4997	7.04	20.27	27.31	46.00	-18.69	QP	100	169	

Note:

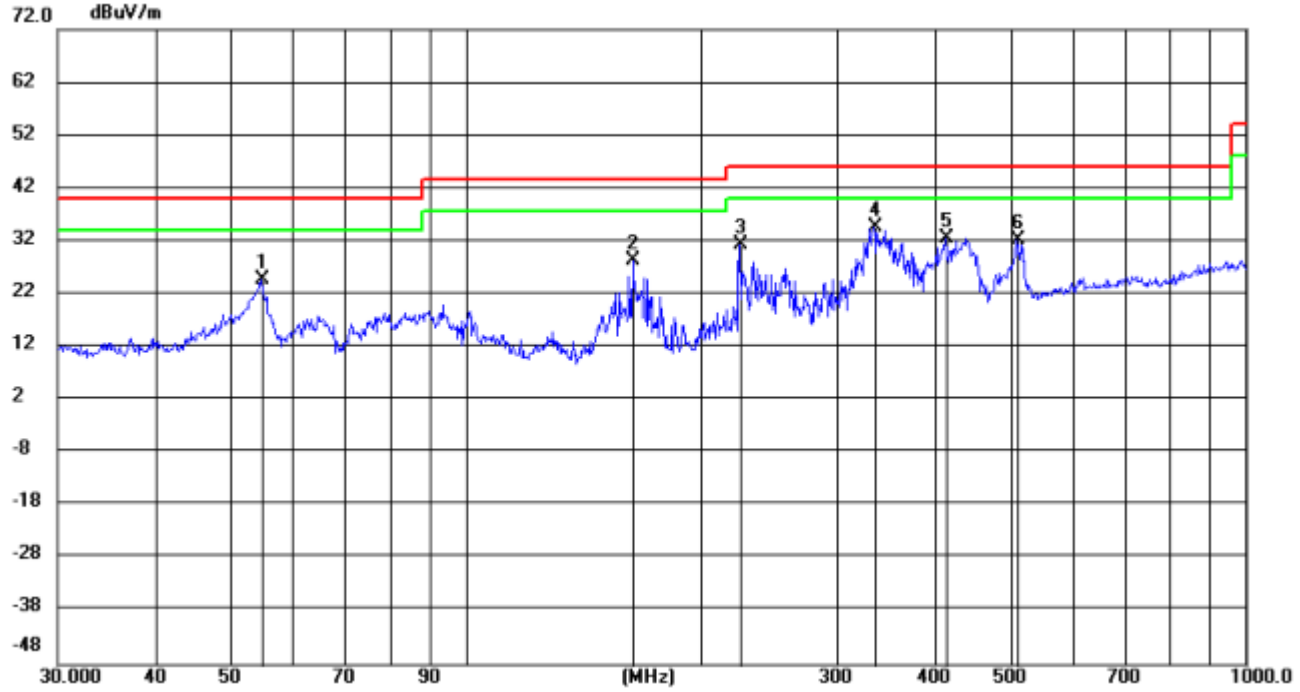
①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

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

Test data:

Polarization: Horizontal

Model: S700-A



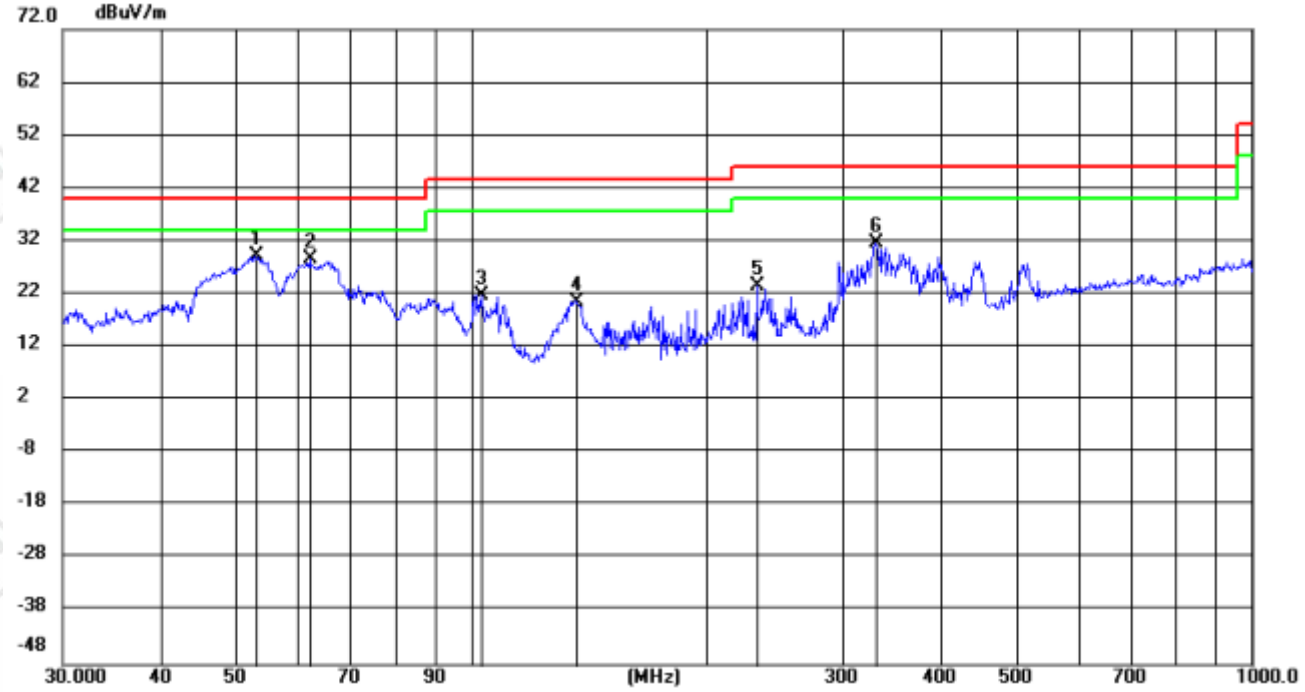
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		54.7579	10.50	14.11	24.61	40.00	-15.39	QP	100	253	
2		163.8986	17.65	10.76	28.41	43.50	-15.09	QP	199	22	
3		224.6768	17.91	13.41	31.32	46.00	-14.68	QP	100	56	
4	*	334.2722	17.28	17.48	34.76	46.00	-11.24	QP	199	353	
5		412.4743	12.85	19.61	32.46	46.00	-13.54	QP	100	22	
6		509.9541	11.35	20.80	32.15	46.00	-13.85	QP	199	258	

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	*	53.0103	15.05	14.31	29.36	40.00	-10.64	QP	100	152	
2		62.4095	15.76	12.90	28.66	40.00	-11.34	QP	100	205	
3		103.1885	8.25	13.64	21.89	43.50	-21.61	QP	100	327	
4		136.3881	10.19	10.51	20.70	43.50	-22.80	QP	100	266	
5		233.0625	9.87	13.79	23.66	46.00	-22.34	QP	200	14	
6		329.5587	14.23	17.31	31.54	46.00	-14.46	QP	100	354	

Note:

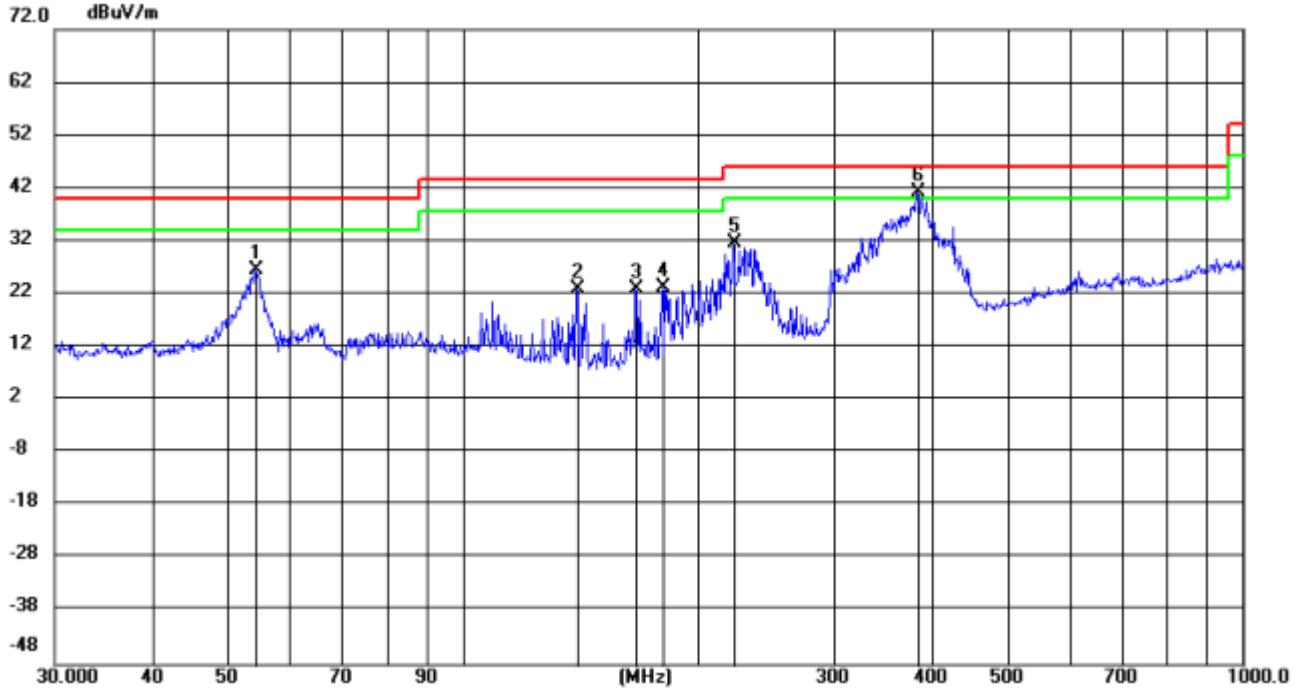
①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

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

Test data:

Polarization: Horizontal

Model: S100



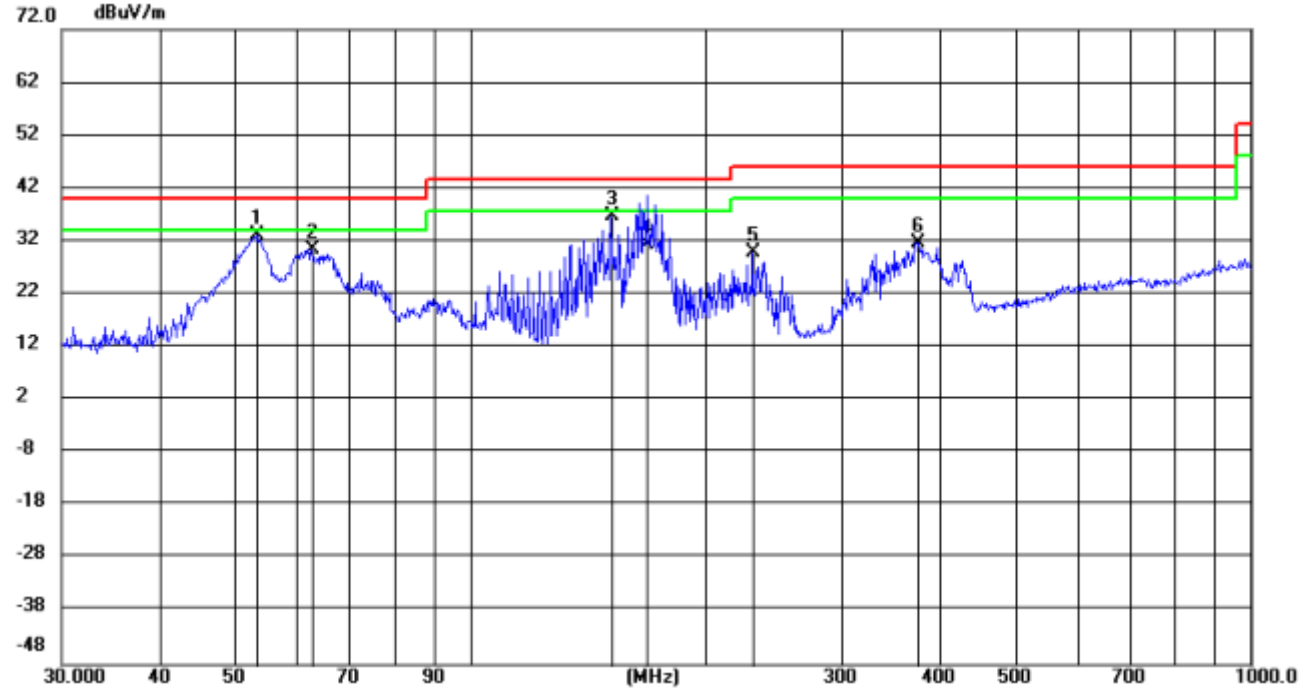
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		54.4420	12.51	14.15	26.66	40.00	-13.34	QP	100	295	
2		140.1945	12.66	10.38	23.04	43.50	-20.46	QP	100	321	
3		167.0609	11.98	10.91	22.89	43.50	-20.61	QP	100	22	
4		180.6804	12.27	11.09	23.36	43.50	-20.14	QP	100	48	
5		222.7158	18.38	13.33	31.71	46.00	-14.29	QP	100	226	
6	*	382.7891	22.27	18.96	41.23	46.00	-4.77	QP	199	293	

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	*	53.4209	18.89	14.26	33.15	40.00	-6.85	QP	100	98	
2		62.8267	17.66	12.79	30.45	40.00	-9.55	QP	100	222	
3		151.9430	26.29	10.32	36.61	43.50	-6.89	QP	100	19	
4		168.9165	20.50	11.00	31.50	43.50	-12.00	QP	100	353	
5		230.5427	16.13	13.68	29.81	46.00	-16.19	QP	200	343	
6		374.4256	13.03	18.69	31.72	46.00	-14.28	QP	200	273	

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: (Model:S100)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1385.9386	-21.46	57.44	35.98	74.00	38.02	PASS	Horizontal	PK
2	1936.7937	-16.72	55.28	38.56	74.00	35.44	PASS	Horizontal	PK
3	3451.6452	-13.06	52.56	39.50	74.00	34.50	PASS	Horizontal	PK
4	4291.5292	-9.10	50.27	41.17	74.00	32.83	PASS	Horizontal	PK
5	9018.0018	0.99	45.37	46.36	74.00	27.64	PASS	Horizontal	PK
6	11207.8208	5.54	44.60	50.14	74.00	23.86	PASS	Horizontal	PK
7	1409.741	-21.33	58.29	36.96	74.00	37.04	PASS	Vertical	PK
8	2280.228	-18.22	57.98	39.76	74.00	34.24	PASS	Vertical	PK
9	3449.945	-12.99	54.12	41.13	74.00	32.87	PASS	Vertical	PK
10	5952.5953	-3.06	46.84	43.78	74.00	30.22	PASS	Vertical	PK
11	7868.6869	-0.49	45.47	44.98	74.00	29.02	PASS	Vertical	PK
12	12355.4355	6.24	44.32	50.56	74.00	23.44	PASS	Vertical	PK

Test data: (Model:S700-C)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1377.4377	-21.51	56.26	34.75	74.00	39.25	PASS	Horizontal	PK
2	1950.395	-16.42	54.87	38.45	74.00	35.55	PASS	Horizontal	PK
3	3099.71	-14.50	53.92	39.42	74.00	34.58	PASS	Horizontal	PK
4	5048.1048	-7.01	49.17	42.16	74.00	31.84	PASS	Horizontal	PK
5	7861.8862	-0.52	46.01	45.49	74.00	28.51	PASS	Horizontal	PK
6	11949.0949	6.55	44.03	50.58	74.00	23.42	PASS	Horizontal	PK
7	1394.4394	-21.42	56.85	35.43	74.00	38.57	PASS	Vertical	PK
8	2069.4069	-18.10	56.62	38.52	74.00	35.48	PASS	Vertical	PK
9	3118.4118	-14.92	53.77	38.85	74.00	35.15	PASS	Vertical	PK
10	4789.679	-8.99	50.15	41.16	74.00	32.84	PASS	Vertical	PK
11	8757.8758	0.65	45.45	46.10	74.00	27.90	PASS	Vertical	PK
12	12403.0403	6.33	44.74	51.07	74.00	22.93	PASS	Vertical	PK

Test data: (Model:S700-A)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1370.6371	-21.55	58.02	36.47	74.00	37.53	PASS	Horizontal	PK
2	1948.6949	-16.44	54.45	38.01	74.00	35.99	PASS	Horizontal	PK
3	3793.3793	-11.84	52.18	40.34	74.00	33.66	PASS	Horizontal	PK
4	5942.3942	-3.43	47.70	44.27	74.00	29.73	PASS	Horizontal	PK
5	7863.5864	-0.52	45.66	45.14	74.00	28.86	PASS	Horizontal	PK
6	11966.0966	6.57	44.66	51.23	74.00	22.77	PASS	Horizontal	PK
7	1710.6711	-19.60	58.67	39.07	74.00	34.93	PASS	Vertical	PK
8	2710.371	-16.35	54.67	38.32	74.00	35.68	PASS	Vertical	PK
9	3716.8717	-12.73	52.02	39.29	74.00	34.71	PASS	Vertical	PK
10	5075.3075	-7.45	49.26	41.81	74.00	32.19	PASS	Vertical	PK
11	7860.186	-0.53	46.52	45.99	74.00	28.01	PASS	Vertical	PK
12	11959.2959	6.59	43.74	50.33	74.00	23.67	PASS	Vertical	PK

Radiated Spurious Emission 18GHz-41GHz:

Test data: (Model:S100)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20025.001	-24.73	61.06	36.33	74.00	37.67	PASS	Horizontal	PK
2	23982.0793	-21.98	58.69	36.71	74.00	37.29	PASS	Horizontal	PK
3	28035.7614	-21.22	58.84	37.62	74.00	36.38	PASS	Horizontal	PK
4	32439.0576	-18.20	53.95	35.75	74.00	38.25	PASS	Horizontal	PK
5	36601.3041	-15.76	50.74	34.98	74.00	39.02	PASS	Horizontal	PK
6	38788.2315	-13.27	48.05	34.78	74.00	39.22	PASS	Horizontal	PK
7	20686.5075	-25.89	62.14	36.25	74.00	37.75	PASS	Vertical	PK
8	23610.3844	-23.03	59.41	36.38	74.00	37.62	PASS	Vertical	PK
9	26366.8147	-21.20	59.68	38.48	74.00	35.52	PASS	Vertical	PK
10	30870.3948	-19.53	56.06	36.53	74.00	37.47	PASS	Vertical	PK
11	33597.3839	-17.33	53.71	36.38	74.00	37.62	PASS	Vertical	PK
12	38984.1994	-12.89	48.15	35.26	74.00	38.74	PASS	Vertical	PK

Test data: (Model:S700-C)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19907.2363	-24.90	61.11	36.21	74.00	37.79	PASS	Horizontal	PK
2	23091.4837	-25.03	60.28	35.25	74.00	38.75	PASS	Horizontal	PK
3	25852.5141	-20.84	58.05	37.21	74.00	36.79	PASS	Horizontal	PK
4	28859.1944	-21.43	58.50	37.07	74.00	36.93	PASS	Horizontal	PK
5	33591.8637	-17.36	54.21	36.85	74.00	37.15	PASS	Horizontal	PK
6	38084.4034	-14.64	49.77	35.13	74.00	38.87	PASS	Horizontal	PK
7	20013.0405	-24.68	61.34	36.66	74.00	37.34	PASS	Vertical	PK
8	22214.6886	-25.38	60.51	35.13	74.00	38.87	PASS	Vertical	PK
9	25282.0913	-21.20	57.79	36.59	74.00	37.41	PASS	Vertical	PK
10	27812.1925	-21.07	59.44	38.37	74.00	35.63	PASS	Vertical	PK
11	31615.6246	-19.65	55.43	35.78	74.00	38.22	PASS	Vertical	PK
12	35924.157	-17.07	52.71	35.64	74.00	38.36	PASS	Vertical	PK

Test data: (Model:S700-A)

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19673.5469	-25.46	61.42	35.96	74.00	38.04	PASS	Horizontal	PK
2	22229.4092	-25.35	60.88	35.53	74.00	38.47	PASS	Horizontal	PK
3	24394.2558	-21.71	57.96	36.25	74.00	37.75	PASS	Horizontal	PK
4	28799.392	-21.48	58.68	37.20	74.00	36.80	PASS	Horizontal	PK
5	32843.8738	-18.74	55.22	36.48	74.00	37.52	PASS	Horizontal	PK
6	38081.6433	-14.66	49.69	35.03	74.00	38.97	PASS	Horizontal	PK
7	20245.8098	-25.50	62.53	37.03	74.00	36.97	PASS	Vertical	PK
8	23794.3918	-22.35	58.84	36.49	74.00	37.51	PASS	Vertical	PK
9	27845.3138	-21.09	58.52	37.43	74.00	36.57	PASS	Vertical	PK
10	30871.3149	-19.53	55.19	35.66	74.00	38.34	PASS	Vertical	PK
11	35863.4345	-16.91	51.97	35.06	74.00	38.94	PASS	Vertical	PK
12	38945.5578	-12.96	47.78	34.82	74.00	39.18	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/cm^2 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
41.0165	Horizontal	-41.11	0.07	≤90	Pass
41.01225	Vertical	-41.39	0.06	≤90	Pass
60.0623	Horizontal	-36.09	0.22	≤90	Pass
60.0523	Vertical	-36.45	0.20	≤90	Pass
104.4126	Horizontal	-38.32	0.13	≤90	Pass
99.2891	Vertical	-38.53	0.12	≤90	Pass
130.6694	Horizontal	-41.52	0.06	≤90	Pass
130.8064	Vertical	-40.97	0.07	≤90	Pass
144.1204	Horizontal	-40.09	0.09	≤90	Pass
143.2095	Vertical	-40.34	0.08	≤90	Pass

Note:

①EIRP(dBm/MHz) has added free space loss of 1.0m distance.

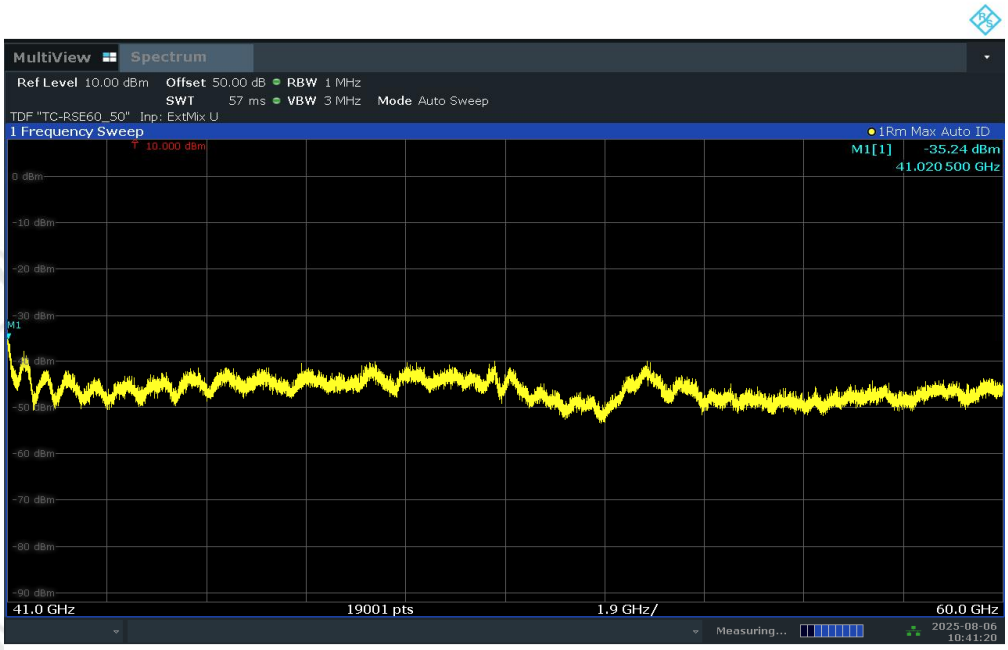
②Only the worst case data was recorded in the report.

③Power density(pW/cm^2)=$10^{EIRP/1MHz(dBm)÷10}$*10^9÷[4*π*(3m*100)^2];

Test graph:

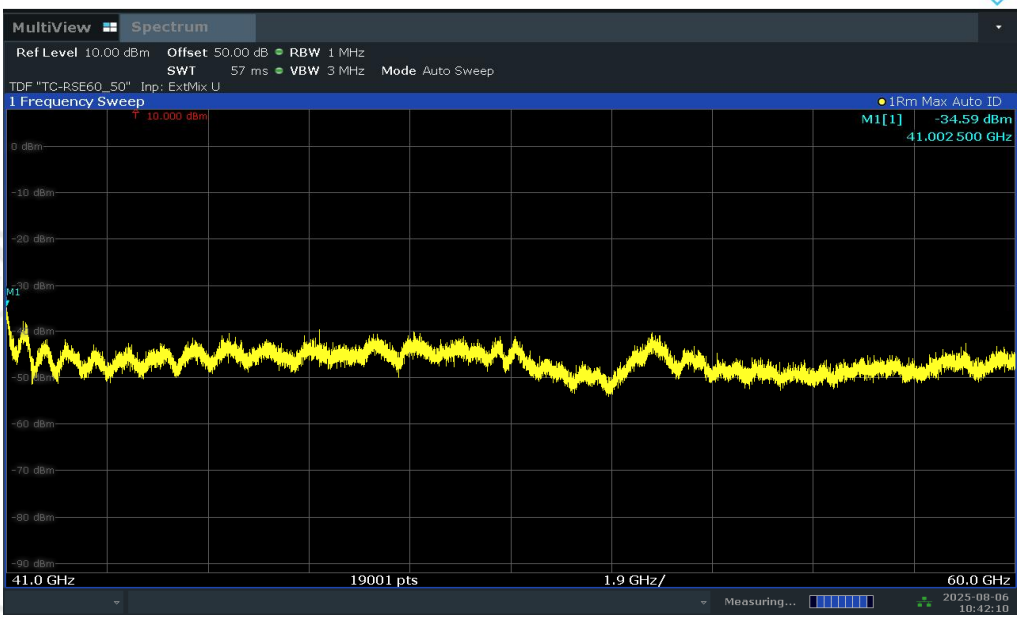
Model:S700-A

41GHz-60GHz (Horizontal)



10:41:21 AM 08/06/2025

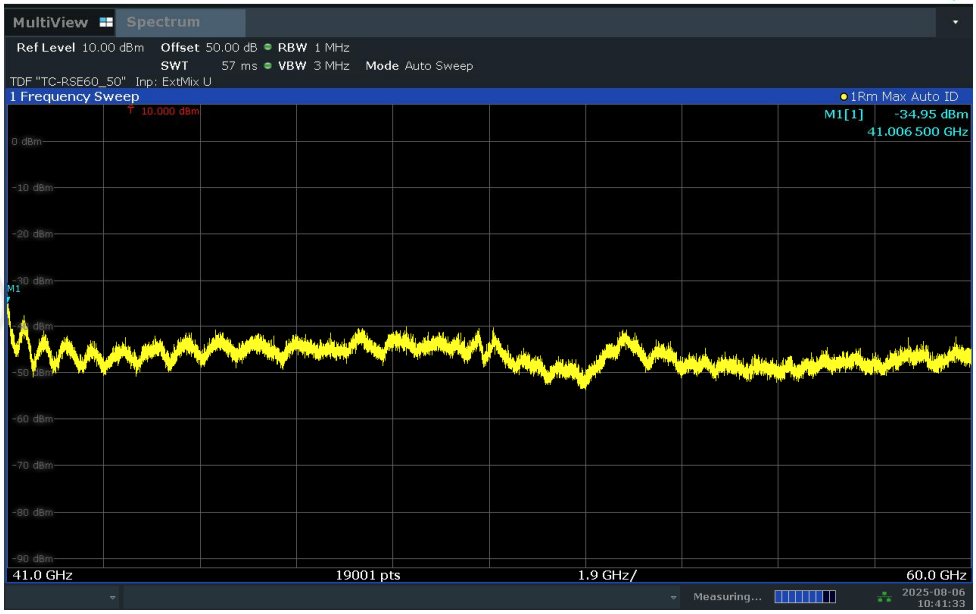
41GHz-60GHz (Vertical)



10:42:10 AM 08/06/2025

Model:S700-C

41GHz-60GHz (Horizontal)



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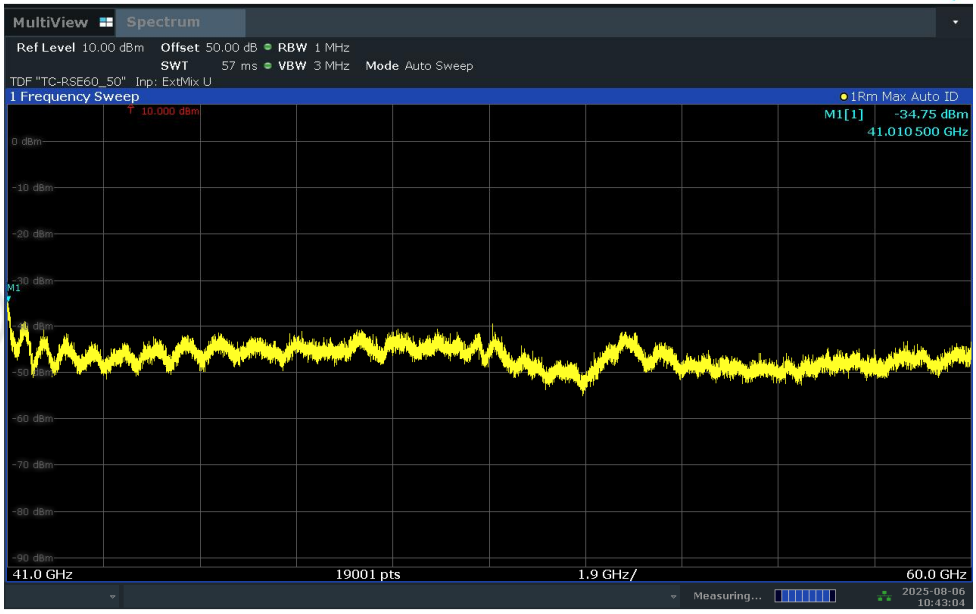
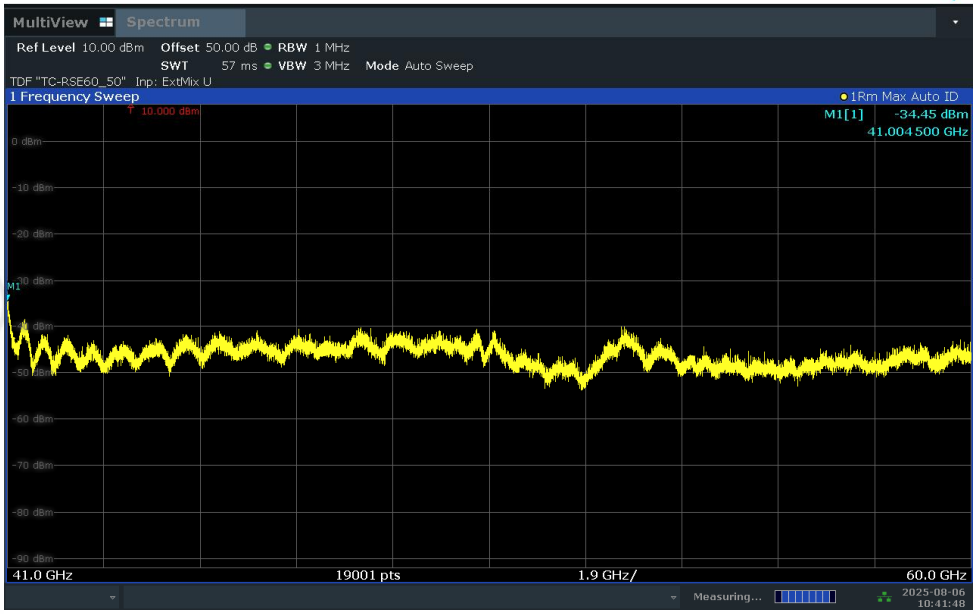
41GHz-60GHz (Vertical)



10:43:05 AM 08/06/2025

Model:S100

41GHz-60GHz (Horizontal)



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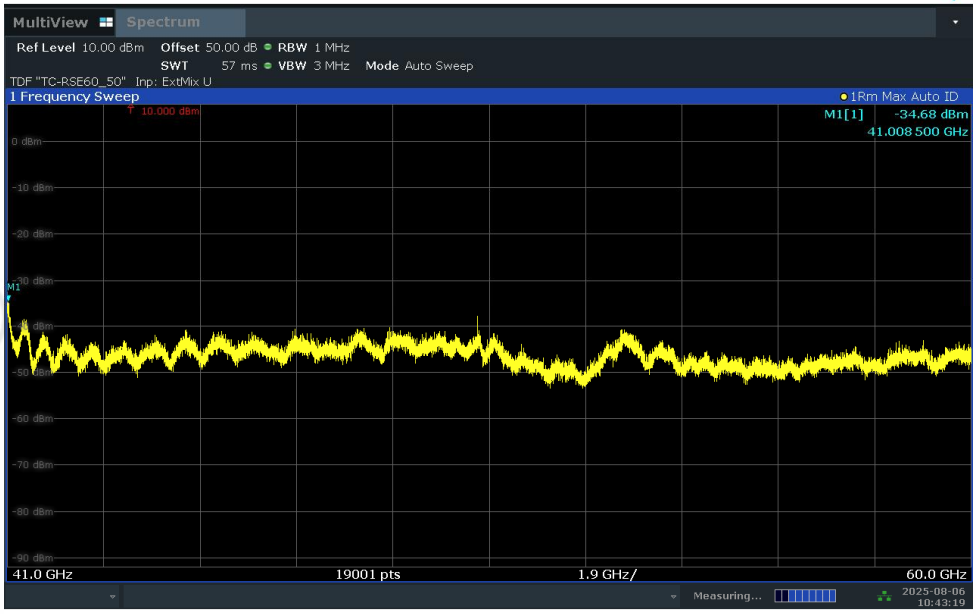
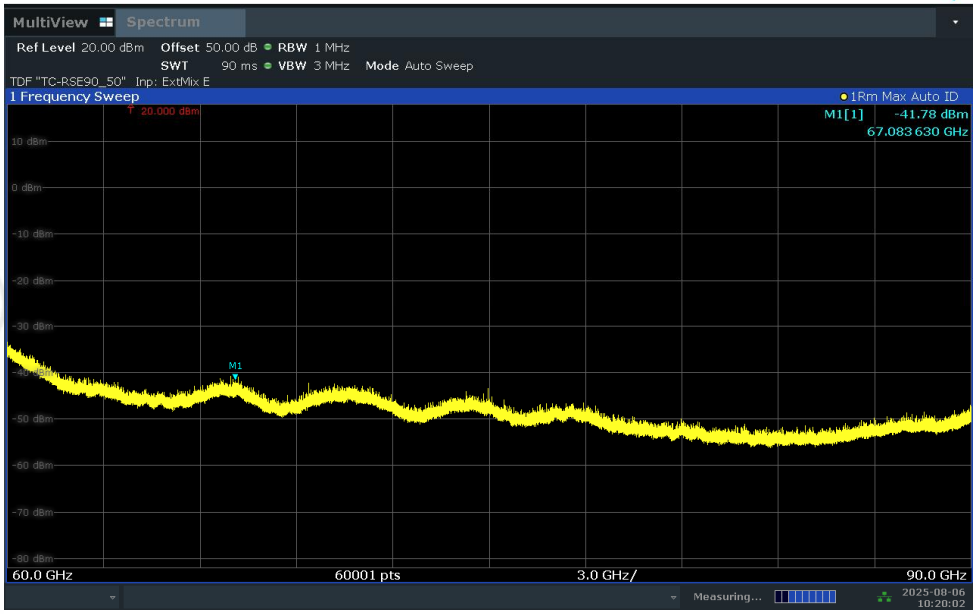
41GHz-60GHz (Vertical)



10:43:19 AM 08/06/2025

Model:S700-A

60GHz-90GHz (Horizontal)



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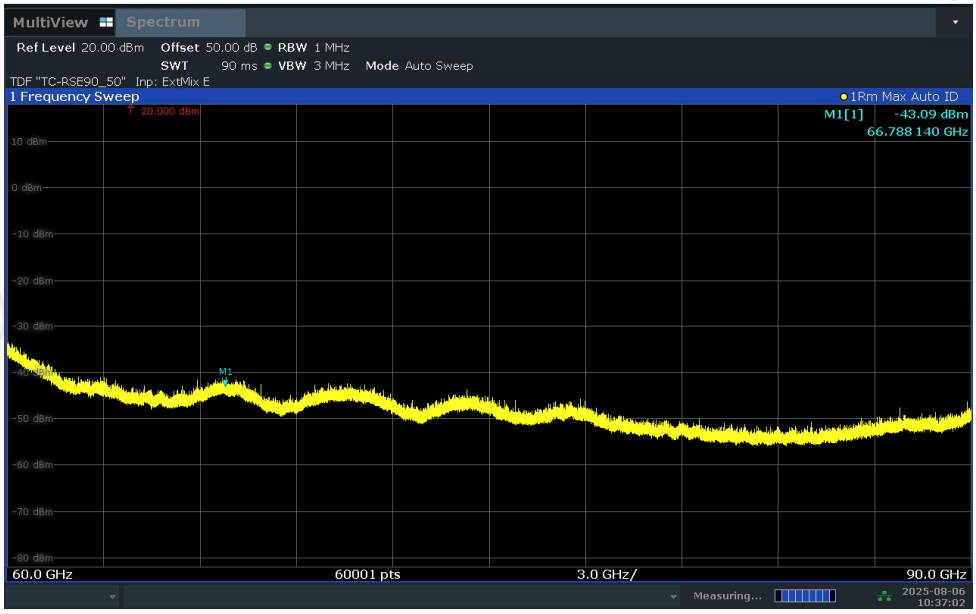
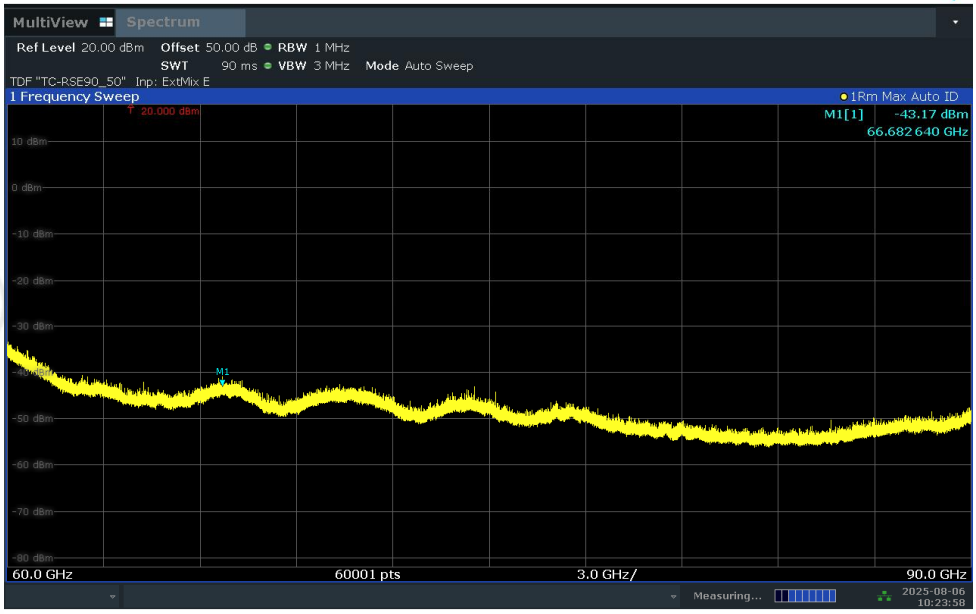
60GHz-90GHz (Vertical)



10:37:02 AM 08/06/2025

Model:S700-C

60GHz-90GHz (Horizontal)



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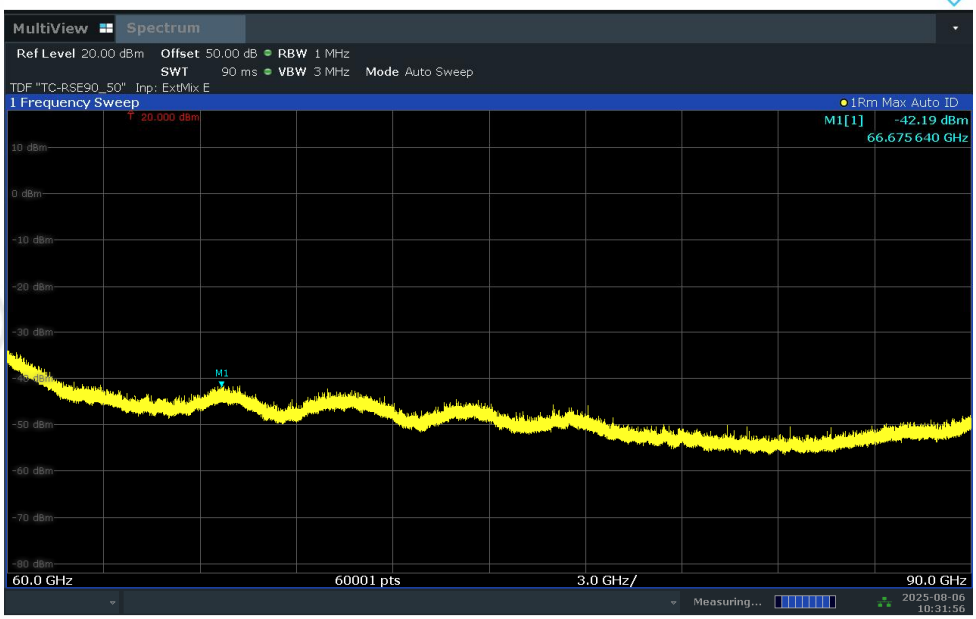
60GHz-90GHz (Vertical)



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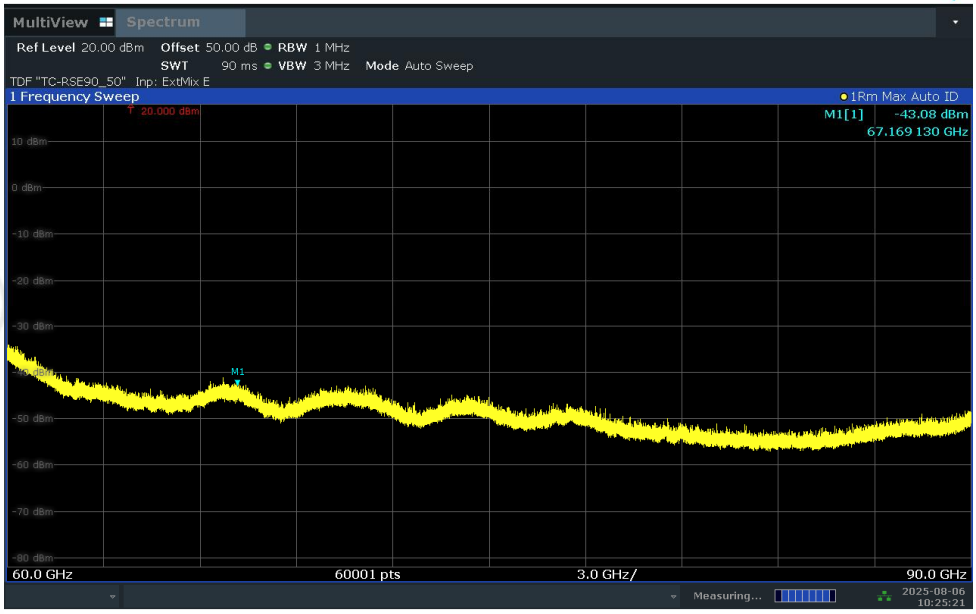
Model:S100

60GHz-90GHz (Horizontal)



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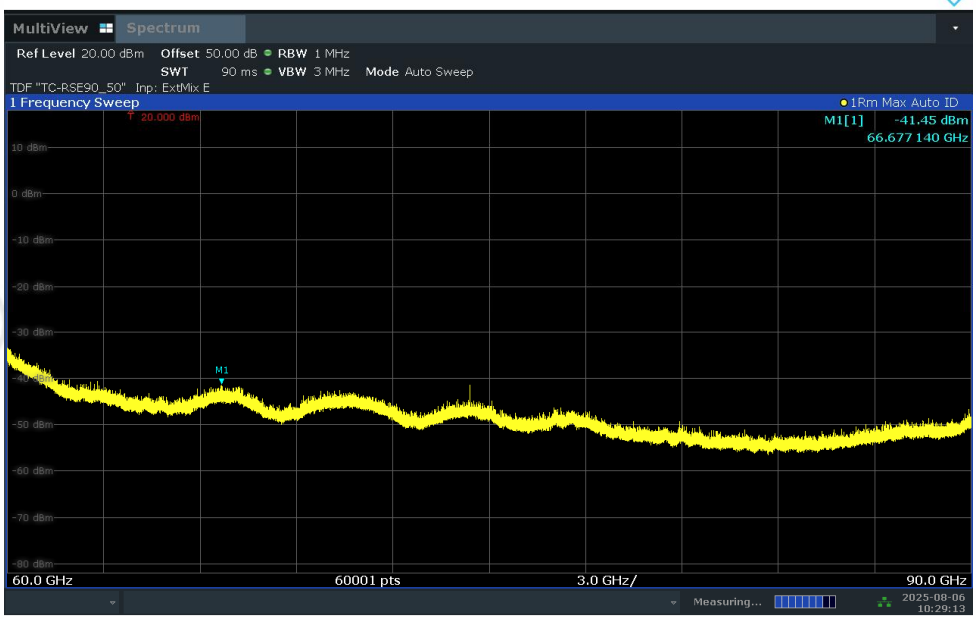
60GHz-90GHz (Vertical)



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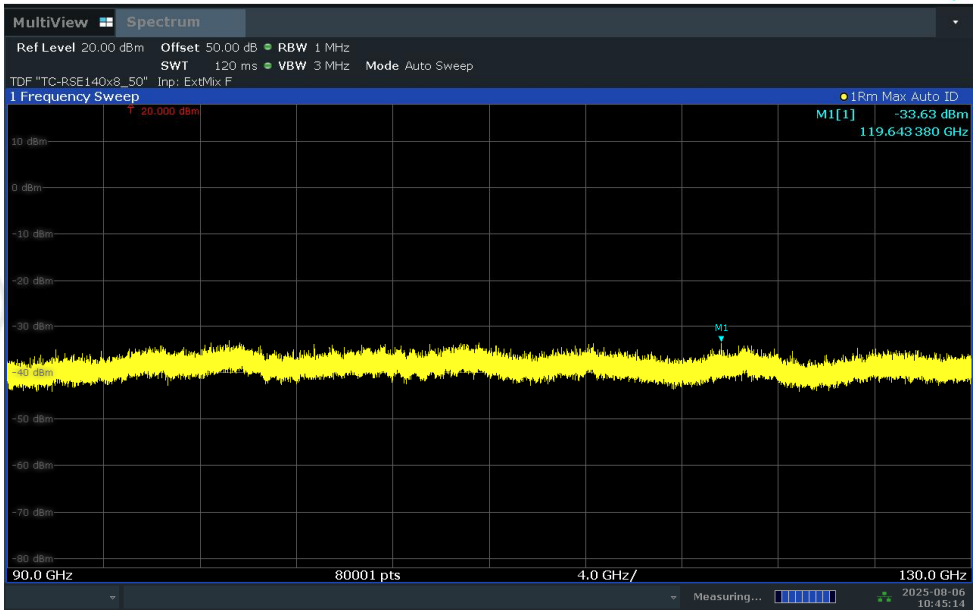
Model:S700-A

90GHz-130GHz (Horizontal)

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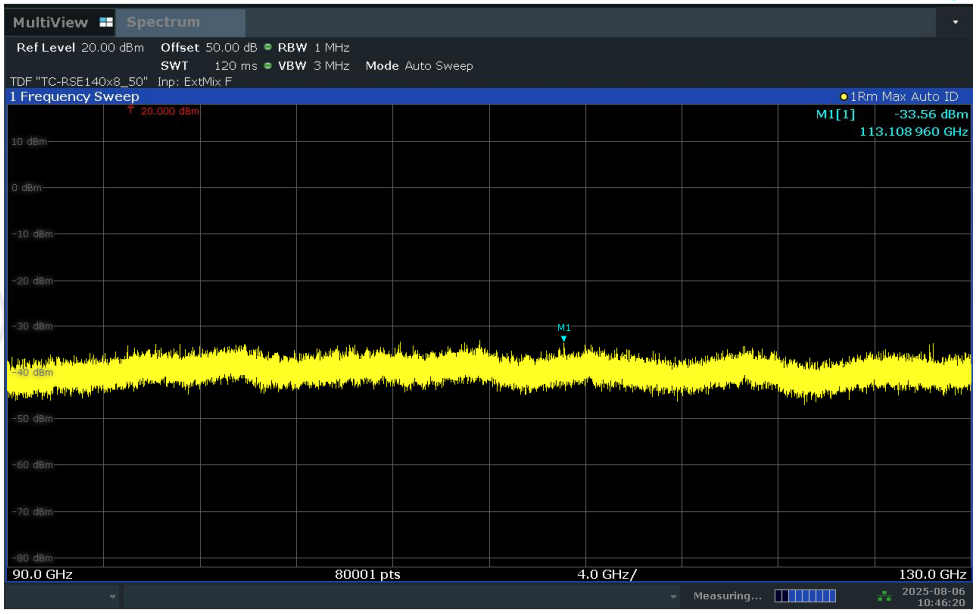
90GHz-130GHz (Vertical)

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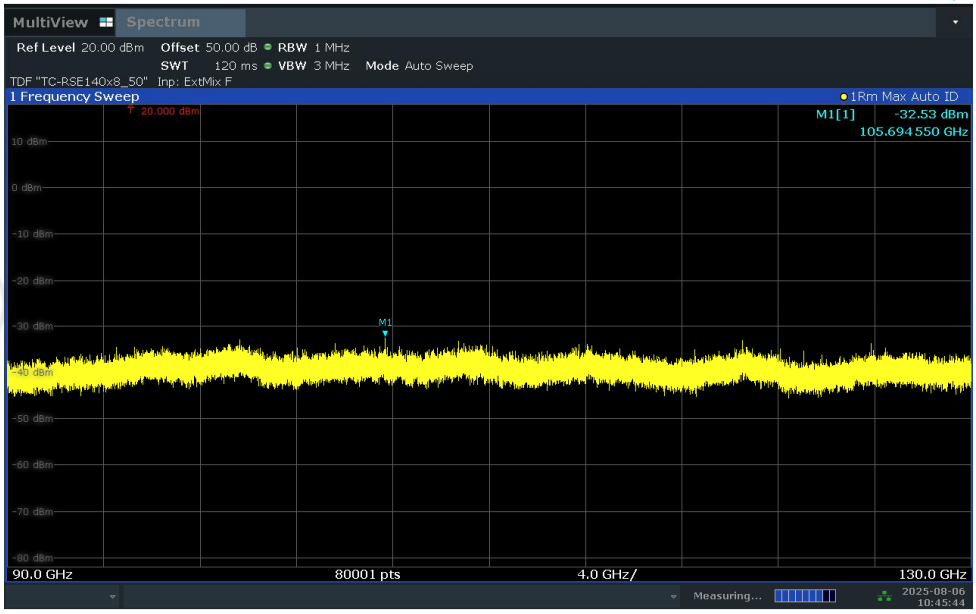
Model:S700-C

90GHz-130GHz (Horizontal)

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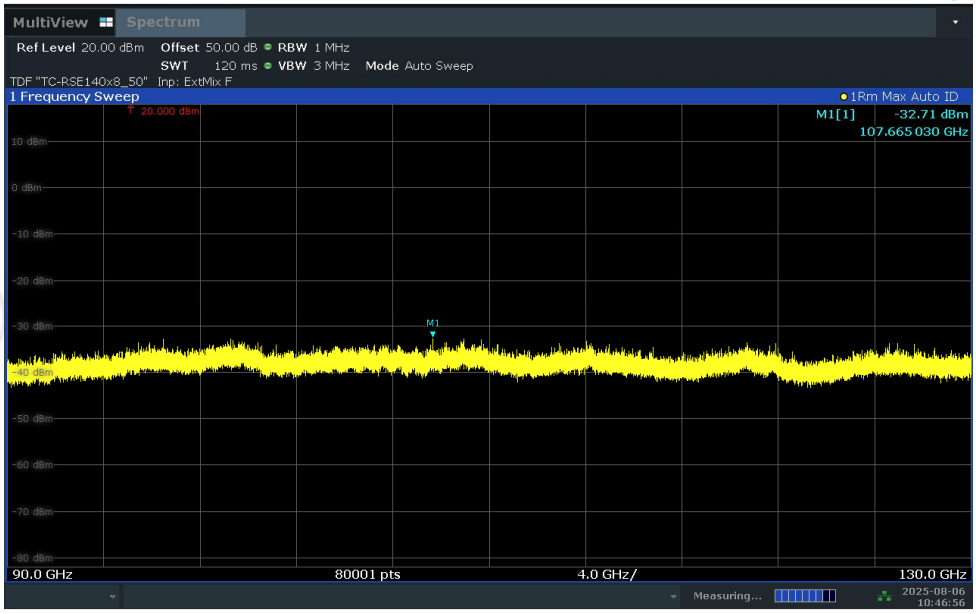
90GHz-130GHz (Vertical)

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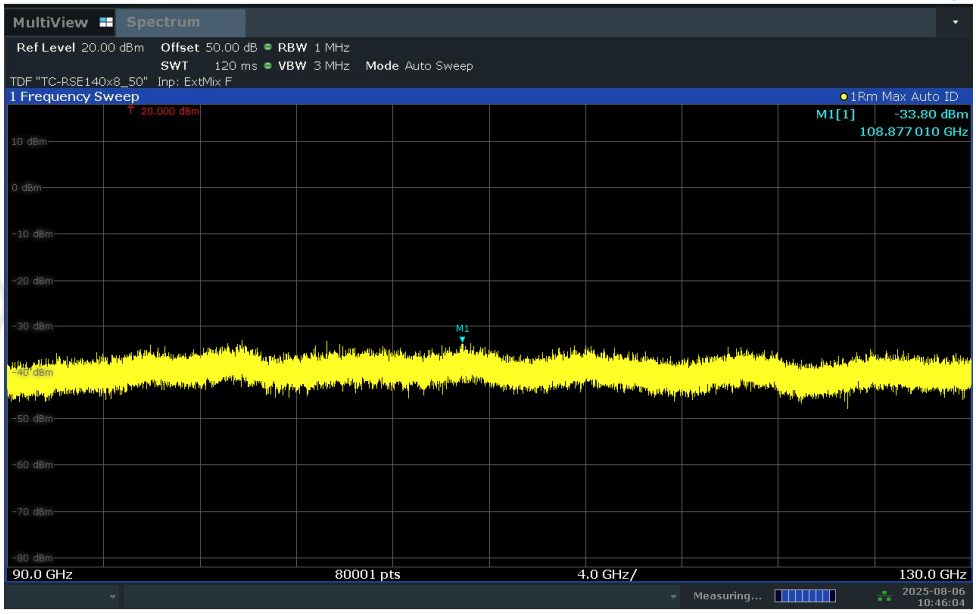
Model:S100

90GHz-130GHz (Horizontal)



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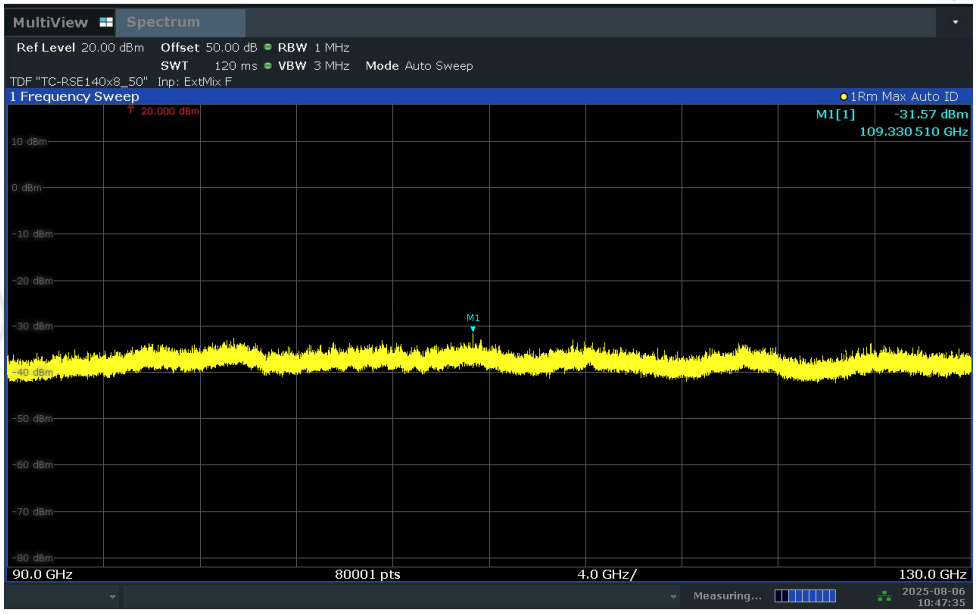
90GHz-130GHz (Vertical)



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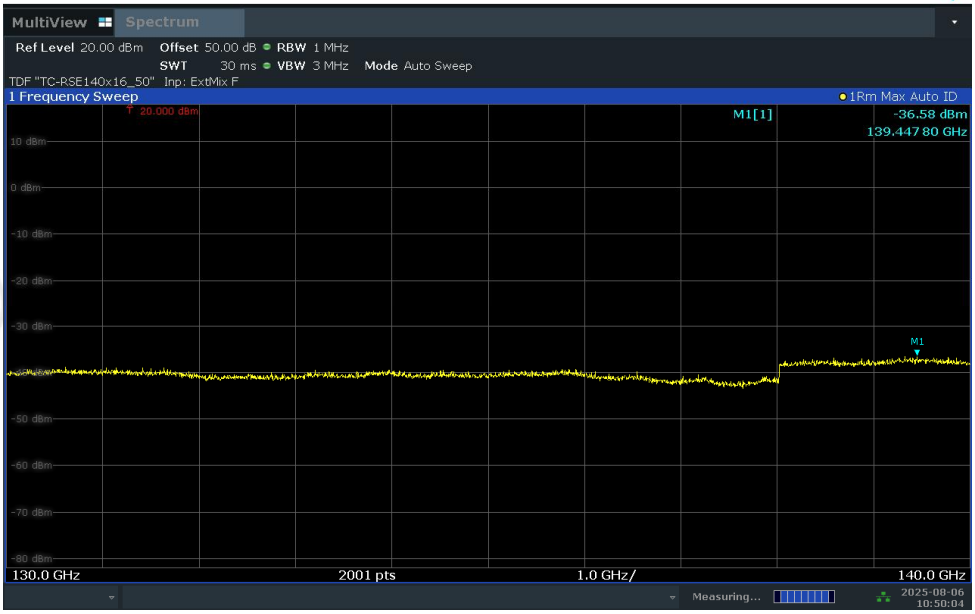
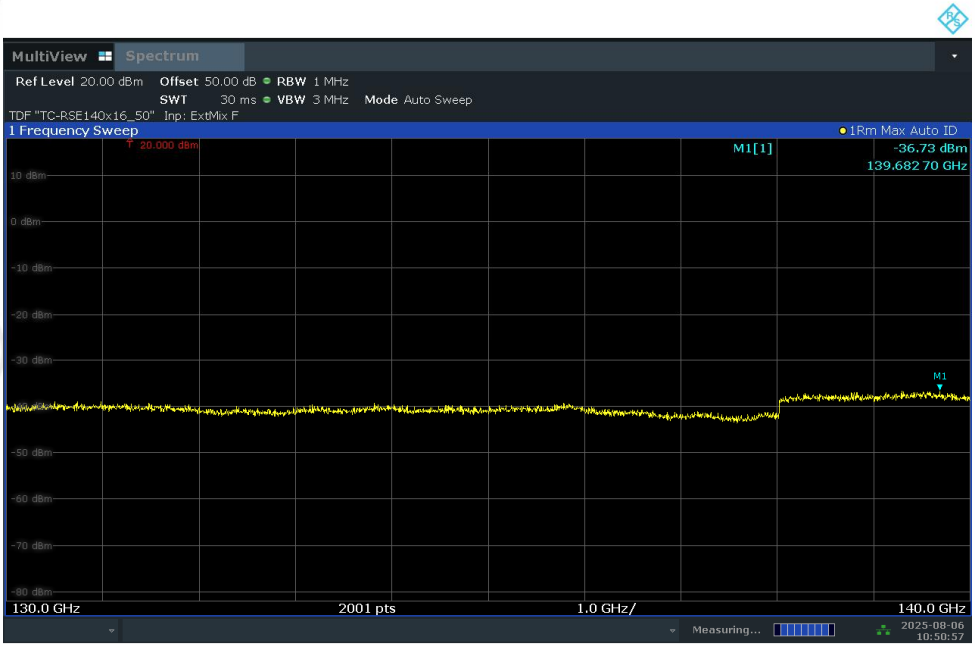
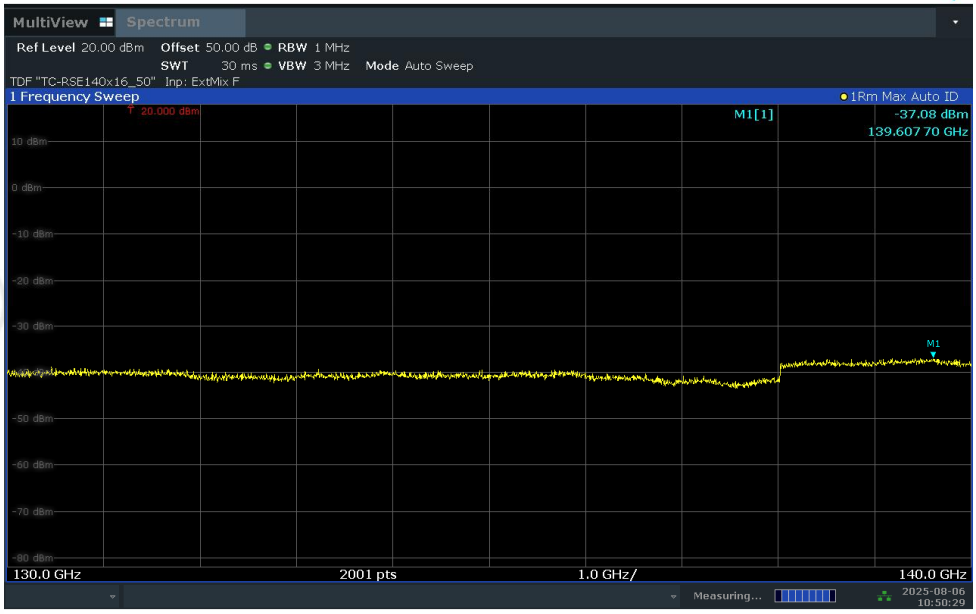
Model:S700-A

130GHz-140GHz (Horizontal)
 10:50:05 AM 08/06/2025
130GHz-140GHz (Vertical)
 10:50:57 AM 08/06/2025

Model:S700-C

130GHz-140GHz (Horizontal)



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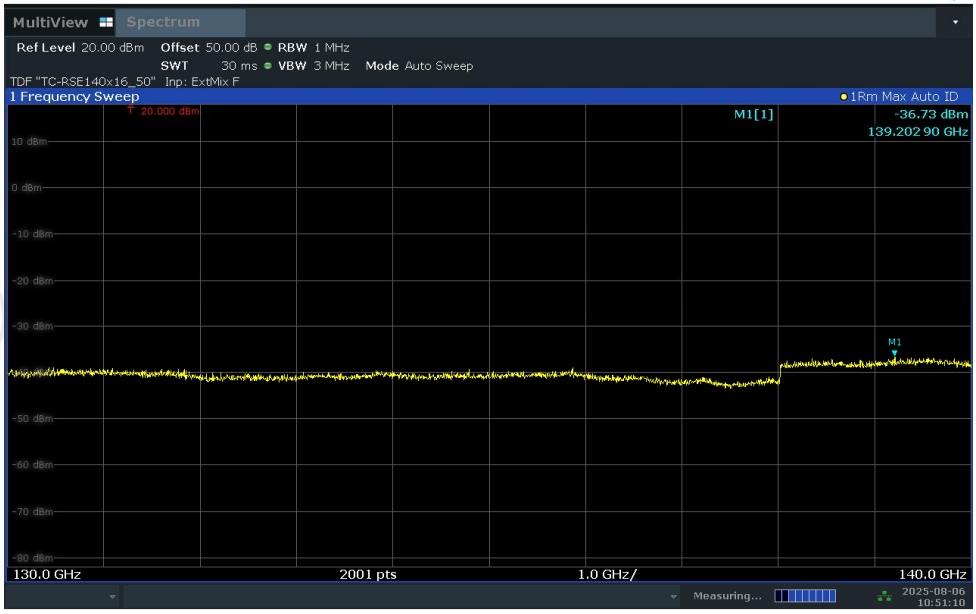
130GHz-140GHz (Vertical)



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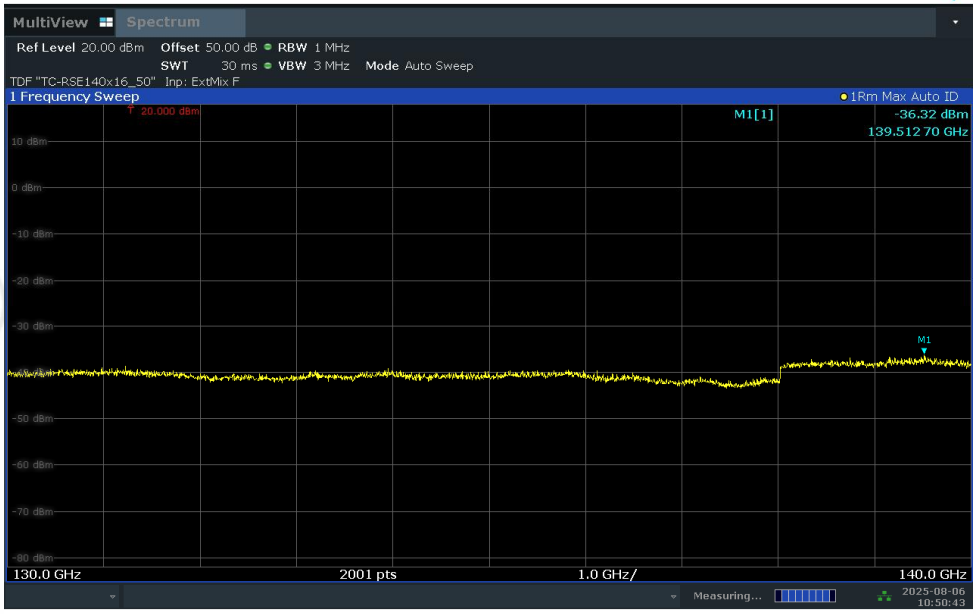
Model:S100

130GHz-140GHz (Horizontal)



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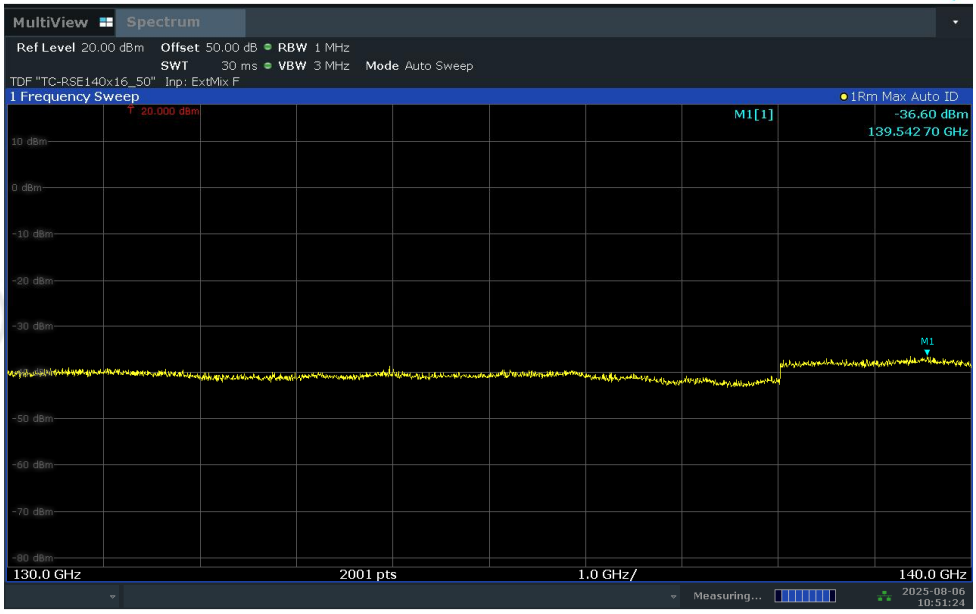
130GHz-140GHz (Vertical)



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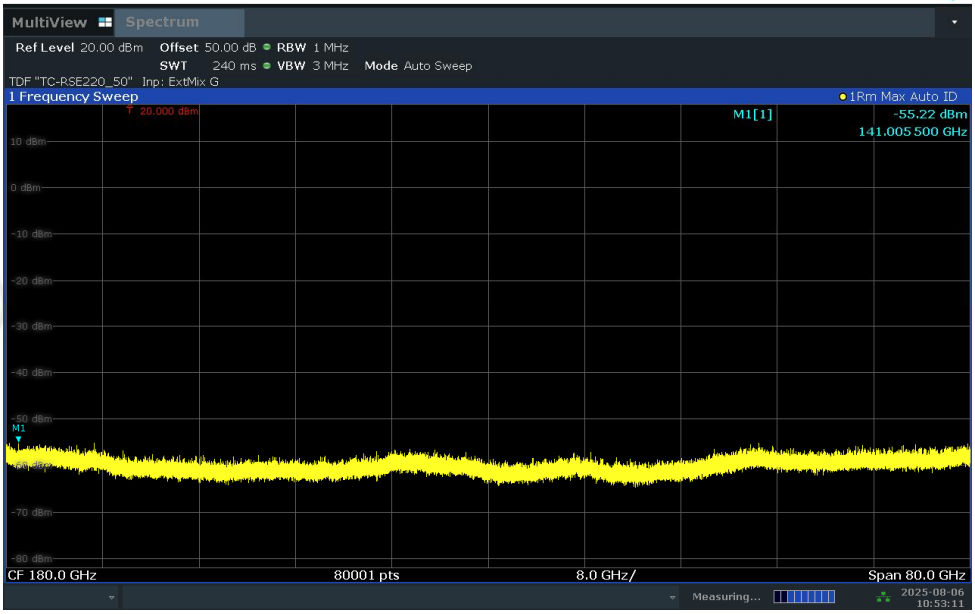
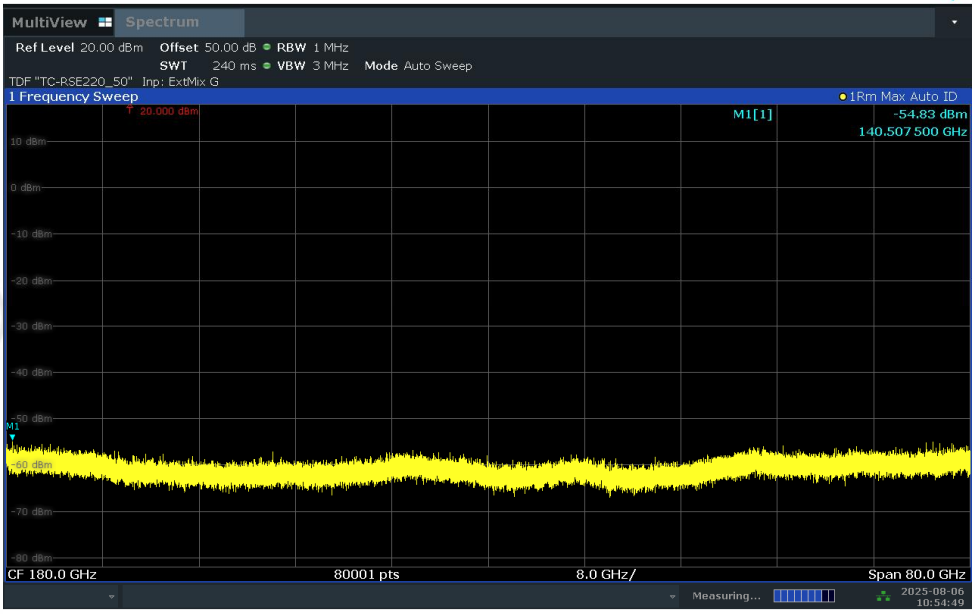
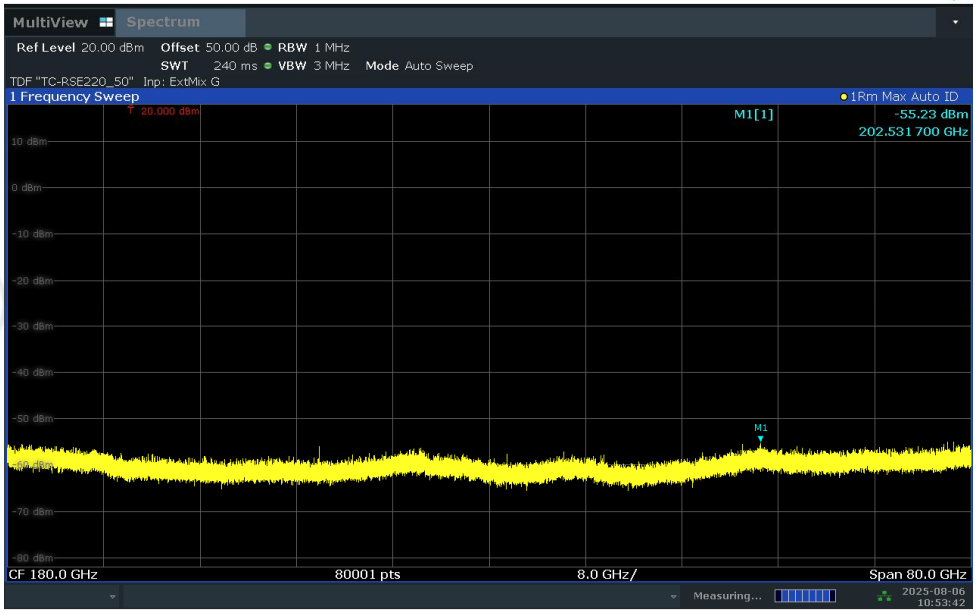
Model:S700-A

140GHz-220GHz (Horizontal)
 10:53:12 AM 08/06/2025
140GHz-220GHz (Vertical)
 10:54:50 AM 08/06/2025

Model:S700-C

140GHz-220GHz (Horizontal)



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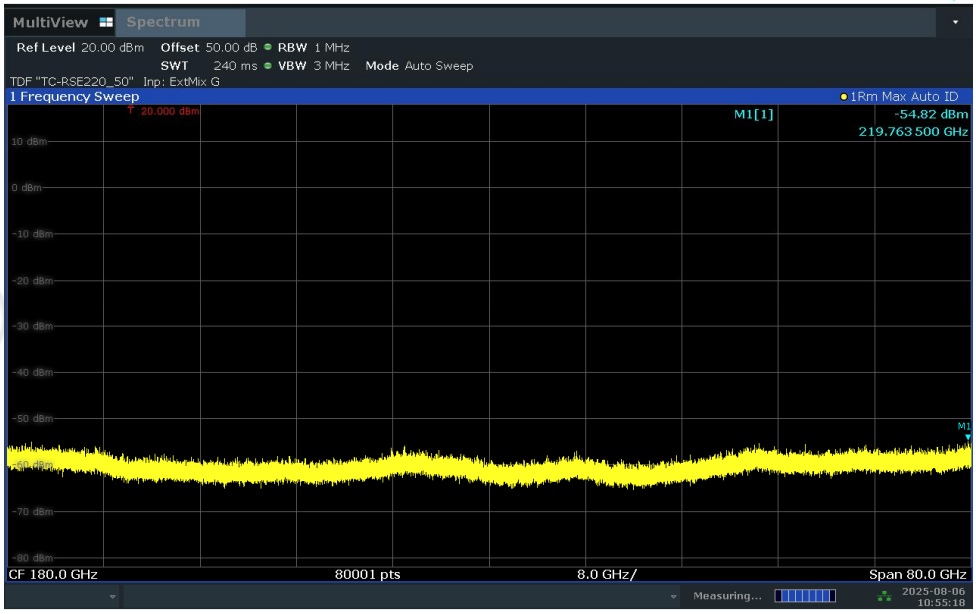
140GHz-220GHz (Vertical)



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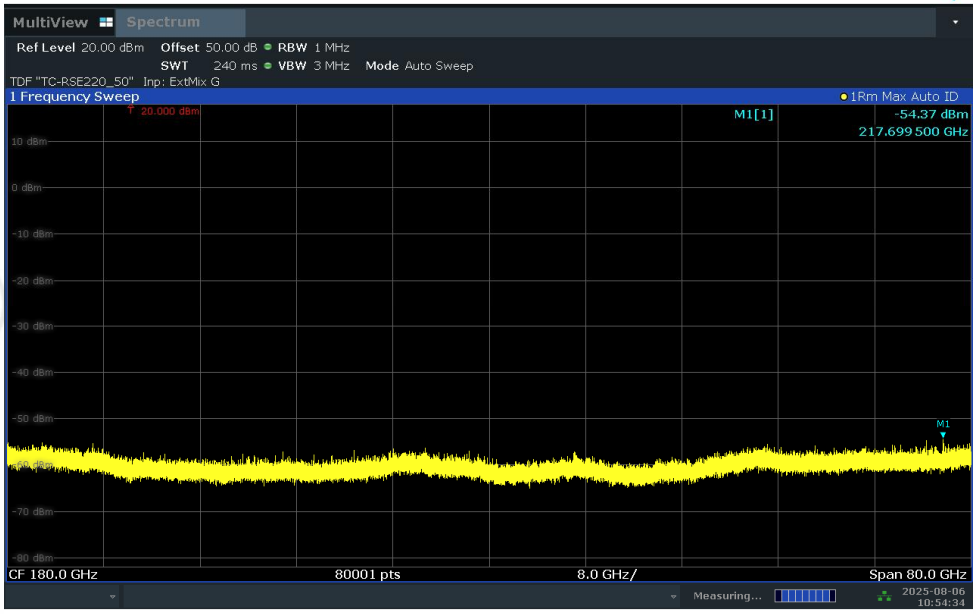
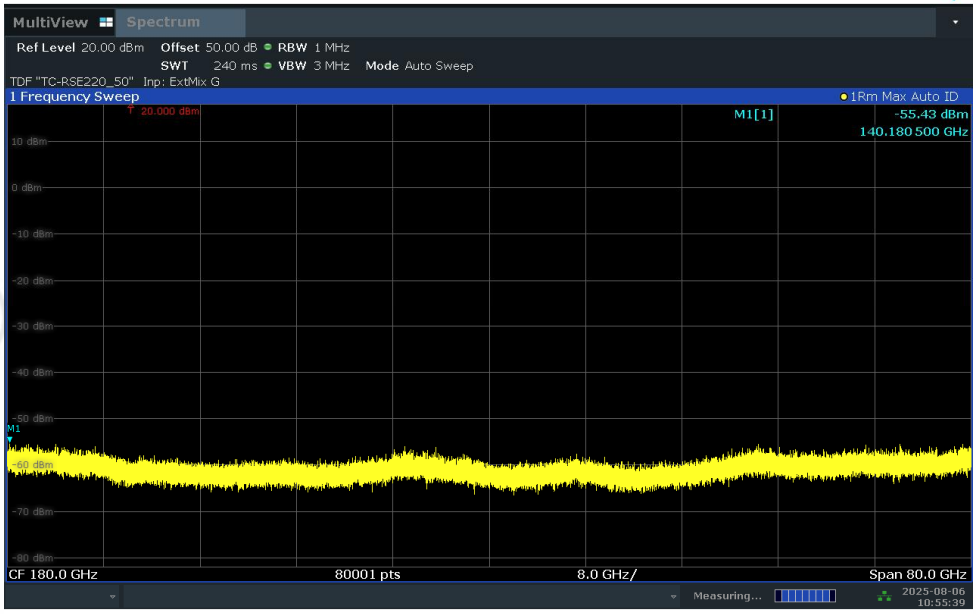
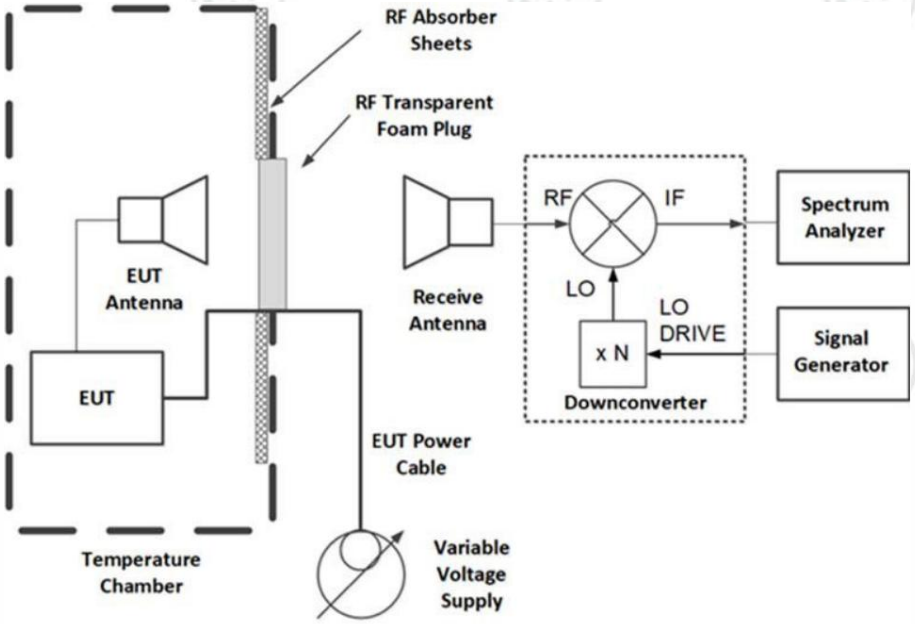
Model:S100

140GHz-220GHz (Horizontal)
 10:54:34 AM 08/06/2025
140GHz-220GHz (Vertical)
 10:55:39 AM 08/06/2025

5.8 Frequency stability

Test Requirement:	47 CFR FCC Part 15C §15.255 (c) & (f)
Test Method:	ANSI C63.10-2013 Section 9.14
Limit:	Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. (Within the 57-71 GHz band)
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:

The EUT belongs to Devices other than field disturbance sensors (the limit: within the 57-71 GHz):

Note: The report only recorded the worst data (S700-A).

Voltage (%)	Power (V/DC)	Temperature (℃)	F_L (GHz)	F_H (GHz)	Limit (GHz)	Result
100	12.0	-40	60.00002	64.04009	57 to 71	Pass
		-30	60.00032	64.04008	57 to 71	Pass
		-20	60.00007	64.04001	57 to 71	Pass
		-10	60.00007	64.04011	57 to 71	Pass
		0	60.00009	64.04011	57 to 71	Pass
		+10	60.00011	64.04019	57 to 71	Pass
		+20	60.00013	64.04007	57 to 71	Pass
		+30	60.00012	64.04005	57 to 71	Pass
		+40	60.00005	64.04005	57 to 71	Pass
		+50	60.00007	64.04003	57 to 71	Pass
		+60	60.00007	64.04012	57 to 71	Pass
		+70	60.00009	64.04000	57 to 71	Pass
		+80	60.00011	64.04000	57 to 71	Pass
		+85	60.00004	64.04000	57 to 71	Pass
115	13.2	+20	60.00000	64.04001	57 to 71	Pass
85	10.8	+20	60.00001	64.04000	57 to 71	Pass

Note: The extreme voltage and extreme temperature is specified by the manufacturer.
F_L: Frequency Low Band Edge, F_H: Frequency High Band Edge,

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 ***