

TEST REPORT FOR UWB TESTING

Report No.: SRTC2022-9004(F)-22060101(K)

Product Name: MK8000_EVB

Product Model: MK8000_LGA40

Applicant: Beijing Hanwei Innovation Technology Corporation Limited

Manufacturer: Beijing Hanwei Innovation Technology Corporation Limited

Specification: FCC Part 15, Subpart F (2021)

FCC ID: 2A7T8MK8000UWBA

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30, Shixing Street, Shijingshan District, Beijing, P.R.China

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1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC). The test results relate only to individual items of the samples which have been tested. The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Test Site 1:	15th Building, No.30 Shixing Street, Shijingshan District
Test Site 2:	No.80, Zhaojiachang, Beizang, Daxing District
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 57996183
Fax:	+86 10 57996388
Email:	liujiaf@srtc.org.cn
Registration number:	239125

1.3 Applicant's details

Company:	Beijing Hanwei Innovation Technology Corporation Limited
Address:	28 Chengfu Road, Suite 4-1103, 11/F,Haidian District, Beijing, CHINA

1.4 Manufacturer's details

Company:	Beijing Hanwei Innovation Technology Corporation Limited
Address:	28 Chengfu Road, Suite 4-1103, 11/F,Haidian District, Beijing, CHINA

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2022.04.11	
Testing Start Date:	2022.06.04	
Testing End Date:	2022.08.05	
Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	23	35
Normal Supply Voltage (V d.c.):	3.0	

2. DESCRIPTION OF THE DEVICE UNDER TEST

Frequency Range	Band1: 3494.4/3993.6/4492.8 MHz Band 3: 6489.6/6988.8/7488.0 MHz Band 6: 7987.2/8486.4/8985.6 MHz
Modulation	BPM/BPSK
Antenna Type	The antenna is integrated with the module Antenna Mode 1: Single antenna Antenna Mode 2: Array antenna
Power Supply	Battery
Rated Power Supply Voltage	3V
HW Version	V1.2
SW Version	V1.0
Sample Serial Number	Antenna Mode 1: 001 Antenna Mode 2: 002

Antenna Gain		
Frequency(GHz)	Max Gain (dBi) Single antenna	Max Gain (dBi) Array antenna
3.5	-2.97	-4.64
4	-4.05	-5.81
4.5	-5.32	-7.30
6.5	-3.45	-4.87
7	-4.82	-6.40
7.5	-4.30	-5.96
8	-5.37	-7.48
8.5	-3.64	-5.86
9	-3.90	-6.24

Note: Array antennas is used to receive signal and do AOA angle measurement (positioning), not as transmitting antenna array, so it has no big gain here.

3. REFERENCE SPECIFICATION

Specification	Version	Title
FCC 47 CFR Part F	2021	Radio Frequency Devices; Subpart F –Ultra Wide Band Devices
ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
ANSI C63.4	2014	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
KDB 393764 D01 UWB FAQ v02	January 29, 2018	Ultra-Wideband (UWB) Devices frequently asked questions

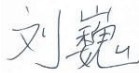
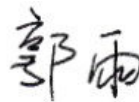
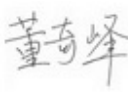
4. KEY TO NOTES AND RESULT CODES

Code	Meaning
PASS	Test result shows that the requirements of the relevant specification have been met.
FAIL	Test result shows that the requirements of the relevant specification have not been met.
N/T	Test case is not tested.
NTC	Nominal voltage, Normal Temperature

5. RESULT SUMMARY

No.	Test case	FCC reference	Verdict
1	Antenna Requirement	15.203	Pass
2	Operational Requirements of the Device under Test	15.519 (a)	Pass
3	UWB Bandwidth	15.503 (a) (d) 15.519 (b)	Pass
4	Average Transmit Power	15.519 (c)	Pass
5	Peak Power Density	15.519 (e)	Pass
6	Spurious Radiated Emissions	15.519 (c) 15.209	Pass
7	Spurious Radiated Emissions in GPS Bands	15.519 (d)	Pass
8	Shutdown Timing Requirements	15.519 (a)(1)	Pass

Test Site 2: No.80, Zhaojiachang, Beizang, Daxing District

This Test Report Is Approved by: Mr. Liu Wei 	Review by: Mr. Guo Yu 
Tested and Issued by: Mr. Dong Qifeng 	Approved date: 20220907

6. TEST RESULT

6.1 Antenna Requirement (15.203)

6.1.1 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 shall be considered sufficient to comply.

6.1.2 Result:

Compliant, the antenna utilized by the device is fixed to the module.

6.2 Operational Requirements of the Device under Test (15.519 (a))

6.2.1 Requirement:

(2) The use of antennas mounted on outdoor structures, e.g., antennas mounted on the outside of a building or on a telephone pole, or any fixed outdoors infrastructure is prohibited. Antennas may be mounted only on the hand held UWB device.

(3) UWB devices operating under the provisions of this section may operate indoors or outdoors.

6.2.2 Result:

Compliant.

6.3 UWB Bandwidth (15.503 (a) (d), 15.519 (b))

6.3.1 Requirement:

For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated f_H and the lower boundary is designated f_L . The frequency at which the highest radiated emission occurs is designated f_M .

An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

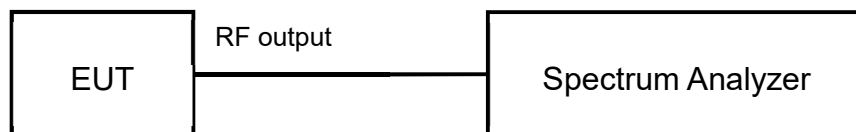
The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

6.3.2 Test Procedure

The UWB Bandwidth is measured conducted, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to 1MHz RBW IAW ANSI C63.10 Section 10.1.

Testing was performed under ambient conditions at nominal voltage.

6.3.3 Test Setup:



6.3.4 Result:

APPENDIX A – TEST DATA – A.1.

6.4 Average Transmit Power (15.519 (c))

6.4.1 Requirement:

The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

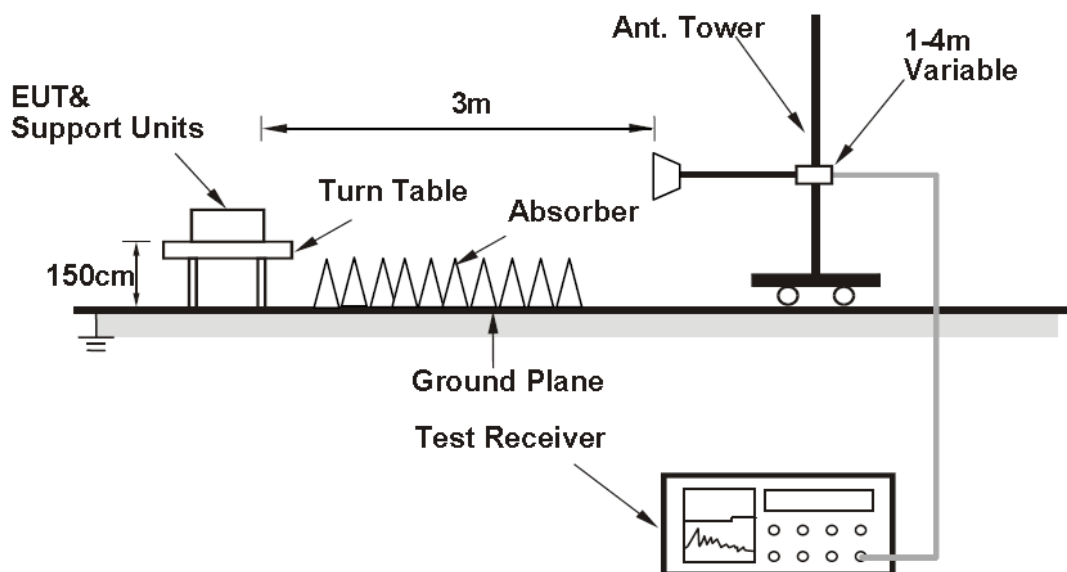
Frequency (MHz)	EIRP (dBm)
3100 - 10600	-41.3

6.4.2 Test Procedure

The Average Transmit Power is measured radiated, at a 3-meter distance, while EUT is operating in transmission mode at the appropriate center frequency. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in max hold mode. The Resolution Bandwidth was set to 1MHz RBW IAW 15.519(c).

Testing was performed under ambient conditions at nominal voltage.

6.4.3 Test Setup



6.4.4 Result:

APPENDIX A – TEST DATA – A.2.

6.5 Peak Power Density (15.519 (e))

6.5.1 Requirement:

There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth entered on the frequency at which the highest radiated emission occurs, f_M . That limit is 0 dBm EIRP.

Measurements were gathered with a RBW of 10MHz and converted to 50MHz using the following formula:

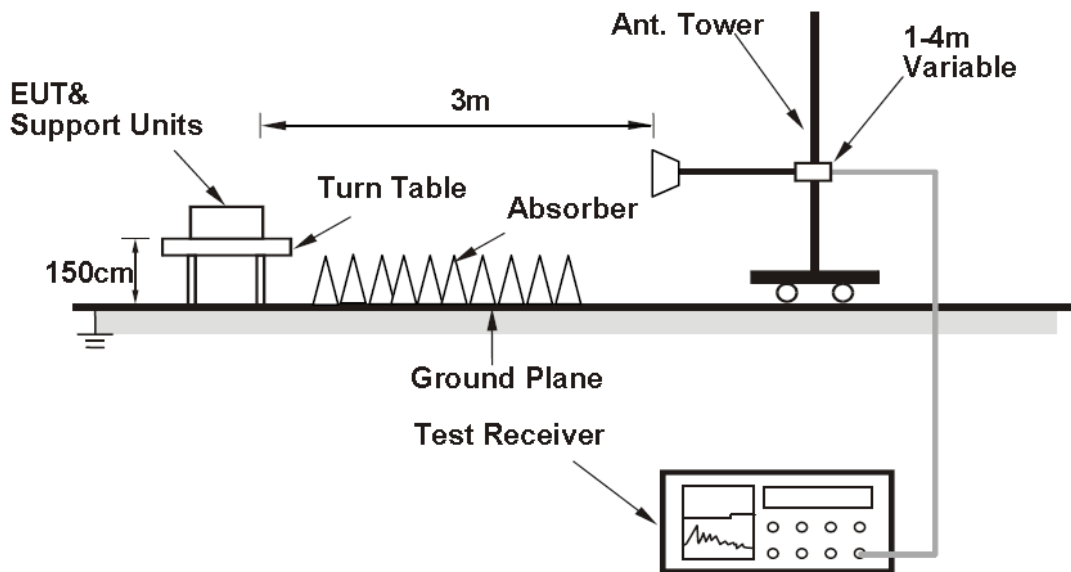
$$\text{EIRP}_{10\text{ MHz}} = \text{EIRP}_{50\text{ MHz}} + 20\log(10\text{MHz}/50\text{MHz}) = 0\text{dBm} + (-13.98\text{dBm}) = -13.98\text{dBm}$$

6.5.2 Test Procedure

The Peak Power Density is measured radiated, at a 3-meter distance, while EUT is operating in transmission mode at the appropriate center frequency. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in max hold mode. The Resolution Bandwidth was set to 10MHz RBW IAW ANSI C63.10 Section 10.3.6.

Testing was performed under ambient conditions at nominal voltage.

6.5.3 Test Setup



6.5.4 Result:

APPENDIX A – TEST DATA – A.3.

6.6 Spurious Radiated Emissions (Section 15.519 (c) 15.209 15.205)

6.6.1 Requirement:

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in § 15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency (MHz)	EIRP at 3 Meters (dBm)	Field strength at 3 Meters (dBμV/m)	Field strength at 0.5 Meters (dBμV/m)
960 - 1610	-75.3	19.9	35.56
1610 - 1990	-63.3	31.9	47.56
1990 - 3100	-61.3	33.9	49.56
3100 - 10600	-41.3	53.9	69.56
Above 10600	-61.3	33.9	49.56

Field Strength Calculation

Field strength at 3 Meters (dBμV/m) = EIRP at 3 Meters (dBm) + 95.2

Field strength at 0.5 Meters (dBμV/m) = Field strength at 3 Meters (dBμV/m) - 20log(0.5m/3m)

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in below Table per Section 15.209. The spectrum shall be investigated from the lowest radio frequency signal generated in the device

Frequency (MHz)	Field strength (μV/m)	Measured Distance (meters)
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

Radiated Limits

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit

Used conversion factor: Limit (dBμV/m) = 20 log (Limit (μV/m)/1μV/m)

Frequency (MHz)	Detector	Unit (dBμV/m)
30~88	Quasi-peak	40.0
88~216	Quasi-peak	43.5
216~960	Quasi-peak	46.0

Conversion Radiated limits

6.6.2 Test Procedure

Radiated emissions for restricted bands below 1 GHz are measured in the semi-anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities.

Radiated emissions for restricted bands above 1 GHz are measured in the full-anechoic chamber at a 0.5-meter distance on every azimuth in both horizontal and vertical polarities.

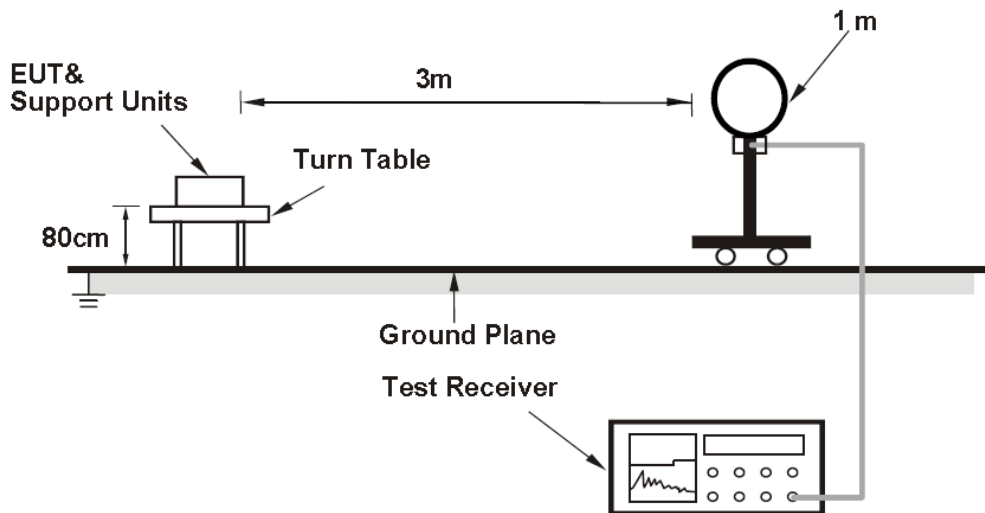
The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a

spectrum analyzer in max hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

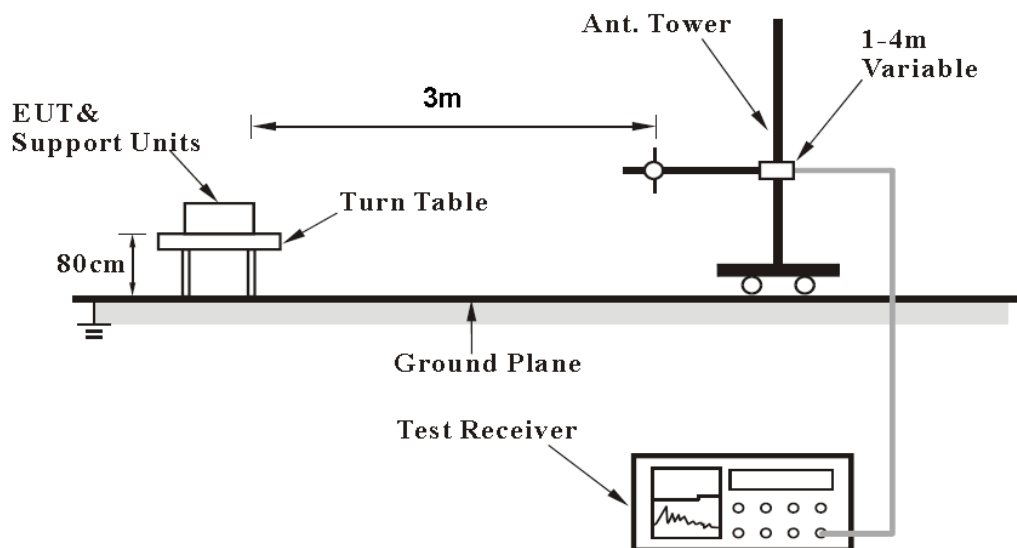
Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

6.6.3 Test Setup

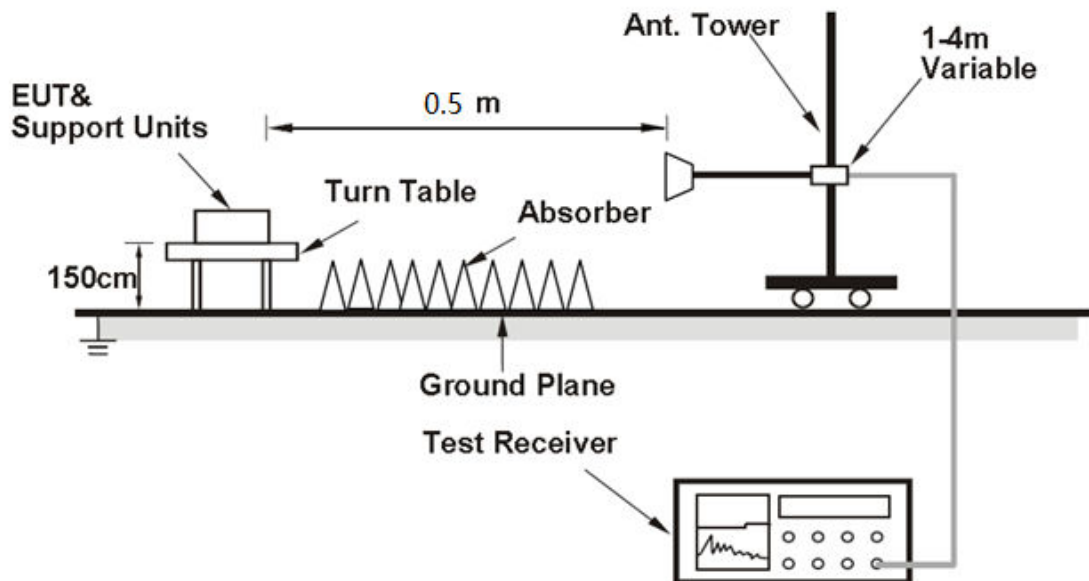
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



6.6.4 Result:

APPENDIX A – TEST DATA – A.4..

6.7 Spurious Radiated Emissions in GPS Bands (15.519 (d))

6.7.1 Requirement:

In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency (MHz)	EIRP (dBm)	Field strength at 3 Meters (dBμV/m)	Field strength at 0.5 Meters (dBμV/m)
1164 - 1240	-85.3	9.9	25.46
1559 - 1610	-85.3	9.9	25.46

Field Strength Calculation

Field strength at 3 Meters (dBμV/m) = EIRP at 3 Meters (dBm) + 95.2

Field strength at 0.5 Meters (dBμV/m) = Field strength at 3 Meters (dBμV/m) - 20log(0.5m/3m)

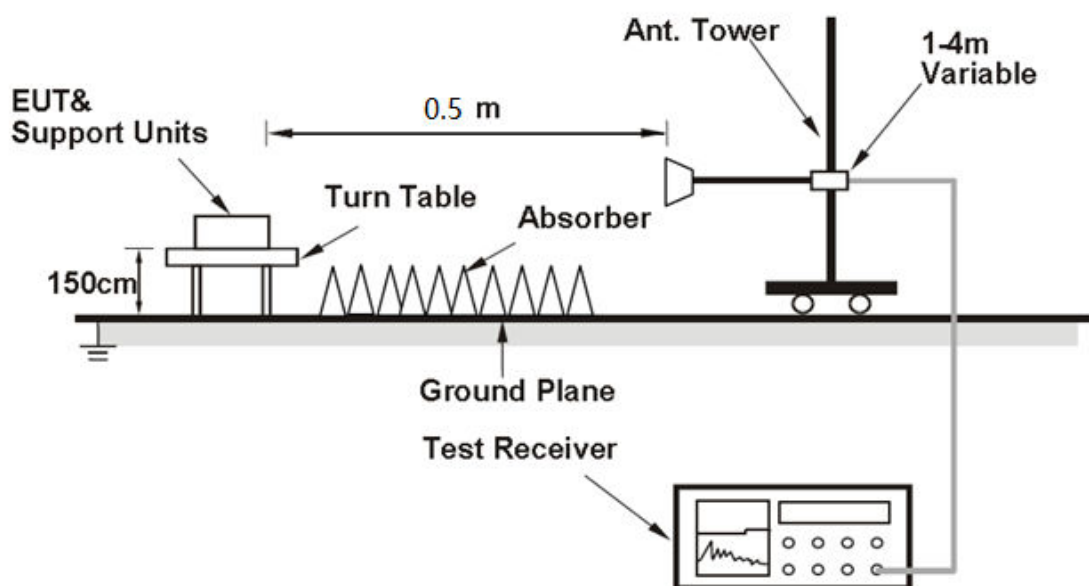
6.7.2 Test Procedure

Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 0.5-meter distance on every azimuth in both horizontal and vertical polarities.

The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in max hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 kHz.

6.7.3 Test Setup



6.7.4 Result:

APPENDIX A – TEST DATA – A.5.

6.8 Shutdown Timing Requirements (Section 15.519(a)(1))

6.8.1 Requirement:

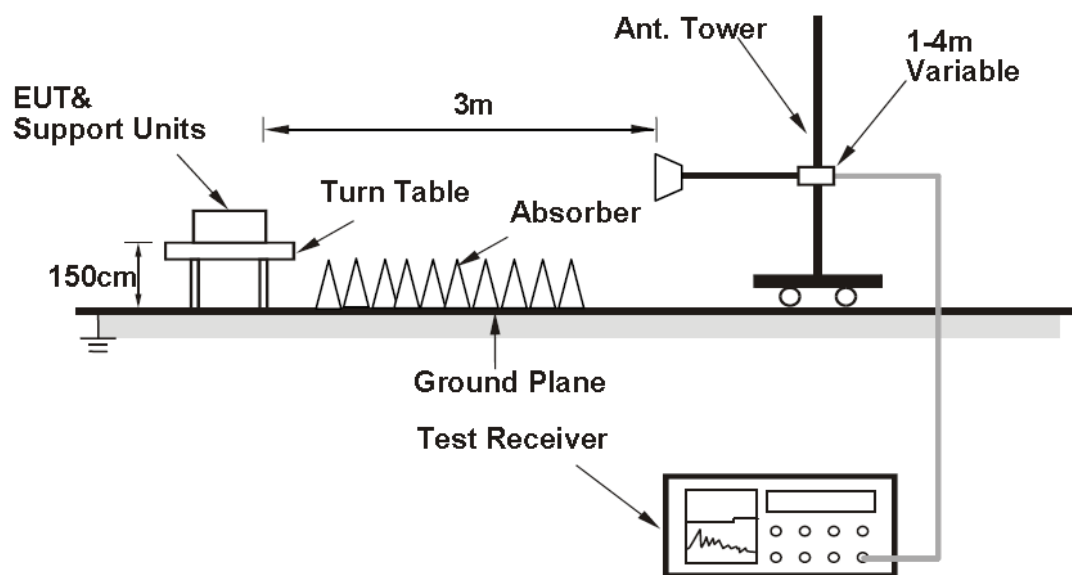
A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

6.8.2 Test Procedure

The Shutdown Timing is measured radiated, while EUT is operating in normal work mode. The Resolution Bandwidth was set to 1MHz RBW IAW ANSI C63.10 Section 10.3.6.

Testing was performed under ambient conditions at nominal voltage.

6.8.3 Test Setup



6.8.4 Result: APPENDIX A – TEST DATA – A.6.

7. TEST EQUIPMENTS

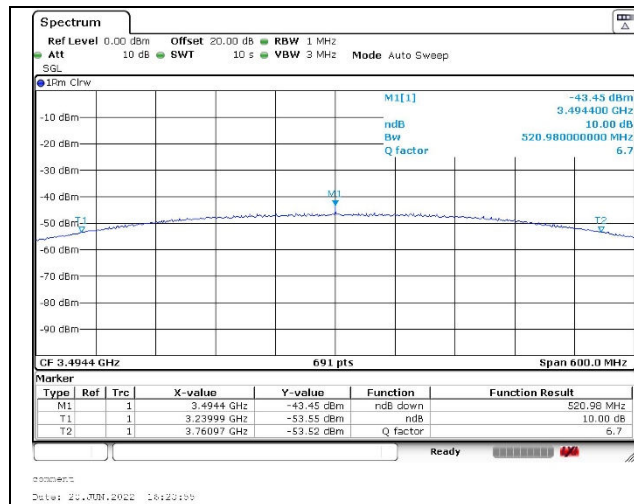
No.	Name/ Model	Manufacturer	S/N	Cal date	Cal Due date
1.	Spectrum Analyzer FSV	ROHDE&SCHWARZ	101065	2021.08.20	2022.08.19
2.	Signal Analyzer N9020A	Agilent	MY48010771	2022.05.18	2023.05.17
3.	Cable 104EA	SUCOFLEX	9266/4EA	2021.08.20	2022.08.19
4.	12.65m×8.03m×7.50m Fully-Anechoic Chamber	FRANKONIA	----	----	----
5.	23.18m×16.88m×9.60m Semi-Anechoic Chamber	FRANKONIA	---	----	----
6.	Turn table Diameter:1m	HD	----	----	----
7.	Turn table Diameter:5m	HD	----	----	----
8.	Antenna master FAC(MA4.0)	MATURO	----	----	----
9.	Antenna master SAC(MA4.0)	MATURO	----	----	----
10.	9.080m×5.255m×3.525m Shielding room	FRANKONIA	----	----	----
11.	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100030	2021.08.20	2022.08.19
12.	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100029	2021.08.20	2022.08.19
13.	HL562 Ultra log antenna	R&S	100016	2021.08.20	2022.08.19
14.	3160-09 Receive antenna	SCHWARZ-BECK	002058-002	2021.08.20	2022.08.19
15.	ESI 40 EMI test receiver	R&S	100015	2021.08.20	2022.08.19
16.	Radio tester	CMU 200	114667	2021.08.20	2022.08.19
17.	ESCS30 EMI test receiver	R&S	100029	2021.08.20	2022.08.19
18.	HL562 Receive antenna	R&S	100167	2021.08.20	2022.08.19
19.	ESH3-Z5 LISN	R&S	100020	2021.08.20	2022.08.19

APPENDIX A – TEST DATA

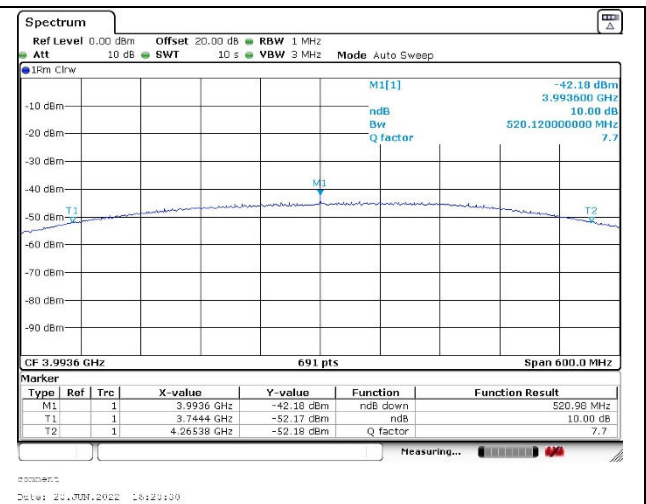
A.1 UWB Bandwidth

Band 1

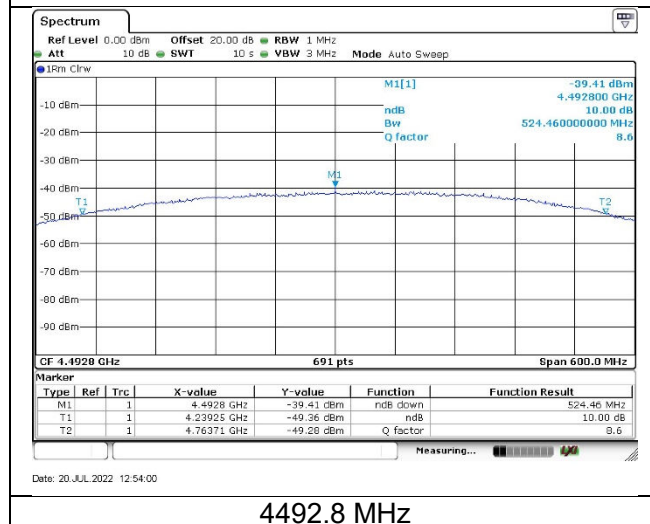
Test Frequency (MHz)	Test Results (MHz)	Verdict
3494.4	520.98	Pass
3993.6	520.12	Pass
4492.8	524.46	Pass



3494.4 MHz



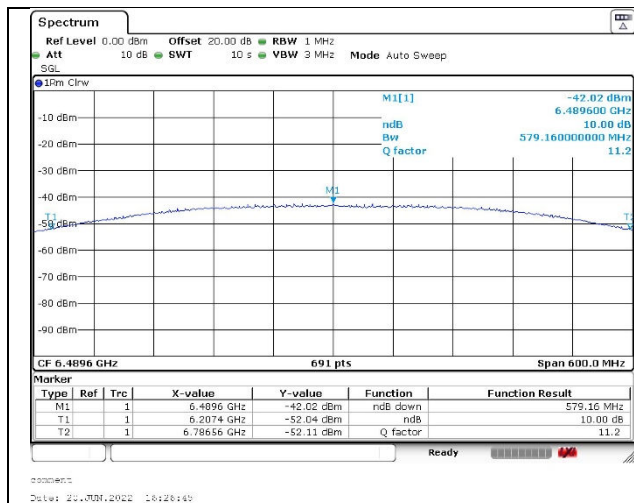
3993.6 MHz



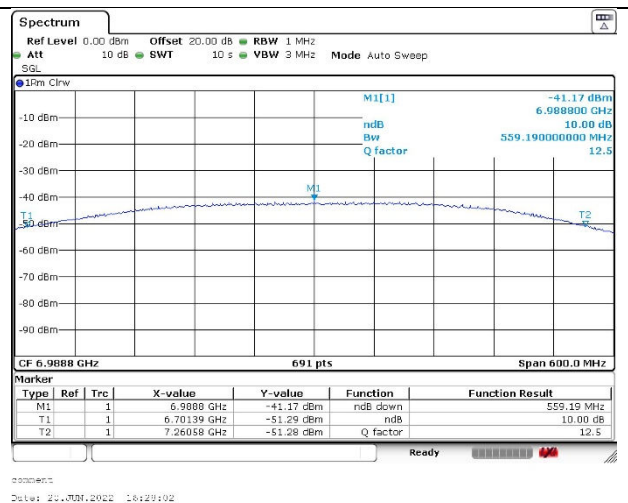
4492.8 MHz

Band 3

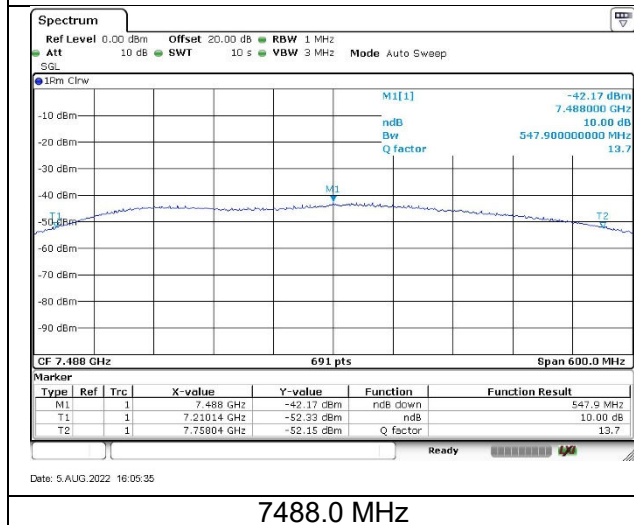
Test Frequency (MHz)	Test Results (MHz)	Verdict
6489.6	579.16	Pass
6988.8	559.19	Pass
7488.0	547.90	Pass



6489.6 MHz



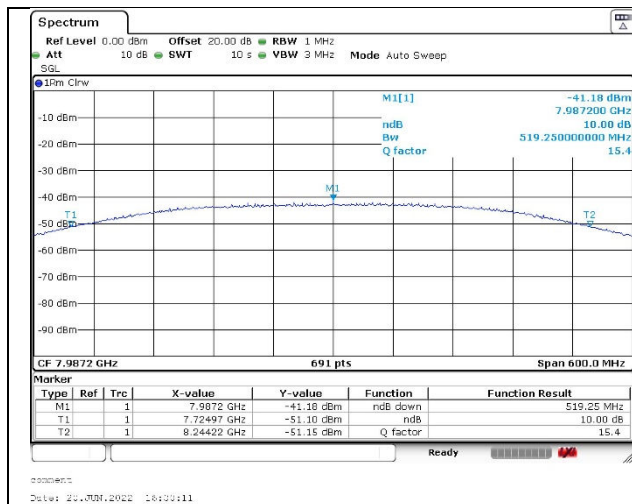
6988.8 MHz



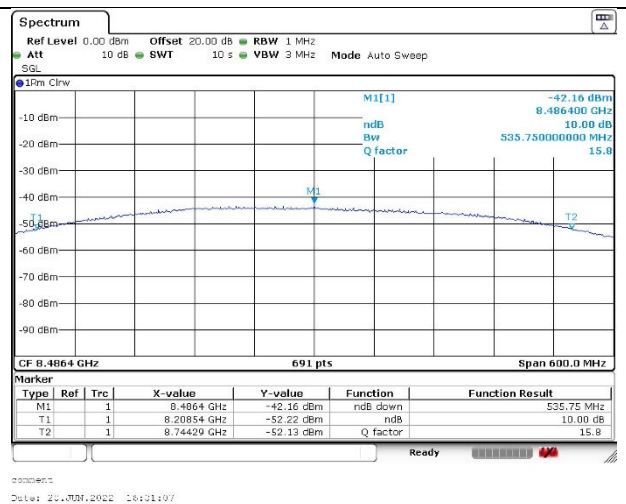
7488.0 MHz

Band 6

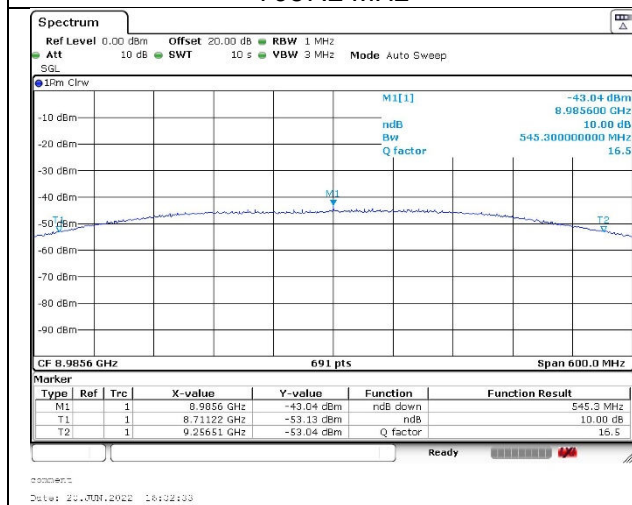
Test Frequency (MHz)	Test Results (MHz)	Verdict
7987.2	519.25	Pass
8486.4	535.75	Pass
8985.6	545.30	Pass



7987.2 MHz



8486.4 MHz

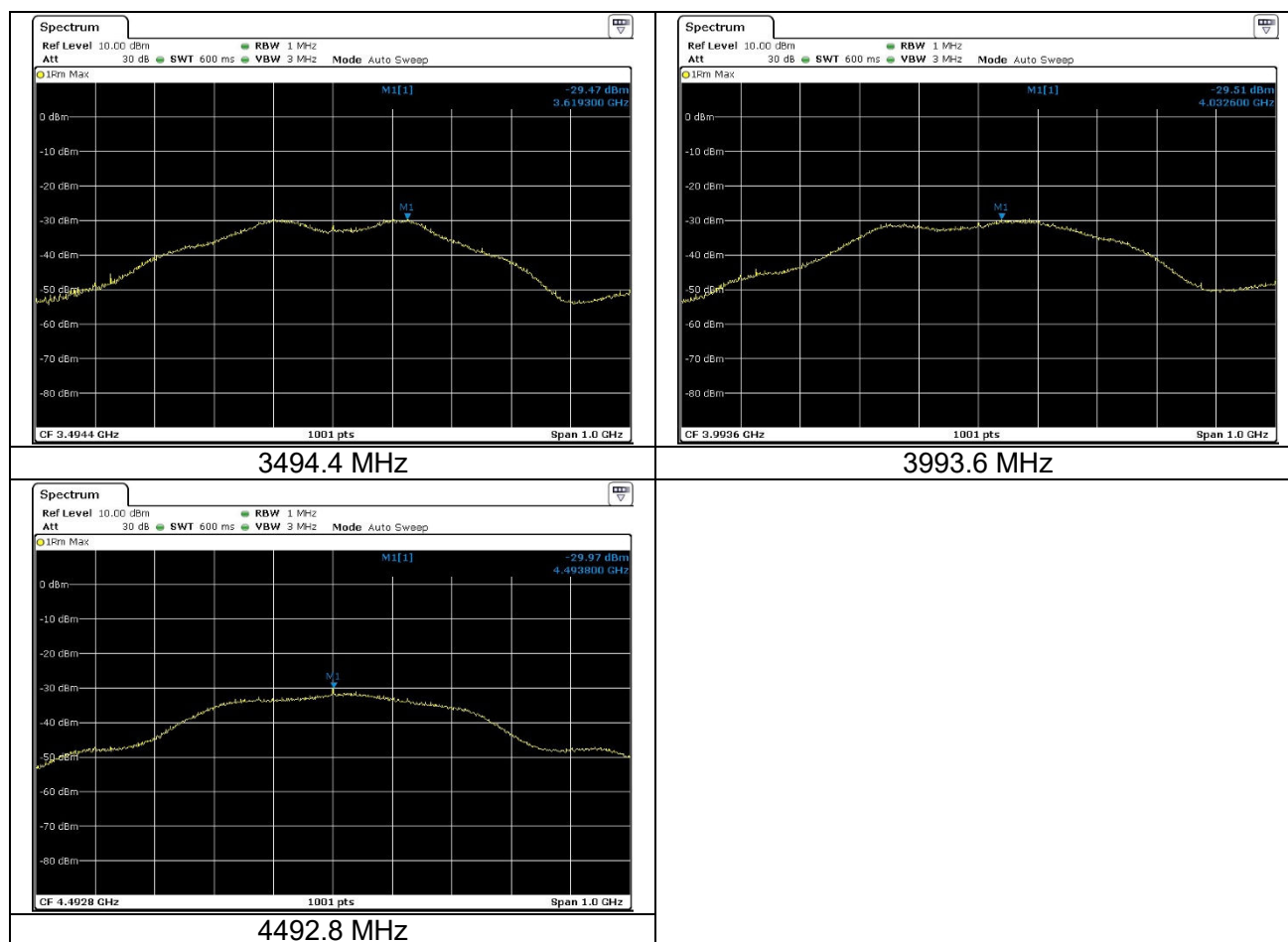


8985.6 MHz

A.2 Average Transmit Power

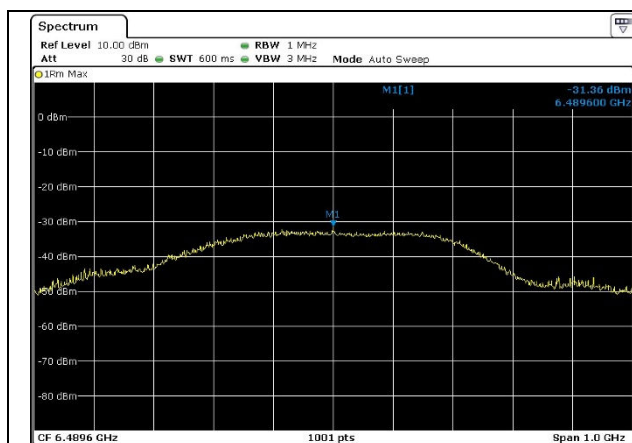
Band 1

Frequency (MHz)	Reading Average (dBm)	Measured EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
3494.4	-29.47	-43.83	-41.30	2.53	H	Pass
3993.6	-29.51	-44.00	-41.30	2.70	H	Pass
4492.8	-29.97	-43.40	-41.30	2.10	H	Pass

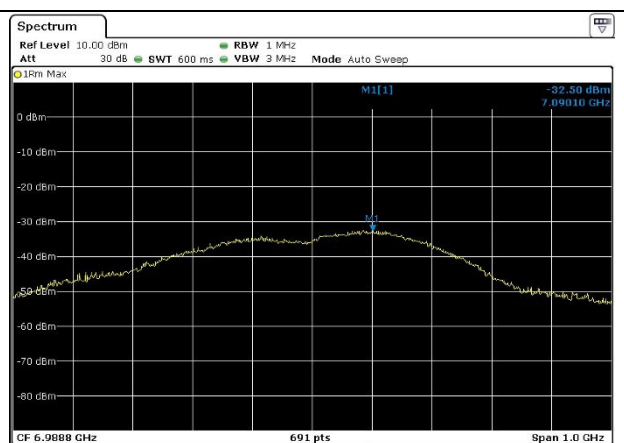


Band 3

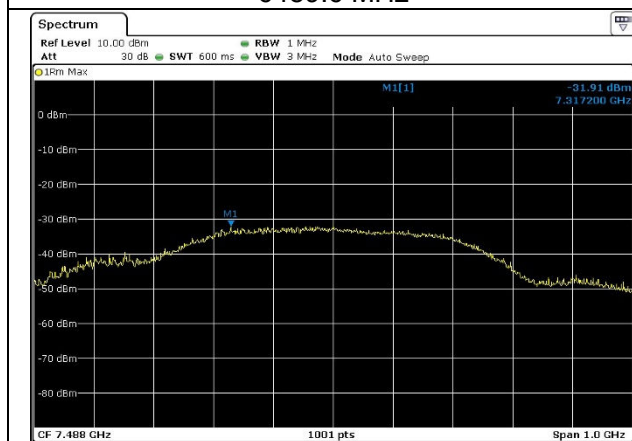
Frequency (MHz)	Reading Average (dBm)	Measured EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
6489.6	-31.36	-42.66	-41.30	1.36	H	Pass
6988.8	-32.50	-42.70	-41.30	1.40	H	Pass
7488.0	-31.91	-42.54	-41.30	1.24	H	Pass



6489.6 MHz



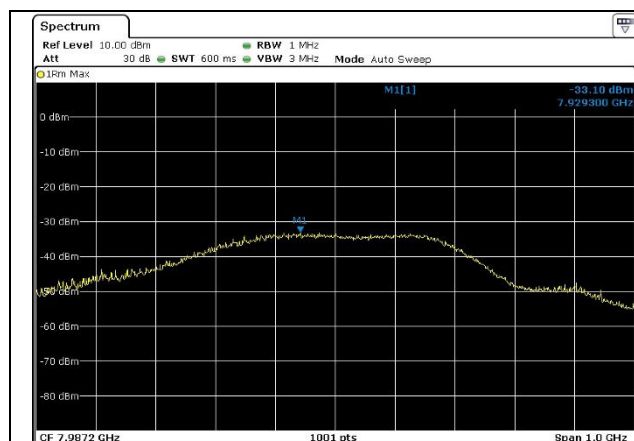
6988.8 MHz



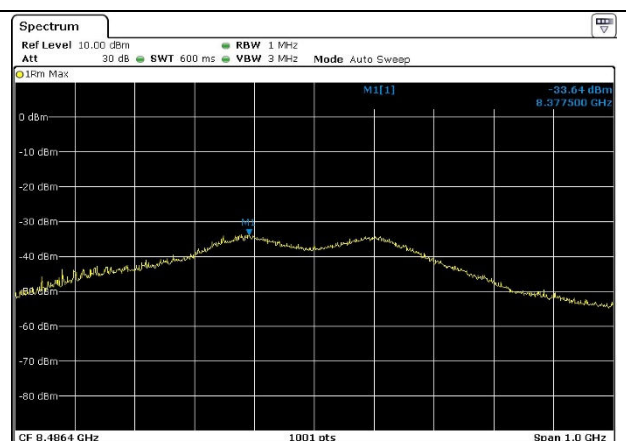
7488.0 MHz

Band 6

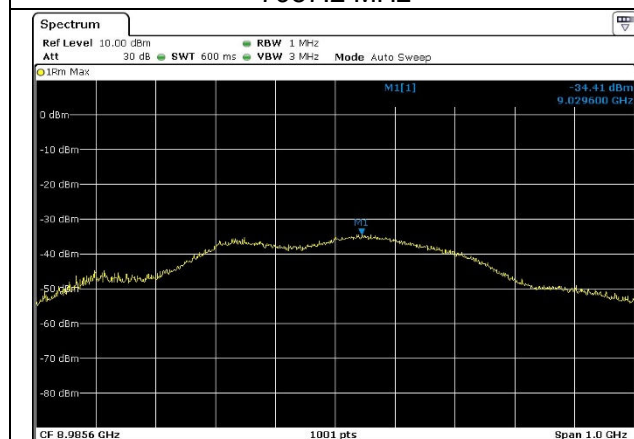
Frequency (MHz)	Reading Average (dBm)	Measured EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
7987.2	-33.10	-42.62	-41.30	1.32	H	Pass
8486.4	-33.64	-41.93	-41.30	0.63	H	Pass
8985.6	-34.41	-42.68	-41.30	1.38	H	Pass



7987.2 MHz



8486.4 MHz



8985.6 MHz

A.3 Peak Power Density

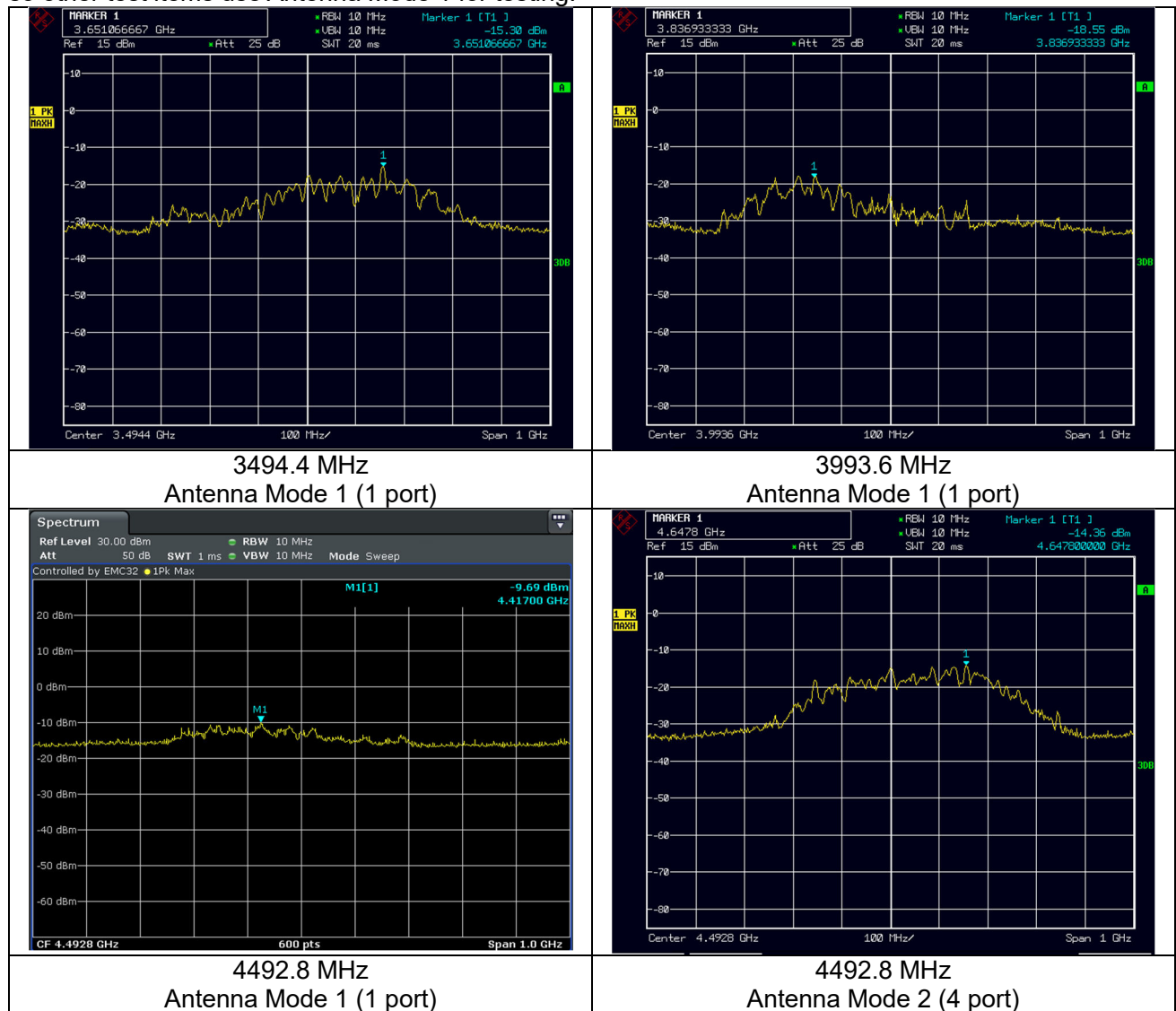
Band 1 - Antenna Mode 1 (1 port)

Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
3494.4	-15.30	-29.66	-13.98	15.68	H	Pass
3993.6	-18.55	-33.04	-13.98	19.06	H	Pass
4492.8	-9.69	-23.12	-13.98	9.14	H	Pass

Band 1 - Antenna Mode 2 (4 port)

Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
4492.8	-14.36	-27.79	-13.98	13.81	H	Pass

According to the Peak Power Density test of the two antenna mode, the Antenna Mode 1 results are worse, so other test items use Antenna Mode 1 for testing.



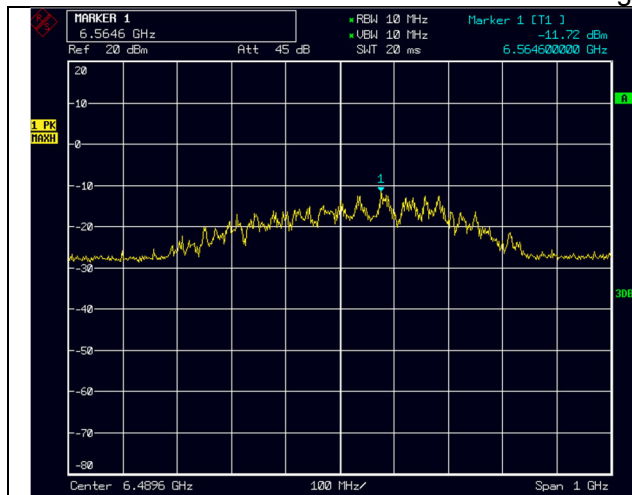
Band 3 - Antenna Mode 1 (1 port)

Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
6489.6	-11.72	-23.02	-13.98	9.04	H	Pass
6988.8	-11.17	-21.37	-13.98	7.39	H	Pass
7488	-13.99	-24.62	-13.98	10.64	H	Pass

Band 3 - Antenna Mode 2 (4 port)

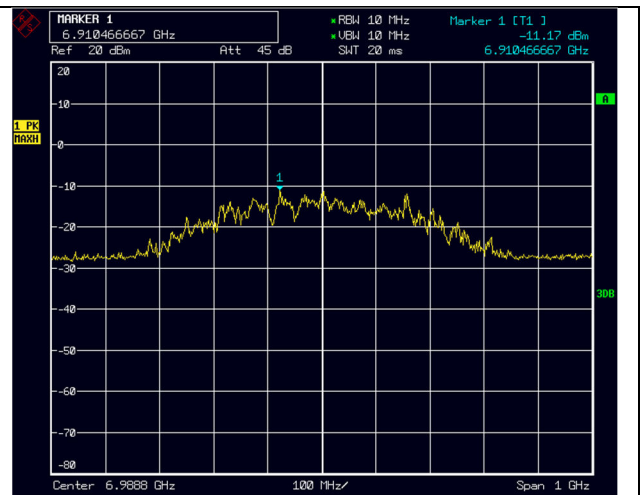
Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
6988.8	-12.59	-22.79	-13.98	8.81	H	Pass

According to the Peak Power Density test of the two antenna mode, the Antenna Mode 1 results are worse, so other test items use Antenna Mode 1 for testing.



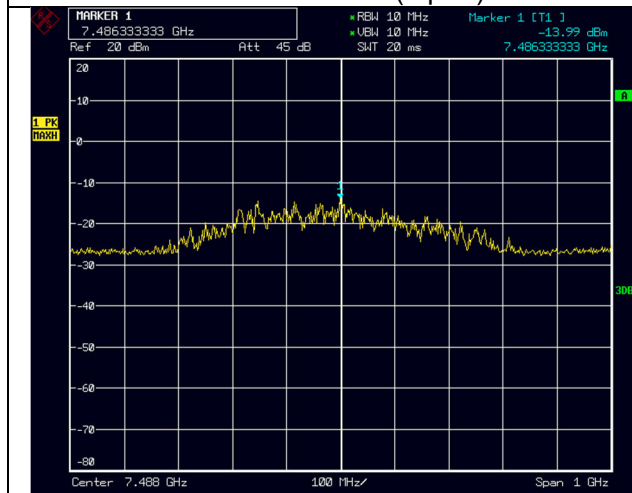
6489.6 MHz

Antenna Mode 1 (1 port)



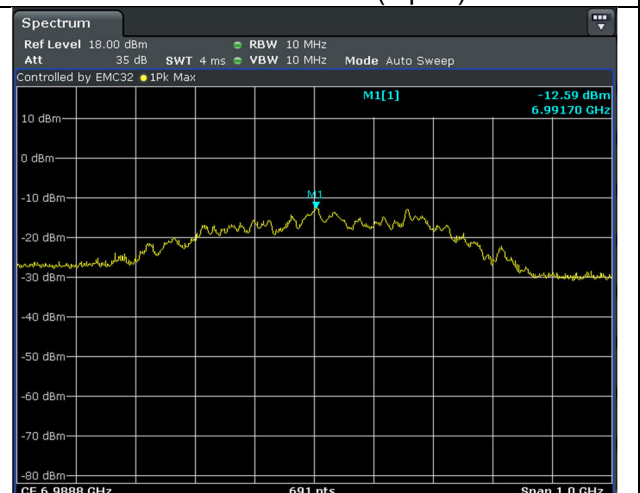
6988.8 MHz

Antenna Mode 1 (1 port)



7488 MHz

Antenna Mode 1 (1 port)



6988.8 MHz

Antenna Mode 2 (4 port)

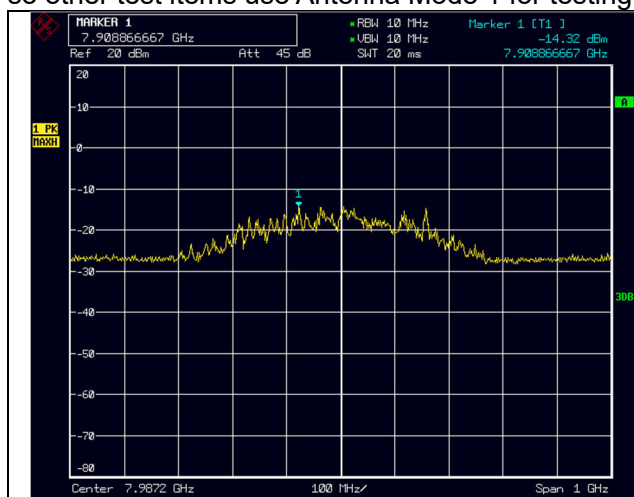
Band 6 - Antenna Mode 1 (1 port)

Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
7987.2	-14.32	-23.84	-13.98	9.86	H	Pass
8486.4	-15.81	-24.10	-13.98	10.12	H	Pass
8985.6	-19.08	-27.35	-13.98	13.37	H	Pass

Band 6 - Antenna Mode 2 (4 port)

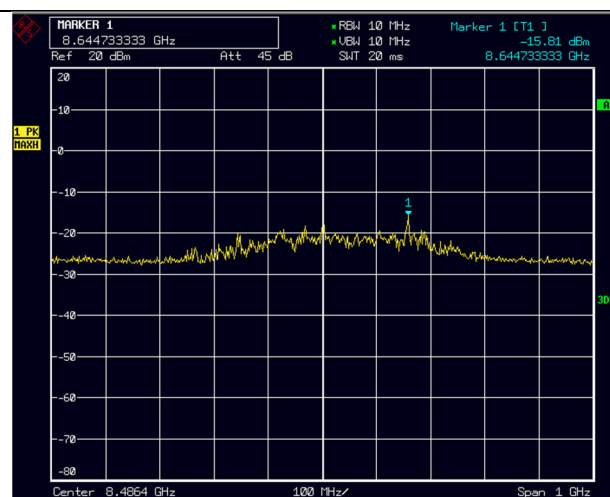
Frequency (MHz)	Reading MaxPeak (dBm)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Polarity	Verdict
7987.2	-22.43	-31.95	-13.98	17.97	H	Pass

According to the Peak Power Density test of the two antenna mode, the Antenna Mode 1 results are worse, so other test items use Antenna Mode 1 for testing.



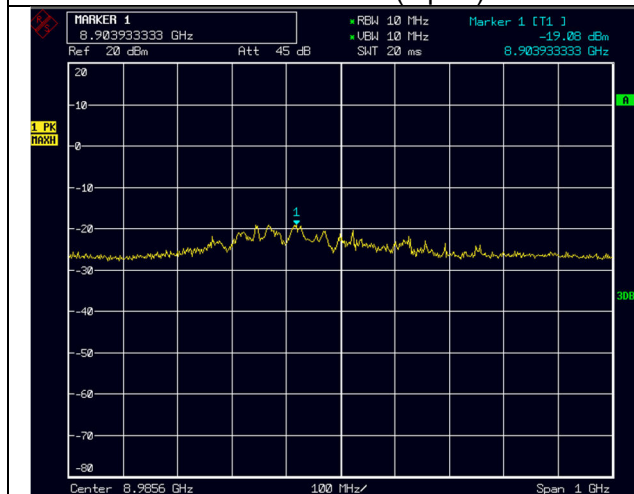
7987.2 MHz

Antenna Mode 1 (1 port)



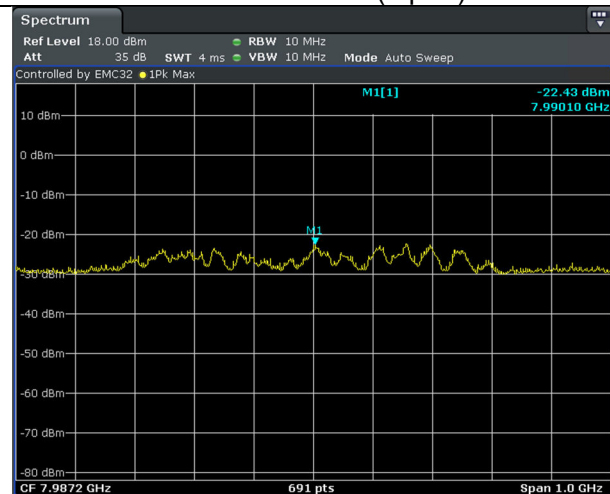
8486.4 MHz

Antenna Mode 1 (1 port)



8985.6 MHz

Antenna Mode 1 (1 port)



7987.2 MHz

Antenna Mode 2 (4 port)

A.4 Spurious Radiated Emissions

Band 1

Test Frequency (MHz)	Frequency (MHz)	Verdict
3494.4	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
3993.6	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
4492.8	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass

Band 3

Test Frequency (MHz)	Frequency (MHz)	Verdict
6489.6	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
6988.8	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
7488.0	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass

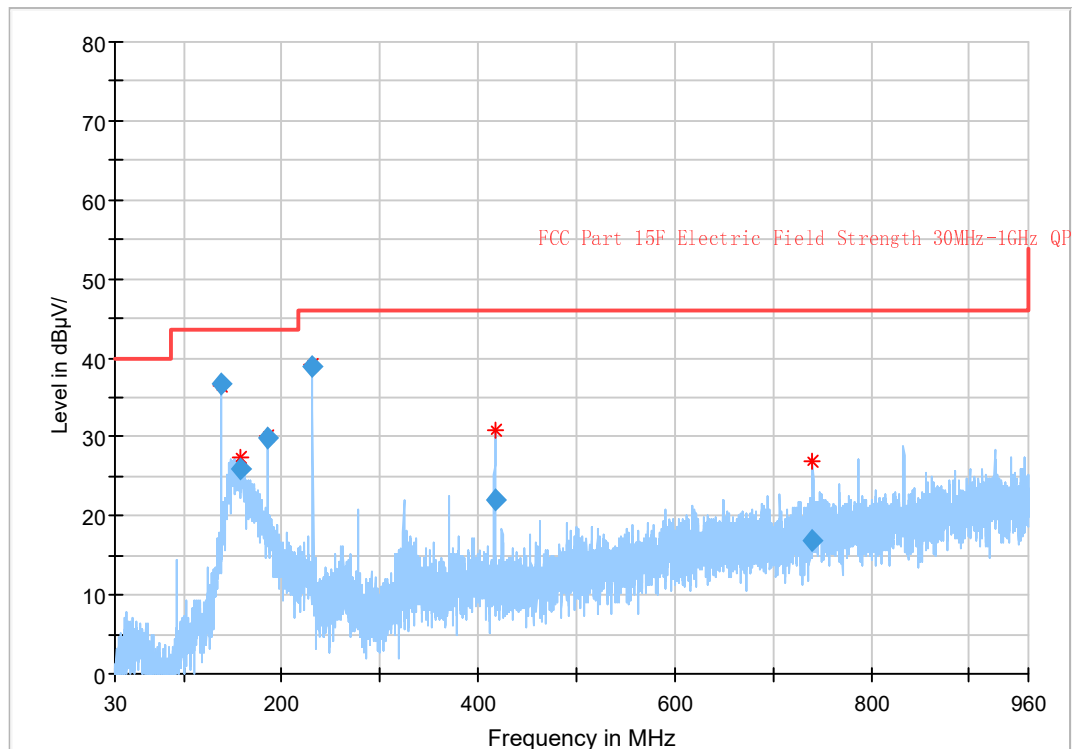
Band 6

Test Frequency (MHz)	Frequency (MHz)	Verdict
7987.2	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
8486.4	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass
8985.6	0.009 – 30	Pass
	30 – 960	Pass
	960 – 1000	Pass
	1000 - 18000	Pass
	18000 - 40000	Pass

Note: There were no emissions below 30 MHz found within 20dB of the limit.

EMC32 Report

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
138.810000	36.64	---	43.50	6.86	1000.0	120.000	99.9	H
157.782000	25.81	---	43.50	17.69	1000.0	120.000	99.9	H
185.124000	29.92	---	43.50	13.58	1000.0	120.000	99.9	H
231.345000	38.99	---	46.00	7.01	1000.0	120.000	99.9	H
416.508000	22.12	---	46.00	23.88	1000.0	120.000	99.9	H
740.706000	16.86	---	46.00	29.14	1000.0	120.000	99.9	H

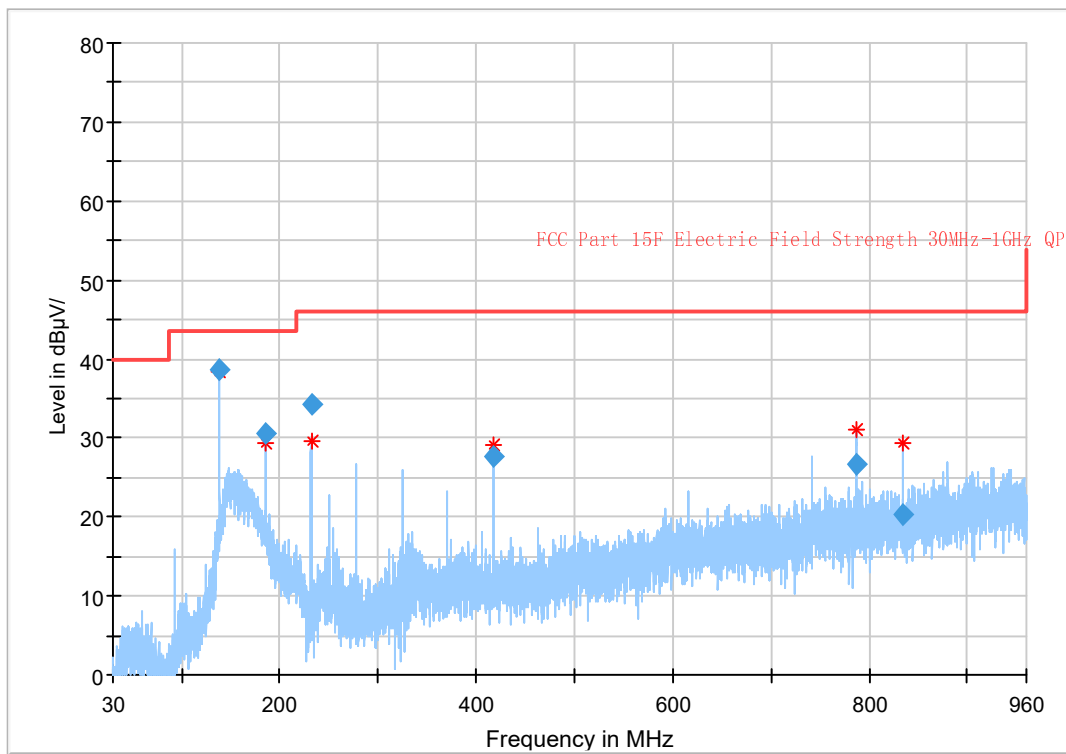
30 – 960 MHz

4492.8 MHz

Note: The spectrum from 960MHz to 18GHz is investigated with the EUT set to transmit at the lowest, middle and highest channels with the highest output power. From 30MHz to 960MHz, emissions were performed with the EUT set to transmit at the channel with the highest PSD as worst-case scenario.

EMC32 Report

Full Spectrum



Final Result

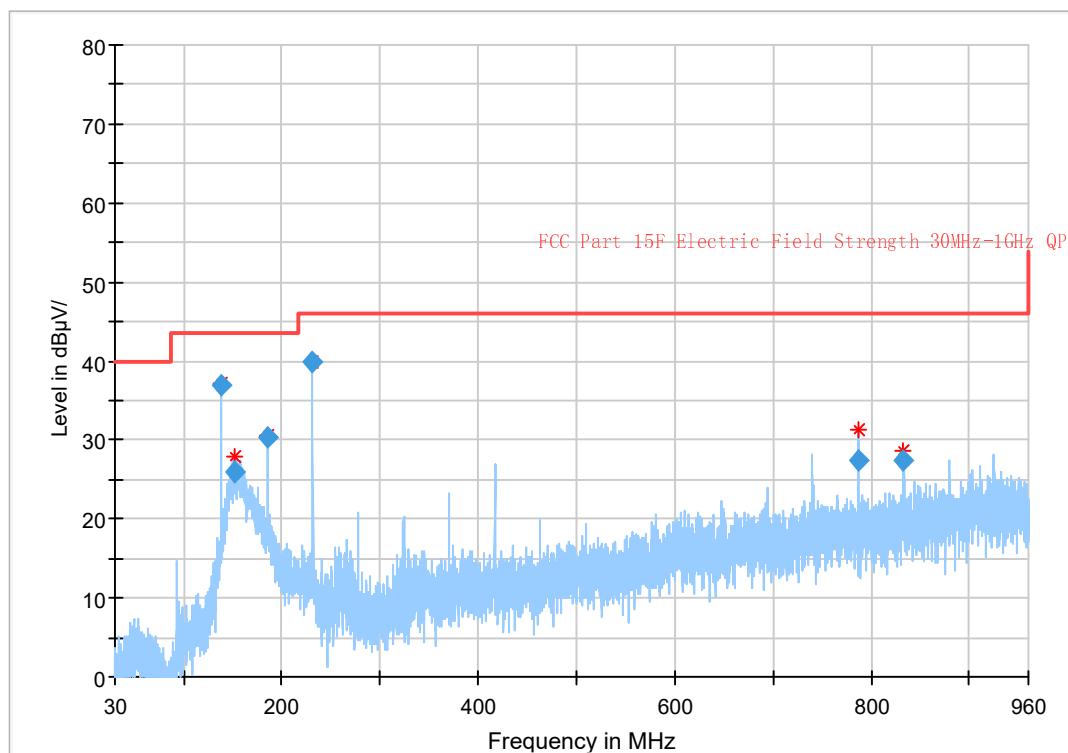
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
138.903000	38.65	---	43.50	4.85	1000.0	120.000	99.9	H
185.310000	30.63	---	43.50	12.87	1000.0	120.000	99.9	H
231.624000	34.25	---	46.00	11.75	1000.0	120.000	99.9	H
416.973000	27.56	---	46.00	18.44	1000.0	120.000	99.9	H
787.578000	26.62	---	46.00	19.38	1000.0	120.000	99.9	H
833.892000	20.19	---	46.00	25.81	1000.0	120.000	99.9	H

30 – 960 MHz

6988.8 MHz

EMC32 Report

Full Spectrum



Final_Result

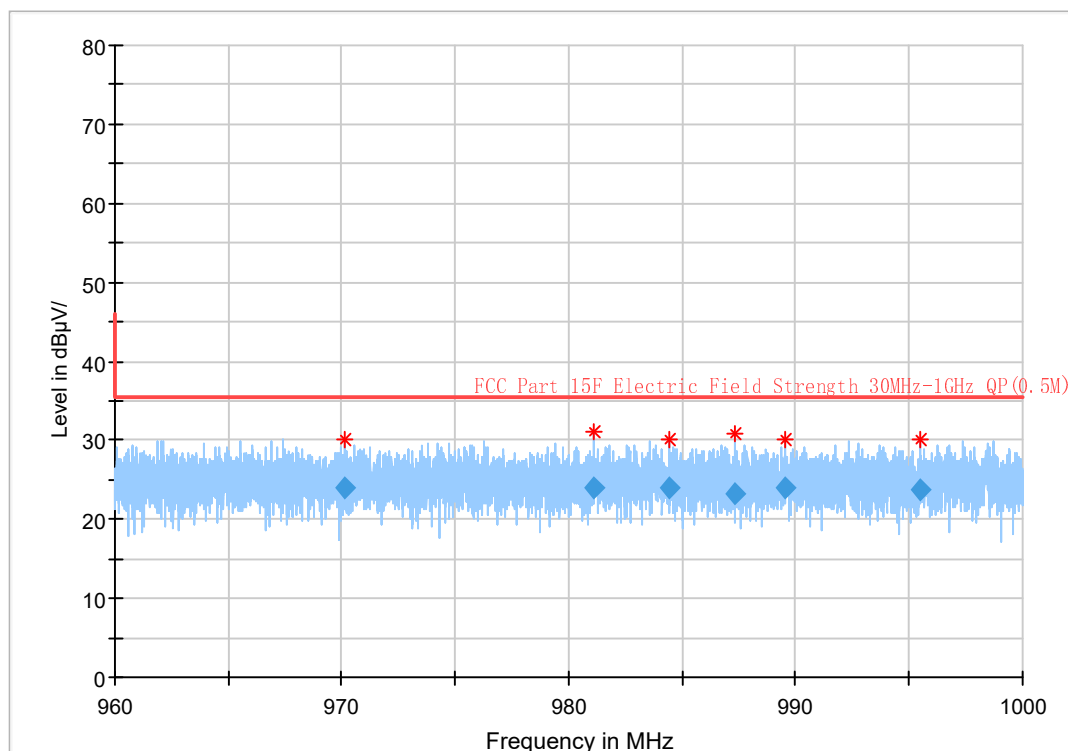
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
138.810000	36.98	---	43.50	6.52	1000.0	120.000	99.9	H
152.388000	25.91	---	43.50	17.59	1000.0	120.000	99.9	H
185.124000	30.33	---	43.50	13.17	1000.0	120.000	99.9	H
231.345000	39.97	---	46.00	6.03	1000.0	120.000	99.9	H
786.834000	27.38	---	46.00	18.62	1000.0	120.000	99.9	H
832.962000	27.50	---	46.00	18.50	1000.0	120.000	99.9	H

30 – 960 MHz

7987.2 MHz

EMC32 Report

Full Spectrum



Final Result

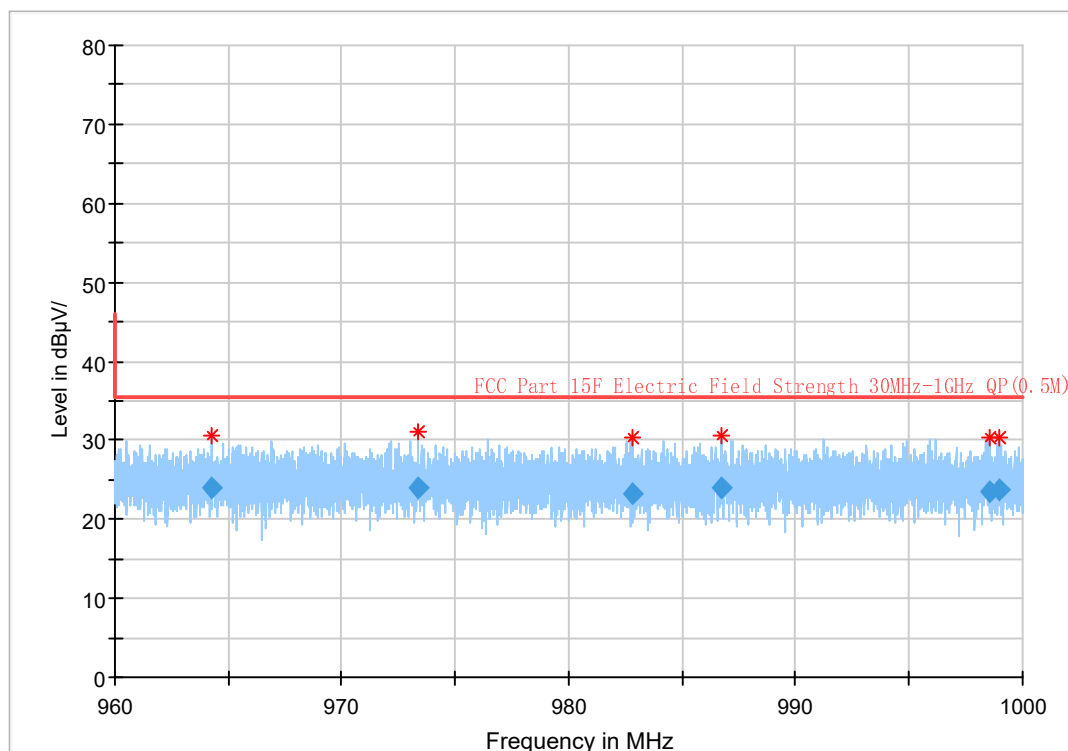
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
970.152000	23.97	---	35.56	11.59	1000.0	120.000	100.0	H
981.084000	23.98	---	35.56	11.58	1000.0	120.000	100.0	H
984.428000	24.05	---	35.56	11.51	1000.0	120.000	100.0	H
987.320000	23.23	---	35.56	12.33	1000.0	120.000	100.0	H
989.552000	24.01	---	35.56	11.55	1000.0	120.000	100.0	H
995.452000	23.73	---	35.56	11.83	1000.0	120.000	100.0	H

960 – 1000 MHz

3494.4 MHz

EMC32 Report

Full Spectrum



Final Result

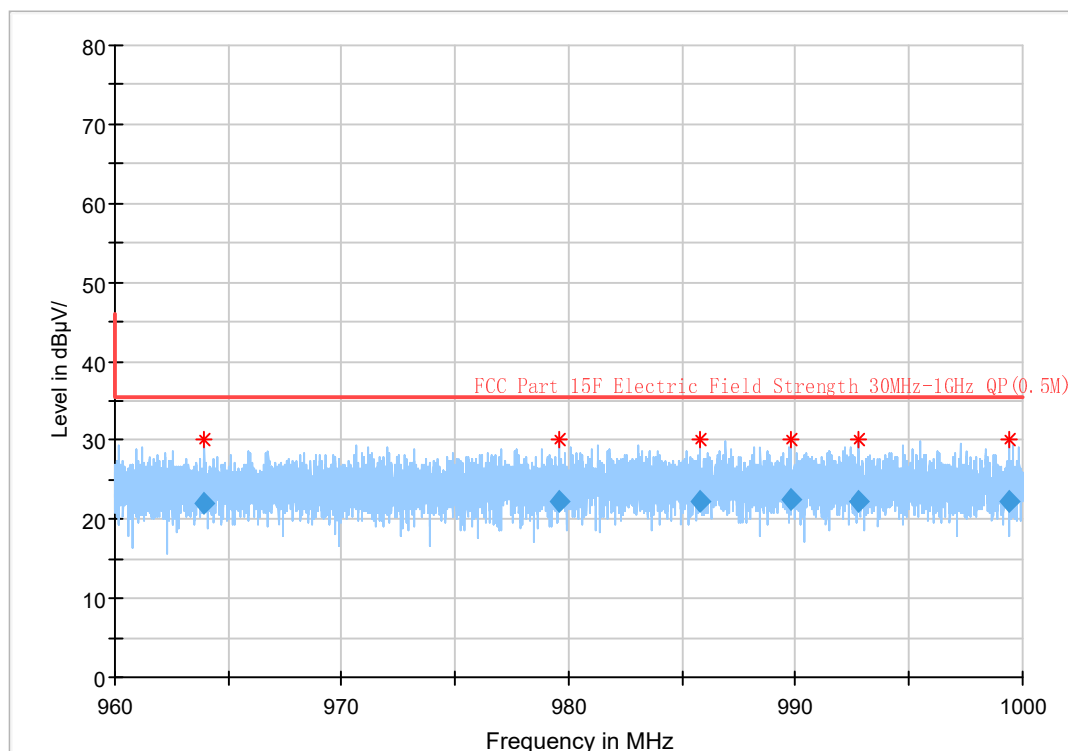
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
964.276000	23.93	---	35.56	11.63	1000.0	120.000	100.0	H
973.380000	23.85	---	35.56	11.71	1000.0	120.000	100.0	H
982.836000	23.16	---	35.56	12.40	1000.0	120.000	100.0	H
986.756000	24.03	---	35.56	11.53	1000.0	120.000	100.0	H
998.540000	23.48	---	35.56	12.08	1000.0	120.000	100.0	H
998.988000	23.74	---	35.56	11.82	1000.0	120.000	100.0	H

960 – 1000 MHz

3993.6 MHz

EMC32 Report

Full Spectrum



Final Result

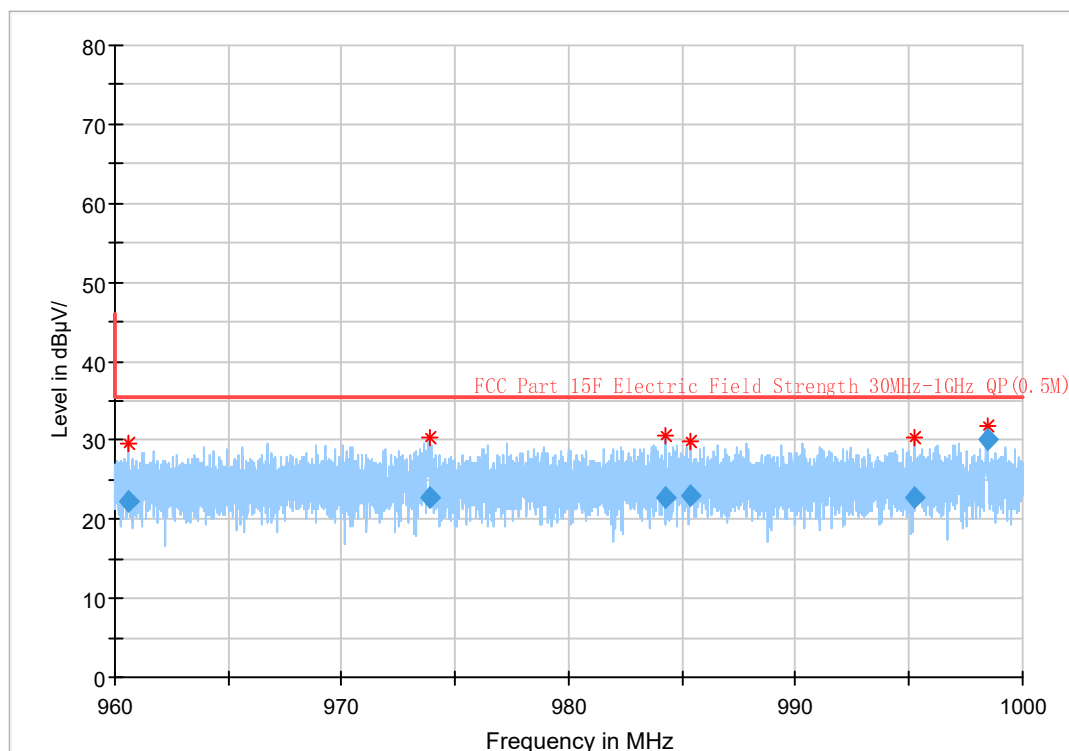
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
963.952000	22.07	---	35.56	13.49	1000.0	120.000	100.0	H
979.560000	22.31	---	35.56	13.25	1000.0	120.000	100.0	H
985.772000	22.38	---	35.56	13.18	1000.0	120.000	100.0	H
989.760000	22.41	---	35.56	13.15	1000.0	120.000	100.0	H
992.752000	22.33	---	35.56	13.23	1000.0	120.000	100.0	H
999.436000	22.21	---	35.56	13.35	1000.0	120.000	100.0	H

960 – 1000 MHz

4492.8 MHz

EMC32 Report

Full Spectrum



Final Result

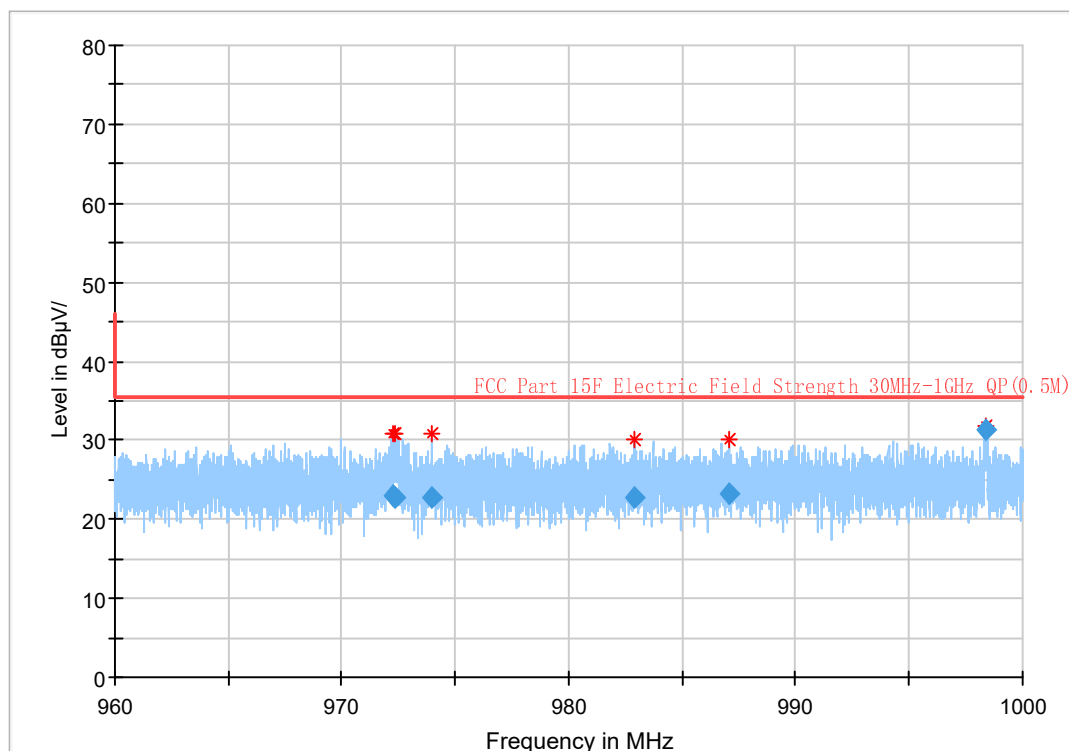
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
960.624000	22.33	---	35.56	13.23	1000.0	120.000	100.0	H
973.832000	22.81	---	35.56	12.75	1000.0	120.000	100.0	H
984.284000	22.77	---	35.56	12.79	1000.0	120.000	100.0	H
985.332000	23.06	---	35.56	12.50	1000.0	120.000	100.0	H
995.232000	22.78	---	35.56	12.78	1000.0	120.000	100.0	H
998.428000	30.21	---	35.56	5.35	1000.0	120.000	100.0	H

960 – 1000 MHz

6489.6 MHz

EMC32 Report

Full Spectrum



Final Result

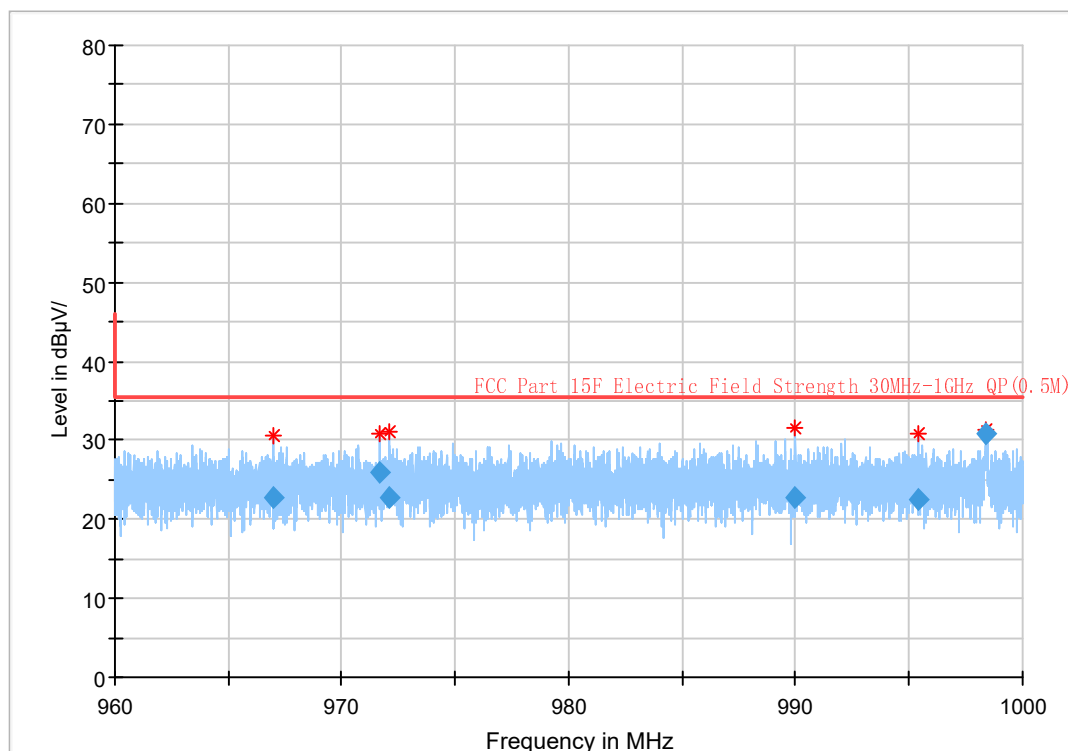
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
972.224000	22.93	---	35.56	12.63	1000.0	120.000	100.0	H
972.360000	22.71	---	35.56	12.85	1000.0	120.000	100.0	H
973.920000	22.87	---	35.56	12.69	1000.0	120.000	100.0	H
982.864000	22.84	---	35.56	12.72	1000.0	120.000	100.0	H
987.100000	23.12	---	35.56	12.44	1000.0	120.000	100.0	H
998.420000	31.25	---	35.56	4.31	1000.0	120.000	100.0	H

960 – 1000 MHz

6988.8 MHz

EMC32 Report

Full Spectrum



Final Result

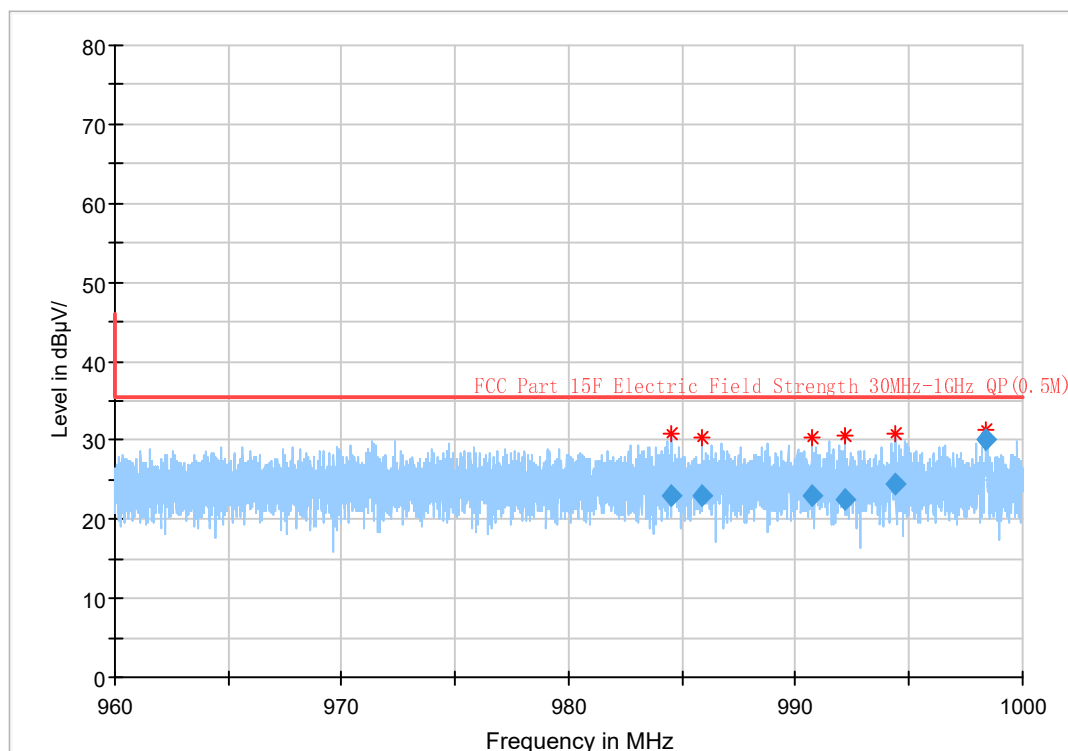
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
967.004000	22.79	---	35.56	12.77	1000.0	120.000	100.0	H
971.652000	25.97	---	35.56	9.59	1000.0	120.000	100.0	H
972.100000	22.83	---	35.56	12.73	1000.0	120.000	100.0	H
990.000000	22.73	---	35.56	12.83	1000.0	120.000	100.0	H
995.376000	22.53	---	35.56	13.03	1000.0	120.000	100.0	H
998.400000	30.89	---	35.56	4.67	1000.0	120.000	100.0	H

960 – 1000 MHz

7488.0 MHz

EMC32 Report

Full Spectrum



Final Result

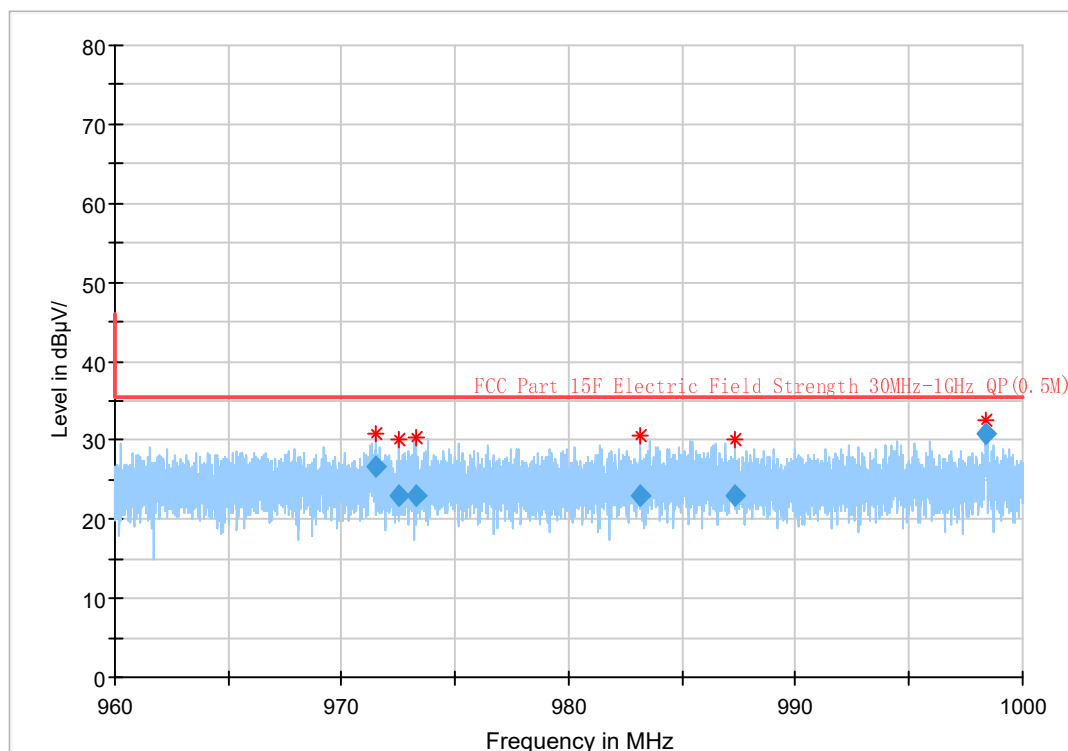
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
984.552000	23.02	---	35.56	12.54	1000.0	120.000	100.0	H
985.884000	23.00	---	35.56	12.56	1000.0	120.000	100.0	H
990.692000	22.99	---	35.56	12.57	1000.0	120.000	100.0	H
992.152000	22.61	---	35.56	12.95	1000.0	120.000	100.0	H
994.376000	24.44	---	35.56	11.12	1000.0	120.000	100.0	H
998.376000	30.06	---	35.56	5.50	1000.0	120.000	100.0	H

960 – 1000 MHz

7987.2 MHz

EMC32 Report

Full Spectrum



Final Result

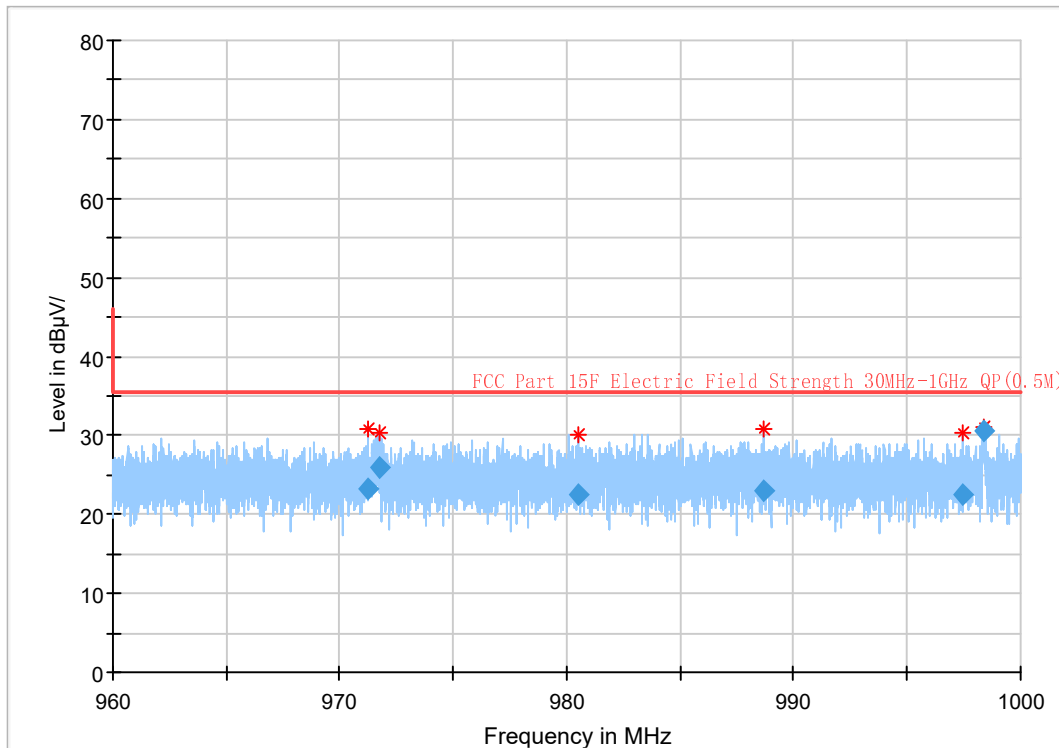
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
971.476000	26.55	---	35.56	9.01	1000.0	120.000	100.0	H
972.496000	22.90	---	35.56	12.66	1000.0	120.000	100.0	H
973.304000	22.88	---	35.56	12.68	1000.0	120.000	100.0	H
983.176000	23.01	---	35.56	12.55	1000.0	120.000	100.0	H
987.308000	23.05	---	35.56	12.51	1000.0	120.000	100.0	H
998.408000	30.93	---	35.56	4.63	1000.0	120.000	100.0	H

960 – 1000 MHz

8486.4 MHz

EMC32 Report

Full Spectrum



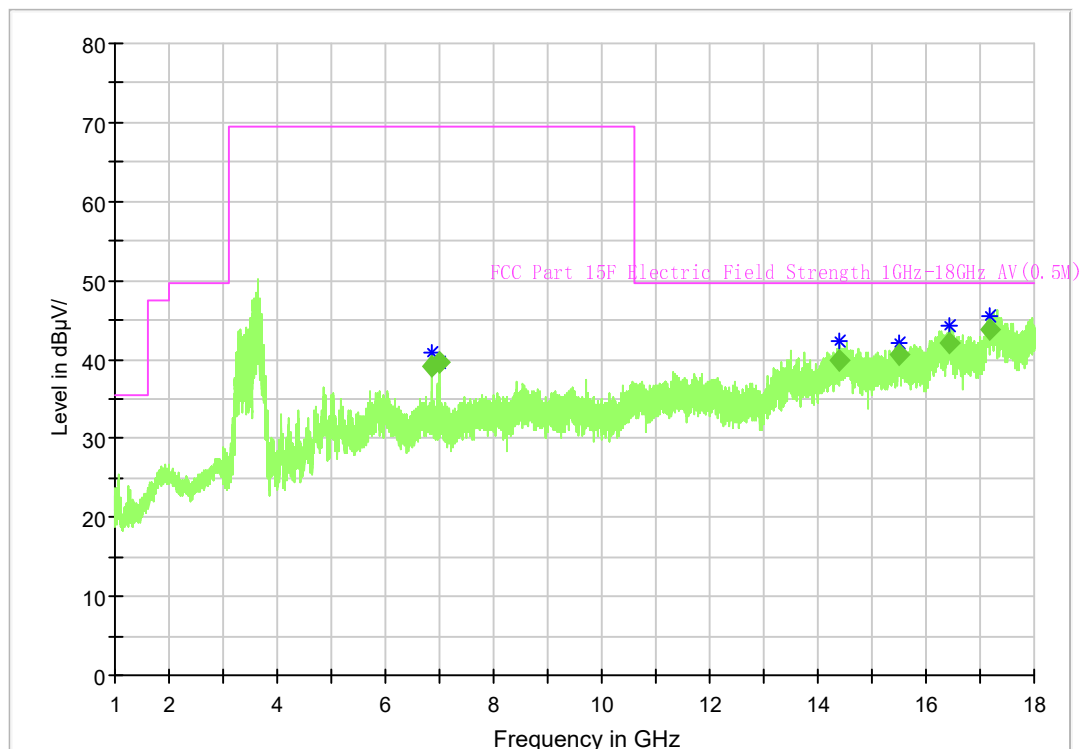
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
971.212000	23.31	---	35.56	12.25	1000.0	120.000	100.0	H
971.716000	26.01	---	35.56	9.55	1000.0	120.000	100.0	H
980.492000	22.62	---	35.56	12.94	1000.0	120.000	100.0	H
988.700000	23.09	---	35.56	12.47	1000.0	120.000	100.0	H
997.412000	22.57	---	35.56	12.99	1000.0	120.000	100.0	H
998.384000	30.48	---	35.56	5.08	1000.0	120.000	100.0	H

960 – 1000 MHz
8985.6 MHz

EMC32 Report

Full Spectrum



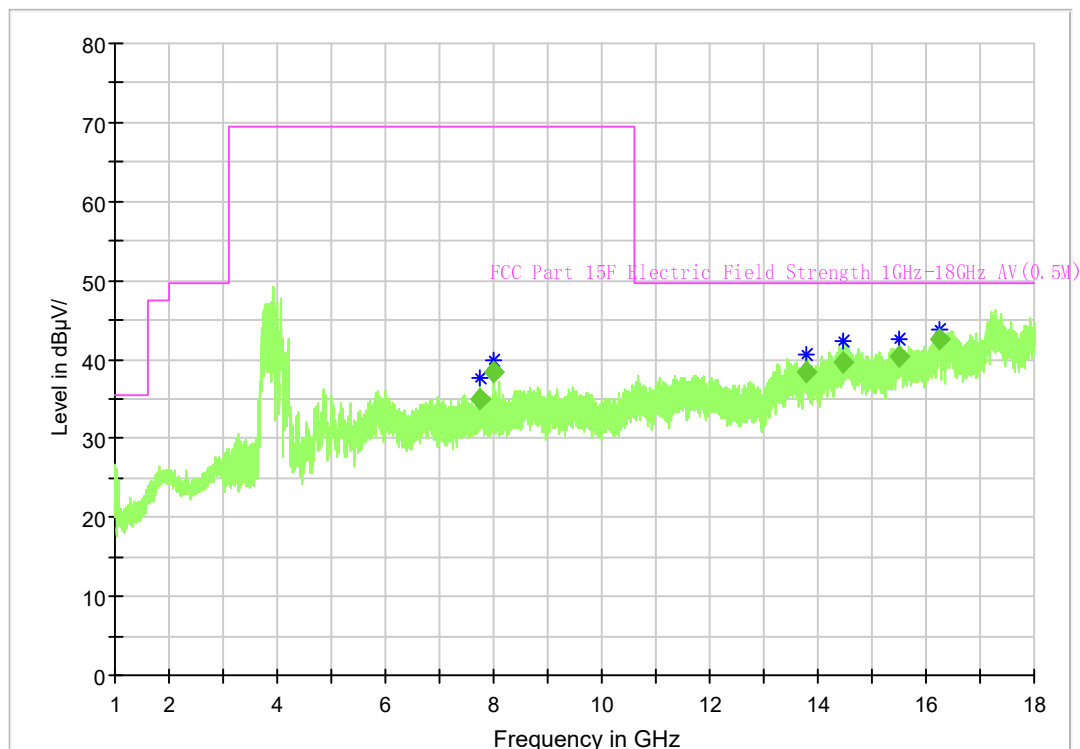
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
6864.000000	39.18	69.56	30.38	1000.0	1000.000	99.9	H	0.0
6989.000000	39.53	69.56	30.03	1000.0	1000.000	99.9	H	0.0
14408.000000	39.99	49.56	9.57	1000.0	1000.000	99.9	H	0.0
15502.500000	40.62	49.56	8.94	1000.0	1000.000	99.9	H	0.0
16440.000000	42.01	49.56	7.55	1000.0	1000.000	99.9	H	0.0
17183.000000	43.83	49.56	5.73	1000.0	1000.000	99.9	H	0.0

1 - 18 GHz
3494.4 MHz

EMC32 Report

Full Spectrum



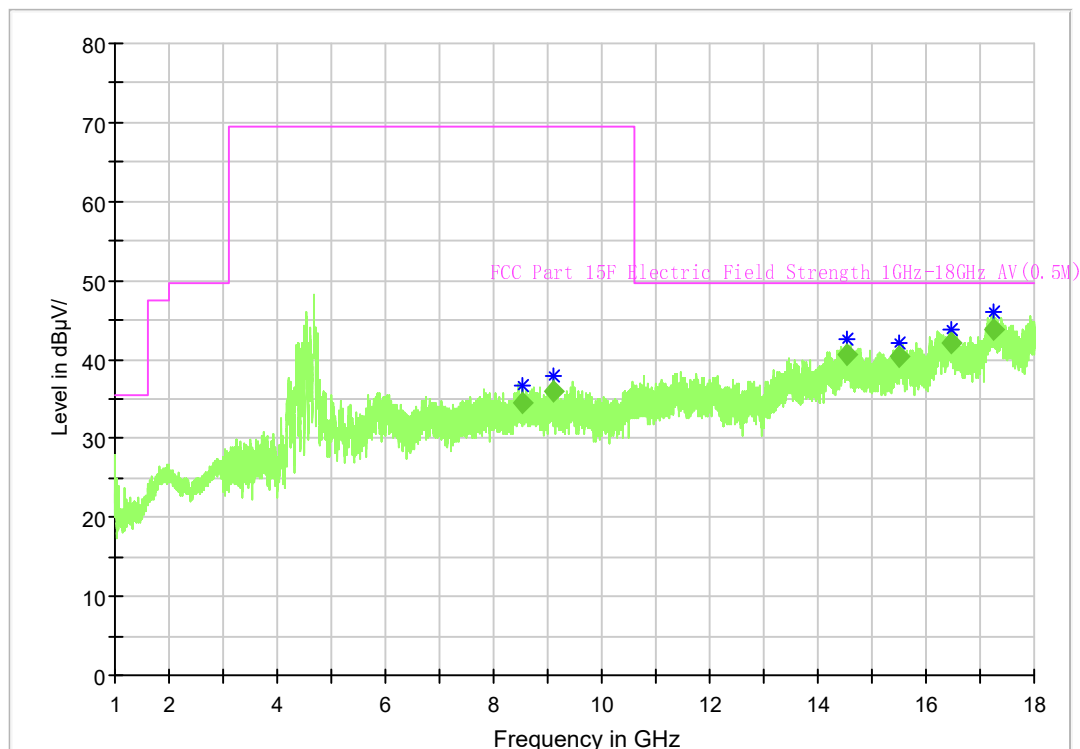
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
7737.500000	35.00	69.56	34.56	1000.0	1000.000	99.9	H	0.0
7987.000000	38.36	69.56	31.20	1000.0	1000.000	99.9	H	0.0
13788.500000	38.48	49.56	11.08	1000.0	1000.000	99.9	H	0.0
14455.500000	39.66	49.56	9.90	1000.0	1000.000	99.9	H	0.0
15509.500000	40.33	49.56	9.23	1000.0	1000.000	99.9	H	0.0
16248.500000	42.47	49.56	7.09	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
3993.6 MHz

EMC32 Report

Full Spectrum



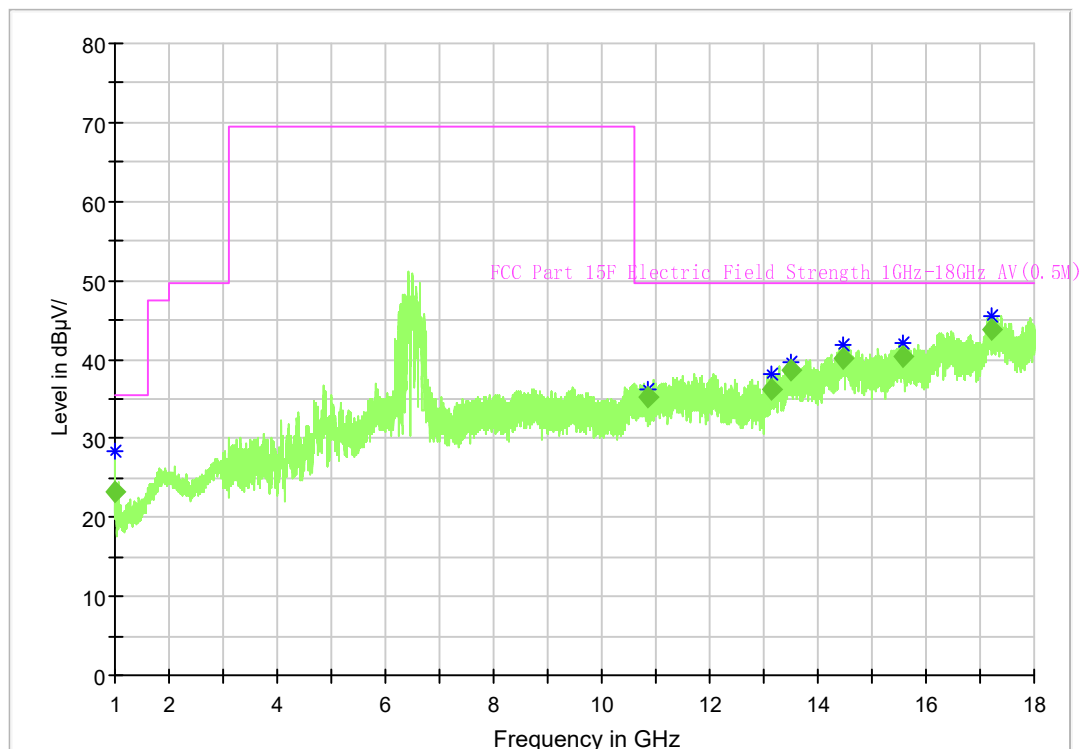
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
8534.000000	34.42	69.56	35.14	1000.0	1000.000	99.9	H	0.0
9110.500000	36.00	69.56	33.56	1000.0	1000.000	99.9	H	0.0
14525.000000	40.65	49.56	8.91	1000.0	1000.000	99.9	H	0.0
15485.500000	40.39	49.56	9.17	1000.0	1000.000	99.9	H	0.0
16458.500000	42.02	49.56	7.54	1000.0	1000.000	99.9	H	0.0
17236.000000	43.81	49.56	5.75	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
4492.8 MHz

EMC32 Report

Full Spectrum



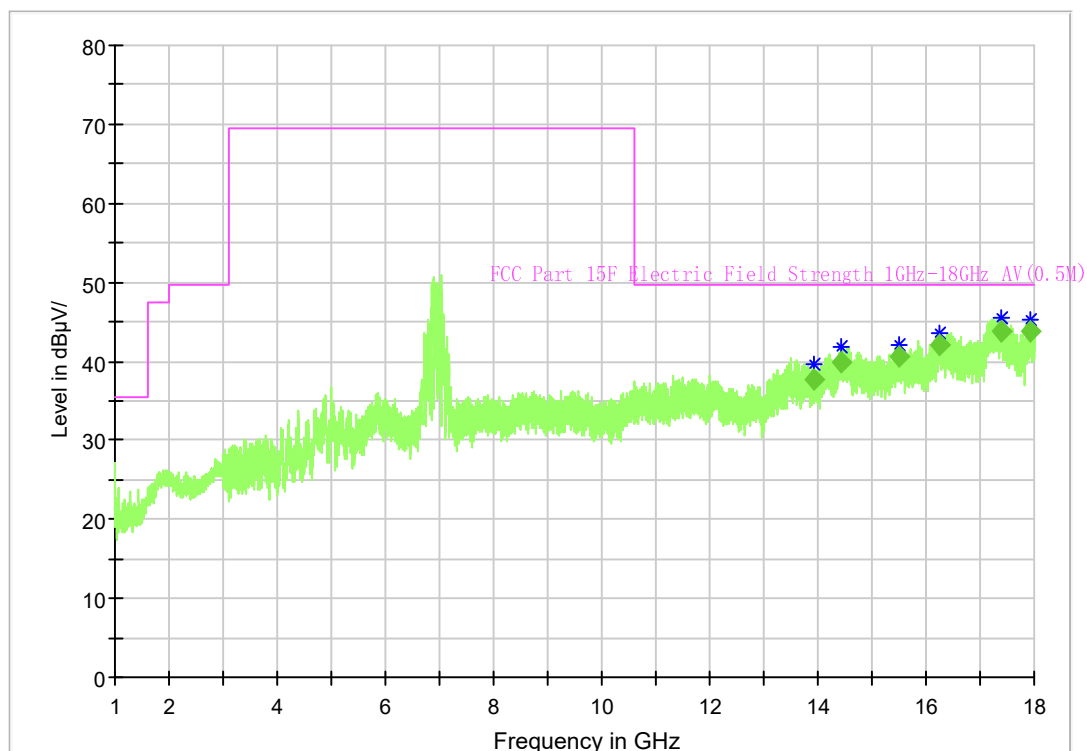
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1012.727273	23.14	35.56	12.42	1000.0	1000.000	99.9	H	0.0
10848.500000	35.21	49.56	14.35	1000.0	1000.000	99.9	H	0.0
13154.500000	36.27	49.56	13.29	1000.0	1000.000	99.9	H	0.0
13493.500000	38.58	49.56	10.98	1000.0	1000.000	99.9	H	0.0
14481.500000	40.13	49.56	9.43	1000.0	1000.000	99.9	H	0.0
15560.500000	40.25	49.56	9.31	1000.0	1000.000	99.9	H	0.0
17231.000000	43.79	49.56	5.77	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
6489.6 MHz

EMC32 Report

Full Spectrum



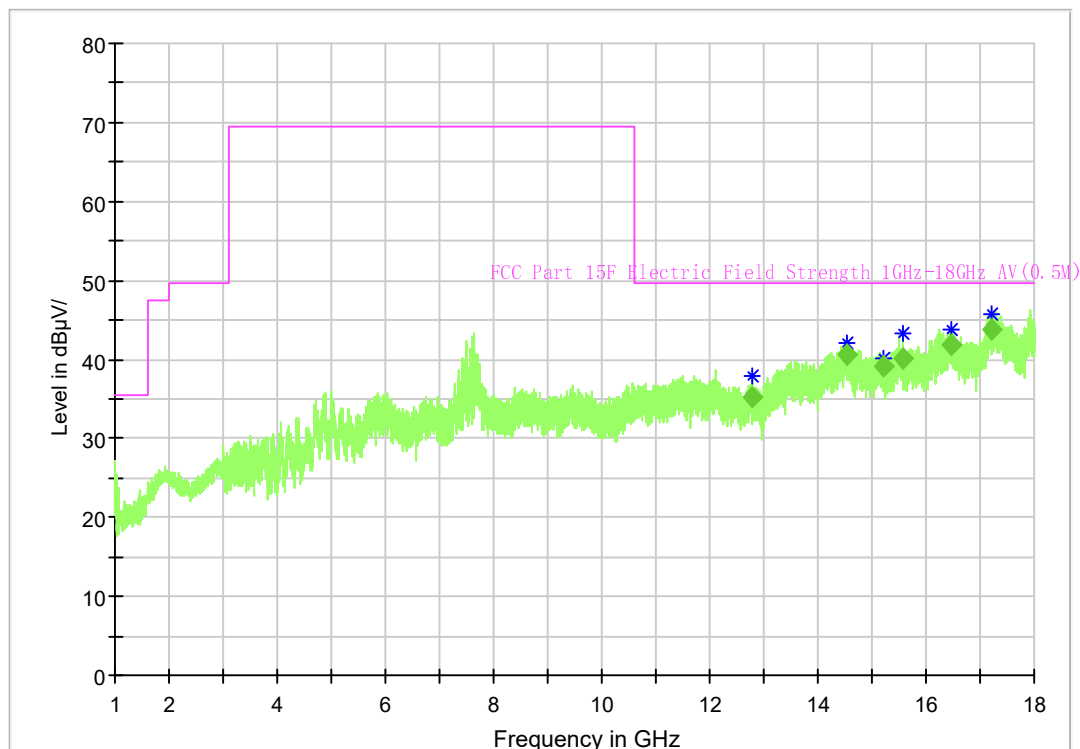
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
13930.500000	37.57	49.56	11.99	1000.0	1000.000	99.9	H	0.0
14418.000000	39.88	49.56	9.68	1000.0	1000.000	99.9	H	0.0
15500.000000	40.56	49.56	9.00	1000.0	1000.000	99.9	H	0.0
16241.500000	42.03	49.56	7.53	1000.0	1000.000	99.9	H	0.0
17406.500000	43.89	49.56	5.67	1000.0	1000.000	99.9	H	0.0
17942.500000	43.86	49.56	5.70	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
6988.8 MHz

EMC32 Report

Full Spectrum



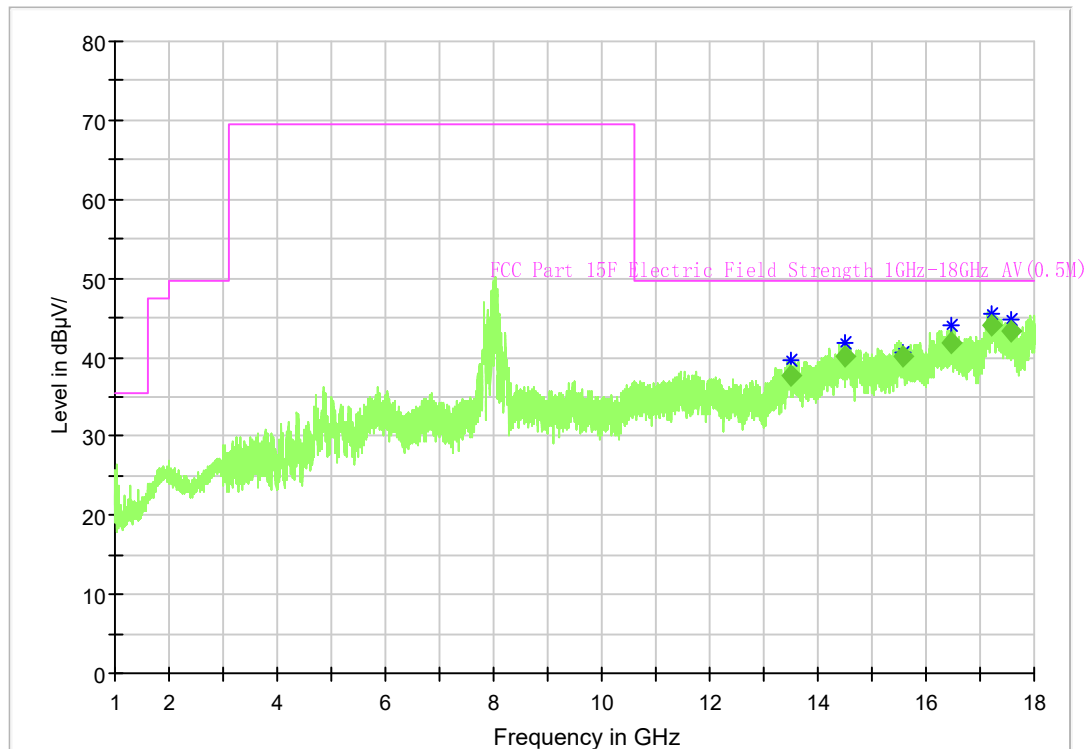
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
12768.500000	35.26	49.56	14.30	1000.0	1000.000	99.9	H	0.0
14526.500000	40.69	49.56	8.87	1000.0	1000.000	99.9	H	0.0
15205.500000	39.26	49.56	10.30	1000.0	1000.000	99.9	H	0.0
15562.500000	40.16	49.56	9.40	1000.0	1000.000	99.9	H	0.0
16454.500000	41.89	49.56	7.67	1000.0	1000.000	99.9	H	0.0
17231.000000	43.78	49.56	5.78	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
7488.0 MHz

EMC32 Report

Full Spectrum



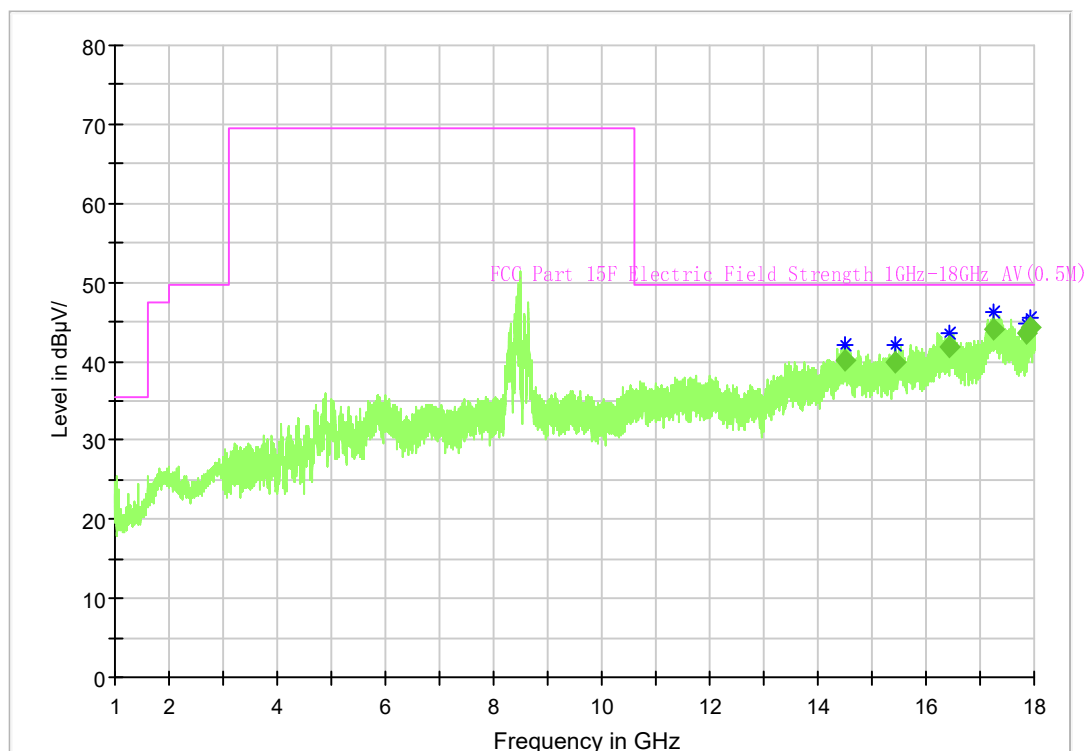
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
13516.000000	37.68	49.56	11.88	1000.0	1000.000	99.9	H	0.0
14511.000000	40.24	49.56	9.32	1000.0	1000.000	99.9	H	0.0
15562.500000	40.16	49.56	9.40	1000.0	1000.000	99.9	H	0.0
16478.500000	41.89	49.56	7.67	1000.0	1000.000	99.9	H	0.0
17211.500000	44.08	49.56	5.48	1000.0	1000.000	99.9	H	0.0
17570.000000	43.32	49.56	6.24	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
7987.2 MHz

EMC32 Report

Full Spectrum



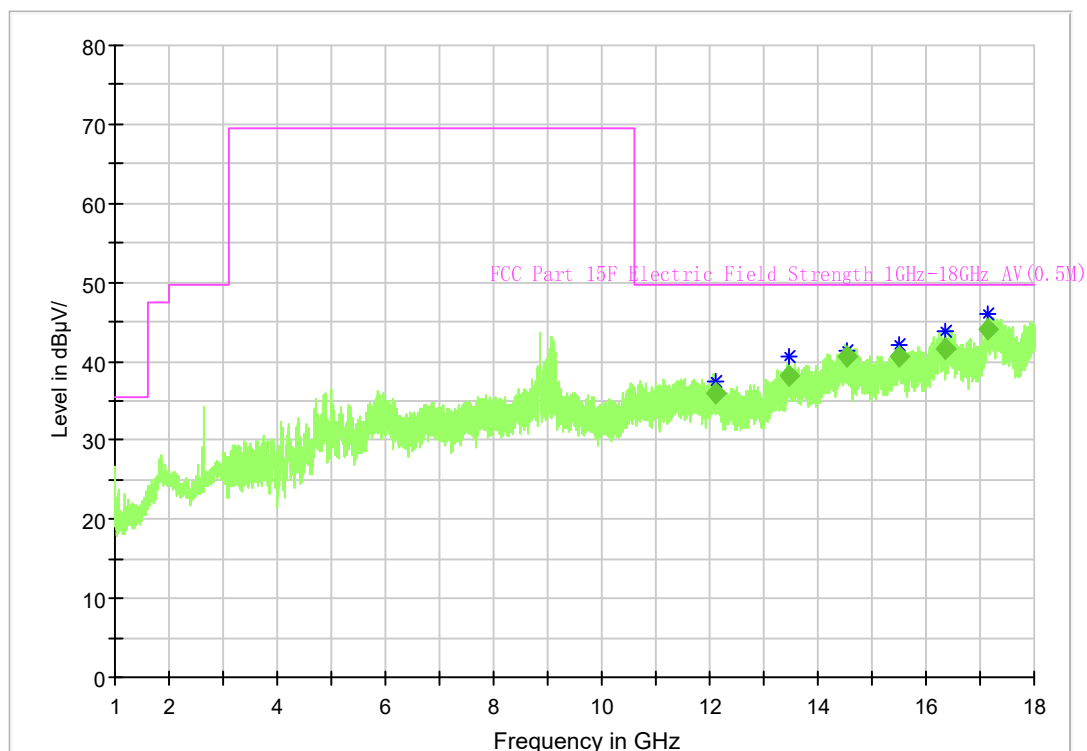
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
14488.000000	40.10	49.56	9.46	1000.0	1000.000	99.9	H	0.0
15411.000000	39.76	49.56	9.80	1000.0	1000.000	99.9	H	0.0
16416.000000	41.95	49.56	7.61	1000.0	1000.000	99.9	H	0.0
17245.500000	44.13	49.56	5.43	1000.0	1000.000	99.9	H	0.0
17849.000000	43.64	49.56	5.92	1000.0	1000.000	99.9	H	0.0
17934.000000	44.33	49.56	5.23	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
8486.4 MHz

EMC32 Report

Full Spectrum



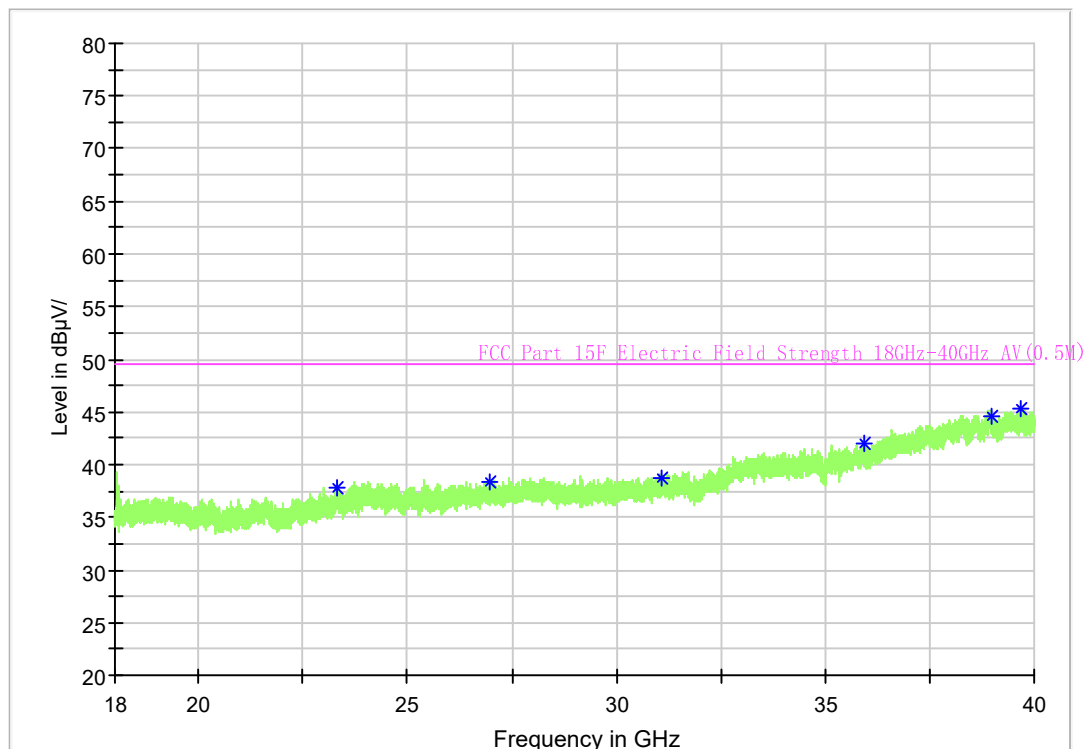
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
12097.500000	35.87	49.56	13.69	1000.0	1000.000	99.9	H	0.0
13475.500000	38.18	49.56	11.38	1000.0	1000.000	99.9	H	0.0
14524.000000	40.58	49.56	8.98	1000.0	1000.000	99.9	H	0.0
15493.000000	40.55	49.56	9.01	1000.0	1000.000	99.9	H	0.0
16350.000000	41.51	49.56	8.05	1000.0	1000.000	99.9	H	0.0
17150.000000	44.02	49.56	5.54	1000.0	1000.000	99.9	H	0.0

1 -18 GHz
8985.6 MHz

EMC32 Report

Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
23323.000000	---	37.81	49.56	11.75	---	---	100.0	V
26949.375000	---	38.36	49.56	11.20	---	---	100.0	H
31063.625000	---	38.70	49.56	10.86	---	---	100.0	H
35939.125000	---	41.97	49.56	7.59	---	---	100.0	V
38965.750000	---	44.61	49.56	4.95	---	---	100.0	V
39666.625000	---	45.28	49.56	4.28	---	---	100.0	V

18 - 40 GHz

8985.6 MHz

Note: In the event that no emissions are observed in the aforementioned frequency bands, report the minimum sensitivity (noise floor) of the measurement system in these bands (i.e., show that the measurement system is capable of detecting emissions down to the level indicated by the applicable emissions limit)

A.5 Spurious Radiated Emissions in GPS Bands

Band 1

Test Frequency (MHz)	Frequency (MHz)	Verdict
3494.4	1164 - 1240	Pass
	1559 - 1610	Pass
3993.6	1164 - 1240	Pass
	1559 - 1610	Pass
4492.8	1164 - 1240	Pass
	1559 - 1610	Pass

Band 3

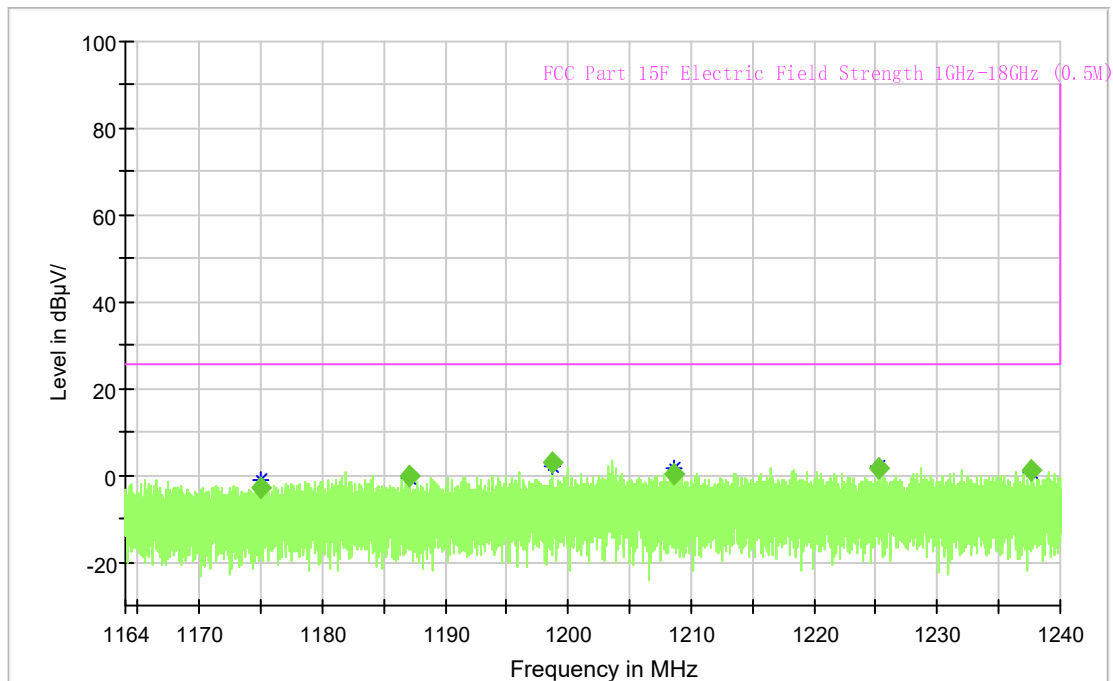
Test Frequency (MHz)	Frequency (MHz)	Verdict
6489.6	1164 - 1240	Pass
	1559 - 1610	Pass
6988.8	1164 - 1240	Pass
	1559 - 1610	Pass
7488.0	1164 - 1240	Pass
	1559 - 1610	Pass

Band 6

Test Frequency (MHz)	Frequency (MHz)	Verdict
7987.2	1164 - 1240	Pass
	1559 - 1610	Pass
8486.4	1164 - 1240	Pass
	1559 - 1610	Pass
8985.6	1164 - 1240	Pass
	1559 - 1610	Pass

EMC32 Report

Full Spectrum



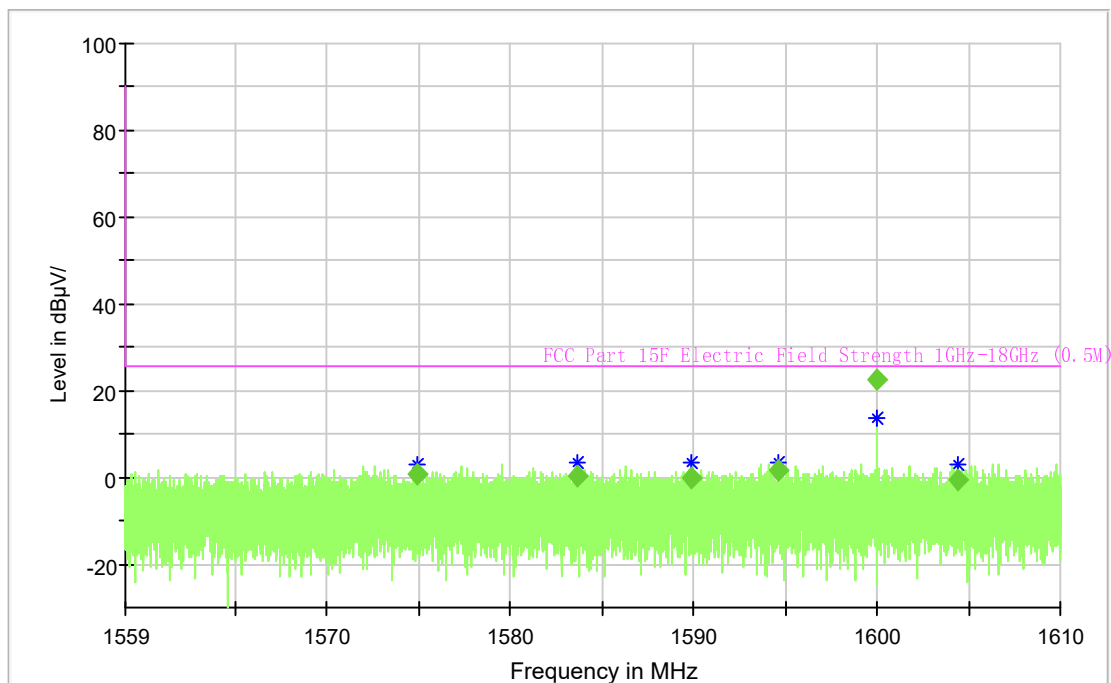
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1175.050875	-2.76	25.56	28.32	1000.0	1.000	119.0	H	25.0
1187.037500	-0.19	25.56	25.75	1000.0	1.000	99.8	H	8.0
1198.743875	3.14	25.56	22.42	1000.0	1.000	100.6	H	-25.0
1208.562125	0.15	25.56	25.41	1000.0	1.000	110.4	H	7.0
1225.317750	1.58	25.56	23.98	1000.0	1.000	124.9	H	-23.0
1237.648750	1.08	25.56	24.48	1000.0	1.000	125.0	H	-25.0

3494.4 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



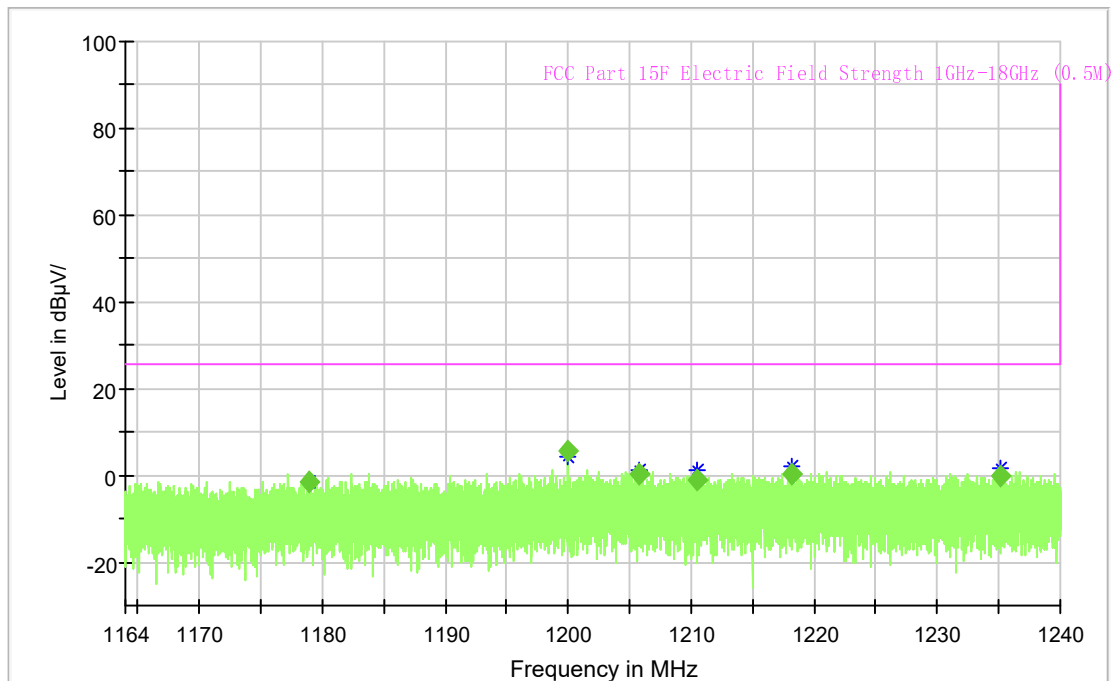
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1574.864188	0.85	25.56	24.71	1000.0	1.000	99.9	H	0.0
1583.637781	0.07	25.56	25.49	1000.0	1.000	99.9	H	0.0
1589.909188	-0.06	25.56	25.62	1000.0	1.000	99.9	H	0.0
1594.570906	1.83	25.56	23.73	1000.0	1.000	99.9	H	0.0
1600.019938	22.68	25.56	2.88	1000.0	1.000	99.9	H	0.0
1604.410719	-0.40	25.56	25.96	1000.0	1.000	99.9	H	0.0

3494.4 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



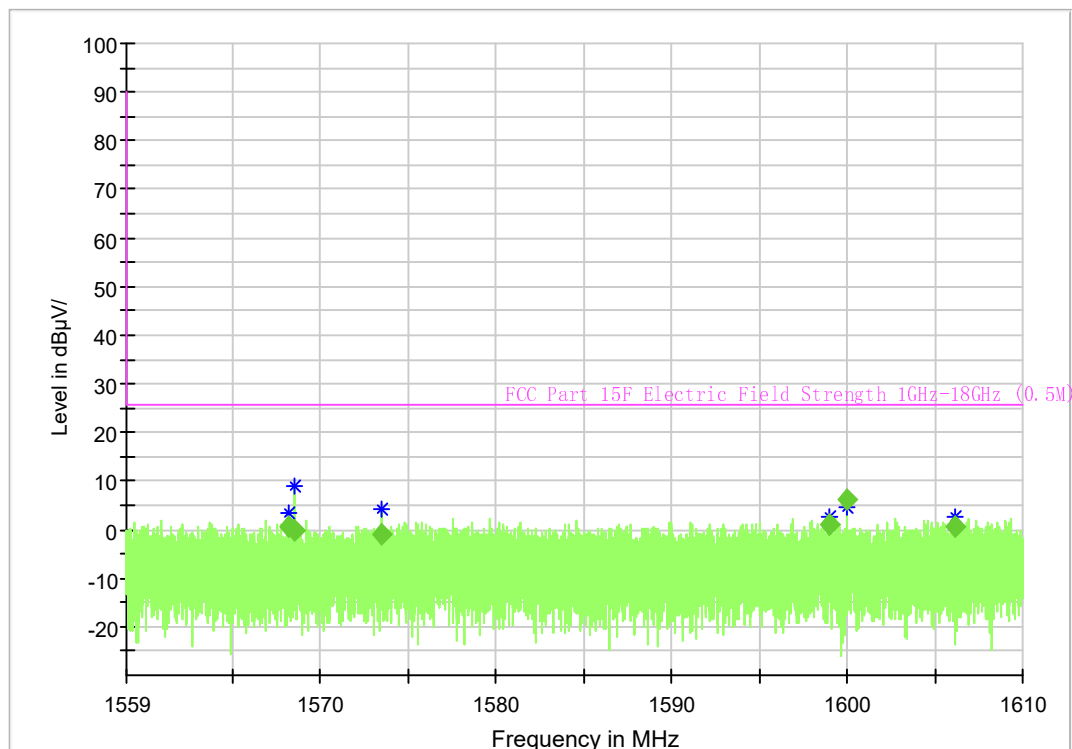
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1178.888875	-1.45	25.56	27.01	1000.0	1.000	99.9	H	0.0
1200.014500	5.70	25.56	19.86	1000.0	1.000	99.9	H	0.0
1205.712125	0.16	25.56	25.40	1000.0	1.000	99.9	H	0.0
1210.493000	-0.85	25.56	26.41	1000.0	1.000	99.9	H	0.0
1218.157125	0.46	25.56	25.10	1000.0	1.000	99.9	H	0.0
1235.069500	-0.06	25.56	25.62	1000.0	1.000	99.9	H	0.0

3993.6 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



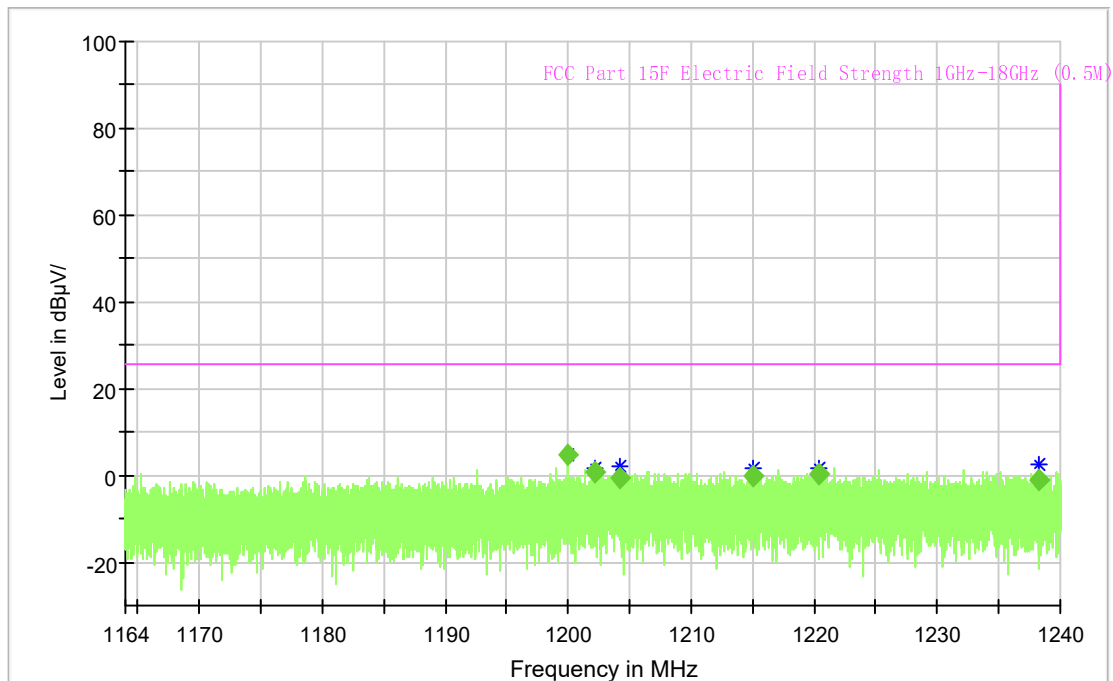
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1568.269250	0.75	25.56	24.81	1000.0	1.000	99.9	H	0.0
1568.562500	-0.24	25.56	25.80	1000.0	1.000	99.9	H	0.0
1573.560500	-0.82	25.56	26.38	1000.0	1.000	99.9	H	0.0
1599.001531	0.99	25.56	24.57	1000.0	1.000	99.9	H	0.0
1600.021531	6.27	25.56	19.29	1000.0	1.000	99.9	H	0.0
1606.173406	0.81	25.56	24.75	1000.0	1.000	99.9	H	0.0

3993.6 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



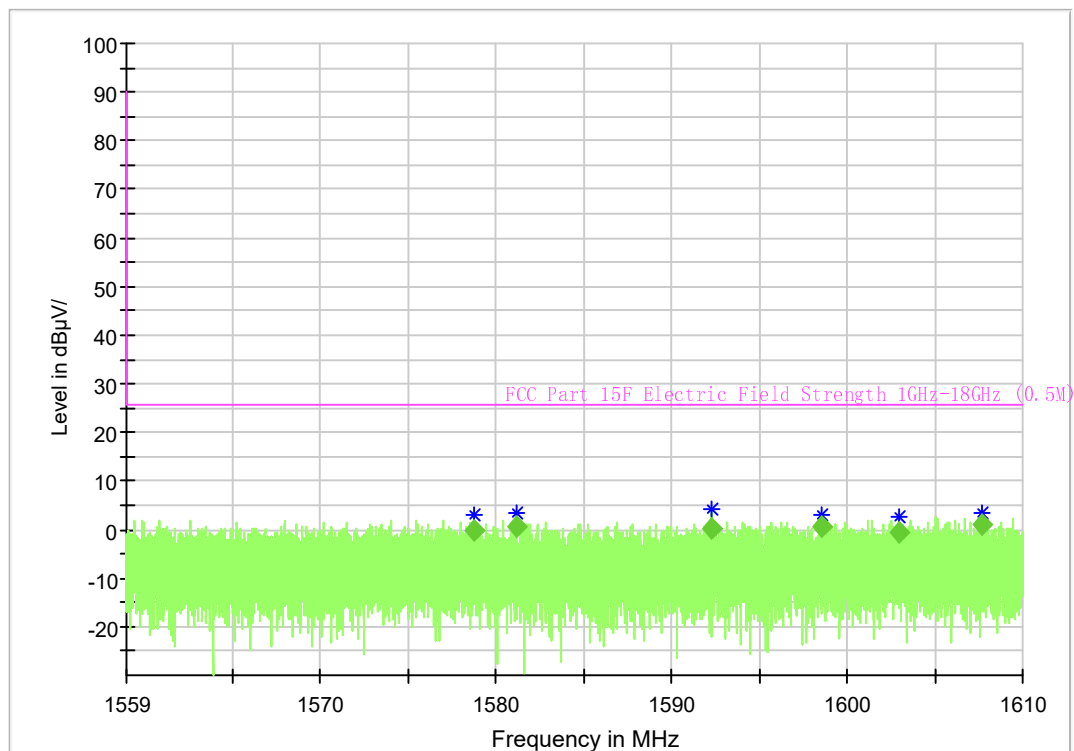
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1200.014500	4.92	25.56	20.64	1000.0	1.000	99.9	H	0.0
1202.149625	0.66	25.56	24.90	1000.0	1.000	99.9	H	0.0
1204.237250	-0.55	25.56	26.11	1000.0	1.000	99.9	H	0.0
1215.095750	-0.12	25.56	25.68	1000.0	1.000	99.9	H	0.0
1220.346875	0.13	25.56	25.43	1000.0	1.000	99.9	H	0.0
1238.214000	-0.96	25.56	26.52	1000.0	1.000	99.9	H	0.0

4492.8 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



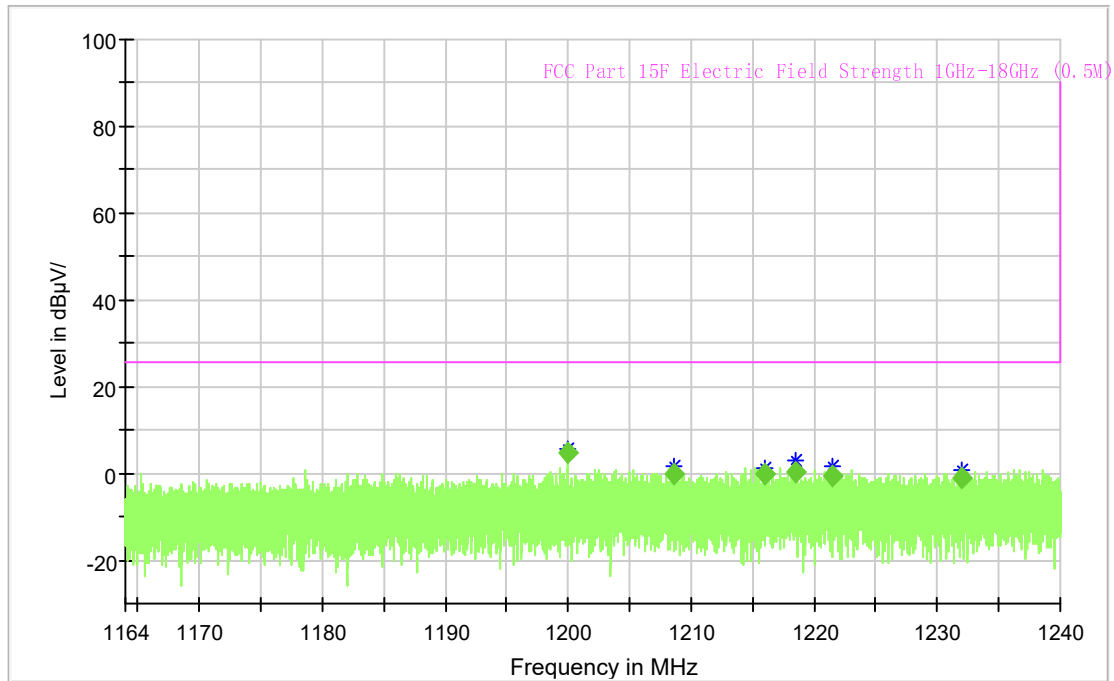
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1578.824656	-0.33	25.56	25.89	1000.0	1.000	99.9	H	0.0
1581.218469	0.45	25.56	25.11	1000.0	1.000	99.9	H	0.0
1592.352406	0.31	25.56	25.25	1000.0	1.000	99.9	H	0.0
1598.623813	0.76	25.56	24.80	1000.0	1.000	99.9	H	0.0
1603.003438	-0.42	25.56	25.98	1000.0	1.000	99.9	H	0.0
1607.701813	1.06	25.56	24.50	1000.0	1.000	99.9	H	0.0

4492.8 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



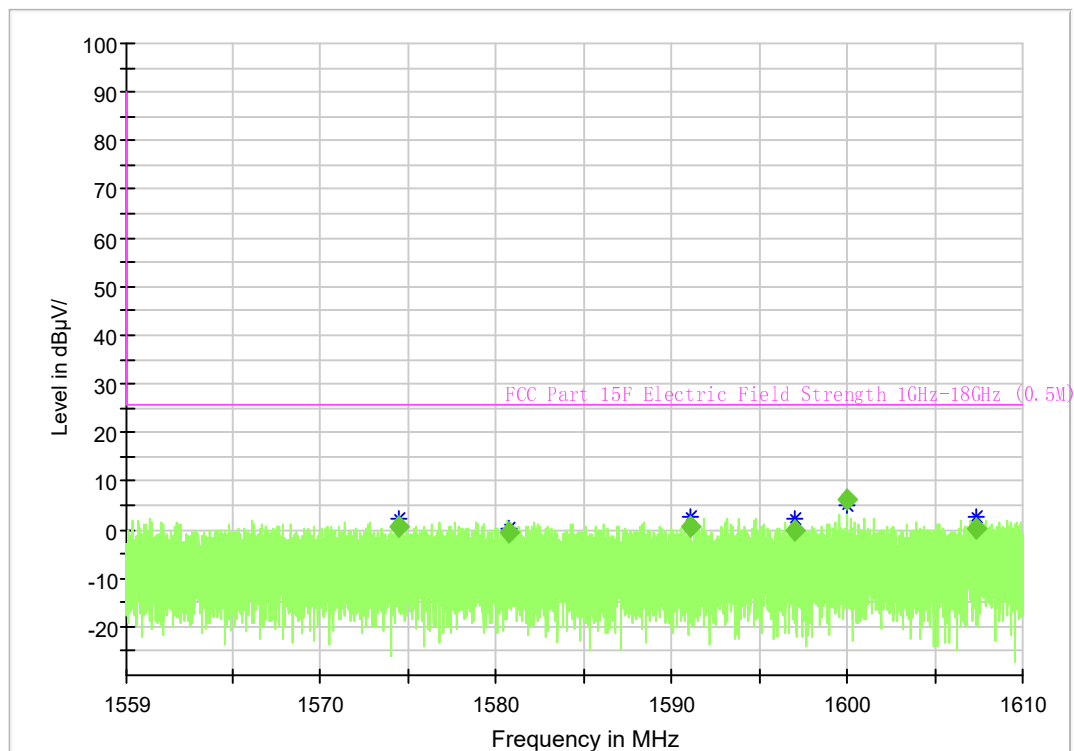
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1200.014500	4.78	25.56	20.78	1000.0	1.000	99.9	H	0.0
1208.593000	-0.05	25.56	25.61	1000.0	1.000	99.9	H	0.0
1215.938875	0.01	25.56	25.55	1000.0	1.000	99.9	H	0.0
1218.423125	0.11	25.56	25.45	1000.0	1.000	99.9	H	0.0
1221.486875	-0.41	25.56	25.97	1000.0	1.000	99.9	H	0.0
1231.979625	-0.87	25.56	26.43	1000.0	1.000	99.9	H	0.0

6489.6 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



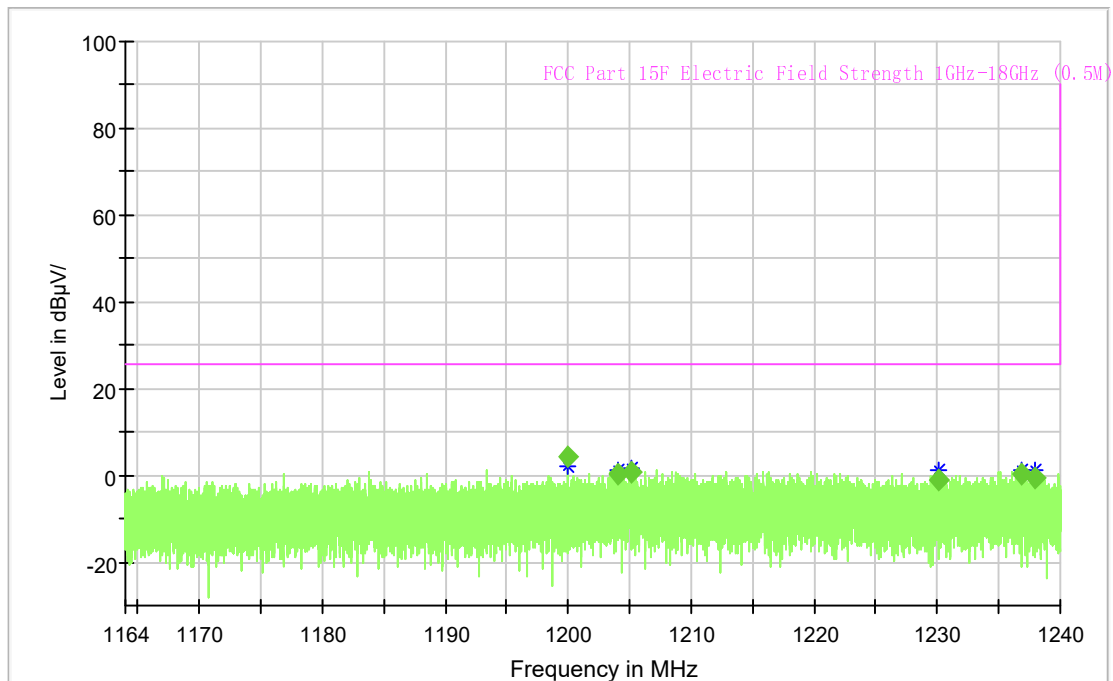
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1574.494438	0.72	25.56	24.84	1000.0	1.000	99.9	H	0.0
1580.799313	-0.69	25.56	26.25	1000.0	1.000	99.9	H	0.0
1591.058281	0.44	25.56	25.12	1000.0	1.000	99.9	H	0.0
1597.082656	-0.01	25.56	25.57	1000.0	1.000	99.9	H	0.0
1600.021531	6.28	25.56	19.28	1000.0	1.000	99.9	H	0.0
1607.376688	0.29	25.56	25.27	1000.0	1.000	99.9	H	0.0

6489.6 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



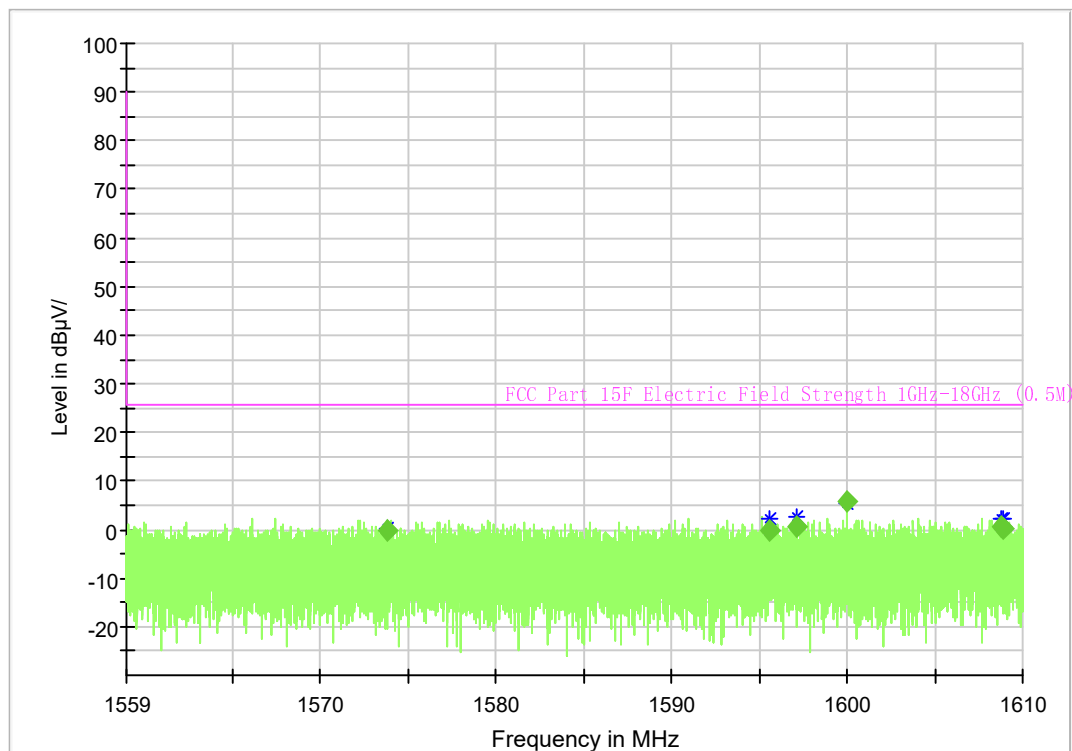
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1200.014500	4.12	25.56	21.44	1000.0	1.000	99.9	H	0.0
1204.042500	0.42	25.56	25.14	1000.0	1.000	99.9	H	0.0
1205.073250	0.57	25.56	24.99	1000.0	1.000	99.9	H	0.0
1230.105750	-1.06	25.56	26.62	1000.0	1.000	99.9	H	0.0
1236.926750	0.39	25.56	25.17	1000.0	1.000	99.9	H	0.0
1238.031125	-0.63	25.56	26.19	1000.0	1.000	99.9	H	0.0

6988.8 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



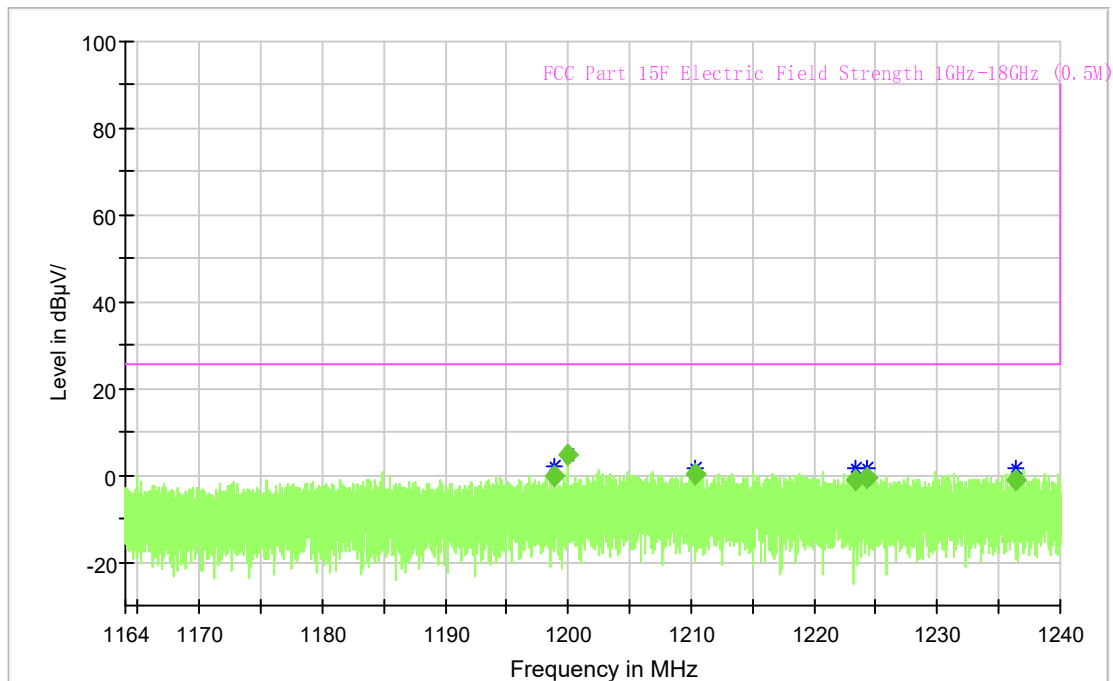
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1573.807531	-0.10	25.56	25.66	1000.0	1.000	99.9	H	0.0
1595.554250	-0.10	25.56	25.66	1000.0	1.000	99.9	H	0.0
1597.130469	0.50	25.56	25.06	1000.0	1.000	99.9	H	0.0
1600.021531	5.93	25.56	19.63	1000.0	1.000	99.9	H	0.0
1608.790344	0.68	25.56	24.88	1000.0	1.000	99.9	H	0.0
1608.866844	0.15	25.56	25.41	1000.0	1.000	99.9	H	0.0

6988.8 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



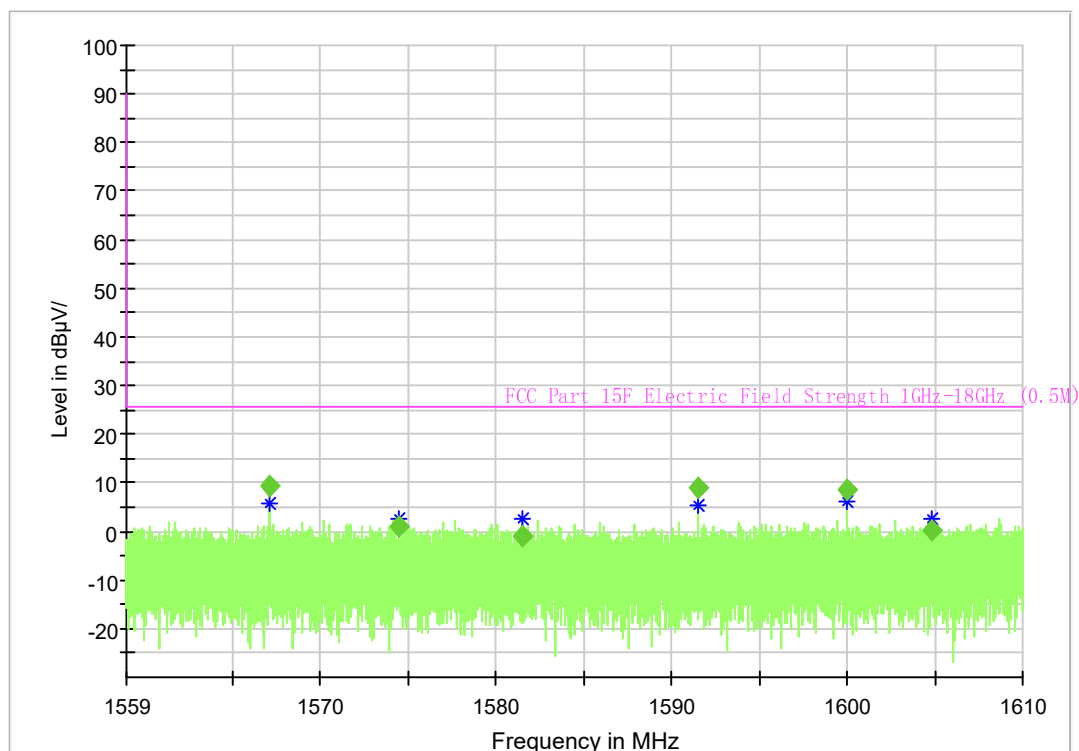
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1198.791375	-0.16	25.56	25.72	1000.0	1.000	99.9	H	0.0
1200.014500	4.60	25.56	20.96	1000.0	1.000	99.9	H	0.0
1210.319625	0.06	25.56	25.50	1000.0	1.000	99.9	H	0.0
1223.358375	-1.03	25.56	26.59	1000.0	1.000	99.9	H	0.0
1224.334500	-0.74	25.56	26.30	1000.0	1.000	99.9	H	0.0
1236.340125	-1.19	25.56	26.75	1000.0	1.000	99.9	H	0.0

7488 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



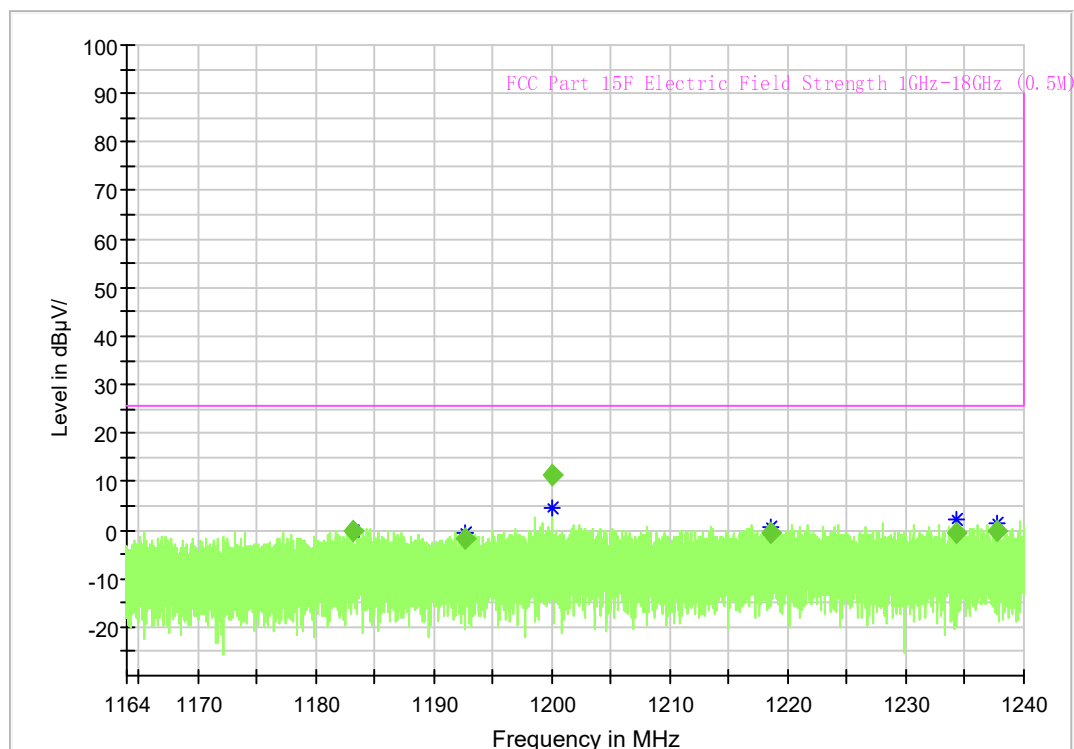
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1567.091469	9.45	25.56	16.11	1000.0	1.000	99.9	H	0.0
1574.526313	0.88	25.56	24.68	1000.0	1.000	99.9	H	0.0
1581.529250	-1.07	25.56	26.63	1000.0	1.000	99.9	H	0.0
1591.509313	8.78	25.56	16.78	1000.0	1.000	99.9	H	0.0
1600.021531	8.56	25.56	17.00	1000.0	1.000	99.9	H	0.0
1604.836250	0.13	25.56	25.43	1000.0	1.000	99.9	H	0.0

7488 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



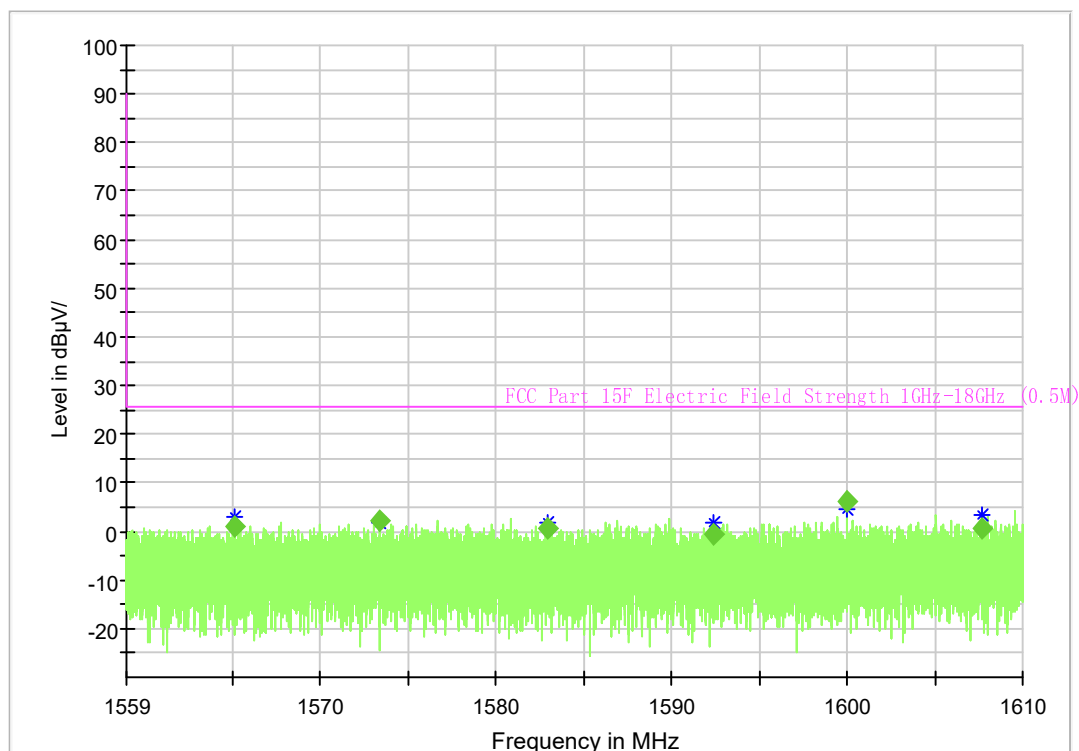
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1183.106875	-0.37	25.56	25.93	1000.0	1.000	99.9	H	0.0
1192.718500	-1.74	25.56	27.30	1000.0	1.000	99.9	H	0.0
1199.990750	11.19	25.56	14.37	1000.0	1.000	99.9	H	0.0
1218.484875	-0.39	25.56	25.95	1000.0	1.000	99.9	H	0.0
1234.188375	-0.53	25.56	26.09	1000.0	1.000	99.9	H	0.0
1237.760375	-0.34	25.56	25.90	1000.0	1.000	99.9	H	0.0

7987.2 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



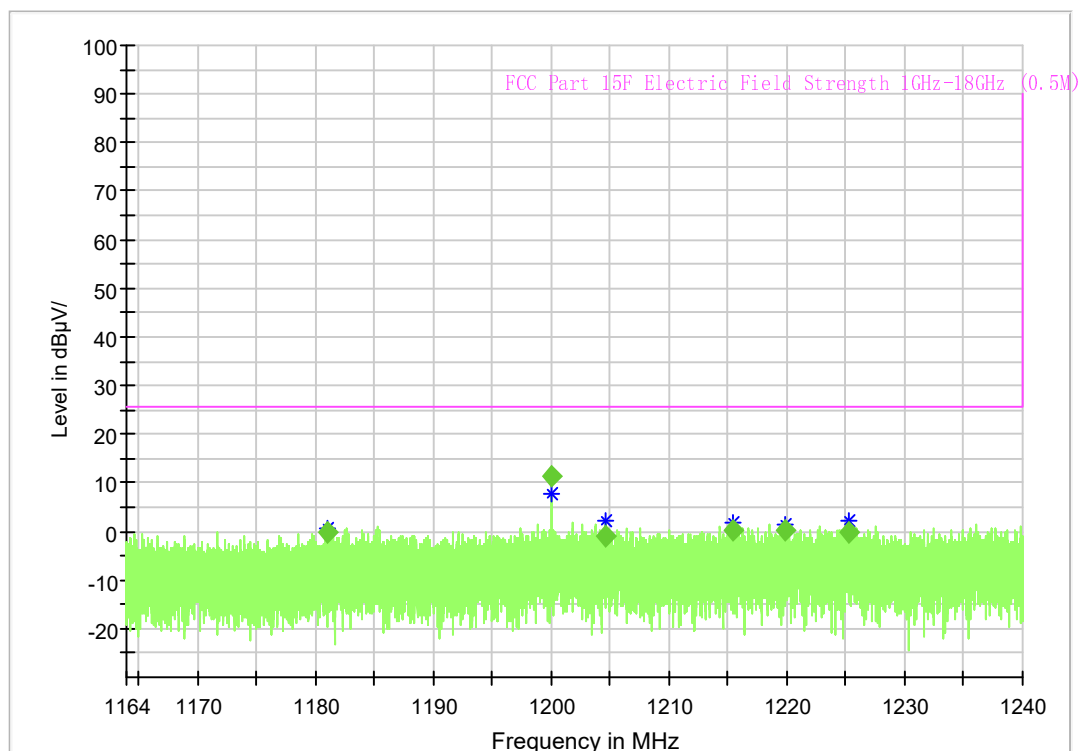
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1565.118406	0.89	25.56	24.67	1000.0	1.000	99.9	H	0.0
1573.380406	2.32	25.56	23.24	1000.0	1.000	99.9	H	0.0
1582.917406	0.71	25.56	24.85	1000.0	1.000	99.9	H	0.0
1592.430500	-0.58	25.56	26.14	1000.0	1.000	99.9	H	0.0
1600.021531	6.00	25.56	19.56	1000.0	1.000	99.9	H	0.0
1607.697031	0.42	25.56	25.14	1000.0	1.000	99.9	H	0.0

7987.2 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



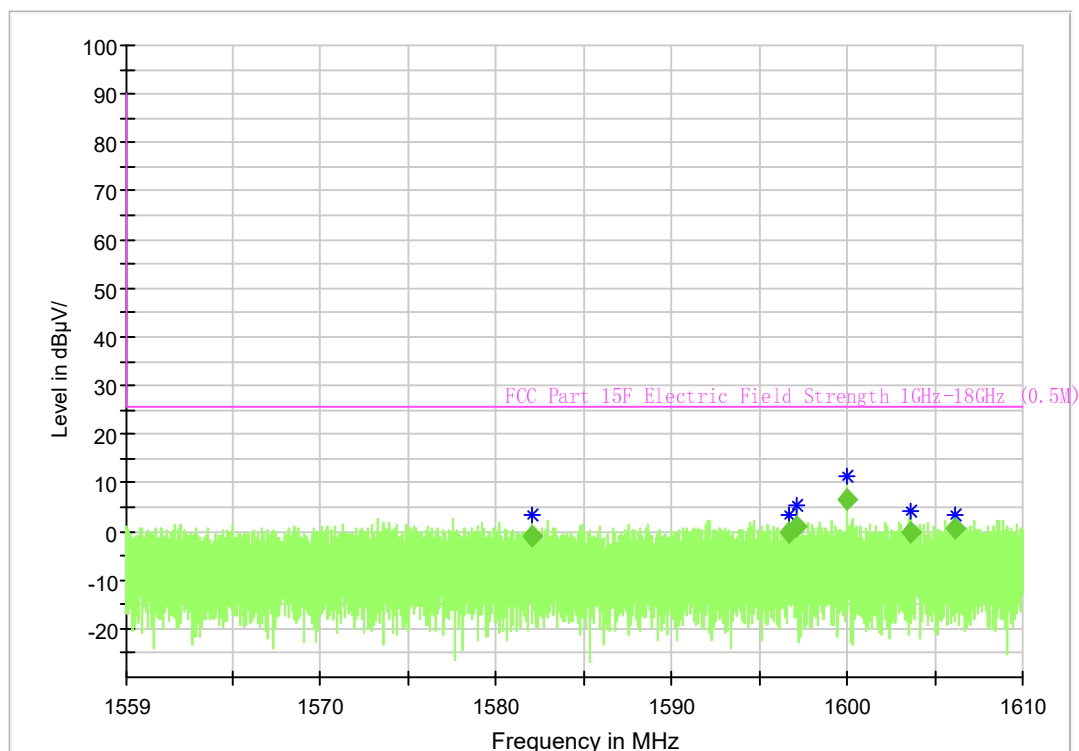
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1181.014500	-0.22	25.56	25.78	1000.0	1.000	99.9	H	0.0
1199.990750	11.33	25.56	14.23	1000.0	1.000	99.9	H	0.0
1204.686125	-0.84	25.56	26.40	1000.0	1.000	99.9	H	0.0
1215.373625	0.08	25.56	25.48	1000.0	1.000	99.9	H	0.0
1219.926500	0.04	25.56	25.52	1000.0	1.000	99.9	H	0.0
1225.279750	-0.33	25.56	25.89	1000.0	1.000	99.9	H	0.0

8486.4 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



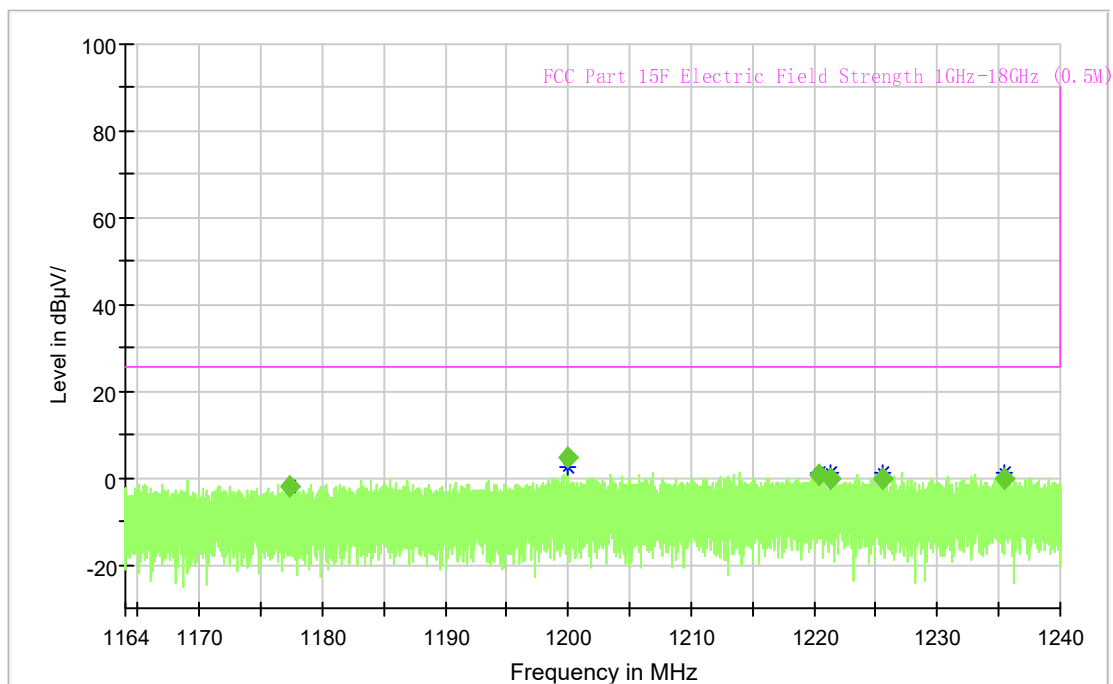
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1582.031281	-1.03	25.56	26.60	1000.0	1.000	99.9	H	0.0
1596.665094	-0.22	25.56	25.78	1000.0	1.000	99.9	H	0.0
1597.098594	1.04	25.56	24.52	1000.0	1.000	99.9	H	0.0
1600.021531	6.70	25.56	18.86	1000.0	1.000	99.9	H	0.0
1603.570813	-0.05	25.56	25.61	1000.0	1.000	99.9	H	0.0
1606.197313	0.51	25.56	25.05	1000.0	1.000	99.9	H	0.0

8486.4 MHz
1559 – 1610 MHz

EMC32 Report

Full Spectrum



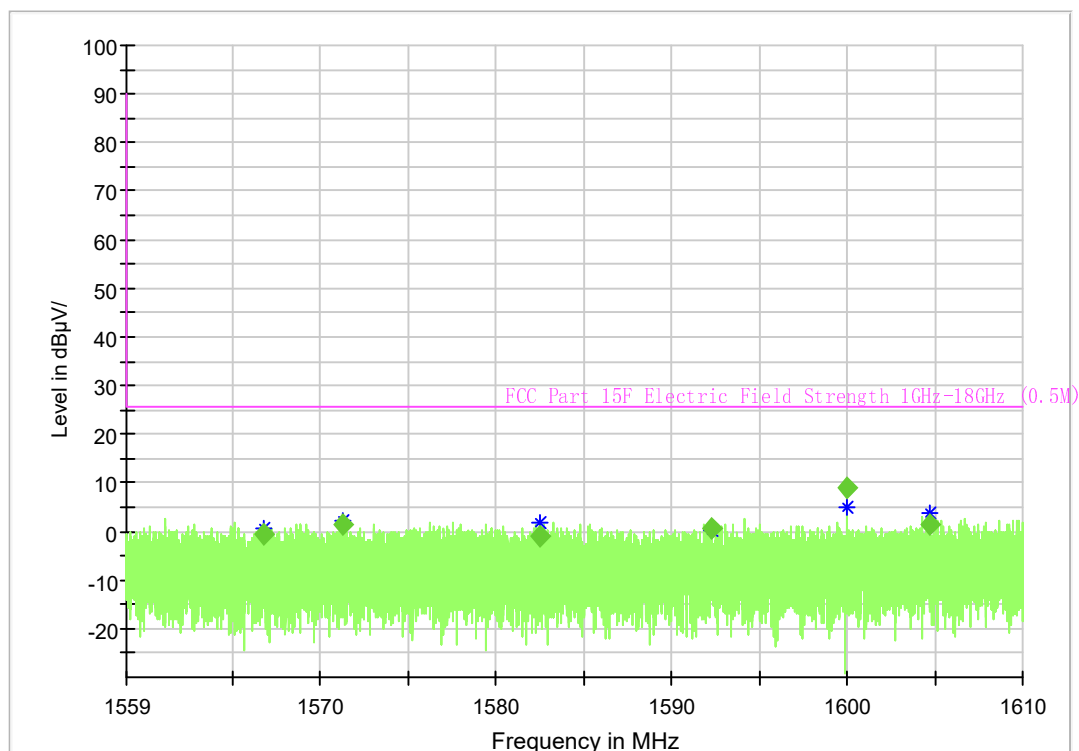
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1177.399750	-1.81	25.56	27.37	1000.0	1.000	99.9	H	0.0
1200.014500	4.72	25.56	20.84	1000.0	1.000	99.9	H	0.0
1220.396750	0.58	25.56	24.98	1000.0	1.000	99.9	H	0.0
1221.292125	-0.02	25.56	25.58	1000.0	1.000	99.9	H	0.0
1225.602750	-0.26	25.56	25.82	1000.0	1.000	99.9	H	0.0
1235.454250	-0.30	25.56	25.86	1000.0	1.000	99.9	H	0.0

8985.6 MHz
1164 – 1240 MHz

EMC32 Report

Full Spectrum



Final Result

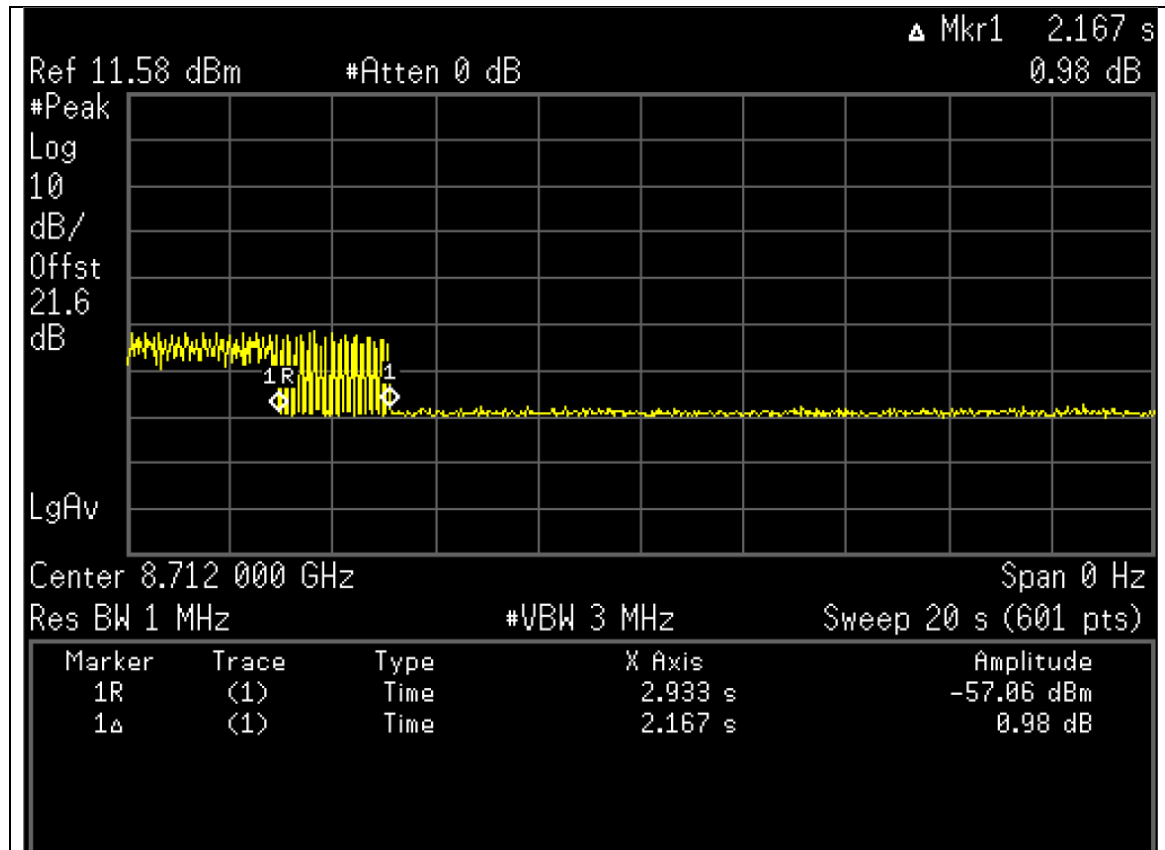
Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1566.850813	-0.44	25.56	26.00	1000.0	1.000	99.9	H	0.0
1571.322875	1.28	25.56	24.28	1000.0	1.000	99.9	H	0.0
1582.539688	-1.15	25.56	26.71	1000.0	1.000	99.9	H	0.0
1592.317344	0.71	25.56	24.85	1000.0	1.000	99.9	H	0.0
1600.021531	8.96	25.56	16.60	1000.0	1.000	99.9	H	0.0
1604.753375	1.38	25.56	24.18	1000.0	1.000	99.9	H	0.0

8985.6 MHz
1559 – 1610 MHz

A.6 Shutdown Timing Requirements

Band 6

Test Frequency (MHz)	Shutdown Time (s)
7987.2	2.167



---End of Test Report---