

Report No.: SEWM2307000278RG01  
 Rev.: 01  
 Page: 1 of 34

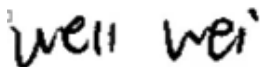
# TEST REPORT

**Application No.:** SEWM2307000278RG  
**Applicant:** Freetech Intelligent Systems Co., Ltd.  
**Address of Applicant:** 16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China  
**Manufacturer:** Freetech Intelligent Systems Co., Ltd.  
**Address of Manufacturer:** Building A Juguang Center, 459 Qianmo Rd, Binjiang District, Hangzhou, Zhejiang, P.R.C.  
**EUT Description:** Long Range Radar  
**Model No.:** FVR40  
**Trade Mark:** Freetech  
**FCC ID:** 2BB3404060203  
**Standards:** FCC 47 CFR Part 95, Subpart M  
**Date of Receipt:** 2023/06/16  
**Date of Test:** 2023/06/22 to 2023/07/16  
**Date of Issue:** 2023/07/26

<b>Test Result :</b>	<b>PASS *</b>
----------------------	---------------

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Well Wei  
 Wireless Laboratory Manager



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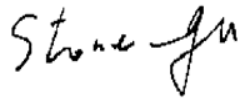
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# 1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023/07/26		Original

<b>Prepared By</b>		 <hr/> <b>(King-p Li) / Test Engineer</b>
<b>Checked By</b>		 <hr/> <b>(Stone Gu) / Reviewer</b>



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## 2 Test Summary

Test Item	FCC Rule No.	Test Method	Test Result	Result
Antenna Requirement	--	--	Clause 4.1	PASS
Equivalent Isotropically Radiated Power (EIRP)	95.3367	ANSI C63.26-2015 Section 5.2	Clause 4.2	PASS
Occupied bandwidth	--	ANSI C63.26-2015 Section 5.4	Clause 4.3	PASS
Modulation characteristics	--	ANSI C63.26-2015 Section 5.3	Clause 4.4	For Report Purpose
Unwanted Emissions	95.3379(a)	ANSI C63.26-2015 Section 5.5	Clause 4.5	PASS
Frequency stability	95.3379(b)	ANSI C63.26-2015 Section 5.6	Clause 4.6	PASS



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### 3 General Information

#### 3.1 Details of Client

Applicant:	Freetech Intelligent Systems Co., Ltd.
Address of Applicant:	16 Xingfa Road, Tongxiang City, Jiaxing City, Zhejiang Province, China
Manufacturer:	Freetech Intelligent Systems Co., Ltd.
Address of Manufacturer:	Building A Juguang Center, 459 Qianmo Rd, Binjiang District, Hangzhou, Zhejiang, P.R.C.

#### 3.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	King-p Li

#### 3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327



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### 3.4 General Description of EUT

EUT Description:	Long Range Radar
Model No.:	FVR40
Trade Mark:	Freotech
SN:	2304120000045
Frequency Band:	77.5GHz-78.5GHz
Modulation Type:	FMCW
Antenna Type:	Micro-strip array antenna
Firmware Version:	RC05(4.2.9 R23)
Remark:	As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

### 3.5 Test Environment

Environment Parameter	101.0 kPa Selected Values During Tests	
Relative Humidity	44-46 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~23	12
Remark: The extreme Voltage and extreme Temperature are refer to the test data of Frequency Stability.		

### 3.6 Description of Support Units

The EUT has been tested as an independent unit.



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## 4 Test results and Measurement Data

### 4.1 Antenna Requirement

<b>Standard requirement:</b>	47 CFR Part 95, Subpart M
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.	
The antenna is Micro-strip array antenna and no consideration of replacement.	
<p><i>Remark:</i> As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.</p>	



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### 4.2 Equivalent Isotropically Radiated Power (EIRP)

Test Requirement:	47 CFR Part 95, Subpart M 95.3367
Test Method:	ANSI C63.26-2015 Section 5.2
Test Setup:	<p style="text-align: center;">h=1.5m, d=3m</p>
Test Instruments:	Refer to section 6 for details
Test Mode:	TX mode_Make EUT continuously emit radar signals
Limit:	Peak EIRP<55dBm Average EIRP<50dBm
Test Results:	Pass
The detailed test data see: <b>Appendix</b>	



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### 4.3 Occupied Bandwidth

Test Requirement:	47 CFR Part 95, Subpart M
Test Method:	ANSI C63.26-2015 Section 5.4
Test Setup:	<p style="text-align: center;">h=1.5m, d=3m</p>
Instruments Used:	Refer to section 6 for details
Test Mode:	TX mode_Make EUT continuously emit radar signals
Limit:	$\geq 76\text{GHz}, \leq 81\text{GHz}$
Test Results:	Pass
The detailed test data see: <b>Appendix</b>	



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#### 4.4 Modulation characteristics

Test Requirement:	47 CFR Part 95, Subpart M																								
Test Method:	ANSI C63.26-2015 Section 5.3																								
Conclusion:	<p>According to § 2.1047, A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.</p> <p>Comments from manufacturer on modulation characteristics according to KDB:</p> <table border="1"> <thead> <tr> <th colspan="2">Parameter</th> </tr> </thead> <tbody> <tr> <td>Duty Cycle %:</td> <td>15.2%</td> </tr> <tr> <td>Time RF on(ms):</td> <td>10 ms</td> </tr> <tr> <td>Time RF off (ms):</td> <td>65.6 ms</td> </tr> <tr> <td>Power:</td> <td>Constant during RF on</td> </tr> <tr> <td>Steepness of Ramps(GHz/s):</td> <td>61.3GHz/s</td> </tr> <tr> <td>Calibration:</td> <td>N/A</td> </tr> <tr> <td>Antenna Beam Steering(TX):</td> <td>±40°</td> </tr> <tr> <th colspan="2">Characteristics</th> </tr> <tr> <td>Sweep Bandwidth:</td> <td>1GHz</td> </tr> <tr> <td>Sweep Rate(KHz):</td> <td>52.6KHz</td> </tr> <tr> <td>Sweep Time(us):</td> <td>19us</td> </tr> </tbody> </table>	Parameter		Duty Cycle %:	15.2%	Time RF on(ms):	10 ms	Time RF off (ms):	65.6 ms	Power:	Constant during RF on	Steepness of Ramps(GHz/s):	61.3GHz/s	Calibration:	N/A	Antenna Beam Steering(TX):	±40°	Characteristics		Sweep Bandwidth:	1GHz	Sweep Rate(KHz):	52.6KHz	Sweep Time(us):	19us
Parameter																									
Duty Cycle %:	15.2%																								
Time RF on(ms):	10 ms																								
Time RF off (ms):	65.6 ms																								
Power:	Constant during RF on																								
Steepness of Ramps(GHz/s):	61.3GHz/s																								
Calibration:	N/A																								
Antenna Beam Steering(TX):	±40°																								
Characteristics																									
Sweep Bandwidth:	1GHz																								
Sweep Rate(KHz):	52.6KHz																								
Sweep Time(us):	19us																								



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### 4.5 Unwanted Emissions

Test Requirement:	47 CFR Part 95, Subpart M 95.3379(a)																																							
Test Method:	ANSI C63.26-2015 Section 5.5																																							
Limit:	<p>The power density of any emissions outside the 76-81 GHz band shall consist solely of spurious emissions and shall not exceed the following:</p> <p>(1) Radiated emissions below 40 GHz shall not exceed the field strength as shown in the following emissions table.</p> <table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>Field Strength (uV/m)</th> <th>Measurement Distance (m)</th> </tr> </thead> <tbody> <tr> <td>0.009 ~ 0.490</td> <td>2400/F(kHz)</td> <td>300</td> </tr> <tr> <td>0.490 ~ 1.705</td> <td>24000/F(kHz)</td> <td>30</td> </tr> <tr> <td>1.705 ~ 30.0</td> <td>30</td> <td>30</td> </tr> <tr> <td>30 ~ 88</td> <td>100</td> <td>3</td> </tr> <tr> <td>88 ~ 216</td> <td>150</td> <td>3</td> </tr> <tr> <td>216 ~ 960</td> <td>200</td> <td>3</td> </tr> <tr> <td>Above 960</td> <td>500</td> <td>3</td> </tr> </tbody> </table> <p>(i) The tighter limit applies at the band edges.                      (ii) The limits in the table are based on the frequency of the unwanted emissions and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.                      (iii) The emissions limits shown in the table are based on measurements employing a CISPR quasi-Peak detector except for the frequency bands 9.0-90.0 kHz, 110.0-490.0 kHz, and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector with a 1 MHz RBW.</p> <p>(2) The power density of radiated emissions outside the 76-81 GHz band above 40.0 GHz shall not exceed the following, based on measurements employing an average detector with a 1 MHz</p> <p>(i) For radiated emissions between 40 GHz and 200 GHz: 600 pW/cm<sup>2</sup> at a distance of 3 meters from the exterior surface of the radiating structure.                      (ii) For radiated emissions above 200 GHz: 1000 pW/cm<sup>2</sup> at a distance of 3 meters from the exterior surface of the radiating structure.</p> <p>(3) For field disturbance sensors and radar systems operating in the 76-81 GHz band, the spectrum shall be investigated up to 231.0 GHz</p> <table border="1"> <thead> <tr> <th>Frequency (GHz)</th> <th>Power density at 3 m distance (pW/cm<sup>2</sup>)</th> <th>Distance (m)</th> <th>Field strength (dBuV/m)*, Peak</th> <th>Field strength (dBuV/m)*, average</th> </tr> </thead> <tbody> <tr> <td>40 - 200</td> <td>600</td> <td>3.0</td> <td>113.54</td> <td>93.54</td> </tr> <tr> <td>200-231</td> <td>1000</td> <td>3.0</td> <td>115.76</td> <td>95.76</td> </tr> </tbody> </table> <p>* - Field strength was calculated per equation (26) of ANSI C63.10-2013 section 9 as follows: <math>E = \sqrt{PD \times 377}</math>, where PD is the power density at the distance specified by the limit in W/m<sup>2</sup>, E- field strength in V/m.</p>	Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)	0.009 ~ 0.490	2400/F(kHz)	300	0.490 ~ 1.705	24000/F(kHz)	30	1.705 ~ 30.0	30	30	30 ~ 88	100	3	88 ~ 216	150	3	216 ~ 960	200	3	Above 960	500	3	Frequency (GHz)	Power density at 3 m distance (pW/cm <sup>2</sup> )	Distance (m)	Field strength (dBuV/m)*, Peak	Field strength (dBuV/m)*, average	40 - 200	600	3.0	113.54	93.54	200-231	1000	3.0	115.76	95.76
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)																																						
0.009 ~ 0.490	2400/F(kHz)	300																																						
0.490 ~ 1.705	24000/F(kHz)	30																																						
1.705 ~ 30.0	30	30																																						
30 ~ 88	100	3																																						
88 ~ 216	150	3																																						
216 ~ 960	200	3																																						
Above 960	500	3																																						
Frequency (GHz)	Power density at 3 m distance (pW/cm <sup>2</sup> )	Distance (m)	Field strength (dBuV/m)*, Peak	Field strength (dBuV/m)*, average																																				
40 - 200	600	3.0	113.54	93.54																																				
200-231	1000	3.0	115.76	95.76																																				



<p><b>Test Setup:</b></p>	
<p>Below 1GHz Test Setup:</p> <p>Below 1GHz</p>	<p>1GHz ~ 40GHz Test Setup:</p> <p>1GHz-40GHz</p>
<p>h=1.5m, d= 3 m</p> <p>Above 40GHz</p>	
<p><b>Instruments Used:</b></p>	<p>Refer to section 6 for details</p>
<p><b>Test Procedure:</b></p>	<p>a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. For 1-18GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>c. For 18-40GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>d. For above 40GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation</p> <p>e. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>f. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p>



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	<p>g. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>h. If the emission level of the EUT in Peak mode was 10dB lower than the limit specified, then testing could be stopped and the Peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using Peak, quasi-Peak or average method as specified and then reported in a data sheet.</p> <p>i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.</p> <p>j. Repeat above procedures until all frequencies measured was complete.</p> <p>Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor</p> <p>Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the Peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose Peak level is lower than the average limit, only the Peak measurement is shown in the report.</p> <p>Remark 3: Scan from 9kHz to 40GHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.</p>
Final Test Mode:	TX mode_Make EUT continuously emit radar signals
Test Results:	Pass
The detailed test data see: <b>Appendix</b>	



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### 4.6 Frequency Stability

Test Requirement:	47 CFR Part 95, Subpart M 95.3379(b)
Test Method:	ANSI C63.26-2015 Section 5.6
Test Setup:	<p style="text-align: center;">h=1.5m, d=3m</p>
Instruments Used:	Refer to section 6 for details
Test Mode:	TX mode_Make EUT continuously emit radar signals
Limit:	76-81GHz
Test Results:	Pass
The detailed test data see: <b>Appendix</b>	



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

No.	Item	Measurement Uncertainty
1	Total RF power	±0.54dB
2	Radio Frequency	±1.0 %
3	Occupied Bandwidth	±1.0 %
4	Radiated Emission	± 3.13dB (9k -30MHz)
		± 4.80dB (30M -1GHz)
		± 4.80dB (1GHz to 18GHz)
		± 4.80dB (Above 18GHz)

**Remark:**

The  $U_{lab}$  (lab Uncertainty) is less than  $U_{CISPR/ETSI}$  (CISPR/ETSI Uncertainty), so the test results  
 – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;  
 – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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## 6 Equipment List

9*6*6 Test Equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	2021/05/08	2024/05/07
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2023/02/07	2024/02/06
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2023/05/11	2024/05/10
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-05	2022/11/23	2023/11/22
PXA Spectrum Analyzer	KEYSIGHT	N9030B	SUWI-01-62-01	2023/01/29	2024/01/28
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2023/02/08	2024/02/07
DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	2023/02/06	2024/02/05
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	VULB 9163	SUWI-01-11-01	2023/05/13	2024/05/12
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	2023/05/13	2024/05/12
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9170	SUWI-01-11-03	2023/05/12	2024/05/11
Active Loop Antenna	SCHWEZBECK MESS-ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	2023/05/13	2024/05/12
Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	2023/02/06	2024/02/05
Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	2023/02/06	2024/02/05
Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	2023/02/08	2024/02/07
Measurement Software	Tonscend	JS32-RE	SUWI-02-09-04	NCR	NCR
		V4.0.0.0			
Horn-antenna(40-60GHz)	REBES	SAZ-2410-19-S1	SUWI-03-49-01	NCR	NCR
Horn-antenna(50-75GHz)	REBES	SAZ-2410-15-S1	SUWI-03-49-02	NCR	NCR
Horn-antenna(75-110GHz)	REBES	SAZ-2410-10-S1	SUWI-03-49-03	NCR	NCR
Horn-antenna(110-170GHz)	REBES	SAZ-2410-06-S1	SUWI-03-49-04	NCR	NCR
Horn-antenna(140-220GHz)	REBES	SAZ-2410-05-S1	SUWI-03-49-05	NCR	NCR
Horn-antenna(220-325GHz)	REBES	SAR-2309-03-S2	SUWI-03-49-06	NCR	NCR
Extended waveguide(40-60GHz)	REBES	SWG-19025-FB	SUWI-03-50-01	NCR	NCR



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Extended waveguide(50-75GHz)	REBES	SWG-15025-FB	SUWI-03-50-02	NCR	NCR
Extended waveguide(75-110GHz)	REBES	SWG-10025-FB	SUWI-03-50-03	NCR	NCR
Extended waveguide(110-170GHz)	REBES	SWG-06025-FB	SUWI-03-51-01	NCR	NCR
Extended waveguide(140-220GHz)	REBES	SWG-05025-FB	SUWI-03-51-02	NCR	NCR
Extended waveguide(220-325GHz)	REBES	SWG-03025-FB	SUWI-03-51-03	NCR	NCR
Harmonic mixer(110-170GHz)	REBES	STH-06SF-S1	SUWI-03-52-01	NCR	NCR
Harmonic mixer(40-60GHz)	REBES	STH-19SF-S1	SUWI-03-52-02	NCR	NCR
Harmonic mixer(140-220GHz)	REBES	STH-06SF-S1	SUWI-03-52-03	NCR	NCR
Harmonic mixer(220-325GHz)	REBES	STH-19SF-S1	SUWI-03-52-04	NCR	NCR
Waveguide Harmonic Mixer(50-75GHz)	KEYSIGHT	M1970V	SUWI-03-53-01	NCR	NCR
Waveguide Harmonic Mixer(75-110GHz)	KEYSIGHT	M1970W	SUWI-03-53-02	NCR	NCR
Waveguide Harmonic Mixer(50-75GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-01	NCR	NCR
Waveguide Harmonic Mixer(75-110GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-02	NCR	NCR
Waveguide Harmonic Mixer(40-60GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-03	NCR	NCR
Waveguide Harmonic Mixer(110-170GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-04	NCR	NCR
Waveguide Harmonic Mixer(140-220GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-05	NCR	NCR
Waveguide Harmonic Mixer(220-325GHz) cable	Silverline	SLU18-SMSM-01.00M	SUWI-03-54-06	NCR	NCR



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## 7 Photographs - Setup Photos

Refer to Appendix A.1 FCC Radar Setup Photos.



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# Appendix



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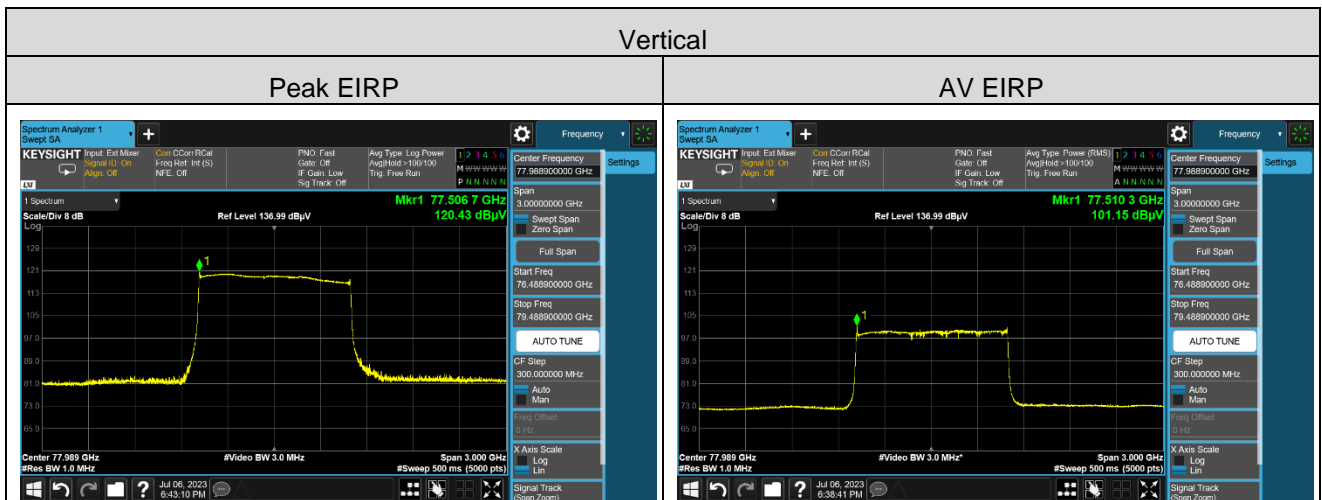
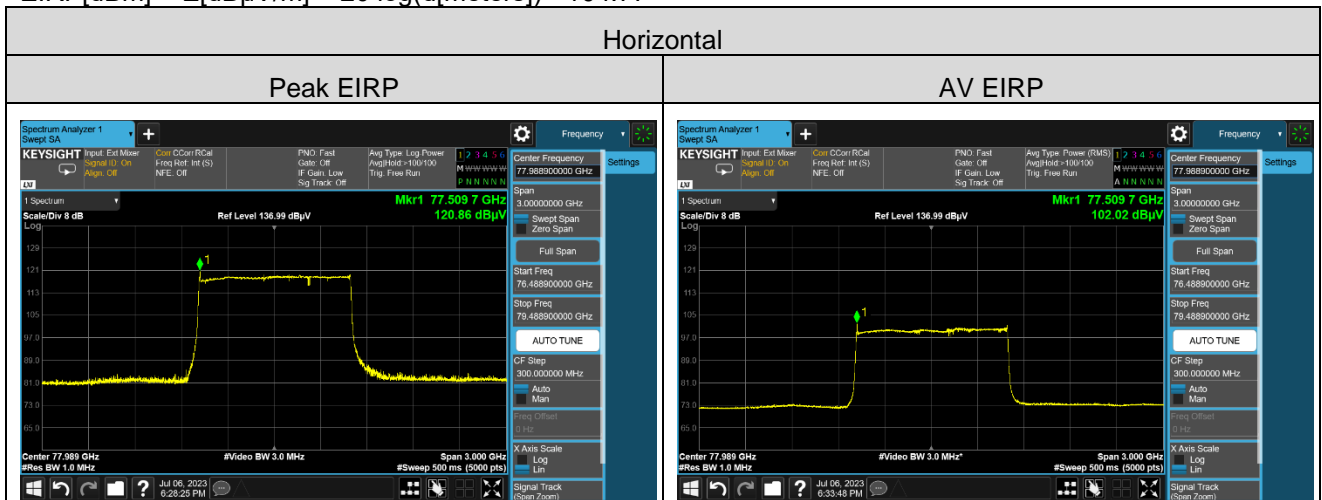
### Equivalent Isotropically Radiated Power (EIRP) Test Result

Frequency (GHz)	Distance (m)	Polarity	dBuV/m @ 3m	E.I.R.P. Power (dBm)	E.I.R.P. Limit (dBm)	Result	Remark
77.989	3	Horizontal	120.86	25.63	55.0	Pass	Peak
	3	Horizontal	102.02	6.79	50.0	Pass	AVG
	3	Vertical	120.43	25.20	55.0	Pass	Peak
	3	Vertical	101.15	5.92	50.0	Pass	AVG

Remark:

$E[dB\mu V/m] = EIRP[dBm] - 20 \log(d[meters]) + 104.77$ , where E = field strength and d = distance at which field strength limit is specified in the rules

$EIRP[dBm] = E[dB\mu V/m] + 20 \log(d[meters]) - 104.77$



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### Occupied bandwidth Test Result

99% Bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit	Result
976.74	77.5049	78.4831	76-81GHz	Pass



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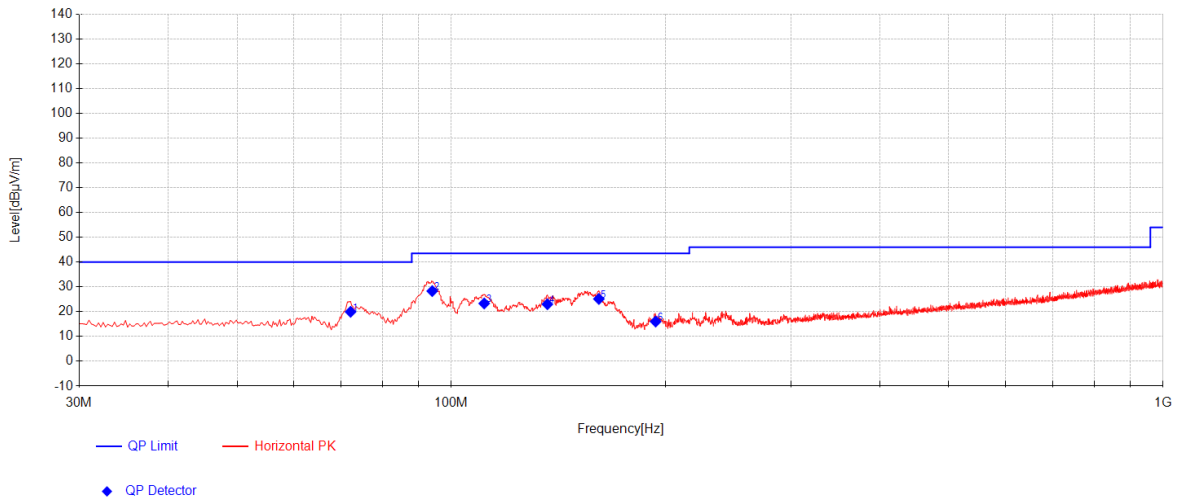
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## Unwanted Emissions Test Result

Below 1GHz

Horizontal



Final Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	72.195	37.02	16.68	-33.72	19.98	40.00	20.02	142	175	Horizontal
2	94.02	46.85	15.02	-33.53	28.34	43.50	15.16	185	196	Horizontal
3	111.2375	40.22	16.51	-33.38	23.35	43.50	20.15	163	2	Horizontal
4	136.4575	37.92	18.37	-33.26	23.03	43.50	20.47	256	186	Horizontal
5	161.1925	40.02	18.19	-33.05	25.16	43.50	18.34	172	22	Horizontal
6	193.6875	33.22	15.61	-32.78	16.05	43.50	27.45	199	175	Horizontal

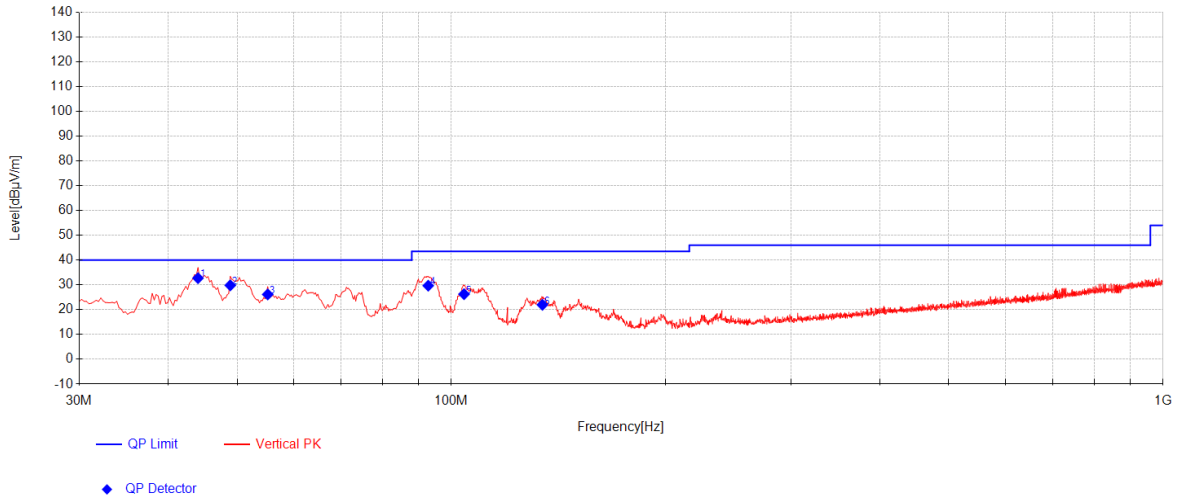


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Vertical



Final Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.065	47.22	19.50	-33.99	32.73	40.00	7.27	144	193	Vertical
2	48.915	44.56	19.25	-33.98	29.83	40.00	10.17	126	245	Vertical
3	55.22	41.11	18.99	-33.92	26.18	40.00	13.82	175	285	Vertical
4	92.8075	48.33	14.92	-33.54	29.71	43.50	13.79	142	285	Vertical
5	104.205	43.85	15.88	-33.44	26.29	43.50	17.21	156	225	Vertical
6	134.275	37.03	18.23	-33.27	21.99	43.50	21.51	136	204	Vertical



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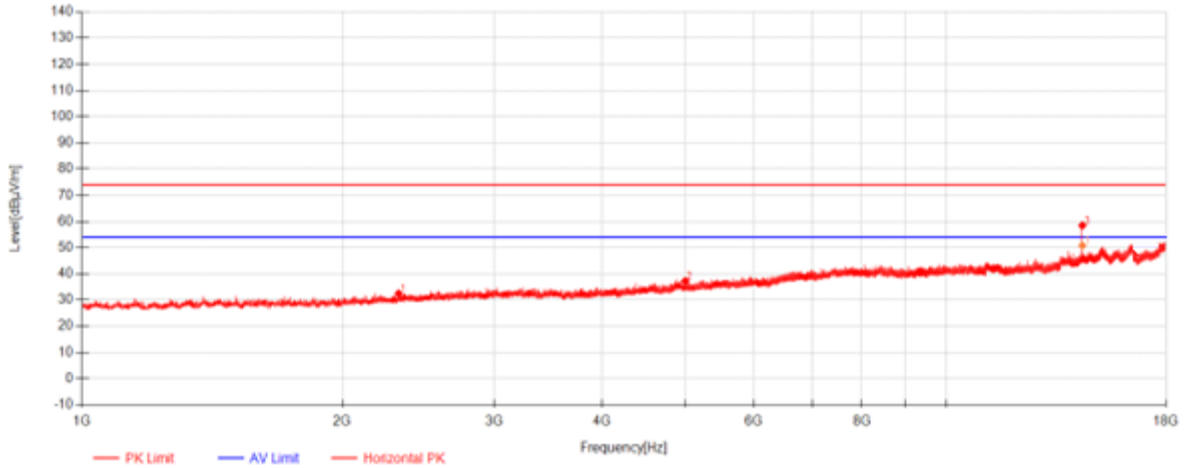
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1G-18GHz

Horizontal



Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2326	53.53	26.81	-47.88	32.46	74.00	41.54	102	118	Horizontal
2	4992.5	51.75	31.38	-45.90	37.23	74.00	36.77	163	308	Horizontal
3	14400	52.90	41.06	-35.52	58.44	74.00	15.56	156	322	Horizontal
NO.	Frequency [MHz]	AV Reading [dBµV]	AF [dB/m]	Factor [dB]	AV Level [dBµV/m]	Limit [dBµV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
3	14400	45.25	41.06	-35.52	50.79	54.00	3.21	156	322	Horizontal



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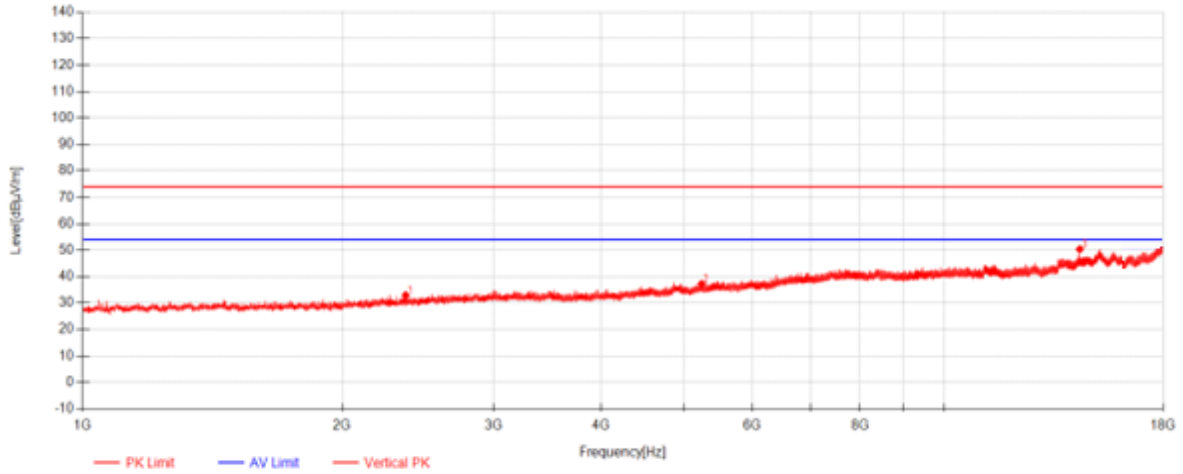
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Vertical



Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2372	53.86	26.94	-47.88	32.93	74.00	41.07	102	313	Vertical
2	5232.5	50.71	31.96	-45.47	37.19	74.00	36.81	265	123	Vertical
3	14400	44.80	41.06	-35.52	50.34	74.00	23.66	228	356	Vertical



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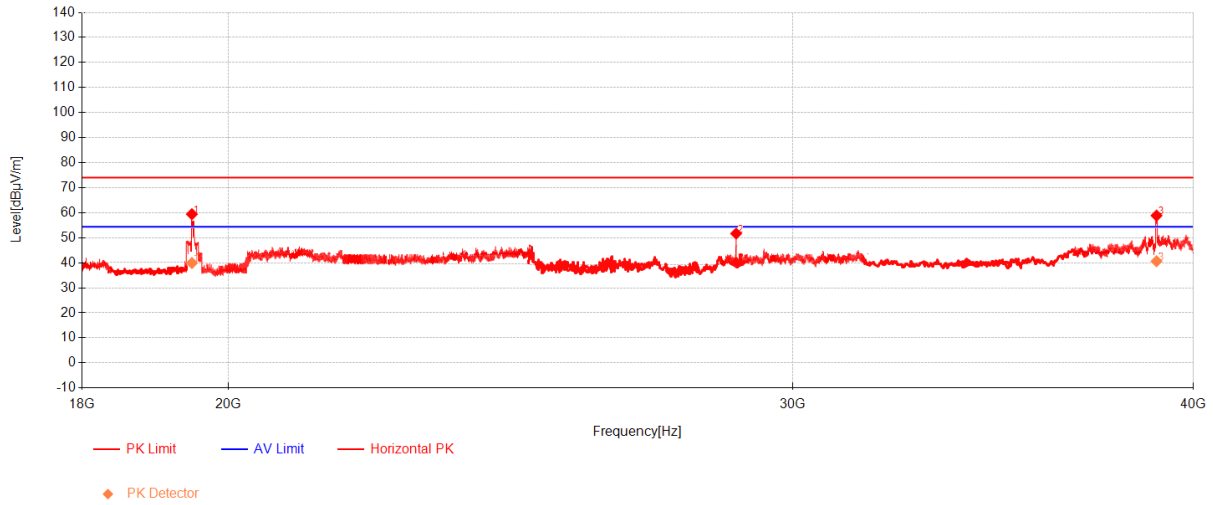
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18G-40GHz

Horizontal



Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19480.05	60.27	37.60	-38.03	59.84	74.00	14.16	126	250	Horizontal
2	28799.8	51.56	39.52	-37.65	53.43	74.00	20.57	284	360	Horizontal
3	38953.9	49.06	43.18	-32.89	59.35	74.00	14.65	265	120	Horizontal
NO.	Frequency [MHz]	AV Reading [dBµV]	AF [dB/m]	Factor [dB]	AV Level [dBµV/m]	Limit [dBµV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19480.05	40.51	37.60	-38.03	40.08	54.00	13.92	126	250	Horizontal
2	38958.85	29.87	43.18	-32.86	40.19	54.00	13.81	265	120	Horizontal

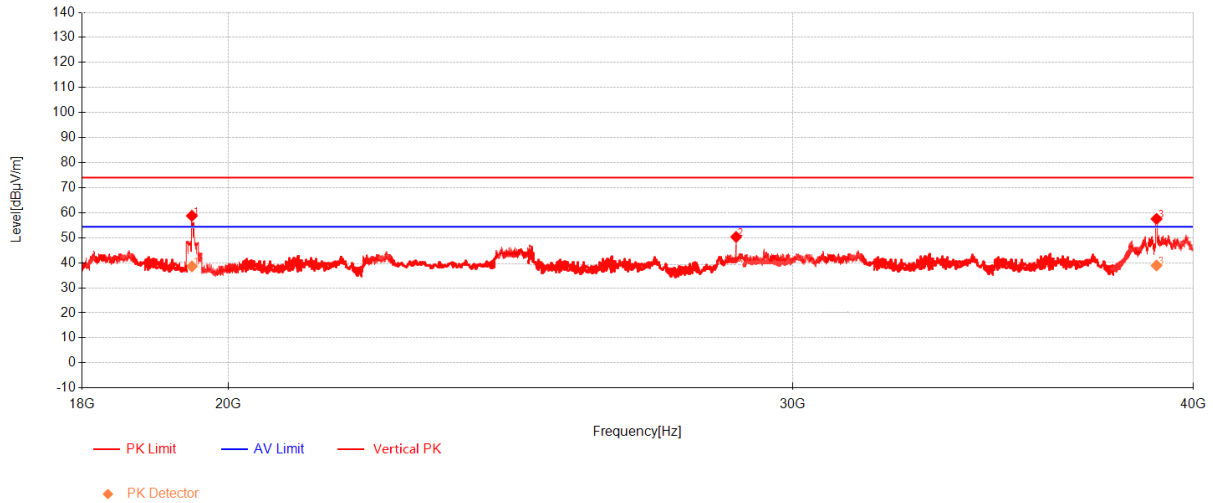


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Vertical



Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19480.05	59.60	37.60	-38.03	59.17	74.00	14.83	152	340	Vertical
2	28799.8	50.77	39.52	-37.65	52.64	74.00	21.36	326	130	Vertical
3	38958.85	48.45	43.18	-32.86	58.77	74.00	15.23	287	270	Vertical
NO.	Frequency [MHz]	AV Reading [dBµV]	AF [dB/m]	Factor [dB]	AV Level [dBµV/m]	Limit [dBµV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19480.05	39.95	37.60	-38.03	39.52	54.00	14.48	152	340	Vertical
2	38958.85	27.80	39.52	-37.65	29.67	54.00	24.33	287	270	Vertical



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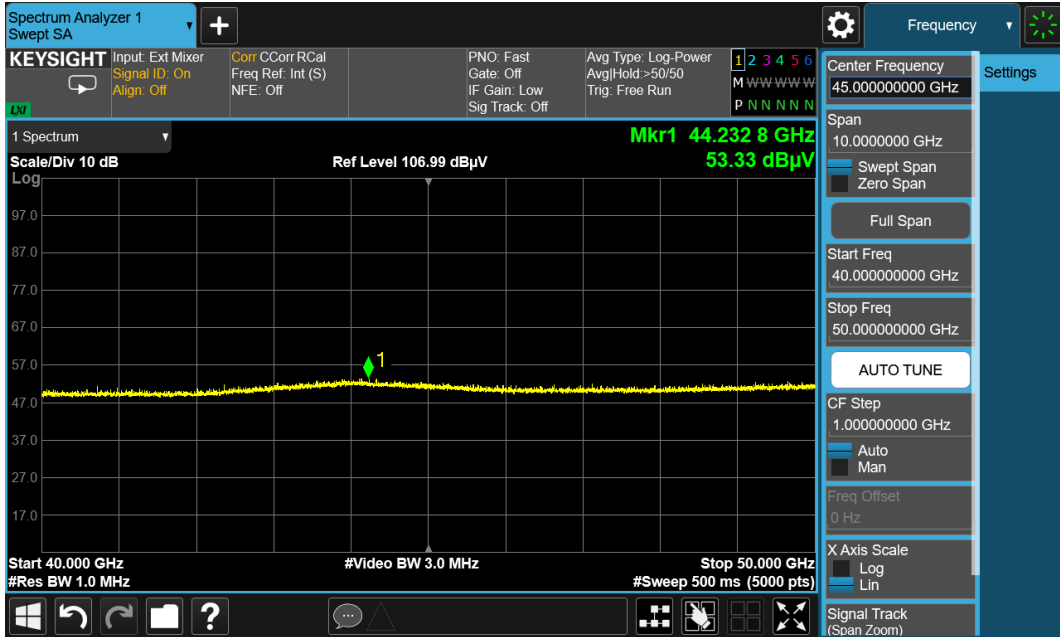
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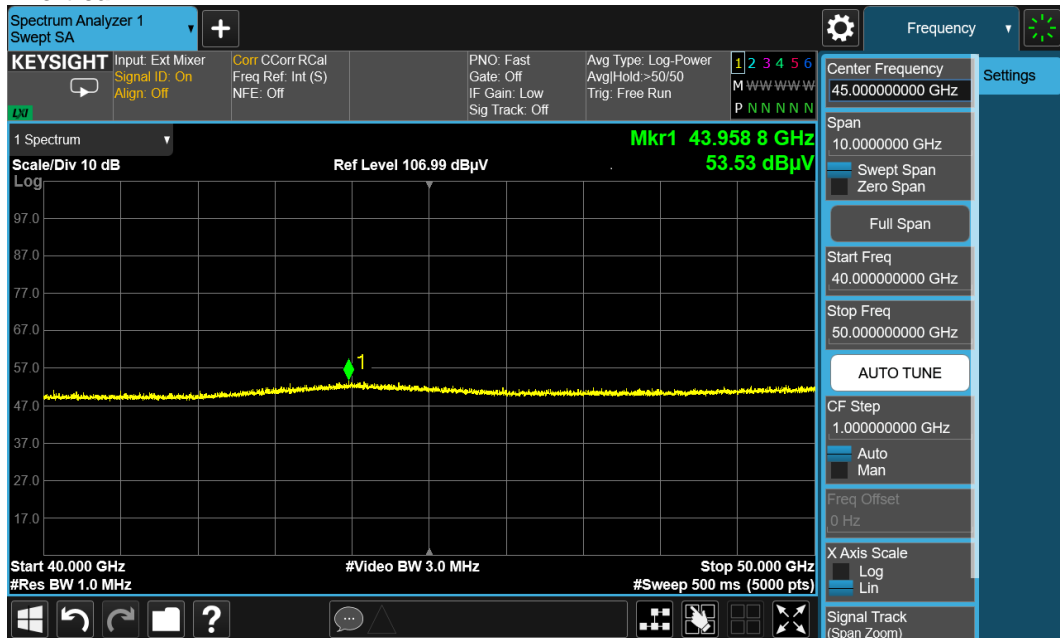
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Above 40GHz

40-50GHz Horizontal



40-50GHz Vertical



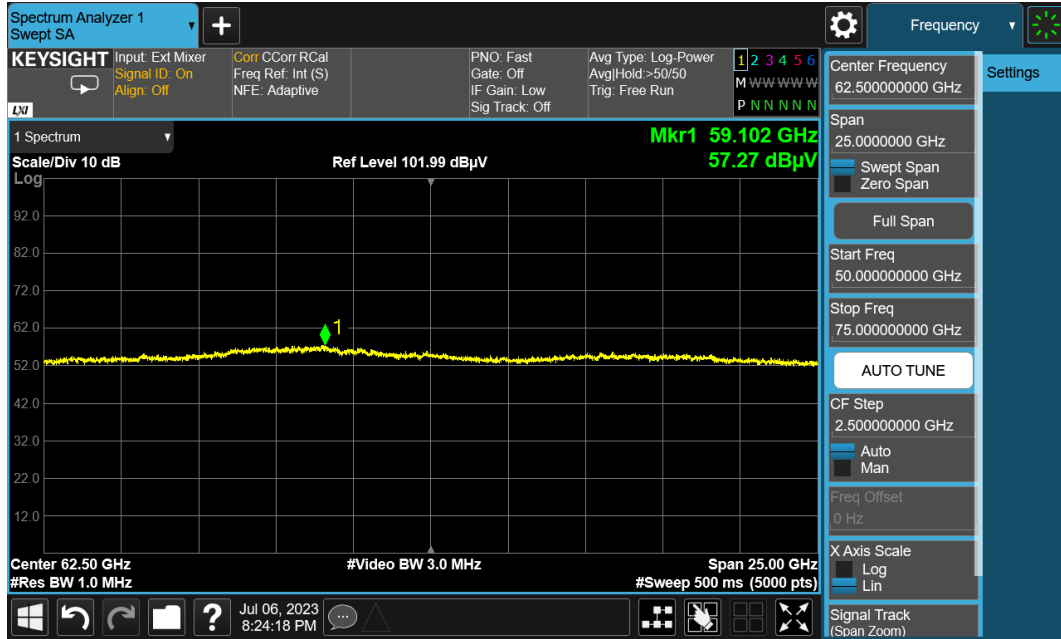
Frequency (GHz)	Distance (m)	Peak Value (dBuv/m)	FCC AV Limit (dBuv/m)	Polarization	Result
44.2328	3	53.33	93.54	H	PASS
43.9588	3	53.53	93.54	V	PASS



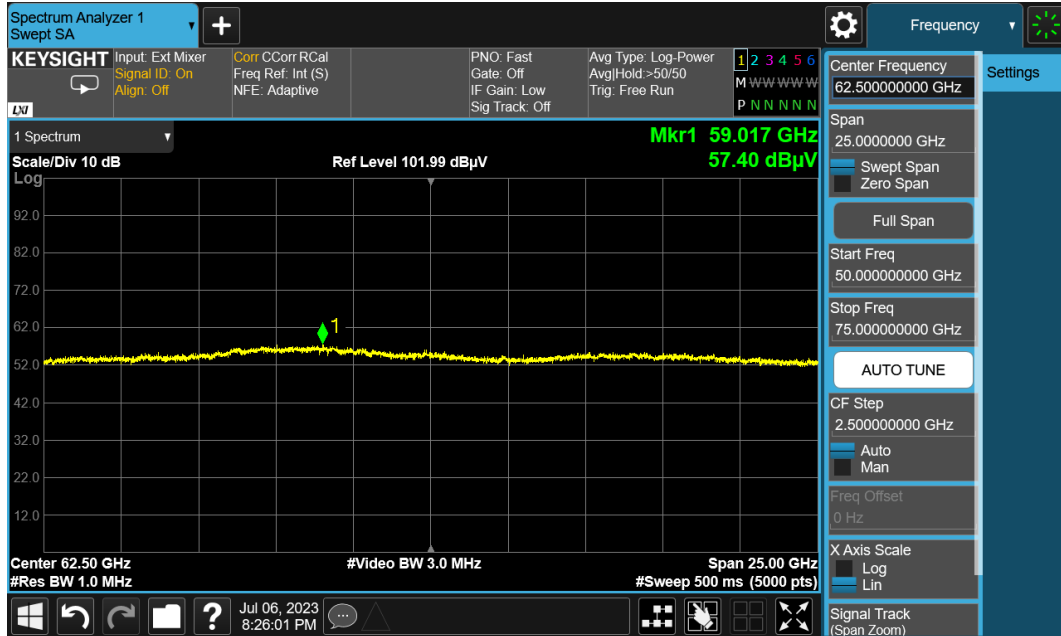
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50-75GHz Horizontal



50-75GHz Vertical



Frequency (GHz)	Distance (m)	Peak Value (dBuV/m)	FCC AV Limit (dBuV/m)	Polarization	Result
59.102	3	57.27	93.54	H	PASS
59.017	3	57.40	93.54	V	PASS



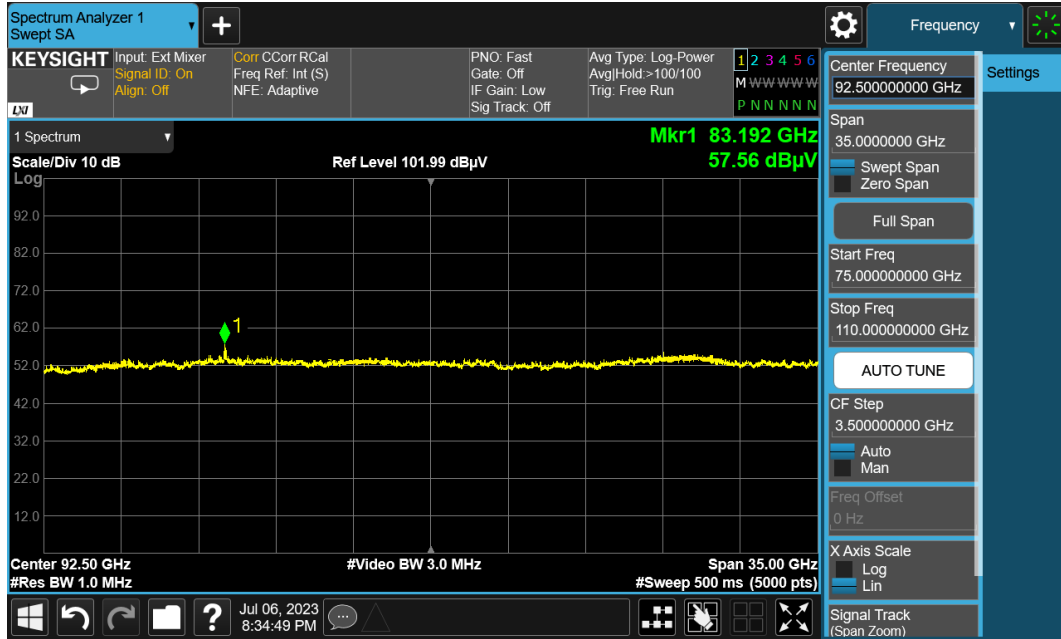
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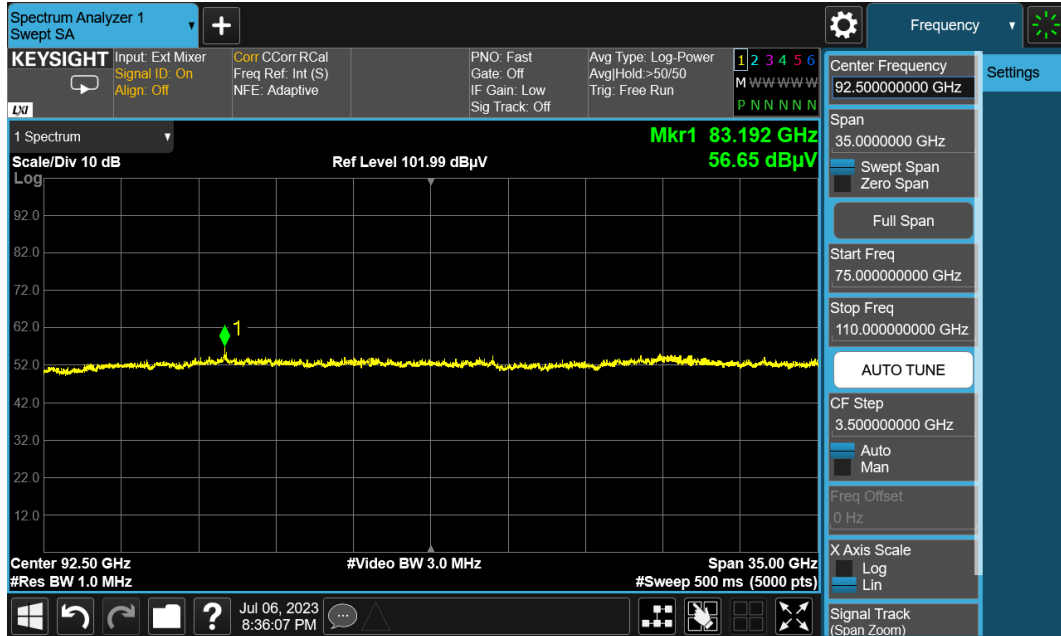
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75-110GHz Horizontal



75-110GHz Vertical



Frequency (GHz)	Distance (m)	Peak Value (dBuV/m)	FCC AV Limit (dBuV/m)	Polarization	Result
83.192	3	57.56	93.54	H	PASS
83.192	3	56.65	93.54	V	PASS



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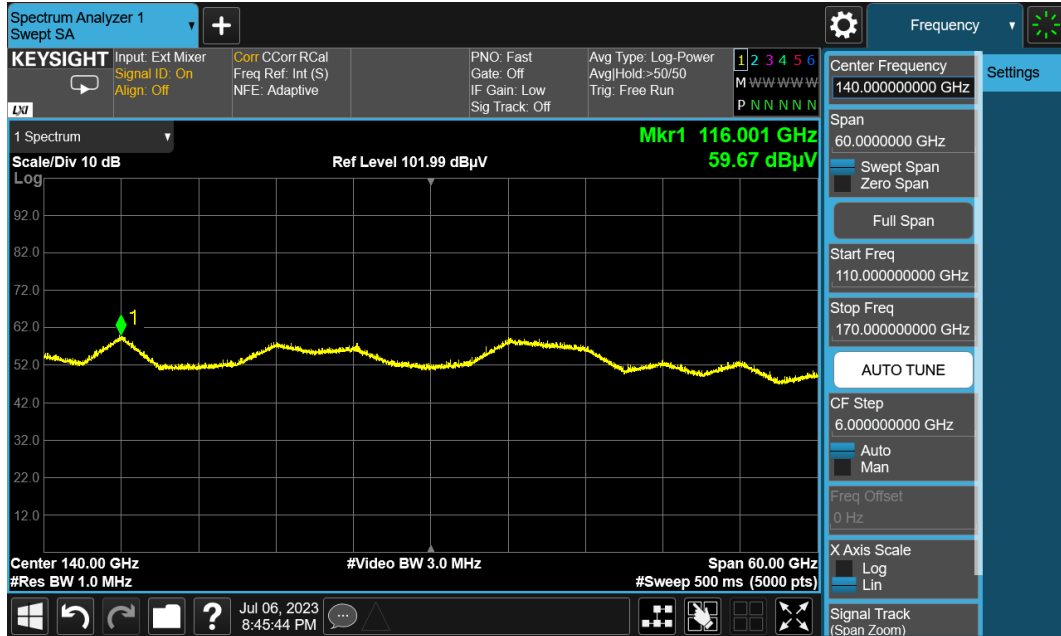
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110-170GHz Horizontal



110-170GHz Vertical



Frequency (GHz)	Distance (m)	Peak Value (dBuV/m)	FCC AV Limit (dBuV/m)	Polarization	Result
116.001	3	59.46	93.54	H	PASS
116.001	3	59.67	93.54	V	PASS



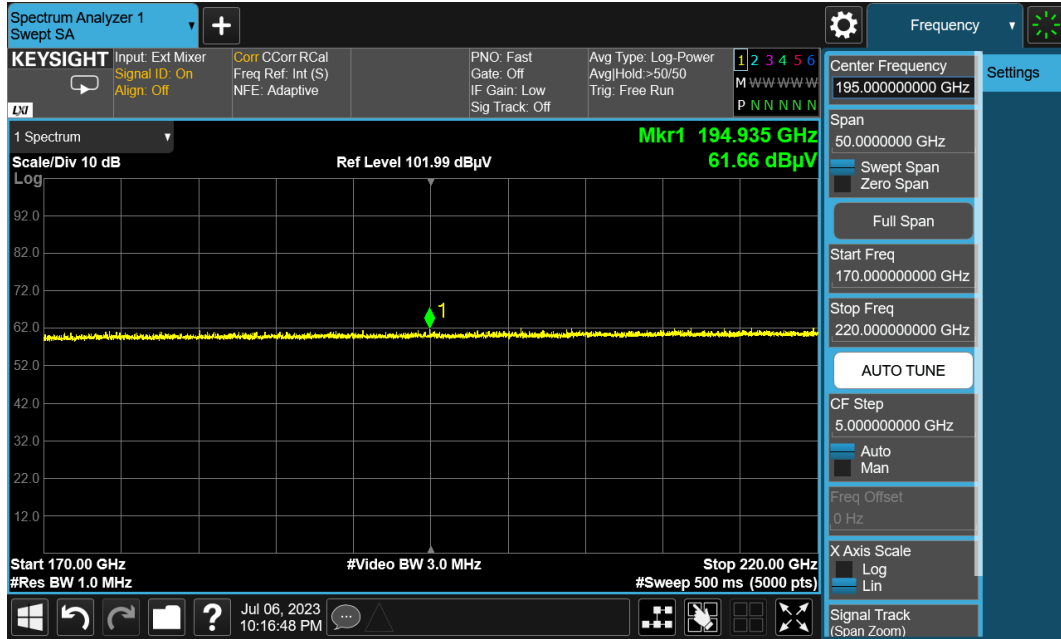
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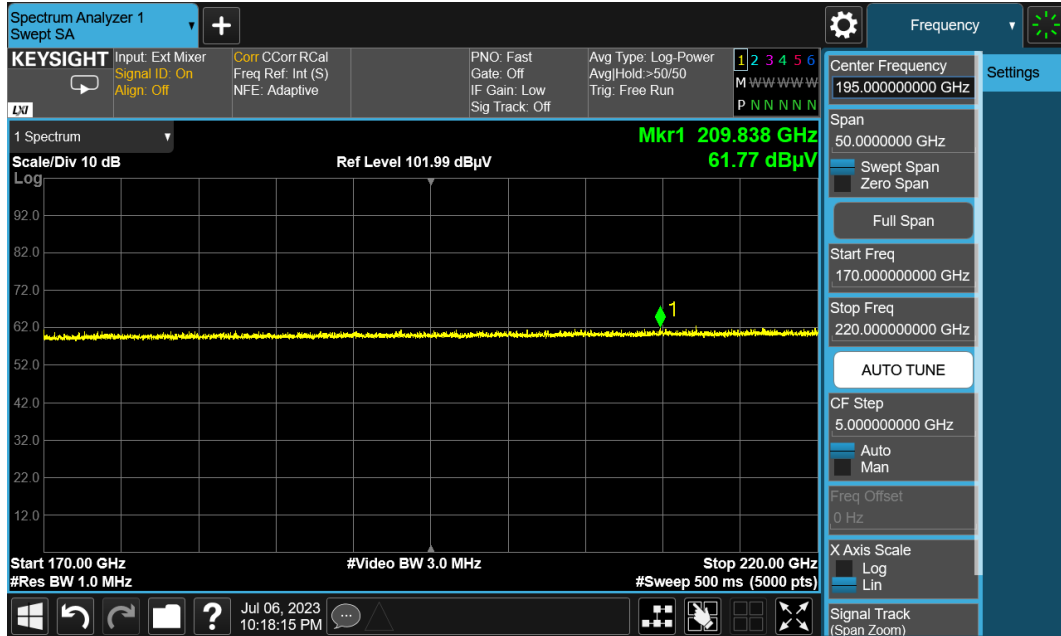
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170-220GHz Horizontal



170-220GHz Vertical



Frequency (GHz)	Distance (M)	Peak Value (dBuV/m)	FCC AV Limit (dBuV/m)	Polarization	Result
194.935	3	61.66	93.54	H	PASS
209.838	3	61.77	93.54	V	PASS



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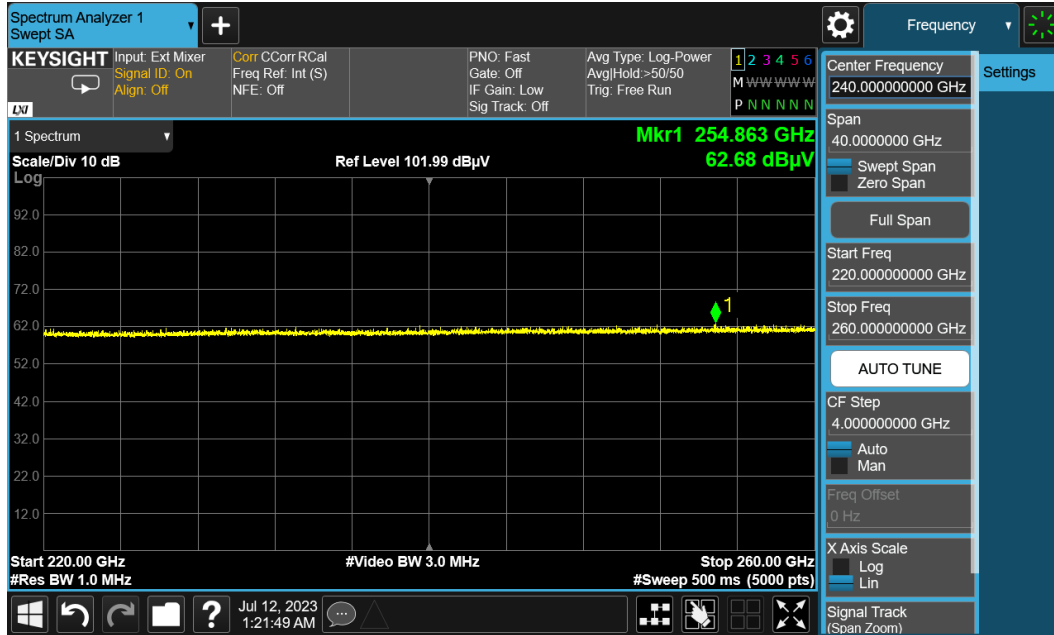
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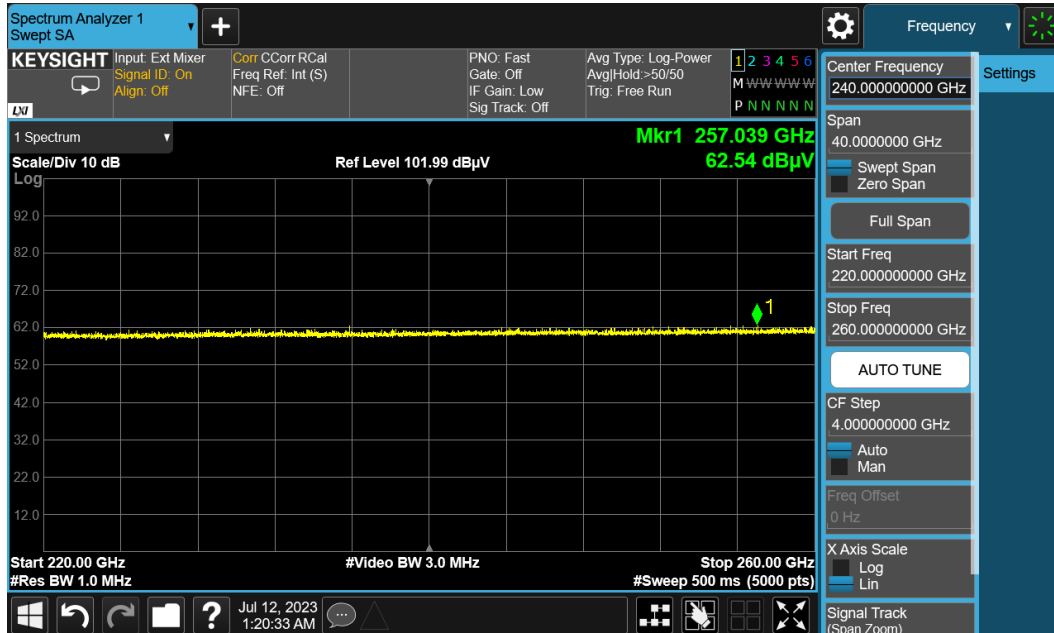
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220GHz-260GHz Horizontal



220GHz-260GHz Vertical



Frequency (GHz)	Distance (m)	Peak Value (dBuV/m)	FCC AV Limit (dBuV/m)	Polarization	Result
254.863	3	62.68	95.76	H	PASS
257.039	3	62.54	95.76	V	PASS



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SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.  
 Wireless Laboratory

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**Frequency stability  
Test Result**

Voltage (%)	Power (VDC)	Temp (°C)	FL (GHz)	FH (GHz)	Limit (GHz)	Result
100%	12V	-30	77.5049	78.4831	76-81GHz	Pass
		-20	77.5051	78.4833	76-81GHz	Pass
		-10	77.5047	78.4828	76-81GHz	Pass
		0	77.5053	78.4835	76-81GHz	Pass
		+10	77.5045	78.4836	76-81GHz	Pass
		+25	77.5046	78.4827	76-81GHz	Pass
		+30	77.5048	78.4834	76-81GHz	Pass
		+40	77.5052	78.4837	76-81GHz	Pass
		+50	77.5050	78.4829	76-81GHz	Pass
		+60	77.5054	78.4840	76-81GHz	Pass
		+70	77.5046	78.4835	76-81GHz	Pass
115%	13.8V	+25	77.5052	78.4839	76-81GHz	Pass
85%	10.2V	+25	77.5045	78.4837	76-81GHz	Pass

---End of Report---



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