



## FCC / ISED – TEST REPORT

Report Number	: <b>60.790.25.006.01R02</b>	Date of Issue: <u>March 24, 2025</u>
Model/HVIN	: <u><b>FM II Power Flex</b></u>	
Product Type	: <u>Merchandise Theft Deterrent System</u>	
Applicant	: <u>Mobile Technologies Inc.</u>	
Address	: <u>2345 NE Overlook Drive, Hillsboro OR 97006 United States of America.</u>	
Production Facility (1)	: <u>Shenzhen Xia Zi Tang Electronic Manufacturing Co Ltd.</u>	
Address	: <u>3F, Building B, No. 80 Shilong Avenue, ShuiTian Community, Shiyan Street, Baoan District, Shenzhen, China.</u>	
Production Facility (2)	: <u>Dinh Sang Technology Company Limited</u>	
Address	: <u>No 9 Street, Tam Phuoc Industrial Park, BienHoa City, DongNai Province, Vietnam.</u>	
Test Result	: <b><u>n Positive</u></b> <input type="radio"/> Negative	
Total pages including Appendices	: <u>29</u>	

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4.

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## 2 Details about the Test Laboratory

### Details about the Test Laboratory

#### Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District  
Shenzhen 518052  
P.R. China

Telephone: 86 755 8828 6998

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FCC Registration No.: 514049

FCC Designation No.: CN5009

IC Registration No.: 10320A

ISED CAB Identifier: CN0077



### 3 Description of the Equipment Under Test

#### Description of the Equipment Under Test

Product:	Merchandise Theft Deterrent System
Model no.:	FM II Power Flex
Hardware Version Identification No. (HVIN)	FM II Power Flex
Product Marketing Name (PMN)	Merchandise Theft Deterrent System
Brand name:	N/A
FCC ID:	2AA2X-15000362
IC:	24439-15000362
Rating:	<p><b>Power by Adaptor</b></p> <p>5 VDC, 3 A or 9 VDC, 3 A or 12 VDC, 3 A 15 VDC, 3 A or 20 VDC, 3 A</p> <p>Internal Backup Battery 3.7 VDC (Internal rechargeable Li-ion battery)</p> <p>Output Port – USB-C 5 VDC, 3 A or 9 VDC, 3 A or 12 VDC, 3 A 15 VDC, 3 A or 20 VDC, 3 A</p>
RF Transmission Frequency:	125 kHz
No. of Operated Channel:	1
Modulation:	AM
Antenna Type:	Coil Antenna
Antenna	Gain: 0 dBi
Description of the EUT:	<p>The Equipment Under Test (EUT) is a Merchandise Theft Deterrent System which support Zigbee function and 125 kHz near field card access function.</p> <p>Only 125 kHz measurement included in this report.</p>

#### NOTE:

1. The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 4 Summary of Test Standards

<b>Test Standards</b>	
<b>FCC Part 15 Subpart C 10-1-2023 Edition</b>	<b>PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators</b>
<b>RSS-Gen Issue 5 April 2018 + Amendment 1 March 2019 + Amendment 2 February 2021</b>	<b>General Requirements for Compliance of Radio Apparatus</b>
<b>RSS-210 Issue 11 June 2024</b>	<b>Licence-Exempt Radio Apparatus: Category I Equipment</b>

All the test methods were according to ANSI C63.10-2020.

## 5 Summary of Test Results

Technical Requirements						
Test Condition		Test Site	Test Result			Test Environment
			Pass	Fail	N/A	
§15.207 & RSS-GEN 8.8	Conducted emission AC power port	Site 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T: 24.8°C H: 53.7%
§15.215 & RSS-GEN 6.7	20dB bandwidth and 99% Occupied Bandwidth	Site 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T: 24.8°C H: 53.7%
§15.205 & §15.209 & RSS-210 8.3 & RSS-Gen 6.13	Spurious radiated emissions for transmitter	Site 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T: 24.7°C H: 49.3%
§15.203 & RSS-Gen 6.8	Antenna requirement	See note 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	--

Note 1: N/A=Not Applicable.

Note 2: The EUT uses a Coil antenna, which gain is 0 dBi. In accordance to §15.203 & RSS-Gen 6.8, it is considered sufficiently to comply with the provisions of this section.

Note 3: T :Temperature, H: Humidity



## 6 General Remarks

### Remarks

This submittal(s) (test report) is intended for **FCC ID: 2AA2X-15000362**, **IC: 24439-15000362**, complies with Section 15.207, 15.209, 15.215 of the FCC Part 15, Subpart C rules and RSS-210, RSS-GEN.

### SUMMARY:

All tests according to the regulations cited on page 5 were

- Performed

- **Not** Performed

The Equipment under Test

- **Fulfills** the general approval requirements.

- **Does not** fulfill the general approval requirements.

Sample Received Date: February 25, 2025

Testing Start Date: February 27, 2025

Testing End Date: March 21, 2025

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Prepared by:

Tested by:

*Eric Li*

Eric LI  
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*Kevin*

Kevin DU  
EMC Project Engineer

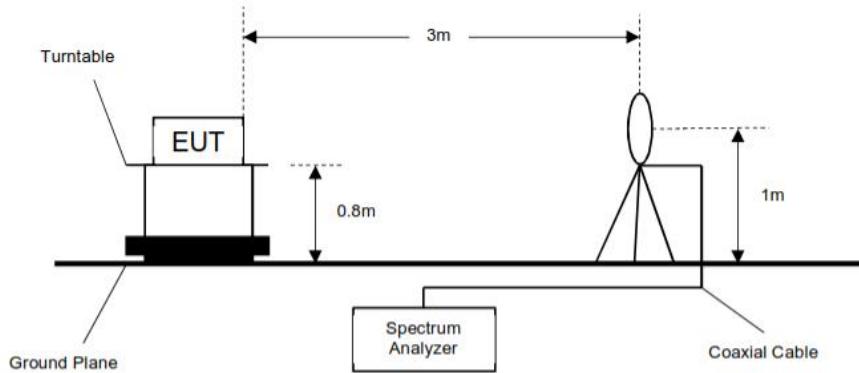
*Carry Cai*

Carry Cai  
Test Engineer

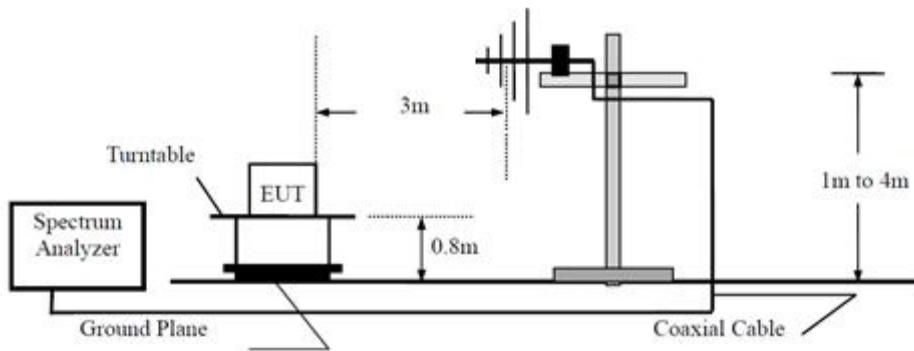
## 7 Test Setups

### 7.1 Radiated test setups

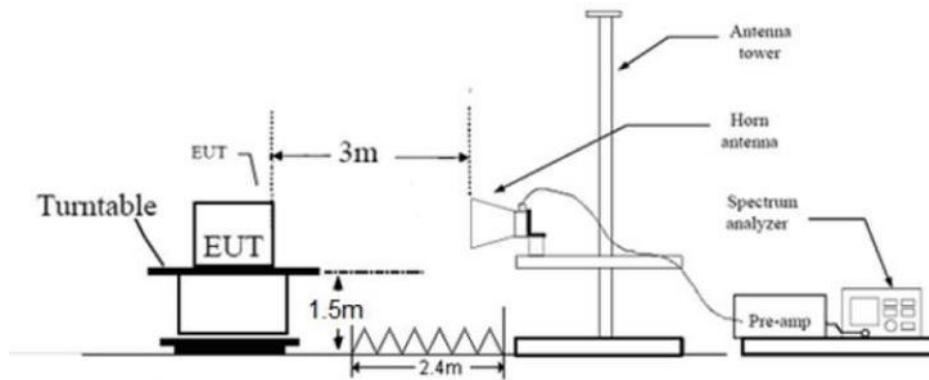
9kHz - 30MHz



30MHz - 1GHz



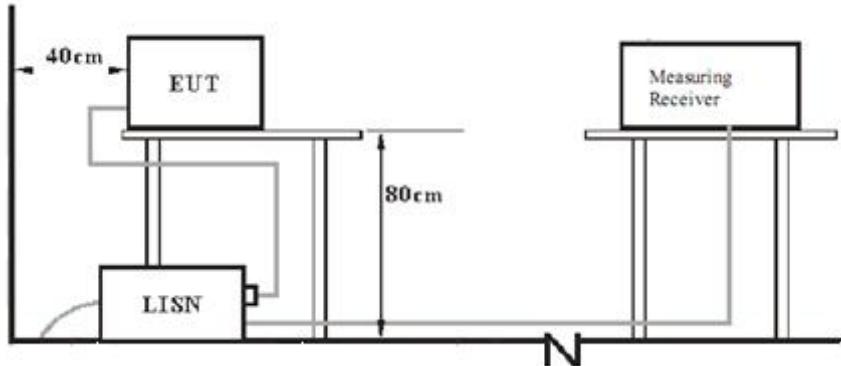
Above 1GHz



## 7.2 Conducted RF test setups



## 7.3 AC Power Line Conducted Emission test setups





## 8 Systems Test Configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model NO.	Remark
Laptop	Lenovo	X220	0A72168
MTI Connect HUB	MTI	---	System Monitoring
Adaptor Power	W&T	W&T-PD2060A-CK 	Provided by Manufacturer

Cables Used During Test:

Cable	Length	Shielded/unshielded	With / without ferrite
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The system was configured to single testing channel.

Only the worst case transmitter rate data mode is recorded in the report.

The Multiple Voltage Input is mainly to provide the Power for the connected accessories by the USB-C Output Port. So, the device which is adapted to operate by 5 VDC input.

Tested by provided Adaptor of 5 VDC, 3 A without loading connection.

## 9 Technical Requirement

### 9.1 Conducted Emission

#### Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

#### Limit

According to §15.207 & RSS-GEN 8.8, conducted emissions limit as below:

Frequency MHz	QP Limit dB $\mu$ V	AV Limit dB $\mu$ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

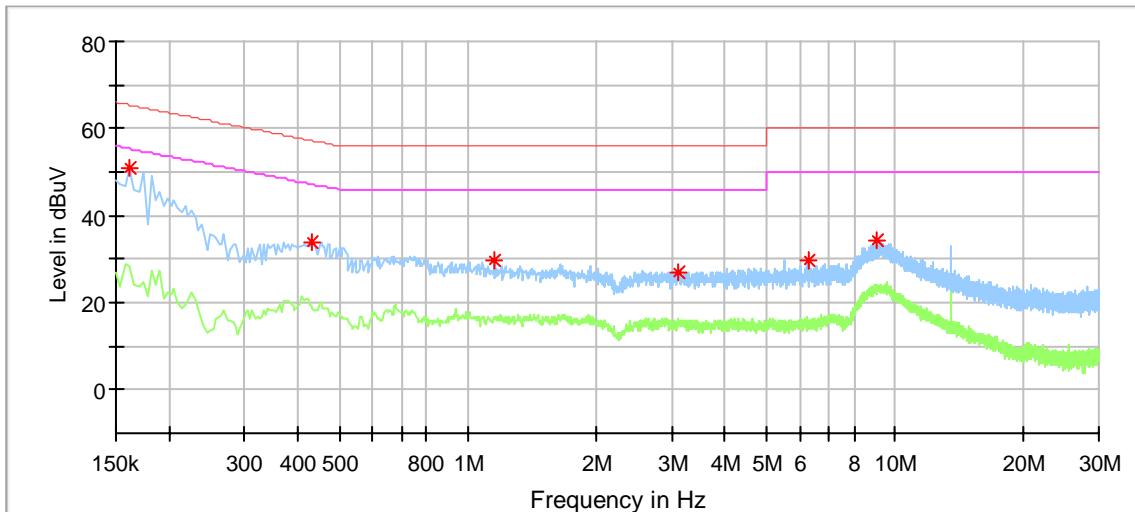
\*Decreasing linearly with logarithm of the frequency

**Test result: PASS**

## Conducted Emission at AC Power Line

EUT: FM II Power Flex  
 Op Condition: Communication Mode  
 Test Specification: FCC 15.207, RSS GEN 8.8  
 Comment: 120V AC 60Hz, L Line

Test Result  
 Passed  
 Not Passed



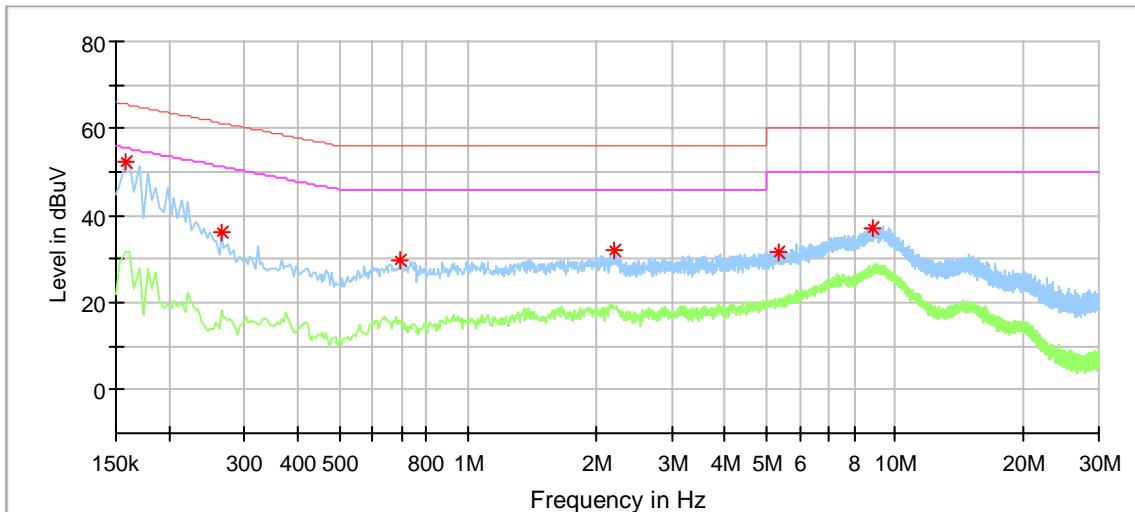
### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.162000	51.07	---	65.36	14.29	L1	9.67
0.434000	33.87	---	57.18	23.31	L1	9.67
1.154000	29.62	---	56.00	26.38	L1	9.70
3.102000	27.13	---	56.00	28.87	L1	9.76
6.246000	29.72	---	60.00	30.28	L1	9.85
9.046000	34.42	---	60.00	25.58	L1	9.91

## Conducted Emission at AC Power Line

EUT: FM II Power Flex  
 Op Condition: Communication Mode  
 Test Specification: FCC 15.207, RSS GEN 8.8  
 Comment: 120V AC 60Hz, N Line

**Test Result**  
 Passed  
 Not Passed



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.158000	52.50	---	65.57	13.07	N	9.67
0.266000	36.33	---	61.24	24.91	N	9.66
0.698000	29.48	---	56.00	26.52	N	9.67
2.198000	31.97	---	56.00	24.03	N	9.71
5.338000	31.40	---	60.00	28.60	N	9.80
8.878000	37.08	---	60.00	22.92	N	9.89

## 9.2 20 dB Bandwidth

### Test Method

1. The EUT was placed on 0.8m height table, the RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously. Use the following test receiver settings:  
RBW = 1% to 5% of the OBW, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Use the 99 % power bandwidth function of the instrument. Record the frequency difference as the emission bandwidth. Record the results.

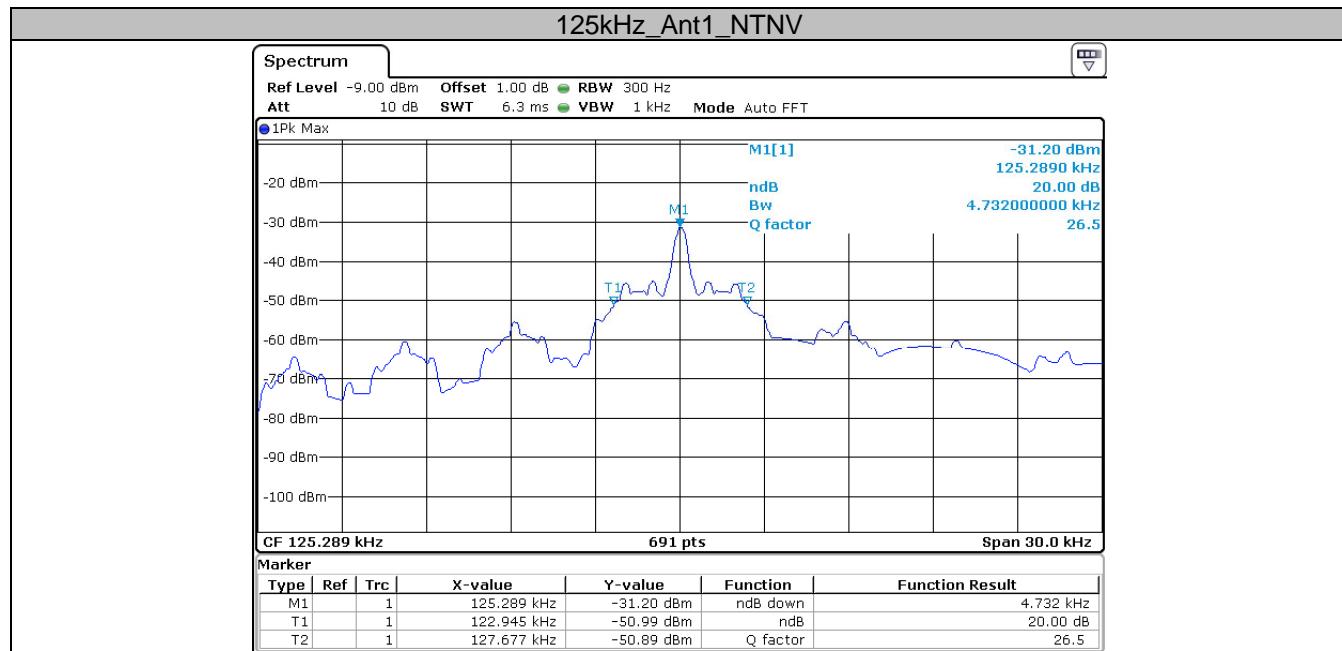
### Limit

According to 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

### Test result

Frequency	20dB bandwidth kHz	Result
125 kHz	4.732	Pass

Test Graphs as below:



## 9.3 99% bandwidth

### Test Method

1. The EUT was placed on 0.8m height table, the RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously. Use the following test receiver settings:  
RBW = 1% to 5% of the OBW, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the 99 % power bandwidth function of the instrument. Record the frequency difference as the emission bandwidth. Record the results.

### Limit

According to RSS-Gen 6.7, The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

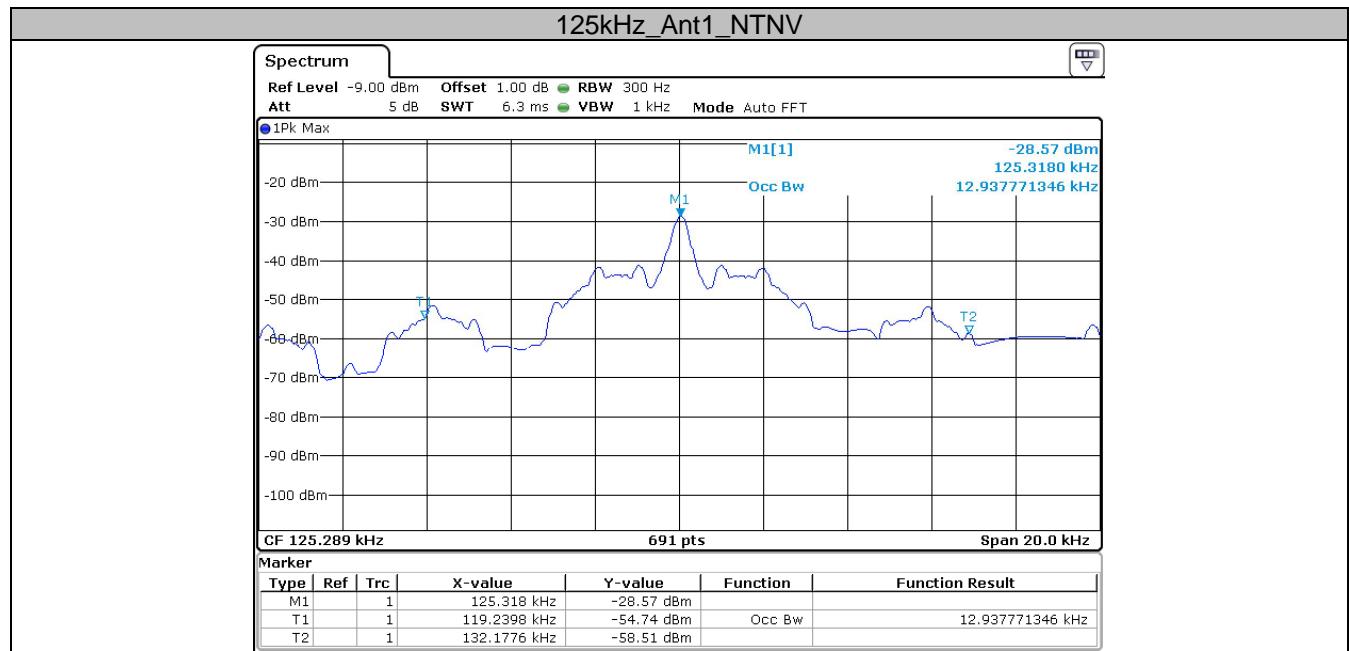
### Limit [kHz]

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### Test result

Frequency	99% bandwidth kHz	Result
125 kHz	12.938	Pass

Test Graphs as below:



## 9.4 Spurious Radiated Emissions for Transmitter

### Test Method

1. The EUT was place on a turn table which is 0.8m above ground plane. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
4. The height of antenna 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.
5. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Use the following test receiver settings According to C63.10:

9kHz - 150kHz

RBW = 200Hz, VBW = 1kHz for peak measurement, Sweep = auto,  
Detector function = peak, Trace = max hold.

150kHz - 30MHz

RBW = 10 kHz, VBW = 30 kHz for peak measurement, Sweep = auto,  
Detector function = peak, Trace = max hold.

30MHz - 1GHz

RBW = 100 kHz, VBW = 300 kHz for peak measurement, Sweep = auto,  
Detector function = peak, Trace = max hold.

For Above 1GHz

Span = wide enough to capture the peak level of the in-band emission and all spurious  
RBW = 1MHz, VBW $\geq$ 3RBW for peak measurement, Sweep = auto, Detector function =  
peak, Trace = max hold.



### FCC Limit:

According to § 15.209, except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency MHz	Field Strength μV/m	Field Strength dBμV/m	Detector	Measurement distance meters
0.009-0.490	2400/F(kHz)	48.5-13.8	AV	300
0.490-1.705	24000/F(kHz)	33.8-23.0	QP	30
1.705-30	30	29.5	QP	30
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3
Above 1000	500	54	AV	3
Above 1000	5000	74	PK	3

### ISED Limit:

According to RSS-Gen 8.9 field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Frequency MHz	Field Strength μA/m	Field Strength dBμA/m	Detector	Measurement distance meters
0.009-0.490	6.37/F(kHz)	77.00-42.28	AV	3
0.490-1.705	63.7/F(kHz)	22.27-11.45	AV	3
1.705-30	0.08	18.06	AV	3
Frequency MHz	Field Strength μV/m	Field Strength dBμV/m	Detector	Measurement distance meters
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3
Above 1000	500	54	AV	3
Above 1000	5000	74	PK	3

(a) The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

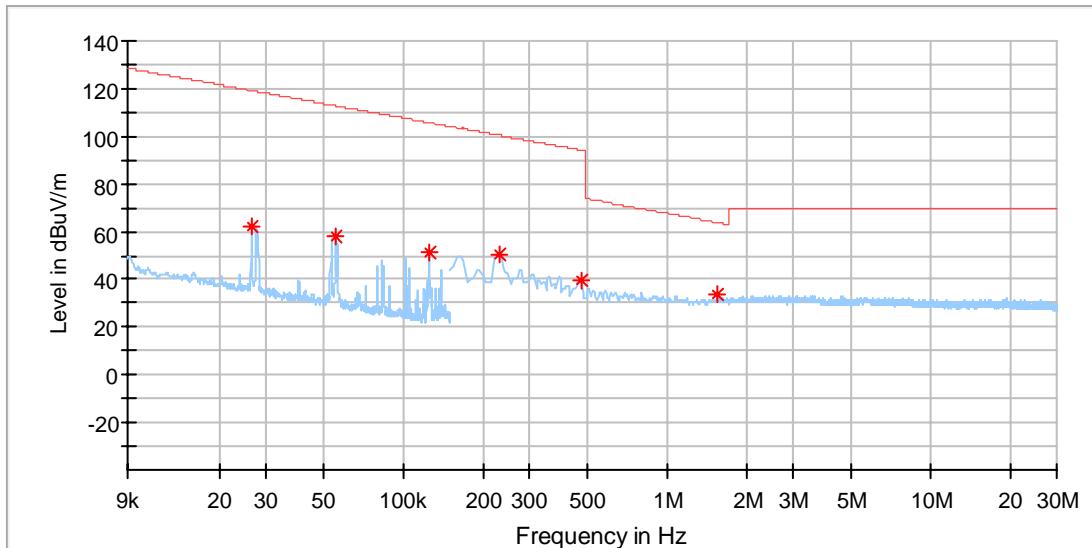
Note 1: Limit  $3m(\text{dBμV/m}) = \text{Limit } 300m(\text{dBμV/m}) + 40\log(300m/3m)$  (Below 30MHz)

Note 2: Limit  $3m(\text{dBμV/m}) = \text{Limit } 30m(\text{dBμV/m}) + 40\log(30m/3m)$  (Below 30MHz)

## Spurious radiated emissions for transmitter

### Transmitting spurious emission test result as below:

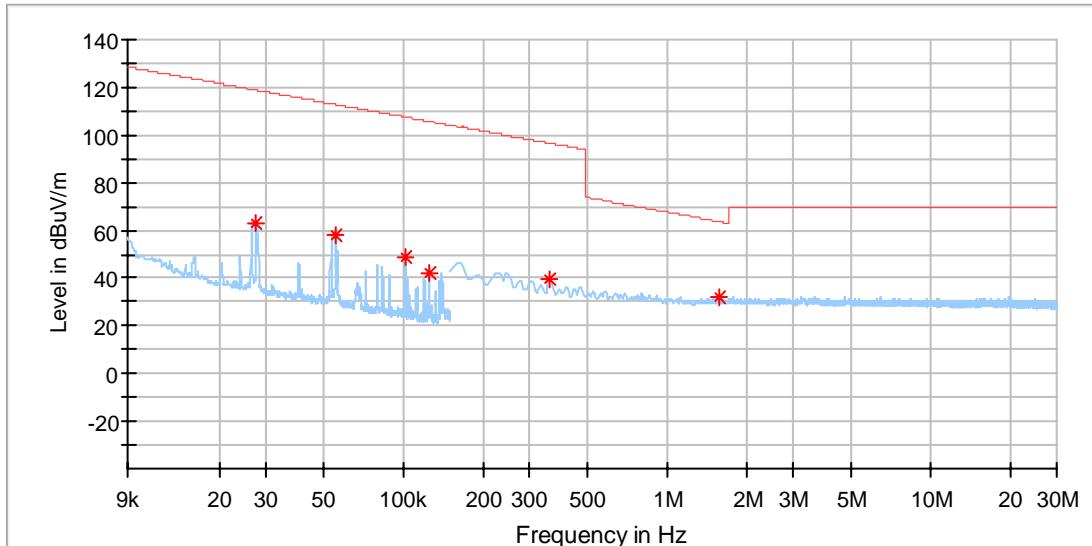
FCC Test Result  
 Test data\_9kHz to 30MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.026484	61.81	119.13	57.32	H	182.0	19.87
0.055248	57.74	112.75	55.00	H	9.0	19.92
0.125231	51.55	105.64	54.09	H	200.0	19.92
0.229600	50.77	100.38	49.61	H	0.0	19.88
0.468400	39.28	94.19	54.91	H	173.0	19.89
1.552950	33.63	63.81	30.18	H	1.0	20.00

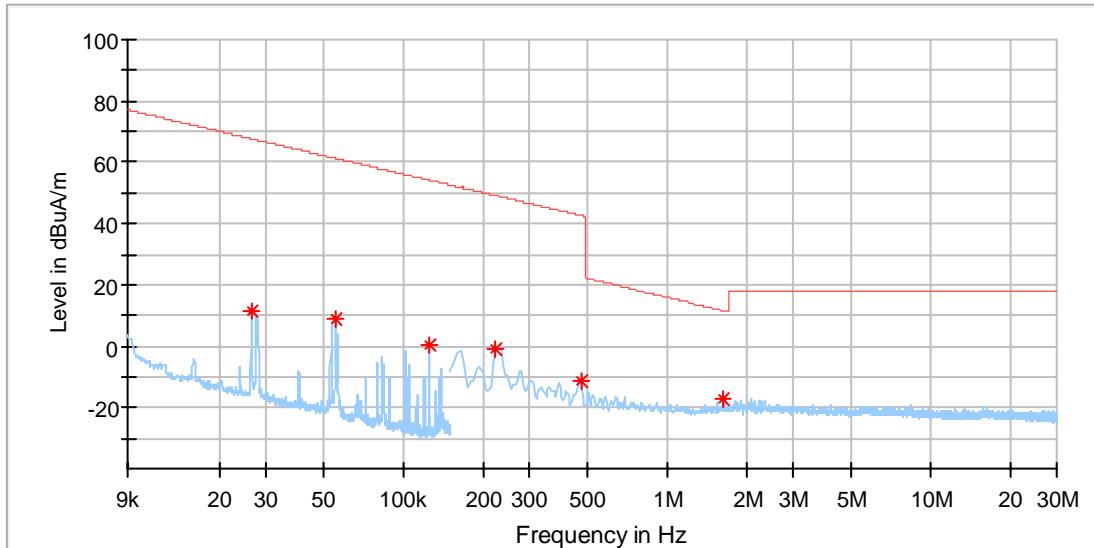
FCC Test Result  
 Test data\_9kHz to 30MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
<b>0.027659</b>	<b>62.85</b>	<b>118.75</b>	<b>55.90</b>	<b>V</b>	<b>5.0</b>	<b>19.88</b>
<b>0.055295</b>	<b>58.00</b>	<b>112.74</b>	<b>54.74</b>	<b>V</b>	<b>350.0</b>	<b>19.92</b>
<b>0.101966</b>	<b>48.81</b>	<b>107.43</b>	<b>58.61</b>	<b>V</b>	<b>350.0</b>	<b>19.93</b>
<b>0.125231</b>	<b>42.18</b>	<b>105.64</b>	<b>63.46</b>	<b>V</b>	<b>313.0</b>	<b>19.92</b>
<b>0.358950</b>	<b>39.55</b>	<b>96.50</b>	<b>56.96</b>	<b>V</b>	<b>0.0</b>	<b>19.90</b>
<b>1.572850</b>	<b>32.13</b>	<b>63.70</b>	<b>31.56</b>	<b>V</b>	<b>118.0</b>	<b>20.00</b>

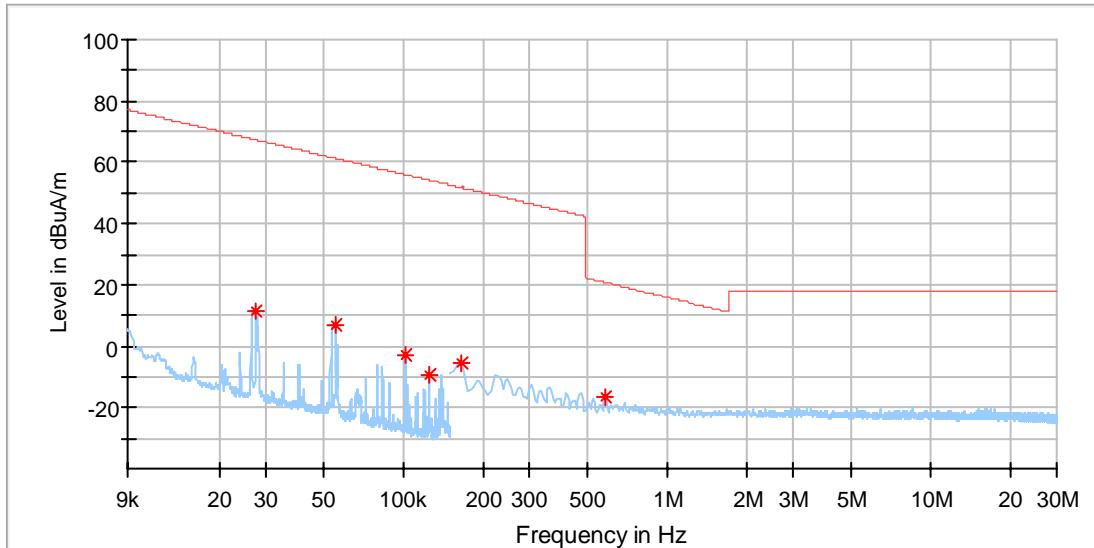
ISED Test Result  
 Test data\_9kHz to 30MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuA/m)	Limit (dBuA/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.026531	11.28	67.61	56.32	H	213.0	-31.66
0.055342	8.57	61.22	52.65	H	358.0	-31.61
0.125278	0.23	54.12	53.89	H	213.0	-31.61
0.224625	-0.65	49.05	49.70	H	0.0	-31.65
0.468400	-11.32	42.66	53.98	H	110.0	-31.64
1.642500	-17.42	11.48	28.91	H	2.0	-31.52

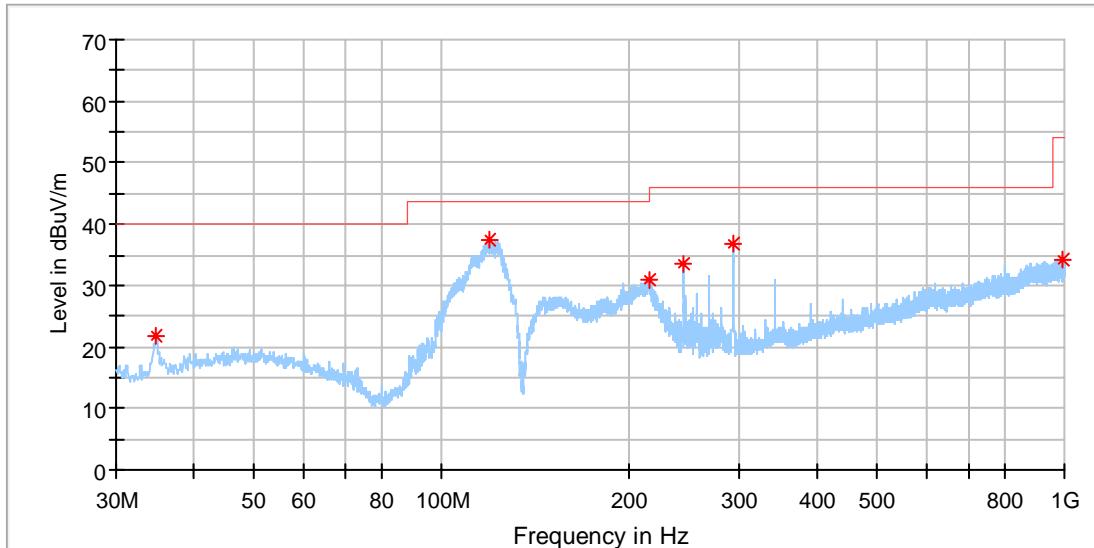
ISED Test Result  
 Test data\_9kHz to 30MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuA/m)	Limit (dBuA/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
<b>0.027659</b>	<b>11.29</b>	<b>67.25</b>	<b>55.95</b>	<b>V</b>	<b>176.0</b>	<b>-31.65</b>
<b>0.055342</b>	<b>6.81</b>	<b>61.22</b>	<b>54.41</b>	<b>V</b>	<b>176.0</b>	<b>-31.61</b>
<b>0.102013</b>	<b>-2.65</b>	<b>55.91</b>	<b>58.55</b>	<b>V</b>	<b>222.0</b>	<b>-31.60</b>
<b>0.125278</b>	<b>-9.36</b>	<b>54.12</b>	<b>63.48</b>	<b>V</b>	<b>313.0</b>	<b>-31.61</b>
<b>0.164925</b>	<b>-5.21</b>	<b>51.73</b>	<b>56.95</b>	<b>V</b>	<b>0.0</b>	<b>-31.64</b>
<b>0.582825</b>	<b>-16.41</b>	<b>20.72</b>	<b>37.13</b>	<b>V</b>	<b>178.0</b>	<b>-31.63</b>

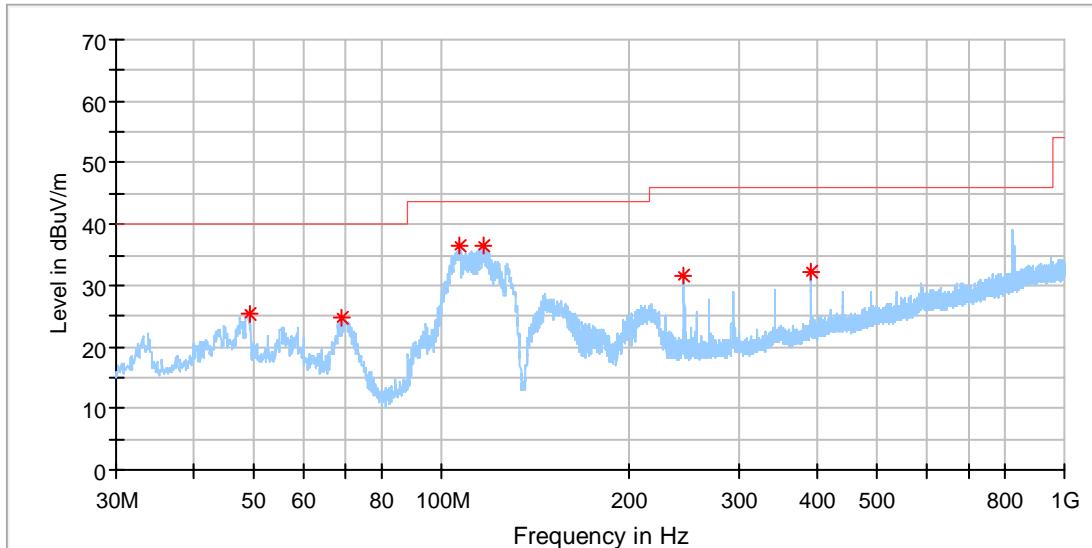
FCC and ISED Test Result  
 Test data\_30MHz to 1000MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.728750	21.95	40.00	18.05	100.0	H	0.0	17.34
119.118750	37.50	43.50	6.00	200.0	H	351.0	16.89
215.936875	30.85	46.00	15.15	100.0	H	65.0	18.86
244.551875	33.68	46.00	12.32	100.0	H	74.0	20.42
293.415625	36.86	46.00	9.14	100.0	H	21.0	21.40
996.120000	34.22	54.00	19.78	100.0	H	351.0	32.84

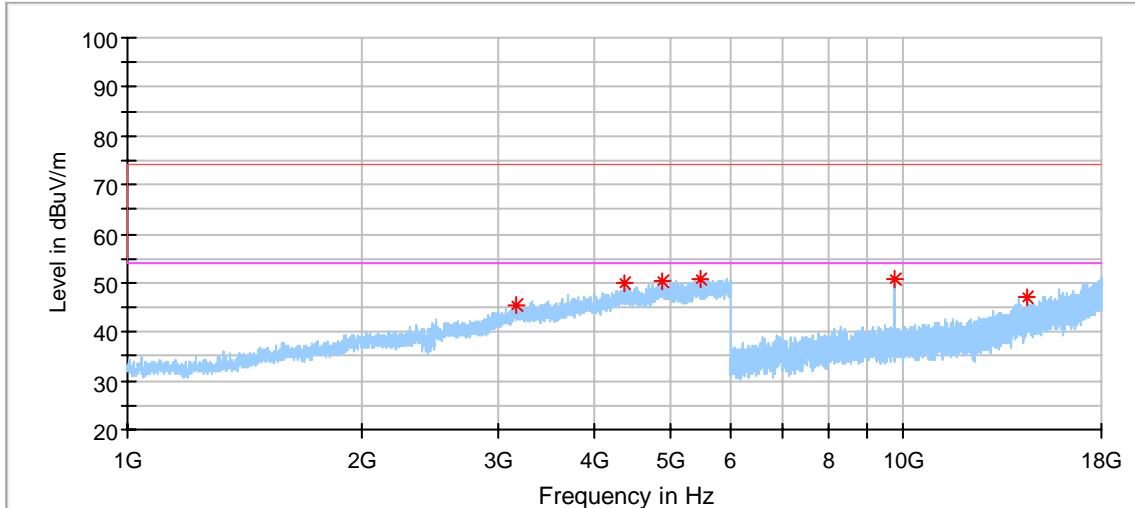
FCC and ISED Test Result  
 Test data\_30MHz to 1000MHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.339375	25.26	40.00	14.74	200.0	V	358.0	20.81
69.224375	24.85	40.00	15.15	100.0	V	0.0	16.94
107.115000	36.55	43.50	6.95	100.0	V	118.0	18.99
116.390625	36.41	43.50	7.09	200.0	V	43.0	17.50
244.673125	31.66	46.00	14.34	200.0	V	153.0	20.42
391.021875	32.24	46.00	13.76	100.0	V	346.0	23.84

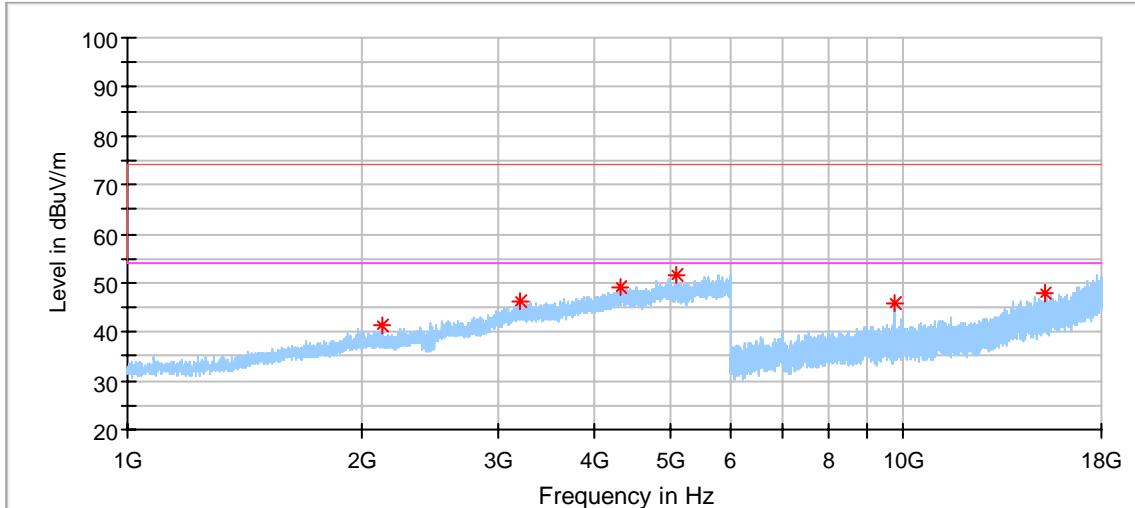
FCC and ISED Test Result  
 Test data\_1 GHz to 18 GHz  
 Tx: 125k Hz



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3168.000000	45.57	74.00	28.43	150.0	H	132.0	-0.19
4374.000000	50.10	74.00	23.90	150.0	H	288.0	3.92
4905.500000	50.53	74.00	23.47	150.0	H	240.0	5.77
5466.500000	50.73	74.00	23.27	150.0	H	240.0	6.68
9762.000000	50.79	74.00	23.21	150.0	H	200.0	12.75
14484.500000	46.93	74.00	27.07	150.0	H	78.0	18.67

FCC and ISED Test Result  
 Test data\_1 GHz to 18 GHz  
 Tx: 125k Hz



### **Critical\_Freqs**

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2131.500000	41.16	74.00	32.84	150.0	V	219.0	-5.87
3199.500000	46.28	74.00	27.72	150.0	V	39.0	0.02
4309.000000	48.96	74.00	25.04	150.0	V	267.0	4.07
5093.500000	50.77	74.00	23.23	150.0	V	63.0	5.89
9762.000000	45.67	74.00	28.33	150.0	V	28.0	12.75
15228.500000	48.08	74.00	25.92	150.0	V	150.0	19.93

**Remark:**

- (1) According to C63.10, if the peak measured value complies with the quasi-peak limit, it is unnecessary to perform a quasi-peak measurement, so quasi-peak emission value did not show in data table if the peak value complies with quasi-peak limit.
- (2) The testing was performed at 3m distance, the limit has been transferred from 300m/30m to 3m.
- (3) Corrected Amplitude = Read level + Corrector factor

Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain

Below 1GHz: Corrector factor = Antenna Factor + Cable Loss

(The Reading Level is recorded by software which is not shown in the sheet)

## 10 Test Equipment List

### Radiated Emission Test 1# (9kHz – 1GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	2025-5-13
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	2025-7-2
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	2025-7-24
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	2025-5-11
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	2025-7-2
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	2025-7-17
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	2025-5-11
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A

### Radiated Emission 2# Test (1GHz – 40GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	2025-5-13
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	2026-3-10
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	2025-5-11
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	2025-7-2
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	2025-7-17
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	2025-5-11
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A

### Conducted RF Test System

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	2025-5-11
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157W	68-4-93-14-003	101226/100929	2025-5-11
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	2025-5-11
10dB Attenuator	Weinschel	4M-10	68-4-81-14-003	43152	2025-5-11
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	2025-5-11
10dB Attenuator	R&S	DNF	68-4-81-14-005	DNF-002	2025-5-11
10dB Attenuator	R&S	DNF	68-4-81-14-006	DNF-003	2025-5-11
10dB Attenuator	R&S	DNF	68-4-81-14-007	DNF-004	2025-5-11
Test software	Tonscend	System for BT/WIFI	68-4-74-14-006-A13	Version 2.6.77.0518	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	2025-10-15

### Conducted Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-14-001	101782	2025-5-13
LISN	Rohde & Schwarz	ENV432	68-4-87-16-001	101318	2025-5-12
Test software	Rohde & Schwarz	EMC32	68-4-90-14-003-A10	Version9.15.00	N/A
Shielding Room	TDK	CSR #1	68-4-90-19-004	----	2025-10-15

## 11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission 150kHz-30MHz (for test using AMN ENV432 or ENV4200)	3.57dB
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.70dB
Uncertainty for Radiated Emission in new 3m chamber 30MHz-1000MHz	Horizontal: 4.59dB; Vertical: 4.75dB
Uncertainty for Radiated Emission in new 3m 1000MHz-18000MHz	Horizontal: 5.08dB; Vertical: 5.09dB;
Uncertainty for Radiated Emission 18000MHz-40000MHz	Horizontal: 4.52dB; Vertical: 4.51dB
Uncertainty for Conducted RF test	RF Power Conducted: 1.31dB Frequency test involved: $0.6 \times 10^{-8}$ or 1%

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3 and 4.3.4.

---THE END OF REPORT---