

TEST REPORT

Applicant: Particle Industries, Inc.
EUT Description: M-SoM LTE-M/2G/Satellite + Wi-Fi for Global
Model: M635e
Brand: Particle
Standards: ETSI EN 301 908-1 V15.2.1
Date of Receipt: 2026/05/14
Date of Test: 2026/05/14 to 2026/06/11
Date of Issue: 2026/06/11

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.



Jim Huang
Approved By:



Carey Chen
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2026/06/11	Original	Carey Chen

Summary of Test Results

Test Item	Test Requirement	Test Method	Result
	ETSI EN 301 908-1	ETSI EN 301 908-1	
Radiated emissions (UE)	Clause 4.2.2	Clause 5.3.1	Pass
Control and monitoring functions (UE)	Clause 4.2.4	Clause 5.3.3.1	Reference report SZCR240600219905

Remark:

The Radiated emissions were tested in this report, and other items data please refer to the previous report with report number SZCR240600219905 issued by SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch.

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1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China.

Tel.: +86-755-27212361

Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.

Test Firm Registration Number: 684095

Designation Number: CN1353.

ISED CAB identifier: CN0152

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0152

Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	Particle Industries, Inc.
Address:	548 Market St, PMB 34833, San Francisco, CA 94104, USA

1.2.2 Manufacturer

Manufacturer:	Particle Industries, Inc.
Address:	548 Market St, PMB 34833, San Francisco, CA 94104, USA

1.3 Product Information

EUT Description:	M-SoM LTE-M/2G/Satellite + Wi-Fi for Global		
Model:	M635e		
Brand:	Particle		
Hardware Version:	v0.2		
Software Version:	v6.4.1		
IMEI:	862063070036368		
Frequency Bands:	Band	TX Frequency	RX Frequency
	LTE Cat M1 Band 1	1920MHz - 1980MHz	2110MHz - 2170MHz
	LTE Cat M1 Band 3	1710MHz - 1785MHz	1805MHz - 1880MHz
	LTE Cat M1 Band 5	824MHz ~ 849MHz	869MHz ~ 894MHz
	LTE Cat M1 Band 8	880MHz - 915MHz	925MHz - 960MHz
	LTE Cat M1 Band 20	832MHz - 862MHz	791MHz - 821MHz
	LTE Cat M1 Band 28	703MHz - 748MHz	758MHz - 803MHz
LTE Cat M1 Modulation Type:	UL: QPSK,16QAM		
Power Class:	Class 3: All Frequency Bands		
Antenna Type:	Internal: Dipole Antenna External: Omnidirectional Antenna		
Antenna Gain:	Band	Ant1 Internal (dBi)	Ant4 External (dBi)
	LTE Cat M1 Band 1	5.23	1.8
	LTE Cat M1 Band 3	4.12	1.14
	LTE Cat M1 Band 5	1.78	2.01
	LTE Cat M1 Band 8	1.91	2.25
	LTE Cat M1 Band 20	1.64	2.01
	LTE Cat M1 Band 28	2.5	1.83
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.			

2 Test Configuration

2.1 Standards Specification

No.	Reference Standards	Standards Title
1	ETSI EN 301 908-1 V15.2.1	IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements;

2.2 Test Environment

Relative Humidity	45-56 % RH Ambient	
Condition	Temperature(°C)	Voltage(V)
NTNV	25	3.8
Remark: NTNV: Normal Temperature Normal Voltage.		

2.3 Support Unit used in test

The EUT has been tested as an independent unit.

2.4 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

2.5 Modifications

No modifications were made during testing.

3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable to recognized national standards.

3.1 Test Equipment List

Radiated Emission					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Biconic Logarithmic Periodic Antennas	Schwarzbeck	VULB9163	1461	2023/06/25	2026/06/24
Double-Ridged Horn Antennas	Schwarzbeck	BBHA 9120D	2814	2023/06/25	2026/06/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1291	2023/06/25	2026/06/24
Signal Analyzer	Keysight	N9020A	US46470366	2026/03/06	2027/03/05
Radio Communication Analyzer	Anritsu	MT8821C	6262170436	2026/03/05	2027/03/04
Wideband Radio Communication Tester	R&S	CMW500	150645	2026/03/06	2027/03/05
Low Noise Amplifier	Tonscend	TAP9K3G40	AP23A8060274	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP01018050	AP23A8060268	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP18040048	AP22G806249	2025/03/11	2027/03/10
Hygrometer	BINGYU	HTC-1	N/A	2025/07/25	2026/07/24
Band Reject Filter Group	Tonscend	JS0806-F	23A806F0654	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

3.2 Measurement Uncertainty

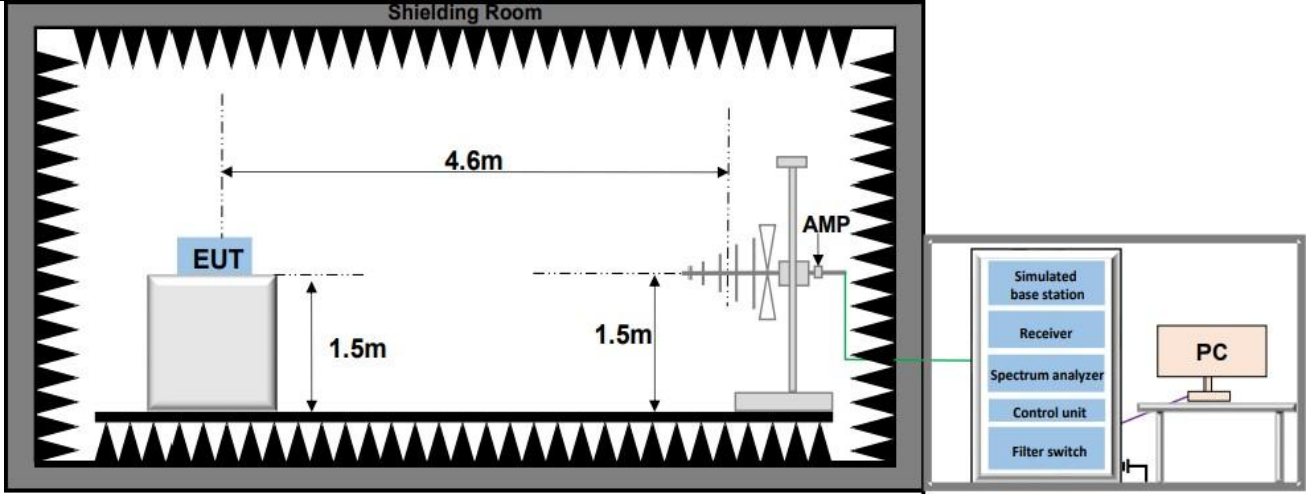
Parameter	U _{lab}
Radiation 30MHz~1GHz(FAR)	4.48dB
Radiation 1GHz~18GHz(FAR)	5.30dB
Radiation 18GHz~40GHz(FAR)	5.26dB

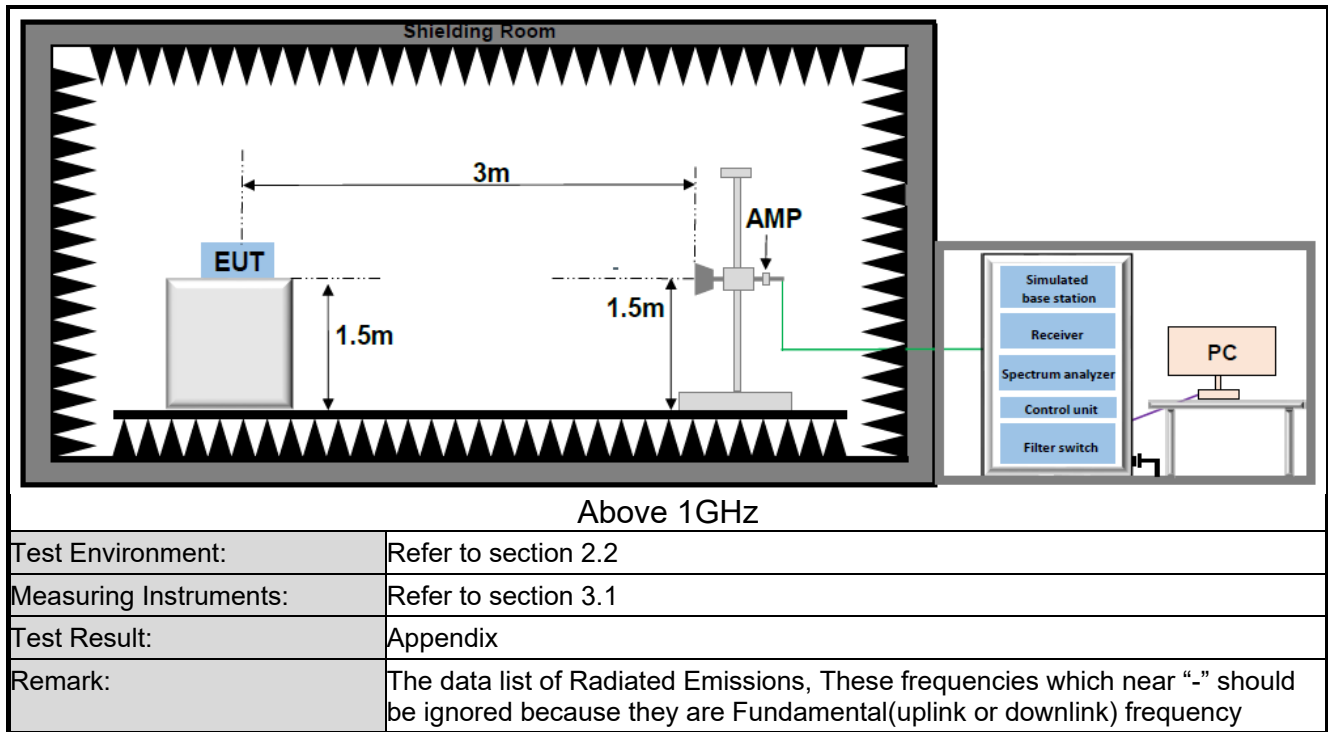
Uncertainty figures are valid to a confidence level of 95%

4 Test Results

4.1 Radiated emissions

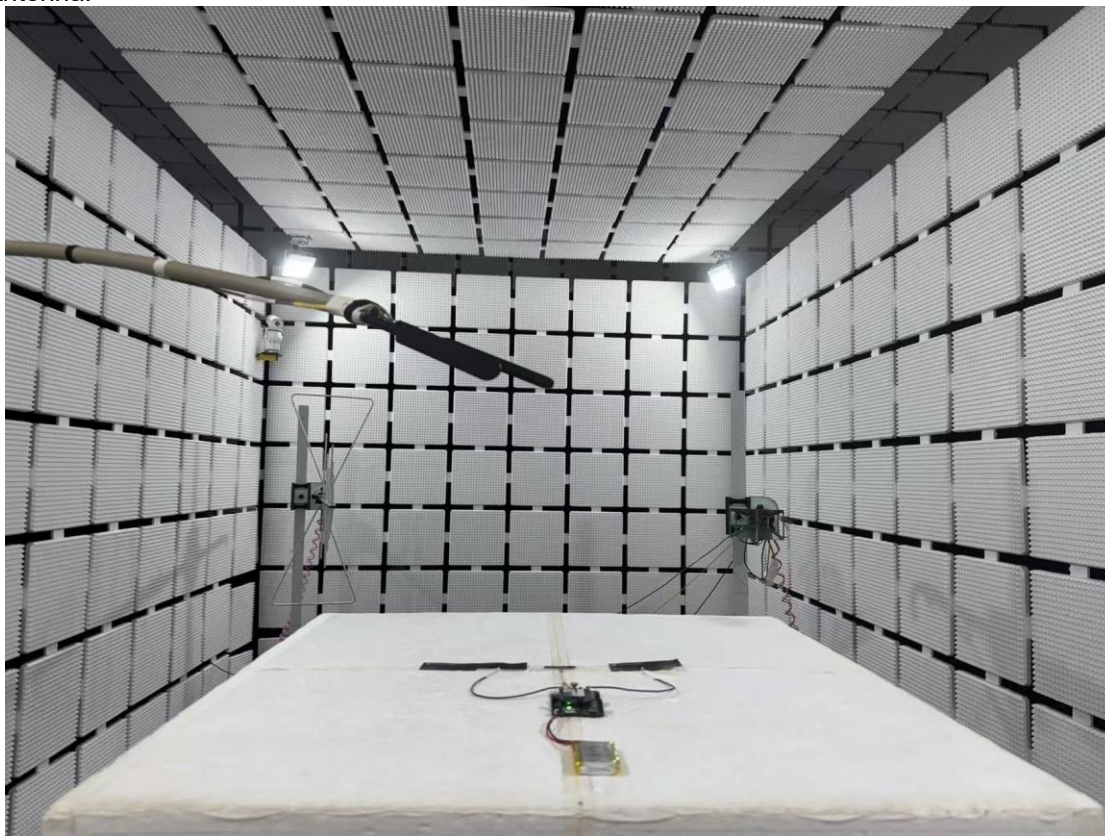
Test Requirement:	ETSI EN 301 908-1 Clause 4.2.2																																										
Test Method:	ETSI EN 301 908-1 Clause 5.3.1																																										
Limit:	Table 4.2.2.2-1: Radiated spurious emissions requirements (UE) <table border="1"> <thead> <tr> <th>Frequency</th><th>Minimum requirement (e.r.p.)/ reference bandwidth idle mode</th><th>Minimum requirement (e.r.p.)/ reference bandwidth traffic mode</th><th>Applicability</th></tr> </thead> <tbody> <tr> <td>$30 \text{ MHz} \leq f < 1\,000 \text{ MHz}$</td><td>-57 dBm/100 kHz</td><td>-36 dBm/100 kHz</td><td>All</td></tr> <tr> <td>$1 \text{ GHz} \leq f < 12,75 \text{ GHz}$</td><td>-47 dBm/1 MHz</td><td>-30 dBm/1 MHz</td><td>All</td></tr> <tr> <td>$12,75 \text{ GHz} \leq f < 5^{\text{th}}$ harmonic of the upper frequency edge of the Uplink operating band in GHz</td><td>-47 dBm/1 MHz</td><td>-30 dBm/1 MHz</td><td>All (note 3)</td></tr> <tr> <td>$12,75 \text{ GHz} < f < 26 \text{ GHz}$</td><td>-47 dBm/1 MHz</td><td>-30 dBm/1 MHz</td><td>All (note 4)</td></tr> <tr> <td>$f_c - 2,5 \times 5 \text{ MHz} < f < f_c + 2,5 \times 5 \text{ MHz}$ (note 1 and note 2)</td><td>Not defined</td><td>Not defined</td><td>UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3</td></tr> <tr> <td>$f_c - 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz} < f < f_c + 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz}$ (note 1 and note 2)</td><td>Not defined</td><td>Not defined</td><td>E-UTRA FDD, E-UTRA TDD, Mobile WiMAX™</td></tr> <tr> <td>$f_c - (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz} < f < f_c + (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz}$ (note 1)</td><td>Not defined</td><td>Not defined</td><td>NR operating in FR1</td></tr> <tr> <td>$f_c - 2,5 \times 10 \text{ MHz} < f < f_c + 2,5 \times 10 \text{ MHz}$ (note 1 and note 2)</td><td>Not defined</td><td>Not defined</td><td>UTRA TDD, 7,68 Mcps option</td></tr> <tr> <td>$f_c - 4 \text{ MHz} < f < f_c + 4 \text{ MHz}$ (note 1 and note 2)</td><td>Not defined</td><td>Not defined</td><td>UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1</td></tr> </tbody> </table> NOTE 1: f_c is the UE transmit centre frequency. NOTE 2: This frequency range is not in the spurious domain, no requirement is then defined for this frequency range. NOTE 3: Applies for Band that the upper frequency edge of the Uplink Band more than 2,69 GHz. NOTE 4: Applies for Band that the upper frequency edge of the Uplink Band more than 5,2 GHz.			Frequency	Minimum requirement (e.r.p.)/ reference bandwidth idle mode	Minimum requirement (e.r.p.)/ reference bandwidth traffic mode	Applicability	$30 \text{ MHz} \leq f < 1\,000 \text{ MHz}$	-57 dBm/100 kHz	-36 dBm/100 kHz	All	$1 \text{ GHz} \leq f < 12,75 \text{ GHz}$	-47 dBm/1 MHz	-30 dBm/1 MHz	All	$12,75 \text{ GHz} \leq f < 5^{\text{th}}$ harmonic of the upper frequency edge of the Uplink operating band in GHz	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 3)	$12,75 \text{ GHz} < f < 26 \text{ GHz}$	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 4)	$f_c - 2,5 \times 5 \text{ MHz} < f < f_c + 2,5 \times 5 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3	$f_c - 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz} < f < f_c + 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX™	$f_c - (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz} < f < f_c + (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz}$ (note 1)	Not defined	Not defined	NR operating in FR1	$f_c - 2,5 \times 10 \text{ MHz} < f < f_c + 2,5 \times 10 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 7,68 Mcps option	$f_c - 4 \text{ MHz} < f < f_c + 4 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1
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Test Procedure:	This clause defines the configurations for emission tests as follows: - the equipment shall be tested under normal test conditions - the test configuration shall be as close to normal intended use as possible - if the equipment is part of a system, or can be connected to ancillary equipment, then it shall be acceptable to test the equipment while connected to the minimum configuration of ancillary equipment necessary to exercise the ports - if the equipment has a large number of ports, then a sufficient number shall be selected to simulate actual operation conditions and to ensure that all the different types of termination are tested - the test conditions, test configuration and mode of operation shall be recorded in the test report - ports which in normal operation are connected shall be connected to an ancillary equipment or to a representative piece of cable correctly terminated to simulate the input/output characteristics of the ancillary equipment, RF input/output ports shall be correctly terminated. - ports that are not connected to cables during normal operation, e.g. service connectors, programming connectors; temporary connectors, etc. shall not be connected to any cables for the purpose of this test. Where cables have to be connected to these ports, or interconnecting cables have to be																																										

	extended in length in order to exercise the EUT, precautions shall be taken to ensure that the evaluation of the EUT is not affected by the addition or extension of these cables: - emission tests shall be performed in two modes of operation: 1)with a communication link established (traffic mode); and 2)in the idle mode; • the traffic mode configuration which uses the UE maximum output power for testing shall be declared by the manufacturer. Ancillary equipment shall be tested with it connected to a UE in which case compliance shall be demonstrated to the appropriate clauses of the present document. The results obtained shall be compared to the limits in clause 4.2.2.2 in order to prove compliance.
Test Setting:	1. The test distance between the receiving antenna and the EUT is 4.6m below 1GHz frequency range, and 3m which is in far field test condition for measured frequency above 1GHz, while the receiving (test) antenna scanning 1.5m height. 2. The EUT was placed on a turntable with 1.5m height (FAR). 3. Set EUT in continuous transmitting with maximum output power. 4. The table was rotated from 0 to 360 degree to search the highest radiated emission. 5. Repeat above step for each polarization and channel to find the worst emission level. 6. The results obtained are compared to the limits in order to prove compliance with the requirement.
Test Notes:	1. All modes of operation were investigated, and the worst-case emissions are reported. 2. Radiated emissions were measured from 30MHz – 5th Harmonic to ensure that the provisions of ETSI EN 301908-1 are satisfied with respect to the upper frequency scanning range. No Spurious emissions were detected above 18GHz.
Test Setup:  The diagram illustrates the test setup within a shielding room. On the left, the Equipment Under Test (EUT) is placed on a turntable at a height of 1.5m. To the right, a receiving antenna is mounted on a stand at a height of 1.5m, positioned 4.6m away from the EUT. The entire setup is enclosed in a shielding room, indicated by the jagged lines representing the walls. Below the main diagram, it is noted that the setup is for frequencies 'Below 1GHz'. To the right of the shielding room, a control unit is shown, which includes a simulated base station, a receiver, a spectrum analyzer, a control unit, and a filter switch. This control unit is connected to a PC via a cable.	

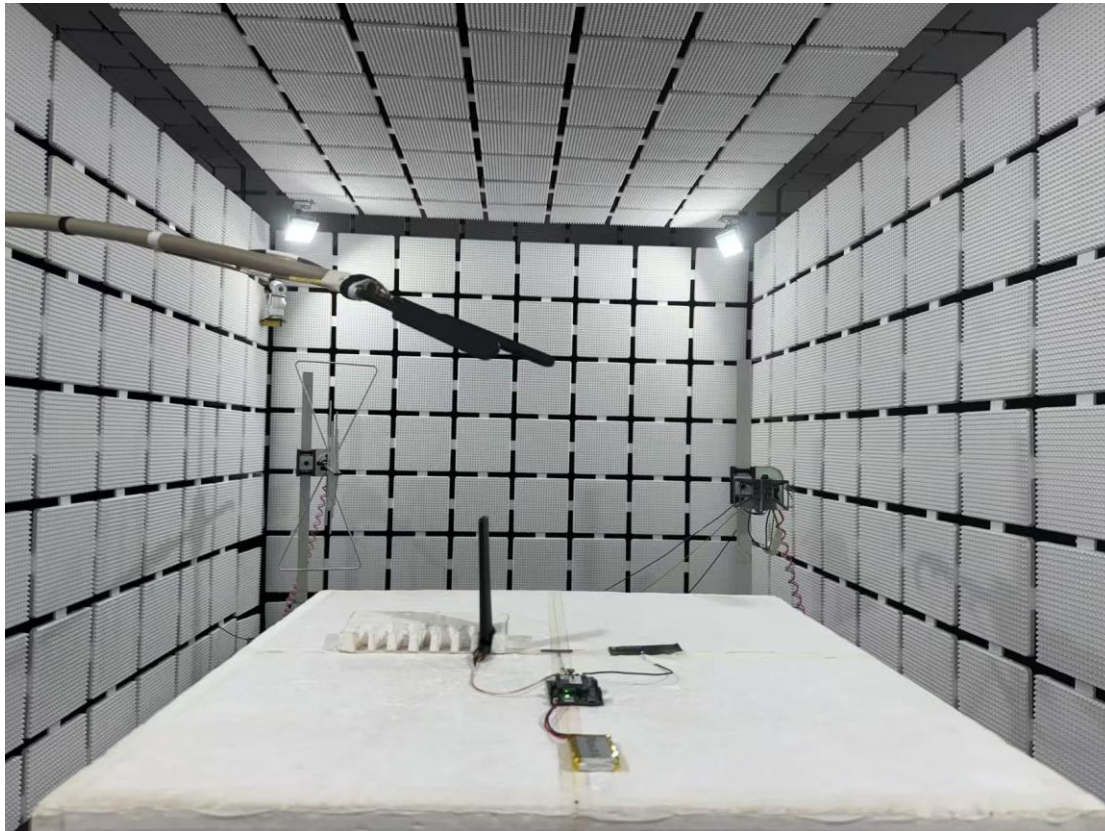


5 Test Setup Photos

Dipole Antenna:



Omnidirectional Antenna:



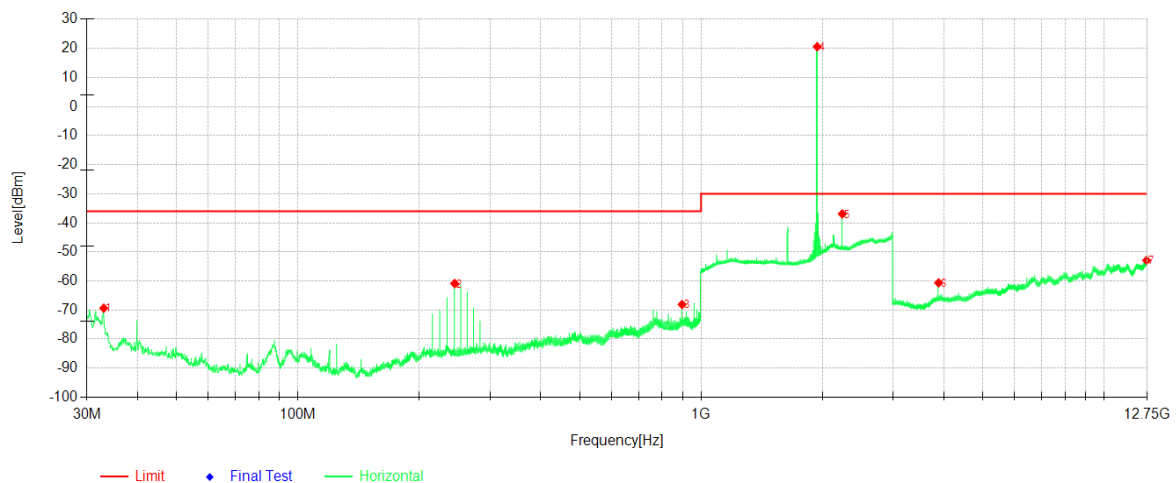
Appendix

Radiated Emissions Traffic mode

Test Results LTE Cat M1 (Dipole Antenna)

Project Information			
Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph

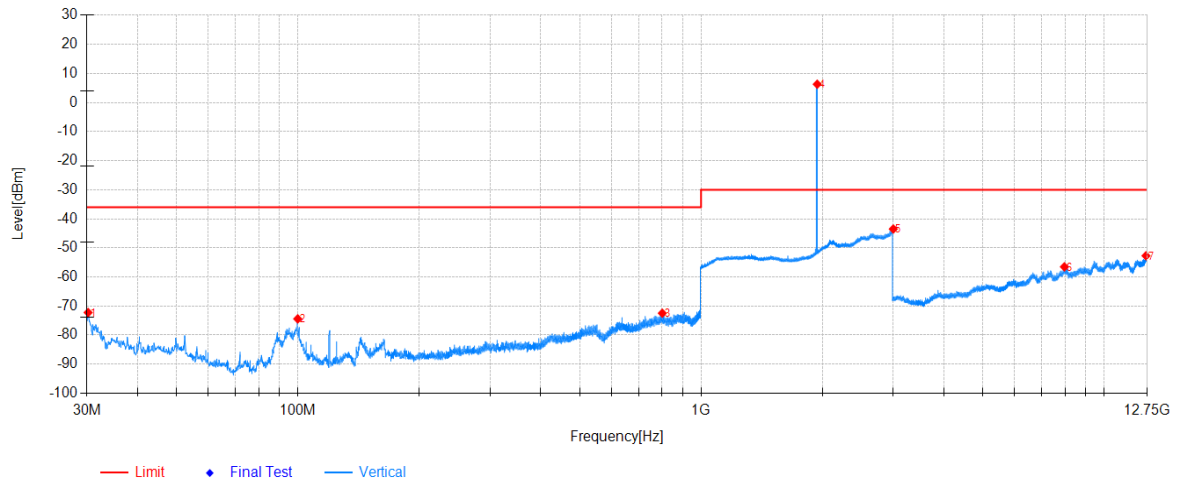


Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	33.01	-58.31	-69.37	-36.00	33.37	-11.06	Horizontal
2	244.78	-50.62	-60.89	-36.00	24.89	-10.27	Horizontal
3	897.46	-69.28	-68.09	-36.00	32.09	1.19	Horizontal
4	1941.80	9.23	20.59	-	-	11.36	Horizontal
5	2240.40	-50.83	-36.94	-30.00	6.94	13.89	Horizontal
6	3883.84	-59.80	-60.66	-30.00	30.66	-0.86	Horizontal
7	12741.71	-69.51	-52.93	-30.00	22.93	16.58	Horizontal

Project Information

Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

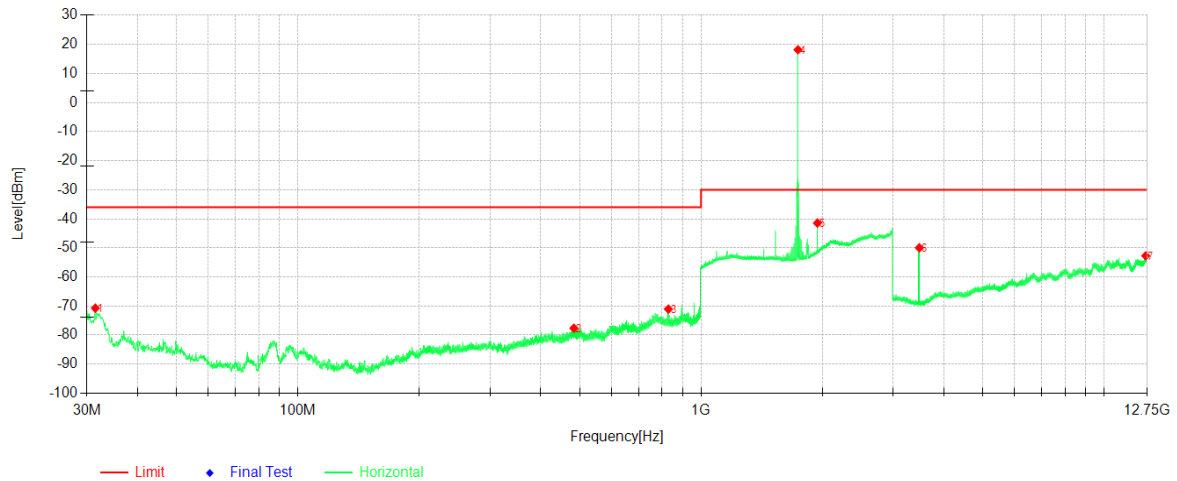
Test Graph



Data List

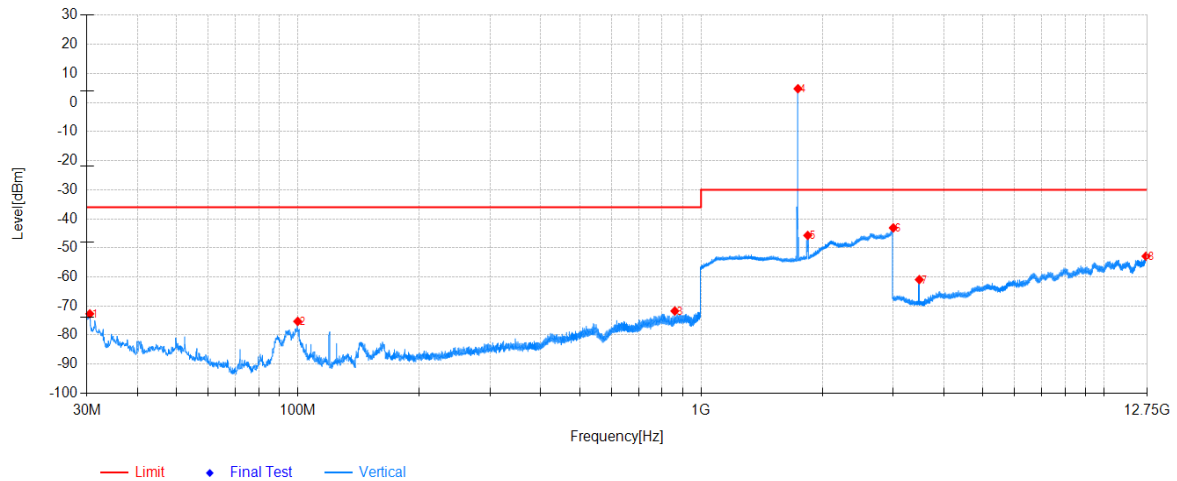
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.19	-59.34	-72.24	-36.00	36.24	-12.90	Vertical
2	99.94	-61.36	-74.43	-36.00	38.43	-13.07	Vertical
3	801.62	-73.26	-72.47	-36.00	36.47	0.79	Vertical
4	1941.80	-4.90	6.30	-	-	11.20	Vertical
5	2998.00	-61.21	-43.51	-30.00	13.51	17.70	Vertical
6	7964.70	-67.43	-56.52	-30.00	26.52	10.91	Vertical
7	12693.45	-69.27	-52.73	-30.00	22.73	16.54	Vertical

Project Information			
Mode:	Cat M	Band:	B3
Bandwidth:	20MHz	Channel:	19575
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph**Data List**

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	31.46	-59.71	-70.73	-36.00	34.73	-11.02	Horizontal
2	483.71	-71.47	-77.63	-36.00	41.63	-6.16	Horizontal
3	829.85	-71.11	-71.07	-36.00	35.07	0.04	Horizontal
4	1739.67	8.36	18.17	-	-	9.81	Horizontal
5	1943.89	-52.85	-41.45	-30.00	11.45	11.40	Horizontal
6	3478.75	-46.17	-49.98	-30.00	19.98	-3.81	Horizontal
7	12673.95	-68.99	-52.73	-30.00	22.73	16.26	Horizontal

Project Information			
Mode:	Cat M	Band:	B3
Bandwidth:	20MHz	Channel:	19575
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

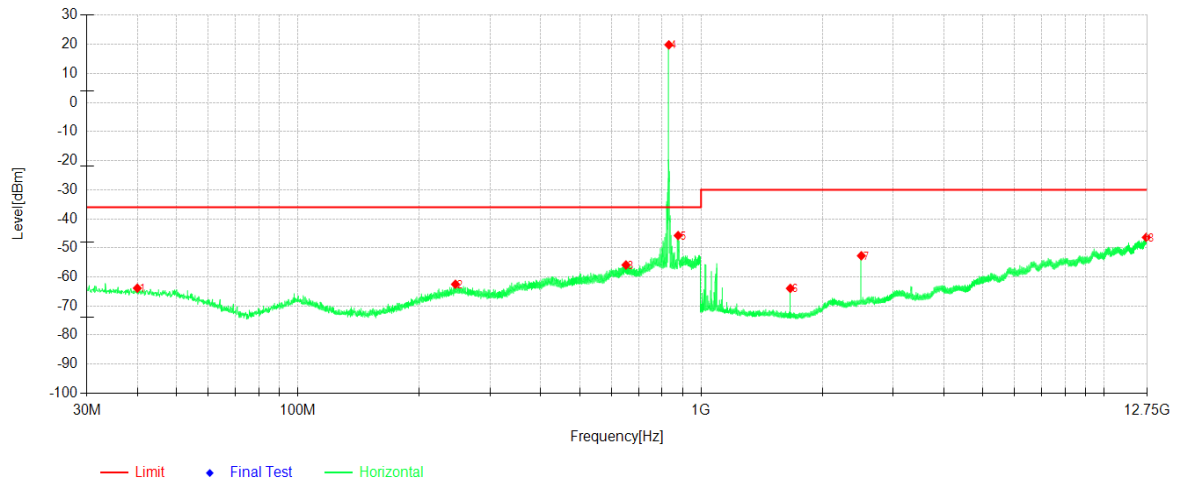
Test Graph**Data List**

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.49	-59.80	-72.68	-36.00	36.68	-12.88	Vertical
2	99.94	-62.21	-75.28	-36.00	39.28	-13.07	Vertical
3	861.08	-72.05	-71.72	-36.00	35.72	0.33	Vertical
4	1739.47	-4.88	4.76	-	-	9.64	Vertical
5	1839.08	-55.80	-45.72	-	-	10.08	Vertical
6	2998.00	-60.82	-43.12	-30.00	13.12	17.70	Vertical
7	3478.75	-57.03	-60.93	-30.00	30.93	-3.90	Vertical
8	12696.86	-69.47	-52.88	-30.00	22.88	16.59	Vertical

Project Information

Mode:	Cat M	Band:	B5
Bandwidth:	10MHz	Channel:	20525
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



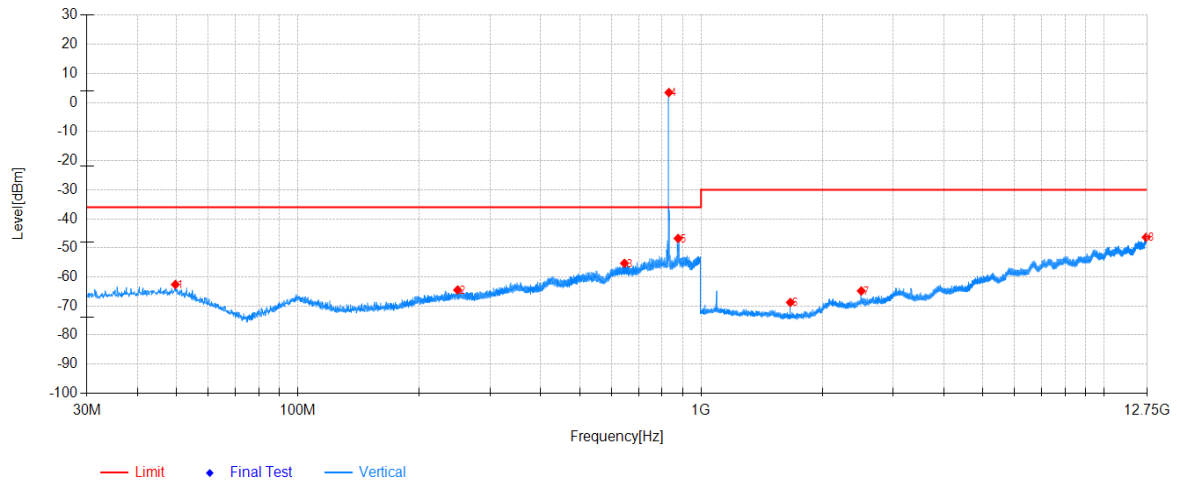
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	39.99	-72.35	-63.88	-36.00	27.88	8.47	Horizontal
2	245.94	-71.79	-62.51	-36.00	26.51	9.28	Horizontal
3	651.35	-73.06	-55.89	-36.00	19.89	17.17	Horizontal
4	832.27	1.03	19.84	-	-	18.81	Horizontal
5	877.38	-64.63	-45.76	-	-	18.87	Horizontal
6	1665.07	-52.00	-63.93	-30.00	33.93	-11.93	Horizontal
7	2498.17	-45.89	-52.72	-30.00	22.72	-6.83	Horizontal
8	12714.75	-63.09	-46.39	-30.00	16.39	16.70	Horizontal

Project Information

Mode:	Cat M	Band:	B5
Bandwidth:	10MHz	Channel:	20525
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



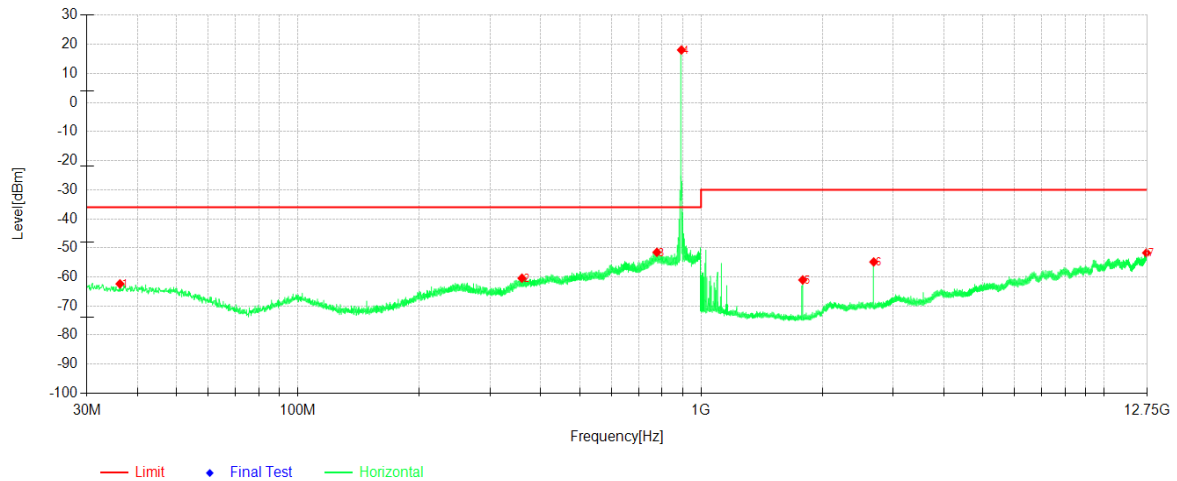
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	49.69	-71.36	-62.61	-36.00	26.61	8.75	Vertical
2	249.05	-72.20	-64.48	-36.00	28.48	7.72	Vertical
3	645.82	-72.17	-55.31	-36.00	19.31	16.86	Vertical
4	832.37	-15.57	3.44	-	-	19.01	Vertical
5	877.28	-66.59	-46.75	-	-	19.84	Vertical
6	1665.46	-56.60	-68.76	-30.00	38.76	-12.16	Vertical
7	2497.78	-58.07	-64.83	-30.00	34.83	-6.76	Vertical
8	12704.17	-63.30	-46.38	-30.00	16.38	16.92	Vertical

Project Information

Mode:	Cat M	Band:	B8
Bandwidth:	10MHz	Channel:	21625
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



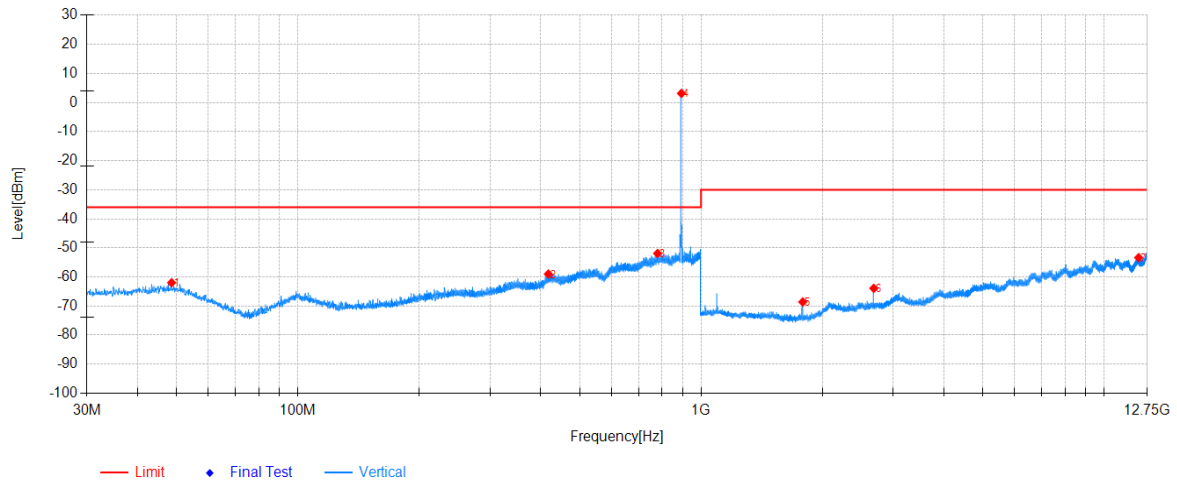
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	36.21	-71.03	-62.38	-36.00	26.38	8.65	Horizontal
2	359.54	-71.49	-60.42	-36.00	24.42	11.07	Horizontal
3	777.27	-71.41	-51.52	-36.00	15.52	19.89	Horizontal
4	893.97	-1.46	18.08	-	-	19.54	Horizontal
5	1787.28	-49.19	-61.05	-30.00	31.05	-11.86	Horizontal
6	2681.09	-48.37	-54.85	-30.00	24.85	-6.48	Horizontal
7	12738.25	-68.41	-51.73	-30.00	21.73	16.68	Horizontal

Project Information

Mode:	Cat M	Band:	B8
Bandwidth:	10MHz	Channel:	21625
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



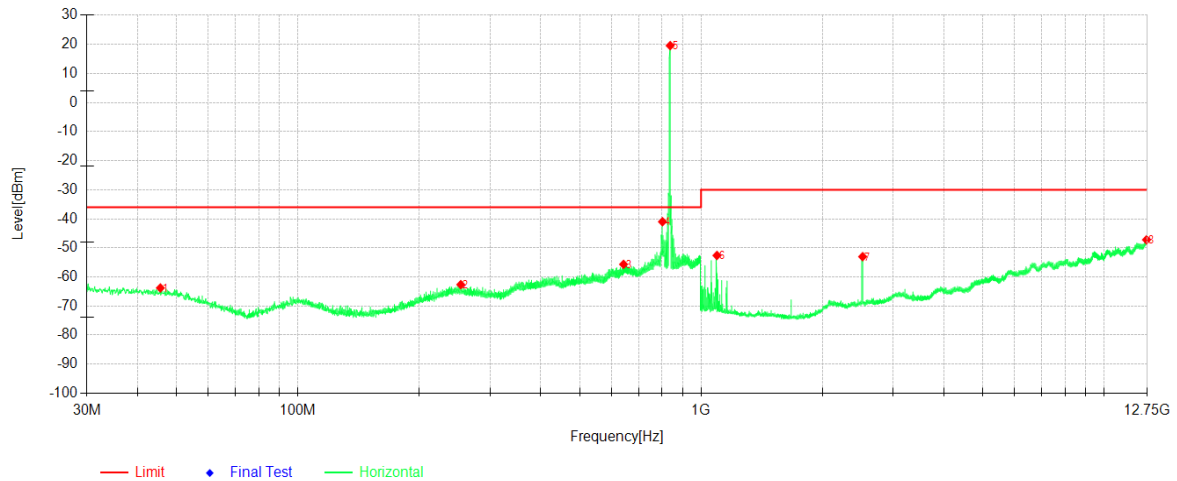
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	48.63	-70.63	-61.98	-36.00	25.98	8.65	Vertical
2	418.14	-70.93	-59.02	-36.00	23.02	11.91	Vertical
3	780.18	-71.08	-51.91	-36.00	15.91	19.17	Vertical
4	894.07	-16.42	3.16	-	-	19.58	Vertical
5	1787.67	-56.66	-68.61	-30.00	38.61	-11.95	Vertical
6	2681.48	-57.60	-63.92	-30.00	33.92	-6.32	Vertical
7	12169.92	-69.05	-53.36	-30.00	23.36	15.69	Vertical

Project Information

Mode:	Cat M	Band:	B20
Bandwidth:	20MHz	Channel:	24300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



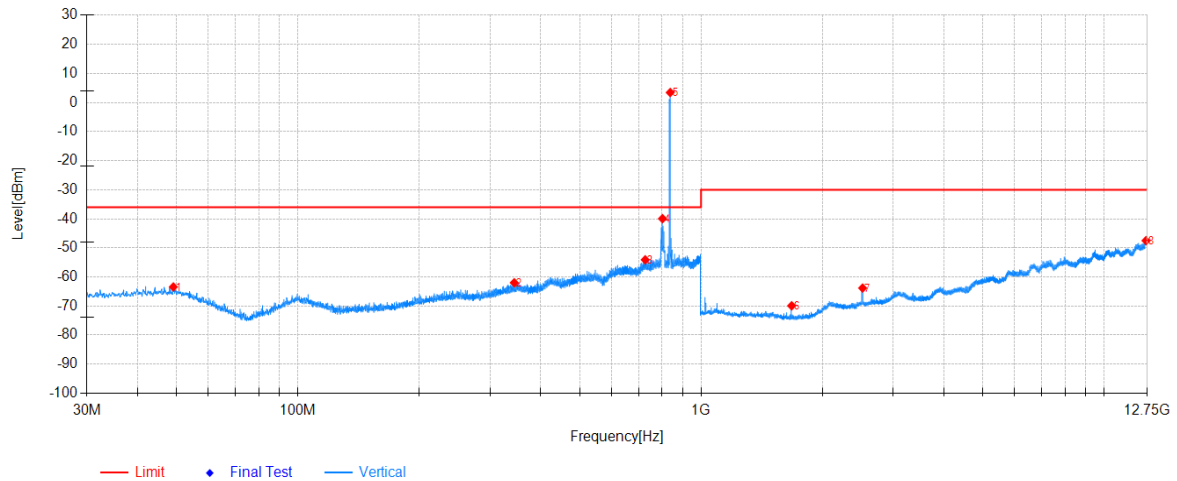
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	45.62	-71.98	-63.79	-36.00	27.79	8.19	Horizontal
2	253.61	-72.07	-62.64	-36.00	26.64	9.43	Horizontal
3	642.52	-72.36	-55.67	-36.00	19.67	16.69	Horizontal
4	802.49	-60.19	-41.01	-	-	19.18	Horizontal
5	838.48	0.89	19.59	-	-	18.70	Horizontal
6	1095.18	-42.92	-52.60	-30.00	22.60	-9.68	Horizontal
7	2517.00	-46.25	-53.02	-30.00	23.02	-6.77	Horizontal
8	12733.55	-63.91	-47.22	-30.00	17.22	16.69	Horizontal

Project Information

Mode:	Cat M	Band:	B20
Bandwidth:	20MHz	Channel:	24300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



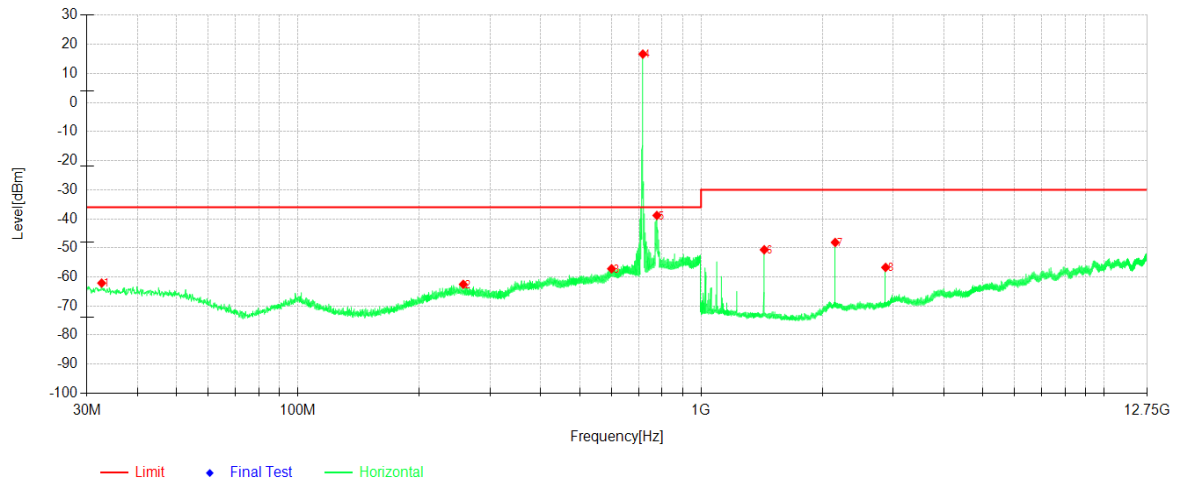
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	49.11	-72.13	-63.44	-36.00	27.44	8.69	Vertical
2	344.21	-72.45	-62.00	-36.00	26.00	10.45	Vertical
3	727.21	-72.60	-54.11	-36.00	18.11	18.49	Vertical
4	802.59	-59.50	-39.95	-	-	19.55	Vertical
5	838.77	-15.41	3.46	-	-	18.87	Vertical
6	1678.01	-57.75	-69.93	-30.00	39.93	-12.18	Vertical
7	2516.41	-57.05	-63.83	-30.00	33.83	-6.78	Vertical
8	12694.18	-64.37	-47.53	-30.00	17.53	16.84	Vertical

Project Information

Mode:	Cat M	Band:	B28
Bandwidth:	20MHz	Channel:	27435
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



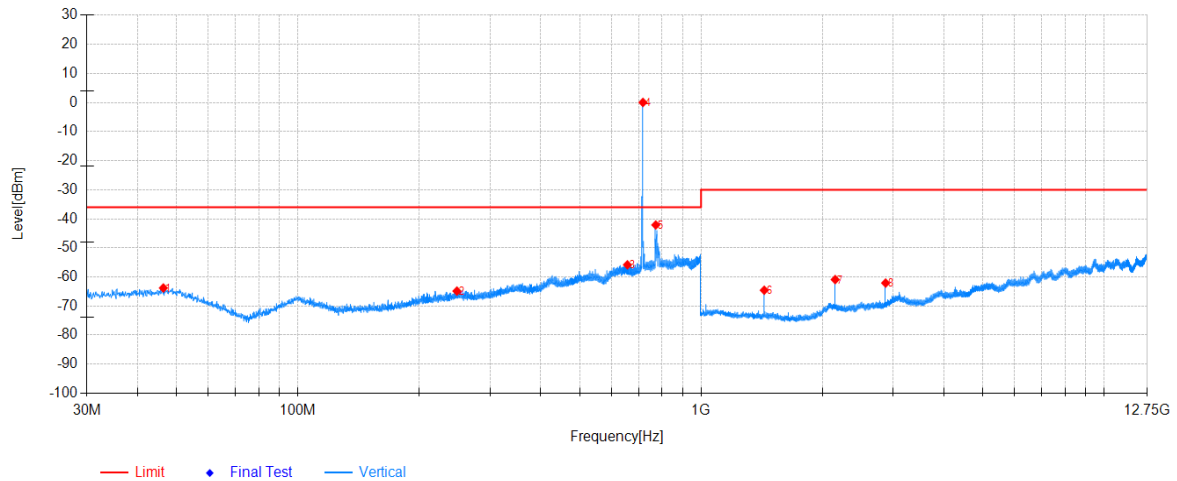
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	32.62	-70.95	-62.12	-36.00	26.12	8.83	Horizontal
2	257.20	-71.86	-62.55	-36.00	26.55	9.31	Horizontal
3	600.03	-73.23	-57.19	-36.00	21.19	16.04	Horizontal
4	717.31	-0.17	16.66	-	-	16.83	Horizontal
5	777.07	-58.74	-38.85	-	-	19.89	Horizontal
6	1434.76	-39.40	-50.64	-30.00	20.64	-11.24	Horizontal
7	2151.93	-41.02	-48.13	-30.00	18.13	-7.11	Horizontal
8	2869.49	-51.30	-56.73	-30.00	26.73	-5.43	Horizontal

Project Information

Mode:	Cat M	Band:	B28
Bandwidth:	20MHz	Channel:	27435
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	ANT: Dipole		

Test Graph



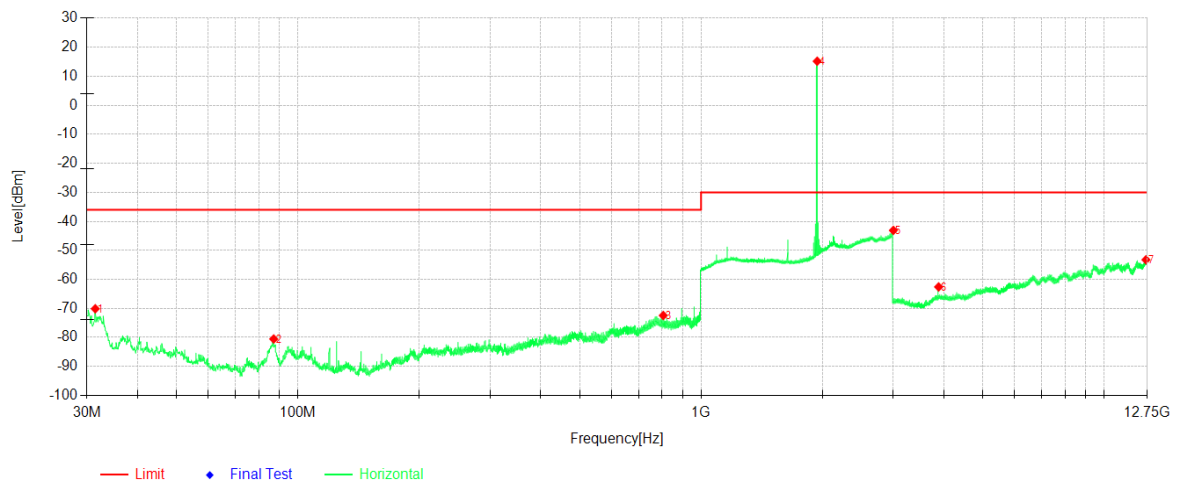
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	46.39	-72.26	-63.81	-36.00	27.81	8.45	Vertical
2	248.08	-72.55	-64.86	-36.00	28.86	7.69	Vertical
3	656.88	-72.69	-55.84	-36.00	19.84	16.85	Vertical
4	717.60	-17.97	0.04	-	-	18.01	Vertical
5	772.22	-61.05	-42.11	-	-	18.94	Vertical
6	1434.76	-53.14	-64.57	-30.00	34.57	-11.43	Vertical
7	2151.54	-53.33	-60.90	-30.00	30.90	-7.57	Vertical
8	2869.49	-56.53	-62.10	-30.00	32.10	-5.57	Vertical

Test Results LTE Cat M1 (Omnidirectional Antenna)

Project Information			
Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph

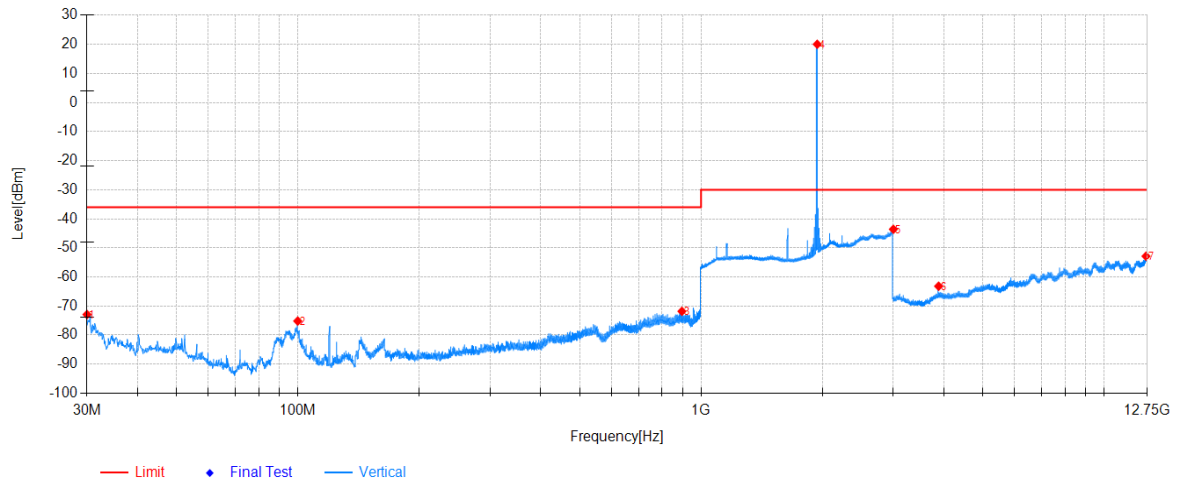


Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	31.46	-59.11	-70.13	-36.00	34.13	-11.02	Horizontal
2	87.14	-63.99	-80.55	-36.00	44.55	-16.56	Horizontal
3	805.98	-72.82	-72.44	-36.00	36.44	0.38	Horizontal
4	1941.60	3.84	15.20	-	-	11.36	Horizontal
5	2999.60	-60.88	-43.11	-30.00	13.11	17.77	Horizontal
6	3883.84	-61.75	-62.61	-30.00	32.61	-0.86	Horizontal
7	12691.99	-69.61	-53.24	-30.00	23.24	16.37	Horizontal

Project Information

Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



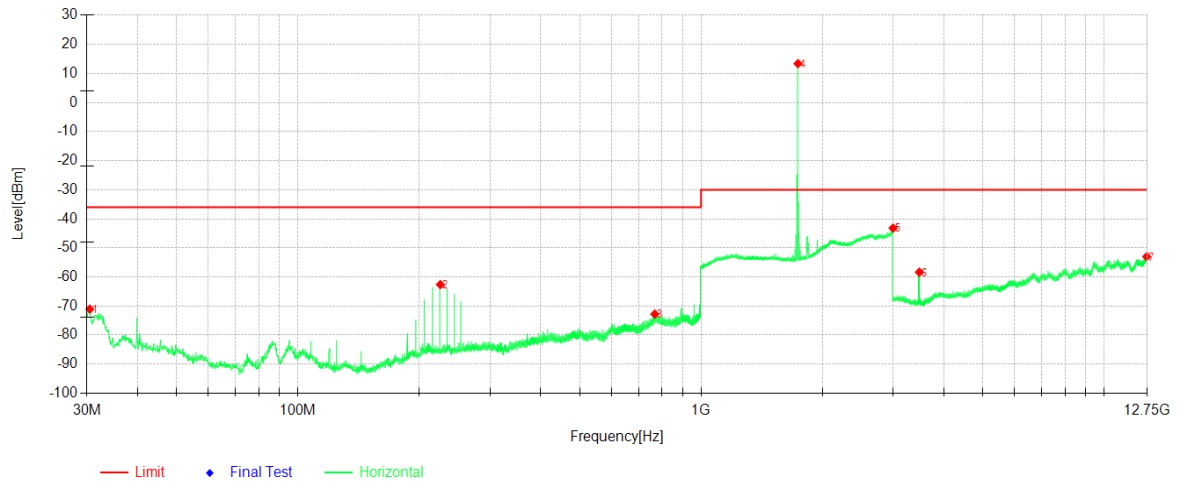
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.00	-59.99	-72.92	-36.00	36.92	-12.93	Vertical
2	99.94	-62.10	-75.17	-36.00	39.17	-13.07	Vertical
3	896.68	-72.89	-71.82	-36.00	35.82	1.07	Vertical
4	1941.80	8.86	20.06	-	-	11.20	Vertical
5	2999.40	-61.34	-43.61	-30.00	13.61	17.73	Vertical
6	3883.84	-62.20	-63.20	-30.00	33.20	-1.00	Vertical
7	12694.91	-69.43	-52.87	-30.00	22.87	16.56	Vertical

Project Information

Mode:	Cat M	Band:	B3
Bandwidth:	20MHz	Channel:	19575
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



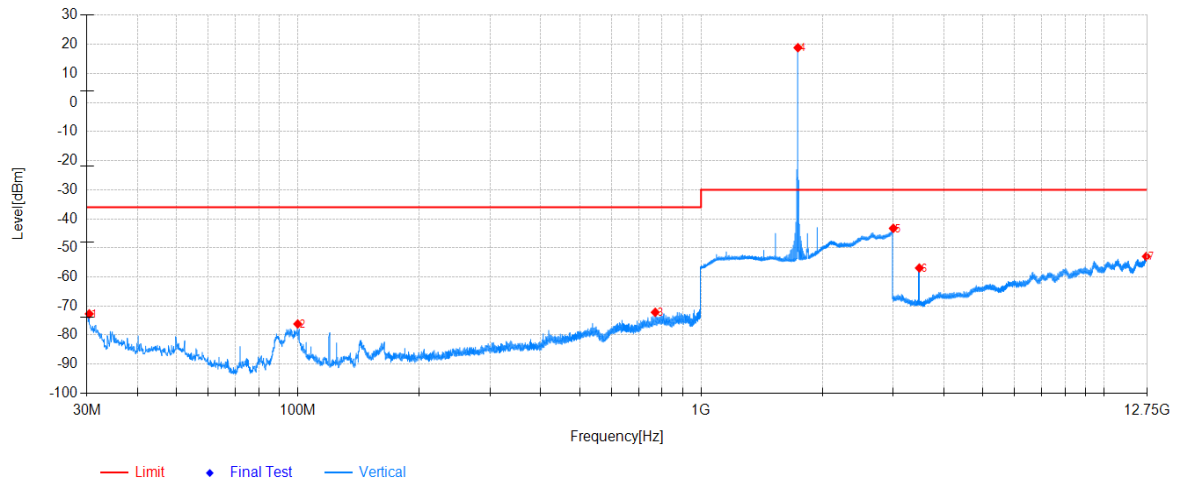
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.49	-60.08	-71.07	-36.00	35.07	-10.99	Horizontal
2	225.57	-50.54	-62.62	-36.00	26.62	-12.08	Horizontal
3	767.76	-73.62	-72.79	-36.00	36.79	0.83	Horizontal
4	1739.47	3.58	13.39	-	-	9.81	Horizontal
5	2994.40	-60.85	-43.21	-30.00	13.21	17.64	Horizontal
6	3478.75	-54.56	-58.37	-30.00	28.37	-3.81	Horizontal
7	12741.71	-69.60	-53.02	-30.00	23.02	16.58	Horizontal

Project Information

Mode:	Cat M	Band:	B3
Bandwidth:	20MHz	Channel:	19575
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



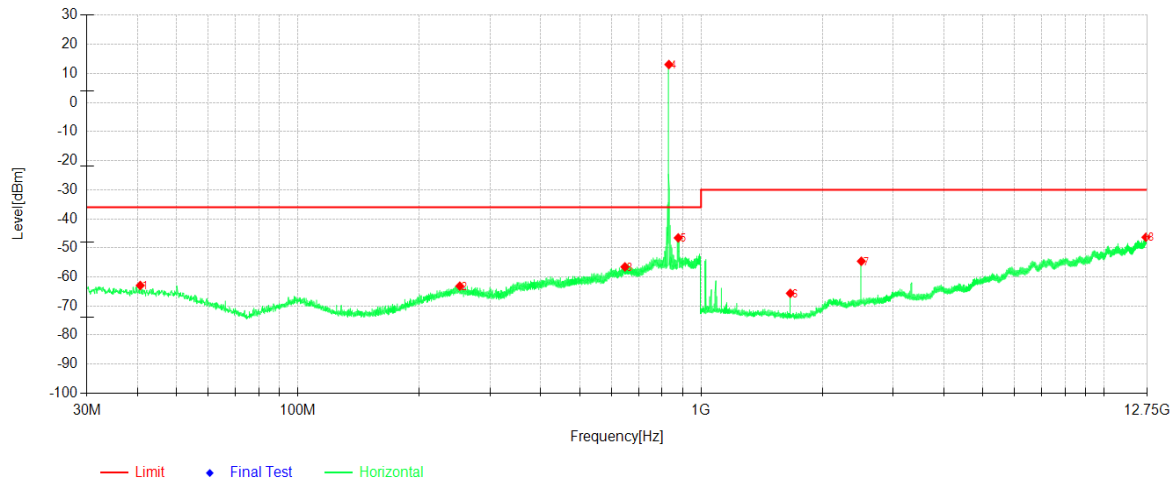
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.39	-59.82	-72.71	-36.00	36.71	-12.89	Vertical
2	99.94	-63.10	-76.17	-36.00	40.17	-13.07	Vertical
3	769.89	-72.48	-72.16	-36.00	36.16	0.32	Vertical
4	1739.27	9.23	18.87	-	-	9.64	Vertical
5	2998.60	-60.99	-43.28	-30.00	13.28	17.71	Vertical
6	3478.75	-53.04	-56.94	-30.00	26.94	-3.90	Vertical
7	12718.80	-69.66	-52.96	-30.00	22.96	16.70	Vertical

Project Information

Mode:	Cat M	Band:	B5
Bandwidth:	10MHz	Channel:	20525
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



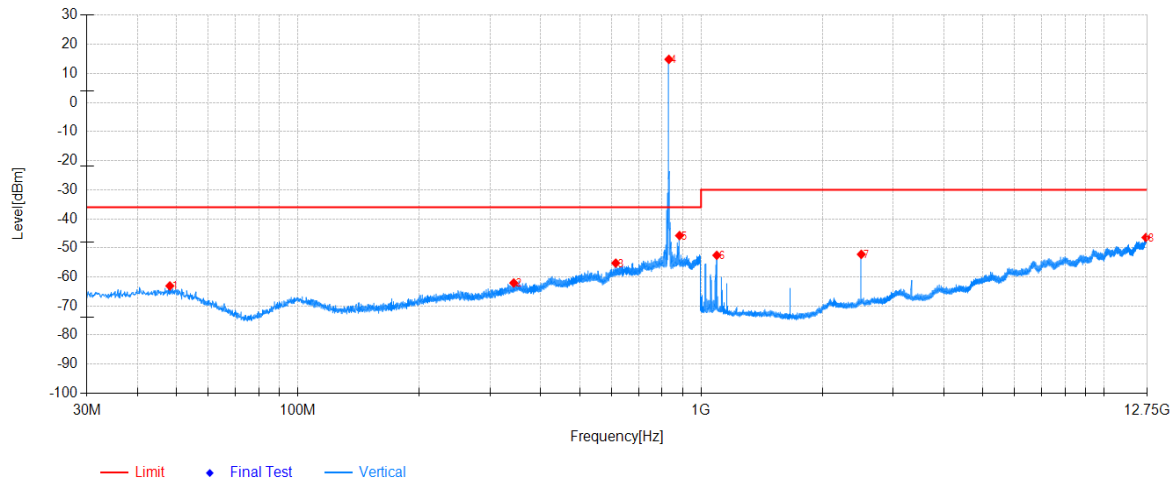
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	40.67	-71.37	-62.94	-36.00	26.94	8.43	Horizontal
2	252.15	-72.63	-63.16	-36.00	27.16	9.47	Horizontal
3	647.56	-73.55	-56.53	-36.00	20.53	17.02	Horizontal
4	832.27	-5.74	13.07	-	-	18.81	Horizontal
5	877.96	-65.46	-46.56	-	-	18.90	Horizontal
6	1665.07	-53.71	-65.64	-30.00	35.64	-11.93	Horizontal
7	2498.17	-47.78	-54.61	-30.00	24.61	-6.83	Horizontal
8	12690.07	-62.98	-46.34	-30.00	16.34	16.64	Horizontal

Project Information

Mode:	Cat M	Band:	B5
Bandwidth:	10MHz	Channel:	20525
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



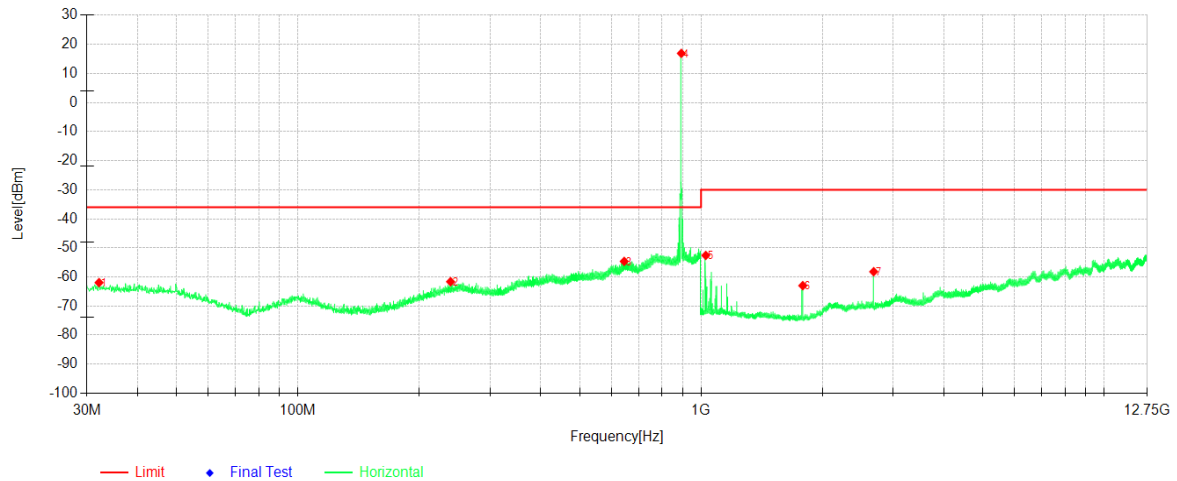
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	48.14	-71.70	-63.09	-36.00	27.09	8.61	Vertical
2	343.24	-72.47	-62.07	-36.00	26.07	10.40	Vertical
3	614.39	-71.44	-55.24	-36.00	19.24	16.20	Vertical
4	832.27	-4.15	14.86	-	-	19.01	Vertical
5	884.56	-65.50	-45.77	-	-	19.73	Vertical
6	1094.00	-43.05	-52.56	-30.00	22.56	-9.51	Vertical
7	2497.78	-45.46	-52.22	-30.00	22.22	-6.76	Vertical
8	12688.90	-63.19	-46.44	-30.00	16.44	16.75	Vertical

Project Information

Mode:	Cat M	Band:	B8
Bandwidth:	10MHz	Channel:	21625
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



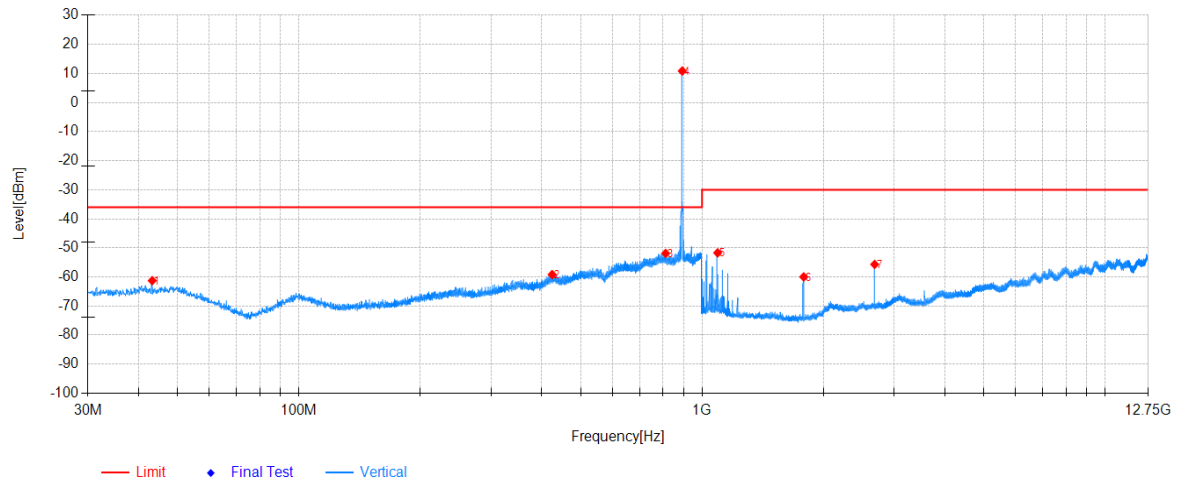
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	32.13	-70.81	-61.95	-36.00	25.95	8.86	Horizontal
2	239.25	-70.50	-61.64	-36.00	25.64	8.86	Horizontal
3	644.94	-71.50	-54.65	-36.00	18.65	16.85	Horizontal
4	893.58	-2.61	16.92	-	-	19.53	Horizontal
5	1027.42	-42.63	-52.60	-30.00	22.60	-9.97	Horizontal
6	1787.67	-51.14	-63.00	-30.00	33.00	-11.86	Horizontal
7	2680.70	-51.72	-58.20	-30.00	28.20	-6.48	Horizontal

Project Information

Mode:	Cat M	Band:	B8
Bandwidth:	10MHz	Channel:	21625
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



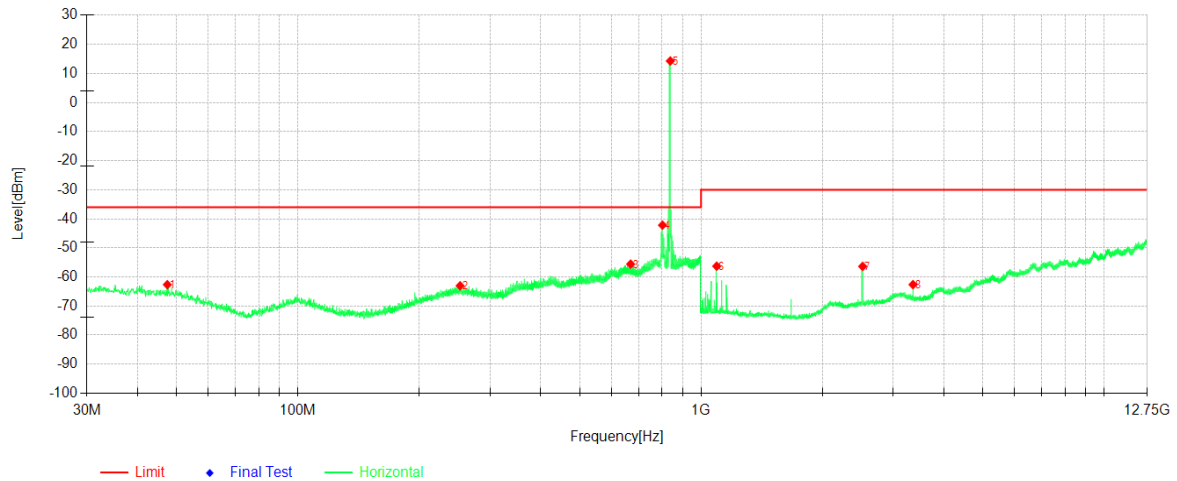
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	43.29	-69.45	-61.27	-36.00	25.27	8.18	Vertical
2	424.83	-71.72	-59.19	-36.00	23.19	12.53	Vertical
3	812.19	-71.28	-51.90	-36.00	15.90	19.38	Vertical
4	893.39	-8.75	10.85	-	-	19.60	Vertical
5	1093.22	-42.20	-51.72	-30.00	21.72	-9.52	Vertical
6	1787.28	-48.02	-59.98	-30.00	29.98	-11.96	Vertical
7	2680.31	-49.36	-55.69	-30.00	25.69	-6.33	Vertical

Project Information

Mode:	Cat M	Band:	B20
Bandwidth:	20MHz	Channel:	24300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



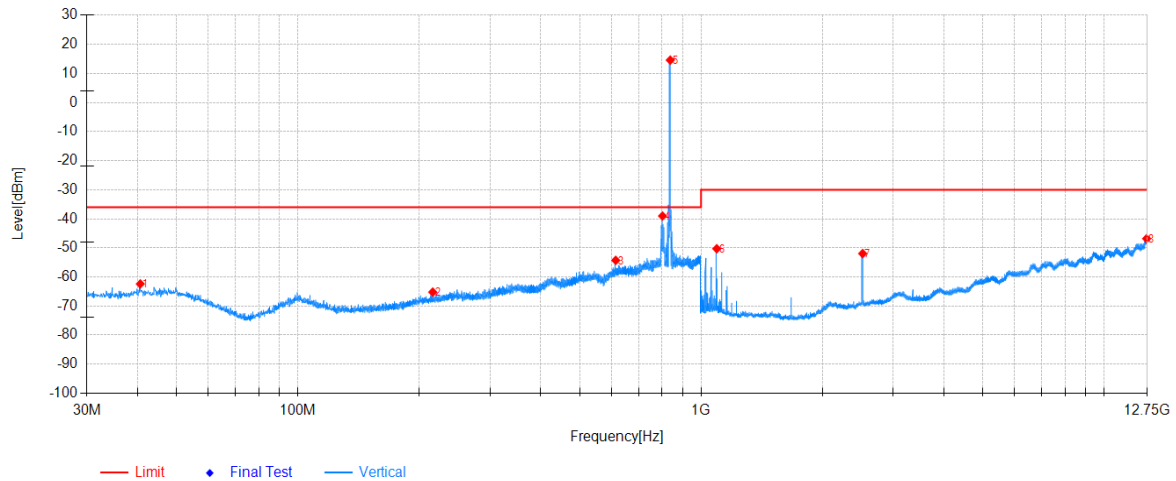
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	47.46	-70.75	-62.65	-36.00	26.65	8.10	Horizontal
2	252.64	-72.49	-63.03	-36.00	27.03	9.46	Horizontal
3	669.00	-72.48	-55.59	-36.00	19.59	16.89	Horizontal
4	802.49	-61.36	-42.18	-	-	19.18	Horizontal
5	839.35	-4.38	14.30	-	-	18.68	Horizontal
6	1093.42	-46.61	-56.30	-30.00	26.30	-9.69	Horizontal
7	2517.00	-49.60	-56.37	-30.00	26.37	-6.77	Horizontal
8	3355.41	-58.55	-62.64	-30.00	32.64	-4.09	Horizontal

Project Information

Mode:	Cat M	Band:	B20
Bandwidth:	20MHz	Channel:	24300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

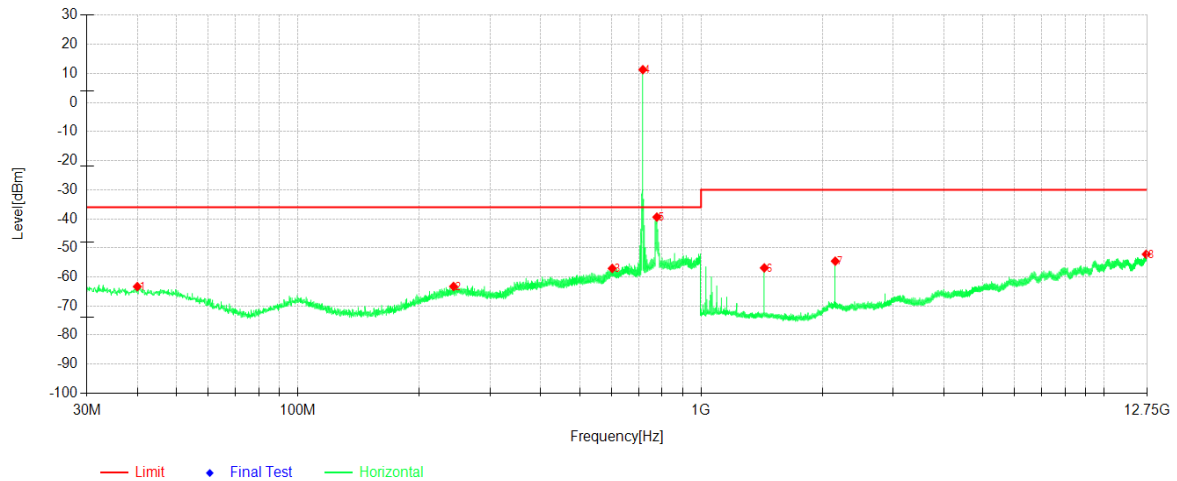
Test Graph



Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	40.67	-70.34	-62.39	-36.00	26.39	7.95	Vertical
2	216.06	-71.66	-65.23	-36.00	29.23	6.43	Vertical
3	614.39	-70.48	-54.28	-36.00	18.28	16.20	Vertical
4	802.59	-58.58	-39.03	-	-	19.55	Vertical
5	838.96	-4.28	14.59	-	-	18.87	Vertical
6	1094.00	-40.78	-50.29	-30.00	20.29	-9.51	Vertical
7	2517.00	-45.19	-51.97	-30.00	21.97	-6.78	Vertical
8	12738.25	-63.71	-46.84	-30.00	16.84	16.87	Vertical

Project Information			
Mode:	Cat M	Band:	B28
Bandwidth:	20MHz	Channel:	27435
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

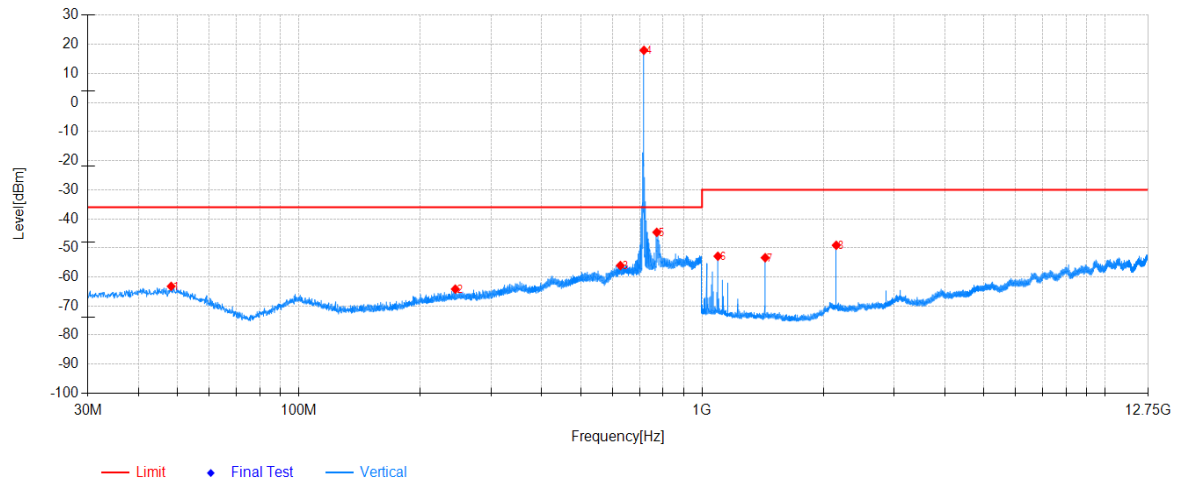
Test Graph**Data List**

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	39.99	-71.80	-63.33	-36.00	27.33	8.47	Horizontal
2	243.32	-72.41	-63.29	-36.00	27.29	9.12	Horizontal
3	602.16	-73.07	-57.07	-36.00	21.07	16.00	Horizontal
4	717.22	-5.52	11.31	-	-	16.83	Horizontal
5	777.07	-59.31	-39.42	-	-	19.89	Horizontal
6	1435.16	-45.65	-56.89	-30.00	26.89	-11.24	Horizontal
7	2152.71	-47.47	-54.58	-30.00	24.58	-7.11	Horizontal
8	12710.05	-68.91	-52.20	-30.00	22.20	16.71	Horizontal

Project Information

Mode:	Cat M	Band:	B28
Bandwidth:	20MHz	Channel:	27435
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Ant: Omnidirectional		

Test Graph



Data List

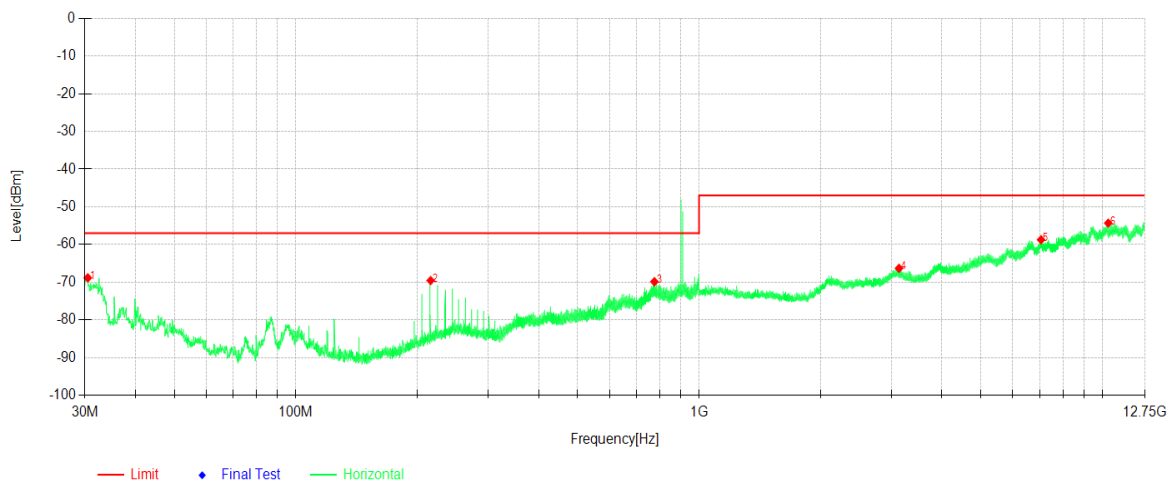
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	48.24	-71.86	-63.24	-36.00	27.24	8.62	Vertical
2	244.39	-71.73	-64.19	-36.00	28.19	7.54	Vertical
3	627.48	-72.66	-56.08	-36.00	20.08	16.58	Vertical
4	717.60	-0.03	17.98	-	-	18.01	Vertical
5	772.32	-63.60	-44.65	-	-	18.95	Vertical
6	1094.79	-43.37	-52.88	-30.00	22.88	-9.51	Vertical
7	1434.37	-41.96	-53.39	-30.00	23.39	-11.43	Vertical
8	2151.93	-41.53	-49.11	-30.00	19.11	-7.58	Vertical

Radiated Emissions Idle mode

Test Results LTE Cat M1 (Dipole Antenna)

Project Information			
Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Dipole		

Test Graph

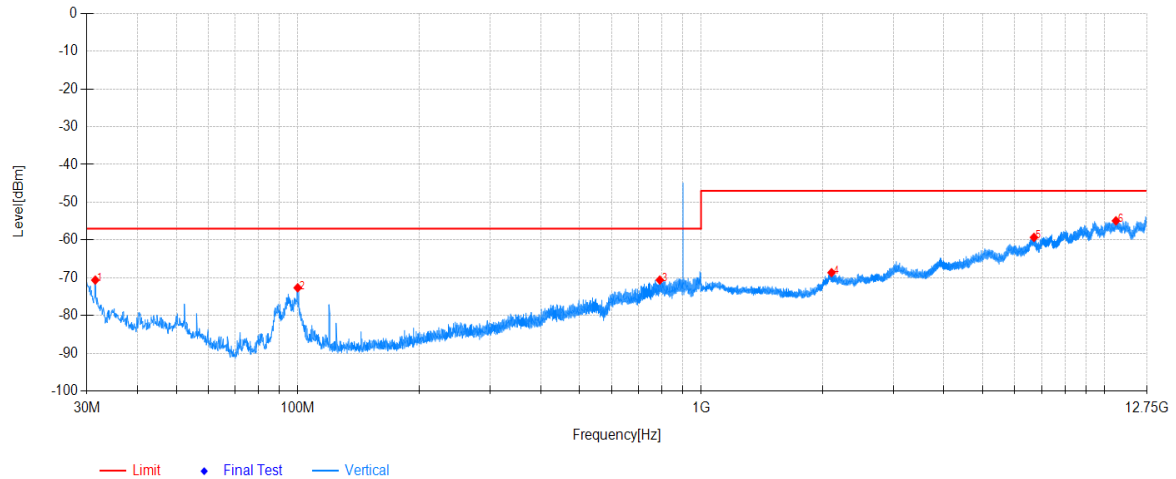


Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.49	-57.84	-68.83	-57.00	11.83	-10.99	Horizontal
2	215.97	-56.70	-69.55	-57.00	12.55	-12.85	Horizontal
3	775.23	-71.17	-69.85	-57.00	12.85	1.32	Horizontal
4	3132.70	-63.02	-66.31	-47.00	19.31	-3.29	Horizontal
5	7052.24	-67.27	-58.73	-47.00	11.73	8.54	Horizontal
6	10348.22	-68.32	-54.33	-47.00	7.33	13.99	Horizontal

Project Information

Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Dipole		

Test Graph



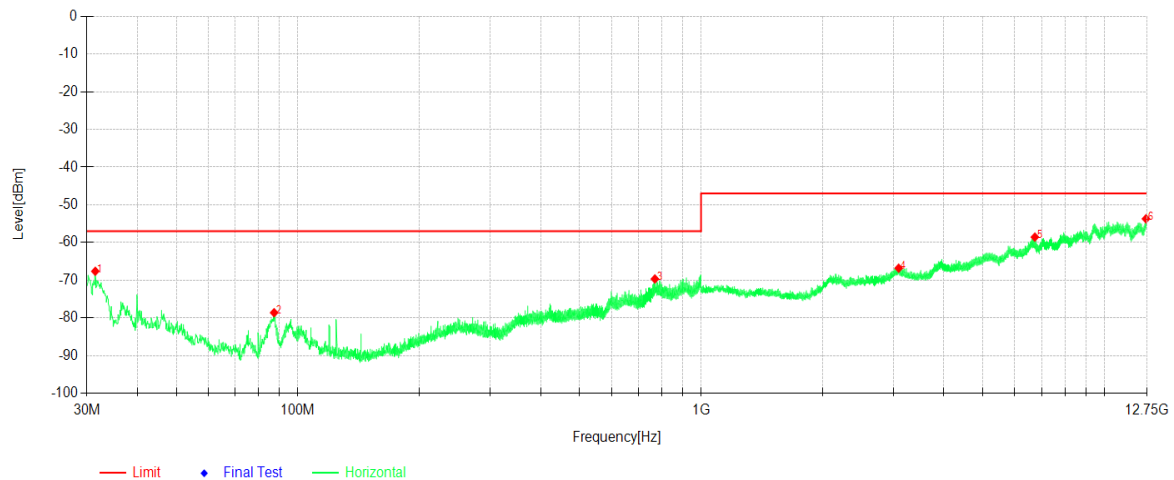
Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	31.46	-57.82	-70.60	-57.00	13.60	-12.78	Vertical
2	99.94	-59.57	-72.64	-57.00	15.64	-13.07	Vertical
3	790.17	-71.06	-70.57	-57.00	13.57	0.49	Vertical
4	2107.28	-61.40	-68.63	-47.00	21.63	-7.23	Vertical
5	6695.81	-68.02	-59.30	-47.00	12.30	8.72	Vertical
6	10689.76	-69.70	-54.91	-47.00	7.91	14.79	Vertical

Test Results LTE Cat M1 (Omnidirectional Antenna)

Project Information			
Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Omnidirectional		

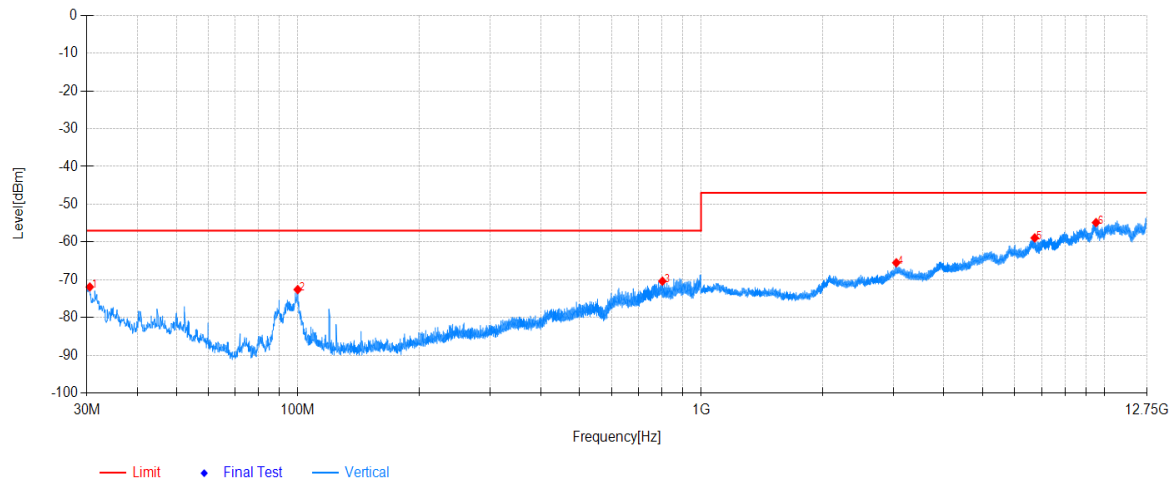
Test Graph



Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	31.46	-56.59	-67.61	-57.00	10.61	-11.02	Horizontal
2	87.33	-62.07	-78.59	-57.00	21.59	-16.52	Horizontal
3	768.44	-70.55	-69.65	-57.00	12.65	0.90	Horizontal
4	3091.57	-63.50	-66.80	-47.00	19.80	-3.30	Horizontal
5	6728.71	-67.12	-58.55	-47.00	11.55	8.57	Horizontal
6	12690.46	-70.35	-53.70	-47.00	6.70	16.65	Horizontal

Project Information			
Mode:	Cat M	Band:	B1
Bandwidth:	20MHz	Channel:	18300
IMEI:	862063070036368	Engineer:	Zhangweizhi
Remark:	Omnidirectional		

Test Graph**Data List**

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.49	-59.01	-71.89	-57.00	14.89	-12.88	Vertical
2	99.94	-59.51	-72.58	-57.00	15.58	-13.07	Vertical
3	802.20	-71.13	-70.35	-57.00	13.35	0.78	Vertical
4	3050.05	-61.98	-65.48	-47.00	18.48	-3.50	Vertical
5	6723.22	-67.37	-58.90	-47.00	11.90	8.47	Vertical
6	9543.71	-68.21	-54.85	-47.00	7.85	13.36	Vertical

~The End~