FCC TEST REPORT

For

LTE module

Model Number: ME906s-158

FCC ID: QISME906S-158

Report Number : WT158001262

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
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TEST REPORT DECLARATION

Applicant	:	Huawei Technologies Co.,Ltd
Address	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China
Manufacturer	:	Huawei Technologies Co.,Ltd
Address	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China
EUT Description	:	LTE module
Model No	:	ME906s-158
Trade mark	:	HUAWEI
Serial Number	:	P6M011512700204
FCC ID	:	QISME906S-158

Test Standards:

FCC Part 15 Subpart B 15.107, 15.109 （2014）

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	万晓婧 (Wan Xiaojing)	Date:	Apr.07.2015
Checked by:	杨东平 (Yang Dong Ping)	Date:	Apr.07.2015
Approved by:	林斌 (Lin Bin)	Date:	Apr.07.2015

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1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
Conducted Disturbance	15.107	Pass
Radiation Emission	15.109	Pass

Remark: “N/A” means “Not applicable.”

2. GENERAL INFORMATION

2.1. Report information

2.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

2.1.2. The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

2.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at Bldg. of Metrology & Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, Guangdong, China. At the time of testing, Laboratory is accredited by the following organizations:
China National Accreditation Committee for Laboratories (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is L0579.

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number are 446246 806614 994606(semi anechoic chamber).
The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is IC4174.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is E2024086Z02.
Measurement Uncertainty

2.3. Measurement Uncertainty

Conducted Emission
9kHz~30MHz 3.5dB

Radiated Emission
30MHz~1000MHz 4.5dB
1GHz~18GHz 4.6dB

3. PRODUCT DESCRIPTION

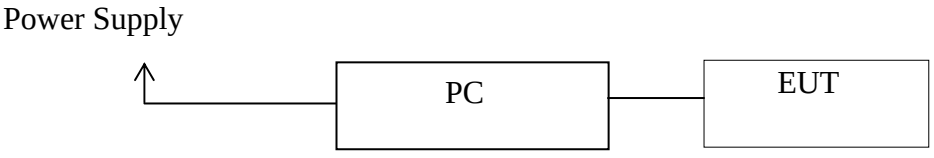
3.1. EUT Description

Table 2 Specification of the Equipment under Test

Product Type:	ME906s-158
Hardware Version:	V3
Software Version :	NA
FCC-ID:	QISME906S-158
Frequency:	GSM 850: 824-849MHz; PCS 1900: 1850-1910MHz WCDMA Band II: 1850MHz To 1910MHz WCDMA Band V: 824MHz To 849MHz LTE Band II: 1850MHz To 1910MHz LTE Band V: 824MHz To 849MHz LTE Band VII: 2500MHz To 2570MHz
Type(s) of Modulation:	GSM/WCDMA: GMSK; 8-PSK; QPSK LTE: QPSK 16QAM
Operating voltage:	3.135V-4.4V

Remark: N/A

3.2. Block Diagram of EUT Configuration



Test mode 1

3.3. Operating Condition of EUT

Test mode 1: charging with PC by USB port + SIM Card + Traffic

The Radiated emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission (X plane).

3.4. Support Equipment List

Name	Model No	S/N	Manufacturer
Notebook	R51	--	IBM
Adaptor for Notebook	02K6654	--	IBM
Baseboard	--	--	HUAWEI
USB Cable	--	02450786 H09-000181	PangNgai
Antenna	TN-07091727-04	--	Tongyu Communication

3.5. Test Conditions

Date of test： Apr 03, 2015
Date of EUT Receive：Mar 30, 2015
Temperature: 21-24 ℃
Relative Humidity: 48-60%

3.6. Modifications

No modification was made.

4. TEST EQUIPMENT USED

4.1. Test Equipment Used to Measure Conducted Disturbance

Table 2 Conducted Disturbance Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB3319	EMI Test Receiver	R&S	ESCS30	Dec.29,2014	1 Year
SB4357	AMN	R&S	ENV216	Oct.14,2014	1 Year

4.2. Test Equipment Used to Measure Radiated Disturbance

Table 3 Radiated Disturbance Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB3436	EMI Test Receiver	Rohde & Schwarz	ESI26	Dec.29,2014	1 Year
SB8501/09	EMI Test Receiver	Rohde & Schwarz	ESU40	Mar.19,2015	1 Year
SB5472/02	Trilog Broadband Antenna(30M-3GHz)	SCHWARZBECK	VULB9163	Jan.19,2015	1 Year
SB3435	Double-Ridged Waveguide Horn Antenna(1G~18GHz)	Rohde & Schwarz	HF906	Jan.19,2015	1 Year

5. CONDUCTED DISTURBANCE TEST

5.1. Test Standard and Limit

5.1.1. Test Standard

FCC Part 15: Section 15.107

5.1.2. Test Limit

Table 4 Conducted Disturbance Test Limit (Class B)

Frequency	Power Port limits (dBμV)	
	Quasi-peak	Average
0.15MHz ~ 0.5MHz	66～56*	56~46*
0.5MHz ~ 5 MHz	56	46
5 MHz ~ 30MHz	60	50

* Decreasing linearly with logarithm of the frequency

5.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions form both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

5.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

5.4. Test Data

The emissions don't show in following result tables are more than 20dB below the limits, the test curves are shown in the next page.

Table 5 Conducted Disturbance Test Data at mains Port

Model No.: ME906s-158

Test mode: charging with PC by USB port + SIM Card + Traffic

	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)
Line	0.150	9.7	48.4	58.1	66	25.5	35.2	56
	0.222	9.7	39.3	49.0	62.7	23.9	33.6	52.7
	0.566	9.8	21.9	31.7	56	8.0	17.8	46
	0.674	9.8	32.2	42.0	56	11.8	21.6	46
	2.462	9.9	24.0	33.9	56	4.7	14.6	46
	2.870	9.9	24.2	34.1	56	7.3	17.2	46
Neutral	0.150	9.7	46.2	55.9	66	24.5	34.2	56
	0.190	9.7	36.4	46.1	64.0	18.1	27.8	54.0
	0.258	9.7	30.5	40.2	61.5	21.7	31.4	51.5
	0.386	9.7	27.7	37.4	58.1	14.6	24.3	48.1
	0.494	9.7	25.7	35.4	56.1	13.0	22.7	46.1
	0.634	9.8	24.1	33.9	56	7.5	17.3	46

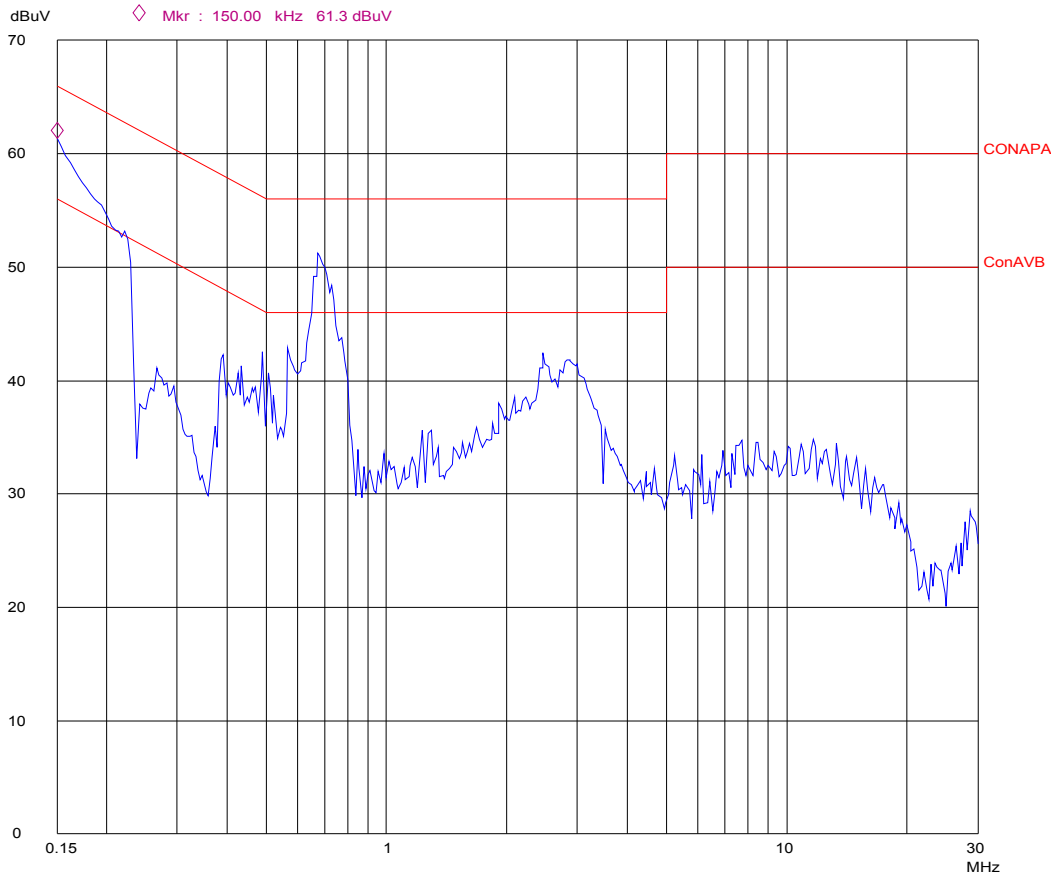
REMARKS: 1. Emission level(dBuV)=Read Value(dBuV) + Correction Factor(dB)

2. Correction Factor(dB) =LISN Factor (dB) + Cable Factor (dB)+Limiter Factor(dB)

3. The other emission levels were are more than 20dB below the limits.

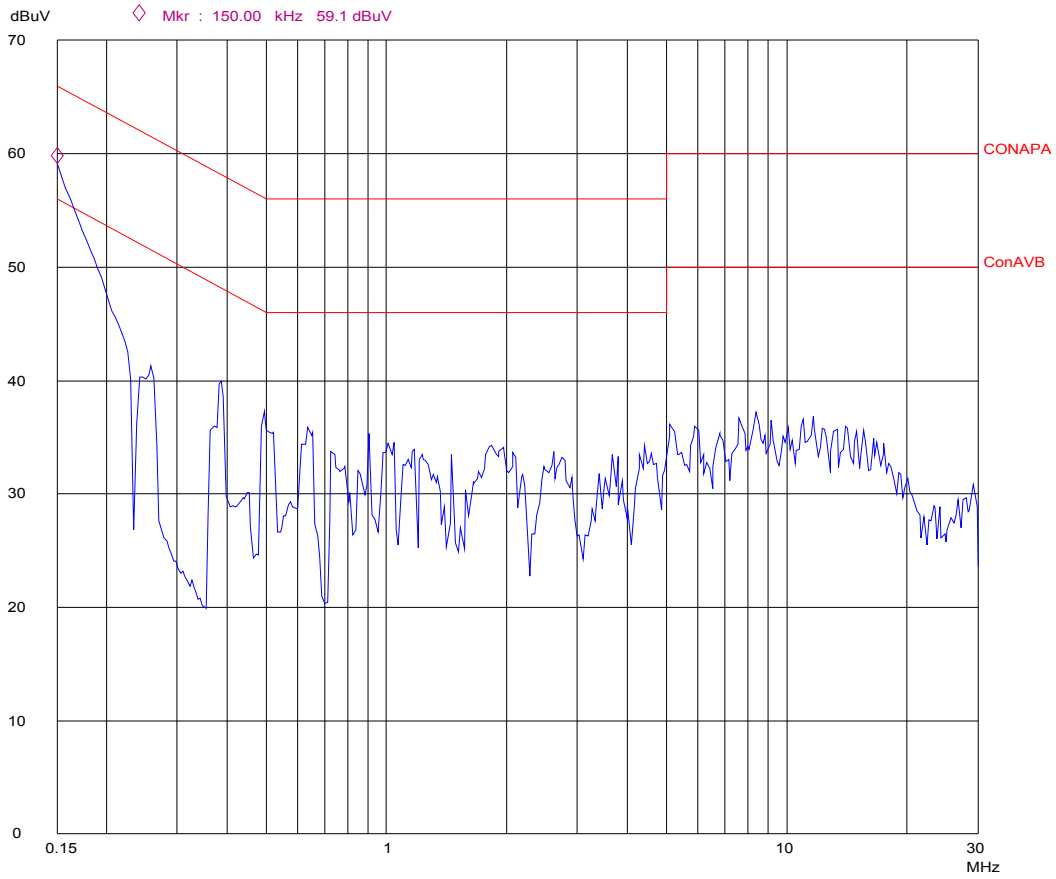
Conducted Disturbance

EUT: ME906s-158
Op Cond: charging with PC by USB port + SIM Card + Traffic
Test Spec: L
Comment: AC 120V/60Hz



Conducted Disturbance

EUT: ME906s-158
Op Cond: charging with PC by USB port + SIM Card + Traffic
Test Spec: N
Comment: AC 120V/60Hz



6. RADIATION DISTURBANCE TEST

6.1. Test Standard and Limit

6.1.1. Test Standard

FCC Part 15: Section 15.109

6.1.2. Test Limit

Table 6 Radiation Disturbance Test Limit for FCC (Class B)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

* The lower limit shall apply at the transition frequency.
* The test distance is 3m.

6.2. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set **3 meters** away from the receiving antenna, which is mounted on an antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. Set RBW=100 kHz for f < 1 GHz; VBW >= RBW; Detector function = peak;
Set RBW = 1 MHz, VBW= 3MHz for f > 1 GHz for peak measurement.

6.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

6.4. Test Data

The emissions don't show in following result tables are more than 20dB below the limits, the test curves are shown in the next page.
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the re sult which was 20dB lower than the limit line per 15.31(o) was not reported.

Table 7 Radiated Disturbance Test Data

Frequency MHz	Cable Loss +pre amp (dB)	Antenna Factor (dB)	Readings (dBμV/m)	Level (dBμV/m)	Polarity (H/V)	Turntable Angle (deg)	Antenna Height (cm)	Limits (dBμV/m)	Margin (dB)
180.156	1.6	9.7	12.0	23.3	H	130	100	43.5	20.2
199.944	1.6	10.6	15.1	27.3	H	40	100	43.5	16.2
269.978	1.9	12.1	13.9	27.9	H	140	100	46.0	18.1
366.784	2.2	14.3	11.7	28.2	H	90	200	46.0	17.8
393.265	2.4	14.6	7.6	24.6	H	0	100	46.0	21.4
455.054	2.6	15.6	11.0	29.2	H	180	100	46.0	16.8
82.380	1.0	8.5	12.1	21.6	V	30	100	40.0	18.4
180.641	1.6	9.7	12.2	23.5	V	0	100	43.5	20.0
199.944	1.6	10.6	11.4	23.6	V	60	100	43.5	19.9
269.978	1.9	12.1	10.9	24.9	V	170	100	46.0	21.1
309.166	2.1	13.1	8.4	23.6	V	0	100	46.0	22.4
533.818	2.8	16.6	6.3	25.7	V	50	100	46.0	20.3
PK									
1516.801	-40.8	25.1	71.0	55.3	H	30	150	74	18.7
2579.599	-40.0	28.6	71.3	59.9	H	150	150	74	14.1
5326.500	-38.6	33.9	51.9	47.2	H	80	150	74	26.8
7530.000	-37.5	35.6	53.6	51.7	H	190	150	74	22.3
11005.500	-35.0	37.3	51.9	54.2	H	180	150	74	19.8
14485.500	-34.0	40.2	51.5	57.7	H	330	150	74	16.3
1516.801	-40.8	25.1	70.0	54.3	V	260	150	74	19.7
2579.599	-40.0	28.6	71.8	60.4	V	0	150	74	13.6
5326.500	-38.6	33.9	51.4	46.7	V	30	150	74	27.3
7530.000	-37.5	35.6	52.7	50.8	V	190	150	74	23.2
11005.500	-35.0	37.3	52.3	54.6	V	210	150	74	19.4
14485.500	-34.0	40.2	51.6	57.8	V	90	150	74	16.2
AV									
1516.801	-40.8	25.1	57.0	41.3	H	30	150	54	12.7
2579.599	-40.0	28.6	58.0	46.6	H	150	150	54	7.4
5326.500	-38.6	33.9	38.1	33.4	H	80	150	54	20.6
7530.000	-37.5	35.6	39.4	37.5	H	190	150	54	16.5
11005.500	-35.0	37.3	38.6	40.9	H	180	150	54	13.1
14485.500	-34.0	40.2	38.1	44.3	H	330	150	54	9.7
1516.801	-40.8	25.1	57.0	41.3	V	260	150	54	12.7
2579.599	-40.0	28.6	58.0	46.6	V	0	150	54	7.4
5326.500	-38.6	33.9	38.1	33.4	V	30	150	54	20.6
7530.000	-37.5	35.6	39.4	37.5	V	190	150	54	16.5
11005.500	-35.0	37.3	38.8	41.1	V	210	150	54	12.9
14485.500	-34.0	40.2	38.2	44.4	V	90	150	54	9.6

Radiated Emission

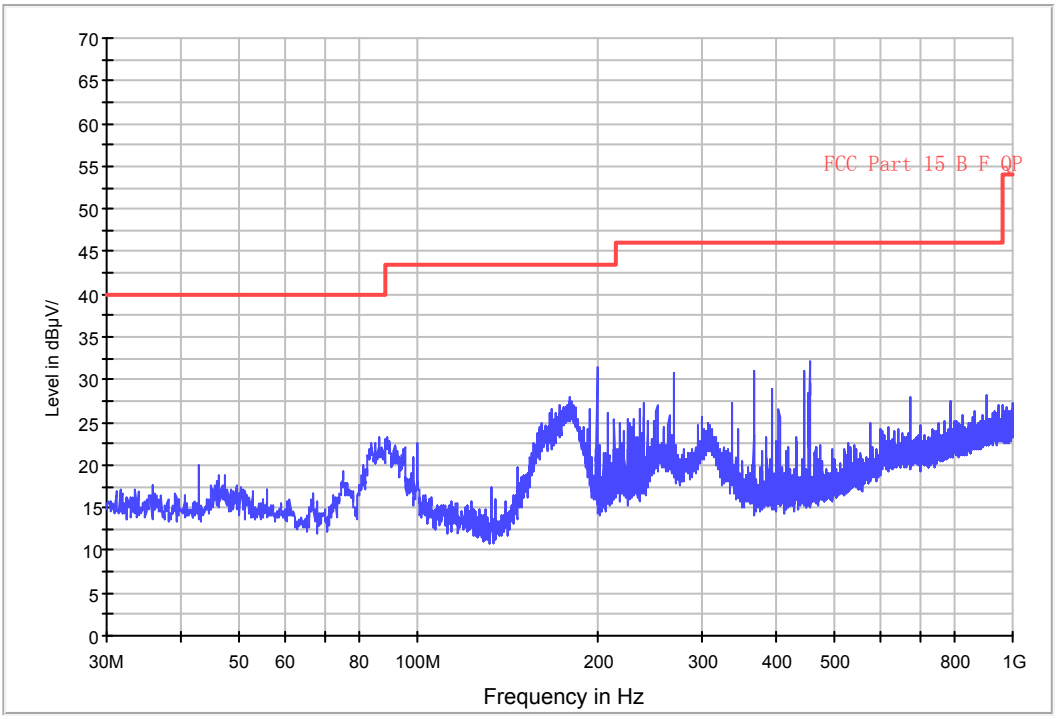
EUT Information

EUT Model name:	ME906s-158
Operater Mode:	charging with PC by USB port + SIM Card + Traffic
Comment:	

Common Information

Test Description:	SMQ NETC EMC Lab.3m Chamber
Customer	
Antenna Position:	Horizontal
Operator Name:	
Comment1:	AC 120V/60Hz
Comment2:	

Field strength 30M-1GHz 1F 3m chamber



Radiated Emission

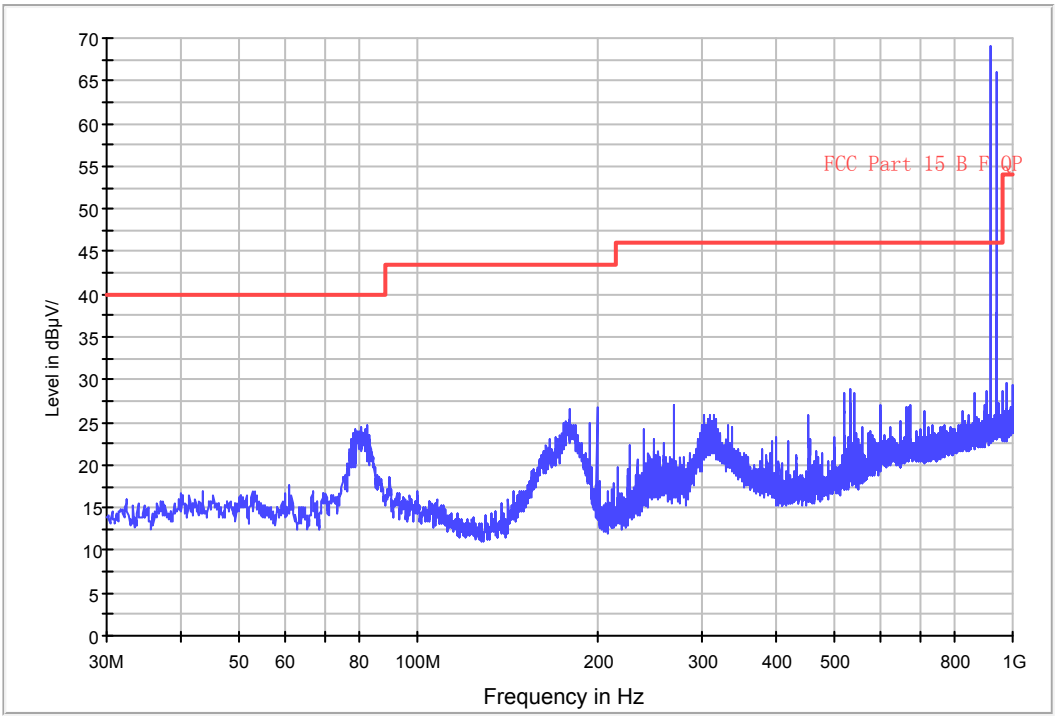
EUT Information

EUT Model name:	ME906s-158
Operater Mode:	charging with PC by USB port + SIM Card + Traffic
Comment:	

Common Information

Test Description:	SMQ NETC EMC Lab.3m Chamber
Customer	
Antenna Position:	Vertical
Operator Name:	
Comment1:	AC 120V/60Hz
Comment2:	

Field strength 30M-1GHz 1F 3m chamber



Radiated Emission

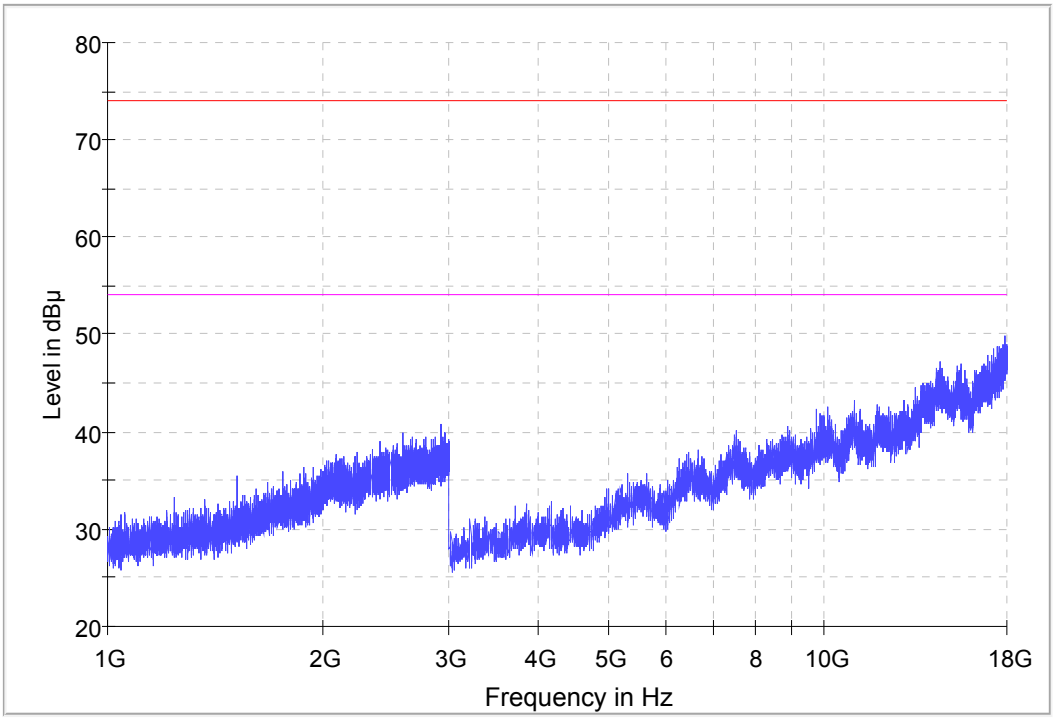
EUT Information

EUT Model name:	ME906s-158
Operater Mode:	charging with PC by USB port + SIM Card + Traffic
Comment:	

Common Information

Test Description:	SMQ NETC EMC Lab.3m Chamber
Customer	
Antenna Position:	Horizontal
Operator Name:	
Comment1:	AC 120V/60Hz
Comment2:	

FCC Electric Field Strength 1-18GHz operate on 2.4GHz



Radiated Emission

EUT Information

EUT Model name:	ME906s-158
Operater Mode:	charging with PC by USB port + SIM Card + Traffic
Comment:	

Common Information

Test Description:	SMQ NETC EMC Lab.3m Chamber
Customer	
Antenna Position:	Vertical
Operator Name:	
Comment1:	AC 120V/60Hz
Comment2:	

FCC Electric Field Strength 1-18GHz operate on 2.4GHz