

# FCC TEST REPORT

For

**Enterprise Tablet**

**Model Number: P8100, P8100P**

**FCC ID: SWSP8100**

**Report Number : WT208001278**

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Inspection  
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## TEST REPORT DECLARATION


Applicant : UROVO TECHNOLOGY CO.,LTD.  
Address : 36F,High-Tech Zone Union Tower,No.63,Xuefu Road,Nanshan District,Shenzhen,Guangdong,China  
Manufacturer : UROVO TECHNOLOGY CO.,LTD.  
Address : 36F,High-Tech Zone Union Tower,No.63,Xuefu Road,Nanshan District,Shenzhen,Guangdong,China  
EUT Description : Enterprise Tablet  
Model No. : P8100, P8100P  
Trade mark : UROVO  
Serial Number : /  
FCC ID : SWSP8100

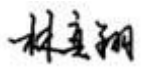
Test Standards:

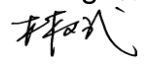
### FCC Part 15 Subpart B (2019)

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:  Date: Dec.08, 2020  
(Zhou Fangai 周芳媛)

Checked by:  Date: Dec.08, 2020  
(Lin Yixiang 林奕翔)

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## 1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

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

Remark: "N/A" means "Not applicable."

## **2. GENERAL INFORMATION**

### **2.1. Report information**

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.

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.

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.

The lab will not be liable for any loss or damage resulting for false, inaccurate, inappropriate or incomplete product information provided by the applicant/manufacturer.

### **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 NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

The Laboratory is registered to perform emission tests with VCCI, and the registration number are C-20048, G20076, R-20077, R-20078 and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for Laboratory Accreditation (A2LA) and certificate number is 3292.01.

### **2.3.Measurement Uncertainty**

Conducted Emission

9 kHz~150 kHz 3.7dB

150 kHz~30MHz 3.3dB

Radiated Emission

30MHz~1000MHz 4.3dB

1GHz~6GHz 4.6 dB

6GHz~18GHz 5.1dB

### 3. PRODUCT DESCRIPTION

NOTE: The extreme test conditions for temperature and antenna gain were declared by the manufacturer.

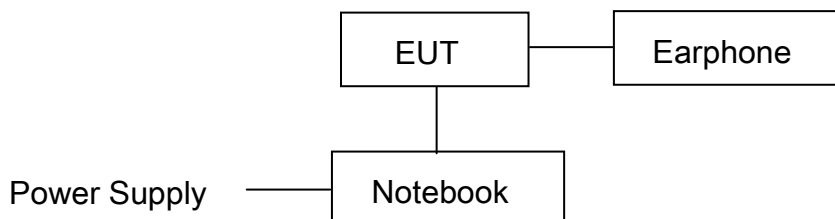
#### 3.1. EUT Description

Description : Enterprise Tablet  
Manufacturer : UROVO TECHNOLOGY CO.,LTD.  
Model Number : P8100, P8100P  
Operating voltage : 3.7V (Low)/3.85V (Nominal)/ 4.35V (Max)  
Test voltage : AC 120V/60Hz  
Software Version : SQ81\_EN\_XX\_WE\_DS\_R01\_D\_200410\_01  
Hardware Version : MC510\_MB\_V1.01\_PCB  
Frequency : GSM850:TX 824MHz~849MHz  
RX 869MHz~894MHz  
PCS1900: TX 1850MHz~1910MHz  
RX 1930MHz~1990MHz  
WCDMA 850: TX 824MHz~849MHz  
RX 869MHz~894MHz  
WCDMA 1700: TX 1710MHz~1755MHz  
RX 2110MHz~2155MHz  
WCDMA 1900:TX 1850MHz~1910MHz  
RX 1930MHz~1990MHz  
LTE Band 2: TX 1850MHz~1910MHz  
RX 1930MHz~1990MHz  
LTE Band 4:TX: 1710MHz~1755MHz  
RX 2110MHz~2155MHz  
LTE Band 5:TX 824MHz~849MHz  
RX 869MHz~894MHz  
LTE Band 7:TX 2500MHz~2570MHz  
RX 2620MHz~2690MHz  
LTE Band 12:TX 699 ~ 716MHz  
RX 729 ~ 746MHz  
LTE Band 13:TX 777~ 787MHz  
RX 746~ 756MHz  
LTE Band 17:TX 704 ~ 716MHz  
RX 734 ~ 746MHz  
LTE Band 25: TX 1850MHz~1915MHz  
RX 1930MHz~1995MHz  
LTE Band 26:TX 814 ~ 849 MHz  
RX 859 ~ 894MHz  
LTE Band 38:TX 2570MHz~2620MHz

		RX 2570MHz~2620MHz
	LTE Band 41:TX	2555MHz~2655MHz
		RX 2555MHz~2655MHz
	LTE Band 66:TX:	1710MHz~1780MHz
		RX 2110MHz~2200MHz
	2.4G WiFi:	2412MHz~2462MHz
	5G WiFi: U-NII 1(5150~5250 MHz)	
		U-NII 2A(5250~5350 MHz)
		U-NII 2C(5470~5725 MHz)
		U-NII 3(5725~5850 MHz)
	BT:	2402MHz~2480MHz
	NFC:	13.56MHz
Type(s) of Modulation	:	GSM850/PCS1900:GMSK 8PSK WCDMA:QPSK LTE:QPSK, 16QAM DSSS (DBPSK, DQPSK, CCK) for 802.11b OFDM (BPSK, QPSK, 16QAM, 64QAM) for 802.11g/n BPSK, QPSK, 16QAM, 64QAM for 802.11a/n/ac Bluetooth: GFSK, pi/4-DQPSK, 8DPSK NFC:ASK
Antenna Type	:	GSM/WCDMA/LTE: PIFA ANTENNA 699MHz~716MHz: -1.6 dBi 777MHz~787MHz: -1.6 dBi 814MHz~849MHz: -1.6 dBi 1710MHz~1780MHz: -1.2 dBi 1850MHz~1915MHz: -1.2 dBi 2500MHz~2655MHz: -2.2 dBi 2.4G WiFi: PIFA ANTENNA -1.8dBi 5G WiFi: PIFA ANTENNA -2.5dBi BT: PIFA ANTENNA -2.1dBi

Remark: All models are identical except model number, label. Unless otherwise specified, the model P8100 was chosen as representative model to perform all the tests.

### 3.2. Block Diagram of EUT Configuration



Test mode 1

### 3.3. Operating Condition of EUT

Test mode 1: Connected to a pc and data transmission.

Test mode 2: Adapter+ GSM 850 Idle

Test mode 3: Adapter+ WCDMA 850 Idle



Test mode 4: Adapter+ LTE band 5 Idle  
 Test mode 5: Adapter+ LTE band 12 Idle  
 Test mode 6: Adapter+ LTE band 13 Idle  
 Test mode 7: Adapter+ LTE band 17 Idle  
 Test mode 8: Adapter+ LTE band 26 Idle

EUT has more than one typical operation, only the worst test mode will be recorded in this report.

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

Table 2 Support Equipment List

Name	Model No	S/N	Manufacturer
Adaptor for EUT	KP24D-18W-QC3.0UU	--	STRONG POWER ELECTRONICS TECHNOLOGY CO.,LTD.
Battery for EUT	HBLP8100	--	ZHONGSHAN TIANMAO BATTERY Co.,LTD.
USB for EUT	--	--	--
Earphone for EUT	--	--	--
Notebook	P35G	--	DELL

### 3.5. Test Conditions

Date of test : Jun.29, 2020- Jun.30, 2020  
 Date of EUT Receive : Jun.28, 2020  
 Temperature: 23℃  
 Relative Humidity: 36%-45%

### 3.6. Modifications

No modification was made.

## 4. TEST EQUIPMENT USED

### 4.1. Test Equipment Used to Measure Conducted Emission

Table 3 Conducted Emission Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB9058/05	Test Receiver	R&S	ESCI 3	Sep.27,2019	1 Year
SB4357	AMN	R&S	ENN216	Aug.27,2019	1 Year

### 4.2. Test Equipment Used to Measure Radiated Emission

Table 4 Radiated Emission Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB13956	Test Receiver	R&S	ESR26	Feb.14,2020	1 Year
SB3955	Broadband Antenna	Schwarzbeck	VULB9163	Jan.10,2020	1 Year
SB13958	Horn Antenna	R&S	HF907	Apr.15,2020	1 Year

## 5. CONDUCTED EMISSION TEST

### 5.1. Test Standard and Limit

#### 5.1.1. Test Standard

FCC Part 15: Section 15.107

#### 5.1.2. Test Limit

Table 5 Conducted Emission Test Limit (Class B)

Frequency	Power Port limits (dB $\mu$ V)	
	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 is used to test the emissions from 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

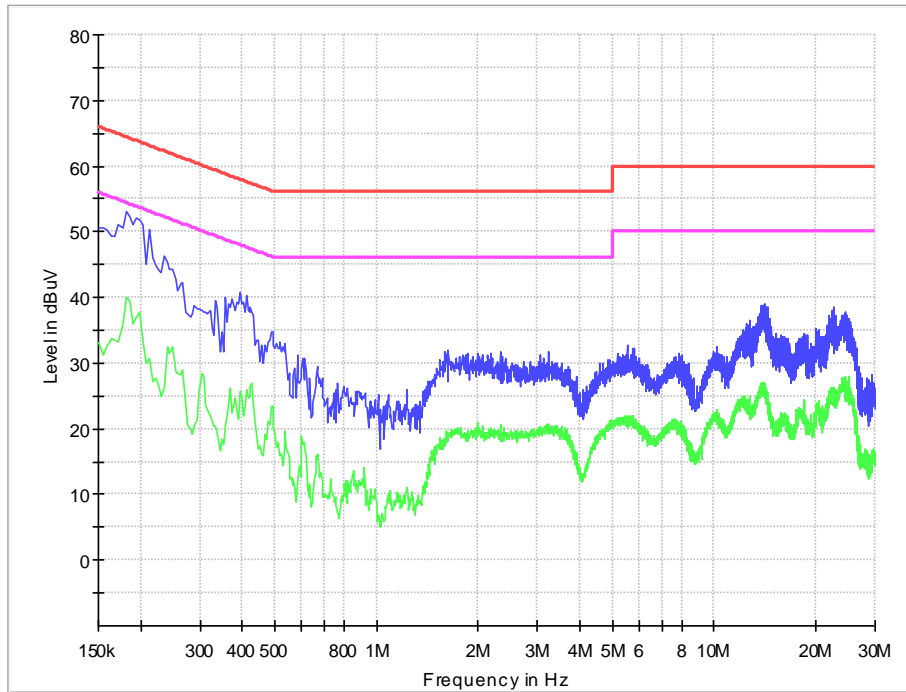
The emissions don't show in below are too low against the limits. Refer to the test curves.

Table 6 Conducted Emission Test Data at mains Port

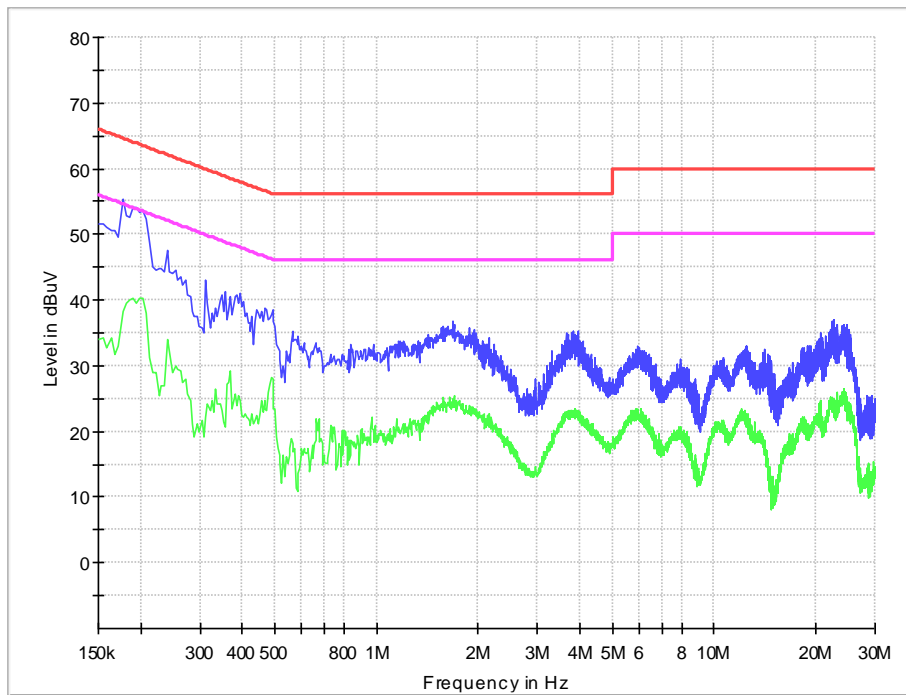
Test mode: 1								
	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)
38.8Line	0.186	9.7	40.7	50.4	64.2	31.7	41.4	54.2
	0.235	9.7	33.1	42.8	62.3	23.1	32.8	52.3
	0.393	9.7	25.7	35.4	58.0	11.0	20.7	48.0
	1.621	9.8	17.2	27.0	56	9.9	19.7	46
	14.086	9.9	21.8	31.7	60	15.0	24.9	50
	24.522	10.2	22.1	32.3	60	16.0	26.2	50
Neu30.4t ral26.7	0.190	9.7	40.6	50.3	64.0	29.1	38.8	54.0
	0.240	9.7	32.9	42.6	62.1	20.7	30.4	52.1
	0.370	9.7	26.9	36.6	58.5	17.0	26.7	48.5
	1.684	9.8	22.2	32.0	56	14.7	24.5	46
	3.840	9.9	19.1	29.0	56	12.9	22.8	46
	22.618	10.2	20.2	30.4	60	13.9	24.1	50

- REMARKS: 1. Emission level (dB $\mu$ V) =Read Value (dB $\mu$ V) + Correction Factor (dB)  
 2. Correction Factor (dB) =LISN Factor (dB) + Cable Factor (dB) +Limiter Factor (dB)  
 3. The other emission levels were more than 20dB below the limits.

## Line



## Neutral



## 6. RADIATION EMISSION TEST

### 6.1. Test Standard and Limit

#### 6.1.1. Test Standard

FCC Part 15: Section 15.109

#### 6.1.2. Test Limit

Table 7 Radiation Emission Test Limit for FCC (Class B)

Frequency	Test distance	Limit dB( $\mu$ V/m)		
		Quasi-peak	Average	Peak
30MHz~88MHz	<b>3m</b>	40	/	/
88MHz~216MHz	<b>3m</b>	43.5		
216MHz~960MHz	<b>3m</b>	46		
960MHz~1000MHz	<b>3m</b>	54		
>1000MHz	<b>3m</b>		54	74
<b>Conditional testing procedure for above 1 GHz :</b>				
<b>Highest frequency generated or used in the device or on which the device operates or tunes (MHz)</b>		<b>Upper frequency of measurement range (MHz)</b>		
Below 1.705		30		
1.705~108		1000		
108~500		2000		
500~1000		5000		
Above 1000		5th harmonic of the highest frequency or 40 GHz, whichever is lower.		

\* 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.

RBW = 100 kHz (less than or equal to 1 GHz); 1 MHz (above 1 GHz)

VBW  $\geq$  3 x RBW

Detector = Peak & Quasi-Peak (frequency range 30 MHz to 1 GHz);

Peak & Average (frequency range above 1 GHz);

Changing VBW to 10 Hz for average measurement

The use of a higher-than-specified video bandwidth produces a conservative measurement result.

### 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 below are too low against the limits. Refer to the test curves.

Table 8 Radiated Emission Test Data

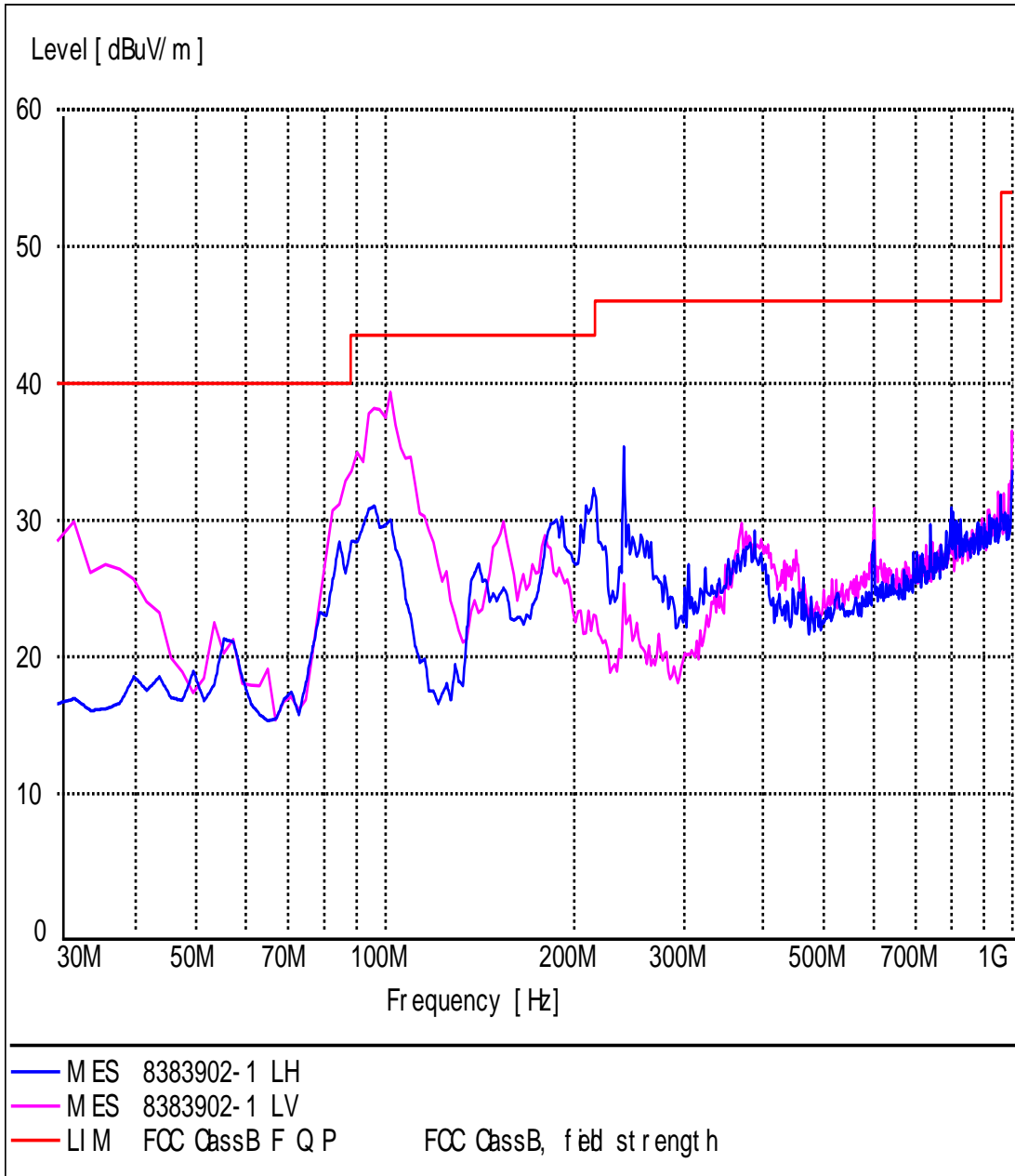
Test mode: 1								
Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBµV/m)	Level (dBµV/m)	Polarity (Horizontal/Vertical)	Limits (dBµV/m)	Margin (dB)	Note
31.943	0.6	12.3	14.7	27.6	Vertical	40	12.4	QP
53.326	0.7	13.3	6.3	20.3	Vertical	40	19.7	QP
101.923	1.1	13.2	22.9	37.2	Vertical	43.5	6.3	QP
154.408	1.4	8.3	17.8	27.5	Vertical	43.5	16.0	QP
179.679	1.6	9.0	16.0	26.6	Vertical	43.5	16.9	QP
370.180	2.3	14.3	11.1	27.7	Vertical	46	18.3	QP
55.270	0.8	13.0	5.7	19.5	Horizontal	40	20.5	QP
96.092	1.1	12.8	15.4	29.3	Horizontal	43.5	14.2	QP
140.807	1.3	10.5	13.0	24.8	Horizontal	43.5	18.7	QP
191.342	1.6	10.6	16.1	28.3	Horizontal	43.5	15.2	QP
214.669	1.6	10.6	18.1	30.3	Horizontal	43.5	13.2	QP
239.939	1.9	11.2	20.3	33.4	Horizontal	46	12.6	QP
1579.158	-40.6	25.1	58.0	42.5	Vertical	74	31.5	PK
1783.567	-40.5	26.7	56.9	43.1	Vertical	74	30.9	PK
2362.545	-40.3	28.3	52.3	40.3	Vertical	74	33.7	PK
6008.016	-38.3	34.7	55.7	52.1	Vertical	74	21.9	PK
14896.730	-34.4	40.5	40.2	46.3	Vertical	74	27.7	PK
17080.160	-32.0	42.7	38.7	49.4	Vertical	74	24.6	PK
1170.340	-41.0	24.4	45.0	28.4	Horizontal	74	45.6	PK
1579.158	-40.6	25.1	49.2	33.7	Horizontal	74	40.3	PK
3180.360	-38.9	30.4	43.0	34.5	Horizontal	74	39.5	PK
6008.160	-38.3	34.7	43.3	39.7	Horizontal	74	34.3	PK
10436.873	-34.7	37.2	39.0	41.5	Horizontal	74	32.5	PK
16875.751	-32.4	42.2	39.0	48.8	Horizontal	74	25.2	PK
1579.158	-40.6	25.1	46.8	31.3	Vertical	54	22.7	AV
1783.567	-40.5	26.7	47.5	33.7	Vertical	54	20.3	AV
2362.545	-40.3	28.3	40.5	28.5	Vertical	54	25.5	AV
6008.016	-38.3	34.7	32.8	29.2	Vertical	54	24.8	AV

14896.730	-34.4	40.5	25.9	32.0	Vertical	54	22.0	AV
17080.160	-32.0	42.7	23.9	34.6	Vertical	54	19.4	AV
1170.340	-41.0	24.4	33.5	16.9	Horizontal	54	37.1	AV
1579.158	-40.6	25.1	35.8	20.3	Horizontal	54	33.7	AV
3180.360	-38.9	30.4	29.6	21.1	Horizontal	54	32.9	AV
6008.160	-38.3	34.7	31.0	27.4	Horizontal	54	26.6	AV
10436.873	-34.7	37.2	26.0	28.5	Horizontal	54	25.5	AV
16875.751	-32.4	42.2	24.4	34.2	Horizontal	54	19.8	AV

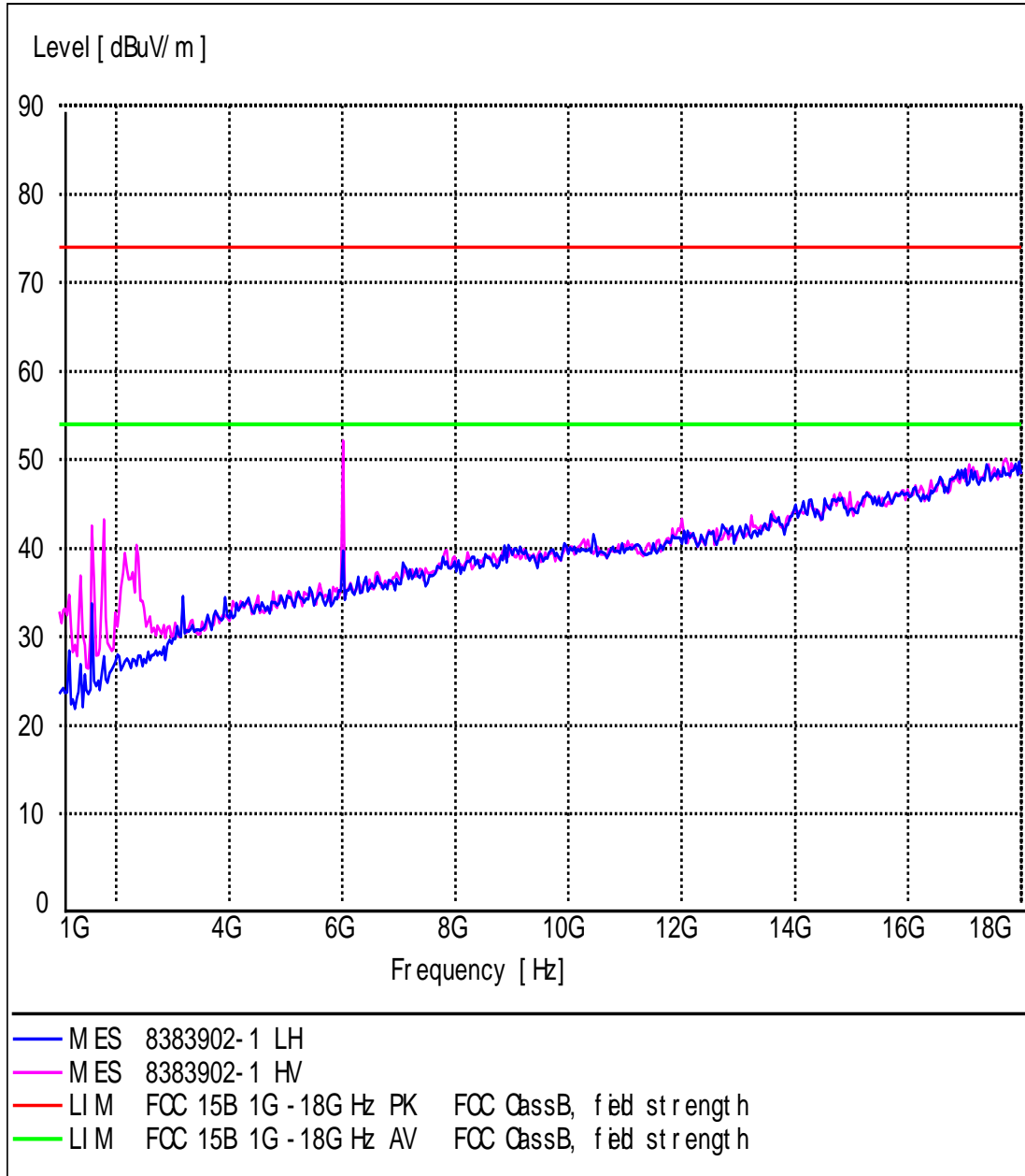
Emission level (dBuV) =Read Value (dBuV/m) + Antenna Factor (dB) + Cable Loss +preamp (dB)



30MHz-1GHz



1GHz-18GHz



-----End of Report-----