



## **TEST REPORT**

**No. I20D00140-EMC01**

*For*

**Client : Datalogic S.r.l.**

**Production : Smartphone**

**Model Name : MEMOR 10**

**Brand Name: Datalogic**

**FCC ID: U4GDL35US**

**Hardware Version: V00 (US)**

**Software Version: 2.05.07.20190919**

**Issued date: 2020-11-05**

## NOTE

1. The test results in this test report relate only to the devices specified in this report.
2. This report shall not be reproduced except in full without the written approval of East China Institute of Telecommunications
3. The measurement uncertainty is not taken into account when deciding conformity, and the results of measurement (or the average of measurement results) are directly used as the criterion for the stating conformity.

**Test Laboratory:**

East China Institute of Telecommunications

Add: Building 4, No. 766, Jingang Road, Pudong New District, Shanghai

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E-Mail: [welcome@ecit.org.cn](mailto:welcome@ecit.org.cn)

**Revision Version**

<b>Report Number</b>	<b>Revision</b>	<b>Date</b>	<b>Memo</b>
I20D00140-EMC01	00	2020-11-05	Initial creation of test report

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## 1. Test Laboratory

### 1.1. Testing Location

Company Name:	ECIT Shanghai, East China Institute of Telecommunications
Address:	Building 4, No. 766, Jingang Road, Pudong New District, Shanghai
Postal Code:	201206
Telephone:	(+86)-021-63843300
FCC registration No:	958356
FCC designation No:	CN1177

### 1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	30-60% RH
Supply Voltage	120V/60Hz

### 1.3. Project data

Project Leader:	Chen Minfei
Testing Start Date:	2020-09-25
Testing End Date:	2020-10-21

### 1.4. Signature



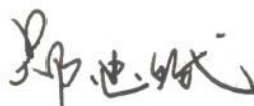
Li Liukai

(Prepared this test report)



Qin Yabin

(Reviewed this test report)



Zheng Zhongbin

(Approved this test report)

## 2. Client Information

### 2.1. Applicant Information

Company Name	Datalogic S.r.l.
Address	Via San Vitalino no. 13, Calderara di Reno – 40012 (BO) - Italy
Telephone	+39 051 314 72 16
Postcode	/

### 2.2. Manufacturer Information

Company Name	MOBIWIRE MOBILES (NINGBO) CO.,LTD
Address	No.999,Dacheng East Road,FenghuaCity,Zhejiang Province, China.
Telephone	+86 574 59555707
Postcode	/

### 3. Equipment under Test (EUT) and Ancillary Equipment (AE)

#### 3.1. About EUT

Product Name	Smartphone
Model name	MEMOR 10
GSM Frequency Band	GSM850/GSM900/GSM1800/GSM1900
UMTS Frequency Band	WCDMA Band I/II/IV/V/VIII
CDMA Frequency Band	BC0/BC1
LTE Frequency Band	LTE Band 2/4/5/7/12/13/17/25/26
LTE CA Frequency Band	CA_4A_4A/CA_4C/CA_7A-7A/CA_7C(Downlink Only)
Additional Communication Function	BT4.2;WLAN 802.11a,b,g,n,ac;NFC;WLC;GPS;GLONASS;

#### 3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N02 (Main Supply)	359737090161724	V00 (US)	2.05.07.20190919	2020-09-25
N01 (Secondary Supply)	358328100030199	V00 (US)	2.05.07.20190919	2020-09-25

\*EUT ID: is used to identify the test sample in the lab internally.

#### 3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	SN
CA01	Adapter	S008ACM0500200	/
UA02	USB Cable	USB2.0 A/M TO TYPE C/M CABLE 1.2M	/
BA01	Battery	BTDL35	/
AE1	Desktop PC	OptiPlex 790 DT	X8RP1 A01 APCC
AE2	Notebook PC	DELL Latitude E5250	/
AE3	LAN Cable	/	/
AE4	VGA Cable	/	/
AE5	RS232 Cable	/	/
AE6	Keyboard	KB212-B	CN-0Y88XT-65890-12I-005Q-A00
AE7	Mouse	MS111-P	CN-011D3V-71581-19J-1A64
AE8	Monitor	Dell E1709Wc	/

\*AE ID: is used to identify the test sample in the lab internally.



## 4. Reference Documents

### 4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	2020/10/8
ANSI C63.4	Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

## 5. Test Results

### 5.1. Summary of Test Results

Items	Test List	Clause in FCC rules	Verdict
1	Radiated Emission	15.109(a)	Pass
2	AC Conducted Emission	15.107(a)	Pass

### 5.2. Statements

The MEMOR 10 supporting GSM/WCDMA/LTE.etc, manufactured by MOBIWIRE MOBILES (NINGBO) CO.,LTD is a variant product for testing. ECIT only performed test cases which identified with Pass/Fail/Inc result in section 5.1.

ECIT has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

Note: This project is based on the original report I19D000137-EMC01 to change the LCD, memory and Camera. This project has two sets of configured sample N02 (Main supply) and N01 (Secondary supply), Their differences are shown in the table below.

Configuration	Scan Head	Others
N02 Main supply: LE Scan head	DE2101-XY	The same
N01 Secondary supply: HE Scan head	DE2101-XY (X and Y may be any alphanumeric character and may be followed by any suffix with any alphanumeric character)	The same

## 6. Test Equipment Utilized

### 6.1 Radiated Emission Equipment list

Item	Instrument Name	Type	Serial Number	Manufacturer	Cal. Date	Cal. interval
1	Universal Radio Communication Tester	CMU200	123126	R&S	2020-05-10	1 year
2	Universal Radio Communication Tester	CMW500	104178	R&S	2020-05-10	1 year
3	Test Receiver	ESU40	100307	R&S	2020-05-10	1 year
4	Trilog Antenna	VULB9163	VULB9163-5 15	Schwarzbeck	2020-02-28	2 years
5	Double Ridged Guide	ETS-3117	00135890	ETS	2020-02-28	2 years
6	EMI Test Software	EMC32 V9.15	NA	R&S	NA	NA
7	Signal Generator	SMF 100A	102314	R&S	2020-05-10	1 year
8	GPS Simulator	GSS 4200	1182	SPIRENT	2019-12-11	1 year
9	Signal Generator	SMBV100 A	105563	R&S	2020-03-18	1 year

### 6.2 AC Conducted Emission Equipment list

Item	Instrument Name	Type	Serial Number	Manufacturer	Cal. Date	Cal. interval
1	Universal Radio Communication Tester	CMU200	123123	R&S	2020-05-10	1 year
2	Universal Radio Communication Tester	CMW500	104178	R&S	2020-05-10	1 year
3	Test Receiver	ESCI	101235	R&S	2020-05-10	1 year
4	2-Line V-Network	ENV216	101380	R&S	2020-03-17	1 year
5	EMI Test Software	EMC32 V10.35.02	NA	R&S	NA	NA

6	Signal Generator	SMF 100A	102314	R&S	2020-05-10	1 year
7	GPS Simulator	GSS 4200	1182	SPIRENT	2019-12-11	1 year
8	Signal Generator	SMB 100A	257984	R&S	2020-05-10	1 year

## 7. System Configuration during Test

### 7.1 Test Mode

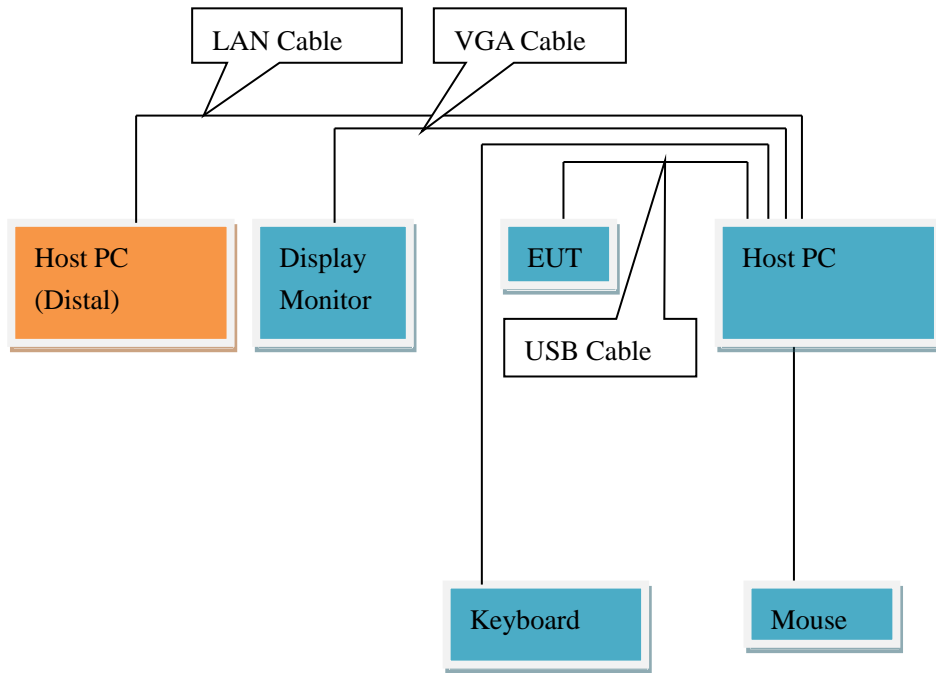
#### N02 Sample (Main Supply)

Test Item	Function Type
Radiated emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Scan mode<Figure 2> Mode 3: Adapter charging+ GSM850 receiver +Camera <Figure 3>
AC Conducted emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 3: Adapter charging+ GSM850 receiver +Camera <Figure 2>
Remark: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. Data Link with PC means data application transferred mode between EUT and PC. According to customer requirements, the transfer of data only on the computer and mobile phone memory. 3. Scan mode: Open SCAN HEAD to scan bar code 4. After laboratory verification, GSM850 is the worst mode among all receiving modes of GSM/WCDMA/LTE and is recorded in the report.	

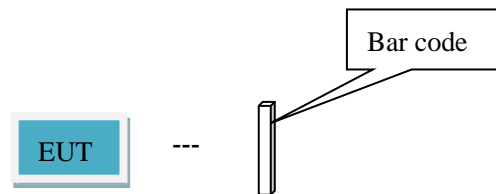
#### N01 Sample (Secondary Supply)

Test Item	Function Type
Radiated emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Scan mode<Figure 2> Mode 3: Adapter charging+ GSM850 receiver +Camera <Figure 3>
AC Conducted emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 3: Adapter charging+ GSM850 receiver +Camera <Figure 3>
Remark: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. Data Link with PC means data application transferred mode between EUT and PC. According to customer requirements, the transfer of data only on the computer and mobile phone memory. 3. Scan mode: Open SCAN HEAD to scan bar code 4. After laboratory verification, GSM850 is the worst mode among all receiving modes of GSM/WCDMA/LTE and is recorded in the report.	

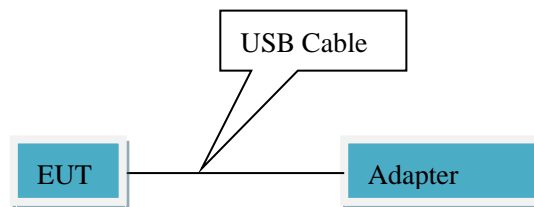
### 7.2 Connection Diagram of Test System



<Figure 1> Mode 1



<Figure 2> Mode 2



<Figure 3> Mode 3

## 8. Measurement Results

Only the worst test result was shown in this report.

### 8.1 Radiated Emission 30MHz-18GHz

#### Method of Measurement

For 30-1000MHz, the EUT was placed on the top of a rotating 0.8-m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement. Tested in accordance with the procedures of ANSI C63.4-2014, section 8.3.

For 1000-18000MHz, The maximal emission value was acquired by adjusting the antenna height, The table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

#### Limits for Radiated Emission at a measuring distance of 3m

Frequency Range (MHz)	Quasi-Peak (dBuV/m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Frequency Range (MHz)	Peak (dBuV/m)	Average (dBuV/m)
Above 1000	74	54

#### Test conditions

Frequency Range (MHz)	RBW/VBW	Sweep Time (s)
30-1000	120kHz/300kHz	Auto
1000-18000	1MHz/3MHz	Auto

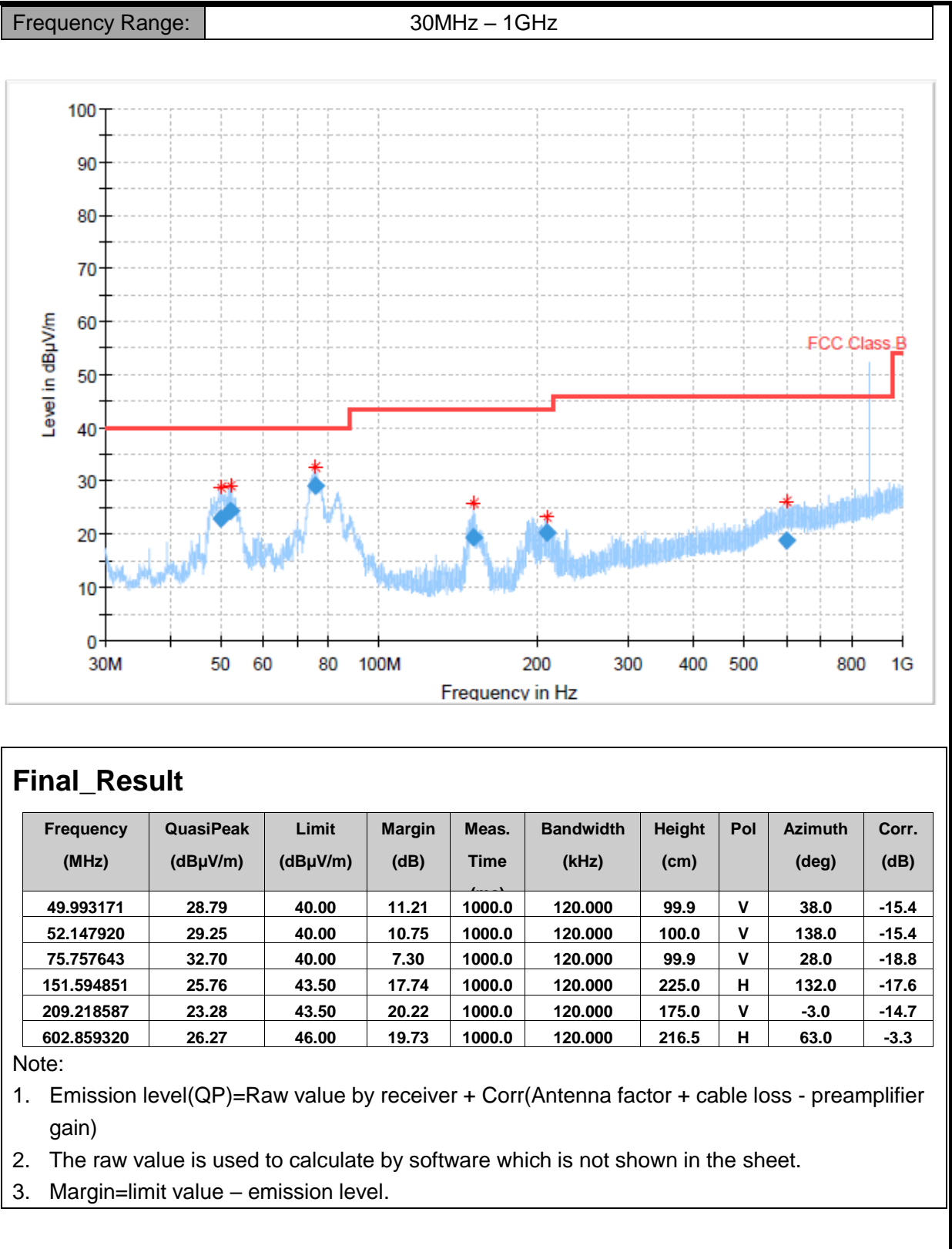
#### Uncertainty Measurement

The measurement uncertainty (30MHz-1000MHz) is 4.82 dB (k=2).

The measurement uncertainty (1000MHz-18000MHz) is 5.08 dB (k=2).

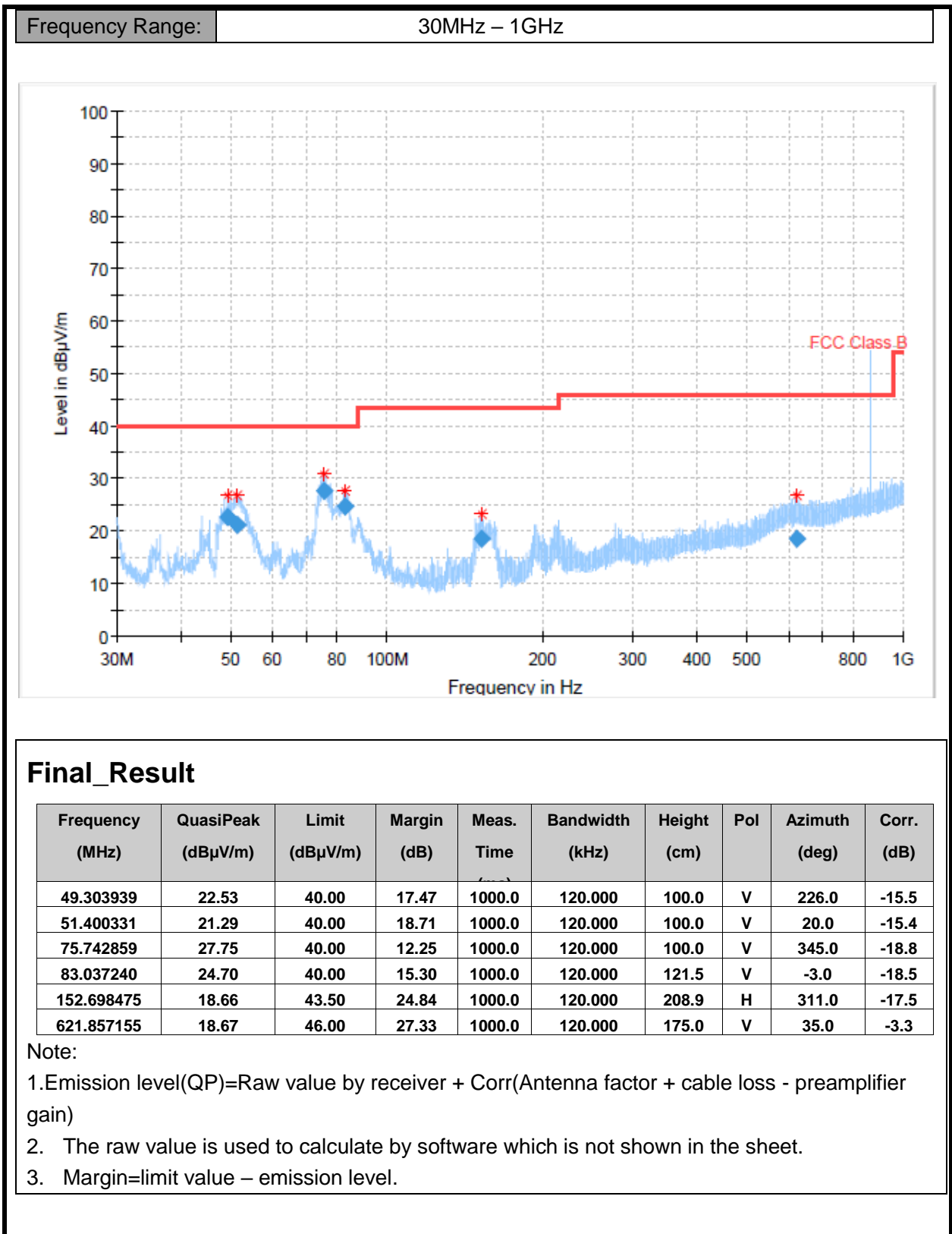
### Test Results

N02 Sample (Main Supply) Mode 3: Adapter charging+ GSM850 receiver + Camera<Figure 3>

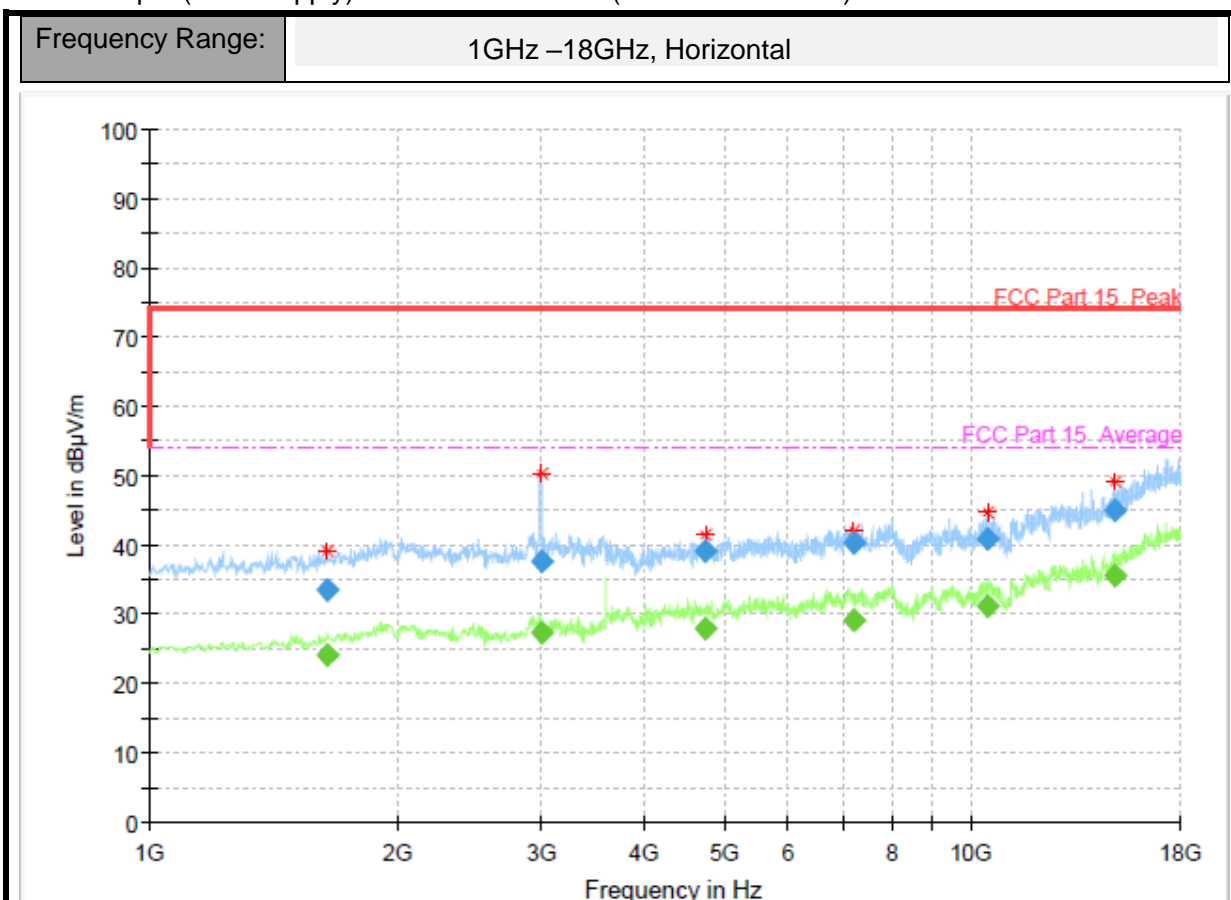




N01 Sample (Secondary Supply) Mode 3: Adapter charging+ GSM850 receiver + Camera<Figure 3>



## N02 Sample (Main Supply) Mode 1: USB cable (Data Link with PC)

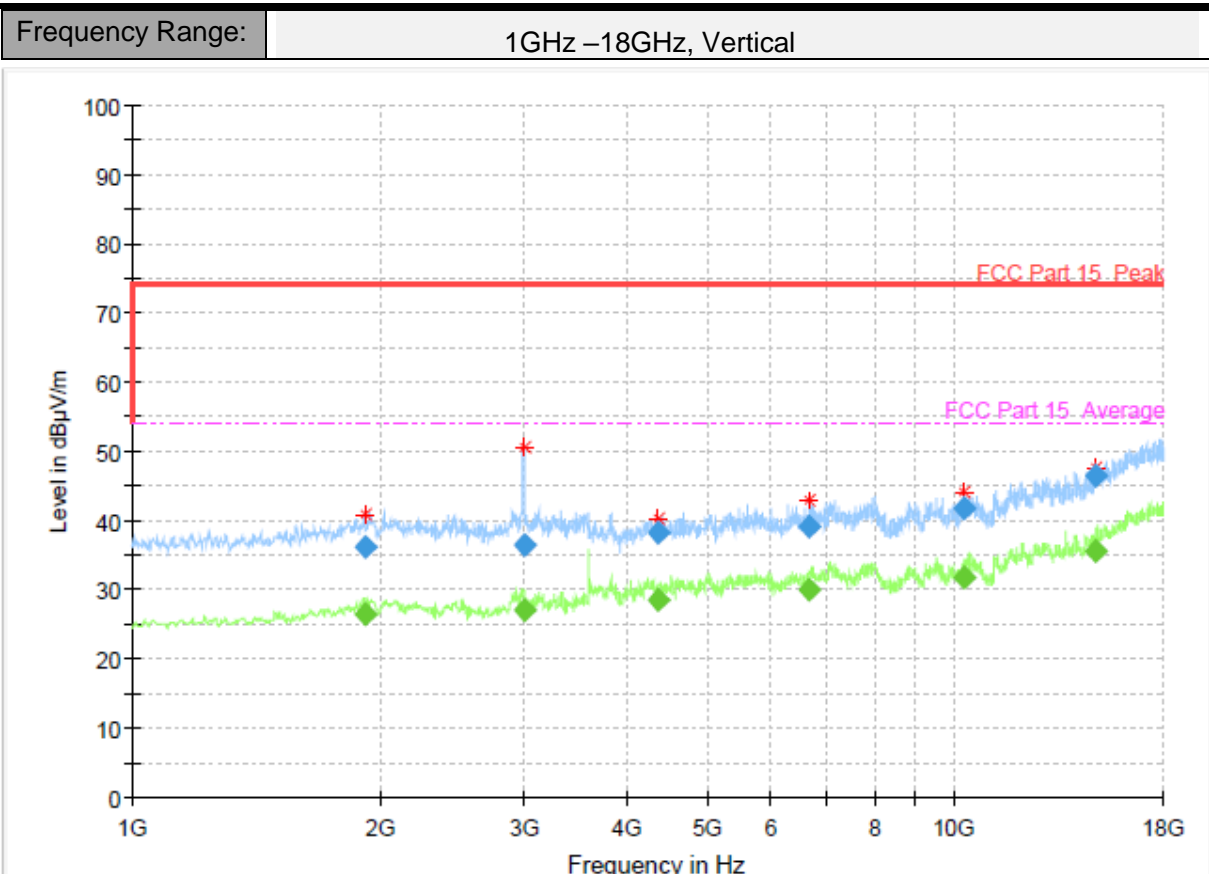


### Final Result

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time	Bandwidth h	Height t	Po l	Azim uth	Corr. (dB)
1649.600000	---	24.02	54.00	29.98	1.0	1000.000	200.0	H	341.0	4.0
1649.600000	33.57	---	74.00	40.43	1.0	1000.000	200.0	H	341.0	4.0
2999.800000	37.66	---	74.00	36.34	1.0	1000.000	200.0	H	334.0	3.1
2999.800000	---	27.35	54.00	26.65	1.0	1000.000	200.0	H	334.0	3.1
4757.800000	39.07	---	74.00	34.93	1.0	1000.000	100.0	H	300.0	2.5
4757.800000	---	27.94	54.00	26.06	1.0	1000.000	100.0	H	300.0	2.5
7194.400000	---	29.07	54.00	24.93	1.0	1000.000	200.0	H	53.0	4.6
7194.400000	40.32	---	74.00	33.68	1.0	1000.000	200.0	H	53.0	4.6
10492.800000	40.93	---	74.00	33.07	1.0	1000.000	100.0	H	64.0	7.9
10492.800000	---	31.27	54.00	22.73	1.0	1000.000	100.0	H	64.0	7.9
14930.800000	44.86	---	74.00	29.14	1.0	1000.000	200.0	H	286.0	14.6
14930.800000	---	35.47	54.00	18.53	1.0	1000.000	200.0	H	286.0	14.6

Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.



## Final Result

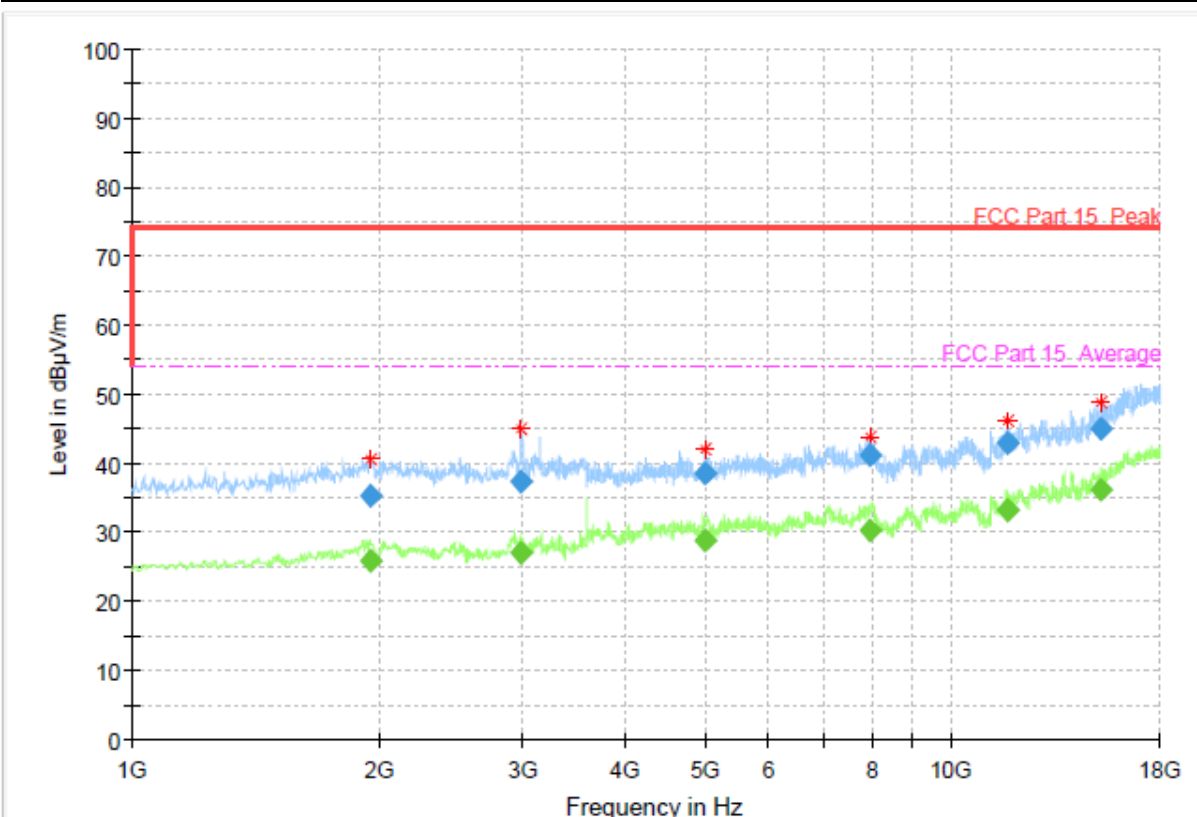
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time	Bandwidth h	Heigh t	Po l	Azim uth	Corr. (dB)
1918.200000	36.27	---	74.00	37.73	1.0	1000.000	100.0	V	10.0	5.2
1918.200000	---	26.55	54.00	27.45	1.0	1000.000	100.0	V	10.0	5.2
2999.000000	---	27.01	54.00	26.99	1.0	1000.000	200.0	V	234.0	3.2
2999.000000	36.37	---	74.00	37.63	1.0	1000.000	200.0	V	234.0	3.2
4365.600000	38.34	---	74.00	35.66	1.0	1000.000	100.0	V	151.0	1.9
4365.600000	---	28.40	54.00	25.60	1.0	1000.000	100.0	V	151.0	1.9
6665.400000	---	29.92	54.00	24.08	1.0	1000.000	100.0	V	256.0	4.3
6665.400000	39.22	---	74.00	34.78	1.0	1000.000	100.0	V	256.0	4.3
10302.200000	41.75	---	74.00	32.25	1.0	1000.000	100.0	V	138.0	8.0
10302.200000	---	31.68	54.00	22.32	1.0	1000.000	100.0	V	138.0	8.0
14924.000000	46.43	---	74.00	27.57	1.0	1000.000	200.0	V	0.0	14.6
14924.000000	---	35.69	54.00	18.31	1.0	1000.000	200.0	V	0.0	14.6

Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

## N01 Sample (Secondary Supply) Mode 1: USB cable (Data Link with PC)

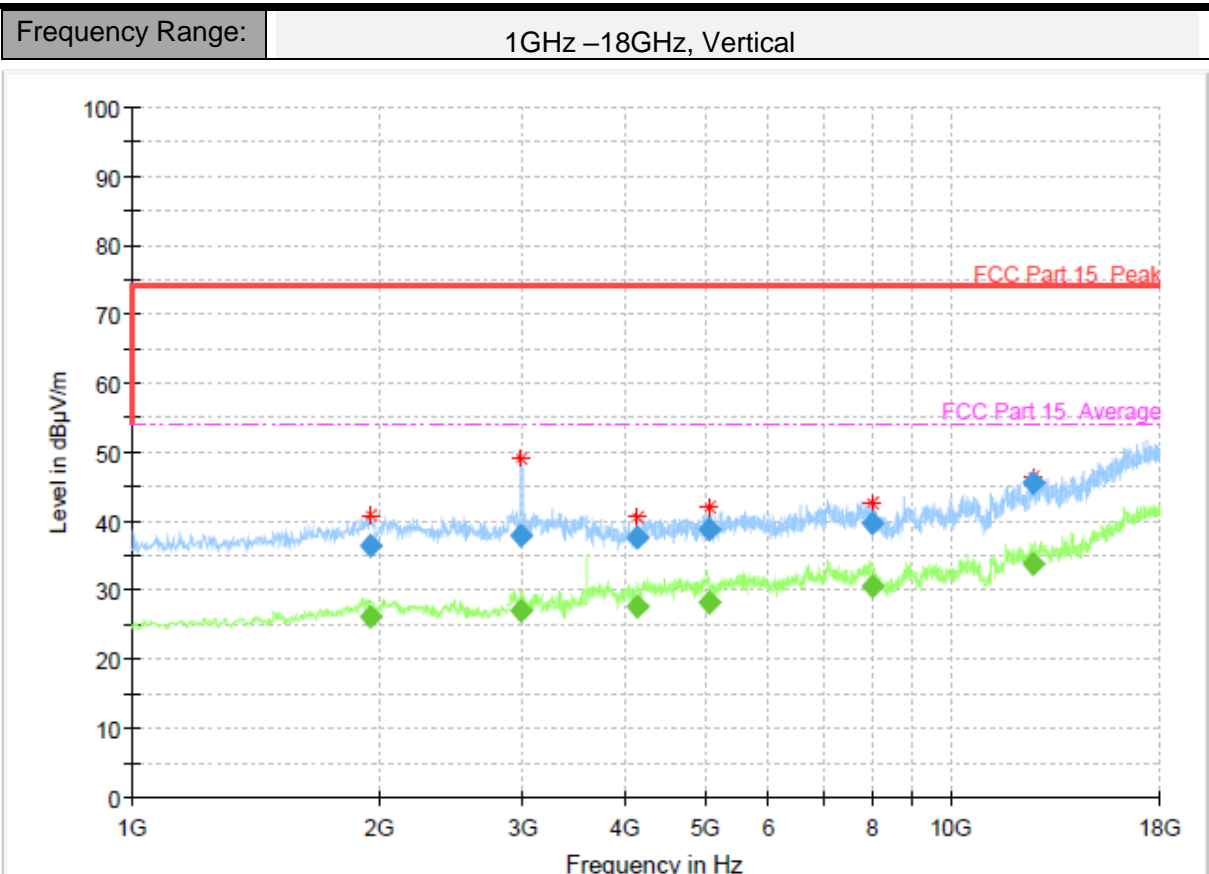
Frequency Range:	1GHz –18GHz, Horizontal
------------------	-------------------------


**Final Result**

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time	Bandwidth h	Height t	Po l	Azim uth	Corr. (dB)
1954.800000	35.25	---	74.00	38.75	1.0	1000.000	200.0	H	357.0	5.3
1954.800000	---	25.96	54.00	28.04	1.0	1000.000	200.0	H	357.0	5.3
2995.200000	37.22	---	74.00	36.78	1.0	1000.000	200.0	H	329.0	3.3
2995.200000	---	26.94	54.00	27.06	1.0	1000.000	200.0	H	329.0	3.3
5023.000000	38.58	---	74.00	35.42	1.0	1000.000	100.0	H	203.0	6.0
5023.000000	---	28.95	54.00	25.05	1.0	1000.000	100.0	H	203.0	6.0
7952.000000	41.22	---	74.00	32.78	1.0	1000.000	200.0	H	196.0	5.4
7952.000000	---	30.34	54.00	23.66	1.0	1000.000	200.0	H	196.0	5.4
11736.400000	42.92	---	74.00	31.08	1.0	1000.000	100.0	H	31.0	10.4
11736.400000	---	33.16	54.00	20.84	1.0	1000.000	100.0	H	31.0	10.4
15239.600000	45.07	---	74.00	28.93	1.0	1000.000	100.0	H	4.0	15.1
15239.600000	---	36.09	54.00	17.91	1.0	1000.000	100.0	H	4.0	15.1

Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.



### Final Result

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time	Bandwidth h	Heigh t	Po l	Azim uth	Corr. (dB)
1958.000000	36.34	---	74.00	37.66	1.0	1000.000	200.0	V	187.0	5.3
1958.000000	---	26.09	54.00	27.91	1.0	1000.000	200.0	V	187.0	5.3
2995.400000	---	27.16	54.00	26.84	1.0	1000.000	100.0	V	119.0	3.2
2995.400000	37.83	---	74.00	36.17	1.0	1000.000	100.0	V	119.0	3.2
4151.200000	---	27.69	54.00	26.31	1.0	1000.000	100.0	V	113.0	1.6
4151.200000	37.76	---	74.00	36.24	1.0	1000.000	100.0	V	113.0	1.6
5066.600000	---	28.19	54.00	25.81	1.0	1000.000	200.0	V	231.0	6.0
5066.600000	38.76	---	74.00	35.24	1.0	1000.000	200.0	V	231.0	6.0
8003.600000	---	30.46	54.00	23.54	1.0	1000.000	200.0	V	353.0	5.3
8003.600000	39.73	---	74.00	34.27	1.0	1000.000	200.0	V	353.0	5.3
12560.800000	45.56	---	74.00	28.44	1.0	1000.000	100.0	V	187.0	11.2
12560.800000	---	33.94	54.00	20.06	1.0	1000.000	100.0	V	187.0	11.2

Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

## 8.2 AC Conducted Emission

### Method of Measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies with the band 150 kHz to 30MHz shall not exceed the limits. Both lines of the power mains connected to the EUT were checked for maximum conducted interference. Tested in accordance with the procedures of ANSI C63.4-2014, section 7.3

### Limit of AC Conducted Emission

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency

### Test Condition in Charging Mode

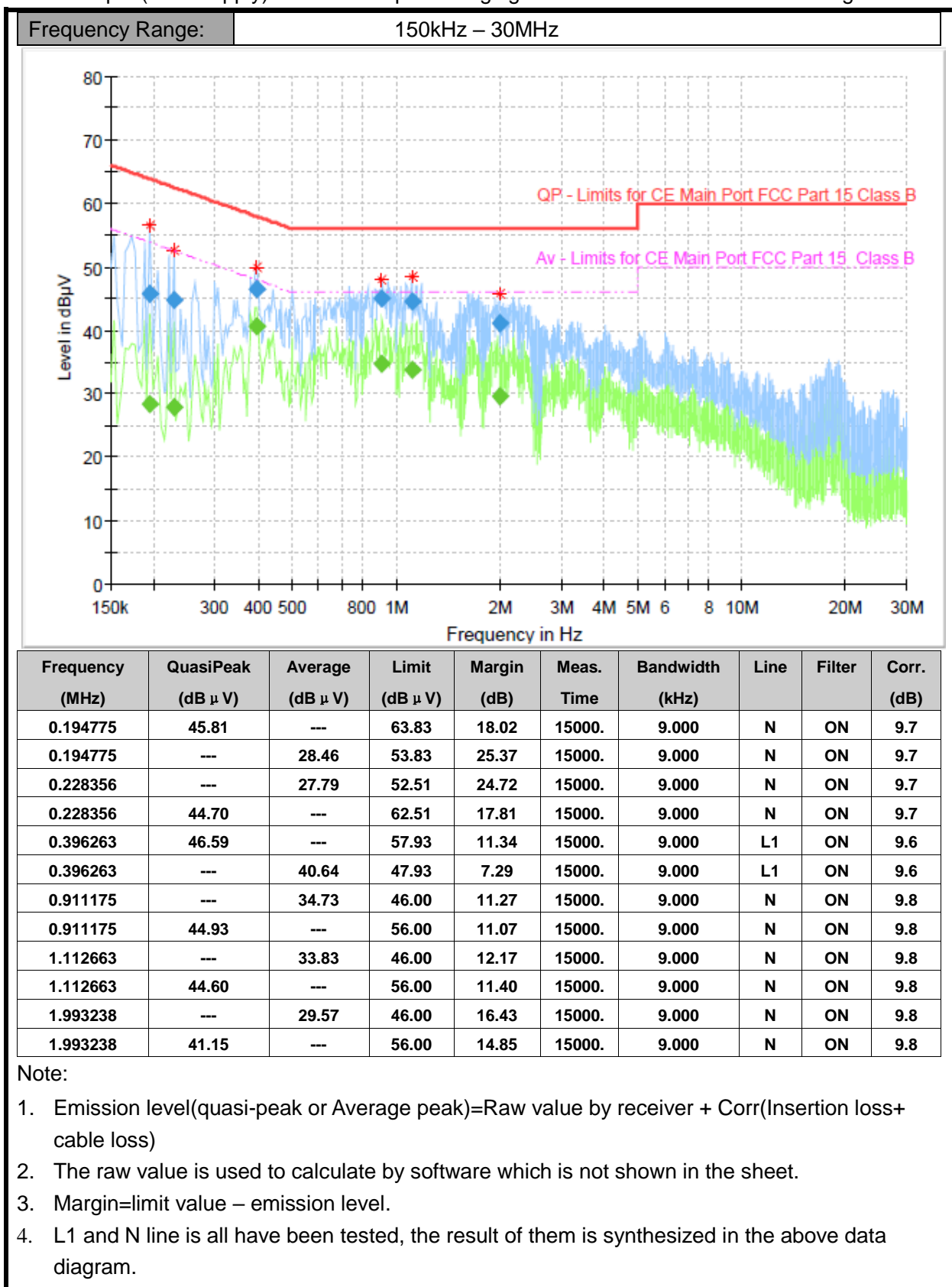
Voltage (V)	Frequency (Hz)	RBW	Sweep Time (s)
120	60	9 kHz	Auto

### Uncertainty Measurement

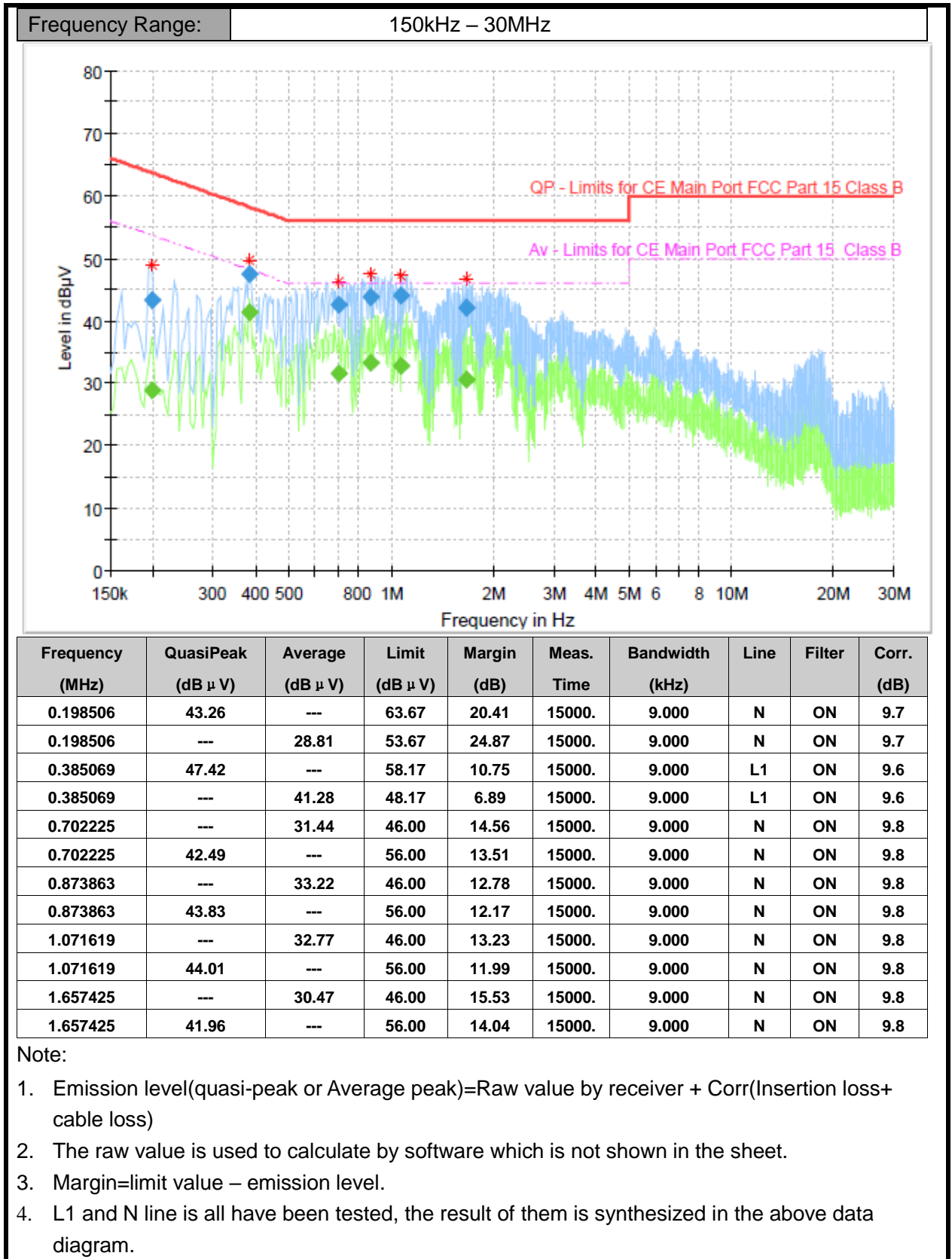
The measurement uncertainty is 3.58dB (k=2).

### Test Results

N02 Sample (Main supply) Mode 3: Adapter charging+ GSM850 receiver + Camera &lt;Figure 3&gt;



N01 Sample (Secondary supply) Mode 3: Adapter charging+ GSM850 receiver+Camera <Figure 3>





**Annex A Accreditation Certificate****Accredited Laboratory**

A2LA has accredited

**EAST CHINA INSTITUTE OF TELECOMMUNICATIONS***Shanghai, People's Republic of China*

for technical competence in the field of

**Electrical Testing**

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).



Presented this 6th day of May 2019.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 3682.01  
Valid to February 28, 2021

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

**\*\*\*\*\* END OF REPORT\*\*\*\*\***