



TEST REPORT

No. I18D00022-EMC01

For

Client : Datalogic S.r.l.

Production: Smartphone

Model Name : MEMOR 10

FCC ID: U4GDL35US

IC ID: 3862E-DL35US

Hardware Version: V00 (US)

Software Version: 0.02.06D.20180716-userdebug-customer1

Issued date: 2018-11-13

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of ECIT Shanghai.

Test Laboratory:

ECIT Shanghai, East China Institute of Telecommunications

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Revision Version

Report Number	Revision	Date	Memo
I18D00022-EMC01	00	2018-11-13	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: 7F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai,
P. R. China
Postal Code: 200001
Telephone: 86-21-63843300
Fax: 86-21-63843301
FCC registration No: 958356

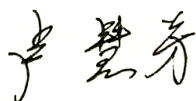
1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 30-60%RH

1.3. Project data

Project Leader: Yu Anlu
Testing Start Date: 2018.07.19
Testing End Date: 2018.08.17

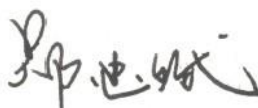
1.4. Signature



Lu Huifang
(Prepared this test report)



You Jinjun
(Reviewed this test report)



Zheng Zhongbin
(Approved this test report)

1.5. Client Information**1.6. 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: /

1.7. Manufacturer 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. Equipment under Test (EUT) and Ancillary Equipment (AE)

2.1. About EUT

EUT Description	Smartphone
Model name	MEMOR 10
GSM Frequency Band	GSM850/GSM900/GSM1800/GSM1900
UMTS Frequency Band	Band I /Band II /Band IV /Band V /Band VIII
CDMA Frequency Band	BC0/BC1
LTE Frequency Band	LTE 2/4/5/7/12/13/17/25/26
Additional Communication Function	BT4.2,BLE;WiFi 802.11a,b,g,n,ac;NFC;GPS;GLONASS;WLC;Beidou;

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N10	359737090203796	V00 (US)	0.02.06D.20180716-userd ebug-customer1	2018-07-19

*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	Remark
CA15	Adapter	S008ACM0500200	NA	NA
CF01	Wireless Adapter	HC	NA	NA
CG01	AC Adapter	EA10681N-120	NA	NA
UA03	USB Cable	NA	NA	NA
AE1	LAN Cable	NA	NA	NA
AE2	RS232 Cable	NA	NA	NA
AE3	VGA Cable	NA	NA	NA
AE4	Keyboard	KB212-B	CN-0Y88XT-65890-12I-005Q-A 00	NA
AE5	Mouse	MS111-P	CN-011D3V-71581-19J-1A64	NA
AE6	Desktop PC	OptiPlex 790 DT	X8RP1 A01 APCC	
AE7	Notebook PC	DELL Latitude E6510	NA	NA
AE8	SanDisk Ultra32GB	microSDHC UHS-I	NA	NA

*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	10-1-17
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
ICES-003	Information Technology Equipment(Including Digital Apparatus)-Limits and Methods of Measurement	2016

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 GSMWCDMA/LTE, manufactured by Datalogic S.r.l. is a new 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.

6. Test Equipment Utilized

6.1 Radiated Emission Equipment list

No.	Name	Type	Series Number	Producer	Cal. Date	Cal. interval
1	Universal Radio Communication	CMU200	123126	R&S	2018-05-11	1 Year
2	Test Receiver	ESU40	100307	R&S	2018-05-11	1 Year
3	Trilog Antenna	VULB9163	VULB9163-515	Schwarzbeck	2017-02-25	3 Year
4	Double Ridged Guide	ETS-3117	00135885	ETS	2017-01-11	3 Year
5	EMI Test Software	EMC32 V9.15	NA	R&S	NA	NA

6.1 AC Conducted Emission Equipment list

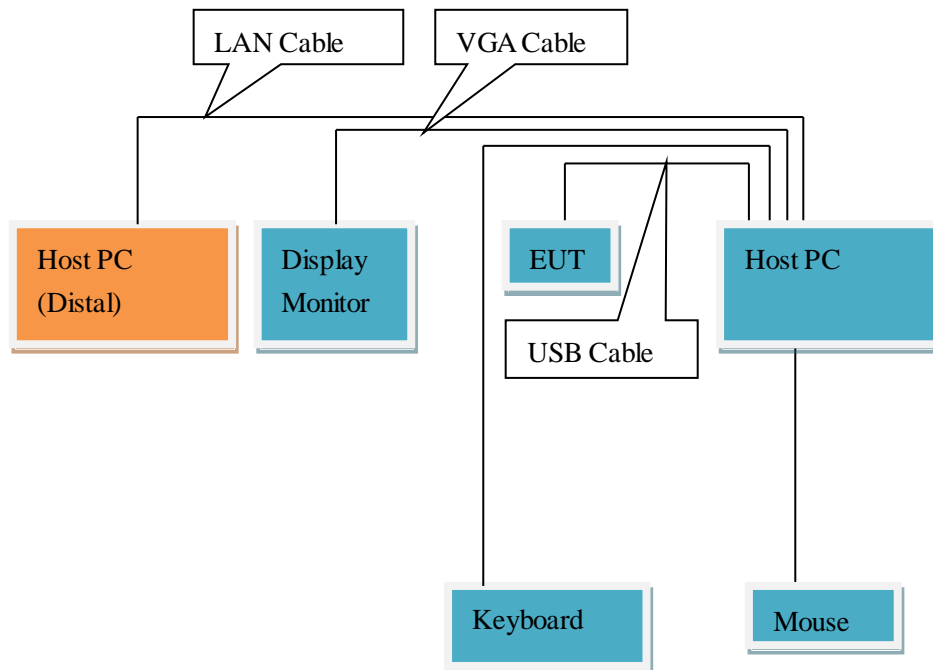
No.	Name	Type	Series Number	Producer	Cal. Date	Cal. interval
1	Universal Radio	CMU200	123123	R&S	2018-05-11	1 Year
2	Test Receiver	ESCI	101235	R&S	2018-05-11	1 Year
3	2-Line V-Network	ENV216	101380	R&S	2018-05-11	1 Year
4	EMI Test Software	EMC32 V9.15	NA	R&S	NA	NA

7. System Configuration during Test

7.1 Test Mode

Test Item	Function Type
Radiated Emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Adapter charging+CA15<Figure 2> Mode 3: Adapter charging +CF01+CG01<Figure 2>
AC Conducted Emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Adapter charging+CA15<Figure 2> Mode 3: Adapter charging +CF01+CG01<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.	

7.2 Connection Diagram of Test System



<Figure 1>



<Figure 2>

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

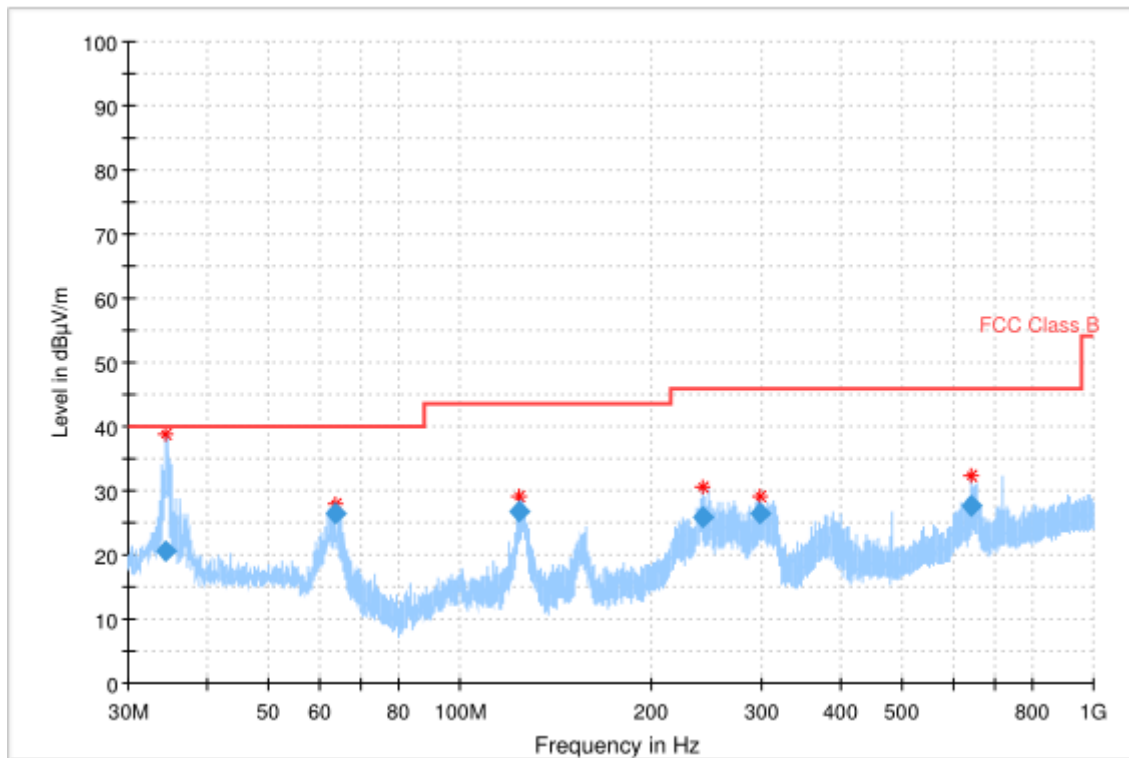
The measurement uncertainty (30MHz-1000MHz) is 5.48 dB (k=2).

The measurement uncertainty (1000MHz-18000MHz) is 5.20 dB (k=2).

Test Results

Mode 1: USB cable(Data Link with PC)

Frequency Range: 30MHz – 1GHz



Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
34.474072	20.47	40.00	19.53	1000.0	120.000	100.0	V	87.0	-22.0
63.842091	26.48	40.00	13.52	1000.0	120.000	100.0	V	130.0	-23.4
124.519907	26.88	43.50	16.62	1000.0	120.000	198.0	H	121.0	-26.5
241.048213	26.02	46.00	19.98	1000.0	120.000	106.0	H	98.0	-23.5
298.620424	26.55	46.00	19.45	1000.0	120.000	125.0	H	-28.0	-22.0
642.928517	27.54	46.00	18.46	1000.0	120.000	102.0	V	110.0	-13.8

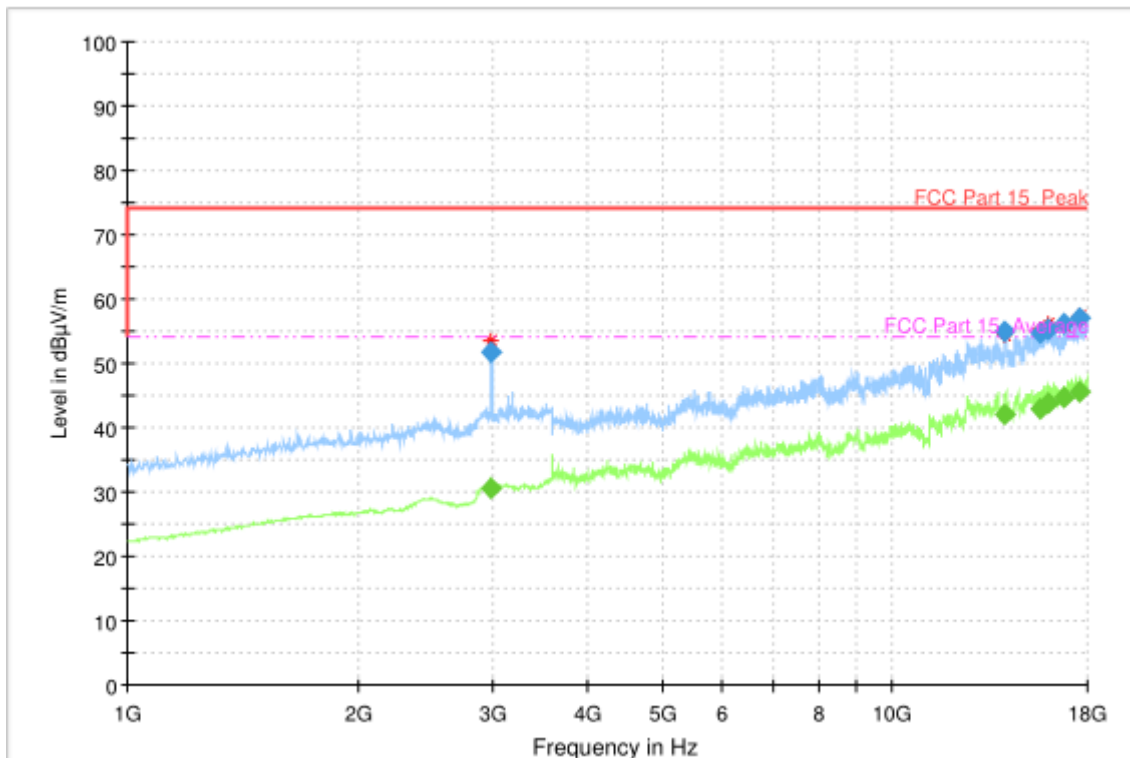
Note:

- 1.Emission level(QP)=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.

Mode 1:USB cable(Data Link with PC)

Frequency Range:

1GHz –18GHz

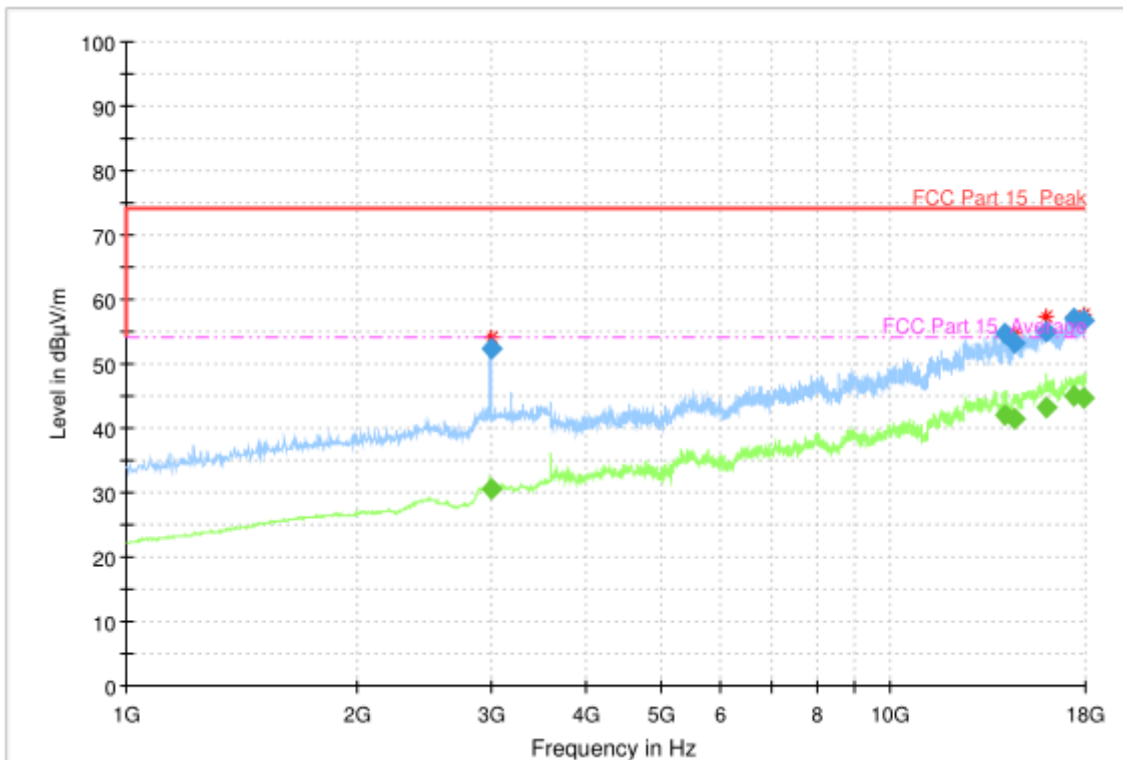


Final Result

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2995.600000	---	30.45	54.00	23.55	50.0	1000.000	200.0	H	296.0
2995.600000	51.63	---	74.00	22.37	50.0	1000.000	200.0	H	296.0
14052.400000	54.88	---	74.00	19.12	50.0	1000.000	200.0	H	0.0
14052.400000	---	42.01	54.00	11.99	50.0	1000.000	200.0	H	0.0
15620.600000	---	43.04	54.00	10.96	50.0	1000.000	100.0	H	32.0
15620.600000	54.72	---	74.00	19.28	50.0	1000.000	100.0	H	32.0
16024.000000	---	43.72	54.00	10.28	50.0	1000.000	200.0	H	176.0
16024.000000	55.18	---	74.00	18.82	50.0	1000.000	200.0	H	176.0
16770.200000	56.28	---	74.00	17.72	50.0	1000.000	200.0	H	308.0
16770.200000	---	44.56	54.00	9.44	50.0	1000.000	200.0	H	308.0
17572.200000	---	45.68	54.00	8.32	50.0	1000.000	200.0	H	0.0
17572.200000	57.14	---	74.00	16.86	50.0	1000.000	200.0	H	0.0

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 (kHz)	Height (cm)	Pol	Azimuth (deg)
2996.000000	---	30.61	54.00	23.39	50.0	1000.000	100.0	V	309.0
2996.000000	52.45	---	74.00	21.55	50.0	1000.000	100.0	V	309.0
14100.800000	54.81	---	74.00	19.19	50.0	1000.000	100.0	V	90.0
14100.800000	---	42.19	54.00	11.81	50.0	1000.000	100.0	V	90.0
14573.400000	---	41.55	54.00	12.45	50.0	1000.000	100.0	V	184.0
14573.400000	53.11	---	74.00	20.89	50.0	1000.000	100.0	V	184.0
15969.200000	---	43.35	54.00	10.65	50.0	1000.000	100.0	V	345.0
15969.200000	55.03	---	74.00	18.97	50.0	1000.000	100.0	V	345.0
17333.800000	---	44.96	54.00	9.04	50.0	1000.000	200.0	V	201.0
17333.800000	56.96	---	74.00	17.04	50.0	1000.000	200.0	V	201.0
17843.000000	56.75	---	74.00	17.25	50.0	1000.000	200.0	V	340.0
17843.000000	---	44.78	54.00	9.22	50.0	1000.000	200.0	V	340.0

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 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 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

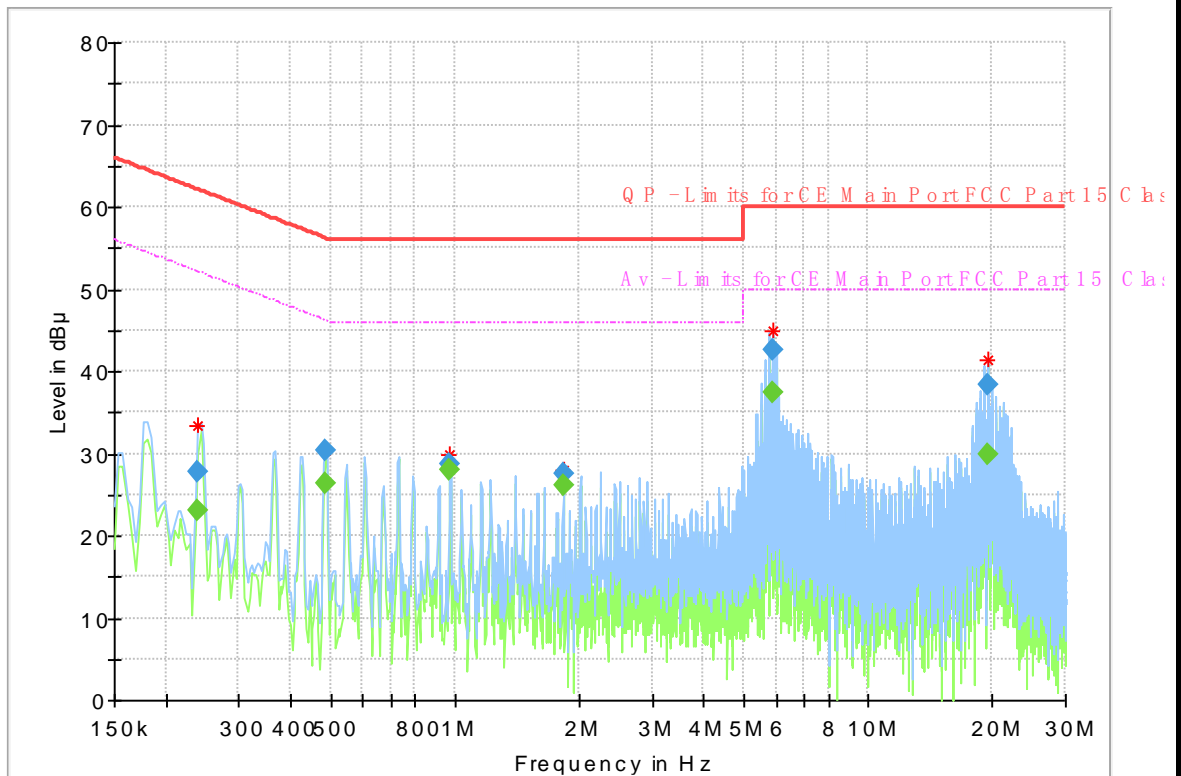
The measurement uncertainty is 3.68dB (k=2).

Test Results

Mode 1: USB cable(Data Link with PC)

Frequency Range:

150kHz – 30MHz



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.239550	---	23.16	52.11	28.95	1000.0	9.000	N	ON	9.7
0.239550	27.70	---	62.11	34.41	1000.0	9.000	N	ON	9.7
0.485812	---	26.41	46.24	19.83	1000.0	9.000	N	ON	9.7
0.485812	30.42	---	56.24	25.82	1000.0	9.000	N	ON	9.7
0.974606	---	28.09	46.00	17.91	1000.0	9.000	L1	ON	9.7
0.974606	28.63	---	56.00	27.37	1000.0	9.000	L1	ON	9.7
1.829062	27.48	---	56.00	28.52	1000.0	9.000	L1	ON	9.7
1.829062	---	26.17	46.00	19.83	1000.0	9.000	L1	ON	9.7
5.855081	42.57	---	60.00	17.43	1000.0	9.000	L1	ON	9.8
5.855081	---	37.34	50.00	12.66	1000.0	9.000	L1	ON	9.8
19.403250	---	29.98	50.00	20.02	1000.0	9.000	N	ON	9.9
19.403250	38.36	---	60.00	21.64	1000.0	9.000	N	ON	9.9

Note:

- Emission level(quasi-peak or Average peak)=Raw value by receiver + Corr(Insertion loss+ cable loss)
- The raw value is used to calculate by software which is not shown in the sheet.
- Margin=limit value – emission level.

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