TEST REPORT

No. I17D00153-EMC01

For

Client : Mobiwire SAS

Production: 4G Smartphone

Model Name : MobiWire Waneta, ALTICE S60

Hardware Version: V01

Software Version: WE552_ALTICE_S60

FCC ID: QPN-WANETA

Issued date: 2017-08-16

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
I17D00153-EMC01	00	2017-08-16	Initial creation of test report

CONTENTS

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:	489729

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	30-60%

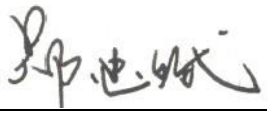
1.3. Project data

Project Leader:	Tong Daocheng
Testing Start Date:	08-03, 2017
Testing End Date:	08-15, 2017

1.4. Signature

Tong Daocheng
(Prepared this test report)

You Jinjun
(Reviewed this test report)



Zheng Zhongbin
Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Mobiwire SAS
Address /Post:	79 AVENUE FRANCOIS ARAGO 92017 NANTERRE CEDEX France.
Tel:	+33 178 14 09 33
City:	/
Country:	France

2.2. Manufacturer Information

Company Name:	Mobiwire SAS
Address /Post:	79 AVENUE FRANCOIS ARAGO 92017 NANTERRE CEDEX France.
Tel:	+33 178 14 09 33
City:	/
Country:	France

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

3.1. About EUT

EUT Description	4G Smartphone
Model name	MobiWire Waneta, ALTICE S60
Serial Number or IMEI	357585080002354
HW Version	V01
SW Version	WE552_ALTICE_S60
Additional Communication Function	BT2.1,EDR,3.0,4.0,BLE;WIFI 802.11a,b,g,n(HT20/HT40),WIFI Band:5150MHz-5250MHz,5250MHz-5350MHz,5745MHz -5825MHz;GPS;FM;NFC

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N11	357585080002354	V01	WE552_ALTICE_S60	2017-07-05

*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
CA02	Adapter	A88-502000	NA
AA01	Earphone	NA	NA
UA02	Data Cable	NA	NA
AE1	Desktop PC	OptiPlex 790 DT	X8RP1 A01 APCC
AE2	Notebook PC	ThinkPad Edge E430	0B65911
AE3	LAN Cable	NA	NA
AE4	VGA Cable	NA	NA
AE5	RS232 Cable	NA	NA
AE6	Keyboard	KB212-B	CN-0Y88XT-65890-12I-005Q-A00
AE7	Mouse	MS111-P	CN-011D3V-71581-19J-1A64
AE8	Micro SD Card	Kingston SDC4/4GB 77	/

*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	10-1-10 Edition
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	Conducted Emission	15.107(a)	Pass

5.2 Statements

The MobiWire Waneta, ALTICE S60, manufactured by Mobiwire SAS 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 I17D00122-EMC01 report to remodel project, test content for the original report of the worst mode. Other information reference prototype report

6. Test Equipments Utilized

6.1 Radiated Emission Equipments list

No.	Name	Type	Series Number	Producer	Cal. Date	Cal. interval
1	Universal Radio Communication	CMU200	123123	R&S	2017-05-11	1 Year
2	Test Receiver	ESU40	100307	R&S	2017-05-11	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 CE Equipments list

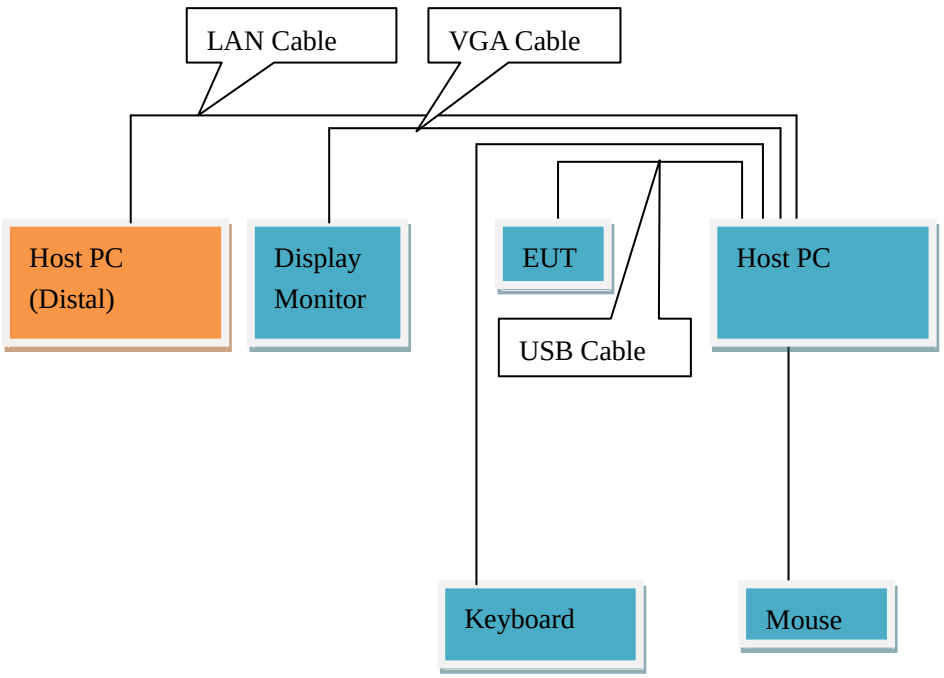
No.	Name	Type	Series Number	Producer	Cal. Date	Cal. interval
1	Universal Radio	CMU200	123101	R&S	2017-05-11	1 Year
2	Test Receiver	ESCI	101235	R&S	2017-05-11	1 Year
3	2-Line V-Network	ENV216	101380	R&S	2017-05-11	1 Year
4	EMI Test Software	EMC32 V9.15	NA	R&S	NA	NA

7. System Configuration during Test

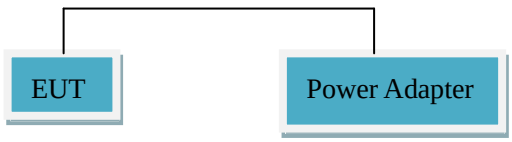
7.1 Test Mode

Test Item	Function Type
AC Conducted Emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Adapter charging <Figure 2>
Radiated Emission	Mode 1: USB cable (Data Link with PC) <Figure 1> Mode 2: Adapter charging <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-12.75GHz

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 1000-12750MHz, 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
1000-12750	1MHz/3MHz	Auto

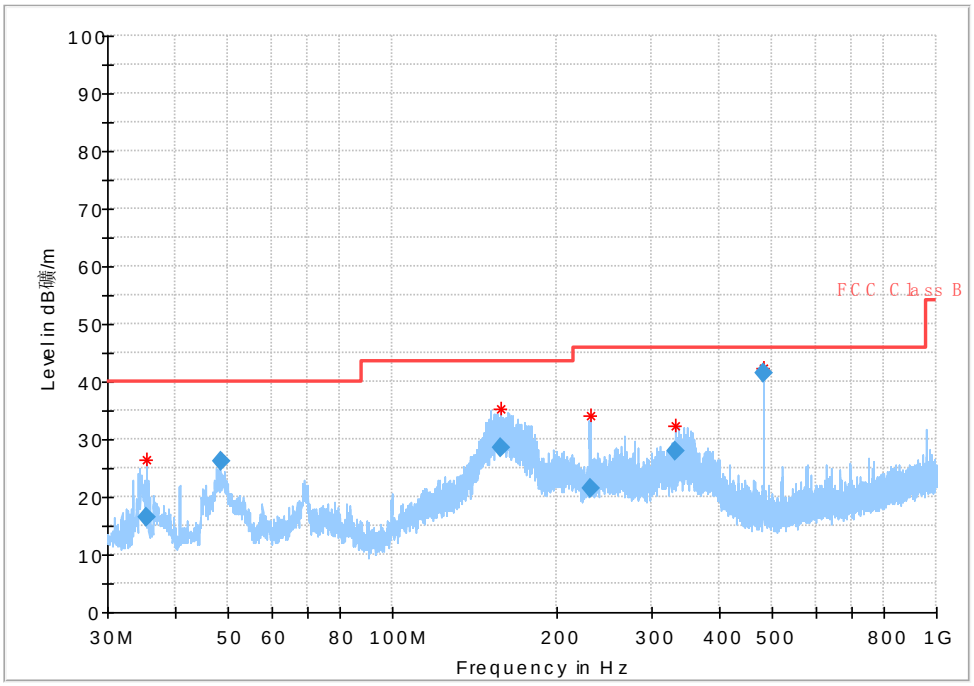
Uncertainty Measurement

The measurement uncertainty is 5.82dB (k=2).

Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range:	30MHz – 1GHz



Final_Result

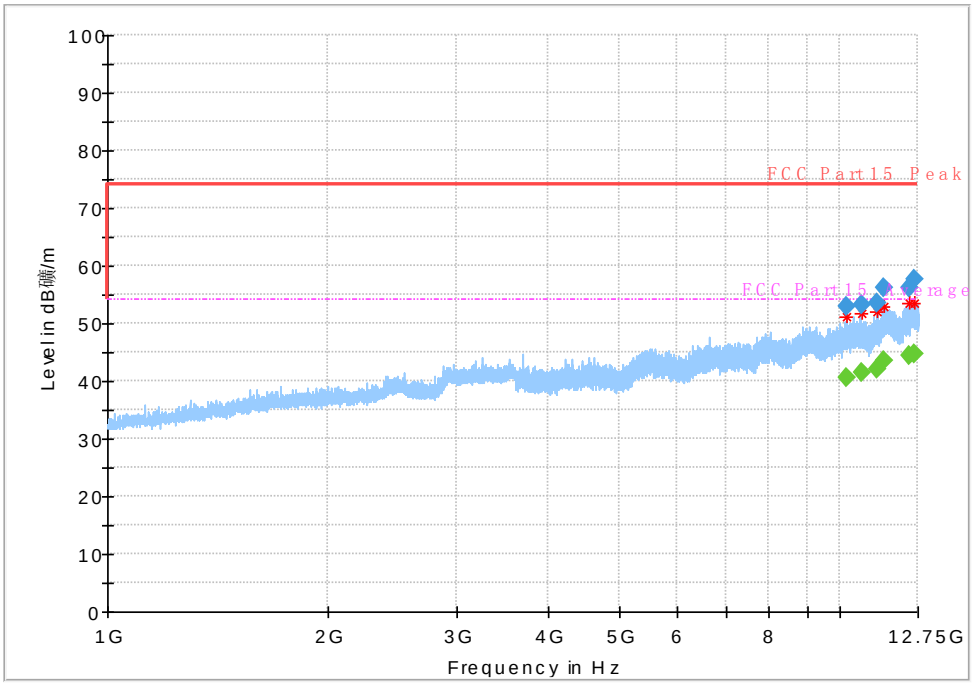
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.482997	16.50	40.00	23.50	1000.0	120.000	100.0	V	42.0	-26.6
48.352219	26.07	40.00	13.93	1000.0	120.000	100.0	V	2.0	-23.5
158.221080	28.66	43.50	14.84	1000.0	120.000	125.0	H	98.0	-27.5
231.231352	21.40	46.00	24.60	1000.0	120.000	125.0	H	111.0	-23.6
330.895904	27.83	46.00	18.17	1000.0	120.000	125.0	V	143.0	-20.4
480.006861	41.40	46.00	4.60	1000.0	120.000	100.0	V	133.0	-16.7

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: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range:	1GHz –12.75GHz



Horizontal

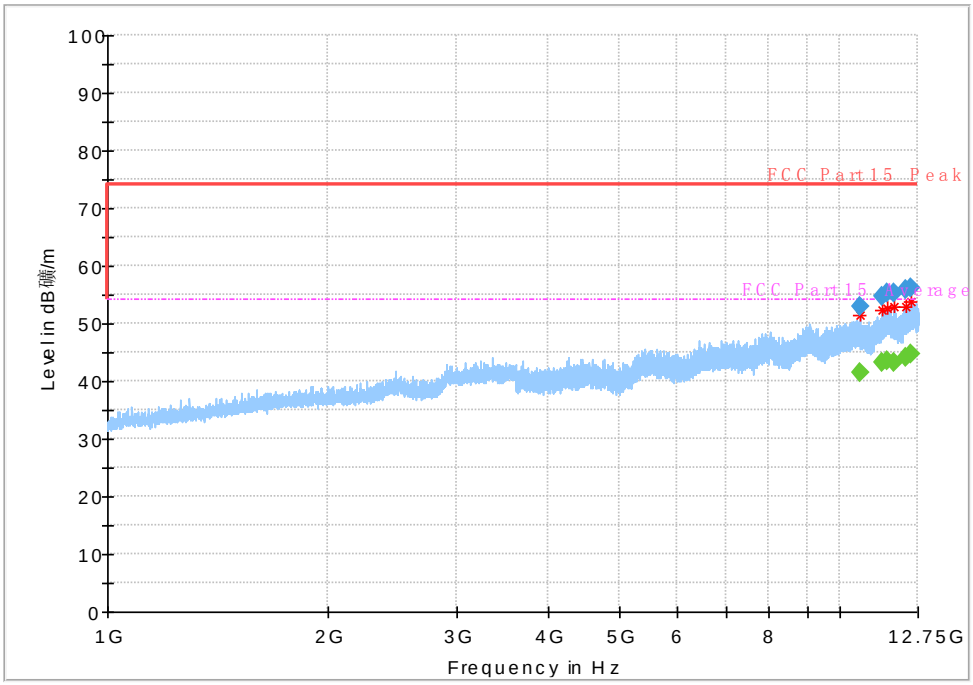
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
10167.742733	52.92	---	74.00	21.08	50.0	1000.000	200.0	H	359.0
10167.742733	---	40.45	54.00	13.55	50.0	1000.000	200.0	H	359.0
10667.160866	---	41.48	54.00	12.52	50.0	1000.000	100.0	H	252.0
10667.160866	53.37	---	74.00	20.63	50.0	1000.000	100.0	H	252.0
11216.871933	53.53	---	74.00	20.47	50.0	1000.000	100.0	H	66.0
11216.871933	---	42.08	54.00	11.92	50.0	1000.000	100.0	H	66.0
11463.615066	56.16	---	74.00	17.84	50.0	1000.000	100.0	H	22.0
11463.615066	---	43.42	54.00	10.58	50.0	1000.000	100.0	H	22.0
12404.270533	---	44.40	54.00	9.60	50.0	1000.000	200.0	H	169.0
12404.270533	56.28	---	74.00	17.72	50.0	1000.000	200.0	H	169.0
12588.923067	57.61	---	74.00	16.39	50.0	1000.000	200.0	H	285.0
12588.923067	---	44.84	54.00	9.16	50.0	1000.000	200.0	H	285.0

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.

Margin=limit value – emission level.



Vertical

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
10629.204200	52.86	---	74.00	21.14	50.0	1000.000	100.0	V	61.0
10629.204200	---	41.42	54.00	12.58	50.0	1000.000	100.0	V	61.0
11424.592133	54.83	---	74.00	19.17	50.0	1000.000	100.0	V	338.0
11424.592133	---	43.22	54.00	10.78	50.0	1000.000	100.0	V	338.0
11587.616733	---	43.55	54.00	10.45	50.0	1000.000	100.0	V	321.0
11587.616733	55.26	---	74.00	18.74	50.0	1000.000	100.0	V	321.0
11864.352267	---	43.20	54.00	10.80	50.0	1000.000	100.0	V	13.0
11864.352267	55.37	---	74.00	18.63	50.0	1000.000	100.0	V	13.0
12269.975533	55.84	---	74.00	18.16	50.0	1000.000	200.0	V	83.0
12269.975533	---	44.13	54.00	9.87	50.0	1000.000	200.0	V	83.0
12507.054066	56.24	---	74.00	17.76	50.0	1000.000	100.0	V	110.0
12507.054066	---	44.74	54.00	9.26	50.0	1000.000	100.0	V	110.0

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.

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

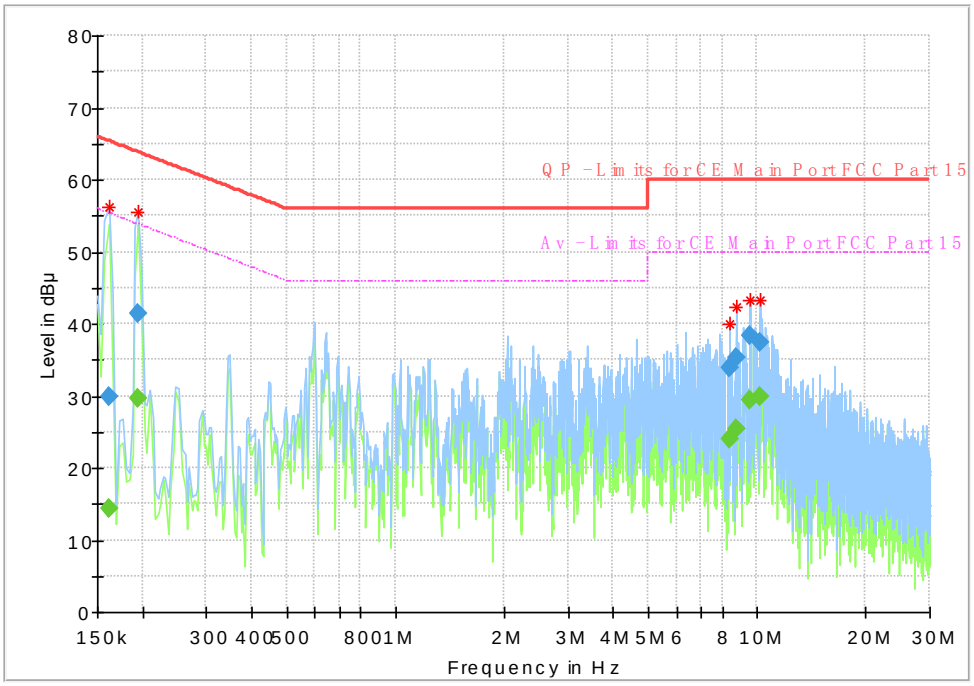
Uncertainty Measurement

The measurement uncertainty is 3.47dB (k=2).

Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range:	150kHz – 30MHz



Frequency (MHz)	QuasiPeak (dB¦ìV)	Average (dB¦ìV)	Limit (dB¦ìV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.161194	29.80	---	65.40	35.60	1000.0	9.000	N	ON	9.6
0.161194	---	14.28	55.40	41.12	1000.0	9.000	N	ON	9.6
0.194775	---	29.69	53.83	24.14	1000.0	9.000	N	ON	9.6
0.194775	41.43	---	63.83	22.40	1000.0	9.000	N	ON	9.6
8.407256	---	24.10	50.00	25.90	1000.0	9.000	L1	ON	9.8
8.407256	33.89	---	60.00	26.11	1000.0	9.000	L1	ON	9.8
8.754262	35.19	---	60.00	24.81	1000.0	9.000	L1	ON	9.8
8.754262	---	25.48	50.00	24.52	1000.0	9.000	L1	ON	9.8
9.593794	---	29.50	50.00	20.50	1000.0	9.000	L1	ON	9.8
9.593794	38.44	---	60.00	21.56	1000.0	9.000	L1	ON	9.8
10.175869	---	29.79	50.00	20.21	1000.0	9.000	L1	ON	9.8
10.175869	37.30	---	60.00	22.70	1000.0	9.000	L1	ON	9.8

Note:

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

**********End of Report**********