



Full

TEST REPORT

No. ECIT-2012-0138-EMC

For

Client : CT Asia

Production : BLU

Model Name : DASH4.0

Hardware Version: Q203_MAIN_PCB_V2.1

Software Version: Q203_PUBLIC_V0.5.5_S1026

FCC ID: YHLBLUDASH40

Issued date: 2013-02-01

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

Add: 7F, G Area, No.668, Beijing East Road, Huangpu District, Shanghai, P. R. China

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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)-021-63843300
Fax: (+86)-021-63843301
FCC registration No: 489729

1.2. Testing Environment

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

1.3. Project data

Project Leader: Liujianquan
Testing Start Date: 12-09, 2012
Testing End Date: 02-01, 2013

1.4. Signature

Liu Guandong
(Testing Engineer)

Yu Naiping
(Reviewed this test report)

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



2. Client Information

2.1. Applicant Information

Company Name: CT Asia
Address /Post: Unit 01, 15/F, Seaview Centre, 139-141 Hoi bun road, Kwun Tong,
Kowloon,Hongkong
Country: China
Telephone: 852-27931198

2.2. Manufacturer Information

Company Name: Shanghai Ragentek Communication Technology Co. ,Ltd.
Address /Post: Building D10-D11,No. 58-60, Lane 3188, Xiupu Road, PuDong
District, Shanghai,PRC
Country: China
Telephone: (+86)-21-60352628

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

3.1. About EUT

EUT Description	BLU
Model name	DASH4.0
Serial Number or IMEI	86804801281770
TX Frequency	GSM850: 824MHz to 849MHz; GSM1900: 1850MHz to 1910MHz; WCDMA BAND II: 1850MHz to 1910MHz; WCDMA BAND V: 824MHz to 849MHz; Bluetooth: 2400MHz to 2483.5MHz; WIFI: 2400MHz to 2483.5MHz;
RX Frequency	GSM850: 869MHz to 894MHz; GSM1900: 1930MHz to 1990MHz; WCDMA BAND II: 1930MHz to 1990MHz; WCDMA BAND V: 869MHz to 894MHz; Bluetooth: 2400MHz to 2483.5MHz; WIFI: 2400MHz to 2483.5MHz; GPS: 1575.42MHz;
HW Version	Q203_MAIN_PCB_V2.1
SW Version	Q203_PUBLIC_V0.5.5_S1026

3.2. Internal Identification of AE used during the test

AE ID*	Description	Model	SN
AE1	Adapter	ZT-328-70	G7410000075LA
AE2	Battery	Q203f-VK-C684804150T(S2)	G2330000166LA
AE3	Laptop	LENOVO T420i	P1-5LEDR
AE4	Earphone	MY-M5854_BLU_DASH 3.5	G7260010070LA
AE5	Desktop PC	DELL	8LPS82S
AE6	Data Cable	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	10-1-10 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	2009

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 DASH4.0, supporting GSM850/GSM1900/WCDMA band II and V, manufactured by Shanghai Ragentek Communication Technology Co. ,Ltd 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 Equipments Utilized

6.1 Radiated Emission Equipments list

No.	Name	Type	Series Number	Producer	Cal. Due Date
1	Universal Radio Communication Tester	CMU200	123102	R&S	2013-09-09
2	Test Receiver	ESU40	100307	R&S	2013-11-07
3	Trilog Antenna	VULB9163	19-162515	Schwarzbeck	2014-11-11
4	Double Ridged Guide Antenna	ETS3117	135885	ETS	2014-04-29

6.1 CE Equipments list

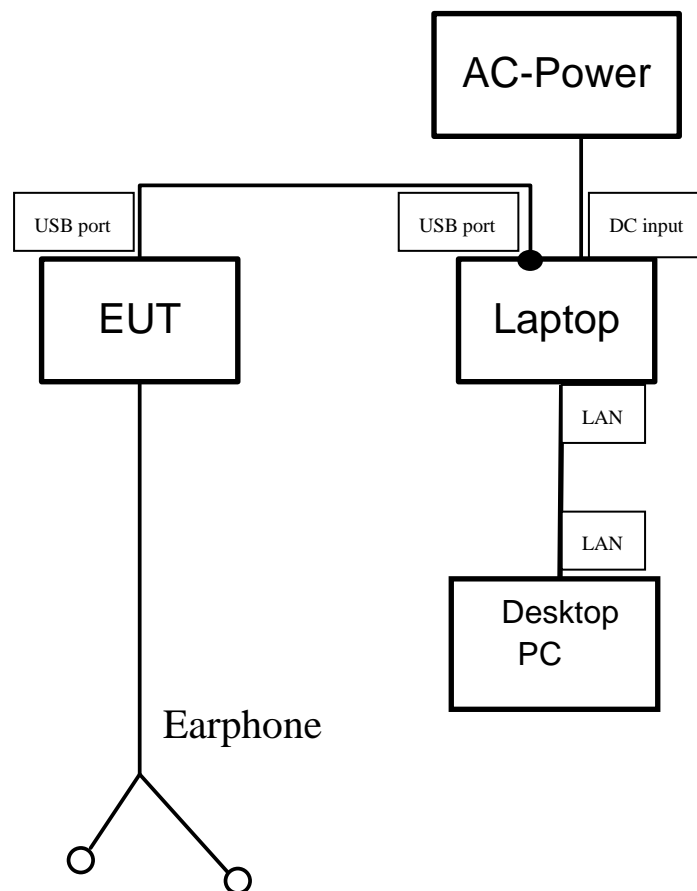
No.	Name	Type	Series Number	Producer	Cal. Due Date
1	Universal Radio Communication Tester	CMU200	123124	R&S	2013-09-09
2	Test Receiver	ESCI	101235	R&S	2013-11-07
3	2-Line V-Network	ENV216	101380	R&S	2013-11-07

7. System Configuration during Test

7.1 Test Mode

Test Item	Function Type
AC Conducted Emission	Mode 1: Idle + Earphone + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + Earphone + MP3 + GPS RX + USB cable (Data Link with PC) <Figure 1> Mode 3: Idle + Earphone + USB cable (Data Link with PC) <Figure 1>
Radiated Emission	Mode 1: Idle + Earphone + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + Earphone + MP3 + GPS RX + USB cable (Data Link with PC) <Figure 1> Mode 3: Idle + Earphone + USB cable (Data Link with PC) <Figure 1>
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>

8. Measurement Results

Only the worst test result was shown in this report.

8.1 Radiated Emission 30MHz-9GHz

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 C63.4-2009, section 8.3.

For 1000-9000MHz, 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	5
1000-9000	1MHz/1MHz	10

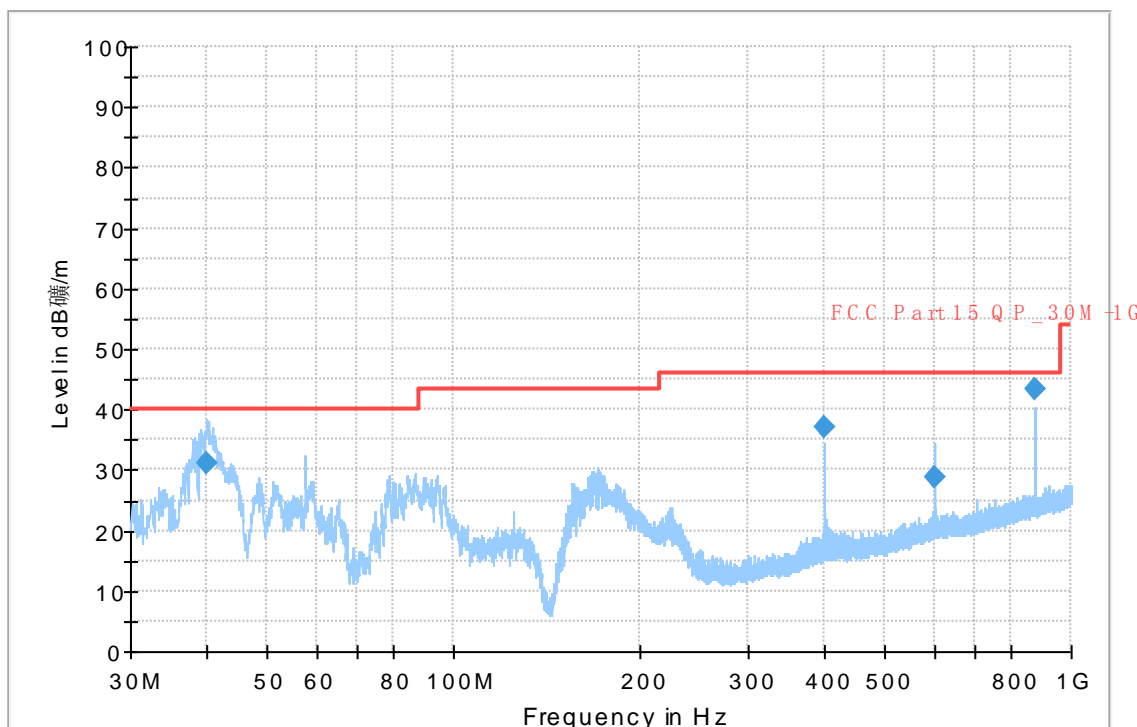
Uncertainty Measurement

The measurement uncertainty is 3.92dB (k=1.96).

Test Results

Frequency Range:

30MHz – 1GHz



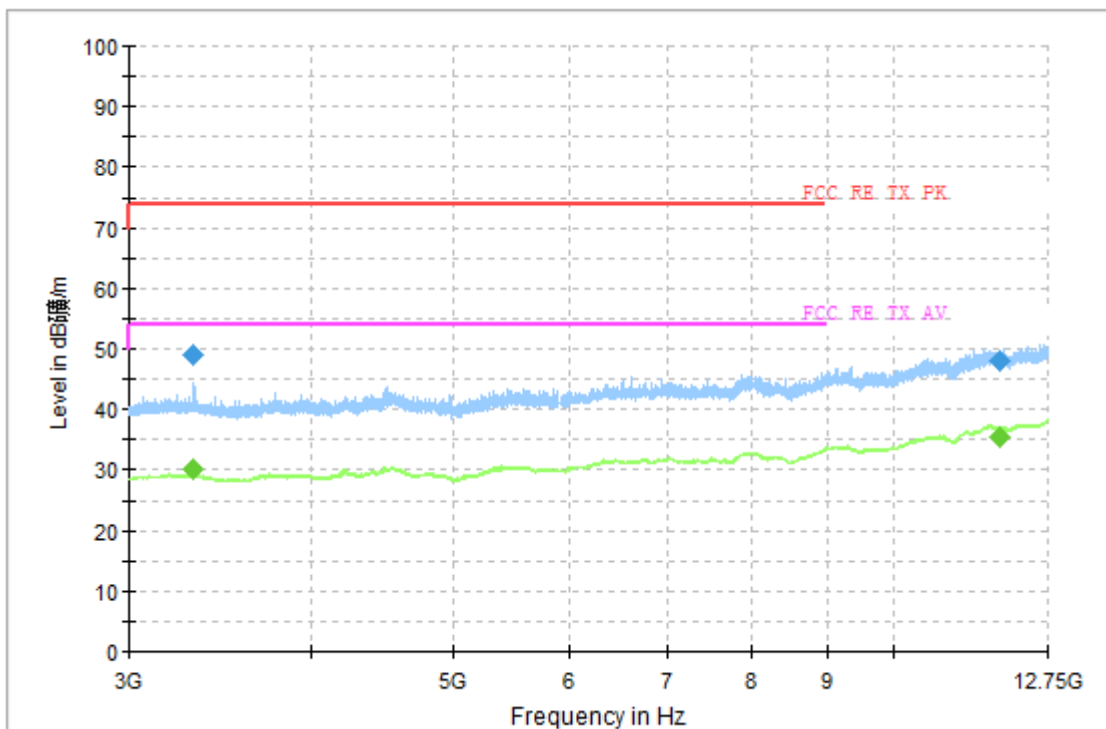
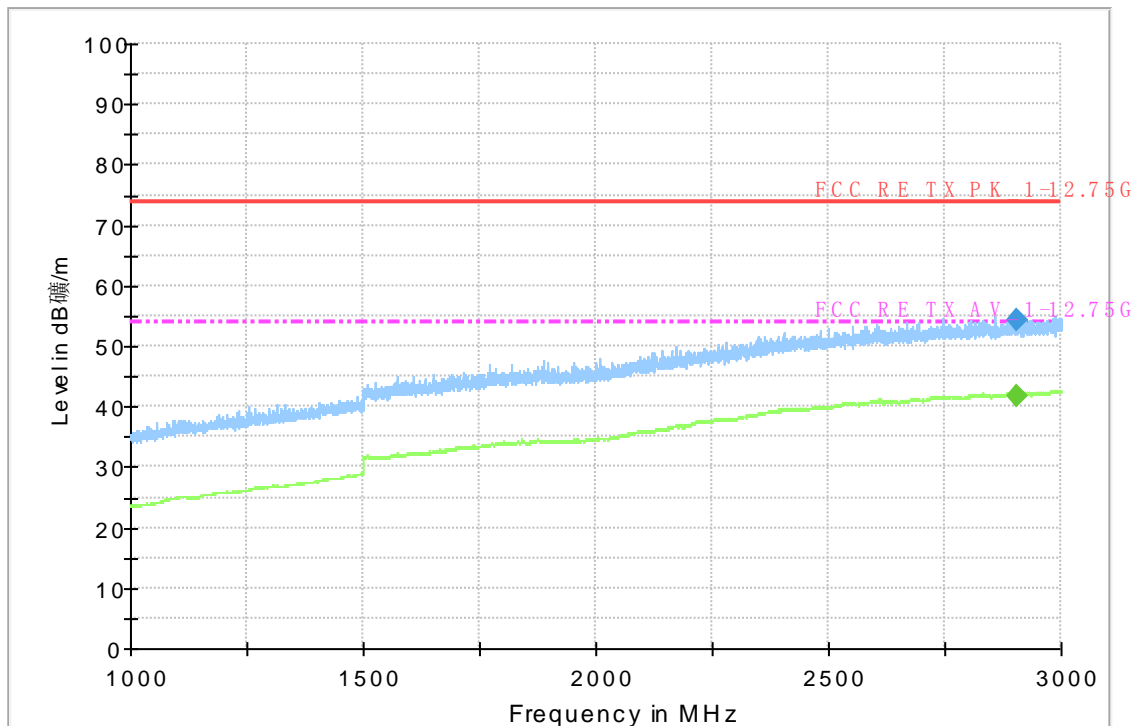
Frequency MHz	QP dBuV/m	Mea.Time ms	RBW KHz	Height cm	Polarity	Azimuth deg	Corr. dB	Margin dB	Limit dBuV/m
39.9	31.2	1000.0	120	100.0	V	90.0	-24.0	8.8	40.0
400.0	37.1	1000.0	120	100.0	H	0.0	-17.1	8.9	46.0
599.8	28.9	1000.0	120	100.0	V	189.0	-12.3	17.1	46.0
876.0	43.2	1000.0	120	100.0	V	45.0	-8.4	2.8	46.0
39.9	31.2	1000.0	120	100.0	V	90.0	-24.0	8.8	40.0

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.

Frequency Range:

1GHz – 9GHz



Frequency MHz	Peak dBuV/m	Mea.Time ms	RBW KHz	Height cm	Polarity	Azimuth deg	Corr. dB	Margin dB	Limit dBuV/m
2906.5	54.5	100.0	1000	150.0	V	135.0	11.8	19.5	74.0
3318.9	49.0	100.0	1000	150.0	V	119.0	-3.0	25.0	74.0
Frequency MHz	Average dBuV/m	Mea.Time ms	RBW KHz	Height cm	Polarity	Azimuth deg	Corr. dB	Margin dB	Limit dBuV/m
2906.5	41.6	100.0	1000	150.0	V	135.0	11.8	12.4	54.0
3318.92	30.2	100.0	1000	150.0	V	119.0	-3.0	23.8	54.0
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 C63.4-2009, 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	1

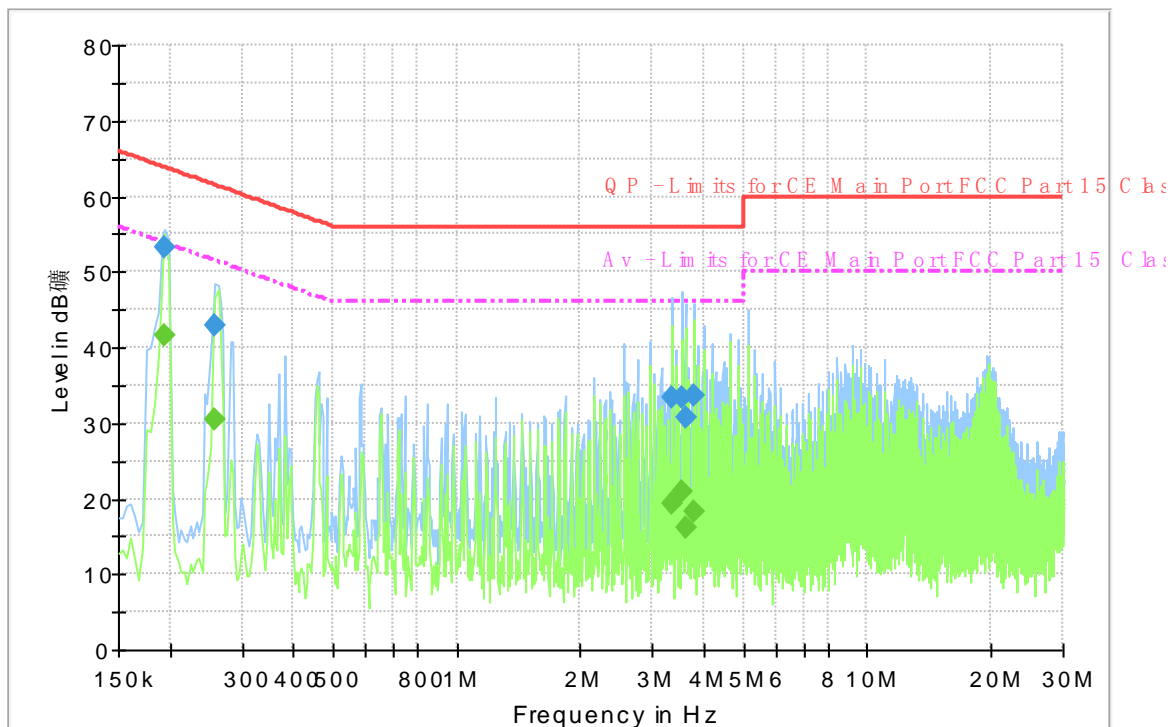
Uncertainty Measurement

The measurement uncertainty is 2.69dB (k=1.96).

Test Results

Frequency Range:

150kHz – 80MHz



Frequency MHz	Quasi-Peak dBμV	Meas. Time ms	RBW KHz	Filter	Line	Corr. dB	Margin dB	Limit dBμV
0.194775	53.2	1000.0	9.000	On	L1	10.0	10.6	63.8
0.258206	43.0	1000.0	9.000	On	N	10.0	18.5	61.5
3.340219	33.5	1000.0	9.000	On	L1	9.8	22.5	56.0
3.537975	33.3	1000.0	9.000	On	L1	9.8	22.7	56.0
3.601406	30.8	1000.0	9.000	On	L1	9.8	25.2	56.0
3.799162	33.7	1000.0	9.000	On	L1	9.8	22.3	56.0
Frequency MHz	Average dBμV	Meas. Time ms	RBW KHz	Filter	Line	Corr. dB	Margin dB	Limit dBμV
0.194	41.6	1000.0	9.000	On	L1	10.0	12.2	53.8
0.258	30.4	1000.0	9.000	On	N	10.0	21.1	51.5
3.340	19.3	1000.0	9.000	On	L1	9.8	26.7	46.0
3.537	21.0	1000.0	9.000	On	L1	9.8	25.0	46.0
3.601	16.3	1000.0	9.000	On	L1	9.8	29.7	46.0
3.799	18.3	1000.0	9.000	On	L1	9.8	27.7	46.0

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 the Report*****