



TEST REPORT

No. I14N00586-EMC

for

XPAL Power

GSM quad band with WCDMA dual band mobile phone

Model Name: S0311WWR

Marketing Name: SpareOne 3G

FCC ID: 2ACDO-S03GA

with

Hardware Version: V1.1

Software Version: E4610_05.03.01

Issued Date: 2014-06-11

Test Laboratory:

FCC 2.948 Listed: No.310359

IC O.A.T.S listed: No.6629C-1

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 TMC Beijing.

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CONTENTS

1. TEST LABORATORY	3
1.1. TESTING LOCATION	3
1.2. TESTING ENVIRONMENT	3
1.3. PROJECT DATA	3
1.4. SIGNATURE	3
2. CLIENT INFORMATION	4
2.1. APPLICANT INFORMATION	4
2.2. MANUFACTURER INFORMATION	4
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	5
3.1. ABOUT EUT	5
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	5
3.3. EUT SET-UPS	5
4. REFERENCE DOCUMENTS	6
4.1. REFERENCE DOCUMENTS FOR TESTING	6
5. LABORATORY ENVIRONMENT	7
6. SUMMARY OF TEST RESULTS	8
7. TEST EQUIPMENTS UTILIZED	9
ANNEX A: MEASUREMENT RESULTS.....	10

1. Test Laboratory

1.1. Testing Location

Company Name: TMC Shenzhen, Telecommunication Metrology Center of MIIT
Address: No. 12 Building, Shangsha Innovation and Technology Park, Futian District
Postal Code: 518048
Telephone: +86(0)755-33322000
Fax: +86(0)755-33322001

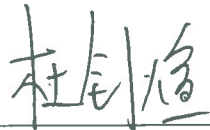
1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2014-06-05
Testing End Date: 2014-06-11

1.4. Signature



Du Zhaoxuan

(Prepared this test report)



Zhang Bojun

(Reviewed this test report)



Lu Minniu

Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: XPAL Power
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2.2. Manufacturer Information

Company Name: Teleepoch Ltd.
Address /Post: RM308-315,3/F,Block A,Tsinghua Unis Inforport, No.13 Langshan Road,HiTech Park(North),Nanshan District,Shenzhen, PRC
Contact: Susan
Email: ylan@teleepoch.com
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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	GSM quad band with WCDMA dual band mobile phone
Model Name	S0311WWR
Marketing Name	SpareOne 3G
FCC ID	2ACDO-SO3GA

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	/	V1.1	E4610_05.03.01

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

3.3. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT1	Idle mode

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	10-1-2013 Edition
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber (11.20 meters×6.10meters×5.60meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω

Conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. =35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber (11.20 meters×6.10 meters×6.60 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 6 GHz, 3 m distance

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	A.1	P

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CAL PERIOD
1	Test Receiver	ESCI	100701	R&S	2014.07.31	1 year
2	Test Receiver	FSP 40	100378	R&S	2014.12.20	1 year
3	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2017.01.20	3 years
4	Dual-Ridge Waveguide Horn Antenna	3117	00066577	ETS-Lindgren	2016.04.01	3 years
5	Universal Radio Communication Tester	E5515C	GB44051324	Agilent	2015.05.20	1 year

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: CFR Part 15.109(a)

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 - 2003, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.1.2 EUT Operating Mode:

The MS is operating in the idle mode with attaching to E5515C.

A.1.3 Measurement Limit

Limit from CFR Part 15.109(a)

Frequency range (MHz)	Field strength limit ($\mu\text{V/m}$)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

A.1.4 Test Condition

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	120kHz (IF bandwidth)	5
Above 1000	1MHz/1MHz	15

A.1.5 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{Mea}} + A_{\text{Rpl}} = P_{\text{Mea}} + G_A + G_{\text{PL}}$$

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

Note: the result contains vertical part and Horizontal part

Set.1 Idle mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Polarity	A_{Rpl} (dB)	Margin(dB)	Limit (dB μ V/m)
16734.000000	62.1	V	15.3	11.9	74.0
16750.000000	61.9	V	15.4	12.1	74.0
16811.000000	61.8	H	15.7	12.2	74.0
16777.000000	61.7	V	15.5	12.3	74.0
17242.000000	61.5	V	15.5	12.5	74.0
16823.000000	61.3	H	15.8	12.7	74.0

Set.1 Idle mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Polarity	A_{Rpl} (dB)	Margin(dB)	Limit (dB μ V/m)
16810.000000	49.6	V	15.7	4.4	54.0
15770.000000	48.4	V	14.5	5.6	54.0
13671.000000	45.1	H	12.9	8.9	54.0
12662.000000	44.3	H	13.6	9.7	54.0
12156.000000	43.9	V	13.1	10.1	54.0
10520.000000	41.7	H	12.0	12.3	54.0

Note: the results below 1GHz are all less than 20dB compared with limit.

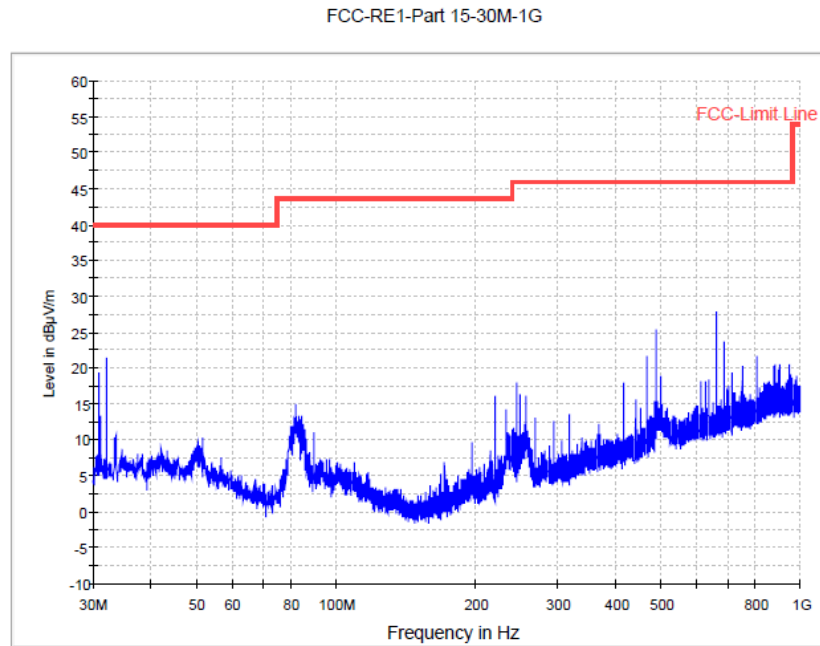


Figure A.1 Radiated Emission from 30MHz to 1GHz (Set.1, Charging mode)

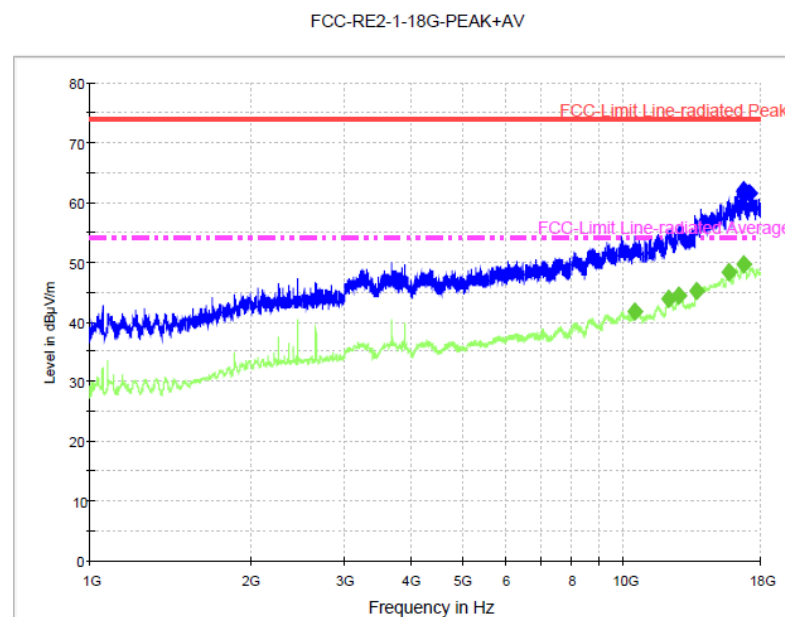


Figure A.2 Radiated Emission from 1GHz to 18GHz (Set.1, Charging mode)

END OF REPORT