



Report No: SZ14110013E01

OTA performance

# TEST REPORT



*Issued to*

Brainwave Technology

*For*

UNIVERSAL SMART CHIP for iPhone

Model Name: Universal Smart Chip for iPhone  
 Trade Name: Brainwave Smart Chip  
 Brand Name: Brainwave Smart Chip  
 Standard: Test plan for mobile station over the Air Performance  
 Revision 2\_2\_2  
 Test date: 2014-11-24  
 Issue date: 2014-11-28

by

Shenzhen Morlab Communications Technology Co., Ltd.



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## General Information

**1.1 Identification of the Responsible Testing Laboratory**

Company Name: Shenzhen Morlab Communications Technology Co., Ltd.  
Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China  
Responsible Test Lab Manager: Mr. Shu Luan  
Telephone: +86 755 86130228  
Facsimile: +86 755 86130218

**1.2 Identification of the Responsible Testing Location**

Name: Shenzhen Morlab Communications Technology Co., Ltd.  
Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China

**1.3 List of Test Equipments**

No	Type	Specification
1	8960-5515C System Simulator	Manufacturer: Agilent
2	CMU 200 System Simulator	Manufacturer: R&S
3	E5071B Vector Network Analyzer	Manufacturer: Agilent
4	4*4*4 Full Anechoic Chamber	Manufacturer: Satimo
5	SG24 Multi-probe Antenna Measurement System	Manufacturer: Satimo
6	Simulated Head	Manufacturer: IndexSAR

## 2. Technical Information

Note: Provide by applicant.

### 2.1 Applicant Information

Company: Brainwave Technology  
Address: NA  
Contact: NA  
Telephone: NA  
Fax: NA

### 2.2 Photographs of the EUT

Please reference annex A.

### 2.3 Identification of all used EUT

The EUT Identity consists of numerical and letter characters (see the table below), the first five numerical characters indicates the Type of the EUT defined by Morlab, the next letter character indicates the test sample, and the following two numerical characters indicates the software version of the test sample.

EUT Identity	IMEI	Hardware Version	Software Version
EUT01	(n.a.)	(n.a.)	(n.a.)

### 3. Test Results

#### 3.1 Applied Reference Documents

No	Identity	Document Title
1	Test Plan for Mobile Station Over the Air Performance	Method of Measurement for Radiated RF Power and Receiver Performance V2.2.2

#### 3.2 Test Conditions

##### 3.2.1 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

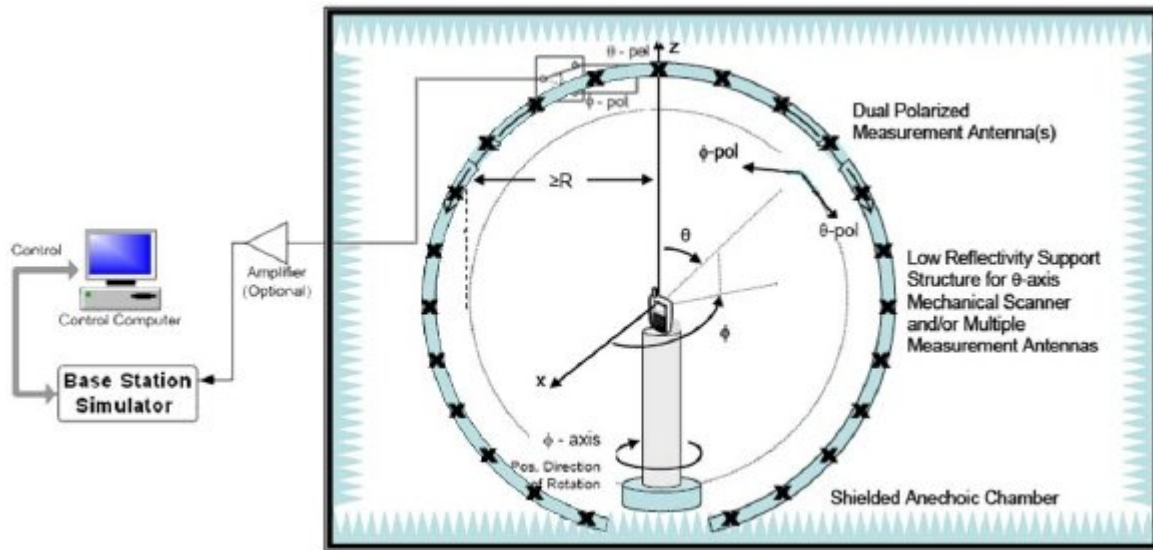
Temperature (°C):	20 - 25
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86 - 106

##### 3.2.2 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

TRP Uncertainty in Measurement of GSM1800 in Freespace:	±1.751dB
TRP Uncertainty in Measurement of WCDMA2100 in Freespace:	±1.845dB
TIS Uncertainty in Measurement of GSM1800 in Freespace:	±1.713dB
TIS Uncertainty in Measurement of WCDMA2100 in Freespace:	±1.799dB

### 3.2.3 Test Setup



### 3.3 Summary of test results For Iphone 6

#### 3.3.1 Total Radiated Power (TRP)

Band	Frequency	TRP(-dBm)	
		Original	with Chip
WCDMA	1950MHz	21.9527	21.3254
	836.6MHz	20.6841	20.0814
	897.6MHz	20.8634	20.3589

#### 3.3.2 Total Isotropic Sensitivity (TIS)

Band	Frequency	TIS(-dBm)	
		Original	with Chip
WCDMA	1950MHz	102.6832	102.1586
	836.6MHz	103.2586	102.9014
	897.6MHz	102.9532	102.5136

### 3.4 Summary of test results For IPHONE 6 plus

#### 3.4.1 Total Radiated Power (TRP)

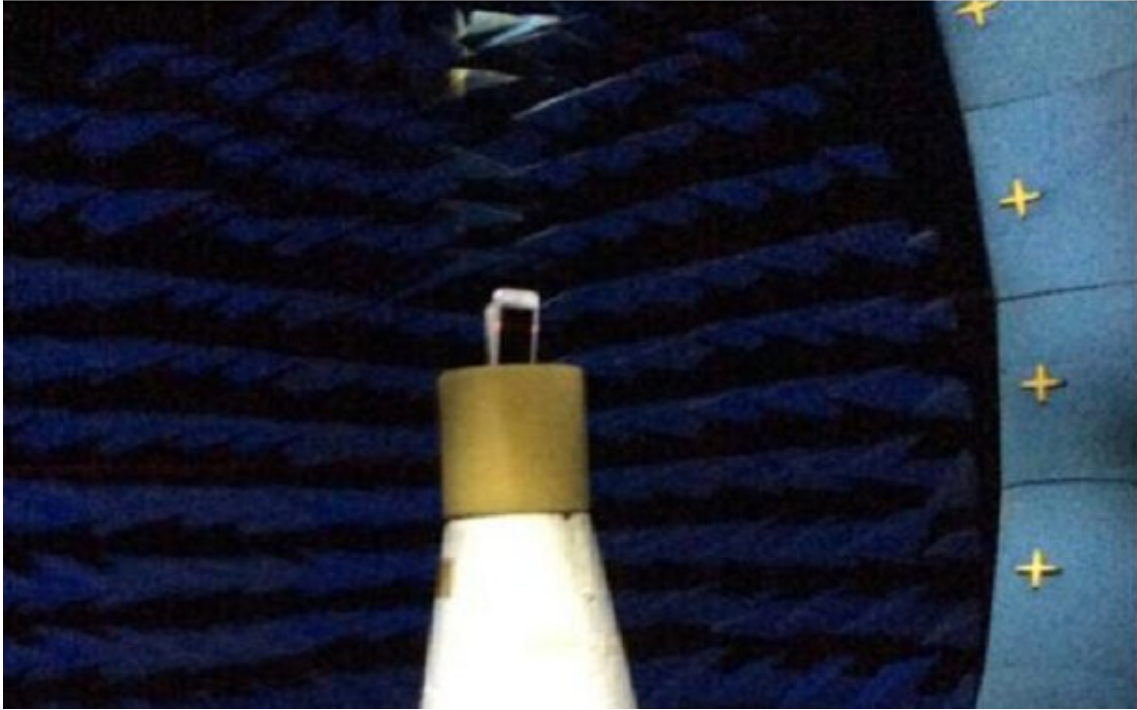
Band	Frequency	TRP(-dBm)	
		Original	with Chip
WCDMA	1950MHz	23.6825	23.154
	836.6MHz	22.051	21.534
	897.6MHz	21.6354	21.4863

#### 3.4.2 Total Isotropic Sensitivity (TIS)

Band	Frequency	TIS(-dBm)	
		Original	with Chip
WCDMA	1950MHz	108.3652	107.643
	836.6MHz	107.853	107.2541
	897.6MHz	107.2563	106.687



## 2. Testing environment for iphone 6



### 3. Testing environment for iphoe6 plus

