



# FCC RF Test Report

**APPLICANT** : Sonim Technologies, Inc.  
**EQUIPMENT** : LTE Phone  
**BRAND NAME** : Sonim  
**MODEL NAME** : XP5800(PG2112)  
**FCC ID** : WYPPG2132  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

This is a variant report which is only valid together with the original test report. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.



Approved by: James Huang / Manager

**Sporton International (Kunshan) Inc.**

No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335  
China



# TABLE OF CONTENTS

**1 GENERAL DESCRIPTION..... 5**

    1.1 Applicant..... 5

    1.2 Manufacturer..... 5

    1.3 Product Feature of Equipment Under Test..... 5

    1.4 Product Specification of Equipment Under Test..... 6

    1.5 Modification of EUT ..... 6

    1.6 Testing Location ..... 6

    1.7 Applicable Standards..... 6

**2 TEST RESULT ..... 7**

    2.1 Maximum Conducted Output Power Measurement ..... 7

**3 LIST OF MEASURING EQUIPMENT..... 8**

**APPENDIX A. CONDUCTED TEST RESULTS**

**APPENDIX B. ORIGINAL REPORT**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR792101-07B	Rev. 01	Initial issue of report	Dec. 19, 2017



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Not Required	-
2.1	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass	-
-	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Not Required	-
-	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) ≤ -17, -27 dBm/MHz &15.209(a)	Not Required	-
-	15.207	AC Conducted Emission	15.207(a)	Not Required	-
-	15.407(g)	Frequency Stability	Within Operation Band	Not Required	-
-	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Not Required	-
-	15.203 & 15.407(a)	Antenna Requirement	N/A	Not Required	-



# 1 General Description

## 1.1 Applicant

Sonim Technologies, Inc.  
1825 S. Grant St., Suite 200., San Mateo, CA, 94402

## 1.2 Manufacturer

Sonim Technologies (Shenzhen) Limited  
2nd Floor, No. 2 Building Phase B, Daqian Industrial park, Longchang Road, 67 District, Baoan, Shenzhen, P. R. China

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	LTE Phone
Brand Name	Sonim
Model Name	XP5800(PG2112)
FCC ID	WYPPG2132
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+ (16QAM uplink is not supported)/LTE WLAN2.4G 802.11b/g/n HT20/HT40 WLAN5G 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40 Bluetooth v3.0 + EDR/ Bluetooth v4.0 LE/ Bluetooth v4.2 LE
HW Version	A
SW Version	5SA.0.0-00-7.1.2-10.36.01
EUT Stage	Identical Prototype

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for XP5800(PG2112). The difference between the previous and current is added ac mode(VHT20/VHT40) for WLAN by SW. Based on the similarity between two models, only the conducted power of WLAN 5GHz 802.11ac from original test report (Sporton Report Number FR792101-01E) was verified for difference.



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	802.11ac VHT20: 14.98 dBm / 0.0315 W 802.11ac VHT40: 12.94 dBm / 0.0197 W
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Antenna Type / Gain	PIFA Antenna with gain 2.00 dBi

Note: Refer to original test report, the added 802.11ac mode conducted power is lower, relevant test item is covered by 802.11an mode from original test report as Appendix B.

### 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

### 1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.	
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	<b>Sporton Site No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-KS	630927

Note: The test site complies with ANSI C63.4 2014 requirement.

### 1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02
- ANSI C63.10-2013

## 2 Test Result

### 2.1 Maximum Conducted Output Power Measurement

#### 2.1.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 2.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

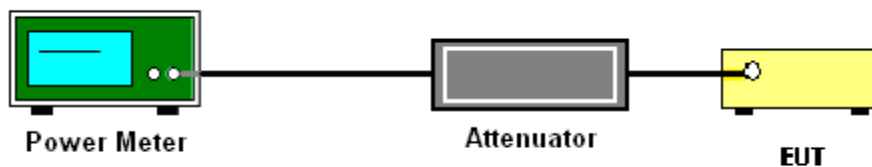
#### 2.1.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor,  $10 \log(1/x)$ , where  $x$  is the duty cycle.

#### 2.1.4 Test Setup



#### 2.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 19, 2017	Dec. 12, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 19, 2017	Dec. 12, 2017	Jan. 18, 2018	Conducted (TH01-KS)





## **Appendix A. Conducted Test Results**

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2017/12/12	Relative Humidity:	51~55	%

**TEST RESULTS DATA**  
**Average Power Table**

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
VHT20	MCS 0	1	149	5745	0.79	13.94	30.00	2.00		Pass
VHT20	MCS 0	1	157	5785	0.79	14.98	30.00	2.00		Pass
VHT20	MCS 0	1	165	5825	0.79	14.32	30.00	2.00		Pass
VHT40	MCS 0	1	151	5755	1.49	12.56	30.00	2.00		Pass
VHT40	MCS 0	1	159	5795	1.49	12.94	30.00	2.00		Pass



## **Appendix B. Original Report**

Please refer to Sporton report number FR792101-01E which is issued separately.