FCC SAR Test Report

APPLICANT	:	Symbol Technologies, Inc.
EQUIPMENT	:	Touch Computer
BRAND NAME	:	Symbol
MODEL NAME	:	TC55AH
FCC ID	:	UZ7TC55AH
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2003

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

Table of Contents

1. Administration Data **3**
2. Guidance Standard **3**
3. Equipment Under Test (EUT) **4**
3.1 General Information 4
3.2 Maximum Tune-up Limit 5
4. Conducted RF Output Power (Unit: dBm) **5**
5. References **6**

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA322304-20	Rev. 01	This is a variant report for updating the conducted power by FCC new rule.	Jan. 16, 2015

1. Administration Data

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Symbol Technologies, Inc.
Address	One Motorola Plaza, Holtsville, NY 11742-1300 USA

Manufacturer	
Company Name	Symbol Technologies, Inc.
Address	One Motorola Plaza, Holtsville, NY 11742-1300 USA

2. Guidance Standard

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2003
- FCC KDB 447498 D01 General RF Exposure Guidance v05r02
- FCC KDB 248227 D01 SAR meas for 802 11abg v01r02

3. Equipment Under Test (EUT)

3.1 General Information

Product Feature & Specification	
Equipment Name	Touch Computer
Brand Name	Symbol
Model Name	TC55AH
FCC ID	UZ7TC55AH
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	• GSM/GPRS/EGPRS • WCDMA Rel 99 • HSDPA Rel 7, Cat14 • HSUPA Rel 6, Cat6 • LTE: QPSK, 16QAM • 802.11a/b/g/n HT20/HT40 • Bluetooth v3.0+EDR，Bluetooth v4.0-LE • NFC:ASK
HW Version	DV1
SW Version	Android 4.1.2
FW Version	BSP 1.27
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
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. Updated WLAN5GHz Band IV conducted power and only reduced Max. tune up power of ch149 and ch151, it does not affect original SAR test results, therefore SAR testing is not required.

3.2 Maximum Tune-up Limit

WLAN5GHz Band	IEEE 802.11		
	11a	11n-HT20	11n-HT40
Average Power (dBm)			
Ch149	13.5	13.5	
Ch151			10.5
Ch153	17	16	
Ch157	17	16	
Ch159			14.5
Ch161	17	16	
Ch165	17	16	

4. Conducted RF Output Power (Unit: dBm)

<5GHz WLAN Conducted Power>

Mode	Channel	Frequency (MHz)	Average Power (dBm)							
			Data Rate							
			6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
802.11a	CH 149	5745	13.47	13.11	13.10	13.13	13.15	13.11	13.14	13.06
	CH 153	5765	16.91	16.80	16.70	16.68	16.85	16.80	16.74	16.72
	CH 157	5785	16.63	16.61	16.60	16.57	16.56	16.62	16.60	16.57
	CH 161	5805	16.69	16.6.0	16.61	16.58	16.68	16.58	16.59	16.60
	CH 165	5825	16.53	16.51	16.47	16.52	16.48	16.51	15.51	15.43

Mode	Channel	Frequency (MHz)	Average Power (dBm)							
			Data Rate							
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n-HT20	CH 149	5745	13.49	13.26	13.27	13.28	13.33	13.15	13.03	13.01
	CH 153	5765	15.75	15.70	15.65	15.70	15.68	15.69	15.59	15.69
	CH 157	5785	15.41	15.36	15.33	15.35	15.35	15.39	15.35	15.21
	CH 161	5805	15.68	15.45	15.50	15.48	15.50	15.49	15.32	15.46
	CH 165	5825	15.44	15.40	15.34	15.36	15.30	15.35	15.33	15.20

Mode	Channel	Frequency (MHz)	Average Power (dBm)							
			MCS Index							
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n-HT40	CH 151	5755	10.18	10.16	10.15	10.07	10.15	10.16	10.06	10.11
	CH 159	5795	14.24	14.15	14.23	14.20	14.14	14.19	14.17	14.09

5. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, December 2003

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v01r02, “SAR Measurement Procedures for 802.11 a/b/g Transmitters”, May 2007

[6] FCC KDB 447498 D01 v05r02, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Feb 2014