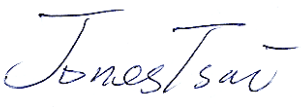
FCC RF Test Report

APPLICANT	:	Zebra Technologies Corporation
EQUIPMENT	:	Enterprise Tablet
BRAND NAME	:	Zebra
MODEL NAME	:	ET55BT
FCC ID	:	UZ7ET55BT
STANDARD	:	FCC 47 CFR Part 2, 22(H), 24(E), 27(L)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)

This is a partial report which is included the Conducted Output Power, Effective Radiated Power, Effective Isotropic Radiated Power, and Radiated Spurious Emission test items. The product was received on Jun. 01, 2016 and testing was completed on Jul. 07, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG660115A	Rev. 01	Initial issue of report	Aug. 04, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(2)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(h)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 22.70 dB at 5640.000 MHz

1 General Description

1.1 Applicant

Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742

1.2 Manufacturer

Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Enterprise Tablet
Brand Name	Zebra
Model Name	ET55BT
FCC ID	UZ7ET55BT
Integrated the WWAN Module	Brand Name: Sierra Model Name: EM7355 FCC ID: N7NEM7355
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.0 EDR/LE
HW Version	DV1
SW Version	5.1.1
FW Version	SWI9X15C_05.05.58.00
MFD	31-Mar-16
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	**GSM/GPRS/EDGE:** 850: 824.2 MHz ~ 848.8 MHz 1900: 1850.2 MHz ~ 1909.8MHz **WCDMA:** Band V: 826.4 MHz ~ 846.6 MHz Band II: 1852.4 MHz ~ 1907.6 MHz Band IV: 1712.4 MHz ~ 1752.6 MHz **CDMA2000:** BC0: 824.70 MHz ~ 848.31 MHz BC1: 1851.25 MHz ~ 1908.75 MHz
Rx Frequency	**GSM/GPRS/EDGE:** 850: 869.2 MHz ~ 893.8 MHz 1900: 1930.2 MHz ~ 1989.8 MHz **WCDMA:** Band V: 871.4 MHz ~ 891.6 MHz Band II: 1932.4 MHz ~ 1987.6 MHz Band IV: 2112.4 MHz ~ 2152.6 MHz **CDMA2000:** BC0: 869.70 MHz ~ 893.31 MHz BC1: 1931.25 MHz ~ 1988.75 MHz
Maximum Output Power to Antenna	**GSM/GPRS/EDGE:** 850: 32.21 dBm 1900: 29.87 dBm **WCDMA:** Band V: 23.01 dBm Band II: 23.02 dBm Band IV: 22.99 dBm **CDMA2000:** BC0: 23.69 dBm BC1: 23.77 dBm
Antenna Type	Maun Ant. : Flexible internal Antenna Aux. Ant : Flexible internal Antenna
Antenna Gain	GSM 850 : 0.87 dBi GSM 1900 : 0.68 dBi WCDMA Band II : 0.68 dBi WCDMA Band IV : 1.13 dBi WCDMA Band V : 0.87 dBi CDMA BC0 : 0.81 dBi CDMA BC1 : 0.57 dBi

Standards-related Product Specification	
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) CDMA2000 1xRTT: QPSK CDMA2000 1xEV-DO: QPSK/8PSK

1.5 Modification of EUT

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

1.6 Maximum ERP/E IRP Power

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)
Part 22	GSM850 GPRS class 8	GMSK	1.2388
Part 22	GSM850 EDGE class 8	8PSK	0.3926
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.1489
Part 22	CDMA2000 BC0 1xRTT	QPSK	0.1718
Part 22	CDMA2000 BC0 1xEV-DO Rev. A	QPSK	0.1675
Part 24	GSM1900 GPRS class 8	GMSK	1.1350
Part 24	GSM1900 EDGE class 8	8PSK	0.4266
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.2344
Part 24	CDMA2000 BC1 1xRTT	QPSK	0.2716
Part 24	CDMA2000 BC1 1xEV-DO Rev. A	QPSK	0.2661
Part 27	WCDMA Band IV RMC 12.2Kbps	QPSK	0.2582

1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	TH05-HY

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH10-HY

1.8 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

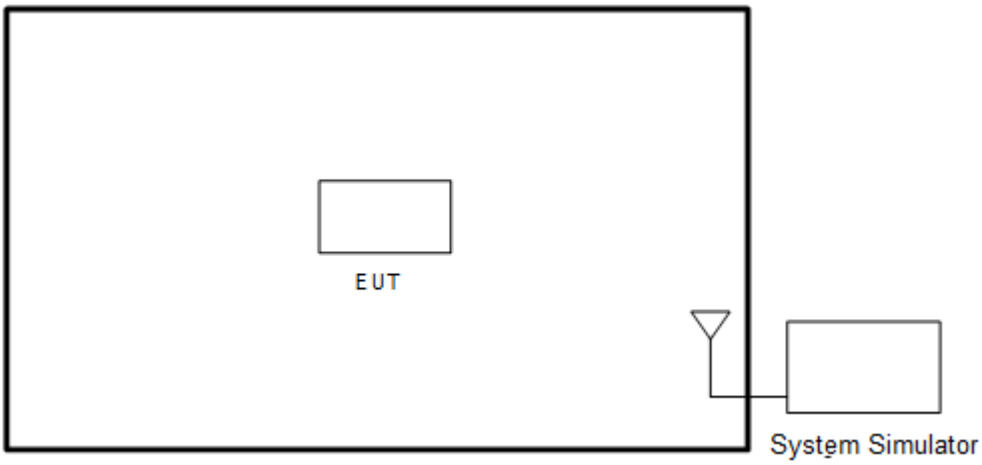
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V and CDMA BC0
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II and CDMA BC1.

All modes and data rates and positions were investigated.

Test Modes		
Band	**Radiated TCs**	**Conducted TCs**
GSM 850	■ GPRS class 8 Link ■ EDGE class 8 Link	■ GPRS class 8 Link ■ EDGE class 8 Link
GSM 1900	■ GPRS class 8 Link ■ EDGE class 8 Link	■ GPRS class 8 Link ■ EDGE class 8 Link
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
CDMA BC0	■ 1xRTT Link	■ 1xRTT Link
CDMA BC1	■ 1xRTT Link	■ 1xRTT Link

2.2 Connection Diagram of Test System

<Y Plane without Accessory>



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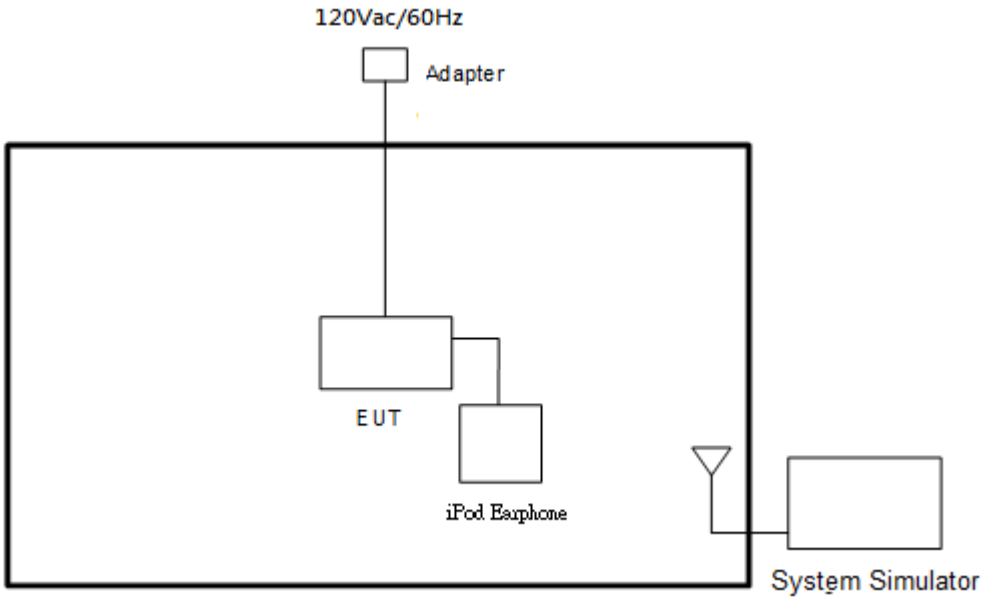


2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

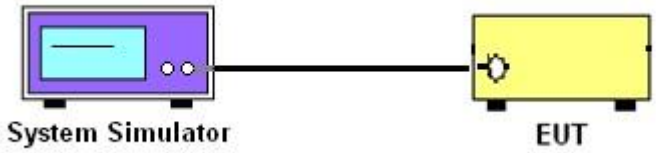
3 Conducted Test Result

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

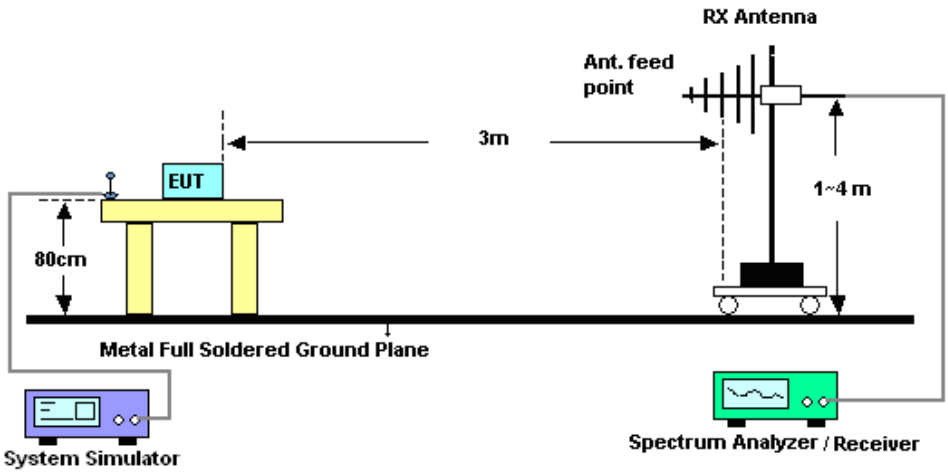
4 Radiated Test Items

4.1 Measuring Instruments

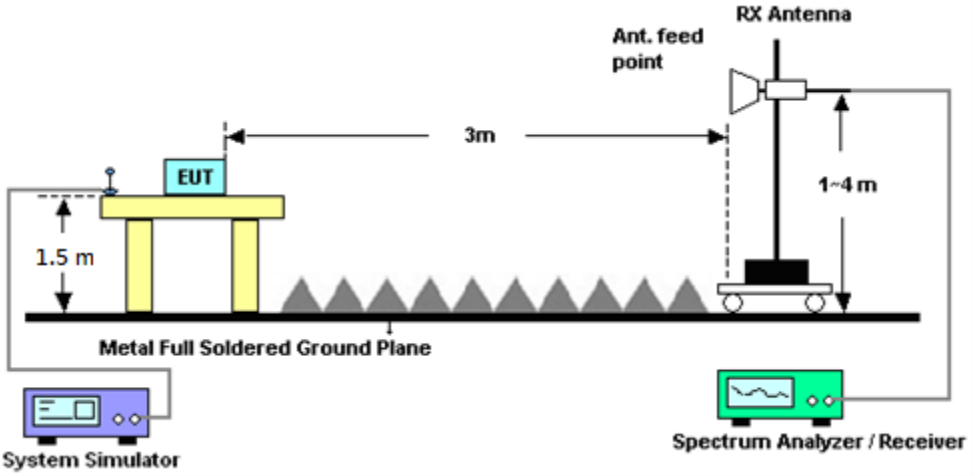
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

    = P(W) - [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Nov. 16, 2015	Jun. 28, 2016~ Jul. 07, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Jan. 13, 2016	Jun. 28, 2016~ Jul. 07, 2016	Jan. 12, 2017	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2015	Jun. 28, 2016~ Jul. 07, 2016	Sep. 29, 2016	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 13, 2015	Jun. 28, 2016~ Jul. 07, 2016	Nov. 12, 2016	Radiation (03CH10-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1902246	1GHz~18GHz	Nov. 16, 2015	Jun. 28, 2016~ Jul. 07, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 15, 2015	Jun. 28, 2016~ Jul. 07, 2016	Oct. 14, 2016	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 28, 2016~ Jul. 07, 2016	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Jun. 28, 2016~ Jul. 07, 2016	N/A	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 15, 2016	Jun. 28, 2016~ Jul. 07, 2016	Apr. 14, 2017	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jun. 28, 2016~ Jul. 07, 2016	Nov. 01, 2016	Radiation (03CH10-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Jul. 20, 2015	Jun. 28, 2016~ Jul. 07, 2016	Jul. 19, 2016	Radiation (03CH10-HY)
Wireless Communication Test Set	Agilent	E5515C	MY50266977	GSM/WCDMA	May. 10, 2016	Jun. 30, 2016	May. 09, 2017	Conducted (TH05-HY)

6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.50**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.20**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GPRS class 8	32.21	32.09	32.00	29.87	29.62	29.85
GPRS class 10	32.01	31.99	31.92	29.71	29.51	29.79
EGPRS class 8	27.16	27.14	27.22	25.62	25.60	25.58
EGPRS class 10	27.14	27.10	27.18	25.56	25.53	25.51
EGPRS class 11	27.01	26.95	27.05	25.55	25.52	25.50
EGPRS class 12	26.80	26.78	26.87	25.44	25.40	25.38

Conducted Power (*Unit: dBm)									
Band	WCDMA Band V			WCDMA Band II			WCDMA Band IV		
Channel	4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
RMC 12.2K	23.01	22.84	22.81	22.89	22.95	23.02	22.99	22.95	22.92
HSDPA Subtest-1	22.55	22.41	22.36	22.57	22.50	22.64	22.50	22.45	22.42
HSDPA Subtest-2	22.63	22.52	22.45	22.56	22.60	22.67	22.51	22.44	22.43
HSDPA Subtest-3	22.11	22.09	21.92	22.07	22.12	22.24	22.05	22.00	21.97
HSDPA Subtest-4	22.15	22.14	21.97	22.12	22.16	22.30	22.07	22.02	22.01
HSUPA Subtest-1	22.17	22.14	22.05	22.42	22.49	22.76	22.08	22.04	22.00
HSUPA Subtest-2	21.02	21.07	20.90	21.23	21.29	21.19	20.92	20.91	20.86
HSUPA Subtest-3	21.34	21.24	21.17	21.38	21.55	21.77	21.46	21.20	21.05
HSUPA Subtest-4	21.56	21.33	20.89	21.42	21.51	21.83	21.55	21.25	21.02
HSUPA Subtest-5	22.57	22.55	22.32	22.55	22.57	22.74	22.42	22.22	22.12

Conducted Power (*Unit: dBm)						
Band	**CDMA 2000 BC0**			**CDMA 2000 BC1**		
Channel	**1013**	**384**	**777**	**25**	**600**	**1175**
Frequency	**824.7**	**836.52**	**848.31**	**1851.25**	**1880**	**1908.75**
1xRTT RC1 SO55	23.66	23.46	23.34	23.58	23.65	23.71
1xRTT RC3 SO55	23.67	23.48	23.37	23.64	23.69	23.72
1xRTT RC3 SO32 (+ F-SCH)	**23.69**	23.51	23.38	23.63	23.71	**23.77**
1xRTT RC3 SO32 (+SCH)	23.65	23.48	23.41	23.65	23.73	23.70
1xEVDO RTAP 153.6Kbps	23.49	23.47	23.39	23.54	23.57	23.68
1xEVDO RETAP 4096Bits	23.58	23.46	23.36	23.52	23.59	23.67

Appendix B. Test Results of Radiated Test

ERP/EIRP

Channel	Mode	Conducted		ERP	
		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	GSM850	32.21	1.6634	30.93	1.2388
Middle	GPRS class 8	32.09	1.6181	30.81	1.2050
Highest	(GT - LC = 0.87 dB)	32.00	1.5849	30.72	1.1803
Lowest	GSM850	27.16	0.5200	25.88	0.3873
Middle	EDGE class 8	27.14	0.5176	25.86	0.3855
Highest	(GT - LC = 0.87 dB)	27.22	0.5272	25.94	0.3926
Lowest	WCDMA Band V	23.01	0.2000	21.73	0.1489
Middle	RMC 12.2Kbps	22.84	0.1923	21.56	0.1432
Highest	(GT - LC = 0.87 dB)	22.81	0.1910	21.53	0.1422
Lowest	CDMA BC0	23.69	0.2339	22.35	0.1718
Middle	1xRTT	23.51	0.2244	22.17	0.1648
Highest	(GT - LC = 0.81 dB)	23.38	0.2178	22.04	0.1600
Lowest	CDMA BC0	23.58	0.2280	22.24	0.1675
Middle	1xEV-DO	23.46	0.2218	22.12	0.1629
Highest	(GT - LC = 0.81 dB)	23.36	0.2168	22.02	0.1592
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900	29.87	0.9705	30.55	1.1350
Middle	GPRS class 8	29.62	0.9162	30.30	1.0715
Highest	(GT - LC = 0.68 dB)	29.85	0.9661	30.53	1.1298
Lowest	GSM1900	25.62	0.3648	26.30	0.4266
Middle	EDGE class 8	25.60	0.3631	26.28	0.4246
Highest	(GT - LC = 0.68 dB)	25.58	0.3614	26.26	0.4227
Lowest	WCDMA Band II	22.89	0.1945	23.57	0.2275
Middle	RMC 12.2Kbps	22.95	0.1972	23.63	0.2307
Highest	(GT - LC = 0.68 dB)	23.02	0.2004	23.70	0.2344
Lowest	CDMA BC1	23.63	0.2307	24.20	0.2630
Middle	1xRTT	23.71	0.2350	24.28	0.2679
Highest	(GT - LC = 0.57 dB)	23.77	0.2382	24.34	0.2716
Lowest	CDMA BC1	23.54	0.2259	24.11	0.2576
Middle	1xEV-DO	23.57	0.2275	24.14	0.2594
Highest	(GT - LC = 0.57 dB)	23.68	0.2333	24.25	0.2661
Limit	EIRP < 2W	Result		PASS	

Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band IV	22.99	0.1991	24.12	0.2582
Middle	RMC 12.2Kbps	22.95	0.1972	24.08	0.2559
Highest	(GT - LC = 1.13 dB)	22.92	0.1959	24.05	0.2541
Limit	EIRP < 1W	Result		PASS	

Radiated Spurious Emission

GSM850 (GPRS class 8)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-55.37	-13	-42.37	-65.09	-57.13	0.98	4.89	H
	2472	-55.01	-13	-42.01	-68.7	-56.89	1.28	5.32	H
	3296	-53.23	-13	-40.23	-69.21	-56.64	1.54	7.10	H
	1648	-56.34	-13	-43.34	-65.96	-58.1	0.98	4.89	V
	2472	-55.85	-13	-42.85	-69.58	-57.73	1.28	5.32	V
	3296	-53.94	-13	-40.94	-69.86	-57.35	1.54	7.10	V
Middle	1672	-58.47	-13	-45.47	-68.32	-60.15	0.99	4.82	H
	2512	-55.47	-13	-42.47	-69.31	-57.44	1.29	5.41	H
	3344	-52.57	-13	-39.57	-68.61	-56.18	1.56	7.31	H
	1672	-58.25	-13	-45.25	-68.04	-59.93	0.99	4.82	V
	2512	-54.80	-13	-41.80	-68.66	-56.77	1.29	5.41	V
	3344	-53.66	-13	-40.66	-69.71	-57.27	1.56	7.31	V
Highest	1696	-58.08	-13	-45.08	-68.03	-59.68	1.00	4.75	H
	2544	-55.60	-13	-42.60	-69.57	-57.58	1.30	5.44	H
	3392	-52.64	-13	-39.64	-68.75	-56.44	1.57	7.52	H
	1696	-57.40	-13	-44.40	-67.26	-59	1.00	4.75	V
	2544	-55.43	-13	-42.43	-69.38	-57.41	1.30	5.44	V
	3392	-53.48	-13	-40.48	-69.68	-57.28	1.57	7.52	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM850 (EDGE class 8)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-57.50	-13	-44.50	-67.22	-59.26	0.98	4.89	H
	2472	-55.12	-13	-42.12	-68.85	-57	1.28	5.32	H
	3296	-53.59	-13	-40.59	-69.56	-57	1.54	7.10	H
	1648	-56.88	-13	-43.88	-66.54	-58.64	0.98	4.89	V
	2472	-54.66	-13	-41.66	-68.39	-56.54	1.28	5.32	V
	3296	-54.24	-13	-41.24	-70.16	-57.65	1.54	7.10	V
Middle	1672	-57.90	-13	-44.90	-67.75	-59.58	0.99	4.82	H
	2512	-54.85	-13	-41.85	-68.69	-56.82	1.29	5.41	H
	3344	-53.44	-13	-40.44	-69.48	-57.05	1.56	7.31	H
	1672	-57.32	-13	-44.32	-67.17	-59	0.99	4.82	V
	2512	-55.03	-13	-42.03	-68.96	-57	1.29	5.41	V
	3344	-54.00	-13	-41.00	-70.05	-57.61	1.56	7.31	V
Highest	1696	-57.61	-13	-44.61	-67.55	-59.21	1.00	4.75	H
	2544	-55.57	-13	-42.57	-69.54	-57.55	1.30	5.44	H
	3392	-53.76	-13	-40.76	-69.86	-57.56	1.57	7.52	H
	1696	-56.40	-13	-43.40	-66.27	-58	1.00	4.75	V
	2544	-55.45	-13	-42.45	-69.41	-57.43	1.30	5.44	V
	3392	-53.95	-13	-40.95	-70.11	-57.75	1.57	7.52	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM1900 (GPRS class 8)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3709.5	-48.44	-13	-35.44	-65.29	-55.02	1.67	8.25	H
	5557.5	-44.75	-13	-31.75	-67.38	-51.81	2.66	9.72	H
	7410	-49.99	-13	-36.99	-77.1	-59.15	2.46	11.62	H
	3709.5	-47.01	-13	-34.01	-64.02	-53.59	1.67	8.25	V
	5557.5	-36.45	-13	-23.45	-58.93	-43.51	2.66	9.72	V
	7410	-50.05	-13	-37.05	-77.15	-59.21	2.46	11.62	V
Middle	3775.5	-51.83	-13	-38.83	-68.89	-58.47	1.69	8.33	H
	5640	-44.36	-13	-31.36	-67.14	-51.41	2.71	9.76	H
	7521	-49.01	-13	-36.01	-76.34	-58.4	2.42	11.81	H
	3775.5	-42.97	-13	-29.97	-60.15	-49.61	1.69	8.33	V
	5640	-35.70	-13	-22.70	-58.32	-42.75	2.71	9.76	V
	7521	-48.14	-13	-35.14	-75.58	-57.53	2.42	11.81	V
Highest	3825	-48.55	-13	-35.55	-65.77	-55.23	1.71	8.39	H
	5739	-47.69	-13	-34.69	-70.63	-54.72	2.76	9.80	H
	7636.5	-49.36	-13	-36.36	-76.8	-58.86	2.39	11.88	H
	3825	-41.68	-13	-28.68	-58.99	-48.36	1.71	8.39	V
	5739	-38.25	-13	-25.25	-61.06	-45.28	2.76	9.80	V
	7636.5	-48.36	-13	-35.36	-75.87	-57.86	2.39	11.88	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM1900 (EDGE class 8)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3709.5	-48.68	-13	-35.68	-65.53	-55.26	1.67	8.25	H
	5557.5	-43.93	-13	-30.93	-66.56	-50.99	2.66	9.72	H
	7410	-50.19	-13	-37.19	-77.3	-59.35	2.46	11.62	H
	3709.5	-46.33	-13	-33.33	-63.34	-52.91	1.67	8.25	V
	5557.5	-35.71	-13	-22.71	-58.17	-42.77	2.66	9.72	V
	7410	-49.82	-13	-36.82	-76.98	-58.98	2.46	11.62	V
Middle	3775.5	-53.33	-13	-40.33	-70.39	-59.97	1.69	8.33	H
	5640	-44.81	-13	-31.81	-67.59	-51.86	2.71	9.76	H
	7521	-49.36	-13	-36.36	-76.69	-58.75	2.42	11.81	H
	3775.5	-43.16	-13	-30.16	-60.34	-49.8	1.69	8.33	V
	5640	-36.21	-13	-23.21	-58.83	-43.26	2.71	9.76	V
	7521	-48.88	-13	-35.88	-76.32	-58.27	2.42	11.81	V
Highest	3825	-48.60	-13	-35.60	-65.82	-55.28	1.71	8.39	H
	5739	-45.82	-13	-32.82	-68.73	-52.85	2.76	9.80	H
	7636.5	-49.28	-13	-36.28	-76.72	-58.78	2.39	11.88	H
	3825	-42.32	-13	-29.32	-59.66	-49	1.71	8.39	V
	5739	-37.51	-13	-24.51	-60.32	-44.54	2.76	9.80	V
	7636.5	-47.81	-13	-34.81	-75.32	-57.31	2.39	11.88	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band V(RMC 12.2Kbps)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1656	-49.75	-13	-36.75	-59.55	-51.48	0.98	4.86	H
	2488	-54.38	-13	-41.38	-68.15	-56.31	1.29	5.36	H
	3312	-53.91	-13	-40.91	-69.92	-57.39	1.55	7.17	H
	1656	-51.51	-13	-38.51	-61.25	-53.24	0.98	4.86	V
	2488	-54.81	-13	-41.81	-68.62	-56.74	1.29	5.36	V
	3312	-51.11	-13	-38.11	-67.08	-54.59	1.55	7.17	V
Middle	1672	-50.32	-13	-37.32	-60.19	-52	0.99	4.82	H
	2512	-54.44	-13	-41.44	-68.27	-56.41	1.29	5.41	H
	3344	-52.92	-13	-39.92	-68.96	-56.53	1.56	7.31	H
	1672	-50.96	-13	-37.96	-60.75	-52.64	0.99	4.82	V
	2512	-52.97	-13	-39.97	-66.8	-54.94	1.29	5.41	V
	3344	-49.03	-13	-36.03	-65.08	-52.64	1.56	7.31	V
Highest	1696	-51.12	-13	-38.12	-61.06	-52.72	1.00	4.75	H
	2544	-54.31	-13	-41.31	-68.28	-56.29	1.30	5.44	H
	3392	-53.83	-13	-40.83	-69.93	-57.63	1.57	7.52	H
	1696	-52.13	-13	-39.13	-62.01	-53.73	1.00	4.75	V
	2544	-52.02	-13	-39.02	-66.02	-54	1.30	5.44	V
	3392	-48.62	-13	-35.62	-64.85	-52.42	1.57	7.52	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band II(RMC 12.2Kbps)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3709.5	-50.29	-13	-37.29	-67.14	-56.87	1.67	8.25	H
	5574	-44.85	-13	-31.85	-67.52	-51.91	2.67	9.73	H
	7419	-49.93	-13	-36.93	-77.08	-59.11	2.46	11.64	H
	3709.5	-43.58	-13	-30.58	-60.59	-50.16	1.67	8.25	V
	5574	-36.04	-13	-23.04	-58.44	-43.1	2.67	9.73	V
	7419	-49.75	-13	-36.75	-76.96	-58.93	2.46	11.64	V
Middle	3759	-51.15	-13	-38.15	-68.16	-57.78	1.69	8.31	H
	5656.5	-46.63	-13	-33.63	-69.43	-53.68	2.71	9.76	H
	7518	-49.58	-13	-36.58	-76.91	-58.97	2.42	11.81	H
	3759	-41.36	-13	-28.36	-76.16	-47.99	1.69	8.31	V
	5656.5	-38.58	-13	-25.58	-77.43	-45.63	2.71	9.76	V
	7518	-48.89	-13	-35.89	-77.38	-58.28	2.42	11.81	V
Highest	3816	-49.12	-13	-36.12	-66.33	-55.8	1.70	8.38	H
	5724	-44.56	-13	-31.56	-67.48	-51.6	2.75	9.79	H
	7636.5	-49.60	-13	-36.60	-76.94	-59.1	2.39	11.88	H
	3816	-42.08	-13	-29.08	-59.38	-48.76	1.70	8.38	V
	5724	-35.71	-13	-22.71	-58.49	-42.75	2.75	9.79	V
	7636.5	-49.11	-13	-36.11	-76.63	-58.61	2.39	11.88	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band IV(RMC 12.2Kbps)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3426	-52.67	-13	-39.67	-68.76	-58.76	1.58	7.67	H
	5136	-49.67	-13	-36.67	-71.19	-56.95	2.42	9.70	H
	6852	-45.51	-13	-32.51	-71.27	-53.49	2.64	10.62	H
	3426	-52.73	-13	-39.73	-69.06	-58.82	1.58	7.67	V
	5136	-50.20	-13	-37.20	-71.82	-57.48	2.42	9.70	V
	6852	-44.63	-13	-31.63	-70.24	-52.61	2.64	10.62	V
Middle	3468	-57.63	-13	-44.63	-73.85	-63.89	1.59	7.86	H
	5197	-54.09	-13	-41.09	-75.77	-61.34	2.45	9.70	H
	6930	-51.24	-13	-38.24	-77.27	-59.34	2.61	10.72	H
	3468	-56.28	-13	-43.28	-72.71	-62.54	1.59	7.86	V
	5197	-52.90	-13	-39.90	-74.69	-60.15	2.45	9.70	V
	6930	-51.68	-13	-38.68	-77.45	-59.78	2.61	10.72	V
Highest	3504	-52.66	-13	-39.66	-68.93	-59.06	1.61	8.00	H
	5257	-50.03	-13	-37.03	-71.82	-57.24	2.49	9.70	H
	7010	-43.64	-13	-30.64	-69.89	-51.87	2.59	10.82	H
	3504	-53.62	-13	-40.62	-70.14	-60.02	1.61	8.00	V
	5257	-48.77	-13	-35.77	-70.6	-55.98	2.49	9.70	V
	7010	-44.58	-13	-31.58	-70.55	-52.81	2.59	10.82	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

CDMA BC0(1xRTT)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-48.88	-13	-35.88	-58.6	-50.64	0.98	4.89	H
	2472	-55.91	-13	-42.91	-69.6	-57.79	1.28	5.32	H
	3296	-53.47	-13	-40.47	-69.45	-56.88	1.54	7.10	H
	1648	-49.41	-13	-36.41	-59.07	-51.17	0.98	4.89	V
	2472	-55.28	-13	-42.28	-69.01	-57.16	1.28	5.32	V
	3296	-49.59	-13	-36.59	-65.55	-53	1.54	7.10	V
Middle	1672	-48.06	-13	-35.06	-57.91	-49.74	0.99	4.82	H
	2512	-52.65	-13	-39.65	-66.49	-54.62	1.29	5.41	H
	3344	-52.92	-13	-39.92	-68.97	-56.53	1.56	7.31	H
	1672	-47.70	-13	-34.70	-57.49	-49.38	0.99	4.82	V
	2512	-49.95	-13	-36.95	-63.81	-51.92	1.29	5.41	V
	3344	-44.57	-13	-31.57	-60.62	-48.18	1.56	7.31	V
Highest	1696	-49.97	-13	-36.97	-59.91	-51.57	1.00	4.75	H
	2544	-53.32	-13	-40.32	-67.29	-55.3	1.30	5.44	H
	3392	-51.33	-13	-38.33	-67.43	-55.13	1.57	7.52	H
	1696	-50.14	-13	-37.14	-60.02	-51.74	1.00	4.75	V
	2544	-49.42	-13	-36.42	-63.38	-51.4	1.30	5.44	V
	3392	-45.15	-13	-32.15	-61.35	-48.95	1.57	7.52	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

CDMA BC1(1xRTT)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3709.5	-59.22	-13	-46.22	-76.07	-65.8	1.67	8.25	H
	5557.5	-55.23	-13	-42.23	-77.86	-62.29	2.66	9.72	H
	7410	-50.47	-13	-37.47	-77.58	-59.63	2.46	11.62	H
	3709.5	-59.01	-13	-46.01	-76.02	-65.59	1.67	8.25	V
	5557.5	-55.21	-13	-42.21	-77.67	-62.27	2.66	9.72	V
	7410	-50.41	-13	-37.41	-77.57	-59.57	2.46	11.62	V
Middle	3762	-59.02	-13	-46.02	-76.03	-65.65	1.69	8.31	H
	5640	-54.35	-13	-41.35	-77.13	-61.4	2.71	9.76	H
	7521	-49.91	-13	-36.91	-77.24	-59.3	2.42	11.81	H
	3762	-57.45	-13	-44.45	-74.59	-64.08	1.69	8.31	V
	5640	-54.20	-13	-41.20	-76.82	-61.25	2.71	9.76	V
	7521	-49.49	-13	-36.49	-76.93	-58.88	2.42	11.81	V
Highest	3816	-52.64	-13	-39.64	-69.85	-59.32	1.70	8.38	H
	5724	-48.09	-13	-35.09	-71.01	-55.13	2.75	9.79	H
	7636.5	-43.25	-13	-30.25	-70.69	-52.75	2.39	11.88	H
	3816	-51.72	-13	-38.72	-69.02	-58.4	1.70	8.38	V
	5724	-48.17	-13	-35.17	-70.97	-55.21	2.75	9.79	V
	7636.5	-42.30	-13	-29.30	-69.82	-51.8	2.39	11.88	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.