

Variant FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : WCDMA/GSM (GPRS) Dual-Mode Digital Mobile Phone
BRAND NAME : ZTE
MODEL NAME : ZTE V887
FCC ID : Q78-V887
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

This is a variant report which is only valid together with the original test report. The product was received on Nov. 13, 2012 and completely tested on Nov. 30, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown 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.

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

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SPORTON INTERNATIONAL (KUNSHAN) INC.

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	N/A	Conducted Output Power	N/A	PASS	-
3.2	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
3.2	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.3	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Field Strength of Spurious Radiation	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 32.79 dB at 1674.000 MHz

1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong,
518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong,
518057, P.R.China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	WCDMA/GSM (GPRS) Dual-Mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE V887
FCC ID	Q78-V887
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/WLAN 11bgn/ Bluetooth 2.1 EDR/Bluetooth 3.0 EDR/ Bluetooth 4.0 – LE
HW Version	WMAO
SW Version	ZTE-CN-QB125S-P177A10V1.0.0
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.

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz
Maximum Output Power to Antenna	GSM850 : 32.26 dBm GSM1900 : 29.15 dBm WCDMA Band V : 22.57 dBm WCDMA Band II : 22.08 dBm
Antenna Type	Monopole Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK/8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink)

1.4 Maximum ERP/EIRP Power

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)
Part 22	GSM850 GSM	GMSK	0.7413
Part 22	GSM850 EDGE 8	8PSK	0.2023
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.0718
Part 24	GSM1900 GSM	GMSK	0.6427
Part 24	GSM1900 EDGE 8	8PSK	0.2355
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.1294

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH01-KS	03CH01-KS	149928/4086E-1

1.6 Applied Standards

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

- ♦ Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- ♦ FCC 47 CFR Part 2, 22(H), 24(E)
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v01
- ♦ IC RSS-132 Issue 2
- ♦ IC RSS-133 Issue 5

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.



1.7 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

Test Modes		
Band	Radiated TCs	Conducted TCs
GSM 850	■ GSM Link	■ GSM Link ■ EDGE 8 Link
GSM 1900		■ GSM Link ■ EDGE 8 Link
WCDMA Band V		■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link

Note:

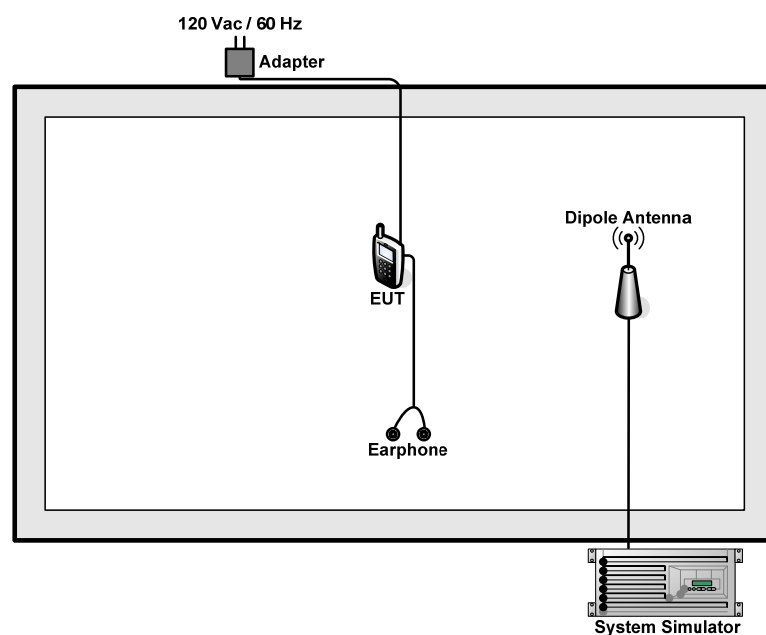
1. The maximum power levels are GSM mode for GSMK link, EDGE multi-slot class 8 mode for 8PSK link, RMC 12.2Kbps mode for WCDMA band V and WCDMA band II, only these modes were used for all tests.
2. For RSE test items, only perform the worse mode according to original report.
3. Because there are individual antennas for each WWAN, WLAN, and Bluetooth, the co-location test modes are not required.

The conducted power tables are as follows:

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
GSM	32.19	32.14	32.26	28.98	28.93	29.15
GPRS 8	32.18	32.15	32.24	28.98	28.90	29.13
GPRS 10	31.30	31.27	31.23	28.21	28.05	28.09
GPRS 11	29.43	29.38	29.33	26.50	26.33	26.53
GPRS 12	28.42	28.37	28.50	25.66	25.51	25.74
EGPRS 8	26.37	26.10	25.97	25.60	25.48	25.50
EGPRS 10	25.30	25.13	25.04	24.63	24.61	24.57
EGPRS 11	23.04	23.01	22.83	22.62	22.63	22.58
EGPRS 12	21.88	21.71	21.75	21.43	21.44	21.38

Conducted Power (*Unit: dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880.0	1907.6
RMC 12.2K	22.53	22.57	22.46	22.08	22.03	22.01
HSDPA Subtest-1	22.56	22.56	22.49	22.01	22.00	22.02
HSDPA Subtest-2	21.50	21.55	21.53	21.23	21.24	21.28
HSDPA Subtest-3	21.04	21.06	21.01	20.74	20.77	20.79
HSDPA Subtest-4	20.99	21.03	20.95	20.71	20.73	20.77
HSUPA Subtest-1	20.21	20.00	20.01	20.13	20.10	20.13
HSUPA Subtest-2	19.17	19.12	19.09	19.12	19.14	19.09
HSUPA Subtest-3	19.71	19.51	19.48	19.62	19.57	19.63
HSUPA Subtest-4	20.21	20.21	20.11	20.13	20.14	20.19
HSUPA Subtest-5	21.98	22.16	22.07	21.70	21.74	21.77

2.2 Connection Diagram of Test System



3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

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

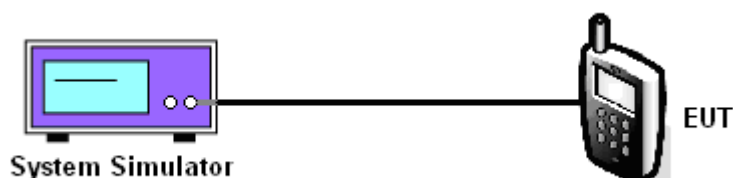
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
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.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Cellular Band									
Modes	GSM850 (GSM)			GSM850 (EDGE 8)			WCDMA Band V (RMC 12.2Kbps)		
Channel	128 (Low)	189 (Mid)	251 (High)	128 (Low)	189 (Mid)	251 (High)	4132 (Low)	4182 (Mid)	4233 (High)
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	826.4	836.4	846.6
Conducted Power (dBm)	32.19	32.14	32.26	26.37	26.10	25.97	22.53	22.57	22.46
Conducted Power (Watts)	1.66	1.64	1.68	0.43	0.41	0.40	0.18	0.18	0.18

PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE 8)			WCDMA Band II (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Conducted Power (dBm)	28.98	28.93	29.15	25.60	25.48	25.50	22.08	22.03	22.01
Conducted Power (Watts)	0.79	0.78	0.82	0.36	0.35	0.35	0.16	0.16	0.16

Note: maximum burst average power for GSM, and maximum average power for WCDMA.

3.2 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.2.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v01. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts.

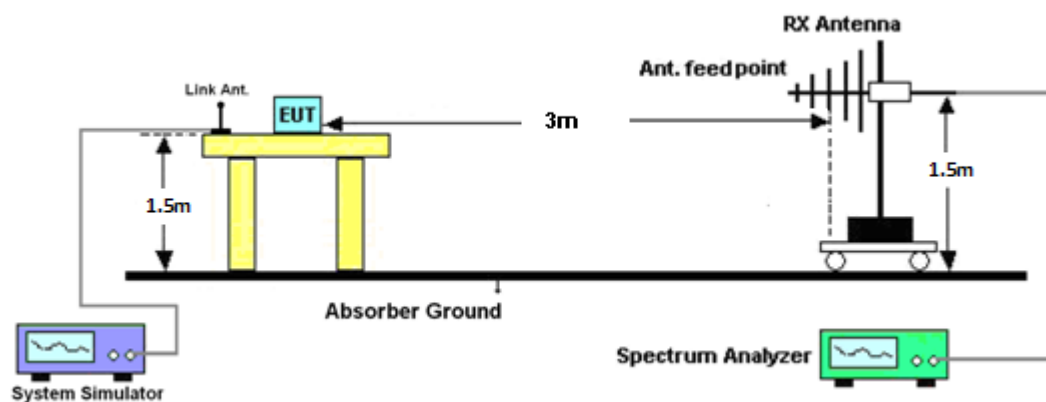
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meter from the receiving antenna, which was mounted on the antenna tower.
3. GSM operating modes: Set RBW= 1MHz, VBW= 3MHz, RMS detector over burst;
UMTS operating modes: Set RBW= 100 KHz, VBW= 300 KHz, RMS detector over frame, and use channel power option with bandwidth=5MHz, per section 4.0 of KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$
 P_s (dBm) : Input power to substitution antenna.
 G_s (dBi or dBd) : Substitution antenna Gain.
 $E_t = R_t + AF$
 $E_s = R_s + AF$
 AF (dB/m) : Receive antenna factor
 R_t : The highest received signal in spectrum analyzer for EUT.
 R_s : The highest received signal in spectrum analyzer for substitution antenna.

3.2.4 Test Setup



3.2.5 Test Result of ERP

GSM850 (GSM) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-20.68	-48.12	0.00	-1.08	26.36	0.4325
836.40	-19.18	-48.28	0.00	-0.93	28.17	0.6561
848.80	-18.89	-48.35	0.00	-0.76	28.70	0.7413
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-32.08	-47.97	0.00	-1.08	14.81	0.0303
836.40	-30.61	-48.01	0.00	-0.93	16.47	0.0444
848.80	-29.64	-48.05	0.00	-0.76	17.65	0.0582

GSM850 (EDGE 8) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-26.60	-48.12	0.00	-1.08	20.44	0.1107
836.40	-24.68	-48.28	0.00	-0.93	22.67	0.1849
848.80	-24.53	-48.35	0.00	-0.76	23.06	0.2023
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-38.15	-47.97	0.00	-1.08	8.74	0.0075
836.40	-36.13	-48.01	0.00	-0.93	10.95	0.0124
848.80	-35.07	-48.05	0.00	-0.76	12.22	0.0167

WCDMA Band V (RMC 12.2Kbps) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-28.89	-48.12	0.00	-1.08	18.15	0.0653
836.40	-28.93	-48.28	0.00	-0.93	18.42	0.0695
846.60	-29.03	-48.35	0.00	-0.76	18.56	0.0718
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-40.23	-47.97	0.00	-1.08	6.66	0.0046
836.40	-40.17	-48.01	0.00	-0.93	6.91	0.0049
846.60	-39.66	-48.05	0.00	-0.76	7.63	0.0058

3.2.6 Test Result of EIRP

GSM1900 (GSM) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-27.43	-51.88	0.00	1.96	26.41	0.4375
1880.00	-27.52	-52.99	0.00	2.00	27.47	0.5585
1909.80	-28.86	-54.28	0.00	1.98	27.40	0.5495
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-26.43	-52.13	0.00	1.96	27.66	0.5834
1880.00	-27.15	-53.17	0.00	2.00	28.02	0.6339
1909.80	-28.03	-54.13	0.00	1.98	28.08	0.6427

GSM1900 (EDGE 8) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-32.06	-51.88	0.00	1.96	21.78	0.1507
1880.00	-32.27	-52.99	0.00	2.00	22.72	0.1871
1909.80	-32.98	-54.28	0.00	1.98	23.28	0.2128
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-31.03	-52.13	0.00	1.96	23.06	0.2023
1880.00	-31.81	-53.17	0.00	2.00	23.36	0.2168
1909.80	-32.39	-54.13	0.00	1.98	23.72	0.2355

WCDMA Band II (RMC 12.2Kbps) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-33.90	-51.88	0.00	1.96	19.94	0.0986
1880.00	-34.64	-52.99	0.00	2.00	20.35	0.1084
1907.60	-35.80	-54.28	0.00	1.98	20.46	0.1112
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-33.18	-52.13	0.00	1.96	20.91	0.1233
1880.00	-34.37	-53.17	0.00	2.00	20.80	0.1202
1907.60	-34.99	-54.13	0.00	1.98	21.12	0.1294

3.3 Field Strength of Spurious Radiation Measurement

3.3.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. 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.

3.3.2 Measuring Instruments

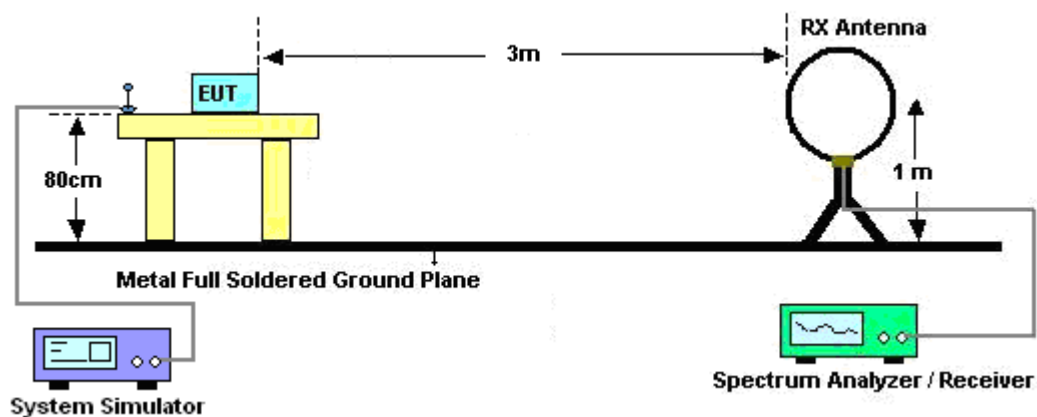
See list of measuring instruments of this test report.

3.3.3 Test Procedures

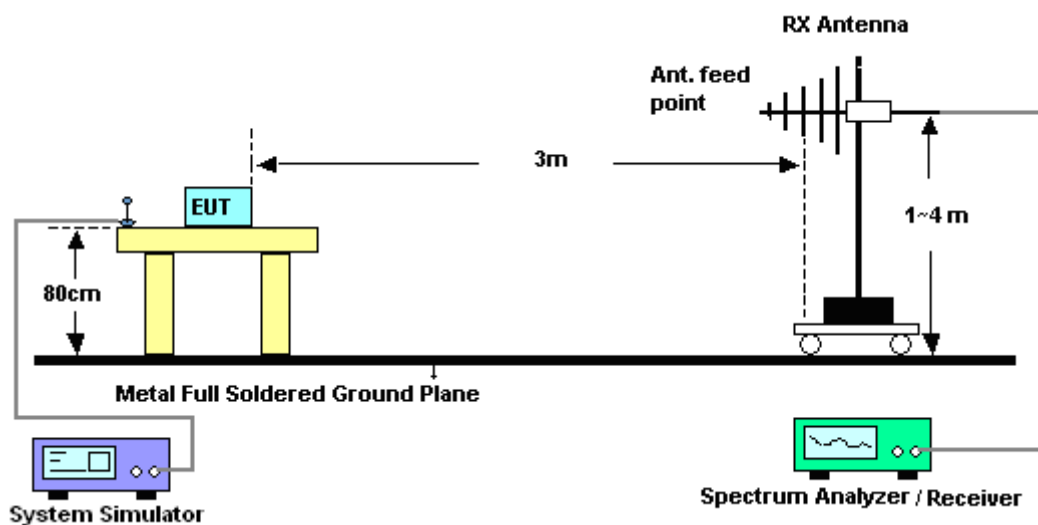
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$

3.3.4 Test Setup

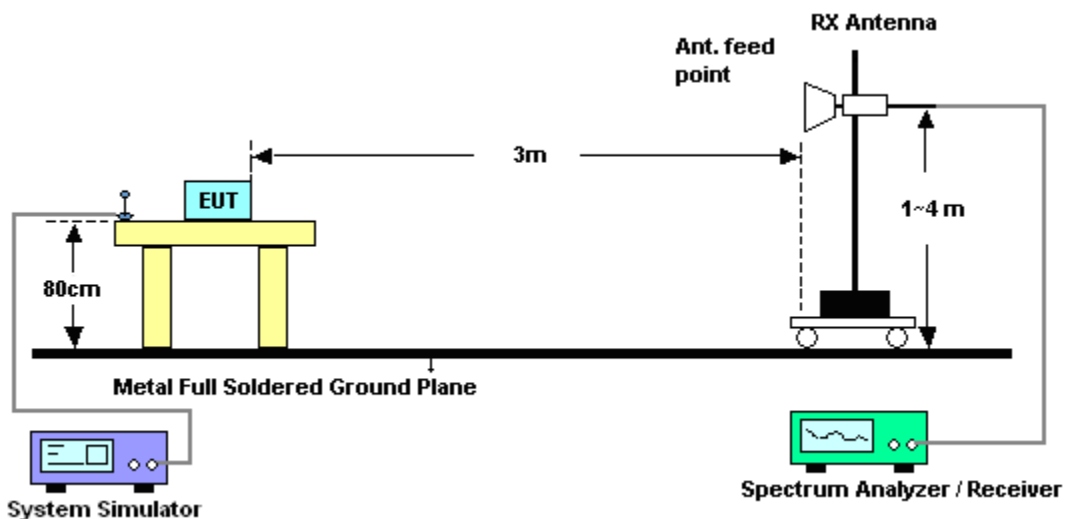
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

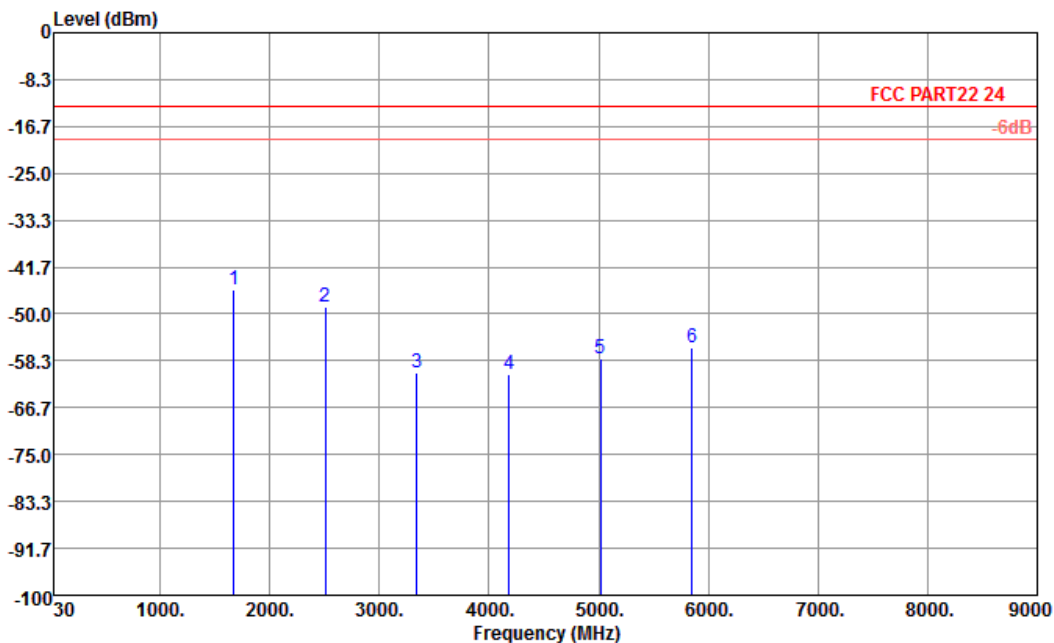


3.3.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.3.6 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	Temperature :	22~23°C
Test Mode :	GSM Link	Relative Humidity :	44~45%
Test Engineer :	Steven Hao	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

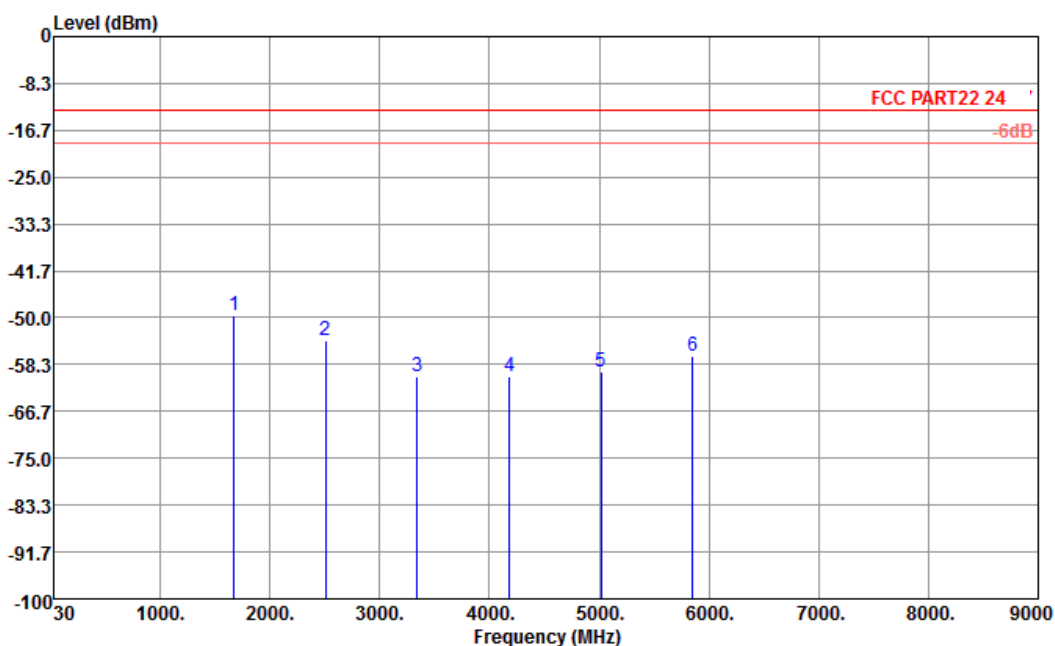


Site : 03CH01-KS
 Condition : FCC PART22 24 HF EIRP FACTOR-09020 HORIZONTAL
 Project : (FG) 292601-01

Plan : E2

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)	Result
1674	-45.79	-13	-32.79	-45.19	-46.44	0.57	3.37	H	Pass
2510	-48.85	-13	-35.85	-51.03	-51.08	0.78	5.16	H	Pass
3344	-60.31	-13	-47.31	-62.25	-63.95	0.87	6.66	H	Pass
4182	-60.84	-13	-47.84	-63.58	-65.43	0.97	7.71	H	Pass
5018	-58.07	-13	-45.07	-64.27	-63.74	1.09	8.91	H	Pass
5854	-55.92	-13	-42.92	-64.63	-62.36	1.22	9.81	H	Pass

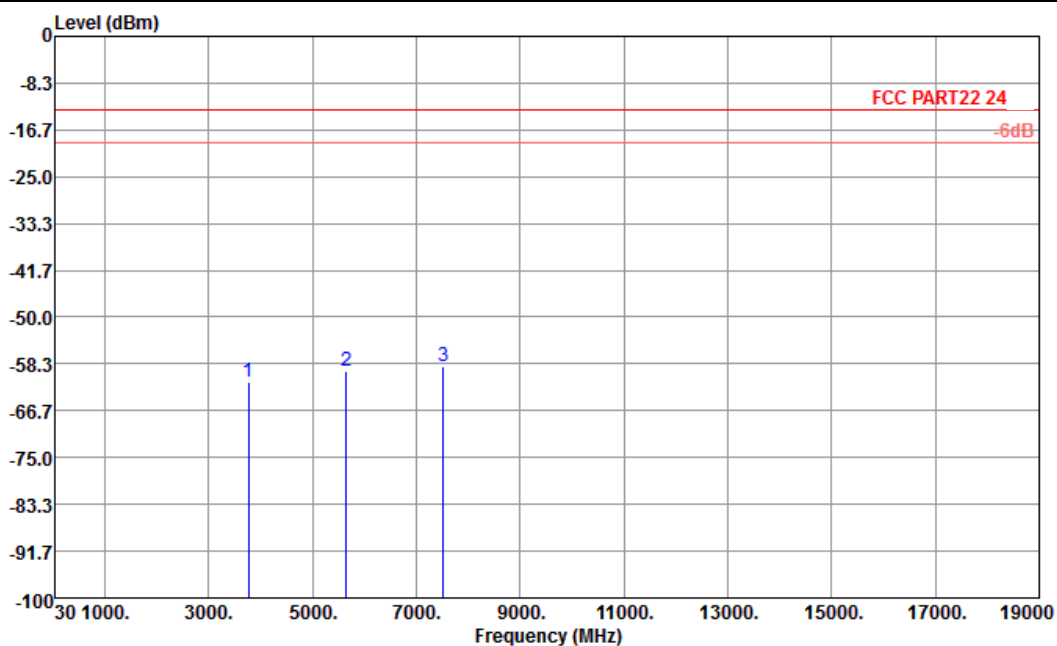
Band :	GSM850	Temperature :	22~23°C
Test Mode :	GSM Link	Relative Humidity :	44~45%
Test Engineer :	Steven Hao	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition : FCC PART22 24 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 292601-01
Plan : E2

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)	Result
1674	-49.45	-13	-36.45	-51.73	-50.10	0.57	3.37	V	Pass
2510	-53.96	-13	-40.96	-57.07	-56.19	0.78	5.16	V	Pass
3344	-60.32	-13	-47.32	-62.30	-63.96	0.87	6.66	V	Pass
4182	-60.45	-13	-47.45	-64.29	-65.04	0.97	7.71	V	Pass
5018	-59.51	-13	-46.51	-64.45	-65.18	1.09	8.91	V	Pass
5854	-56.86	-13	-43.86	-64.85	-63.30	1.22	9.81	V	Pass

Band :	WCDMA Band II	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	44~45%
Test Engineer :	Steven Hao	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

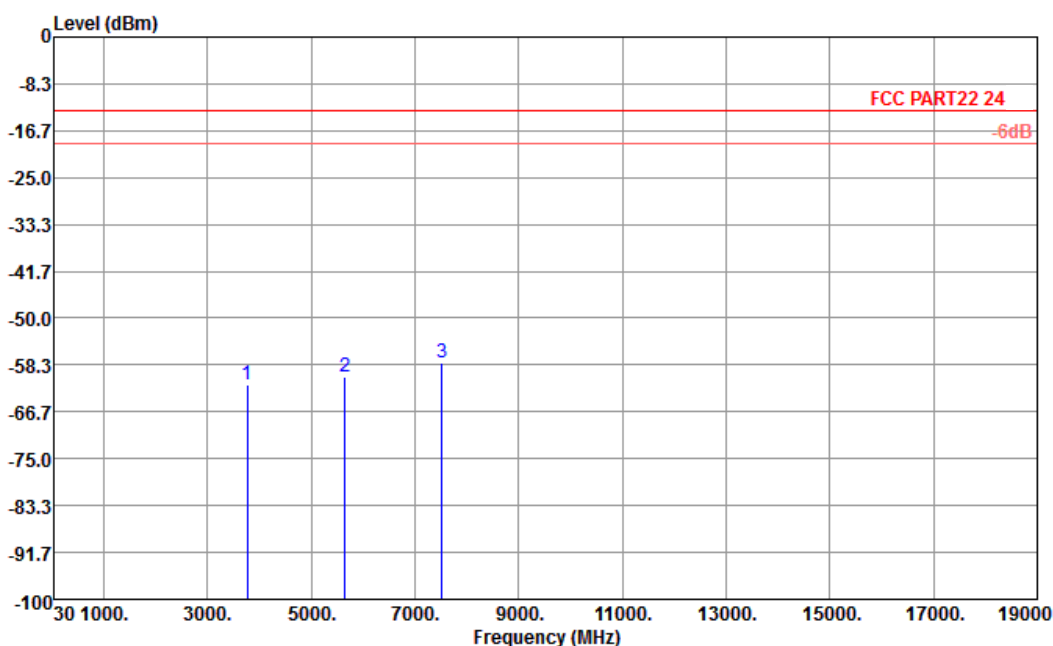


Site : 03CH01-KS
 Condition : FCC PART22 24 HF EIRP FACTOR-09020 HORIZONTAL
 Project : (FG) 292601-01
 Plan : E1

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)	Result
3760	-61.49	-13	-48.49	-62.46	-67.87	0.78	7.16	H	Pass
5640	-59.58	-13	-46.58	-63.76	-68.12	1.04	9.58	H	Pass
7520	-58.91	-13	-45.91	-64.04	-69.02	1.35	11.46	H	Pass



Band :	WCDMA Band II	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	44~45%
Test Engineer :	Steven Hao	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition : FCC PART22 24 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 292601-01
Plan : E1

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)	Result
3760	-61.82	-13	-48.82	-63.19	-68.20	0.78	7.16	V	Pass
5640	-60.43	-13	-47.43	-63.65	-68.97	1.04	9.58	V	Pass
7520	-57.93	-13	-44.93	-62.42	-68.04	1.35	11.46	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Nov.30, 2012	Dec. 29, 2012	Conducted (TH01-KS)
DC Power Supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 22, 2012	Nov.30, 2012	Aug. 21, 2013	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	Nov.18, 2012	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Nov.18, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Nov.18, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Nov.18, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	Jun. 01, 2012	Nov.18, 2012	May 31, 2013	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Nov.18, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	9170249	15GHz-40GHz	Oct. 10, 2012	Nov.18, 2012	Oct. 09, 2013	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Nov.18, 2012	Jul. 02, 2014	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	116456	Full-Band	Sep. 19, 2012	Nov.18, 2012	Sep. 18, 2013	Radiation (03CH01-KS)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP292601-01 as below.



Appendix C. Product Equality Declaration