



FCC RF Test Report

APPLICANT : Sony Mobile Communications Inc
EQUIPMENT : PDA Phone
BRAND NAME : Sony
TYPE NAME : PM-0781-BV
FCC ID : PY7-PM0781
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

This is a partial report which is included the conducted power and radiated test items. The product was received on Dec. 04, 2014 and testing was completed on Mar. 24, 2015. 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-C-2004 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



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FCC ID : PY7-PM0781

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Report Version : Rev. 01

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG4D0459A	Rev. 01	Initial issue of report	Mar. 30, 2015



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.2	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	Under limit 22.50 dB at 3824.000 MHz



1 General Description

1.1 Applicant

Sony Mobile Communications Inc
Nya Vattentorget 22188 Lund/Sweden

1.2 Manufacturer

Sony Mobile Communications Inc
Nya Vattentorget 22188 Lund/Sweden

1.3 Product Feature of Equipment Under Test

The Equipment Under Test (hereafter called: EUT) is PDA Phone supporting, GSM / WCDMA / LTE, Wi-Fi 2.4GHz 802.11b/g/n, 5GHz 802.11a/n, Bluetooth with FM Receiver, GPS, ANT+, and NFC features, and below is details of information

Product Feature	
Equipment	PDA Phone
Brand Name	Sony
Type Name	PM-0781-BV
FCC ID	PY7-PM0781
GSM Operating Band(s)	GSM 850/900/1800/1900MHz
GPRS / EGPRS Multi Slot Class	GPRS Class 33, EGPRS Class 33
WCDMA Operating Band(s)	FDD Band I / II / V / VIII
WCDMA Rel. Version	Rel. 8
LTE Operating Band(s)	FDD Band I / II / III / V / VII / VIII / XX
LTE Rel. Version	Rel. 10
Wi-Fi Specification	802.11b/g/n HT20 802.11a/n HT20/HT40
Bluetooth Version	v3.0 + EDR / v4.0 - LE
NFC Specification	ISO14443A / ISO14443B / Felica / ISO15693
ANT+	ANT+
Power Supply	Battery / AC Adapter / Car Charger

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 subjective to this standard

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	GSM1900 : 30.61 dBm WCDMA Band V : 24.32 dBm
Antenna Type	GSM1900: PIFA Antenna / 2.21 dBi WCDMA Band V : PIFA Antenna / -0.80 dBm
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink)



EUT Information List				
IMEI	HW Version	SW Version	S/N	Performed Test Item
IMEI 1: 004402454054960 IMEI 2: 004402454054978	AP	26.1.B.1.23	YT9111CEZ6	Conducted Measurement Radiated Spurious Emission

Accessory List	
AC Adapter	Model No. : EP800
	Type No. : AC-0030-US
	S/N : 3112W49108051
Battery	Model No. : Bellis
Earphone	Model No. : MH410c
	Type No. : AG-1100
	S/N : 12431A1A00118E8
USB Cable 1	Model No. : EC450
	Type No. : AI-0700
	S/N : 142412DF3337518
USB Cable 2	Model No. : AA9
	Type No. : N/A
	S/N : N/A

Note:

1. Above EUT list and accessory list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test.
3. For other wireless features of this EUT, test report will be issued separately.

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 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 1 st 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.
	TH02-HY

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Kwei-Shan District, Tao Yuan City, Taiwan (R.O.C.) TEL: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH10-HY

1.7 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)
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

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 WCDMA Band V.
2. 30 MHz to 19000 MHz for GSM1900.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes	
Band	Radiated TCs
GSM 1900	■ GSM Link
WCDMA Band V	■ RMC 12.2Kbps Link

Note: The maximum power levels are chosen to test as the worst case configuration as follows:

GSM mode for GMSK modulation and RMC 12.2Kbps mode for WCDMA band V

Conducted Power Measurement Results:

Conducted Power (*Unit: dBm)						
Band	GSM850 (GPRS class 8)			GSM1900 (GPRS class 8)		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	33.26	33.27	33.28	30.49	30.49	30.61
GPRS class 8	33.33	33.24	33.24	30.49	30.47	30.59
GPRS class 10	29.48	29.40	29.35	29.36	29.45	29.47
GPRS class 11	28.63	28.60	28.52	28.57	28.55	28.56
GPRS class 12	27.35	27.33	27.30	27.49	27.42	27.40
EGPRS class 8	26.42	26.42	26.51	25.58	25.59	25.49
EGPRS class 10	25.35	25.31	25.22	25.53	25.52	25.59
EGPRS class 11	25.28	25.36	25.46	25.31	25.41	25.43
EGPRS class 12	24.45	24.50	24.60	24.53	24.52	24.48



Conducted Power	Burst Average Power (dBm)					
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency (MHz)	826.4	836.4	846.6	1852.4	1880.0	1907.6
RMC 12.2K	24.21	24.23	24.32	23.49	23.42	23.33
HSDPA Subtest-1	23.77	23.72	23.73	23.03	23.01	22.98
HSDPA Subtest-2	23.81	23.72	23.71	22.94	22.95	23.02
HSDPA Subtest-3	23.07	23.12	23.12	22.41	22.42	22.46
HSDPA Subtest-4	23.27	23.36	23.41	22.32	22.42	22.47
HSUPA Subtest-1	23.43	23.35	23.35	22.22	22.31	22.30
HSUPA Subtest-2	22.03	22.06	22.10	21.84	21.82	21.89
HSUPA Subtest-3	22.05	22.06	22.03	21.46	21.53	21.46
HSUPA Subtest-4	22.91	22.90	22.96	21.96	21.95	21.88
HSUPA Subtest-5	23.75	23.82	23.85	23.06	23.02	23.10

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

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.

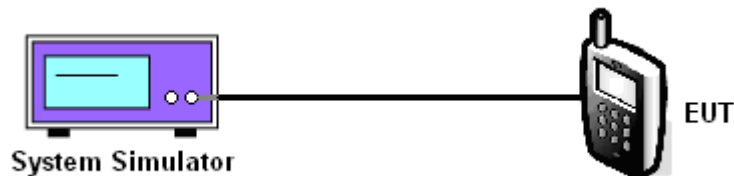
3.1.2 Measuring Instruments

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

3.1.3 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.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Cellular Band									
Modes	GSM850 (RMC 12.2Kbps)			GSM850 (EDGE class 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)	33.33	33.24	33.24	26.42	26.42	26.51	24.21	24.23	24.32

PCS Band									
Modes	GSM1900(RMC 12.2Kbps)			GSM1900 (EDGE class 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)	30.49	30.49	30.61	25.58	25.59	25.49	23.49	23.42	23.33

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

3.2 Field Strength of Spurious Radiation Measurement

3.2.1 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.

3.2.2 Measuring Instruments

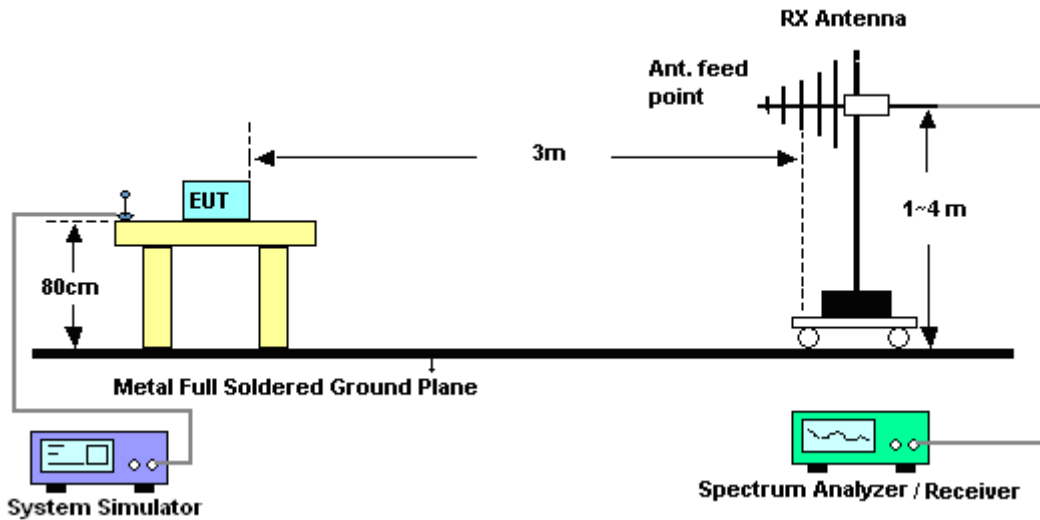
The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

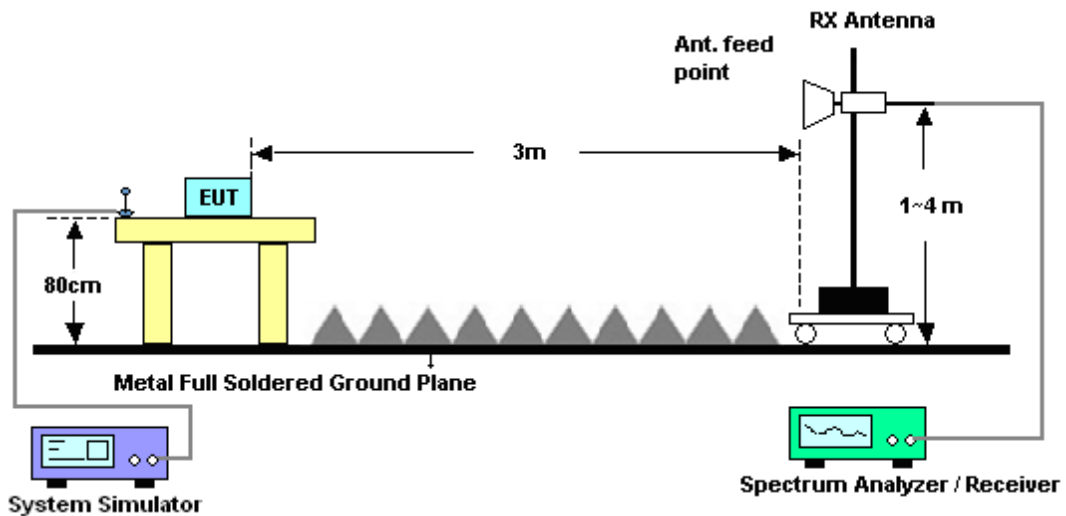
1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 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. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
12. $ERP \text{ (dBm)} = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

3.2.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.2.5 Test Result of Field Strength of Spurious Radiated

<Low Channel>

Band :	WCDMA Band V					Temperature :	23~24°C		
Test Mode :	RMC 12.2Kbps Link (QPSK)					Relative Humidity :	46~48%		
Test Engineer :	Lewis He and Stan Hsieh					Polarization :	Horizontal		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1656	-58.19	-13	-45.19	-67.64	-59.92	0.98	4.86	H	Pass
2480	-51.09	-13	-38.09	-64.14	-53	1.28	5.34	H	Pass
3312	-59.39	-13	-46.39	-75.89	-62.87	1.55	7.17	H	Pass

Band :	WCDMA Band V				Temperature :	23~24°C			
Test Mode :	RMC 12.2Kbps Link (QPSK)				Relative Humidity :	46~48%			
Test Engineer :	Lewis He and Stan Hsieh				Polarization :	Vertical			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1656	-56.15	-13	-43.15	-63.65	-57.88	0.98	4.86	V	Pass
2480	-50.86	-13	-37.86	-66.15	-52.77	1.28	5.34	V	Pass
3312	-60.08	-13	-47.08	-75.51	-63.56	1.55	7.17	V	Pass

**<Middle Channel>**

Band :	WCDMA Band V				Temperature :	23~24°C			
Test Mode :	RMC 12.2Kbps Link (QPSK)				Relative Humidity :	46~48%			
Test Engineer :	Lewis He and Stan Hsieh				Polarization :	Horizontal			
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1672	-56.86	-13	-43.86	-66.32	-58.54	0.99	4.82	H	Pass
2504	-47.07	-13	-34.07	-60.15	-49.03	1.29	5.40	H	Pass
3344	-55.08	-13	-42.08	-71.3	-58.69	1.56	7.31	H	Pass

Band :	WCDMA Band V	Temperature :	23~24°C						
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1672	-57.15	-13	-44.15	-62.35	-58.83	0.99	4.82	V	Pass
2504	-46.17	-13	-33.17	-61.51	-48.13	1.29	5.40	V	Pass
3344	-55.44	-13	-42.44	-70.68	-59.05	1.56	7.31	V	Pass

**<High Channel>**

Band :	WCDMA Band V	Temperature :	23~24°C						
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
1696	-54.70	-13	-41.70	-64.18	-56.3	1.00	4.75	H	Pass
2544	-50.87	-13	-37.87	-64.59	-52.85	1.30	5.44	H	Pass
3384	-55.93	-13	-42.93	-72.26	-59.7	1.57	7.49	H	Pass

Band :	WCDMA Band V	Temperature :	23~24°C						
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	ERP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
1688	-54.71	-13	-41.71	-61.88	-56.34	1.00	4.77	V	Pass
2544	-49.80	-13	-36.80	-65.17	-51.78	1.30	5.44	V	Pass
3384	-55.24	-13	-42.24	-70.74	-59.01	1.57	7.49	V	Pass



<Low Channel>

Band :	GSM1900	Temperature :	23~24°C						
Test Mode :	GSM Link (GMSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
			Limit	Reading	Power	loss	Gain		
(MHz)	(dBm)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	(dBi)	(H/V)	
3704	-42.67	-13	-29.67	-61.34	-49.25	1.67	8.24	H	Pass
5556	-44.30	-13	-31.30	-68.51	-51.37	2.66	9.72	H	Pass
7404	-48.54	-13	-35.54	-77.45	-57.69	2.46	11.61	H	Pass
9256	-45.43	-13	-32.43	-76.78	-55.49	2.54	12.60	H	Pass

Band :	GSM1900	Temperature :	23~24°C						
Test Mode :	GSM Link (GMSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)			(dB)	(dBm)	(dBm)	(dB)	(dBi)		
3704	-41.42	-13	-28.42	-59.59	-48	1.67	8.24	V	Pass
5556	-44.54	-13	-31.54	-66.15	-51.61	2.66	9.72	V	Pass
7404	-48.73	-13	-35.73	-76.4	-57.88	2.46	11.61	V	Pass
9256	-47.25	-13	-34.25	-77.38	-57.31	2.54	12.60	V	Pass

**<Middle Channel>**

Band :	GSM1900	Temperature :	23~24°C						
Test Mode :	GSM Link (GMSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)	(dBm)	(dB)	(dBm)	(dBm)	(dBm)	(dB)	(dBi)		
3764	-36.58	-13	-23.58	-55.39	-43.21	1.69	8.32	H	Pass
5644	-43.23	-13	-30.23	-67.27	-50.28	2.71	9.76	H	Pass
7524	-47.77	-13	-34.77	-76.3	-57.16	2.42	11.81	H	Pass
9404	-44.34	-13	-31.34	-76.32	-54.31	2.57	12.54	H	Pass

Band :	GSM1900	Temperature :	23~24°C						
Test Mode :	GSM Link (GMSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Vertical						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3764	-37.64	-13	-24.64	-56.46	-44.27	1.69	8.32	V	Pass
5644	-50.56	-13	-37.56	-72.7	-57.61	2.71	9.76	V	Pass
7524	-47.64	-13	-34.64	-75.44	-57.03	2.42	11.81	V	Pass
9404	-47.36	-13	-34.36	-76.39	-57.33	2.57	12.54	V	Pass

**<High Channel>**

Band :	GSM1900	Temperature :	23~24°C						
Test Mode :	GSM Link (GMSK)	Relative Humidity :	46~48%						
Test Engineer :	Lewis He and Stan Hsieh	Polarization :	Horizontal						
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit	Reading	Power	loss	Gain	(H/V)	
(dB)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	(dBi)		
3824	-35.50	-13	-22.50	-54.94	-42.18	1.71	8.39	H	Pass
5732	-47.35	-13	-34.35	-71.3	-54.38	2.76	9.79	H	Pass
7644	-48.50	-13	-35.50	-76.68	-58	2.38	11.89	H	Pass
9552	-45.31	-13	-32.31	-77.32	-55.18	2.60	12.47	H	Pass

Band :	GSM1900					Temperature :	23~24°C		
Test Mode :	GSM Link (GMSK)					Relative Humidity :	46~48%		
Test Engineer :	Lewis He and Stan Hsieh					Polarization :	Vertical		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Limit (dB)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3824	-37.61	-13	-24.61	-56.56	-44.29	1.71	8.39	V	Pass
5732	-48.31	-13	-35.31	-71.43	-55.34	2.76	9.79	V	Pass
7644	-47.66	-13	-34.66	-75.28	-57.16	2.38	11.89	V	Pass
9552	-47.54	-13	-34.54	-77.44	-57.41	2.60	12.47	V	Pass



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	Rohde & Schwarz	CMU200	117995	N/A	Jul. 29, 2014	Mar. 24, 2015	Jul. 28, 2015	Conducted (TH02-HY)
Hygrometer	Testo	608-H1	34893241	N/A	May 06, 2014	Mar. 24, 2015	May 05, 2015	Conducted (TH02-HY)
RF cable	WOKEN	S05	S05-130708-2 2	N/A	Jan. 21, 2015	Mar. 24, 2015	Jan. 20, 2016	Conducted (TH02-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 20, 2014	Mar. 19, 2015	Nov. 19, 2015	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	0.1MHz~1000MHz	Nov. 24, 2014	Mar. 19, 2015	Nov. 23, 2015	Radiation (03CH10-HY)
Preamplifier	MITEQ	JS44-18004 000-33-8P	1840917	18GHz ~ 40GHz	Jun. 09, 2014	Mar. 19, 2015	Jun. 08, 2015	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Oct. 24, 2014	Mar. 19, 2015	Oct. 23, 2015	Radiation (03CH10-HY)
Double Ridged Guide Horn	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 03, 2014	Mar. 19, 2015	Oct. 02, 2015	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 03, 2014	Mar. 19, 2015	Nov. 02, 2015	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHZ	Oct. 14, 2014	Mar. 19, 2015	Oct. 13, 2015	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A	MY54130085	20Hz ~ 26.5GHz	Nov. 05, 2014	Mar. 19, 2015	Nov. 04, 2015	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 19, 2015	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0-360 degree	N/A	Mar. 19, 2015	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-450 0-B	N/A	1~4m	N/A	Mar. 19, 2015	N/A	Radiation (03CH10-HY)
Hygrometer	TECPEL	DTM-303B	TP140320	N/A	Nov. 17, 2014	Mar. 19, 2015	Nov. 16, 2015	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24956/4 MY24952/4MY	30MHz~1GHz	Nov. 06, 2014	Mar. 19, 2015	Nov. 05, 2015	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524MY	1GHz~25GHz	Nov. 06, 2014	Mar. 19, 2015	Nov. 05, 2015	Radiation (03CH10-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Notch Filter	Wainwright	WRCG 824/849/814/ 859-40 8SS	SN35	GSM850 / WCDMA 850	Oct. 01, 2014	Mar. 19, 2015	Sep. 30, 2015	Radiation (03CH10-HY)
Notch Filter	Wainwright	WRCT1850/1 910-40/8SS	SN21	1900	Oct. 01, 2014	Mar. 19, 2015	Sep. 30, 2015	Radiation (03CH10-HY)
Filter	Microwave Circuits	H1G013G1	SN477215	1GHz HPF	Oct. 01, 2014	Mar. 19, 2015	Sep. 30, 2015	Radiation (03CH10-HY)
Filter	Wainwright Instruments GmbH	WLKS1200-8 SS	SN3	1.2GHz LPF	Oct. 01, 2014	Mar. 19, 2015	Sep. 30, 2015	Radiation (03CH10-HY)
Filter	Microwave Circuits	H3G018G1	SN477220	3GHz HPF	Oct. 01, 2014	Mar. 19, 2015	Sep. 30, 2015	Radiation (03CH10-HY)
Test Software	Audix	E3	Version 6.2009-8-24	N/A	N/A	Mar. 19, 2015	N/A	Radiation (03CH10-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.90
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