



FCC RADIO TEST REPORT

FCC ID : PU5-TP00107BUC
Equipment : Notebook Computer
Brand Name : Lenovo
Model Name : TP00107BUC
Applicant : Wistron Corporation
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih
Dist, New Taipei City 221, Taiwan
Manufacturer : Wistron Corporation
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih
Dist, New Taipei City 221, Taiwan
Standard : 47 CFR Part 2, 22(H), 24(E), 27(L)

Equipment: Fibocom L860-GL tested inside of Lenovo Notebook Computer.

The product was received on Dec. 28, 2019 and testing was started from Jan. 26, 2020 and completed on Feb. 19, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Product Feature of Equipment Under Test	5
1.2 Product Specification of Equipment Under Test	5
1.3 Modification of EUT	6
1.4 Testing Location	6
1.5 Applicable Standards	6
2 Test Configuration of Equipment Under Test	7
2.1 Test Mode.....	7
2.2 Connection Diagram of Test System	7
2.3 Support Unit used in test configuration	8
2.4 Frequency List of Low/Middle/High Channels	8
3 Conducted Test Result	9
3.1 Measuring Instruments.....	9
3.2 Conducted Output Power and ERP/EIRP	10
4 Radiated Test Items	11
4.1 Measuring Instruments.....	11
4.2 Test Setup	11
4.3 Test Result of Radiated Test.....	12
4.4 Field Strength of Spurious Radiation Measurement	13
5 List of Measuring Equipment.....	14
6 Uncertainty of Evaluation	15
Appendix A. Test Results of Conducted Test	
Appendix B. Test Results of ERP/EIRP and Radiated Test	
Appendix C. Test Setup Photographs	



History of this test report

Report No.	Version	Description	Issued Date
FG9D2810A	01	Initial issue of report	Mar. 03, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Pass	-
	§22.913 (a)(2)	Effective Radiated Power (WCDMA Band V)		
	§24.232 (c)	Equivalent Isotropic Radiated Power (WCDMA Band II)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (WCDMA Band IV)		
-	§24.232 (d)	Peak-to-Average Ratio	-	See Note
-	§2.1049 §22.917 (b) §24.238 (b) §27.53 (g)	Occupied Bandwidth (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g)	Band Edge Measurement (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g)	Conducted Emission (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	-	See Note
4.4	§2.1053 §22.917 (a) §24.238 (a) §27.53 (h)	Field Strength of Spurious Radiation (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	Pass	Under limit 30.69 dB at 5718.000 MHz

Note: The module (Model: Fibocom L860-GL) makes no difference after verifying output power, this report reuses test data from the module report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Vivian Hsu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00107BUC
FCC ID	PU5-TP00107BUC
EUT supports Radios application	WCDMA/HSPA/LTE/GNSS
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer.
2. Equipment: Fibocom L860-GL tested inside of Lenovo Notebook Computer.

Antenna Information				
WWAN				3G<E (dBi)
Antenna	Manufacturer	WNC	Peak gain	2.54
	Part number	025.901FP.0001	Type	PIFA

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	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
Rx Frequency	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
Maximum Output Power to Antenna	WCDMA: Band V: 23.83 dBm Band II: 23.95 dBm Band IV: 23.83 dBm
Type of Modulation	WCDMA: BPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink)

1.3 Modification of EUT

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

1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site Location	No.52 , Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan	
Test Site No.	Sporton Site No.	
	TH05-HY	03CH07-HY
Test Engineer	Jacky Wang	Jesse Wang, Stan Hsieh , Ken Wu and Nick Yu
Temperature	23~25°C	20~23°C
Relative Humidity	52~55%	52~56%

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

FCC Designation No.: TW1190

1.5 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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 v03r01 with maximum output power.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for WCDMA Band V
2. 30 MHz to 18000 MHz for WCDMA Band IV
3. 30 MHz to 19100 MHz for WCDMA Band II

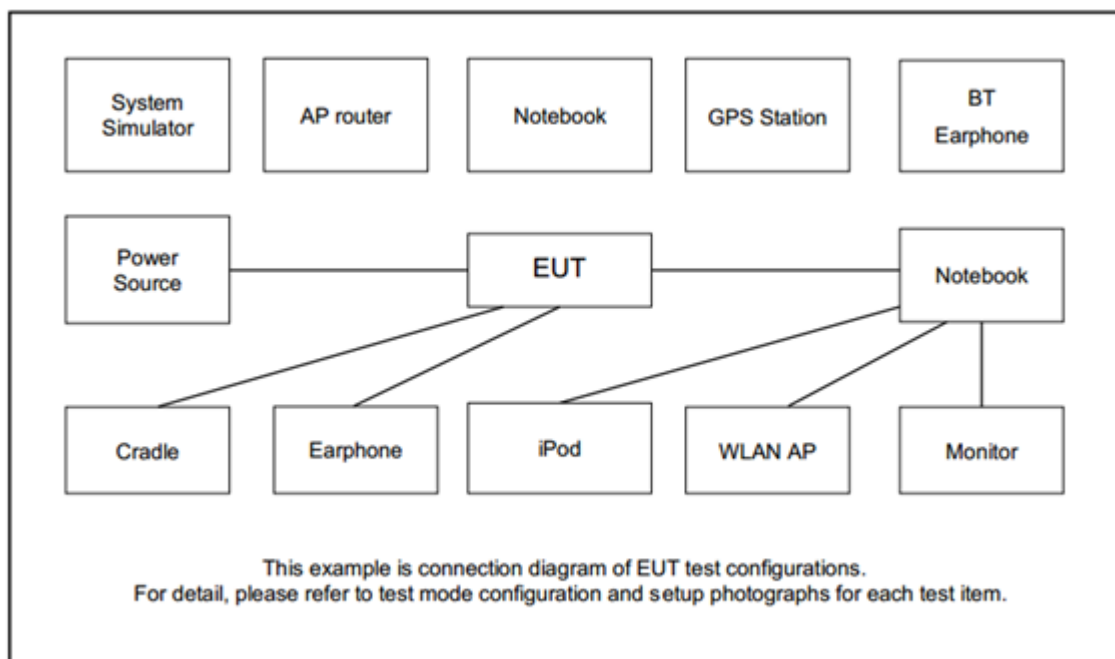
All modes and data rates and positions were investigated.

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

Test Modes	
Band	Radiated TCs
WCDMA Band V	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link

Remark: All the radiated test cases were performed with Adapter 1.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

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

2.4 Frequency List of Low/Middle/High Channels

Frequency List				
Band	Channel/Frequency(MHz)	Lowest	Middle	Highest
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6

3 Conducted Test Result

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP/EIRP

3.2.1 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 WCDMA Band V

The EIRP of mobile transmitters must not exceed 2 Watts for 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

3.2.2 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.

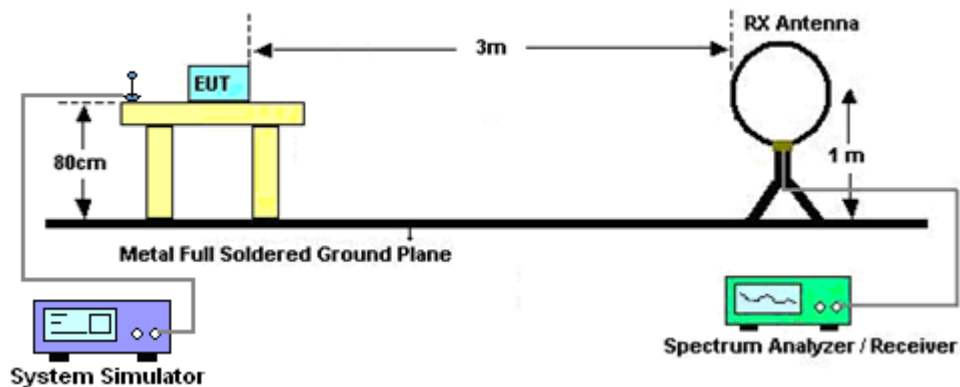
4 Radiated Test Items

4.1 Measuring Instruments

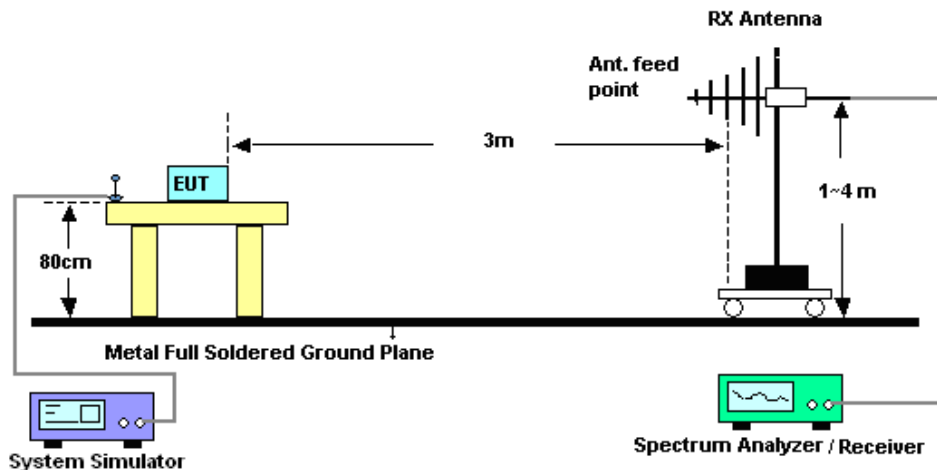
See list of measuring instruments of this test report.

4.2 Test Setup

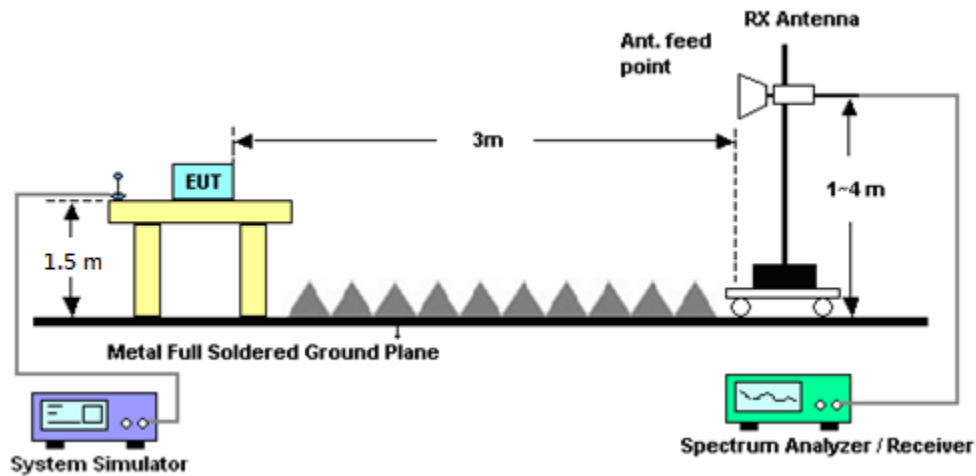
For radiated emissions below 30MHz



For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

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

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. 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.
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 for the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking 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. $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 30, 2019	Feb. 11, 2020~Feb. 19, 2020	Apr. 29, 2020	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 12, 2019	Feb. 11, 2020~Feb. 19, 2020	Oct. 11, 2020	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 06, 2019	Feb. 11, 2020~Feb. 19, 2020	Dec. 05, 2020	Radiation (03CH07-HY)
Horn Antenna	ESCO	3117	00066584	1GHz ~18GHz	Sep. 25, 2019	Feb. 11, 2020~Feb. 19, 2020	Sep. 24, 2020	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz~40GHz	May 14, 2019	Feb. 11, 2020~Feb. 19, 2020	May 13, 2020	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Dec. 06, 2019	Feb. 11, 2020~Feb. 19, 2020	Dec. 05, 2020	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Apr. 02, 2019	Feb. 11, 2020~Feb. 19, 2020	Apr. 01, 2020	Radiation (03CH07-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 28, 2019	Feb. 11, 2020~Feb. 19, 2020	Oct. 27, 2020	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 24, 2019	Feb. 11, 2020~Feb. 19, 2020	Apr. 23, 2020	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	May 20, 2019	Feb. 11, 2020~Feb. 19, 2020	May 19, 2020	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Nov. 01, 2019	Feb. 11, 2020~Feb. 19, 2020	Oct. 31, 2020	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 13, 2019	Feb. 11, 2020~Feb. 19, 2020	Dec. 12, 2020	Radiation (03CH07-HY)
Filter	Microwave	H1G013G1	SN477215	1GHz High Pass Filter	Nov. 01, 2019	Feb. 11, 2020~Feb. 19, 2020	Oct. 31, 2020	Radiation (03CH07-HY)
Filter	Microwave	H3G018G1	SN477220	3GHz High Pass Filter	Nov. 01, 2019	Feb. 11, 2020~Feb. 19, 2020	Oct. 31, 2020	Radiation (03CH07-HY)
Filter	Wainwright	WHNX7.0-26.5 G-6SS	SN7	7GHz High Pass Filter	Aug. 22, 2019	Feb. 11, 2020~Feb. 19, 2020	Aug. 21, 2020	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	30MHz~1GHz	Feb. 26, 2019	Feb. 11, 2020~Feb. 19, 2020	Feb. 25, 2020	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	1GHz~18GHz	Feb. 26, 2019	Feb. 11, 2020~Feb. 19, 2020	Feb. 25, 2020	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 26, 2019	Feb. 11, 2020~Feb. 19, 2020	Feb. 25, 2020	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Feb. 11, 2020~Feb. 19, 2020	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Feb. 11, 2020~Feb. 19, 2020	N/A	Radiation (03CH07-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Aug. 27, 2019	Feb. 11, 2020~Feb. 19, 2020	Aug. 26, 2020	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	8050400465 6H	N/A	N/A	Feb. 11, 2020~Feb. 19, 2020	N/A	Radiation (03CH07-HY)
Base Station (Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Aug. 23, 2019	Jan. 26, 2020	Aug. 22, 2020	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% ($U = 2Uc(y)$)	3.23
---	------

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.63
---	------

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.70
---	------



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

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	1907.6
RMC 12.2K	23.83	23.80	23.71	23.75	23.95	23.73
HSDPA Subtest-1	23.74	23.74	23.64	23.71	23.89	23.72
HSDPA Subtest-2	23.13	23.41	23.00	22.92	23.14	22.89
HSDPA Subtest-3	22.51	22.93	22.42	22.25	22.53	22.38
HSDPA Subtest-4	22.53	22.88	22.49	22.26	22.48	22.46
HSUPA Subtest-1	23.06	23.16	22.97	22.83	23.14	23.03
HSUPA Subtest-2	21.12	21.30	21.09	20.79	20.99	21.02
HSUPA Subtest-3	21.98	21.85	22.28	21.96	22.14	22.07
HSUPA Subtest-4	21.04	21.13	20.82	20.73	21.12	21.08
HSUPA Subtest-5	23.00	23.17	22.86	22.80	23.08	22.95

Conducted Power (*Unit: dBm)			
Band	WCDMA Band IV		
Channel	1312	1413	1513
Frequency	1712.4	1732.6	1752.6
RMC 12.2K	23.76	23.83	23.80
HSDPA Subtest-1	23.70	23.78	23.50
HSDPA Subtest-2	23.00	23.34	23.14
HSDPA Subtest-3	22.53	22.54	22.35
HSDPA Subtest-4	22.50	22.53	22.31
HSUPA Subtest-1	23.03	23.22	22.94
HSUPA Subtest-2	21.04	21.06	20.76
HSUPA Subtest-3	22.03	22.05	21.84
HSUPA Subtest-4	21.02	20.97	20.81
HSUPA Subtest-5	23.06	23.10	22.88



Appendix B. Test Results of ERP/EIRP and Radiated Test

ERP/EIRP

Channel	Mode	Conducted		ERP	
		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	WCDMA Band V	23.83	0.2415	22.24	0.1675
Middle	RMC 12.2Kbps	23.80	0.2399	22.21	0.1663
Highest	(GT - LC = 0.56 dB)	23.71	0.2350	22.12	0.1629
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band II	23.75	0.2371	26.29	0.4256
Middle	RMC 12.2Kbps	23.95	0.2483	26.49	0.4457
Highest	(GT - LC = 2.54 dB)	23.73	0.2360	26.27	0.4236
Limit	EIRP < 2W	Result		PASS	

Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band IV	23.76	0.2377	25.87	0.3864
Middle	RMC 12.2Kbps	23.83	0.2415	25.94	0.3926
Highest	(GT - LC = 2.11 dB)	23.80	0.2399	25.91	0.3899
Limit	EIRP < 1W	Result		PASS	

**Radiated Spurious Emission****WCDMA 850**

Mode 3_WCDMA 850									
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	-48.86	-13	-35.86	-61.12	-50.62	0.98	4.89	H
	2480	-47.44	-13	-34.44	-64.74	-49.35	1.28	5.34	H
	3304	-51.12	-13	-38.12	-70.64	-54.56	1.54	7.14	H
	4128	-54.72	-13	-41.72	-75.3	-59.36	1.83	8.63	H
	4952	-52.98	-13	-39.98	-76.11	-58.12	2.31	9.60	H
	1648	-49.29	-13	-36.29	-62	-51.05	0.98	4.89	V
	2480	-47.63	-13	-34.63	-65.29	-49.54	1.28	5.34	V
	3304	-46.42	-13	-33.42	-66.23	-49.86	1.54	7.14	V
	4128	-52.88	-13	-39.88	-73.53	-57.52	1.83	8.63	V
	4952	-53.83	-13	-40.83	-76.86	-58.97	2.31	9.60	V
Middle	1672	-47.21	-13	-34.21	-59.77	-48.89	0.99	4.82	H
	2512	-47.75	-13	-34.75	-65.13	-49.72	1.29	5.41	H
	3344	-51.67	-13	-38.67	-71.64	-55.28	1.56	7.31	H
	4176	-54.07	-13	-41.07	-74.84	-58.69	1.86	8.64	H
	5016	-54.23	-13	-41.23	-77.74	-59.43	2.35	9.70	H
	1672	-47.14	-13	-34.14	-60.08	-48.82	0.99	4.82	V
	2504	-47.19	-13	-34.19	-65.01	-49.15	1.29	5.40	V
	3344	-47.71	-13	-34.71	-67.68	-51.32	1.56	7.31	V
	4176	-52.91	-13	-39.91	-73.68	-57.53	1.86	8.64	V
	5016	-53.65	-13	-40.65	-76.75	-58.85	2.35	9.70	V



Highest	1688	-48.38	-13	-35.38	-60.88	-50.01	1.00	4.77	H
	2544	-45.48	-13	-32.48	-62.89	-47.46	1.30	5.44	H
	3392	-51.45	-13	-38.45	-71.5	-55.25	1.57	7.52	H
	4240	-53.09	-13	-40.09	-74.04	-57.69	1.90	8.65	H
	5072	-54.52	-13	-41.52	-78.11	-59.69	2.38	9.70	H
	1688	-49.49	-13	-36.49	-62.44	-51.12	1.00	4.77	V
	2544	-46.94	-13	-33.94	-64.9	-48.92	1.30	5.44	V
	3392	-49.61	-13	-36.61	-69.54	-53.41	1.57	7.52	V
	4240	-51.83	-13	-38.83	-72.91	-56.43	1.90	8.65	V
	5072	-54.46	-13	-41.46	-77.74	-59.63	2.38	9.70	V

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

**WCDMA 1900**

Mode 3_WCDMA 1900									
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	3708	-51.61	-13	-38.61	-72.51	-58.19	1.67	8.25	H
	5556	-51.54	-13	-38.54	-76.67	-58.61	2.66	9.72	H
	7404	-53.08	-13	-40.08	-80.78	-62.23	2.46	11.61	H
	3708	-53.01	-13	-40.01	-73.9	-59.59	1.67	8.25	V
	5556	-53.46	-13	-40.46	-78.67	-60.53	2.66	9.72	V
	7404	-52.47	-13	-39.47	-80.49	-61.62	2.46	11.61	V
Middle	3762	-48.65	-13	-35.65	-71.63	-55.28	1.69	8.31	H
	5640	-49.12	-13	-36.12	-74.67	-56.17	2.71	9.76	H
	7518	-52.58	-13	-39.58	-80.3	-61.97	2.42	11.81	H
	3762	-52.05	-13	-39.05	-72.85	-58.68	1.69	8.31	V
	5640	-52.42	-13	-39.42	-77.83	-59.47	2.71	9.76	V
	7518	-51.22	-13	-38.22	-79.21	-60.61	2.42	11.81	V
Highest	3816	-57.18	-13	-44.18	-77.85	-63.86	1.70	8.38	H
	5718	-47.15	-13	-34.15	-72.72	-54.19	2.75	9.79	H
	7632	-52.49	-13	-39.49	-80.51	-61.98	2.39	11.88	H
	3816	-55.64	-13	-42.64	-76.35	-62.32	1.70	8.38	V
	5718	-43.69	-13	-30.69	-69.31	-50.73	2.75	9.79	V
	7632	-51.76	-13	-38.76	-80.19	-61.25	2.39	11.88	V

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

**WCDMA 1700**

Mode 3_WCDMA 1900									
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	-56.02	-13	-43.02	-76.89	-62.11	1.58	7.67	H
	5142	-54.63	-13	-41.63	-78.64	-61.91	2.42	9.70	H
	6852	-53.84	-13	-40.84	-80.84	-61.82	2.64	10.62	H
	3426	-53.37	-13	-40.37	-74.1	-59.46	1.58	7.67	V
	5142	-52.87	-13	-39.87	-76.82	-60.15	2.42	9.70	V
	6852	-53.88	-13	-40.88	-80.96	-61.86	2.64	10.62	V
Middle	3468	-54.26	-13	-41.26	-75.13	-60.52	1.59	7.86	H
	5202	-54.84	-13	-41.84	-78.96	-62.09	2.45	9.70	H
	6924	-53.82	-13	-40.82	-81.01	-61.91	2.62	10.71	H
	3468	-53.75	-13	-40.75	-74.61	-60.01	1.59	7.86	V
	5202	-53.54	-13	-40.54	-77.5	-60.79	2.45	9.70	V
	6924	-53.16	-13	-40.16	-80.36	-61.25	2.62	10.71	V
Highest	3504	-54.92	-13	-41.92	-76.02	-61.32	1.61	8.00	H
	5256	-54.84	-13	-41.84	-79.15	-62.06	2.48	9.70	H
	7008	-53.54	-13	-40.54	-80.9	-61.77	2.59	10.82	H
	3504	-51.98	-13	-38.98	-72.93	-58.38	1.61	8.00	V
	5256	-47.71	-13	-34.71	-71.84	-54.93	2.48	9.70	V
	7008	-52.89	-13	-39.89	-80.24	-61.12	2.59	10.82	V

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