



Test Report

Product Name : GSM/GPRS Mobile phone

Model No. : MASS2

FCC ID . RV2MASS2

Applicant : Ezze Mobile Tech, Inc.
Address : 3F, Bubmusa Bldg., 151-31, Nonhyun-dong, Kangnam-ku, Seoul , Korea
Manufacturer : Ezze Mobile Tech, Inc.
Address : Rm. 204, Anyang Megavalley, 799,Guanyang-dong, Dongan-gu, Anyang-city,
Gyeonggi-do, Korea, 431-767

Date of Receipt : Jan.28,2008

Date of Test : Jan.28,2008-Feb.02,2008

Report No. : 200810-30-02004F

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of SIMT EMC Lab.

Test Report Certification

Accredited by NVLAP

Report No: 200810-30-02004FF

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Applicant : Ezze Mobile Tech, Inc.
Address : 3F, Bubmusa Bldg., 151-31, Nonhyun-dong, Kangnam-ku,
Seoul , Korea
Manufacturer : Ezze Mobile Tech, Inc.
Address : Rm. 204, Anyang Megavalley, 799,Guanyang-dong, Dongan-gu,
Anyang-city, Gyunggi-do, Korea, 431-767
Model No. : MASS2
Rated Voltage : DC 3.7V By battery, DC 5V by adaptor
Test Voltage : 120V/60Hz
Trade Name : EZIO
Measurement Standard : FCC CFR Title 47 Part 15.247, ANSI C 63.4:2003
Date of Receipt: : Jan.28,2008
Date of Test : Jan.28,2008-Feb.02,2008
Date of Issue : Feb.03, 2008
Test Result : Complied

The test results relate only to the samples tested.

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Documented By : Ruby Zhu
(Ruby Zhu)

Tested By : Huang You Gen
(Huang You Gen)

Approved By : Gong Zeng
(Gong Zeng)

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1. General Information

1.1. EUT Description

Product Name	: GSM/GPRS Mobile phone
Trade Name	: EZIO
Model No.	: MASS2
Type of modulation	GFSD
Antenna type	Soldered on PCB
Frequency Range	2400MHz~2483.5MHz
Channel Number	79
Channel separation	1MHz
Hardware version	V 0.1
GPRS version	Class 8
Type of equipment	Slide Type

1.2. Operational Description

The information contained within this report is intended to show verification of compliance of the GSM/GPRS Mobile phone to the requirements of Part 15 Subpart B, PART 15 Subpart C, ANSIC63.4-2003, DA 00-705.

SIMT EMC has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

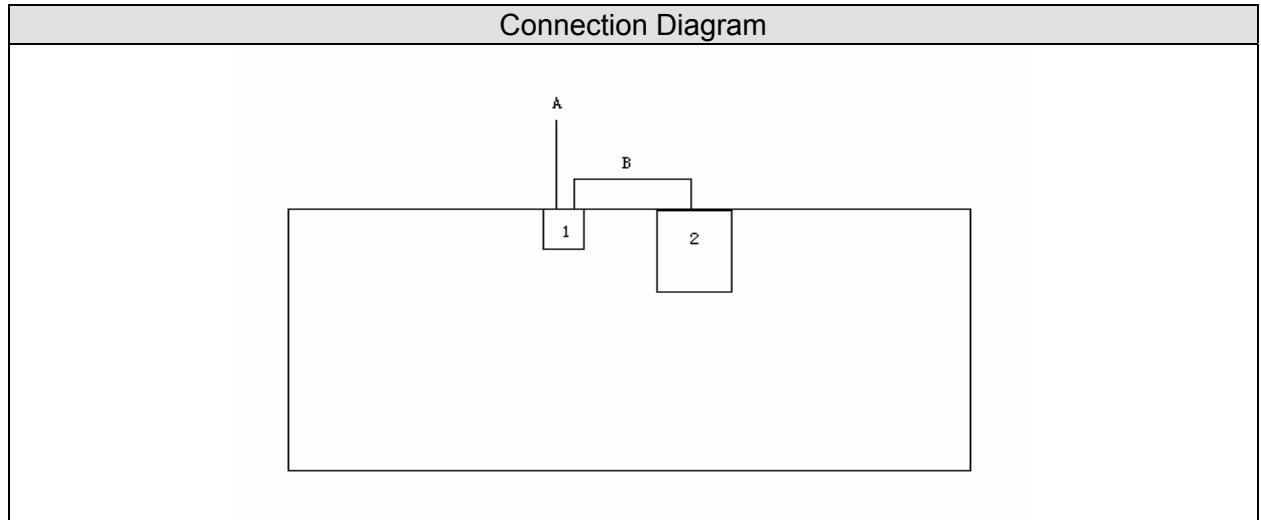
1. Connect EUT and CMU200 by the power splitter.
2. CMU 200 worked as the Bluetooth function, then sent the signal to EUT during the test program

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	EUT	EZIO	MASS2	N/A	N/A
2	Adapter	Yu-Feng	YF-0510228	N/A	Non-Shielded, 1.85m
3	Earphone	Rich star	Rich star	N/A	Non-Shielded, 1.40m

1.4. Configuration of tested System



Signal Cable Type		Signal cable Description
A	Adapter (input cable)	1-(Non-Shielded)
B	Adapter (USB output cable)	1-(Non-Shielded, 1.85m)

1.5. Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Serial No.
1.	Base Station	R & S	CMU 200	N/A	108591

General Information of Test Site

Site Description: June 22, 2001 File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Reference 31040/SIT1300F2

Site Name: SIMT EMC Lab.

Site Address: 716 Yi Shan Road. Shanghai. China
TEL: 8621-6470-1390 / FAX : 8621-6451-4252
E-Mail: jcxn@SIMT.com.cn

2. Test Summary

FCC Rule	DESCRIPTION OF TEST	Result	Section
§15.247 (a)	Channel Separation	Passed	3
§15.247 (a)	Minimum Hopping Channel	Passed	4
§15.247(a)	Occupied Bandwidth	Passed	5
§15.247(a)	Dwell Time	Passed	6
§15.247(b)	Peak Output Power (Conduction)	Passed	7
§15.247(d)	Spurious Emissions (Conduction)	Passed	8
§15.247(d) §15.35(b) §15.209(a)	Spurious Emissions (Radiation)	Passed	9
§15.207(a)	AC Power Line Conducted Emissions	Passed	10
§15.109(a)	Spurious Emissions for Receiver (Radiation)	Passed	11

3. Channel Separation

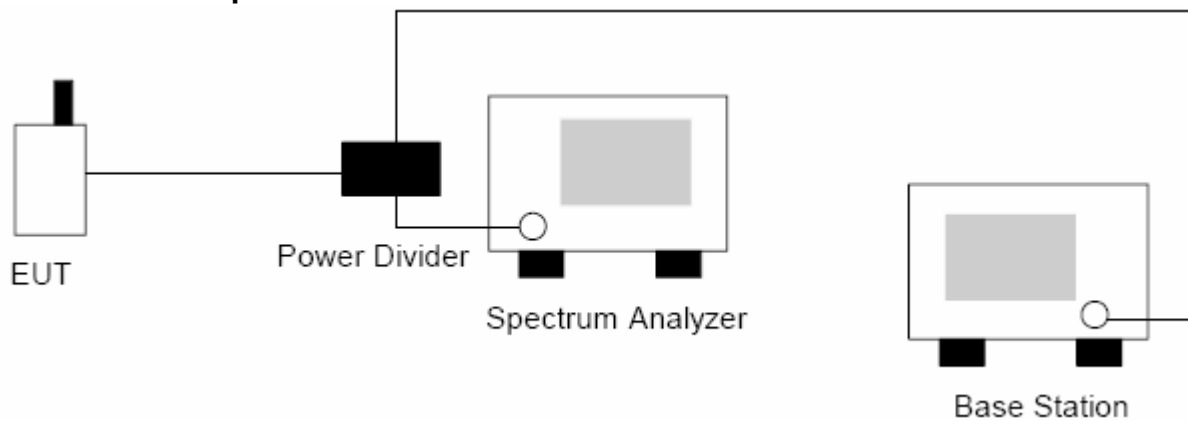
3.1. Test Equipment List

The following test equipment are used during the Channel Separation test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

3.2. Test Setup



3.3. Limits

Limits	≥ 25 kHz or 20 dB bandwidth of hopping channel
--------	---

3.4. Test Procedure

The EUT have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) $\geq 1\%$ of the span

Video (or Average) Bandwidth (VBW) $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

3.5. EUT Operation

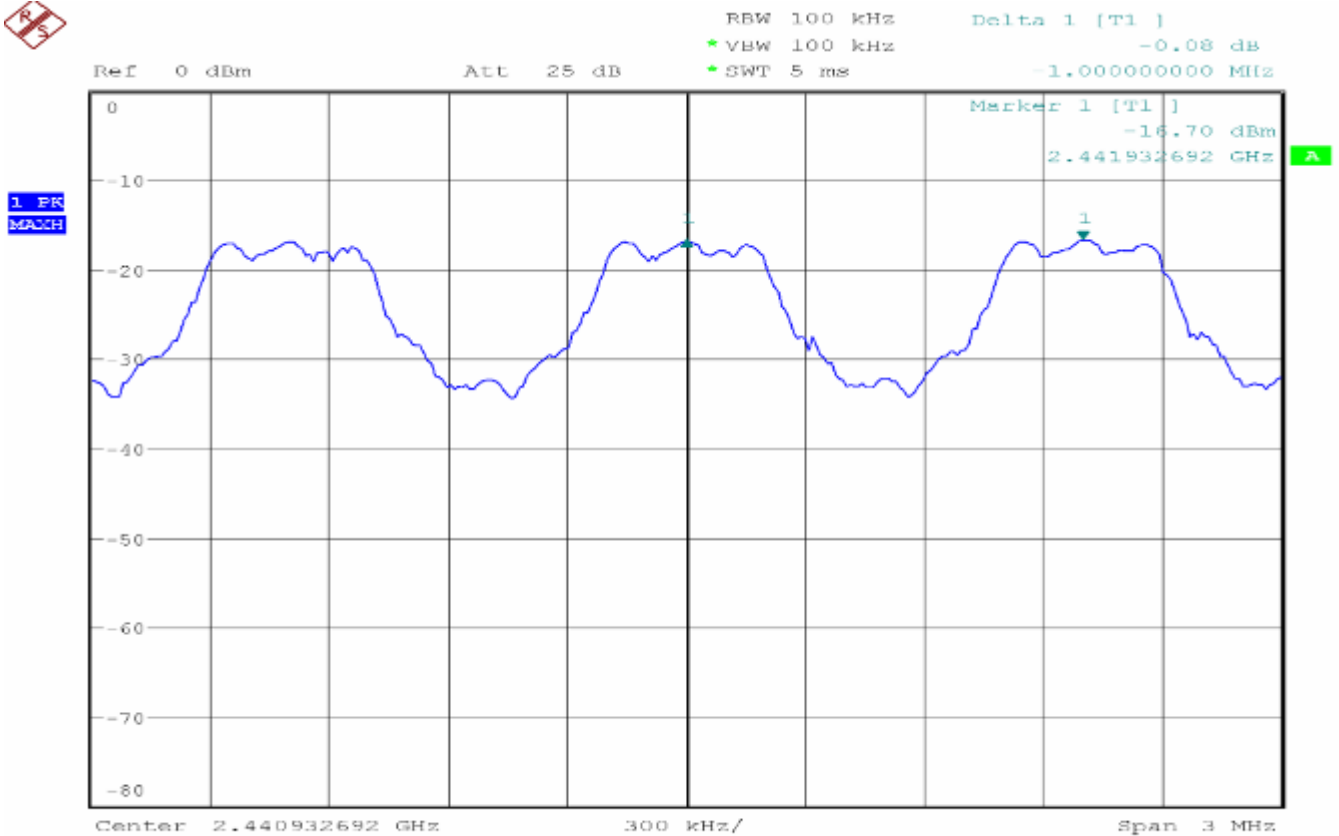
See chapter 1.2 of this test report.

3.6. Test Specification

According to CFR 47 FCC Part 15.247

3.7. Test Result

channel Separation : 1.00MHz



4. Minimum Hopping Channel

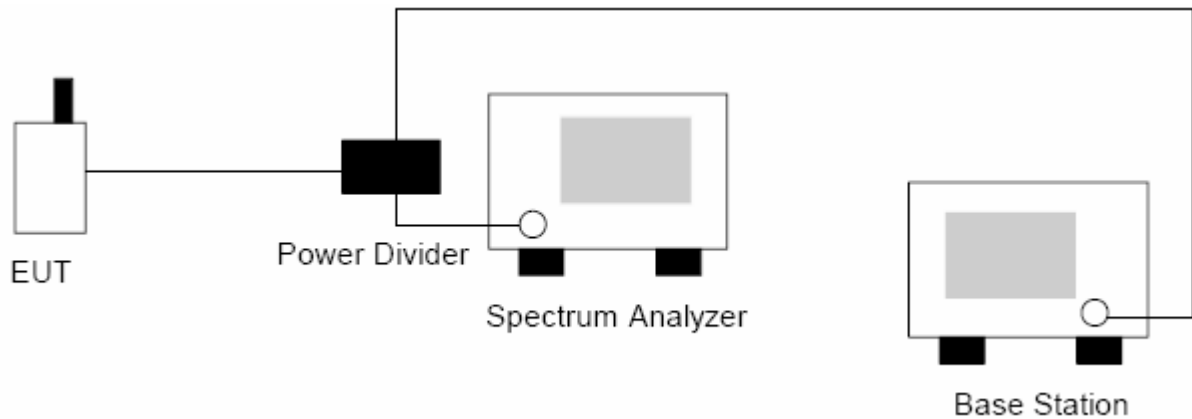
4.1. Test Equipment

The following test equipment are used during the Minimum Hopping Channel test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup



4.3. Limits

Limits	$\cong 15$ Channels
--------	---------------------

4.4. Test Procedure

The EUT have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW $\geq 1\%$ of the span

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. It may prove necessary to break the span up to sections, in order to clearly show all of the hopping frequencies.

4.5. Test Specification

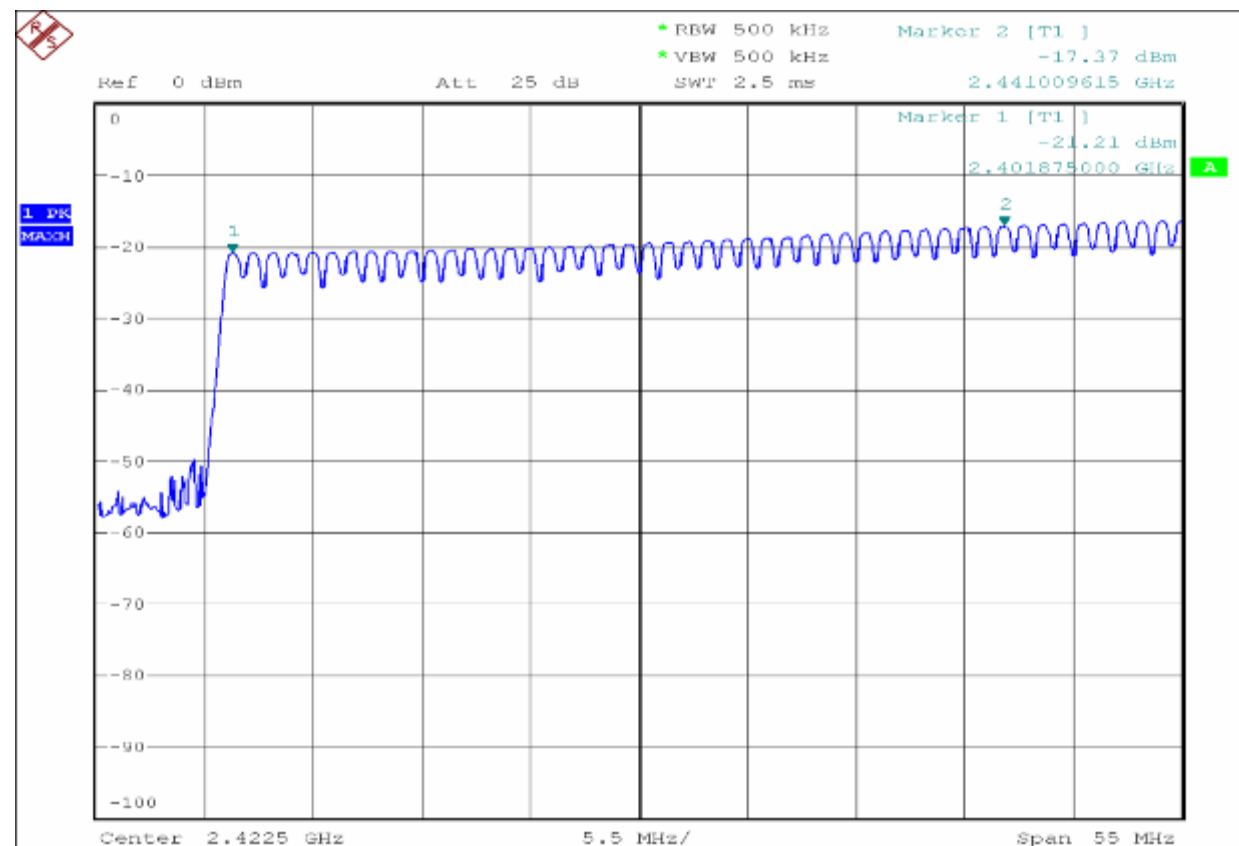
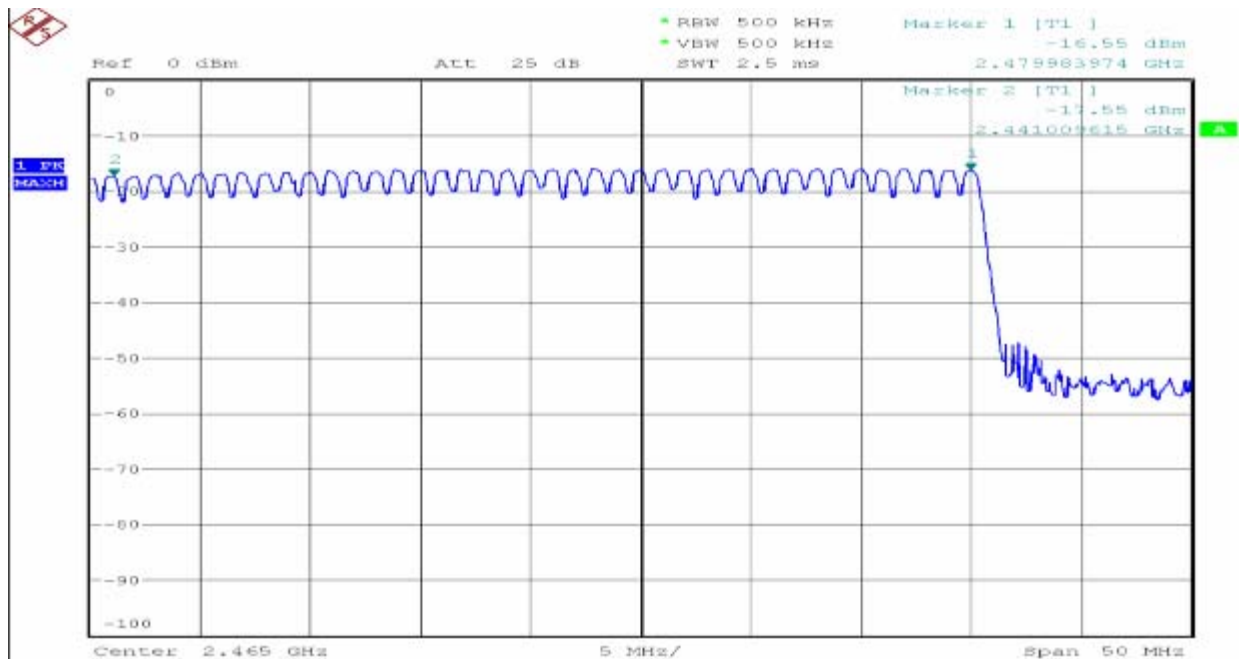
According to CFR 47 FCC Part 15.247

4.6. EUT Operation

See chapter 1.2 of this test report.

4.7. Test Results

Minimum Hopping Channel:79 channels



5. Occupied Bandwidth

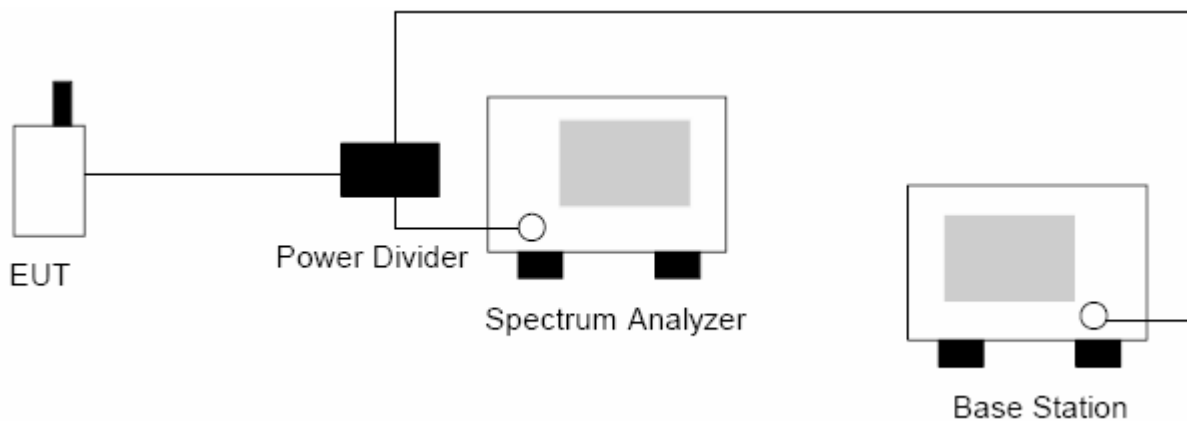
5.1. Test Equipment

The following test equipment are used during the Occupied Bandwidth test:

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

Limits	≥ 25 kHz or 2 to 3 times the 20 dB bandwidth
--------	---

5.4.**Test Procedure**

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 6 dB or 20 dB bandwidth, centered on a channel

RBW $\geq$ 1% of the 6 dB or 20 dB bandwidth

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6 dB or 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 6 dB or 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

5.5. Test Specification

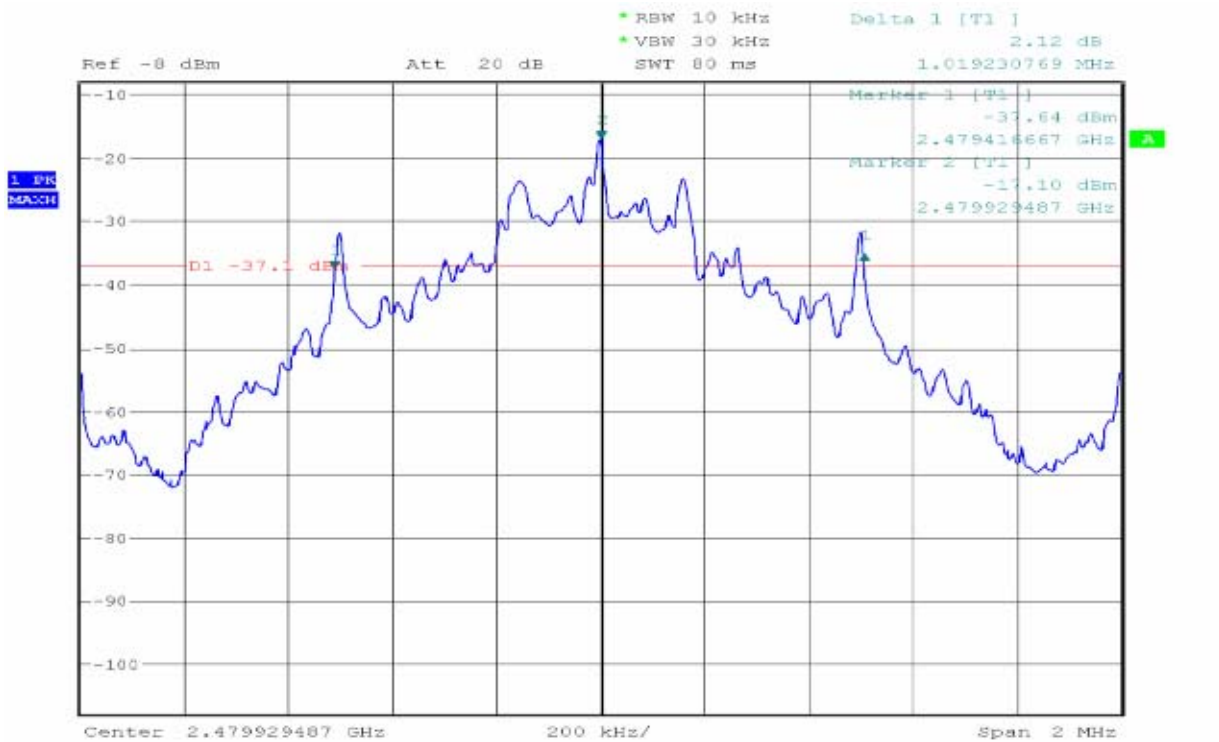
According to CFR 47 FCC Part 15.247

5.6. EUT Operation

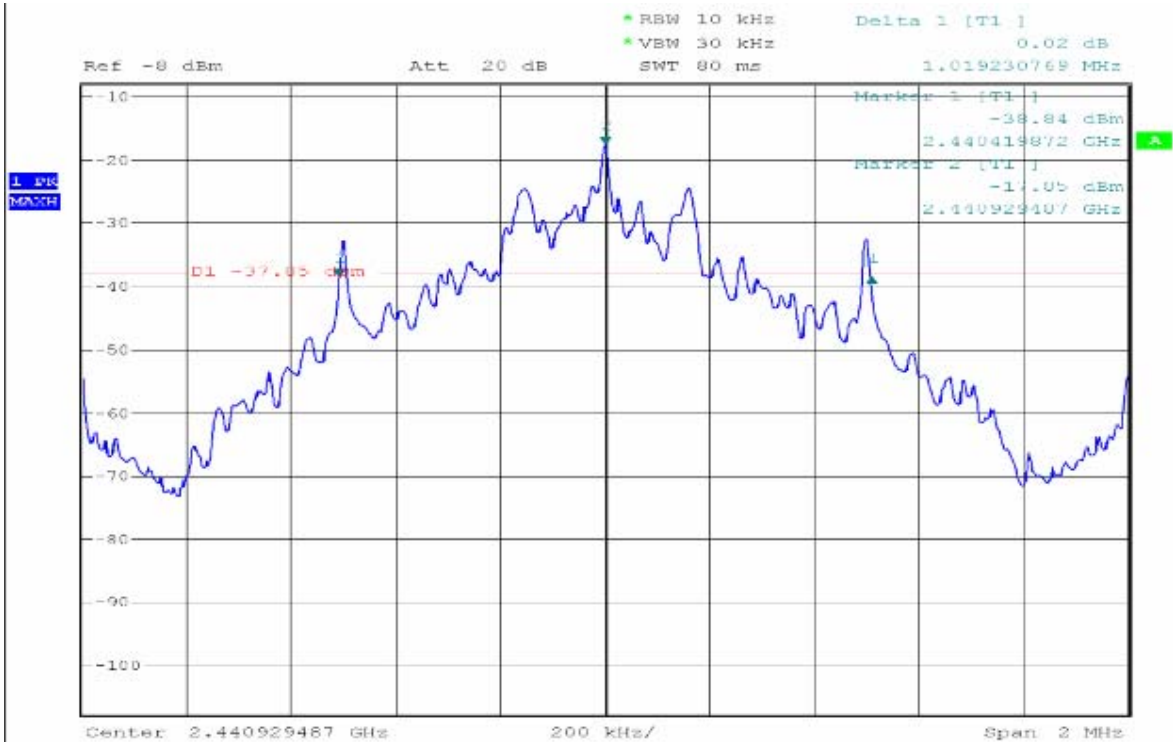
See chapter 1.2 of this test report.

5.7. Test Result

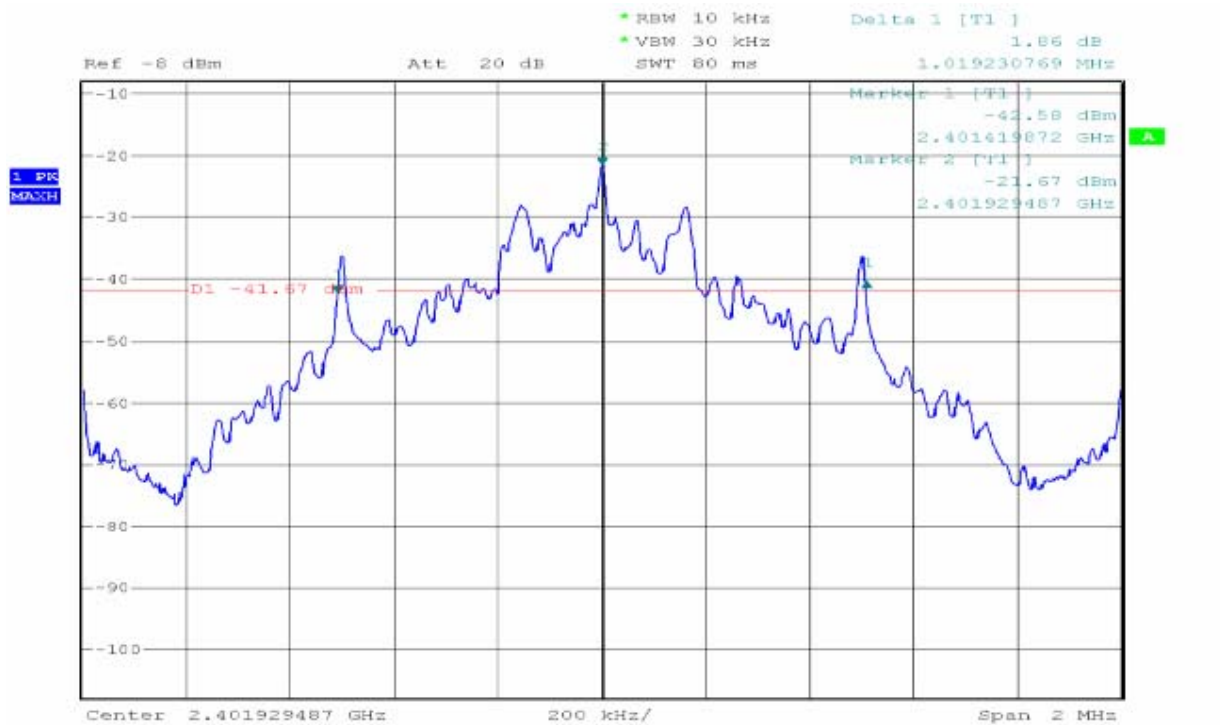
Occupied Bandwidth (TX Channel 78:2480MHz):1.019 MHz



Occupied Bandwidth (TX Channel 39:2441MHz):1.019 MHz



Occupied Bandwidth (TX Channel 0:2402MHz):1.019 MHz



6. Dwell Time

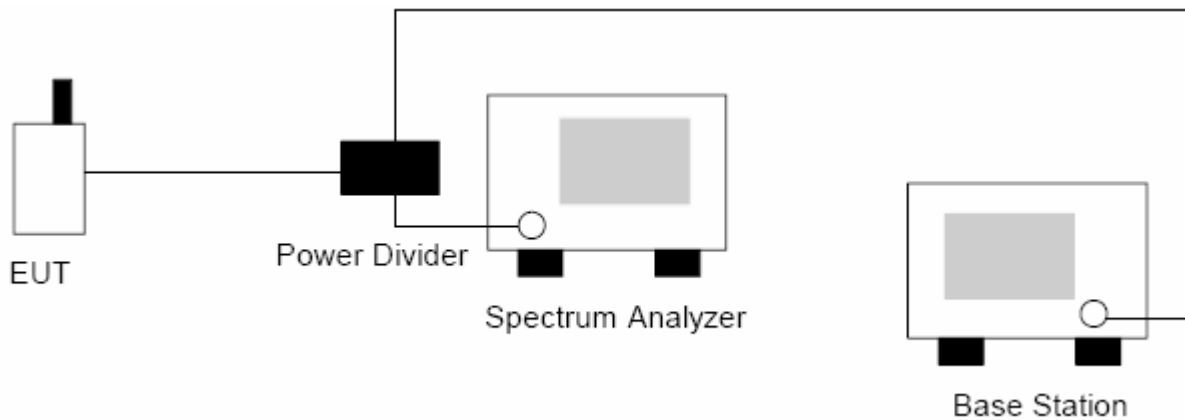
6.1. Test Equipment

The following test equipment are used during the Dwell Time test:

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

Limits	<400ms
--------	--------

6.4. Test Procedure

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = zero span, centered on a hopping channel

RBW $\leq$ Channel Separation

VBW $\geq$ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

Detector function = peak

Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

6.5. Test Specification

According to CFR 47 FCC Part 15.247

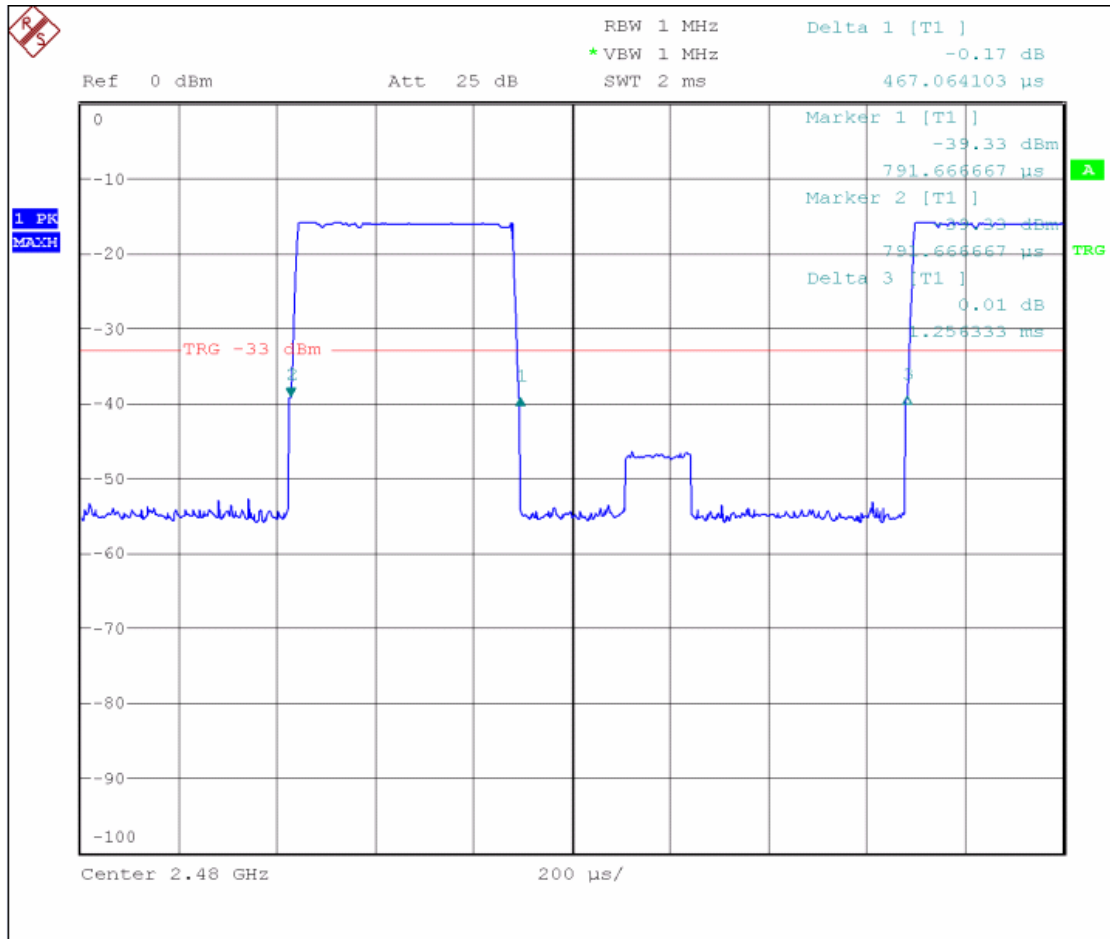
6.6. EUT Operation

See chapter 1.2 of this test report.

6.7. Test Result

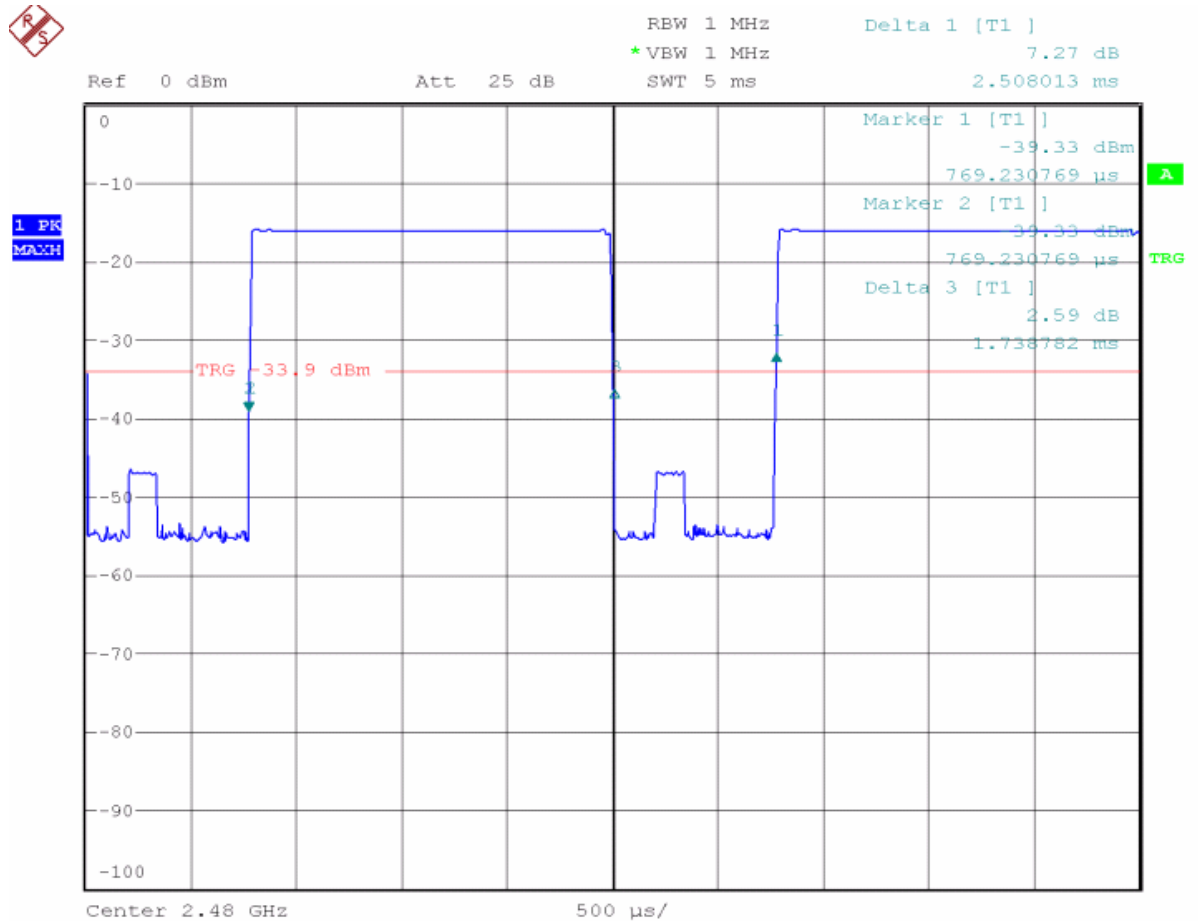
Dwell Time(Hopping-DH1 packet):148.7ms

Note: A DH1 Packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 796 hops per second with 79 channels. So the system has each channel 10.0758 times per second and so for 31.6 seconds the system have 318.0 times of appearance. Each tx-time per appearance is 0.4671 ms. Dwell time = 318.0 * 0.4671 = 148.7ms



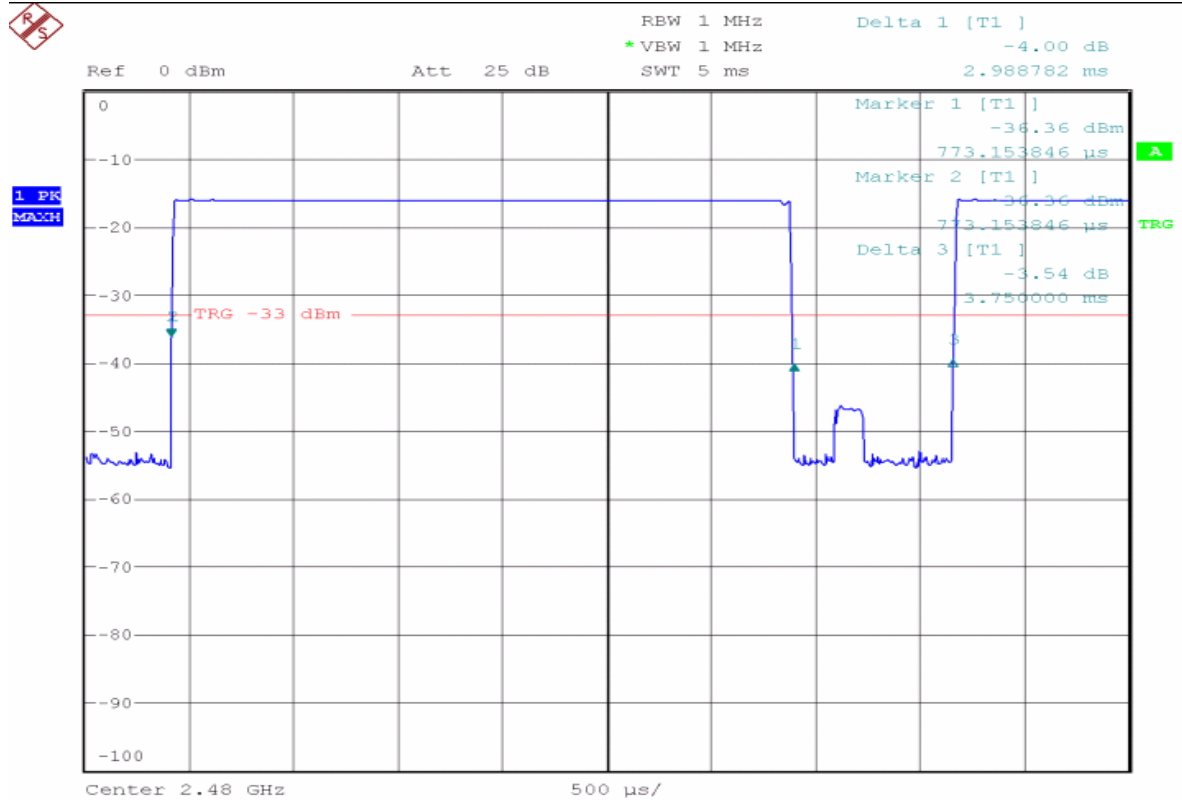
Dwell Time(Hopping-DH3 packet): 277.3ms

Note: A DH3 Packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So the system has each channel 5.0471 times per second and so for 31.6 seconds the system have 159.0 times of appearance. Each tx-time per appearance is 1.7387 ms. Dwell time = $159.0 * 1.7387 = 277.3\text{ms}$



Dwell Time(Hopping-DH5 packet): 318.8ms

Note: A DH5 Packet need 5 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 267 hops per second with 79 channels. So the system has each channel 3.3755 times per second and so for 31.6 seconds the system have 106.666 times of appearance. Each tx-time per appearance is 2.9887 ms. Dwell time = $106.666 \times 2.9887 = 318.8\text{ms}$



7. Peak Output Power (Conduction)

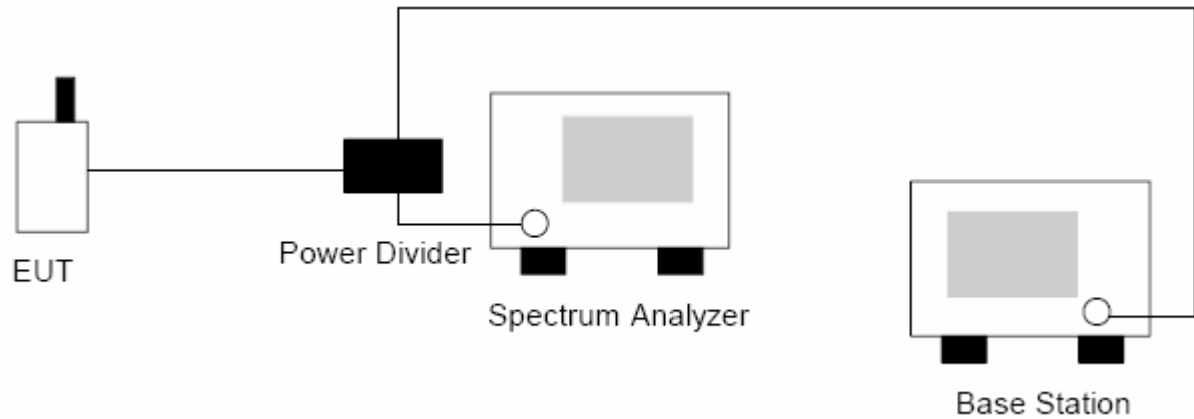
7.1. Test Equipment

The following test equipment are used during the Peak Output Power (Conduction) test:

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

7.2. Test Setup



7.3. Limits

Limits	<30dBm
--------	--------

7.4. Test Procedure

After a radio link has been established between EUT and Base station, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. Then the test data can be read at the tester screen. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.

The measurement will be conducted at three channels Low(0), middle(39) and High (78).

Use the following spectrum analyzer settings:

RBW=1MHz;VBW≥ RBW; Detector function = peak; Trace = max hold

7.5. Test Specification

According to CFR 47 FCC Part 15.247

7.6. EUT Operation

See chapter 1.2 of this test report.

7.7. Test Result

Channel	Cable loss	Meter reading	peak power(dBm)	Limit(dBm)	Margin(dB)
0(2402MHz)	0.12	-0.57	-0.45	30.00	30.45
39(2441MHz)	0.17	-0.59	-0.42	30.00	30.42
78(2480MHz)	0.23	-0.59	-0.36	30.00	30.36

8. Spurious Emissions (Conduction)

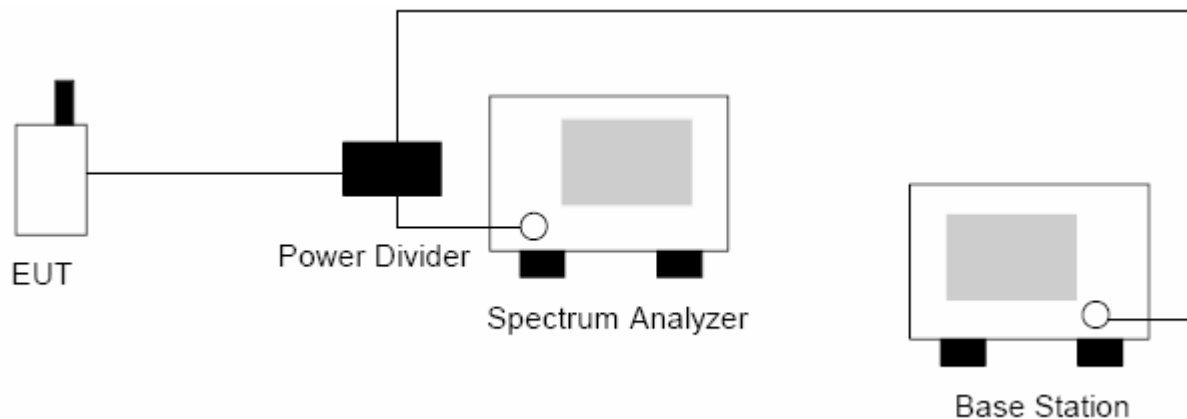
8.1. Test Equipment

The following test equipment are used during the Spurious Emissions (Conduction) test:

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	Spectrum Analyzer	R & S	FSU 26/200172	June, 2008
2	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008
3	Power Splitter	Agilent	11667A/52453	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

8.2. Test Setup



8.3. Limits

Limits	< (P-20dB)
Note: P is the highest level of the desired power ;	

8.4. Test Procedure

Spurious RF Conducted Emissions:

The EUT was connected to Spectrum Analyzer and Base Station via power divider. Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100 kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold

Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this Section.

Band-edge Compliance of RF Conducted Emissions:

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation $RBW \geq 1\%$ of the span; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold Allow the trace to stabilize. Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Now, using the same instrument settings, enable the hopping function of the EUT. Allow the trace to stabilize. Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit.

8.5. Test Specification

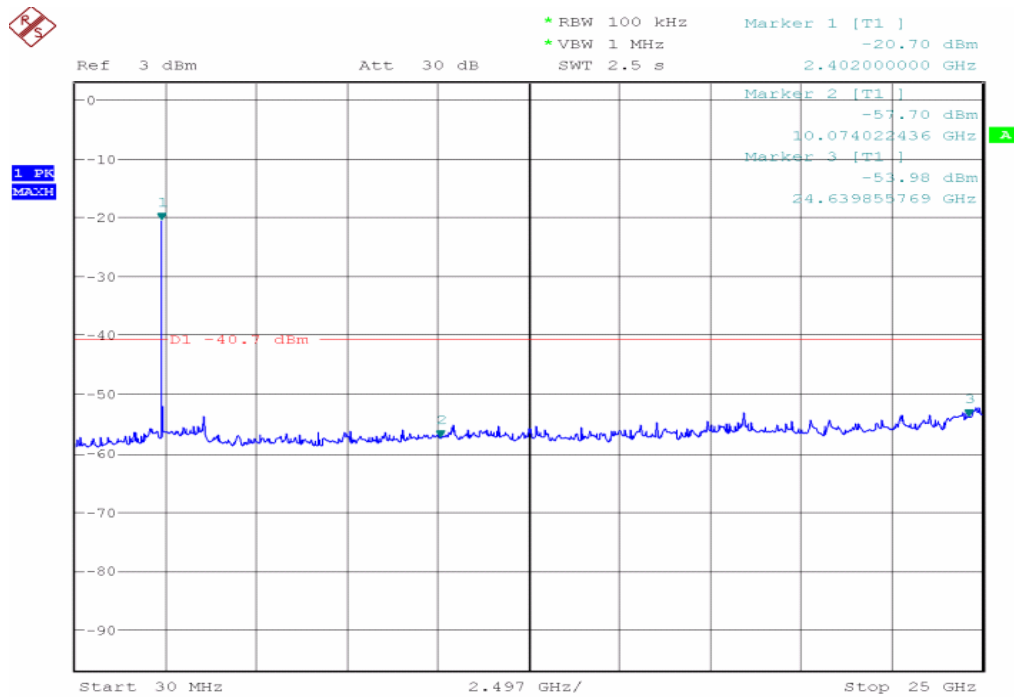
According to CFR 47 FCC Part 15.247

8.6. EUT Operation

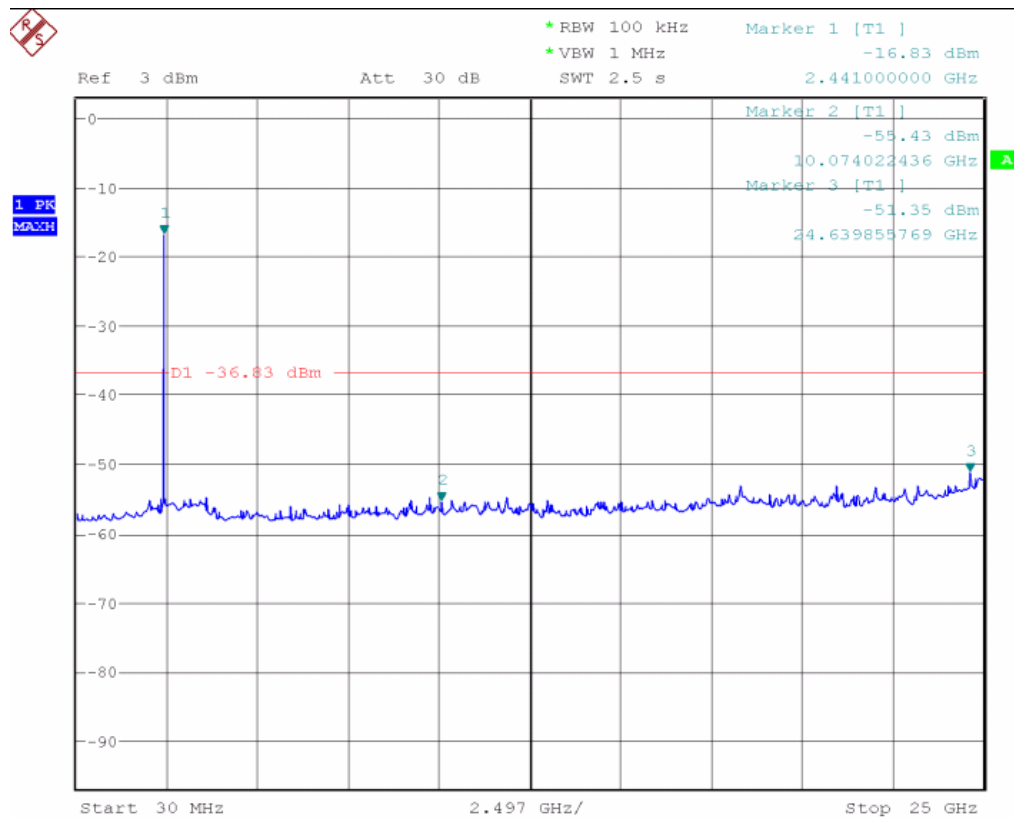
See chapter 1.2 of this test report

8.7. Test Result

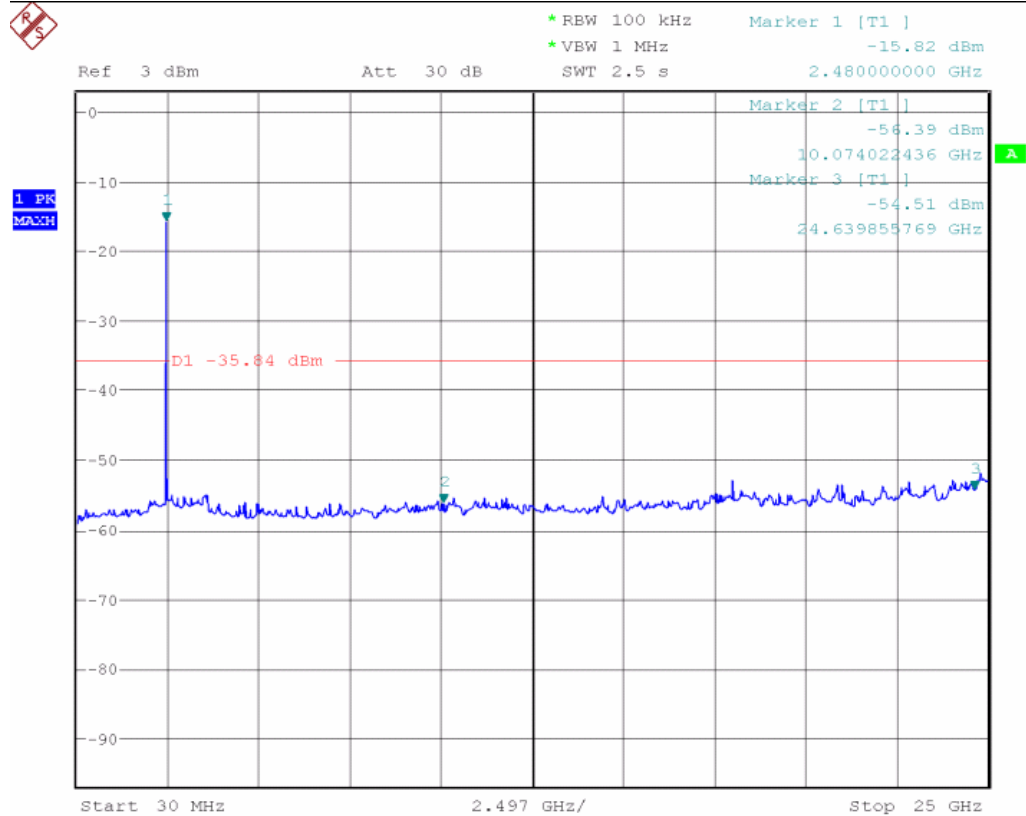
Spurious RF Conducted Emissions(channel 0:2402MHz) :



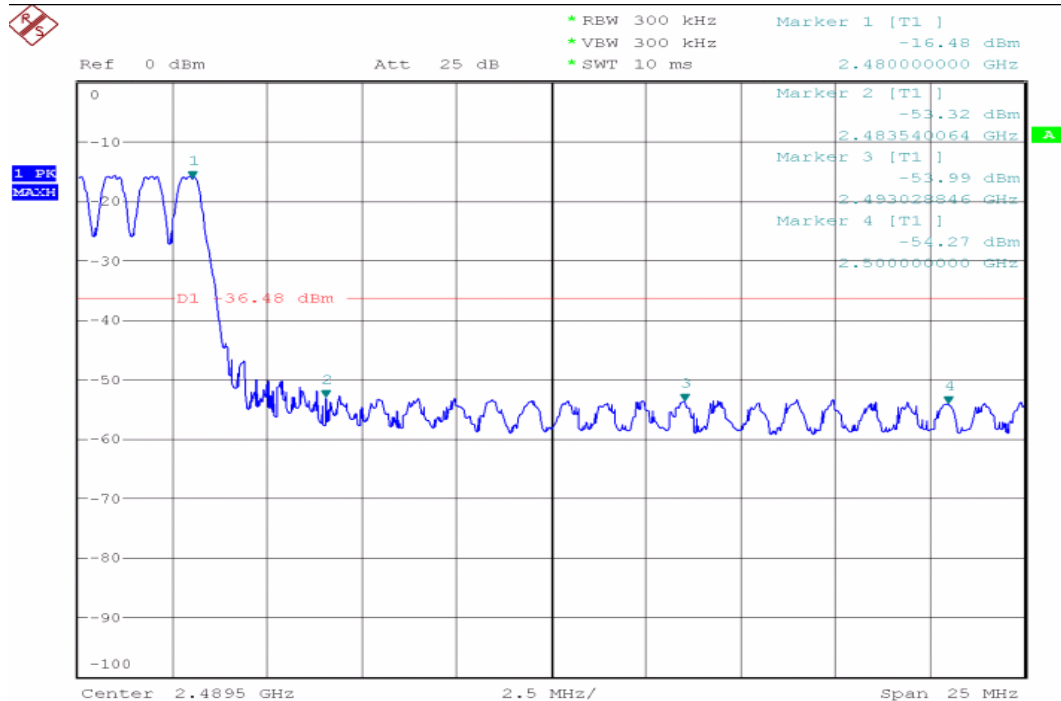
Spurious RF Conducted Emissions(channel 39:2441MHz) :

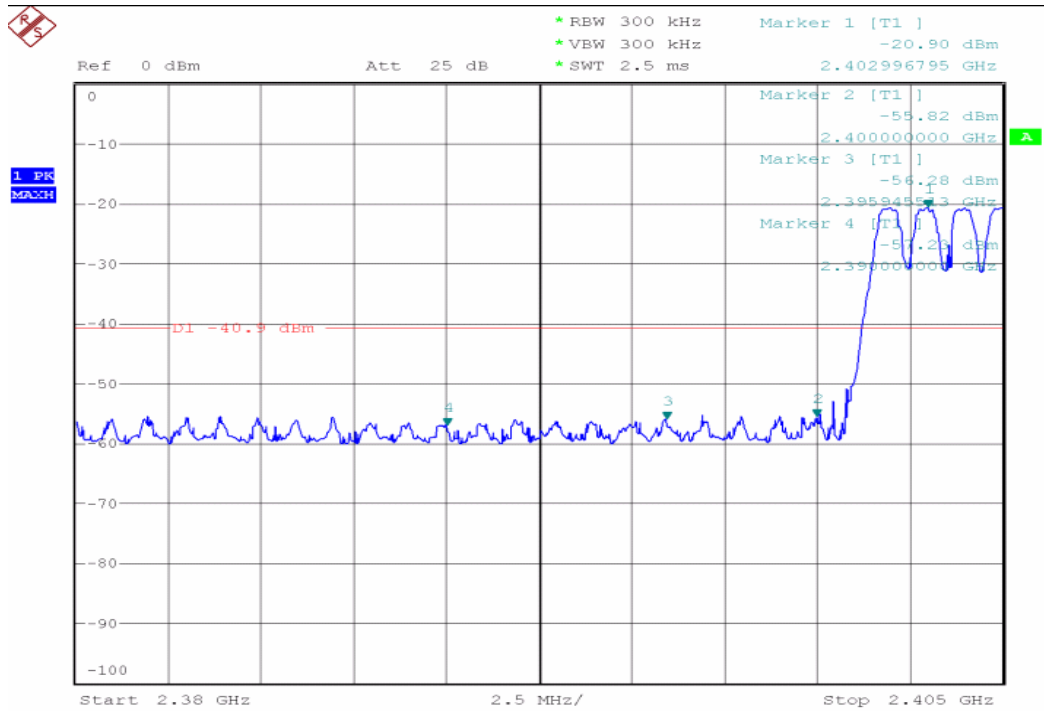


Spurious RF Conducted Emissions(channel 78:2480MHz):



Band-edge Compliance of RF Conducted Emissions:





9. Spurious Emissions (Radiation)

9.1. Test Equipment

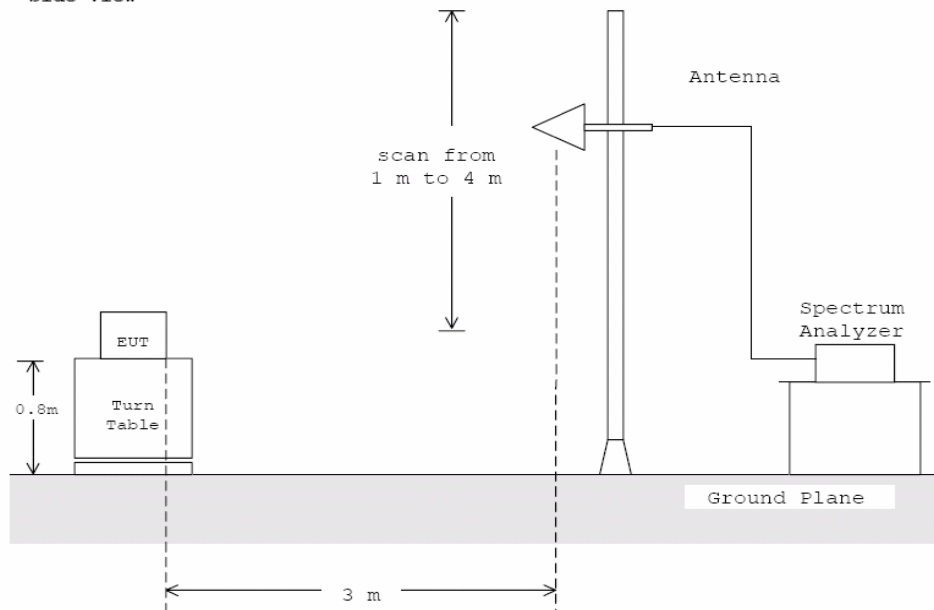
The following test equipment are used during the Spurious Emissions (Radiation) test

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	EMI Test Receiver	R & S	ESI 26/838786/011	Dec, 2008
2	Ultra Broadband Antenna	R & S	HL 562/100019	May, 2008
5	Double-Ridged Waveguide Horn Antenna	R & S	HF 906/100023	May, 2008
7	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

9.2. Test Setup

- Side View -



9.3. Limits

Frequency (MHz)	Limits (dB uV/m)	Measured distance (m)
30~88	40	3
88~216	43.5	
216-960	46	
960-1000	54	

9.4. Test Procedure

Radiated Emission (30 MHz – 1000 MHz) :

According to description of ANSI C63.4-2003 sec.13.1.4, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT. The EUT configuration (in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements. The measurement is carried out using a spectrum analyzer or receiver. The Quasi-peak detector is used and RBW is set to 120kHz .The antenna height and turn table rotation is adjusted until the maximum power value is founded on spectrum analyzer or receiver.

Radiated Emission (Above 1 GHz) :

According to description of ANSI C63.4-2003 sec.13.1.4, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT. The EUT configuration (in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements. The measurement is carried out using a spectrum analyzer or receiver. The spectrum analyzer scans from 1GHz to 25GHz (higher than the 10th harmonic of the carrier). The peak detector is used for Peak limit and RBW is set to 1MHz ,VBW ≥ 3RBW. The peak detector is used for Average limit and RBW is set to 1MHz ,VBW is not smaller than 1/T, T = to the shortest pulse width. The antenna height and turn table rotation is adjusted until the maximum power value is founded on spectrum analyzer or receiver.

9.5. Test Specification

According to CFR 47 FCC Part 15.247, FCC Part 15.39, FCC Part 15.209

9.6. Test Voltage

120V/60Hz

9.7. EUT Operation

See chapter 1.2 of this test report.

9.8. Test Result

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Below 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Quasi-Peak
Mode of EUT	Channel 0(2402MHz)	CONDITIONS	10deg. C, 60%RH, 1001hPa
TESTED BY	Liu Qi		

Radiated Emission (30 MHz – 1000 MHz) :

All configurations of EUT have been investigated and the worst case mode has been listed.

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Frequency (MHz)	correction Factor(dB/m)	Cable loss(dB)	receiver reading (QP) (dBuV)	Emission Level (dBμV/m)(QP)	Limit (dBμV/m)	Margin (dB)
34.729459	17.09	0.12	4.39	21.60	40.00	18.40
51.593186	7.55	0.13	-2.15	5.53	40.00	34.47
140.77154	5.86	0.23	5.93	12.02	43.52	31.50
208.13627	5.45	0.32	0.59	6.36	43.52	37.16
378.01603	10.69	0.36	16.72	27.77	46.02	18.25
415.99198	11.43	0.41	13.62	25.46	46.02	20.56

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

40.490982	14.67	0.12	-0.51	14.28	40.00	25.72
50.390782	7.55	0.13	4.05	11.73	40.00	28.27
57.214429	4.01	0.14	1.99	6.14	40.00	33.86
600.03006	14.85	0.54	15.30	30.69	46.02	15.33
700.07014	16.10	0.61	18.75	35.46	46.02	10.56
900.07014	18.44	0.87	14.46	33.77	46.02	12.25

Remark:

1. Emission level (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Below 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Quasi-Peak
Mode of EUT	Channel 39(2441MHz)	CONDITIONS	10deg. C, 60%RH, 1001hPa
TESTED BY	Liu Qi		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency (MHz)	correction Factor (dB/m)	Reading (QP) (dBuV)	Emission Level (dBuV/m)(QP)	Limit (dBuV/m)	Margin (dB)
1.	35.05317	17.13	3.91	21.04	40.00	18.96
2.	45.551102	11.67	-1.67	10.00	40.00	30.00
3.	121.36273	7.85	3.84	11.69	43.52	31.83
4.	206.89379	5.62	3.43	9.05	43.52	34.47
5.	377.95591	10.8	11.68	22.48	46.02	23.54
6.	416.83367	11.84	10.15	21.99	46.02	24.03

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

1	34.709419	17.21	4.98	22.19	40.00	17.81
2	40.460922	14.79	4.00	18.79	40.00	21.21
3	377.99599	10.8	19.81	30.61	46.02	15.41
4	600.03006	15.39	14.96	30.35	46.02	15.67
5	700.03006	16.71	18.90	35.61	46.02	10.41
6	766.73347	17.47	14.15	31.62	46.02	14.40

Remark:1. Emission level (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Below 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Quasi-Peak
Mode of EUT	Channel 78(2480MHz)	CONDITIONS	10deg. C, 60%RH, 1001hPa
TESTED BY	Liu Qi		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Correction Factor (dB/M)	Reading (QP) (dBuV)	Emission Level (dBuV/m) (QP)	Limit (dBuV/m)	Margin (dB)
1	34.709419	17.21	4.93	22.14	40.00	17.86
2	45.791583	11.67	-3.80	7.87	40.00	32.13
3	136.91383	6.43	1.81	8.24	43.52	35.28
4	206.89379	5.62	11.10	16.72	43.52	26.80
5	377.99599	10.8	16.50	27.30	46.02	18.72
6	416.01202	11.84	13.44	25.28	46.02	20.74

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

1	34.709419	17.21	5.04	22.25	40.00	17.75
2	377.95591	10.8	20.11	30.91	46.02	15.11
3	600.03006	15.39	14.61	30.00	46.02	16.02
4	700.07014	16.71	18.30	35.01	46.02	11.01
5	766.73347	17.47	15.77	33.24	46.02	12.78
6	920.01002	19.85	12.10	31.95	46.02	14.07

Remark:1. Emission level (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Above 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Peak,Average
Mode	Channel 0(2402MHz)	CONDITIONS	10deg. C,60%RH,1001hPa

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Frequency (MHz)	Correction Factor (dB/M)	Reading (dBuV)		Emission Level(dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV	PK	AV	PK	AV	PK	AV

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

2390	29.83	9.67	-2.83	39.50	27.00	74.00	54.00	34.50	27.00
2483	30.08	7.92	-2.58	38.00	27.50	74.00	54.00	36.00	26.50
2490	30.12	9.38	-3.12	39.50	27.00	74.00	54.00	34.50	27.00
2500	30.28	8.22	-1.78	38.50	28.50	74.00	54.00	35.50	25.50
4804	35.77	7.23	-5.77	43.00	30.00	74.00	54.00	31.00	24.00
7206	40.18	3.82	-10.68	44.00	29.50	74.00	54.00	30.00	24.50
9608	42.6	1.40	-12.60	44.00	30.00	74.00	54.00	30.00	24.00
12010	43.25	0.75	-11.75	44.00	31.50	74.00	54.00	30.00	22.50
14412	48.7	-4.70	-13.70	44.00	35.00	74.00	54.00	30.00	19.00
16814	48.44	-4.44	-5.94	44.00	42.50	74.00	54.00	30.00	11.50

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Frequency (MHz)	Correction Factor (dB/M)	receiver reading (dBuV)		Emission Level(dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV	PK	AV	PK	AV	PK	AV
2390	29.83	9.67	-3.33	39.50	26.50	74.00	54.00	34.50	27.50
2483	30.08	8.42	-3.08	38.50	27.00	74.00	54.00	35.50	27.00
2490	30.12	6.88	-4.62	37.00	25.50	74.00	54.00	37.00	28.50
2500	30.28	8.72	-3.78	39.00	26.50	74.00	54.00	35.00	27.50
4804	35.77	8.23	-4.27	44.00	31.50	74.00	54.00	30.00	22.50
7206	40.18	2.32	-11.18	42.50	29.00	74.00	54.00	31.50	25.00
9608	42.6	0.40	-12.60	43.00	30.00	74.00	54.00	31.00	24.00
12010	43.25	-2.25	-13.25	41.00	30.00	74.00	54.00	33.00	24.00
14412	48.7	-2.70	-12.70	46.00	36.00	74.00	54.00	28.00	18.00
16814	48.44	6.56	-5.94	55.00	42.50	74.00	54.00	19.00	11.50

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Above 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Peak,Average
Mode	Channel 38(2441MHz)	CONDITIONS	10deg. C,60%RH,1001hPa

Frequency (MHz)	correction Factor(dB/m)	Reading (dBuV)		Emission Level(dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV	PK	AV	PK	AV	PK	AV

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

2350	29.46	8.54	-2.96	38.00	26.50	74.00	54.00	36.00	27.50
2390	29.83	8.67	-3.83	38.50	26.00	74.00	54.00	35.50	28.00
2483	30.08	7.42	-4.08	37.50	26.00	74.00	54.00	36.50	28.00
2490	30.12	8.38	-3.62	38.50	26.50	74.00	54.00	35.50	27.50
2500	30.28	7.22	-3.78	37.50	26.50	74.00	54.00	36.50	27.50
4882	35.83	8.67	-4.33	44.50	31.50	74.00	54.00	29.50	22.50
7323	40.11	4.89	-9.61	45.00	30.50	74.00	54.00	29.00	23.50
9764	42.48	1.02	-11.98	43.50	30.50	74.00	54.00	30.50	23.50
12205	43.19	-2.69	-13.19	40.50	30.00	74.00	54.00	33.50	24.00
14646	48.97	-2.97	-13.47	46.00	35.50	74.00	54.00	28.00	18.50
17087	49.16	5.84	-6.16	55.00	43.00	74.00	54.00	19.00	11.00

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

2350	29.46	8.04	-3.46	37.50	26.00	74.00	54.00	36.50	28.00
2390	29.83	8.17	-4.33	38.00	25.50	74.00	54.00	36.00	28.50
2483	30.08	7.92	-4.08	38.00	26.00	74.00	54.00	36.00	28.00
2490	30.12	7.38	-3.62	37.50	26.50	74.00	54.00	36.50	27.50
2500	30.28	7.72	-5.28	38.00	25.00	74.00	54.00	36.00	29.00
4882	35.83	9.67	-3.83	45.50	32.00	74.00	54.00	28.50	22.00
7323	40.11	3.39	-9.61	43.50	30.50	74.00	54.00	30.50	23.50
9764	42.48	0.02	-11.48	42.50	31.00	74.00	54.00	31.50	23.00
12205	43.19	-2.69	-13.69	40.50	29.50	74.00	54.00	33.50	24.50
14646	48.97	-1.97	-13.47	47.00	35.50	74.00	54.00	27.00	18.50
17087	49.16	6.34	-6.16	55.50	43.00	74.00	54.00	18.50	11.00

EUT	GSM/GPRS MOBILE PHONE	REQUENCY RANGE	Above 1000MHz
MODEL	MASS2	DETECTORFUNCTION	Peak,Average
Mode	Channel 78(2480MHz)	CONDITIONS	10deg. C,60%RH,1001hPa

Frequency (MHz)	correction Factor (dB/m)	Reading (dBuV)		Emission Level(dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV	PK	AV	PK	AV	PK	AV
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
2310	29.19	6.31	-3.69	35.50	25.50	74.00	54.00	38.50	28.50
2350	29.46	9.04	-3.46	38.50	26.00	74.00	54.00	35.50	28.00
2390	29.83	8.17	-3.83	38.00	26.00	74.00	54.00	36.00	28.00
2483	30.08	8.42	-3.58	38.50	26.50	74.00	54.00	35.50	27.50
2490	30.12	7.88	-4.12	38.00	26.00	74.00	54.00	36.00	28.00
2500	30.28	7.72	-4.28	38.00	26.00	74.00	54.00	36.00	28.00
4960	35.93	8.07	-3.43	44.00	32.50	74.00	54.00	30.00	21.50
7440	40.45	2.55	-9.95	43.00	30.50	74.00	54.00	31.00	23.50
9220	42.1	1.40	-11.10	43.50	31.00	74.00	54.00	30.50	23.00
12400	43.66	-2.66	-13.66	41.00	30.00	74.00	54.00	33.00	24.00
14880	48.11	-1.61	-13.11	46.50	35.00	74.00	54.00	27.50	19.00
17360	49.62	5.88	-6.12	55.50	43.50	74.00	54.00	18.50	10.50
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
2310	29.19	8.81	-3.19	38.00	26.00	74.00	54.00	36.00	28.00
2350	29.46	8.04	-3.96	37.50	25.50	74.00	54.00	36.50	28.50
2390	29.83	8.67	-3.83	38.50	26.00	74.00	54.00	35.50	28.00
2483	30.08	8.42	-4.58	38.50	25.50	74.00	54.00	35.50	28.50
2490	30.12	8.38	-4.12	38.50	26.00	74.00	54.00	35.50	28.00
2500	30.28	8.22	-4.78	38.50	25.50	74.00	54.00	35.50	28.50
4960	35.93	8.57	-3.43	44.50	32.50	74.00	54.00	29.50	21.50
7440	40.45	3.05	-9.95	43.50	30.50	74.00	54.00	30.50	23.50
9220	42.1	0.90	-10.60	43.00	31.50	74.00	54.00	31.00	22.50
12400	43.66	-3.66	-15.66	40.00	28.00	74.00	54.00	34.00	26.00
14880	48.11	-0.61	-13.11	47.50	35.00	74.00	54.00	26.50	19.00
17360	49.62	6.38	-6.12	56.00	43.50	74.00	54.00	18.00	10.50

10. AC Power Line Conducted Emissions

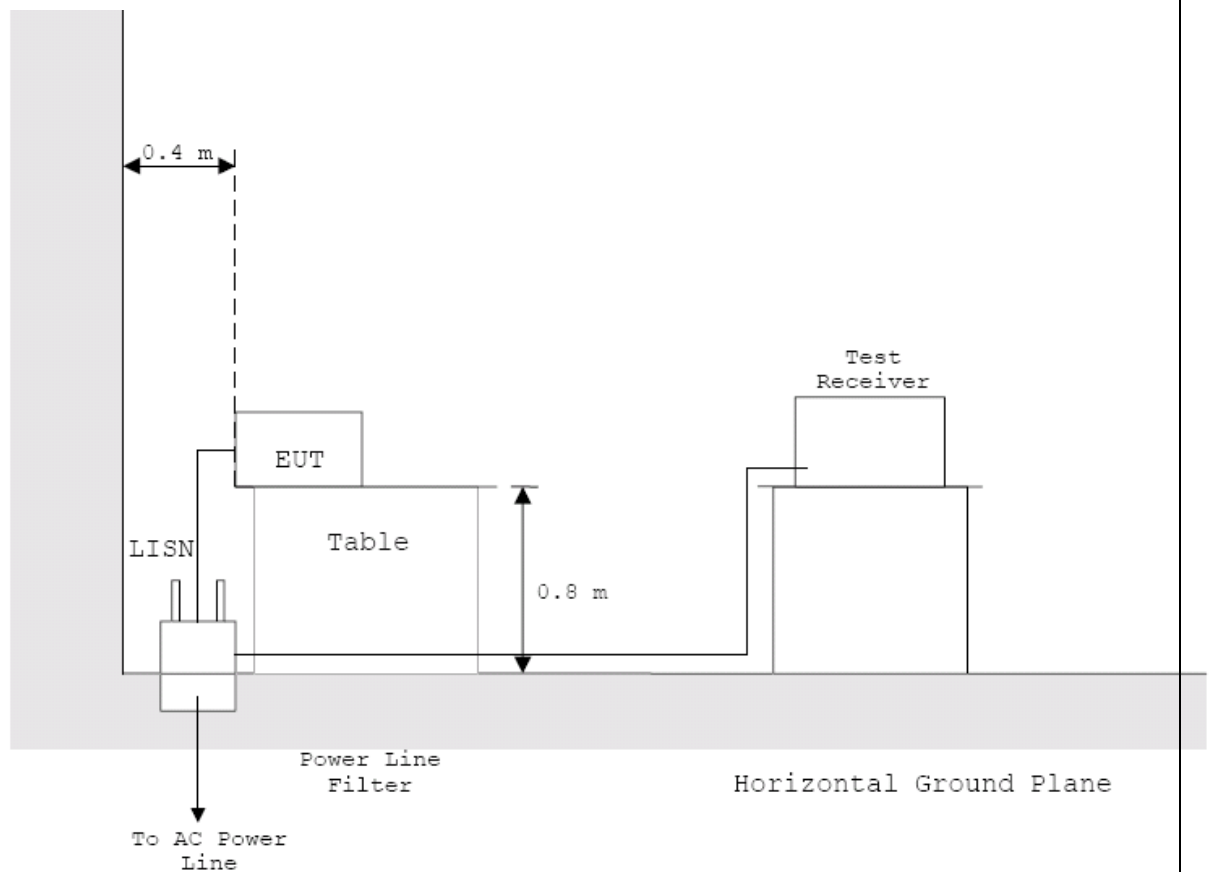
10.1. Test Equipment

The following test equipment are used during the Conducted Emissions test

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.
1	EMI Test Receiver	R & S	ESCS 30/100070	May, 2008
2	Artificial Mains Network	R & S	ESH2-Z5/100030	Aug, 2008
3	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

10.2. Test Setup



10.3. Limits

Mains terminal disturbance voltage limits for Class B equipment measured on a test site

Frequency (MHz)	Class B equipment limits dB(uV)	
	Quasi-peak	Average
0.15 – 0.50	66	56
	Decreasing with logarithm of frequency to 56	Decreasing with logarithm of frequency to 46
0.50-5.0	56	60
5.0 – 30	56	50

10.4. Test Procedure

According to description of ANSI C63.4-2003 sec.13.1.3, the AC power line preliminary conducted emissions measurements were carried out. The preliminary conducted measurements were performed using the spectrum analyzer to observe the emission characteristics of the EUT. The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for final AC power line conducted emissions measurements. The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected to LISN and LISN is connected to the reference ground. All other supplemental devices are connected with EUT through other LISN. The distance between EUT and LISN is 80cm. A radio link is established between EUT and the tester. The output power of the EUT is controlled by the tester and driven to maximum value. An initial pre-scan was performed on the live L line and neutral line with peak detector (9kHz RBW). Both average detector and quasi-peak detector are performed at the frequencies with maximized peak emission.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

10.5. Test Specification

According to CFR 47 FCC Part 15.207

10.6. Test Voltage

120V/60Hz

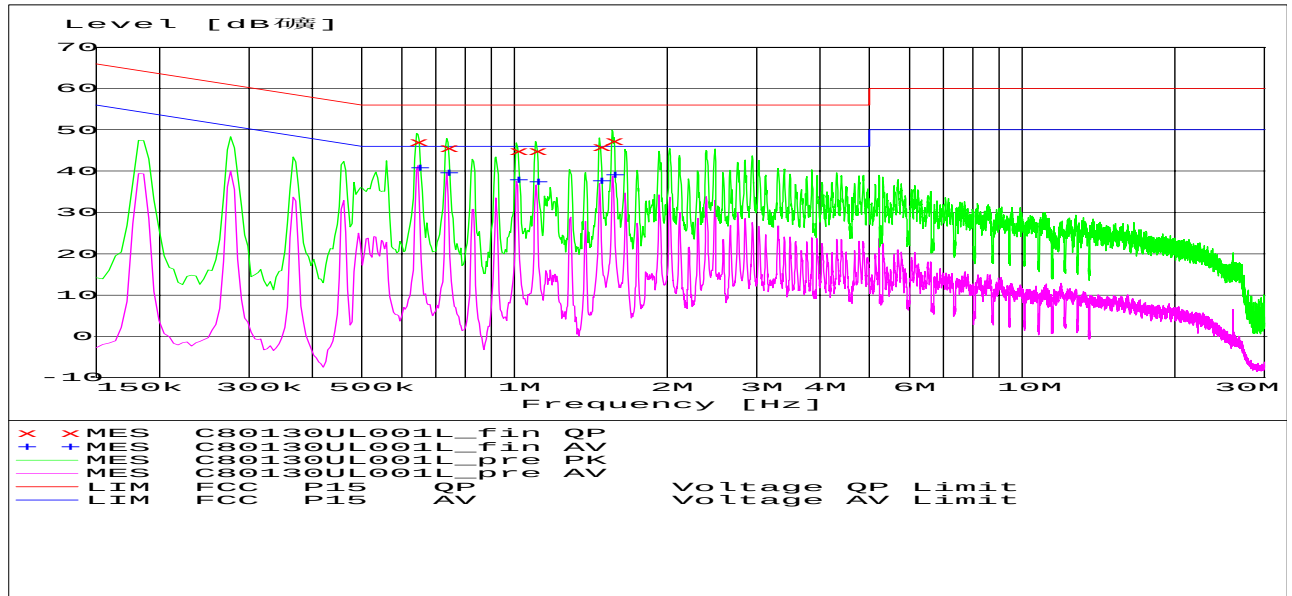
10.7. EUT Operation

See chapter 1.2 of this test report.

10.8. Test Result

All modes have been investigated and the worst case mode for Channel (39ch: 2441 MHz) has been listed.

Live line:



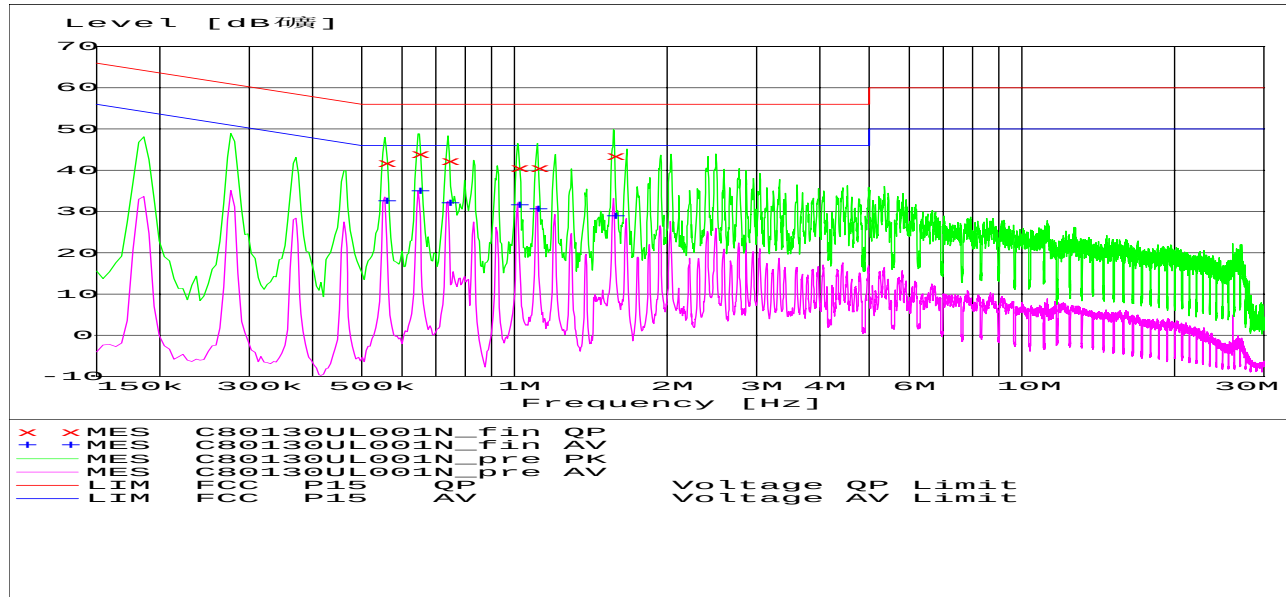
MEASUREMENT RESULT: "C80130UL001L_fin QP"

Frequency	Level	Transducer	Limit	Margin	Line	PE
MHz	dBμV	dB	dBμV	dB		
0.640500	47.00	10.6	56.00	9.00	L1	FLO
0.735000	45.60	10.6	56.00	10.40	L1	FLO
1.009500	44.90	10.6	56.00	11.10	L1	FLO
1.099500	44.70	10.5	56.00	11.30	L1	FLO
1.468500	45.80	10.5	56.00	10.20	L1	FLO
1.558500	47.20	10.6	56.00	8.80	L1	FLO

MEASUREMENT RESULT: "C80130UL001L_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBμV	dB	dBμV	dB		
0.645000	40.60	10.6	46.00	5.40	L1	FLO
0.735000	39.50	10.6	46.00	6.50	L1	FLO
1.009500	37.80	10.6	46.00	8.20	L1	FLO
1.104000	37.20	10.5	46.00	8.80	L1	FLO
1.468500	37.60	10.5	46.00	8.40	L1	FLO
1.563000	39.00	10.6	46.00	7.00	L1	FLO

Neutral line:



MEASUREMENT RESULT: "C80130UL001N_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB μ V	dB	dB μ V	dB		
0.555000	41.70	10.6	56.00	14.30	N	FLO
0.645000	43.90	10.6	56.00	12.10	N	FLO
0.739500	42.20	10.6	56.00	13.80	N	FLO
1.014000	40.50	10.6	56.00	15.50	N	FLO
1.108500	40.60	10.5	56.00	15.40	N	FLO
1.567500	43.30	10.6	56.00	12.70	N	FLO

MEASUREMENT RESULT: "C80130UL001N_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB μ V	dB	dB μ V	dB		
0.555000	32.40	10.6	46.00	13.60	N	FLO
0.645000	35.02	10.6	46.00	10.98	N	FLO
0.739500	32.10	10.6	46.00	13.90	N	FLO
1.014000	31.60	10.6	46.00	14.40	N	FLO
1.104000	30.60	10.5	46.00	15.40	N	FLO
1.567500	28.80	10.6	46.00	17.20	N	FLO

11. Spurious Emissions for Receiver (Radiation)

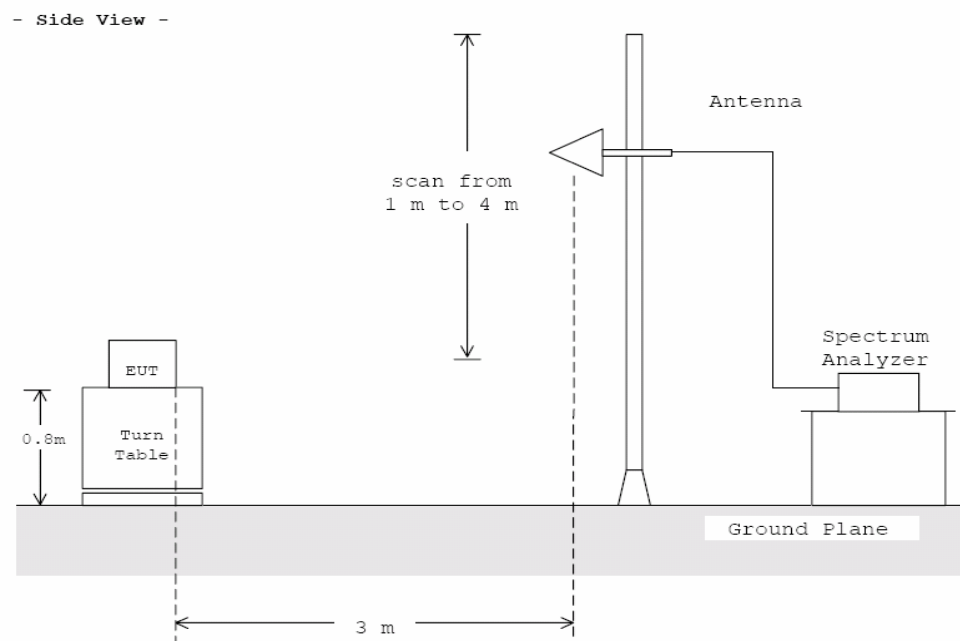
11.1. Test Equipment

The following test equipment are used during the Spurious Emissions (Radiation) test

Item	Instrument	Manufacturer	Type No/Serial No.	Last Calibration
1	EMI Test Receiver	R & S	ESI 26/838786/011	Dec, 2008
2	Ultra Broadband Antenna	R & S	HL 562/100019	May, 2008
5	Double-Ridged Waveguide Horn Antenna	R & S	HF 906/100023	May, 2008
7	Universal Radio Communication Tester	R & S	CMU 200/108591	June, 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

11.2. Test Setup



11.3. Limits

Frequency (MHz)	Limits (dB uV/m)	Measured distance (m)
30~88	40	3
88~216	43.5	
216~960	46	
960~1000	54	

11.4. Test Procedure

According to description of ANSI C63.4-2003 sec.13.1.4, the preliminary radiated emissions measurement were carried out.

11.5. Test Specification

According to CFR 47 FCC Part 15.109

11.6. EUT Operation

EUT worked as the received mode during the test

11.7. Test Result

Radiated Emission (30 MHz – 1000 MHz) :

No.	Frequency (MHz)	Correction Factor (dB/M)	Reading (QP) (dBuV)	Emission Level (dBuV/m) (QP)	Limit (dBuV/m)	Margin (dB)
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M						
1	40.370741	14.79	3.35	18.14	40.00	21.86
2	42.945892	12.13	6.03	18.16	40.00	21.84
3	378.01603	10.8	18.65	29.45	46.02	16.57
4	600.01002	15.39	14.83	30.22	46.02	15.8
5	700.07014	16.71	18.52	35.23	46.02	10.79
6	800.64128	17.9	13.52	31.42	46.02	14.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M						
1	34.729459	17.21	4.68	21.89	40.00	18.11
2	45.951904	11.67	-3.85	7.82	40.00	32.18
3	116.73347	7.62	0.09	7.71	43.52	35.81
4	208.01603	5.77	12.56	18.33	43.52	25.19
5	377.99599	11.05	15.28	26.33	46.02	19.69
6	415.97194	11.84	12.35	24.19	46.02	21.83

Remark:1. Emission level (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

12. Test Setup Photo**12.1 Radiation Emission Setup Photo****12.2 ERP/EIRP Test Setup Photo****12.3 Conduction Emission test setup Photo****12.4 EUT Axis of Setup Photo**

X Axis

Y Axis

Z Axis

13 External Photo**14 Internal Photo**