

TEST REPORT

REPORT NUMBER: I08GE5373-FCC-BT

ON

Type of Equipment: Tri Band GSM850/1800/1900 handheld
cellular phone
Type of Designation: M4E
Manufacturer: Ezze Mobile Tech

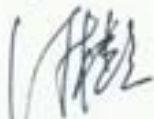
ACCORDING TO
FCC Part 15, FREQUENCY Hopping Spread Spectrum
Transceiver

PART 15 subpart C 15.247

China Telecommunication Technology Labs.

Month date, year
June, 26, 2008

Signature



He Guili
Director

FCC ID: RV2M4E
Report Date: 2008-06-26

Test Firm Name: China Telecommunication Technology Labs
Registration Number: 840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC Parts 15, subpart C 15.247. The sample tested was found to comply with the requirements defined in the applied rules.

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1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC Parts 15, subpart C 15.247.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex B.

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1.2 Testers

Name: Lv Ke
Position: Engineer
Department: Department of EMC test
Duration of the test: 2008-6-23
Signature:

Name: Yuan Yuan
Position: Engineer
Department: Department of EMC test
Duration of the test: 2008-06-16
Signature:

Name: Li Guoqing
Position: Engineer
Department: Department of EMC test
Duration of the test: 2008-06-22
Signature:

Editor of this test report:

Name: Li Guoqing
Position: Engineer
Department: Department of EMC test
Date: 2008-06-26
Signature:

FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Technical responsibility for area of testing:

Name: Zou Dongyi

Position: Manager

Department: Department of EMC test

Date: 2008-06-26

Signature:

EMC Test Report

1.3 Testing Laboratory information

1.3.1 Location

Name: China Telecommunication Technology Labs.
Address: No. 11, Yue Tan Nan Jie, Xi Cheng District
BEIJING
P. R. CHINA, 100083
Tel: +86 10 68094053
Fax: +86 10 68011404
Email: emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by: China National Accreditation for Laboratory (CNAL)
Registration number: CNAL Registration No.L0570
Standard: ISO/IEC 17025:2005

1.3.3 Test location, where different from section 1.3.1

Name: -----
Street: -----
City: -----
Country: -----
Telephone: -----
Fax: -----
Postcode: -----

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name: Ezze Mobile Tech
Address: 1F, Bubmusa Bldg., 151-31,
Nonhyun-dong, Kangnam-ku, Seoul
Country: Korea
Telephone: 82-2-519-7807
Fax: 82-2-519-7882
Contact: Han shin, Lee
Telephone: 82-19-543-3776
Email: leehs@ezzemobile.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --
Address: --

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name: Ezze Mobile Tech
Address: Rm. 204, Anyang Megavalley, 799,
Guanyang-dong, Dongan-gu, Anyang-city,
Gyunggi-do, Korea, 431-767

2 Test Item

2.1 General Information

Manufacturer: Ezze Mobile Tech
Name: Tri Band GSM850/1800/1900 handheld cellular phone
Model Number: M4E
Serial Number: --
Production Status: Production
Receipt date of test item: 2008-06-03

2.2 Outline of EUT

E.U.T. is a Tri Band GSM850/1800/1900 handheld cellular phone with Bluetooth function.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Mobile Station	Ezze Mobile Tech	M4E	--	None
B	Adapter	Yu Feng	USB Type / YF-0510228	--	None
C	Battery	Zhi-in	M4E(Li-ion)	--	None
D	Headset	Rich star	Wire Type(stereo)	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	DC cable on Adapter	Unknown	1.8m	No	1	None

2.5 Other Information

None

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

	Name of Test	Result
1、	Peak power	Pass
2、	Band edge (conducted)	Pass
3、	Band edge (radiated)	Pass
4、	Frequency separation	Pass
5、	Number of hopping frequency	Pass
6、	Time of occupancy	Pass
7、	Spurious emission (conducted)	Pass
8、	Spurious emission (radiated)	Pass
9、	Power line Conducted Emissions	Pass
Note: none		

4 Test Results

4.1 Peak power

Specifications:	15.247 (b)(3)(i),(ii)and(iii)					
Date of Tests	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel transmit					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup:

The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

Test Results:

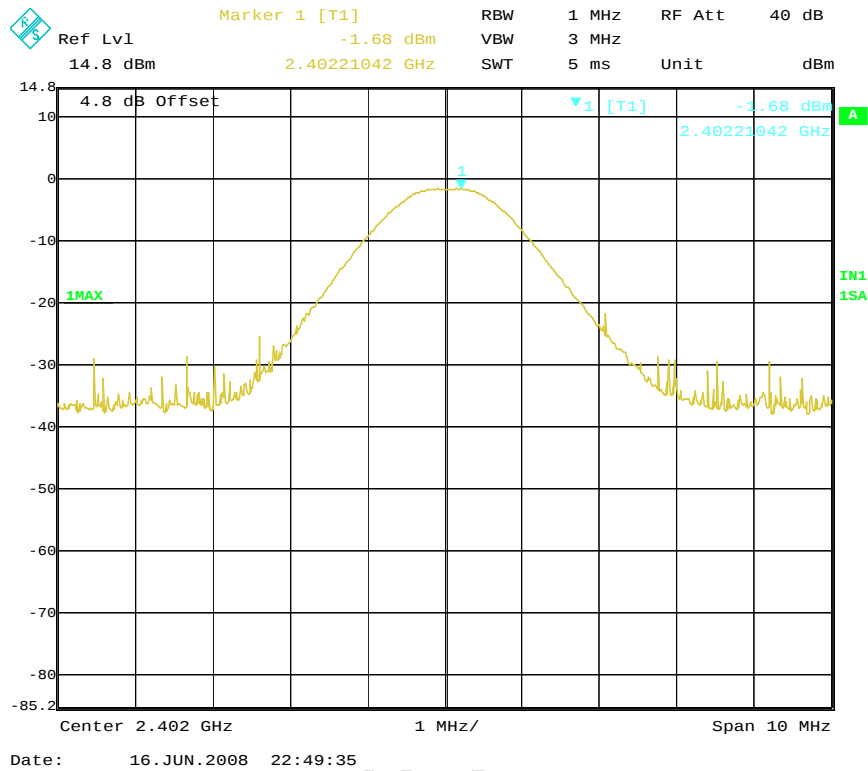
channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Result
0	2402	-1.68	30	Pass
39	2441	-1.22	30	Pass
78	2480	-1.60	30	pass

FCC Parts 15 subpart C 15.247
Equipment: M4E

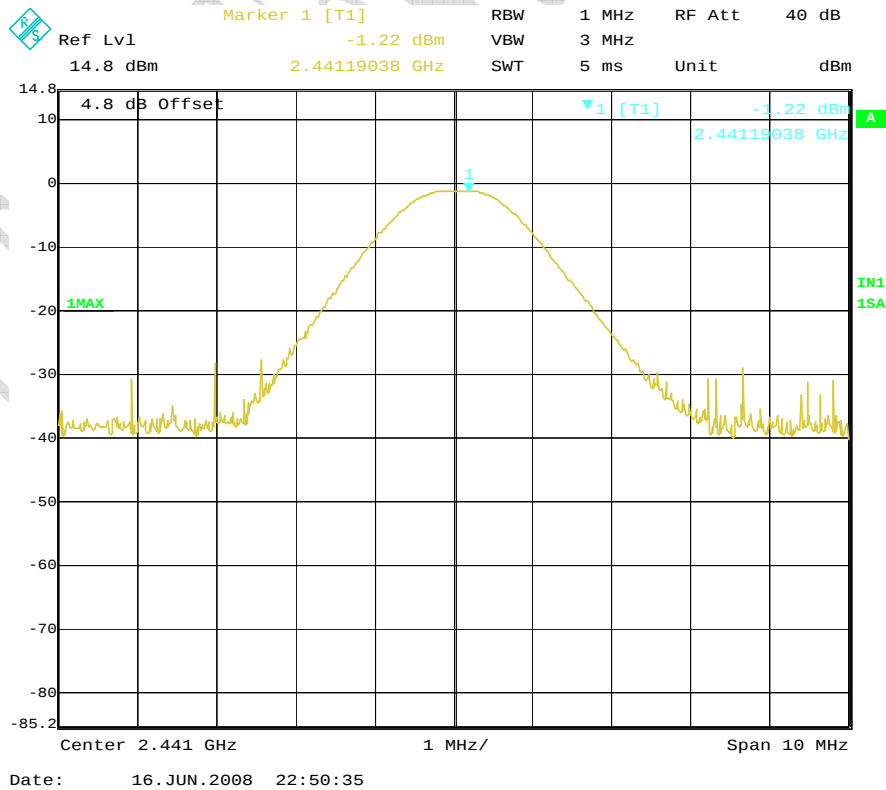
REPORT NO.: I08GE5373-FCC-BT

Test Data:

Channel 0:



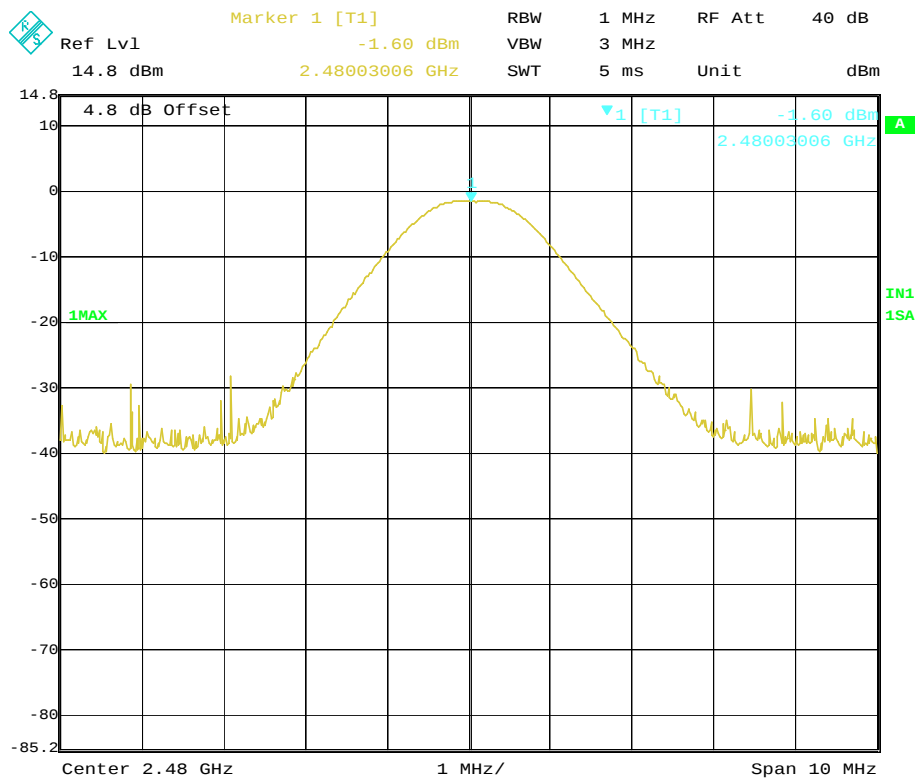
Channel 39



FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 78



Date: 16.JUN.2008 22:51:13

4.2 Band edges (conducted)

Specifications:	15.247 (d)					
Date of Tests	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel transmit					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup:

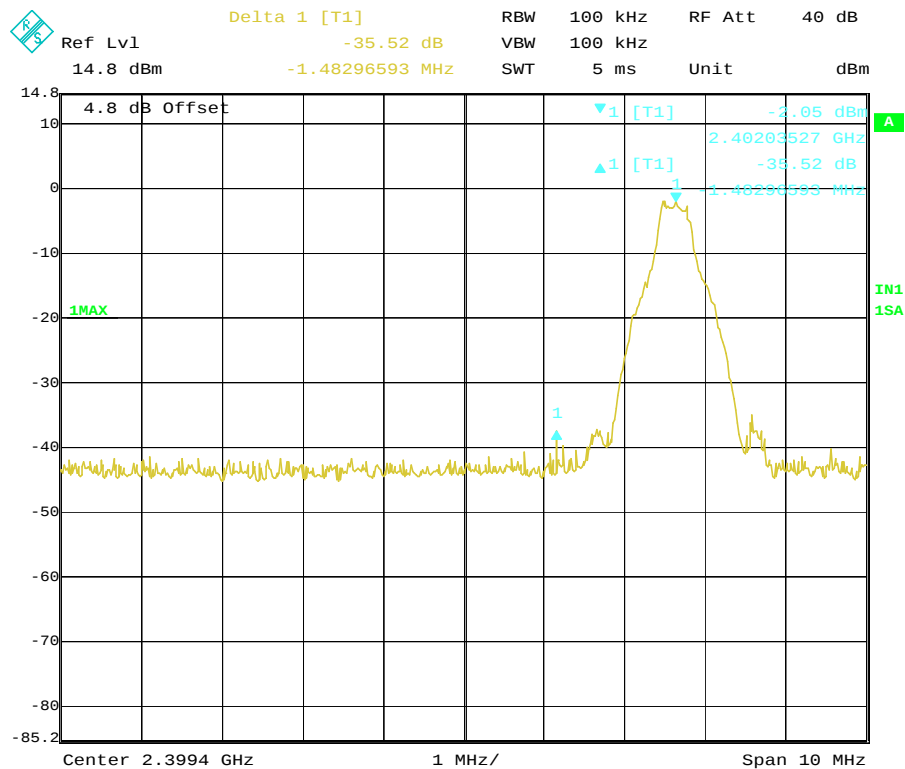
The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

FCC Parts 15 subpart C 15.247
Equipment: M4E

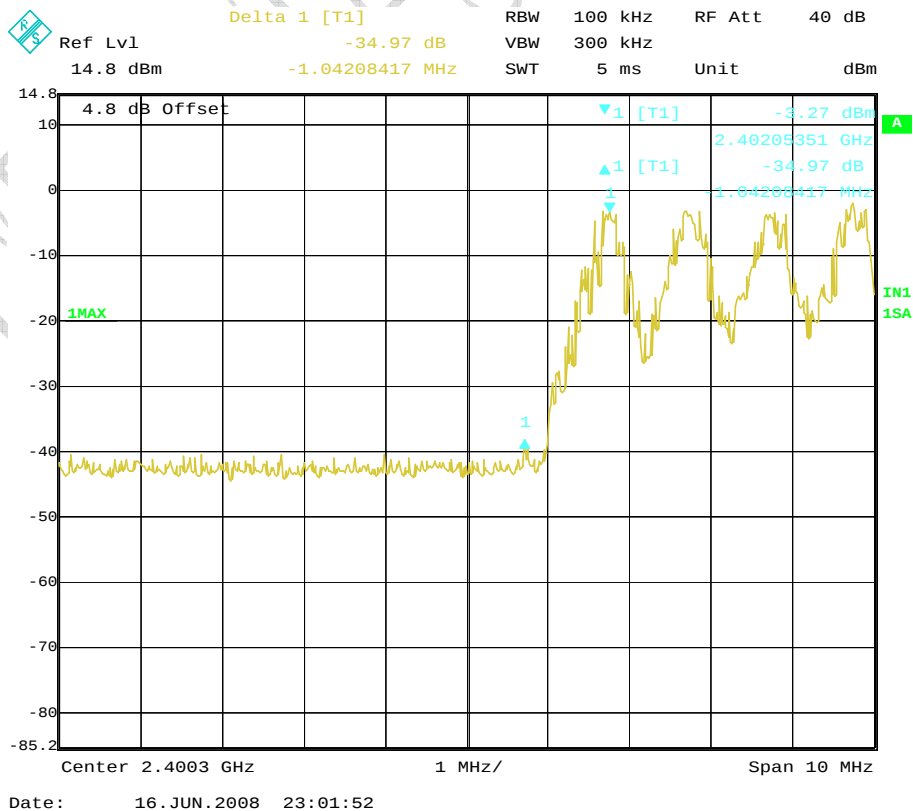
REPORT NO.: I08GE5373-FCC-BT

Test data:

Channel 0, fixed mode, left band-edge



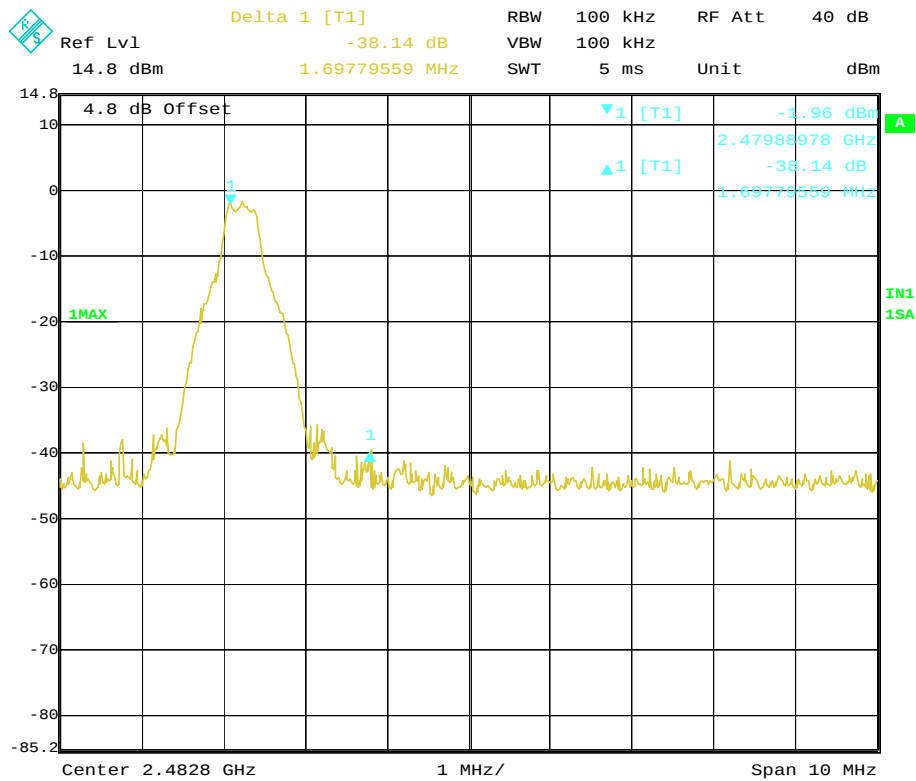
Hopping mode, left band-edge



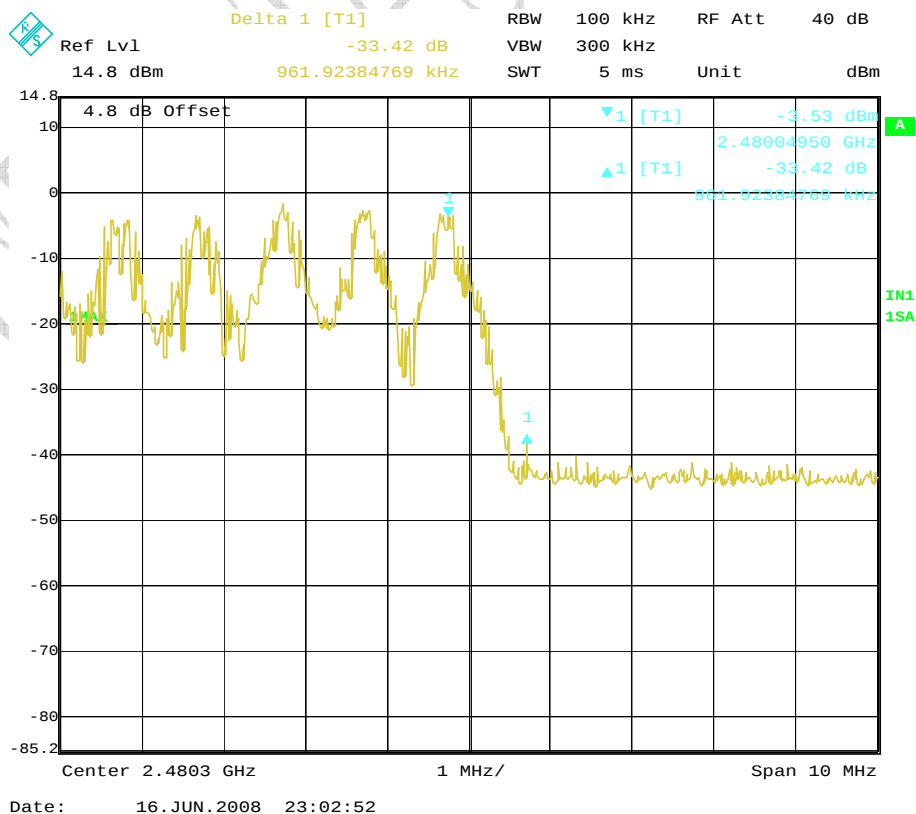
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 78, fixed mode, right band-edge



Hopping mode, right band-edge



4.3 Band edges measurement (Radiated)

Specifications:	15.247 (c); 15.205(a) and 15.209(a)					
Date of Tests	2008-06-22					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel transmit					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Horn Antenna	R/S	HF906	100037	2010-01-09	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-16	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup:

The EUT was placed in an anechoic chamber. The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a Horn antenna.

Test method:

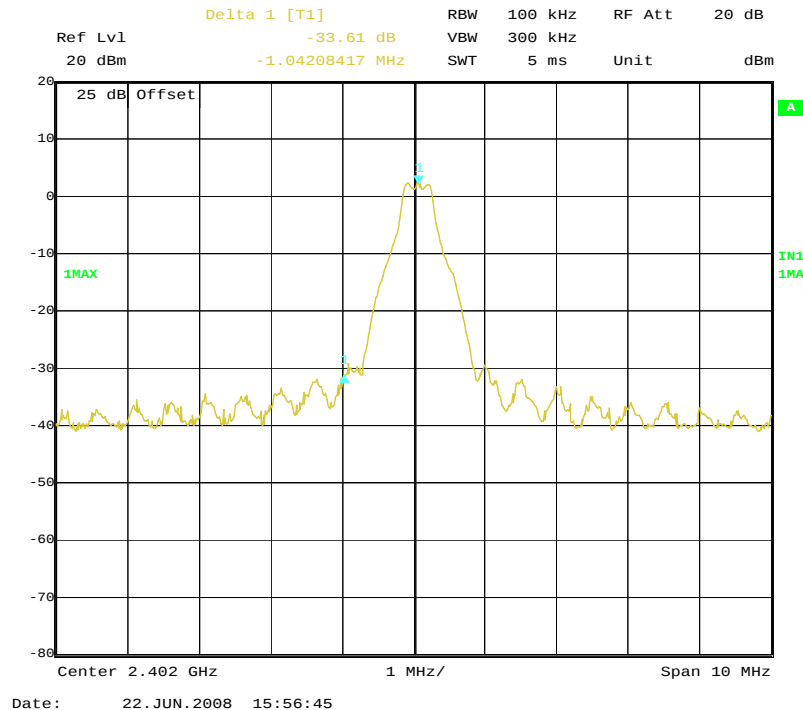
Use peak and average detector to measure band edges.

Test should be performing under Vertical and Horizontal modes.

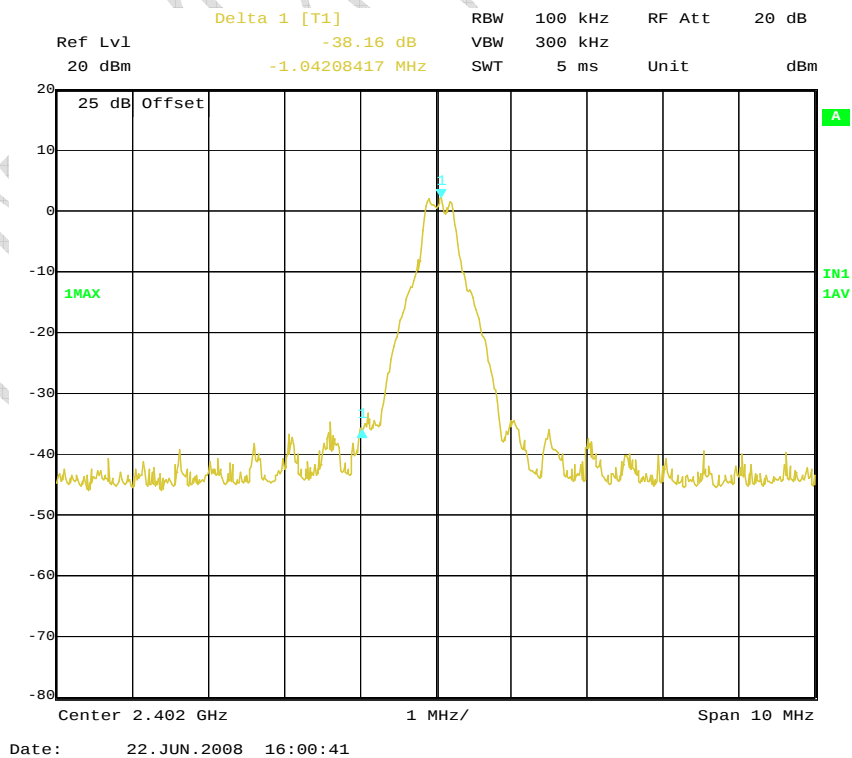
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Test data:
Channel 0
Vertical
Peak mode:



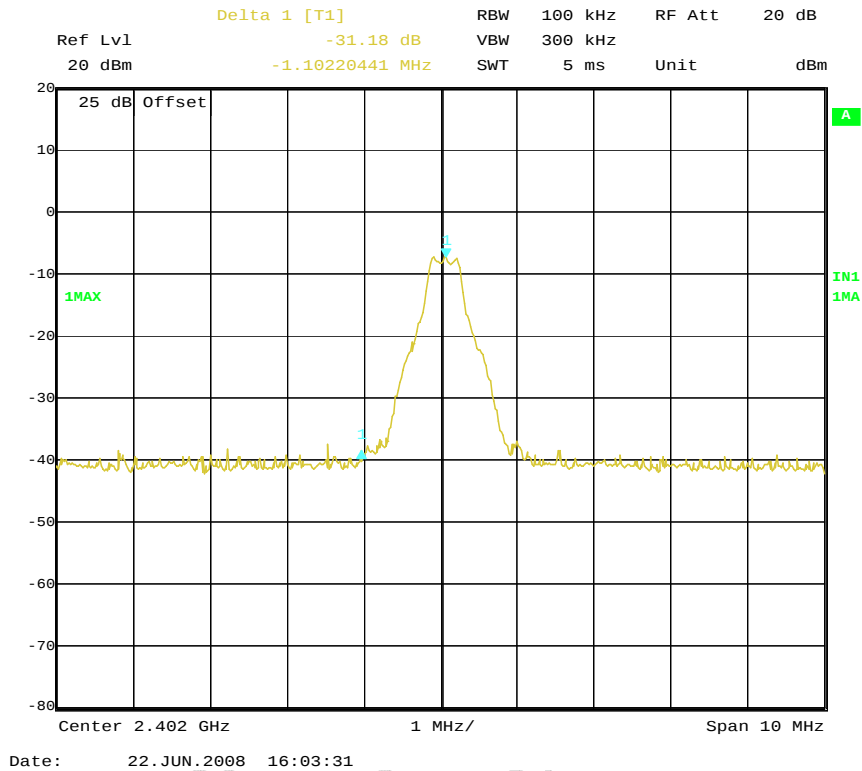
Average mode:



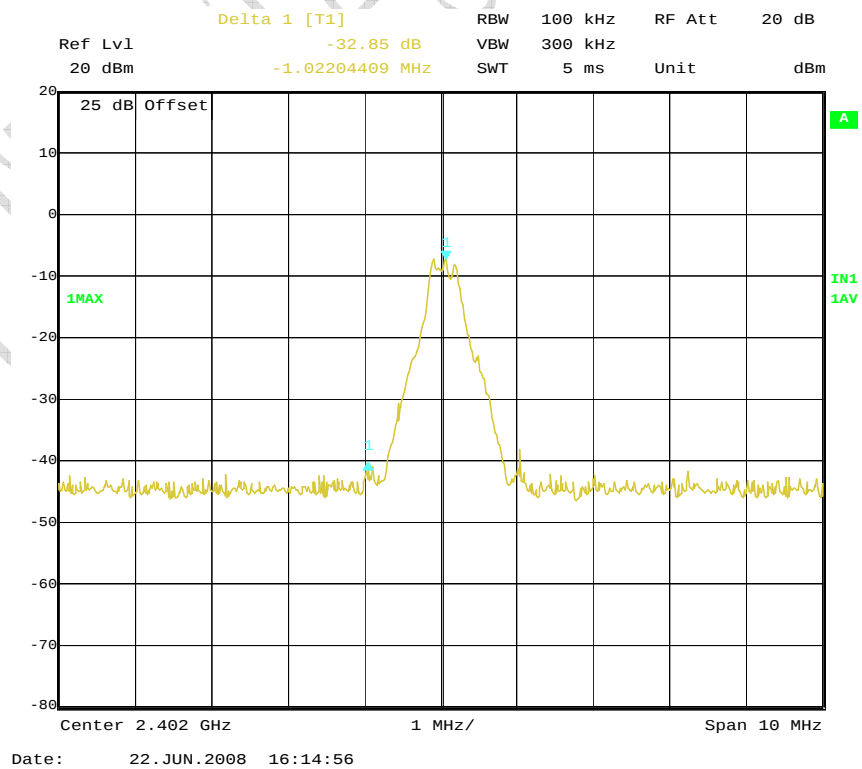
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 0
Horizontal
Peak mode:



Average mode:



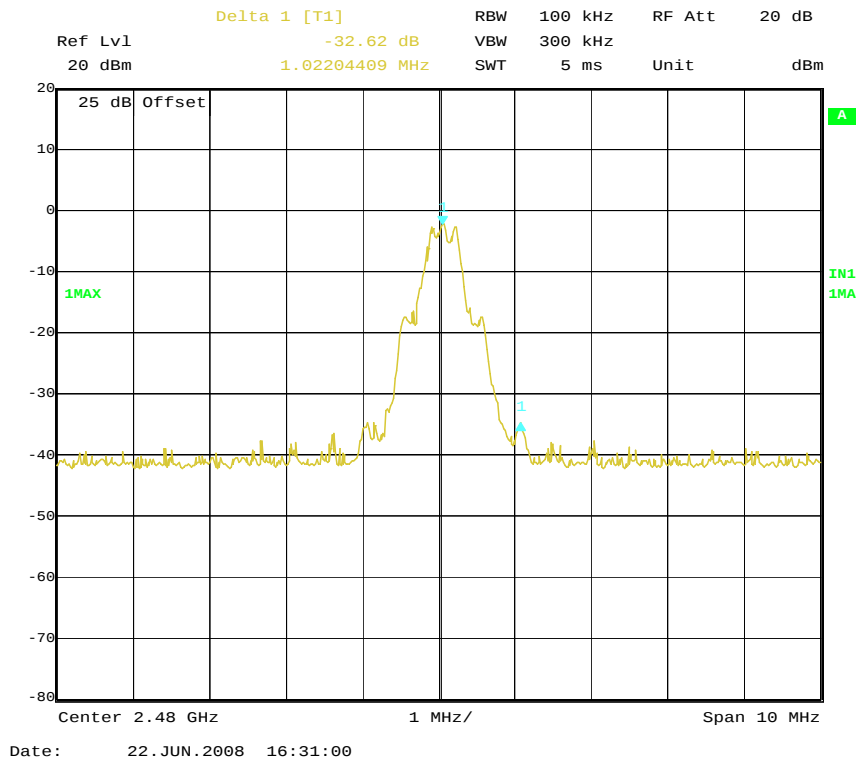
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

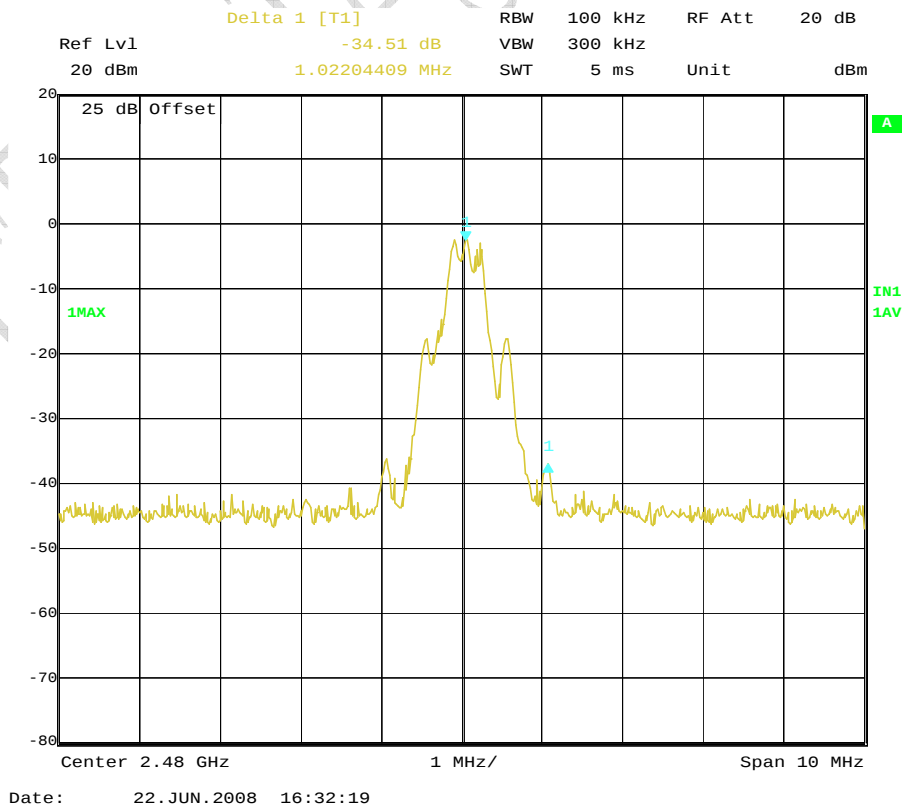
Channel 78

Vertical

Peak mode:



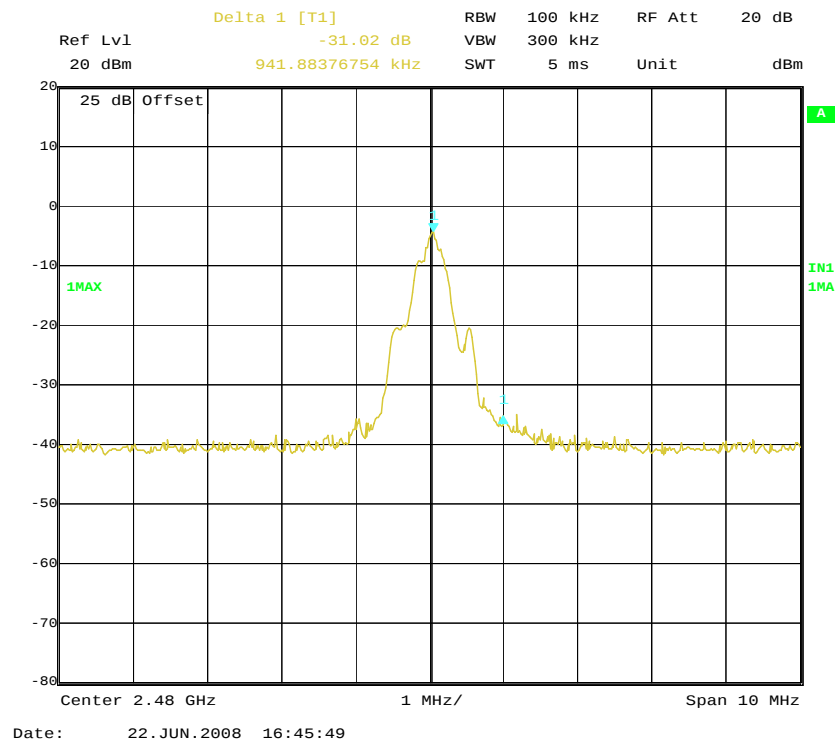
Average mode:



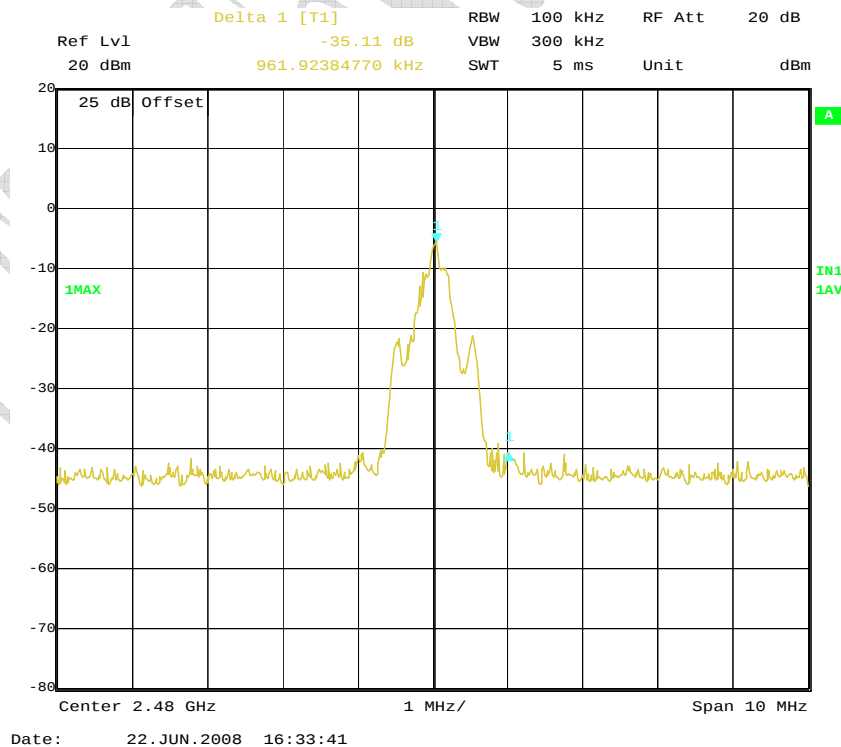
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 78
Horizontal
Peak mode:



Average mode:



4.4 Frequency separation

Specifications:	15.247(a)(1)					
Date of Test	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel transmit					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

Test Result:

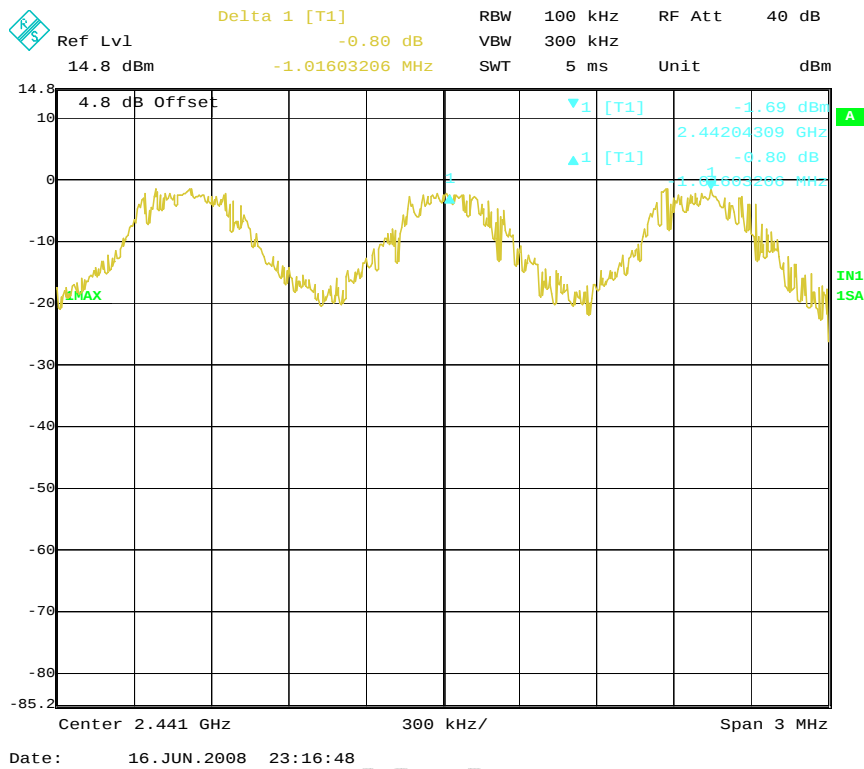
Channel separation (kHz)	20dB Bandwidth (kHz)		Limit (kHz)	Result
1016.03	Ch 0	1142	>25	Pass
	Ch 39	1162	>25	Pass
	Ch 78	1162	>25	Pass

FCC Parts 15 subpart C 15.247
Equipment: M4E

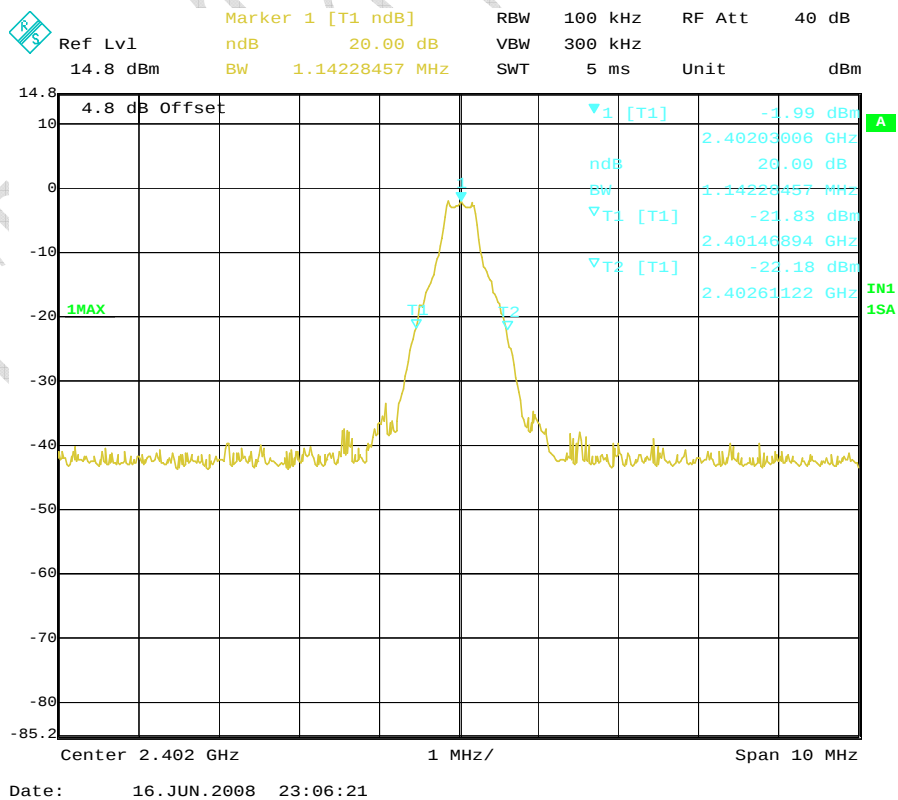
REPORT NO.: I08GE5373-FCC-BT

Test data:

Channel Separation



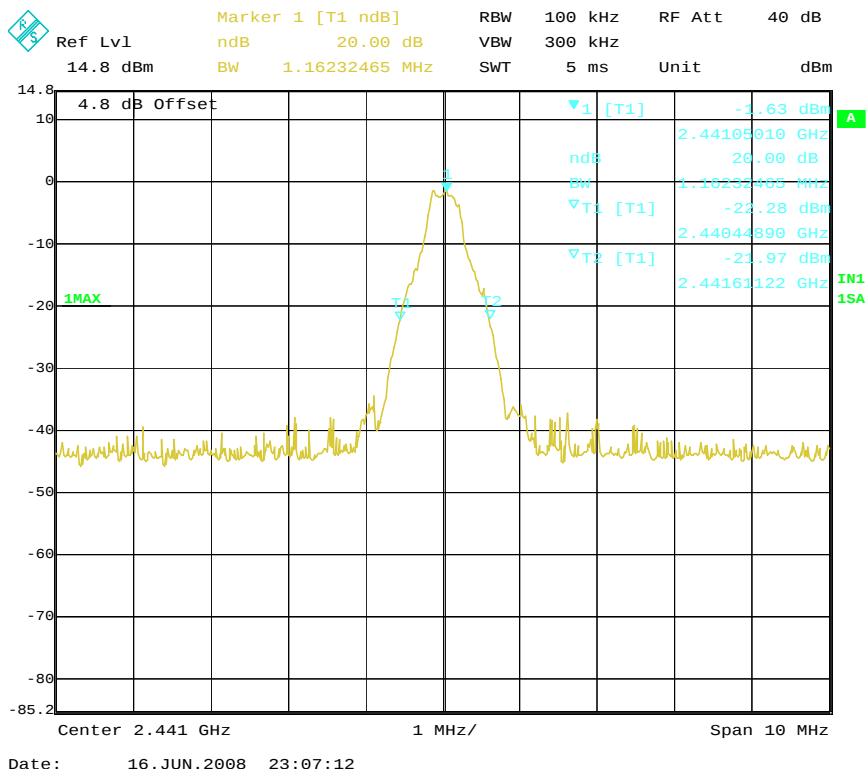
20dB Bandwidth (Ch 0)



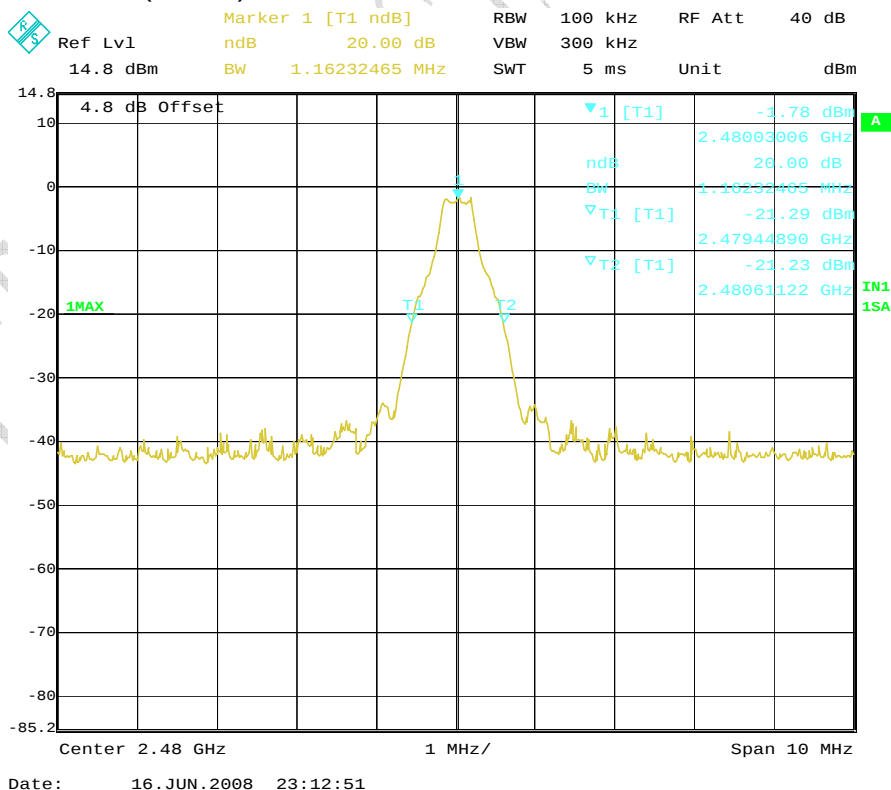
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

20dB Bandwidth (Ch 39)



20dB Bandwidth (Ch 78)



4.5 Number of hopping frequency

Specifications:	15.247(a)(1)(ii)					
Date of Test	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	hopping					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

Test Result:

Result (No. of Ch)	Limit (No. of Ch)	Result
79	>75	Pass

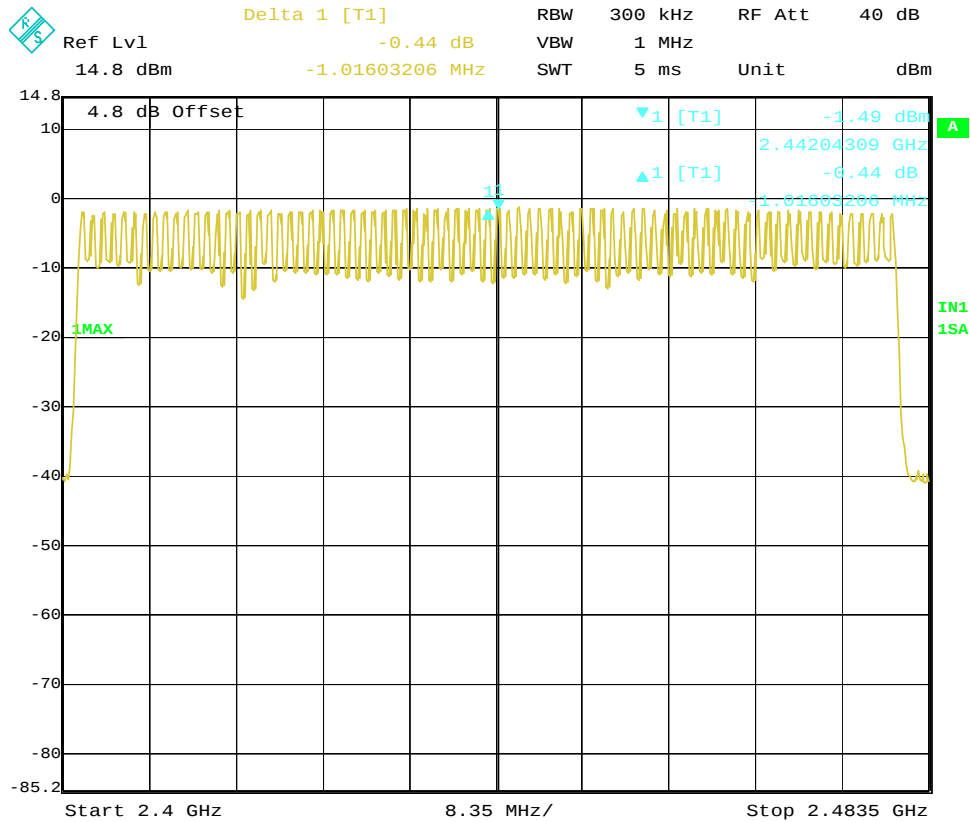


FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Test data:

Channel Number



Date: 16.JUN.2008 23:20:27

4.6 Time of occupancy

Specifications:	15.247(a)(1)(iii)					
Date of Test	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

Test Result:**Function for DH5:**

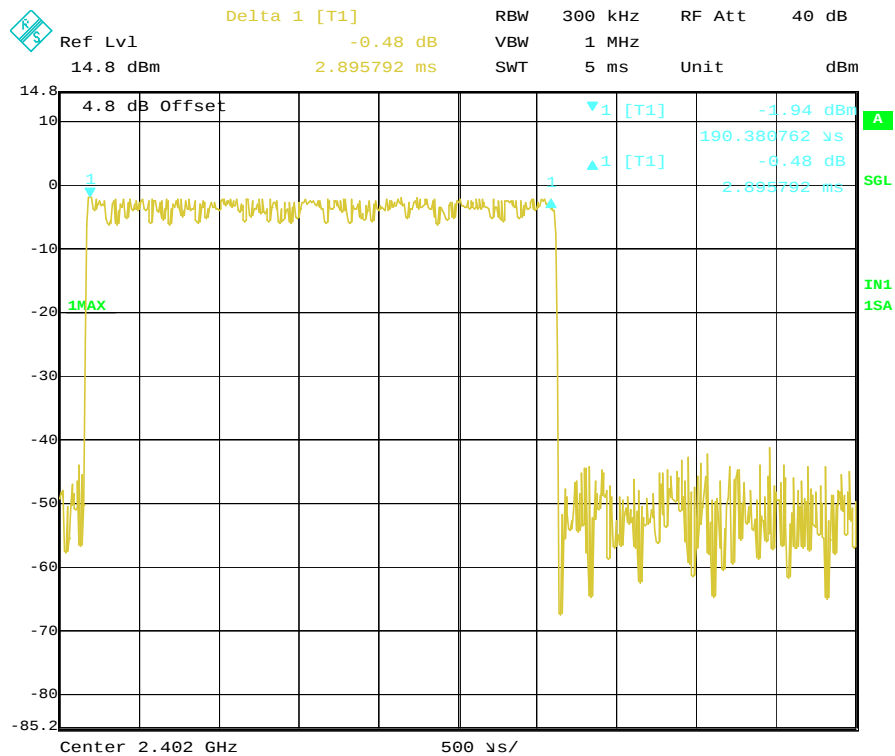
$$\text{Total Dwell Time} = \text{pulsetime} \times \left(\frac{1600}{6} \right) / 79 \times 31.6$$

Channel	Pulse Time (ms)	Total of Dwell (ms)	Period Time (s)	Limit (ms)	Result
0	2.896	308.9	31.6	400	Pass
39	2.946	314.3	31.6		Pass
78	2.916	311.1	31.6		Pass

FCC Parts 15 subpart C 15.247
Equipment: M4E

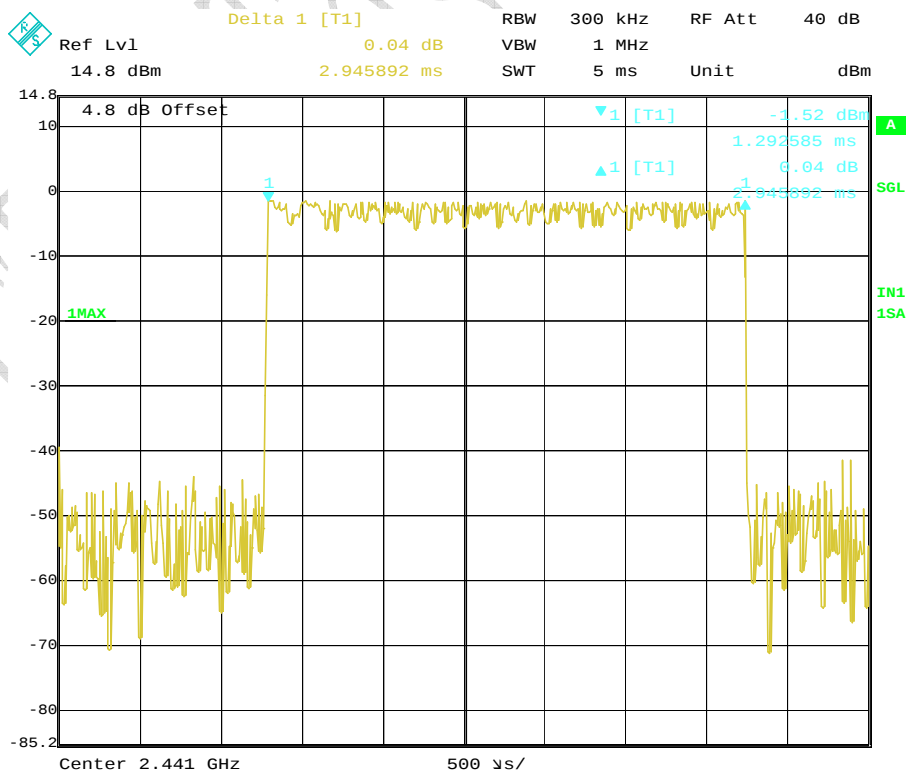
REPORT NO.: I08GE5373-FCC-BT

Test data:
Channel 0



Date: 16.JUN.2008 23:25:34

Channel 39



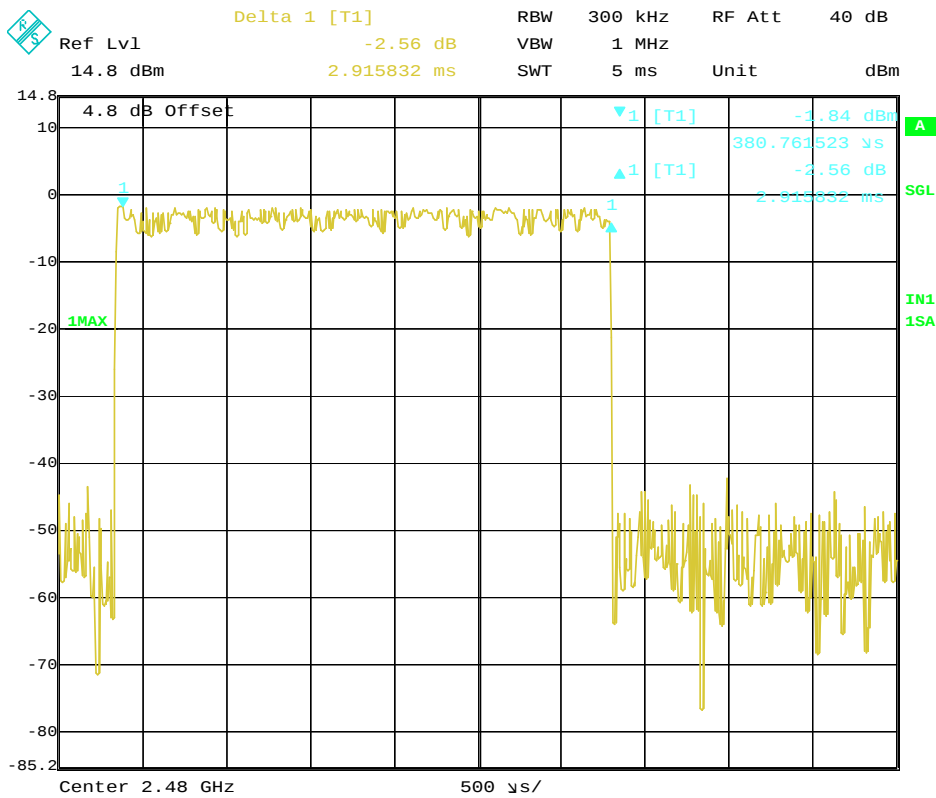
Date: 16.JUN.2008 23:24:27



FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 78



Date: 16.JUN.2008 23:23:13

4.7 Spurious Measurement (Conducted)

Specifications:	15.209(a) and 15.205(a)					
Date of Test	2008-06-16					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Fix channel transmit					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The Universal Radio Communications Tester was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a coupling.

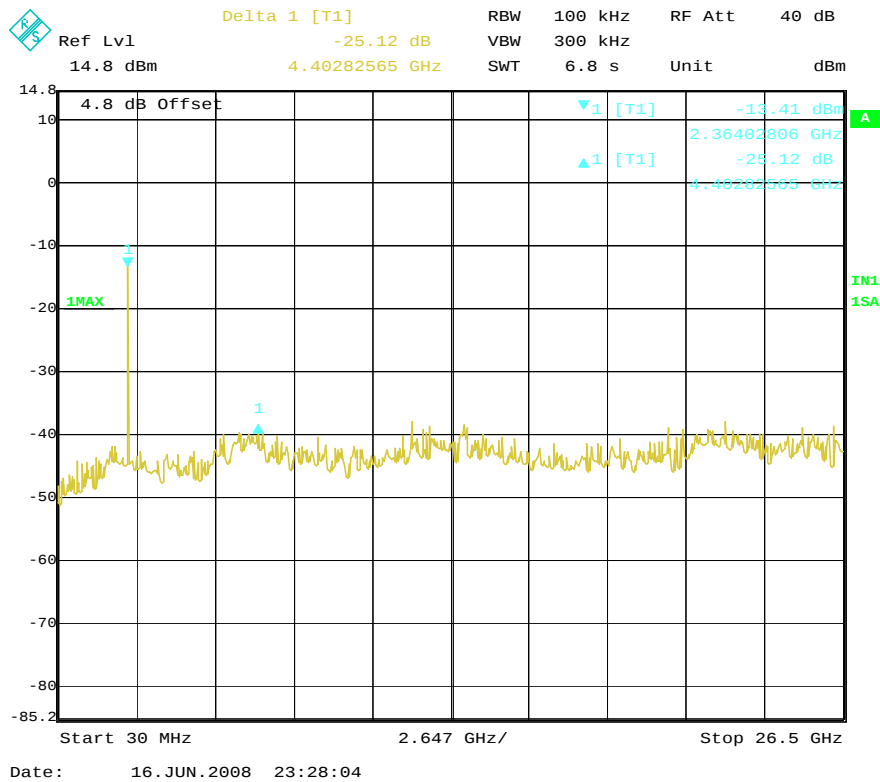
Test Result:

Channel	Result
0	Pass
39	Pass
78	Pass

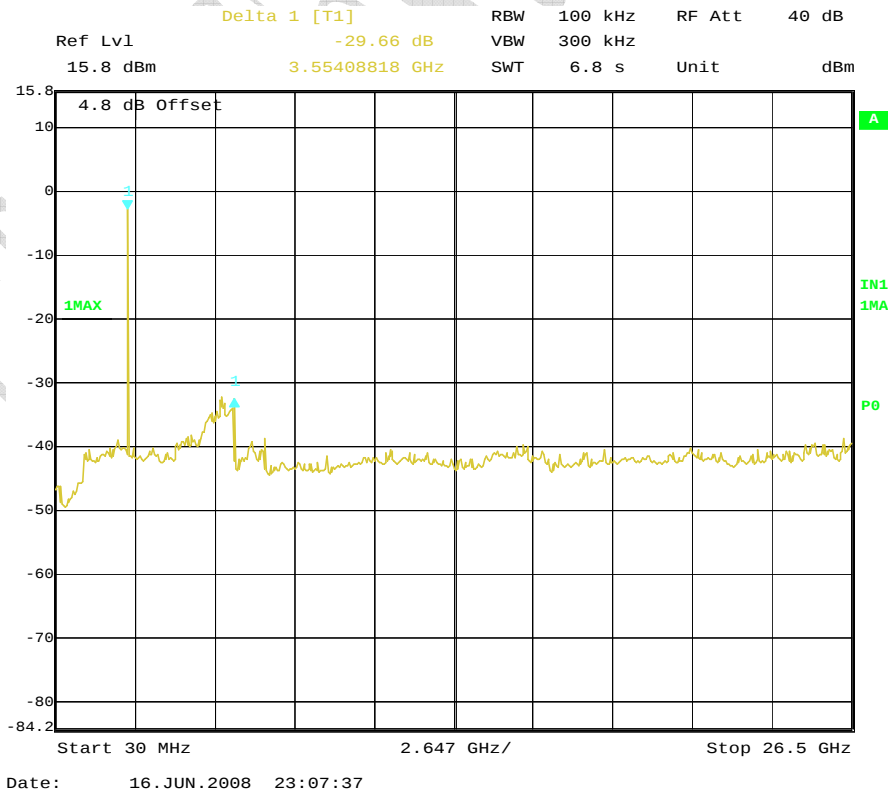
FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Test data:
Channel 0



Channel 39

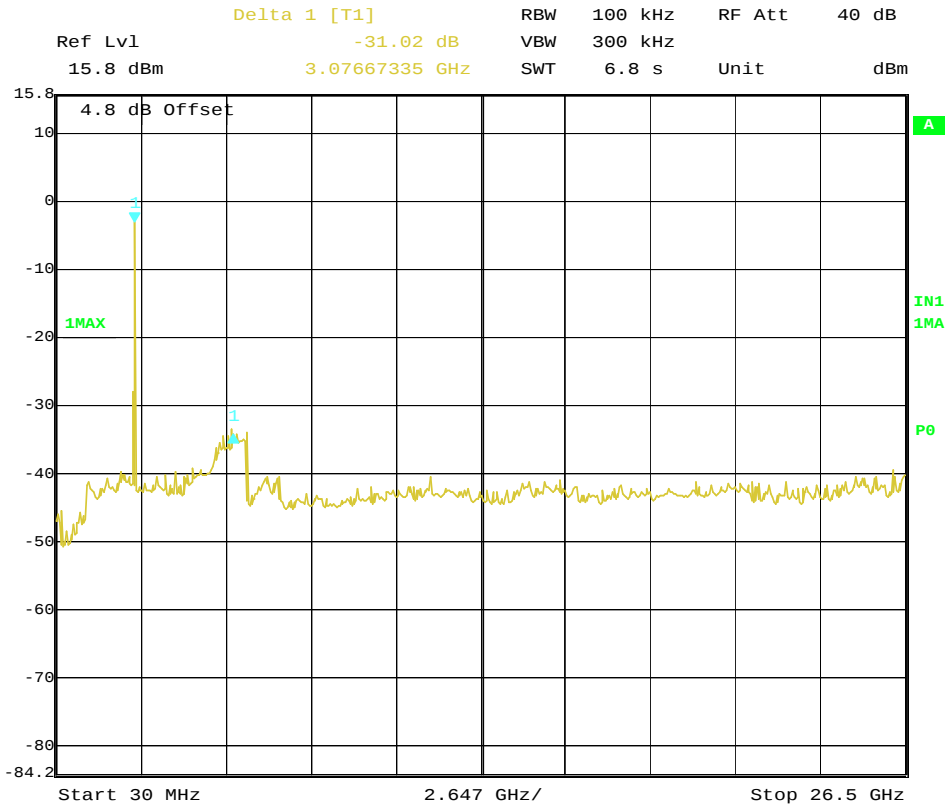




FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT

Channel 78



Date: 16.JUN.2008 23:08:25

4.8 Radiated Spurious Measurement

Specifications:	15.209(a) and 15.205(a)					
Date of Test	2008-06-23					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	hopping					
Test Results:	Fix channel transmit					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-16	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The EUT was placed in an anechoic chamber. The CMU 200 was used to set the TX channel and power level. The transmitter output is connected to Spectrum analyzer through a Bilog antenna (for frequency under 1GHz) or a horn antenna (for frequency above 1GHz).

Limit:

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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Equipment: M4E

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Test result:
9kHz-30MHz

There is No frequency exceeds and near limit line in 20dB scope blow.

30MHz-1GHz:

Frequency [MHz]	Level [dBuV/m]	Limit [dBuV/m]	Antenna height [cm]	Turntable azimuth [degree]	Antenna polarization [V/H]
38.820000	25.2	40.0	152	312	VERTICAL
74.100000	25.6	40.0	100.0	356	VERTICAL
98.700000	16.3	43.5	100	133	VERTICAL
935.160000	26.0	46.0	100	107	HORIZONTAL

Note: --

Above 1GHz:

Channel 0:

Frequency[GHz]	Level[dBuV/m]	Limit[dBuV/m]	Antenna Polarization[V/H]	Detector
--	--	--	--	Peak
--	--	--	--	Average

Channel 39:

Frequency[GHz]	Level[dBuV/m]	Limit[dBuV/m]	Antenna Polarization[V/H]	Detector
--	--	--	--	Peak
--	--	--	--	Average

Channel 78:

Frequency[GHz]	Level[dBuV/m]	Limit[dBuV/m]	Antenna Polarization[V/H]	Detector
--	--	--	--	Peak
--	--	--	--	Average

Note:

1. Test from 1GHz up to 10th harmonic of operating frequency.
2. 2.4~2.4835GHz band is the operating frequency.

4.9 Power line Conducted Emissions

Specifications:	ANSI C63.4 voltage mains test					
Date of Test	2008-06-23					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Hopping					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	837480/002	2009-01-9	Normal
714	Shielding Room	ETS	--	19003	2010-11-16	Normal
7330	Universal Radio Communications Tester	R&S	CMU200	100233	2009-02-22	Normal

Test Setup

The EUT was placed in a shielding room. The Universal Radio Communications Tester was used to set the TX channel and power level. The ac adapter output is connected to Spectrum analyzer through an AMN (Artificial Mains Network).

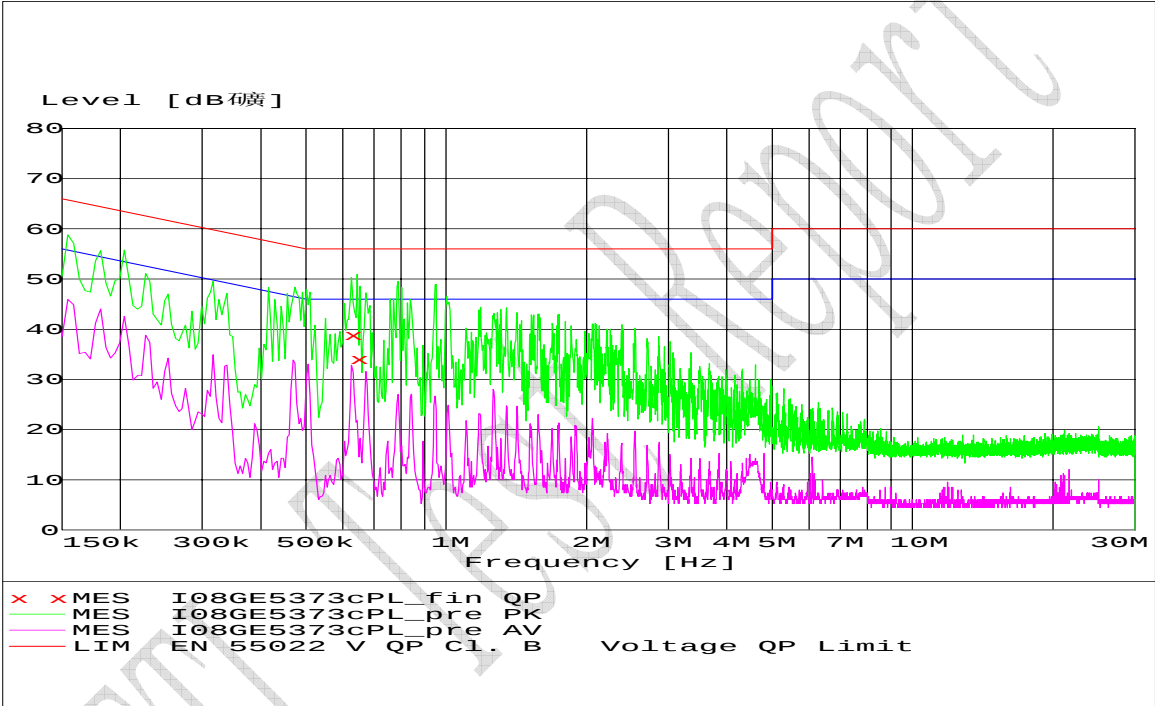
Limits of the conducted disturbance at the AC mains ports:

Frequency range	Limit(Quasi-peak)	Limit(Average)
0.15 MHz to 0.5 MHz	66 dBμV – 56 dBμV	56 dBμV – 46 dBμV
>0.5 MHz to 5MHz	56 dBμV	46 dBμV
>5 MHz to 30 MHz	60 dBμV	50 dBμV
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

Test Result:

Pass					
Detector (QP/AV)	Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Line	PE
QP	0.627000	38.7	56	L1	FLO
QP	0.645000	33.9	56	L1	FLO
Remarks: No frequency exceeds the limit.					

Test data:



Annex A EUT Photos



Front view



Front view with clip open

FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT



Back view



Adaptor

FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT



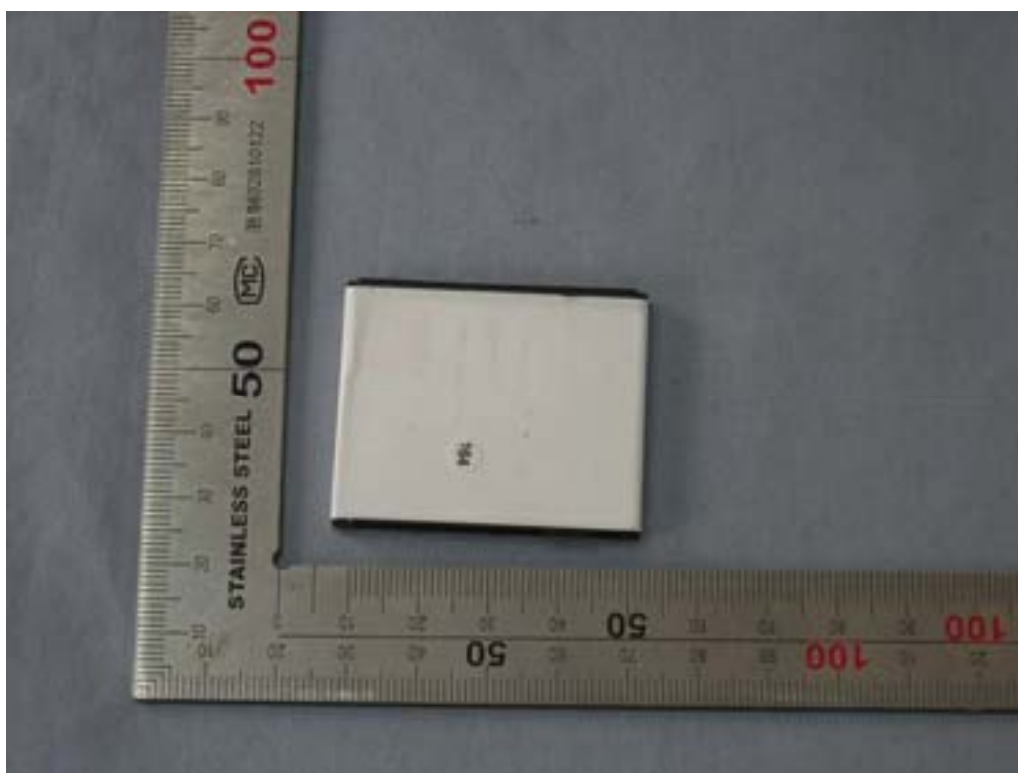
Cable



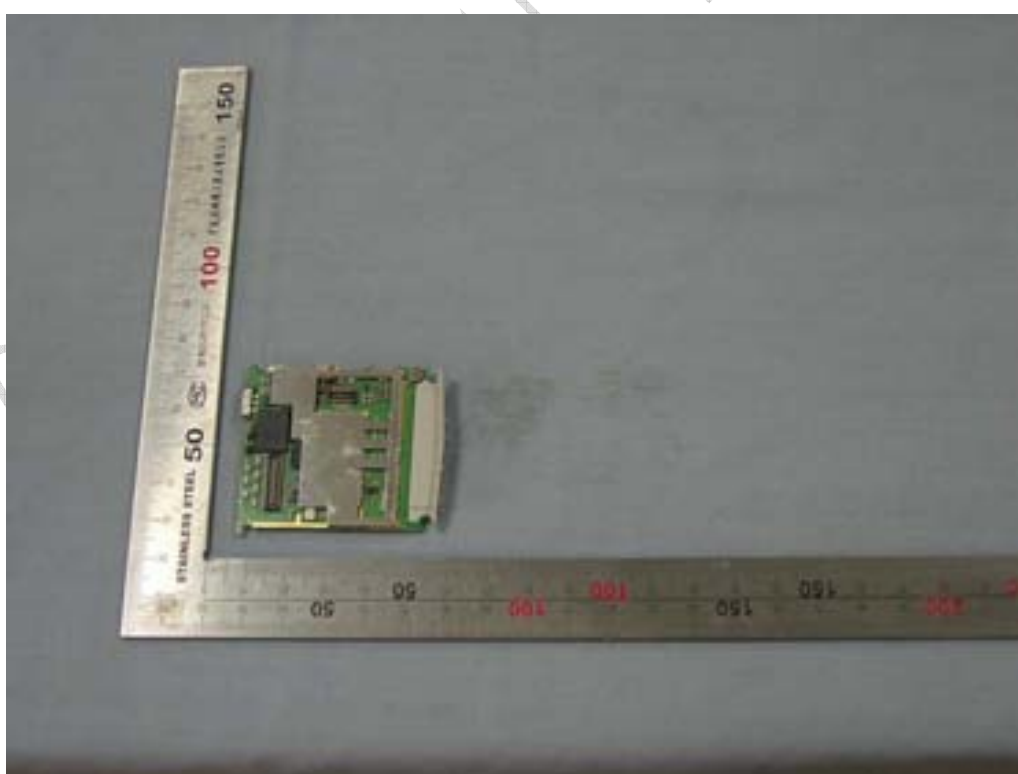
Headset

FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT



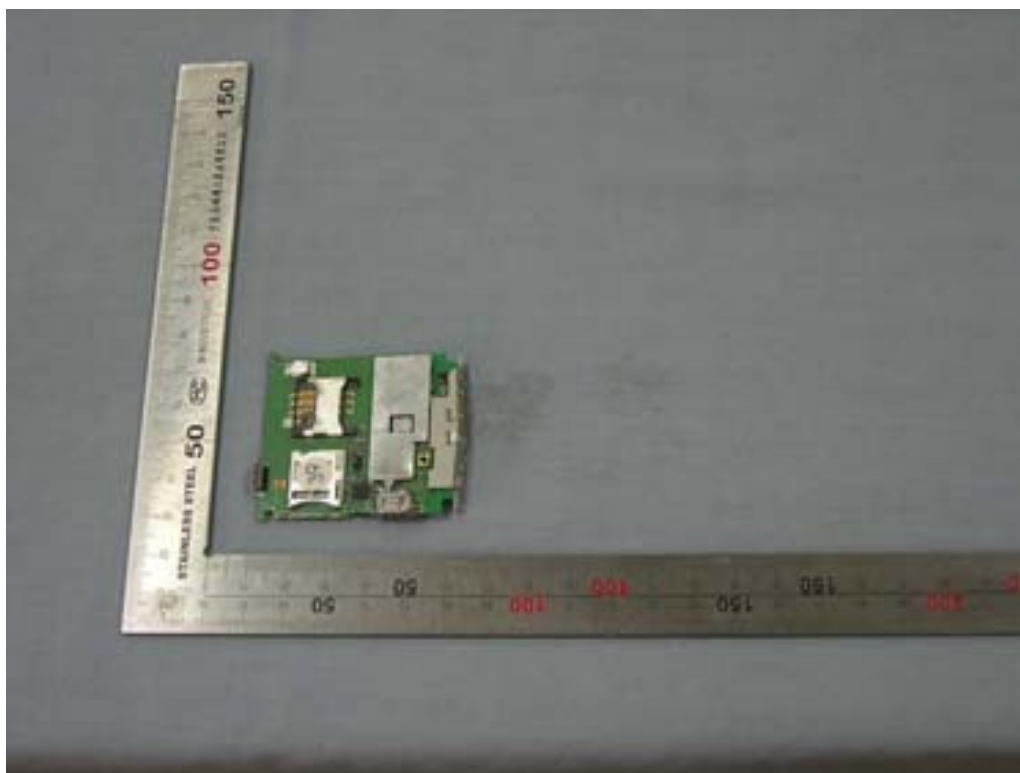
battery



Main board (face)

FCC Parts 15 subpart C 15.247
Equipment: M4E

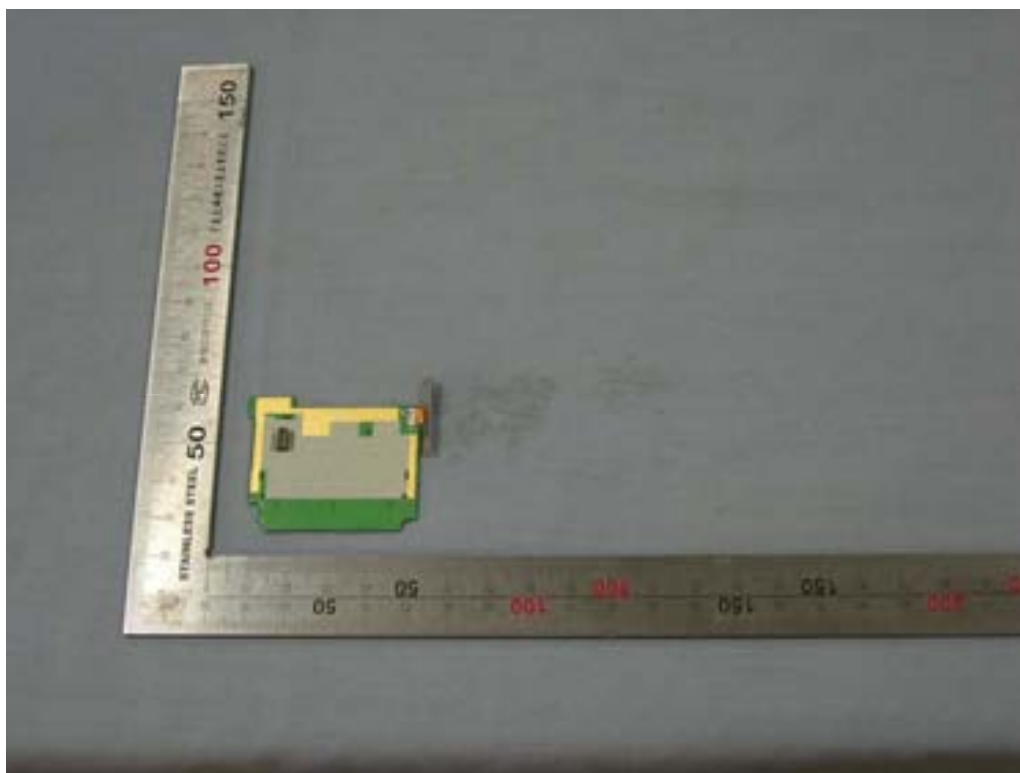
REPORT NO.: I08GE5373-FCC-BT



Main board (back)



keyboard (face)



keyboard (back)



Adaptor face

FCC Parts 15 subpart C 15.247
Equipment: M4E

REPORT NO.: I08GE5373-FCC-BT



Adaptor back

ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

_____ The End of this Report _____

CTL Test Report