

Prüfbericht - Nr.: 17008640 003 <i>Test Report No.:</i>			Seite 1 von 53 <i>Page 1 of 53</i>		
Auftraggeber: <i>Client:</i>			Elelux International Ltd. 3F., No.103 Chow TZE Street, Nei-Hu District, Taipei 114, Taiwan		
Gegenstand der Prüfung: MP3 Player <i>Test item:</i>					
Bezeichnung: <i>Identification:</i>		MP-935B2		Serien-Nr.: <i>Serial No.:</i>	
				n.a.	
Wareneingangs-Nr.: <i>Receipt No.:</i>		163035352		Eingangsdatum: <i>Date of receipt:</i>	
				2007-12-28	
Prüfart: <i>Testing location:</i>		Shenzhen Academy of Metrology and Quality Inspection Bldg. of Academy of Metrology and Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, P. R. China FCC Registration No.: 274801			
Prüfgrundlage: <i>Test specification:</i>		FCC CFR47 Part 15: Subpart C Section 15.247 FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart B Section 15.107 FCC CFR47 Part 15: Subpart B Section 15.109			
Prüfergebnis: <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specification(s).</i>			
Prüflaboratorium <i>Testing Laboratory</i>		TÜV Rheinland (Shenzhen) Co., Ltd.			
geprüft/ tested by:			kontrolliert/ reviewed by:		
					
2008-03-28 Sam Lin/ Project Engineer			2008-04-03 Shawn Peng/ Senior Project Manager		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges/ Other Aspects:					
Abkürzungen:			Abbreviations:		
P(ass) = entspricht Prüfgrundlage			P(ass) = passed		
F(ail) = entspricht nicht Prüfgrundlage			F(ail) = failed		
N/A = nicht anwendbar			N/A = not applicable		
N/T = nicht getestet			N/T = not tested		
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT*RESULT: Passed***5.1.2 PEAK OUTPUT POWER***RESULT: Passed***5.1.3 20dB BANDWIDTH***RESULT: Passed***5.1.4 100kHz BANDWIDTH OF FREQUENCY BAND EDGE***RESULT: Passed***5.1.5 SPURIOUS EMISSION***RESULT: Passed***5.1.6 FREQUENCY SEPARATION***RESULT: Passed***5.1.7 NUMBER OF HOPPING FREQUENCY***RESULT: Passed***5.1.8 TIME OF OCCUPANCY***RESULT: Passed***5.1.9 PEAK POWER DENSITY***RESULT: Passed***5.1.10 CONDUCTED EMISSIONS***RESULT: Passed***5.1.11 RADIATED EMISSIONS***RESULT: Passed*

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1. General Remarks

1.1 Complementary Materials

None

2. Test Sites

2.1 Test Facilities

Shenzhen Academy of Metrology and Quality Inspection

Bldg. of Academy of Metrology and Quality Inspection
Longzhu Road, Nanshan District
Shenzhen, P. R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
EMI Test Receiver	Rohde & Schwarz	ESI26	838786/013	2008-07-25
Bilog Antenna	Chase	CBL6112B	2591	2008-07-25
Antenna	Schwarzbeck	VUBA9117	115	2009-07-25
Horn Antenna	Rohde & Schwarz	HF906	100013	2008-07-25
3m chamber	Albatross Projects	9X6X6	/	2010-03-21
Radio Test Suite				
EMI Test Receiver	Rohde & Schwarz	ESCI	100178	2008-10-16
Conducted Emission				
EMI Test Receiver	Rohde & Schwarz	ESCS30	830245/009	2009-02-16
AMN	Rohde & Schwarz	ESH3-Z5	828304/014	2009-02-21

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are $\pm 3\text{dB}$.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Shenzhen Academy of Metrology and Quality Inspection test facility located at Bldg. of Academy of Metrology and Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is MP3 Player with Bluetooth technology.

The EUT is a small, lightweight, and stylish portable MP3 player, including Bluetooth stereo headset, headphone, call records and phone book. Other features include a music player, video player, photo album and a FM Player.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	MP3 Player
Type Designation:	MP-935B2
FCC ID	PY9MP935B2001

Table 3: Technical Specification of EUT

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	0°C to +40°C
Operation Voltage	DC 3.7V via re-chargeable Li-ion battery
Modulation	Frequency Hopping Spread Spectrum
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	1.0dB
RF Output Power	0.0024W (3.87dBm)
External Ports	USB port for charging and data transfer

Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	Hereby we declare that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification V2.0 for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E).
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73,07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56,69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43,15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,
Receiver input bandwidth	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Standby
- C. Receiving
- D. Downloading
- E. Playing video
- F. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- Circuit Diagram
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

4.3 Special Accessories and Auxiliary Equipment

None

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

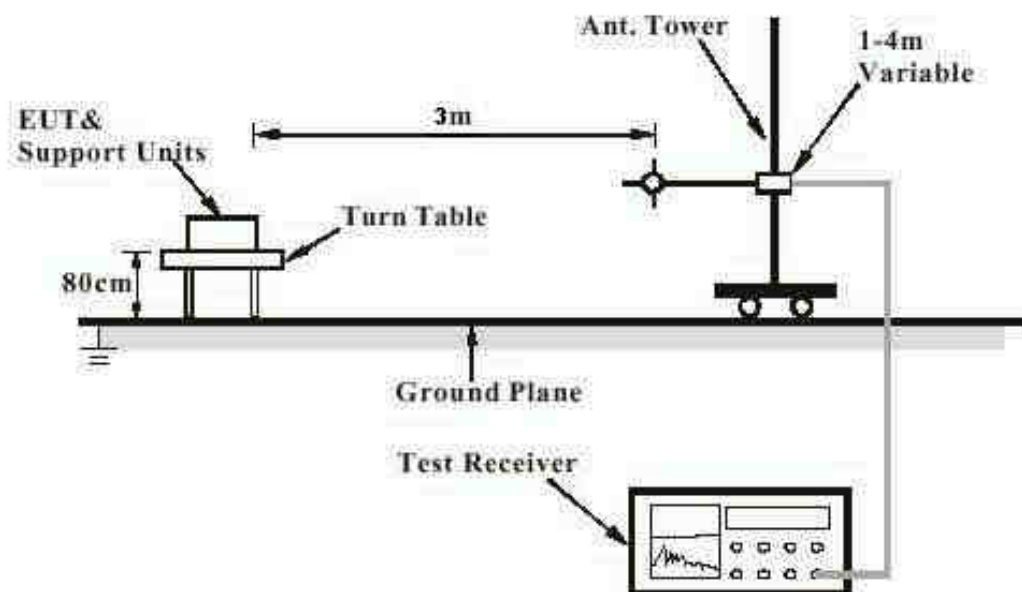


Diagram of Measurement Equipment Configuration for Conduction Measurement

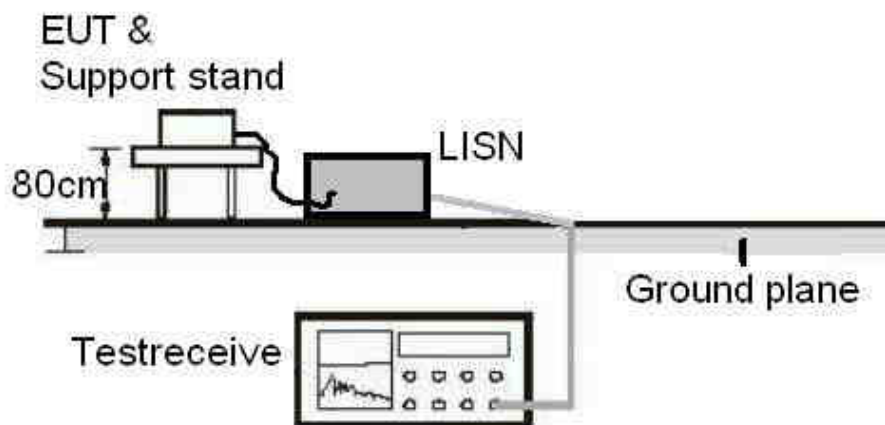
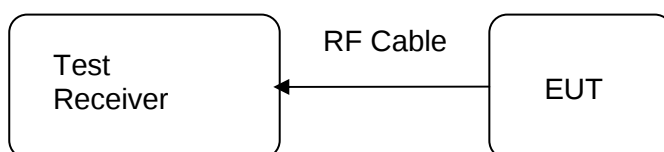


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2008-02-20
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 1 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply the provision.

Refer to EUT photo for details.

5.1.2 Peak Output Power

RESULT:**Passed**

Test date : 2008-01-23
Test standard : FCC Part 15.247(b)(1)
Basic standard : ANSI C63.4: 2003
Limit : 1 Watt
Kind of test site : Shielded room

Test setup

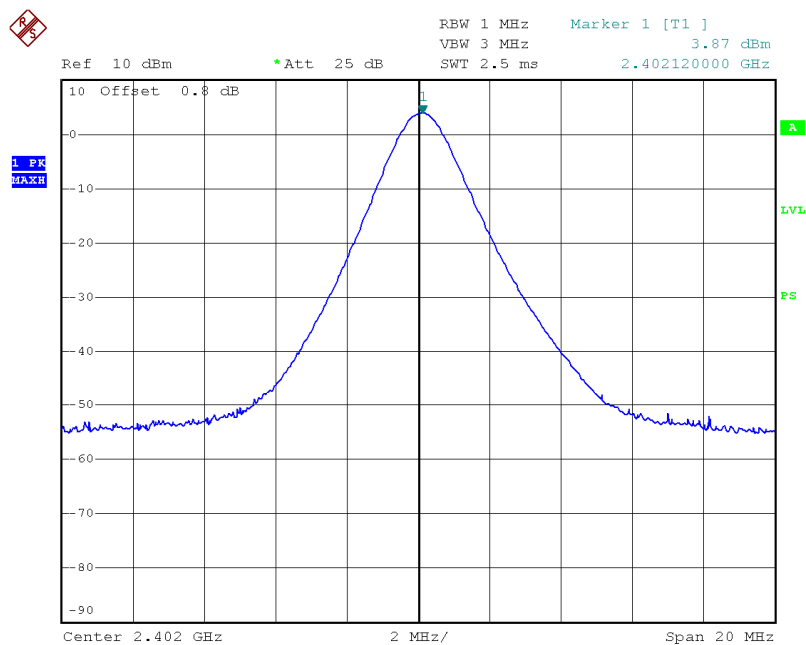
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 23°C
Relative humidity : 51.1%
Atmospheric pressure : 100 kPa

Table 5: Test result of Peak Output Power

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	3.87	0.0024	1
Mid Channel	2442	3.49	0.0022	1
High Channel	2480	3.17	0.0021	1

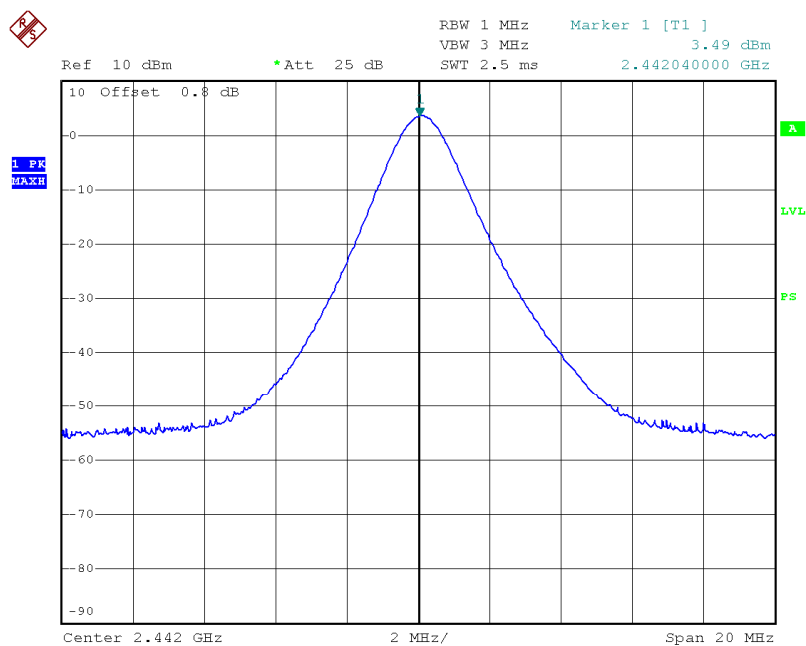
Test Plot of Peak Output Power

Low Channel



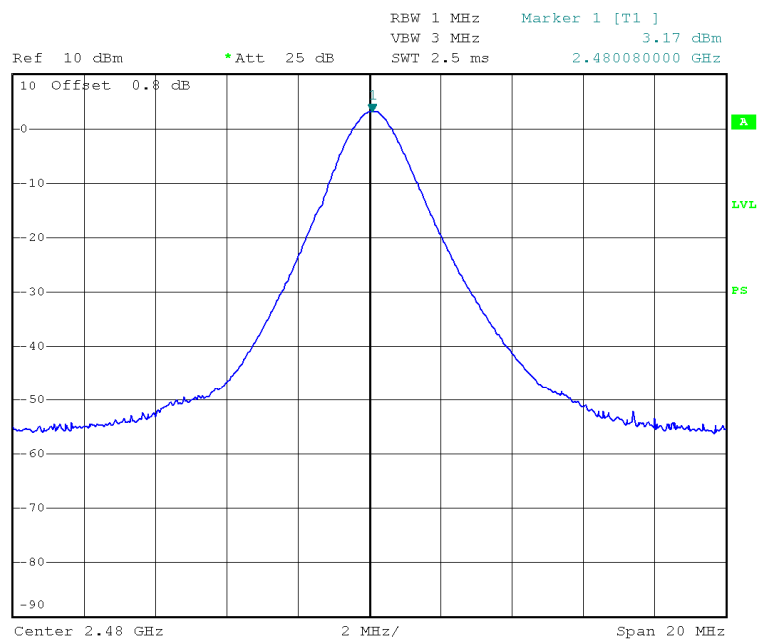
Date: 23.JAN.2008 11:50:07

Middle Channel



Date: 23.JAN.2008 11:47:19

High Channel

1 PK
MAXH


Date: 23.JAN.2008 13:40:30

5.1.3 20dB Bandwidth

RESULT:**Passed**

Date of testing : 2008-02-14
Test standard : FCC Part 15.247(a)(1)
Basic standard : ANSI C63.4: 2003
Requirement : According to Bluetooth technical specification,
bandwidth shall not exceed 1MHz
Kind of test site : Shielded room

Test setup

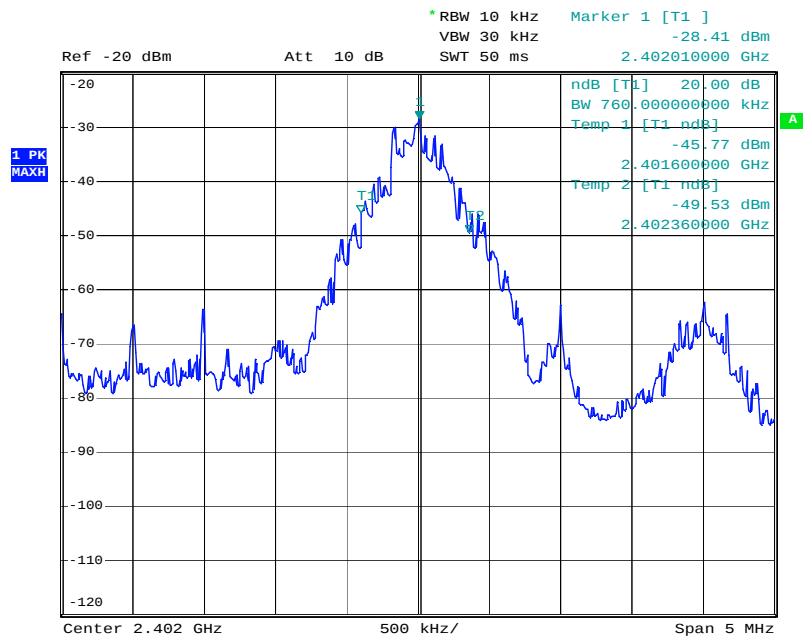
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 23°C
Relative humidity : 51.1%
Atmospheric pressure : 100 kPa

Table 6: Test result of 20dB Bandwidth

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	760	/	Pass
Mid Channel	2442	770	/	Pass
High Channel	2480	760	/	Pass

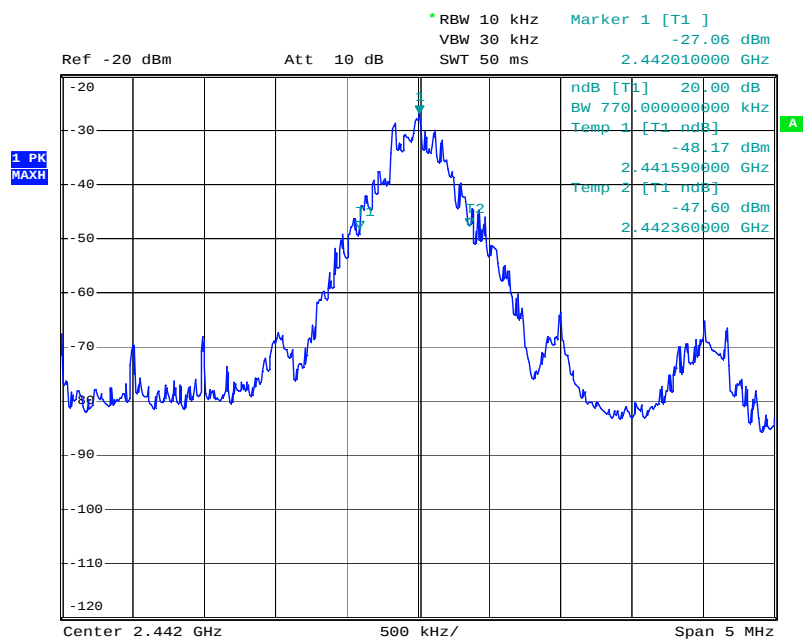
Test Plot of 20dB Bandwidth

Low Channel

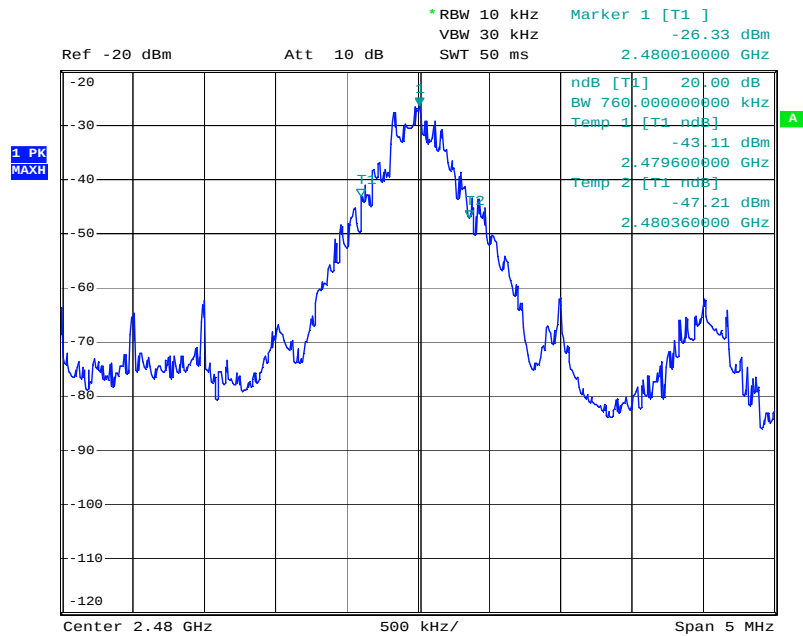


Date: 14.FEB.2008 10:01:14

Middle Channel



Date: 14.FEB.2008 11:01:08

High Channel


Date: 14.FEB.2008 10:06:20

5.1.4 100kHz Bandwidth of Frequency Band Edge

RESULT:**Passed**

Date of testing	:	2008-02-13
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room and 3m Semi-Anechoic Chamber

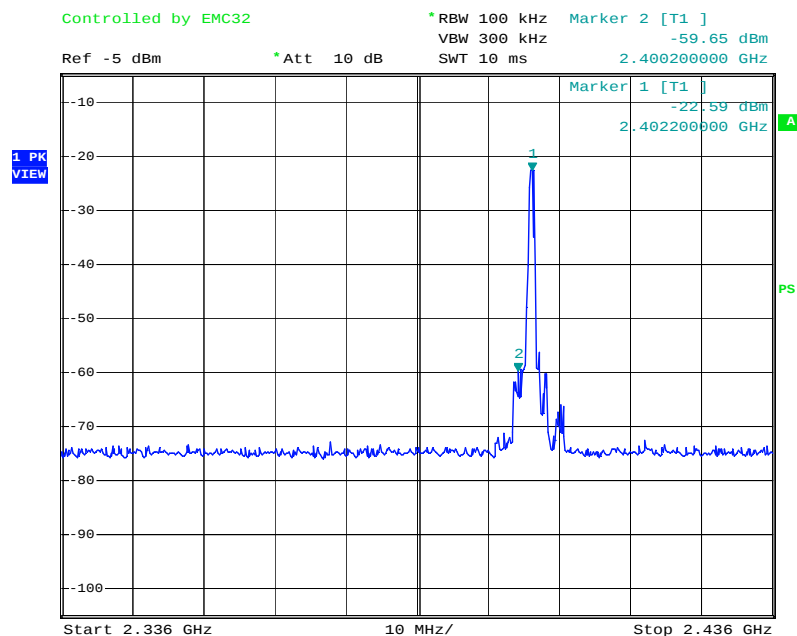
Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	51.1%
Atmospheric pressure	:	100 kPa

All emissions are more than 20dB below fundamental, therefore radiated measurement is not applicable. Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to following test plot, and compliance is achieved as well.

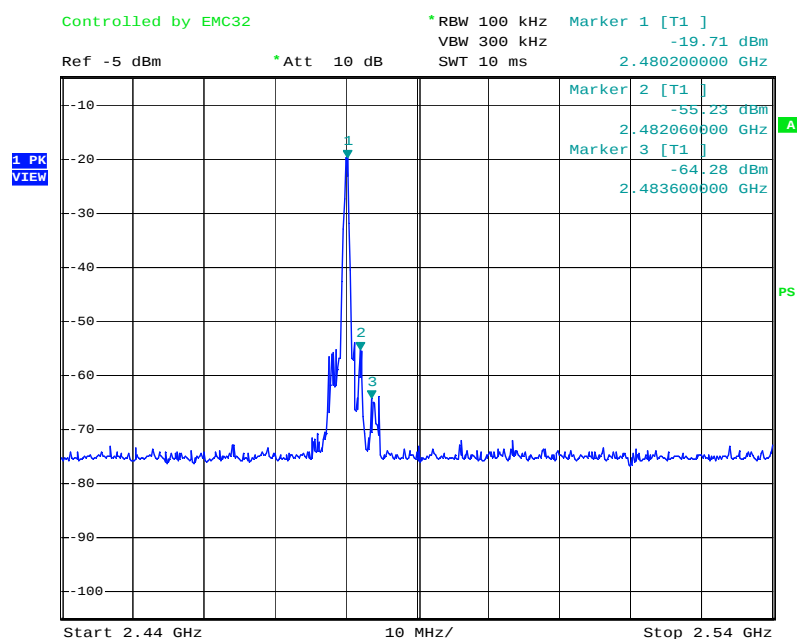
Test Plot of 100kHz Bandwidth of Frequency Band Edge

Low Channel



Date: 13.FEB.2008 16:59:33

High Channel



Date: 13.FEB.2008 17:01:17

5.1.5 Spurious Emission

RESULT:
Passed

Date of testing : 2008-02-19 to 2008-03-18
 Test standard : FCC part 15.247(d)
 Basic standard : ANSI C63.4: 2003
 Limits : Refer to 15.209(a)
 Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
 Operation mode : A
 Ambient temperature : 22°C
 Relative humidity : 63%
 Atmospheric pressure : 101.6 kPa

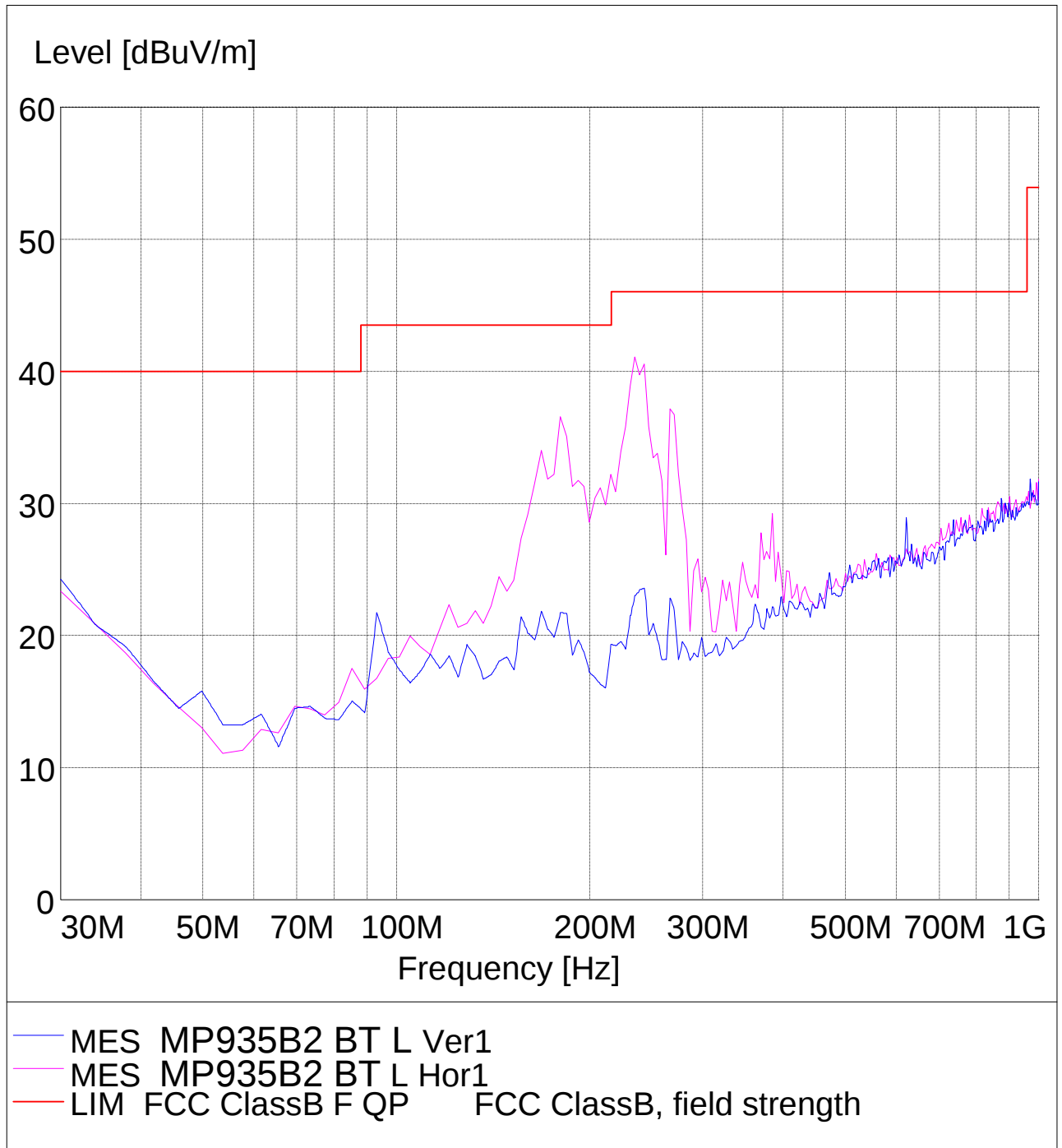
Table 7: Test result of Spurious Emission

Low Channel							
Frequency (MHz)	Polarity (V/H)	Level Peak (dBuV/m)	Level Average (dBuV/m)	Limit Peak (dBuV/m)	Limit Average (dBuV/m)	Margin Peak (dB)	Margin Peak (dB)
2402.133	V	67.4	59.1	-	-	-	-
1647.295	V	41.6	33.4	74	54	-32.4	-20.6
4804.983	V	46.1	39.1	74	54	-27.9	-14.9
235.485	H	41.0	-	46.0	-	-5	-
2402.219	H	63.3	56.2	-	-	-	-
1647.303	H	40.1	32.9	74	54	-33.9	-21.1
4804.968	H	38.2	31.1	74	54	-35.8	-22.9
Middle Channel							
2440.688	V	66.8	59.4	-	-	-	-
1649.295	V	34.2	26.8	74	54	-39.8	-27.2
4882.144	V	50.0	43.2	74	54	-24	-10.8
252.034	H	39.9	-	46.0	-	-6.1	-
2440.711	H	66.3	59.1	-	-	-	-
1648.766	H	30.0	22.9	74	54	-44	-31.1
4881.899	H	47.2	40.1	74	54	-26.8	-13.9
High Channel							
2480.322	V	66.8	59.2	-	-	-	-
1648.758	V	43.2	36.8	74	54	-30.8	-17.2
4960.215	V	48.4	41.3	74	54	-25.6	-12.7
254.995	H	39.9	46.0	-	6.1	-	39.9
2480.281	H	66.4	58.7	-	-	-	-
1648.733	H	39.1	31.8	74	54	-34.9	-22.2
4960.367	H	44.5	37.1	74	54	-29.5	-16.9

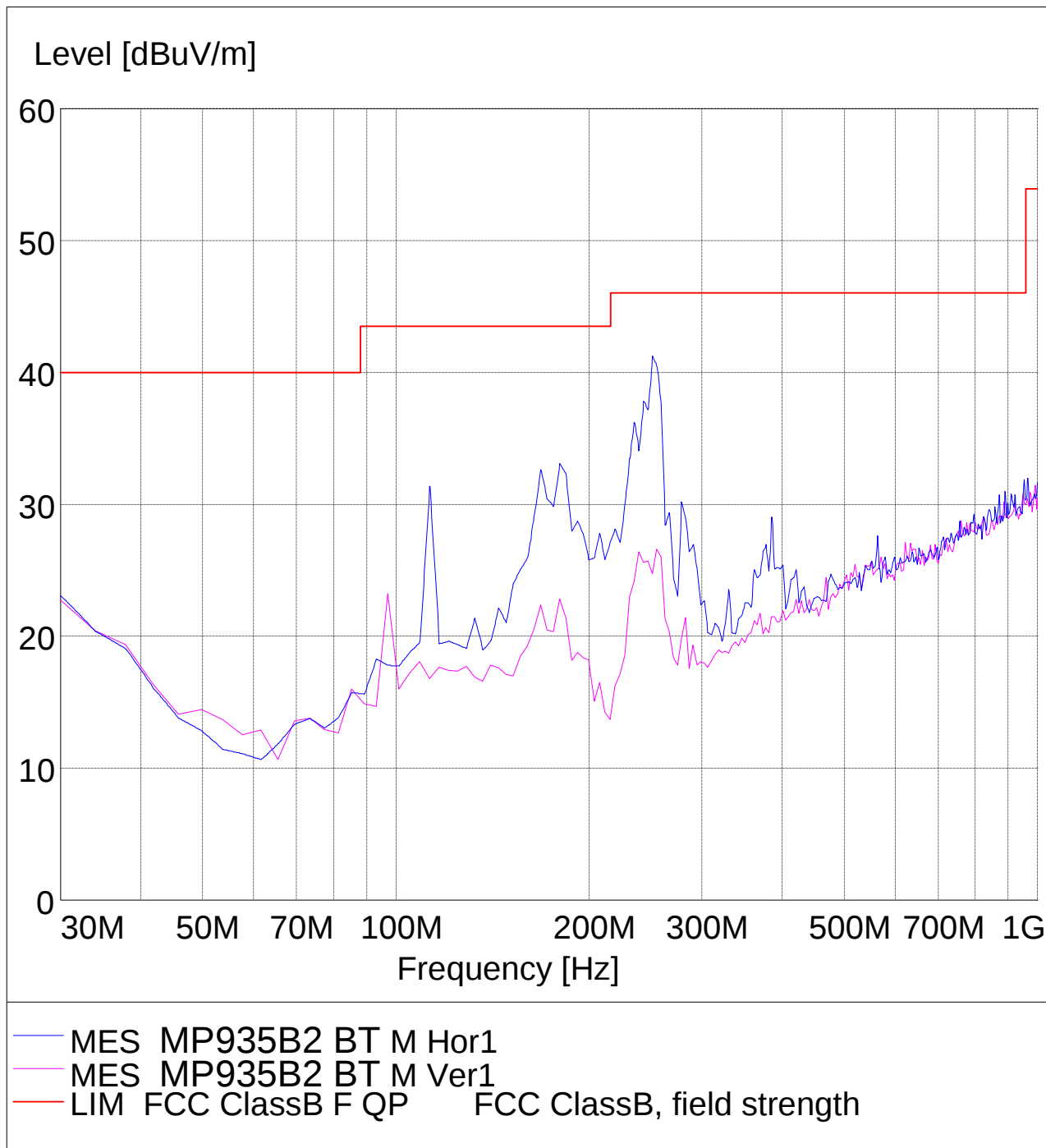
Note:

Testing was carried out within frequency range 30MHz to the tenth harmonics, test results are very below the limit between 18GHz to 26.5GHz, therefore the measurement curve has been omitted.

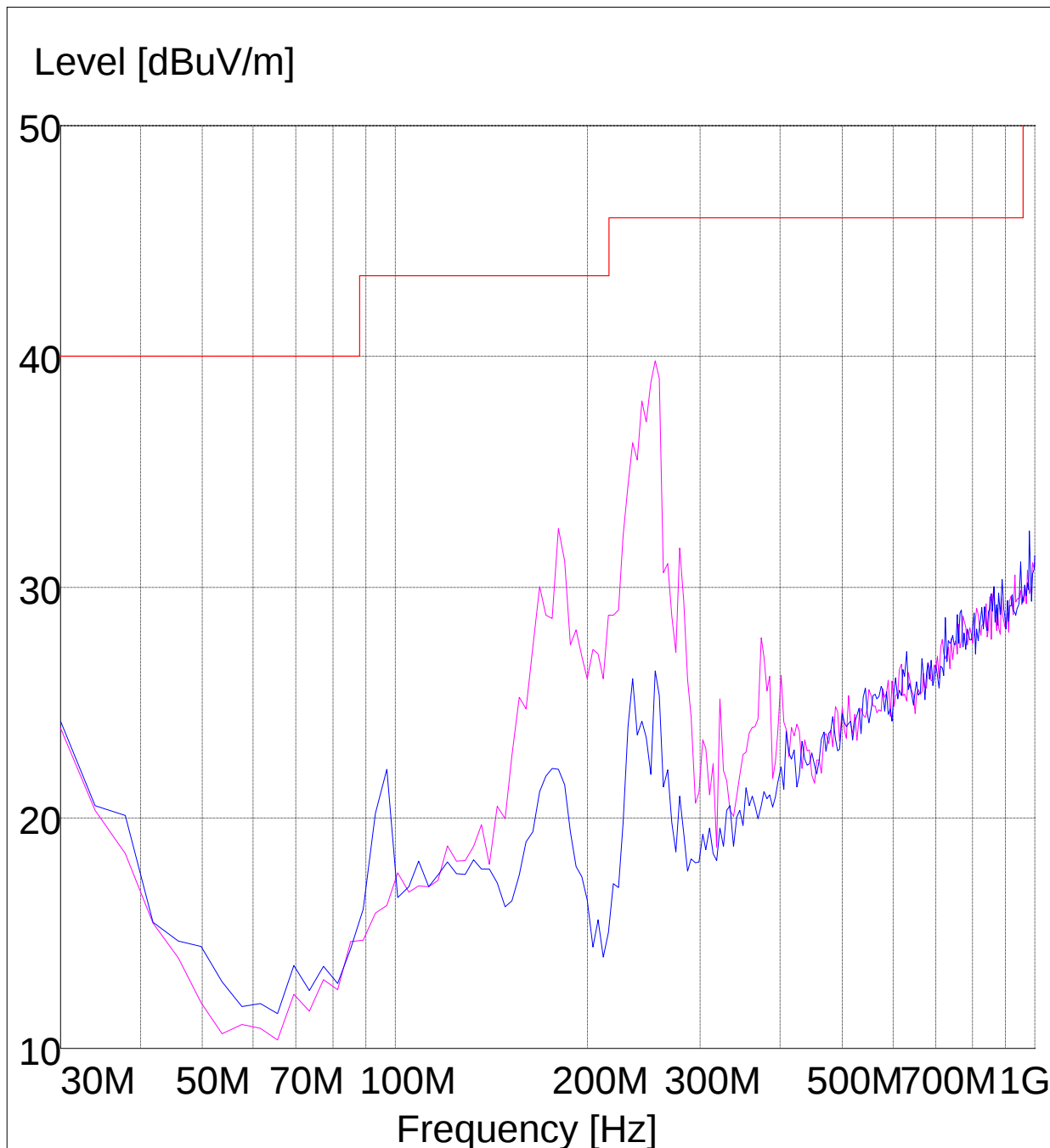
Test Plot of Spurious emission of Low channel – Horizontal and Vertical (30MHz – 1GHz)



Test Plot of Spurious emission of Middle channel – Horizontal and Vertical (30MHz – 1GHz)



Test Plot of Spurious emission of High channel – Horizontal and Vertical (30MHz – 1GHz)

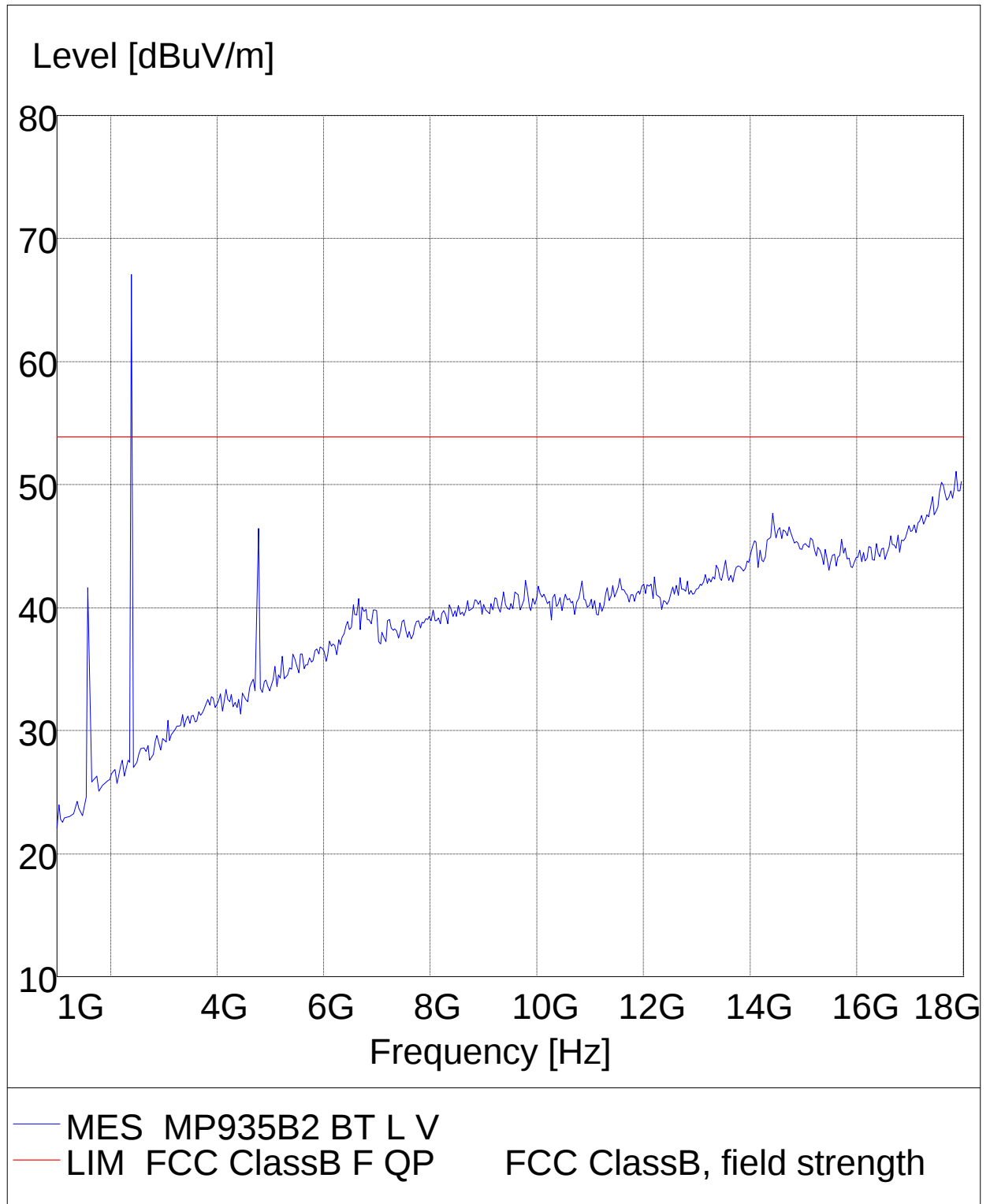


MES MP935B2 BT H Ver1

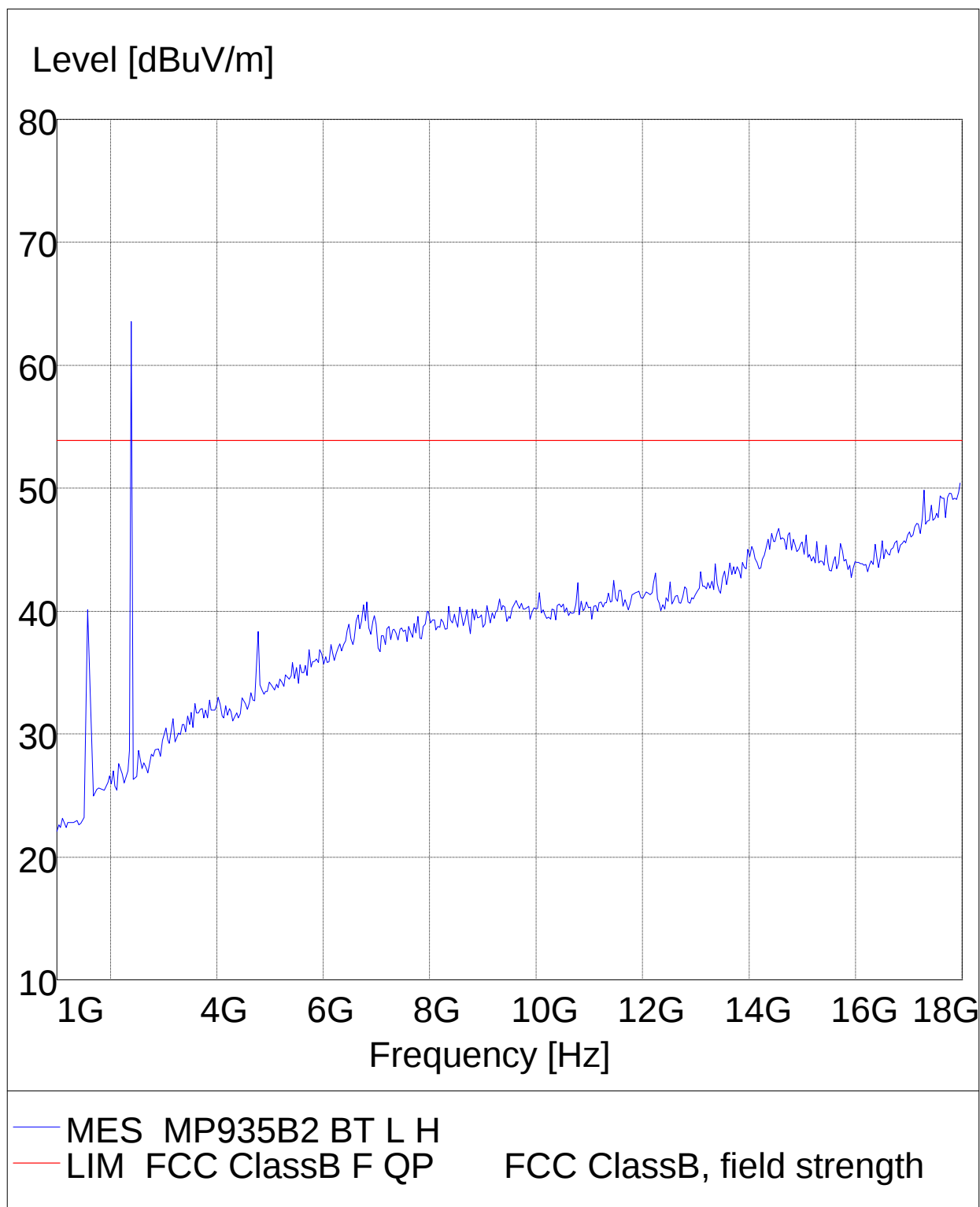
MES MP935B2 BT H Hor1

LIM FCC ClassB F QP/AV FCC ClassB, field strength

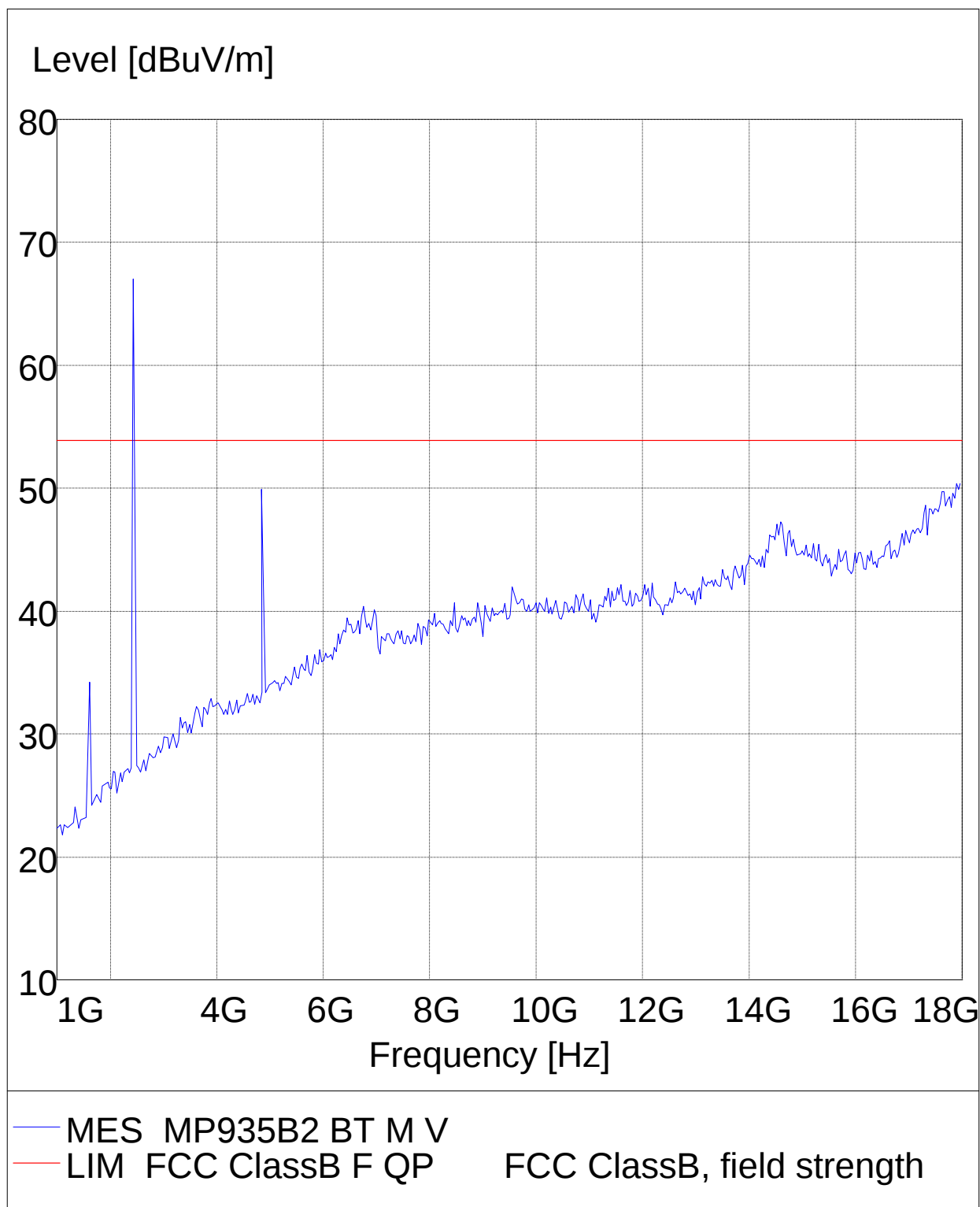
Test Plot of Spurious emission of Low channel- Vertical (1GHz – 18GHz)



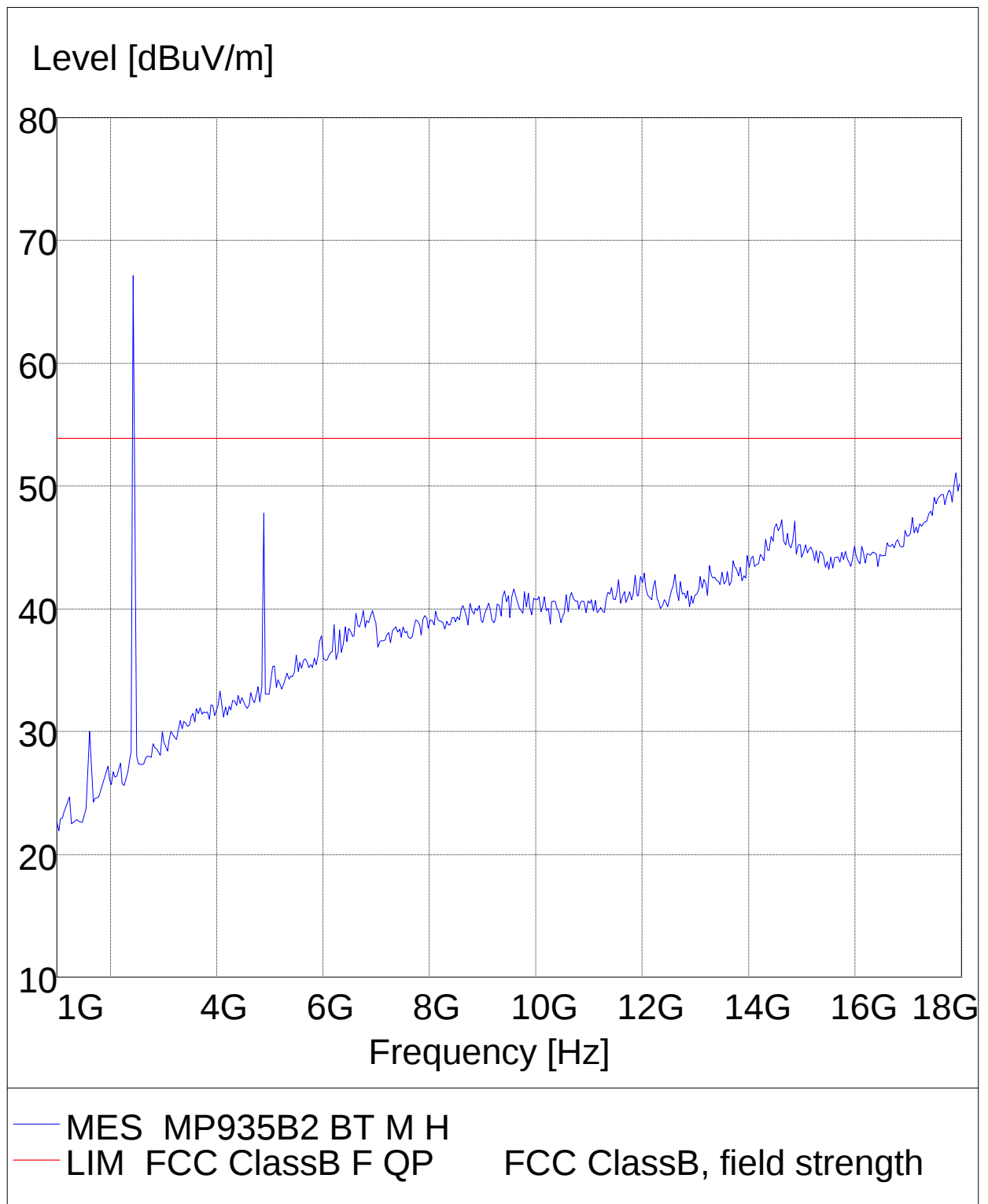
Test Plot of Spurious emission of Low channel- Horizontal (1GHz – 18GHz)



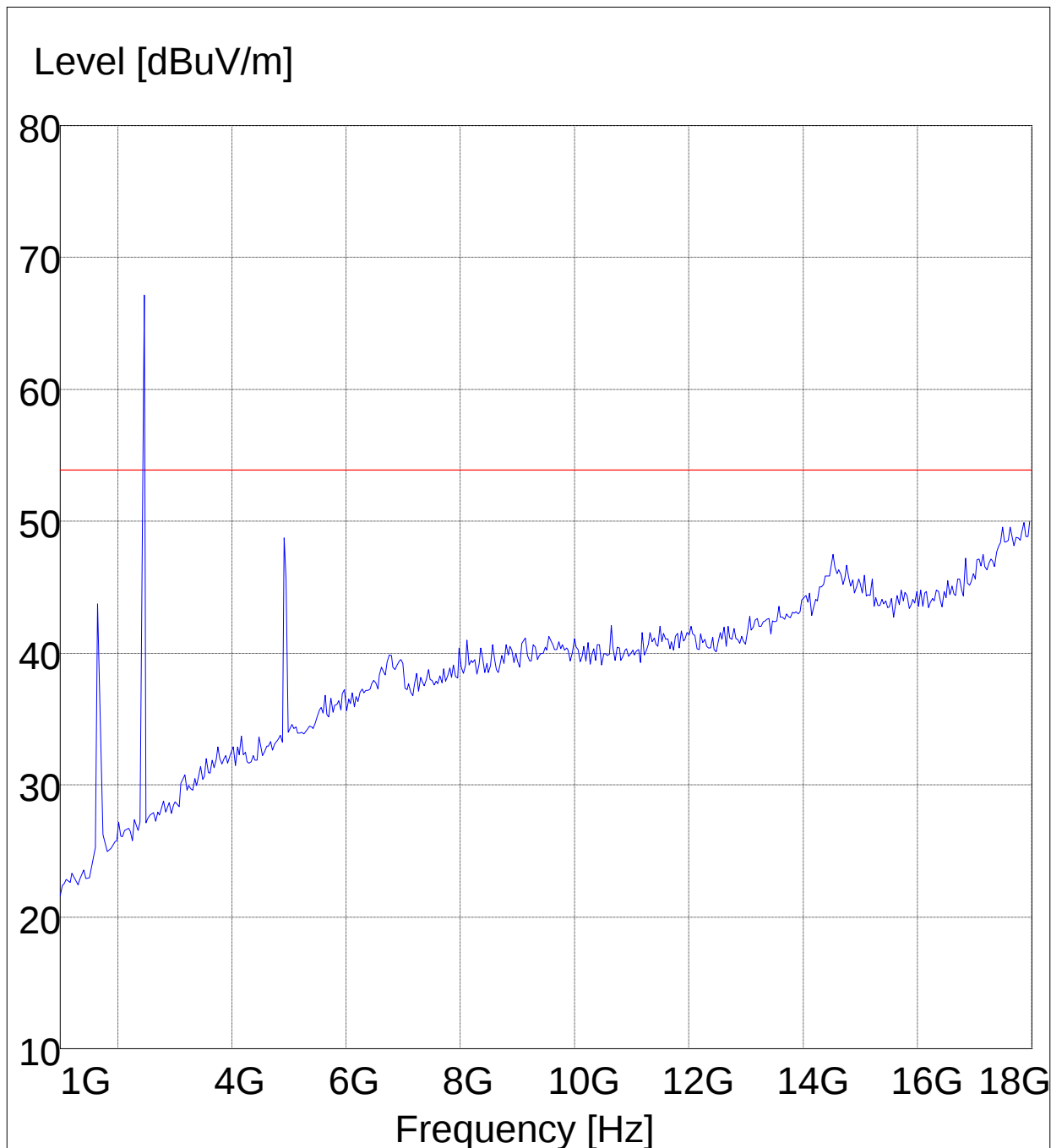
Test Plot of Spurious emission of Middle channel- Vertical (1GHz – 18GHz)



Test Plot of Spurious emission of Middle channel– Horizontal (1GHz – 18GHz)



Test Plot of Spurious emission of High channel- Vertical (1GHz – 18GHz)

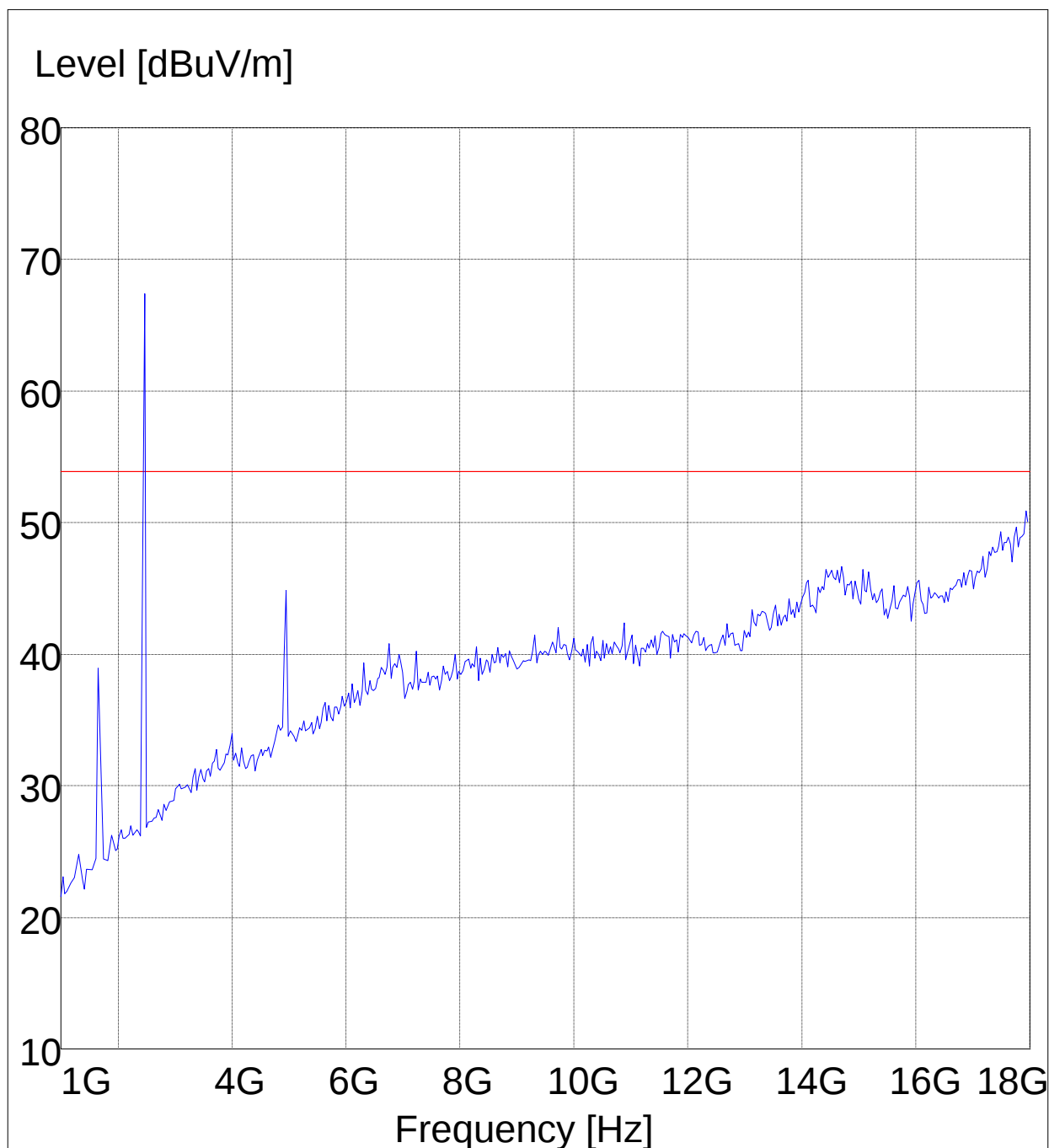


MES MP935B2 BT H V

LIM FCC ClassB F QP

FCC ClassB, field strength

Test Plot of Spurious emission of High channel- Horizontal (1GHz – 18GHz)



— MES MP935B2 BT H H

— LIM FCC ClassB F QP

FCC ClassB, field strength

5.1.6 Frequency Separation

RESULT:
Passed

Date of testing : 2008-02-14
 Test standard : FCC part 15.247(a)(1)
 Basic standard : ANSI C63.4: 2003
 Limit : $\geq 25\text{kHz}$ or 20dB bandwidth, whichever is greater
 Kind of test site : Shield room

Test setup

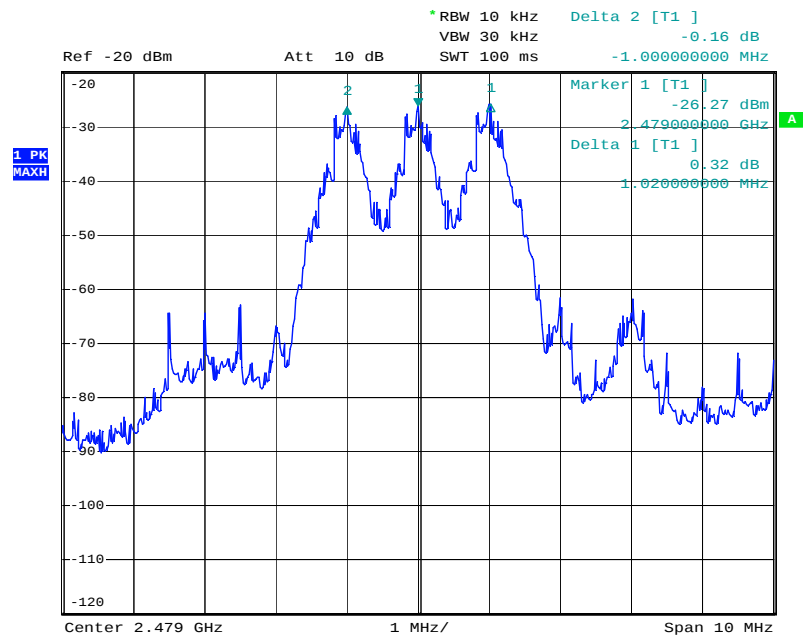
Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 23°C
 Relative humidity : 51.1%
 Atmospheric pressure : 100 kPa

Table 8: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2442	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2443			
High Channel	2480	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2479			

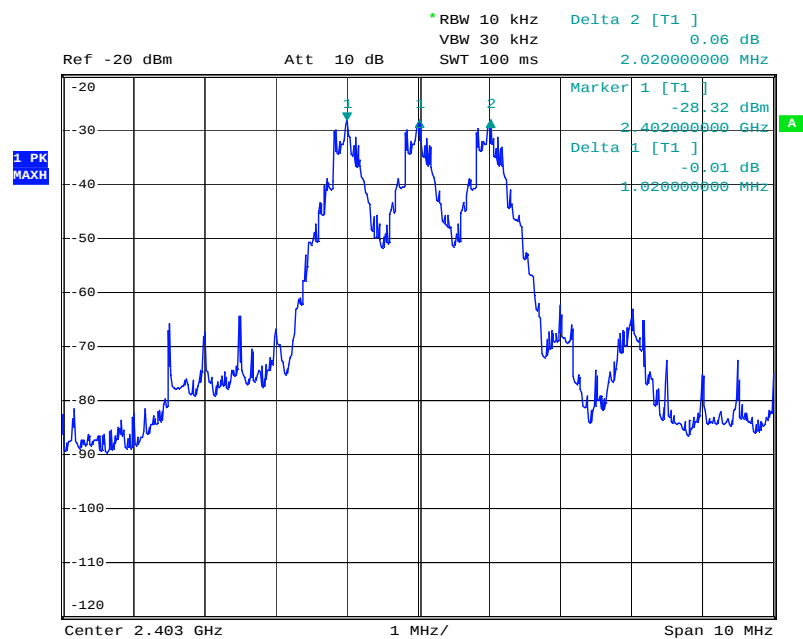
Test Plot of Frequency Separation

Low Channel

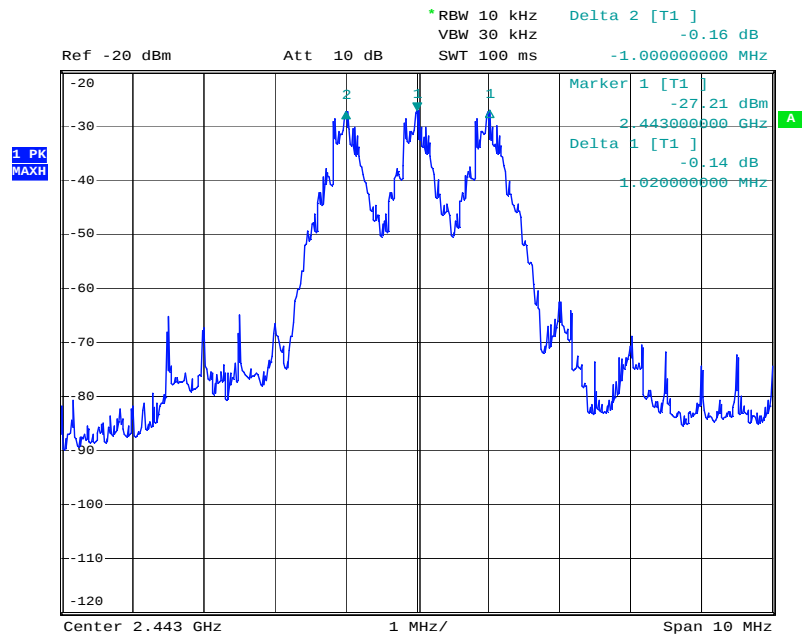


Date: 14.FEB.2008 12:07:21

Middle Channel



Date: 14.FEB.2008 11:12:55

High Channel


Date: 14.FEB.2008 12:09:42

5.1.7 Number of hopping frequency

RESULT:**Passed**

Date of testing : 2008-02-14
Test standard : FCC part 15.247(a)(1)(iii)
Basic standard : ANSI C63.4: 2003
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shield room

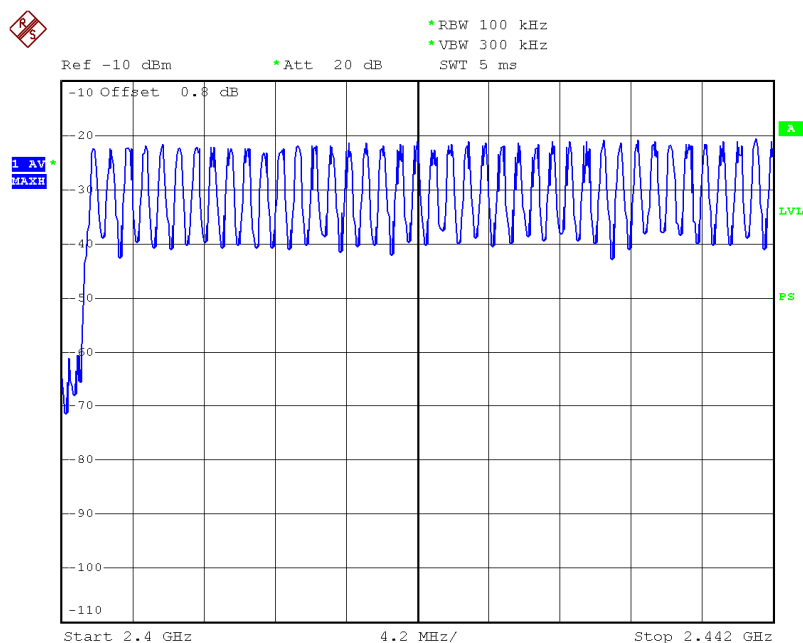
Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 23°C
Relative humidity : 51.1%
Atmospheric pressure : 100 kPa

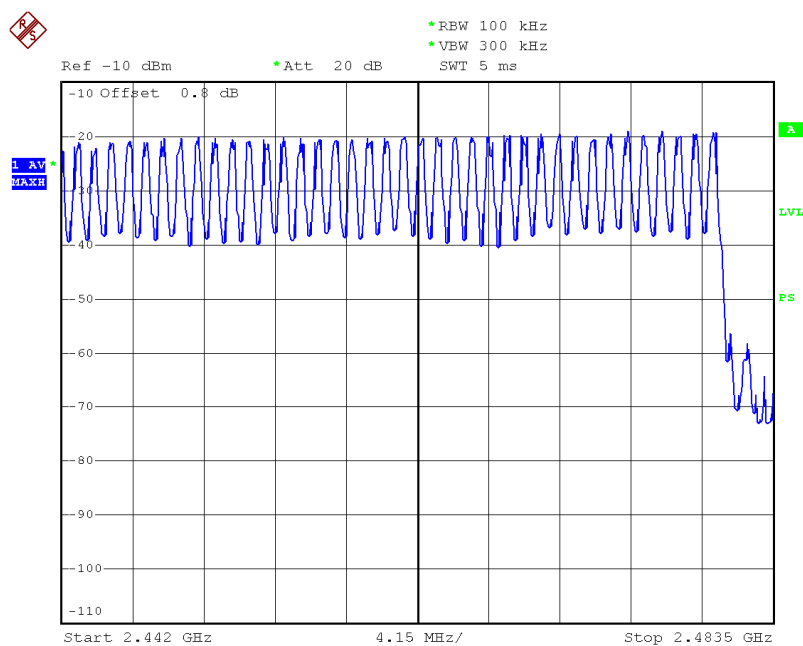
Table 9: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	15	Pass

Test Plot of Number of hopping frequency



Date: 23.JAN.2008 15:41:01



Date: 23.JAN.2008 15:47:09

5.1.8 Time of Occupancy

RESULT:
Passed

Date of testing : 2008-02-13
 Test standard : FCC part 15.247(a)(1)(iii)
 Basic standard : ANSI C63.4: 2003
 Limits : 0.4s
 Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 23°C
 Relative humidity : 51.1%
 Atmospheric pressure : 100 kPa

Table 10: Test result of Time of Occupancy

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.39	0.124	0.4	Pass
	DH3	1.3	0.206	0.4	Pass
	DH5	2.9	0.309	0.4	Pass
Mid Channel	DH1	0.39	0.124	0.4	Pass
	DH3	1.3	0.206	0.4	Pass
	DH5	2.9	0.309	0.4	Pass
High Channel	DH1	0.39	0.124	0.4	Pass
	DH3	1.29	0.206	0.4	Pass
	DH5	2.92	0.311	0.4	Pass

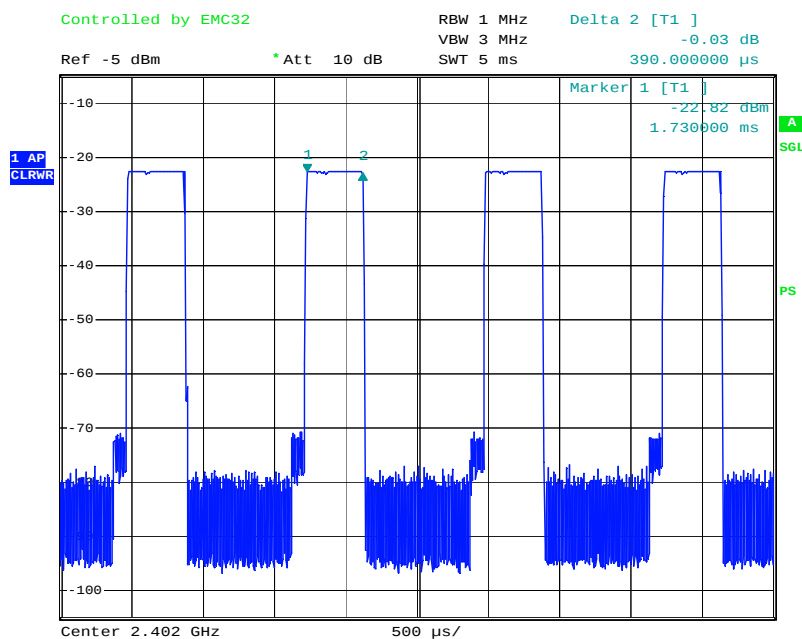
Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

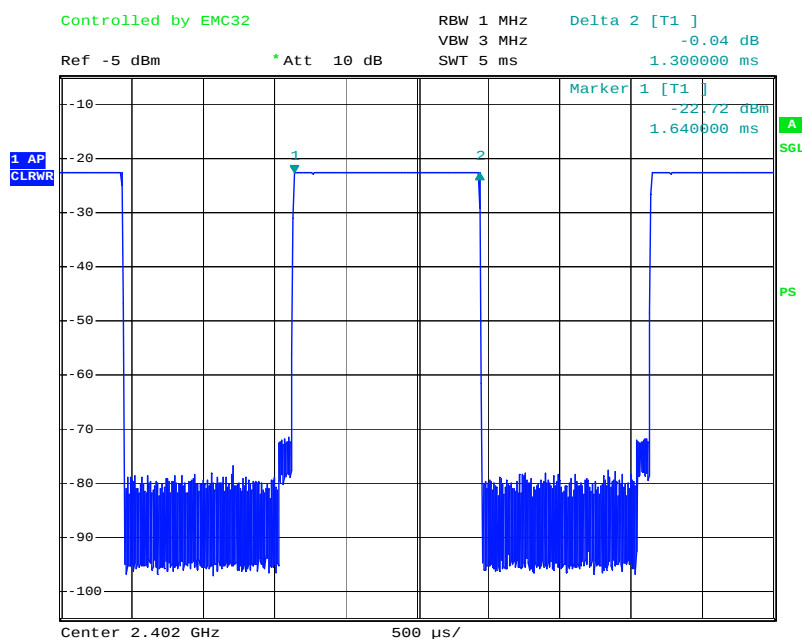
Test Plot of Frequency Separation

Low Channel- DH1

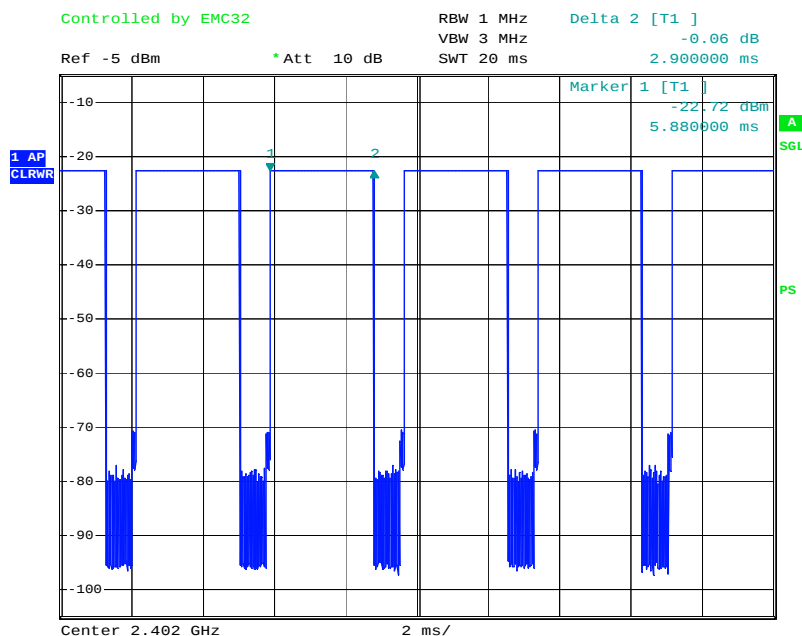


Date: 13.FEB.2008 16:35:42

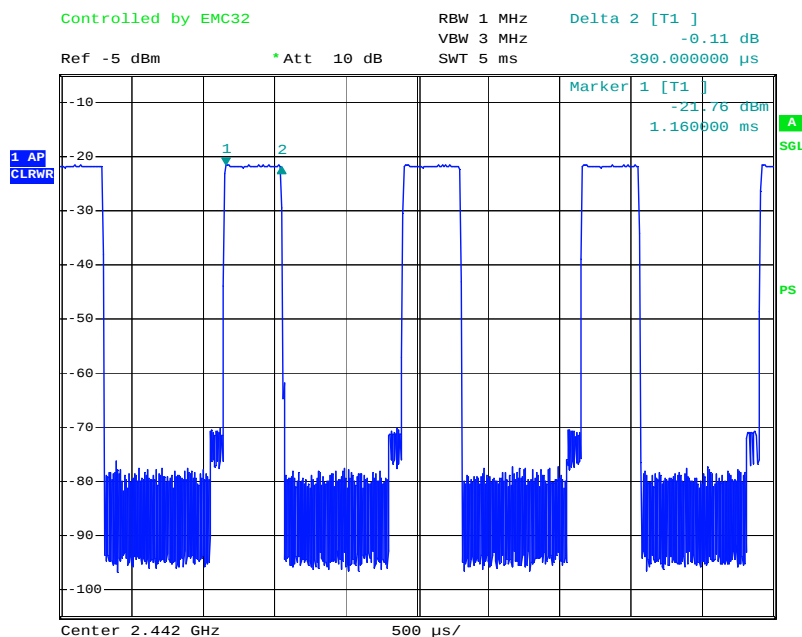
Low Channel- DH3



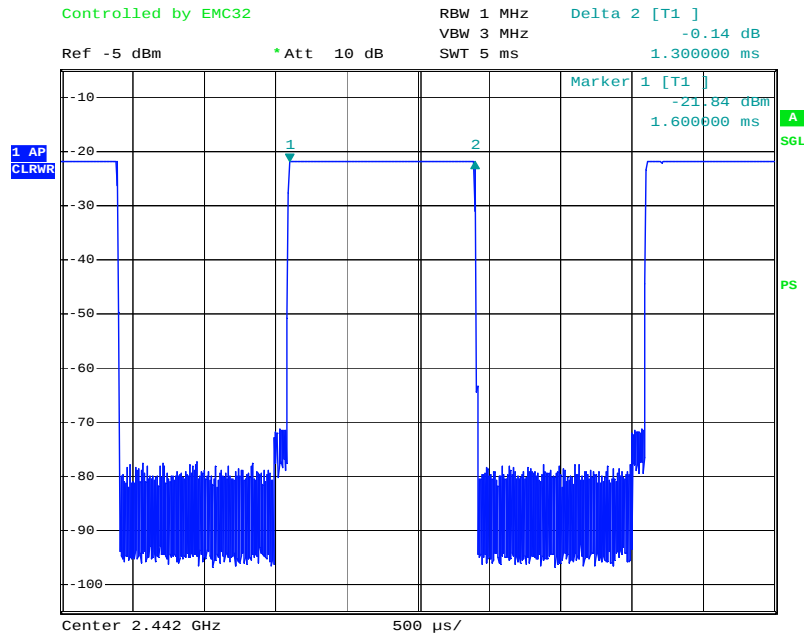
Date: 13.FEB.2008 16:44:45

Low Channel- DH5


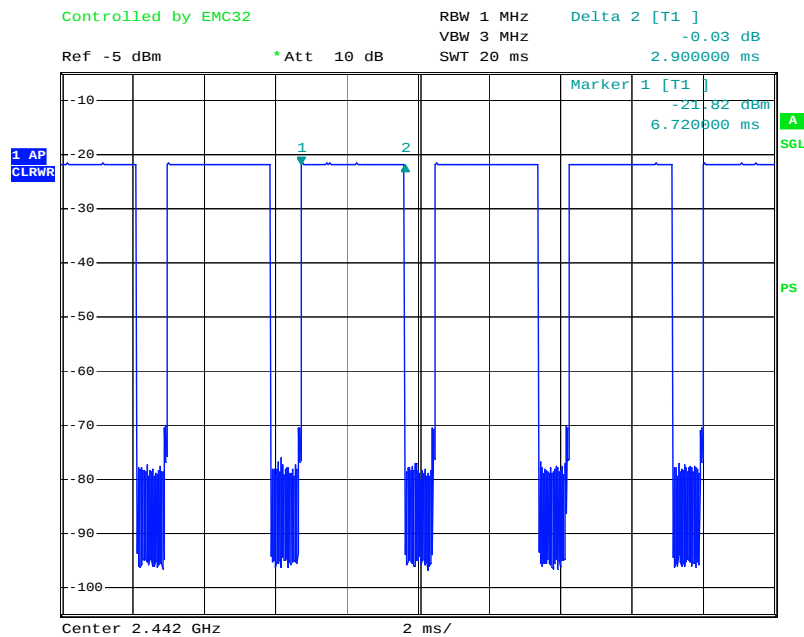
Date: 13.FEB.2008 16:46:26

Mid Channel- DH1


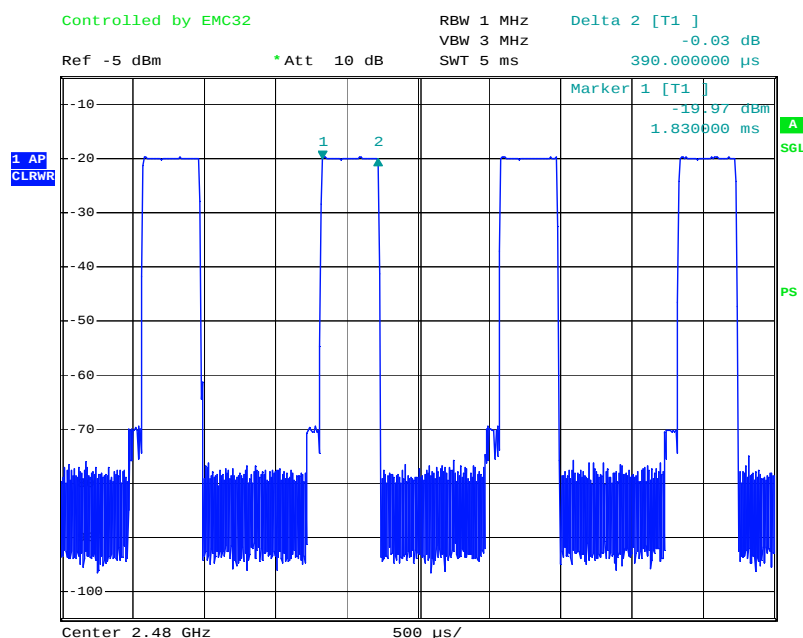
Date: 13.FEB.2008 16:38:55

Middle Channel- DH3


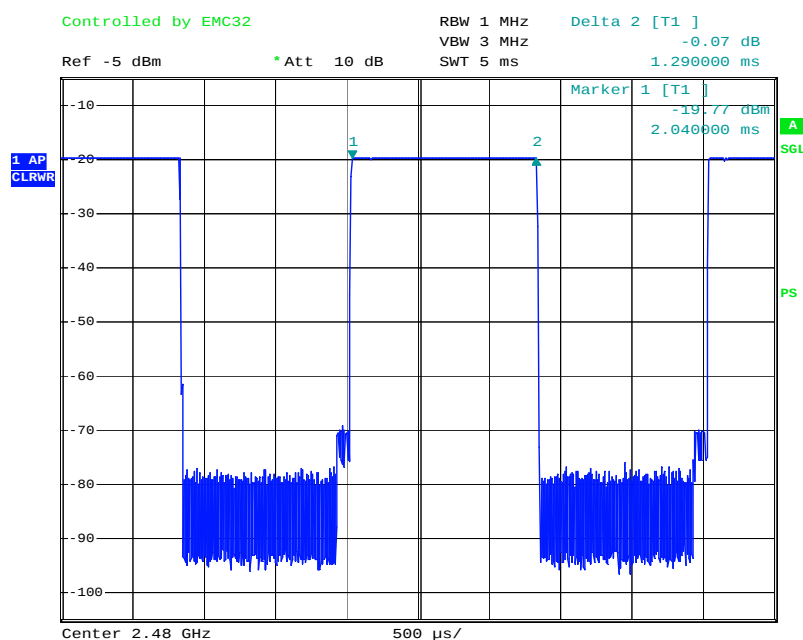
Date: 13.FEB.2008 16:43:50

Middle Channel- DH5


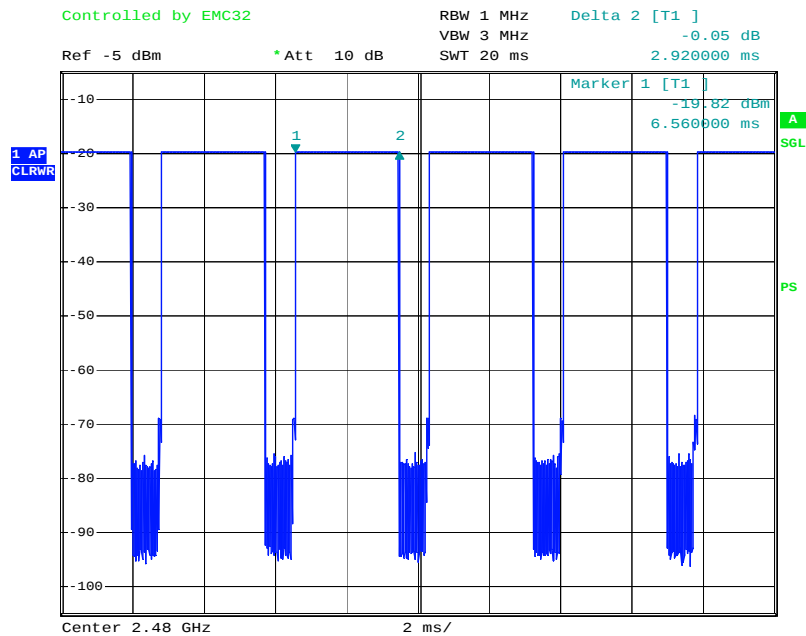
Date: 13.FEB.2008 16:47:34

High Channel- DH1


Date: 13.FEB.2008 16:40:41

High Channel- DH3


Date: 13.FEB.2008 16:42:51

High Channel- DH5


Date: 13.FEB.2008 16:48:59

5.1.9 Peak Power Density

RESULT:**Passed**

Date of testing : 2008-02-21
Test standard : FCC part 15.247(e)
Basic standard : ANSI C63.4: 2003
Limits : 8.0 dBm (in any 3kHz band)
Kind of test site : Shield room

Test setup

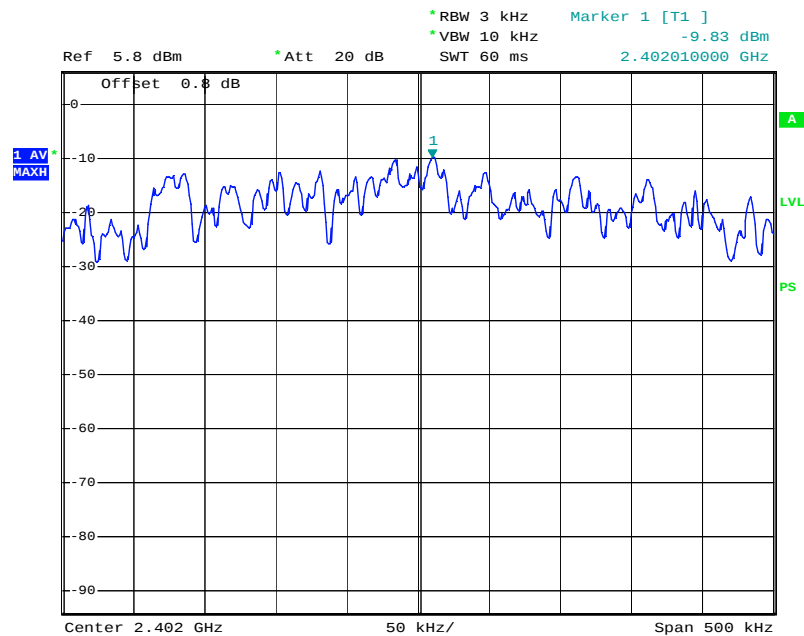
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 23°C
Relative humidity : 51.1%
Atmospheric pressure : 100 kPa

Table 11: Test result of Peak Power Density

Channel	Channel Frequency (MHz)	Reading Power (dBm)	Limit (dBm)	Result
Low Channel	2402	-9.83	8	Pass
Mid Channel	2442	-10.61	8	Pass
High Channel	2480	-11.52	8	Pass

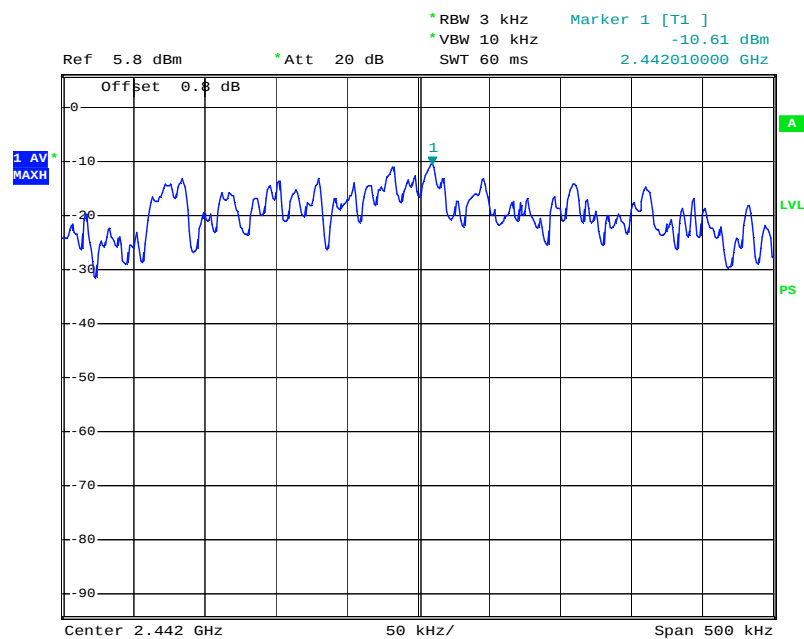
Test Plot of Peak Power Density

Low Channel

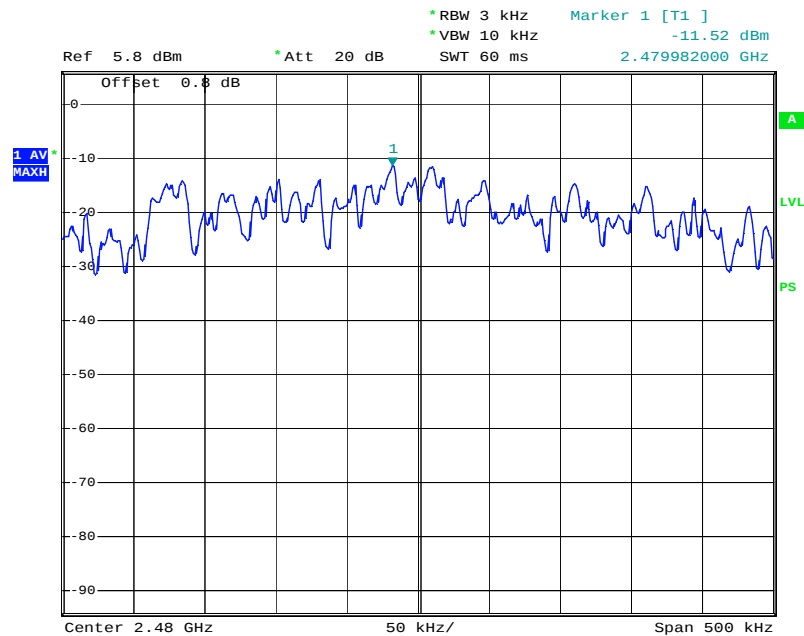


Date: 21.FEB.2008 16:54:10

Middle Channel



Date: 21.FEB.2008 16:59:31

High Channel


Date: 21.FEB.2008 16:57:20

5.1.10 Conducted emissions

RESULT:
Passed

Date of testing : 2008-03-24
 Test standard : FCC Part 15.207(a)
 FCC Part 15.107(a)
 Basic standard : ANSI C63.4: 2003
 Frequency range : 0.15 – 30MHz
 Limits : FCC Part 15.207(a)
 FCC Part 15.107(a)
 Kind of test site : Shield room

Test setup

Input Voltage (of PC) : AC 120V, 60Hz
 Operation Mode : D
 Earthing : Connected
 Ambient temperature : 23°C
 Relative humidity : 63%
 Atmospheric pressure : 101.6 kPa

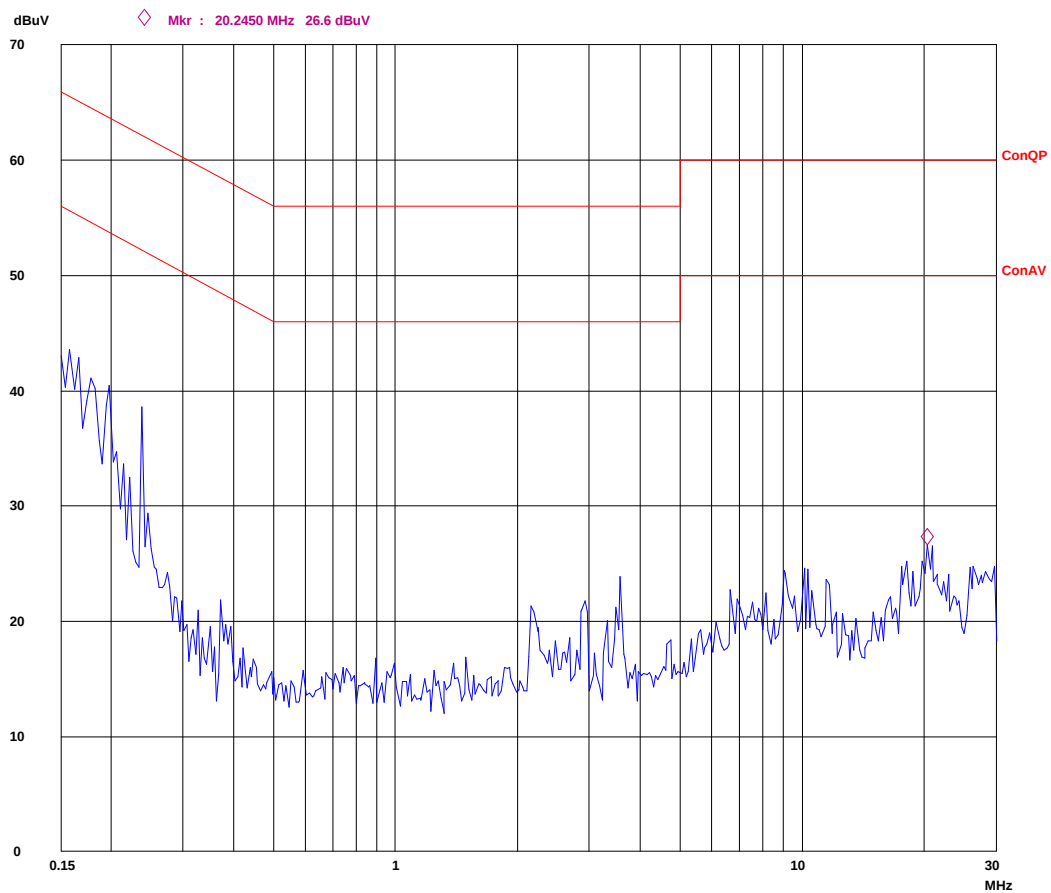
Table 12: Test result of Conducted emissions

Frequency [MHz]	Phase	Level QP [dB(μ V)]	Level AV [dB(μ V)]	Limit QP [dB(μ V)]	Limit AV [dB(μ V)]	Margin QP [dB]	Margin AV [dB]
0.158	L	36.8	20.6	65.6	55.6	-28.8	-35
0.178	L	38.9	21.7	64.6	54.6	-25.7	-32.9
0.198	L	36.9	32.3	63.7	53.7	-26.8	-21.4
0.238	L	29.2	12.2	62.2	52.2	-33	-40
18.040	L	15.4	8.9	60	50	-44.6	-41.1
20.245	L	17.9	12.6	60	50	-42.1	-37.4
0.150	N	44.8	36.6	66	56	-21.2	-19.4
0.198	N	37.1	36.6	63.7	53.7	-26.6	-17.1
0.218	N	31.1	16.5	62.9	52.9	-31.8	-36.4
0.246	N	26.9	11.2	61.9	51.9	-35	-40.7
0.258	N	25.5	8.7	61.5	51.5	-36	-42.8
9.345	N	24.0	16.0	60	50	-36	-34

Test Plot of Conducted emissions – Live

Conducted Disturbance

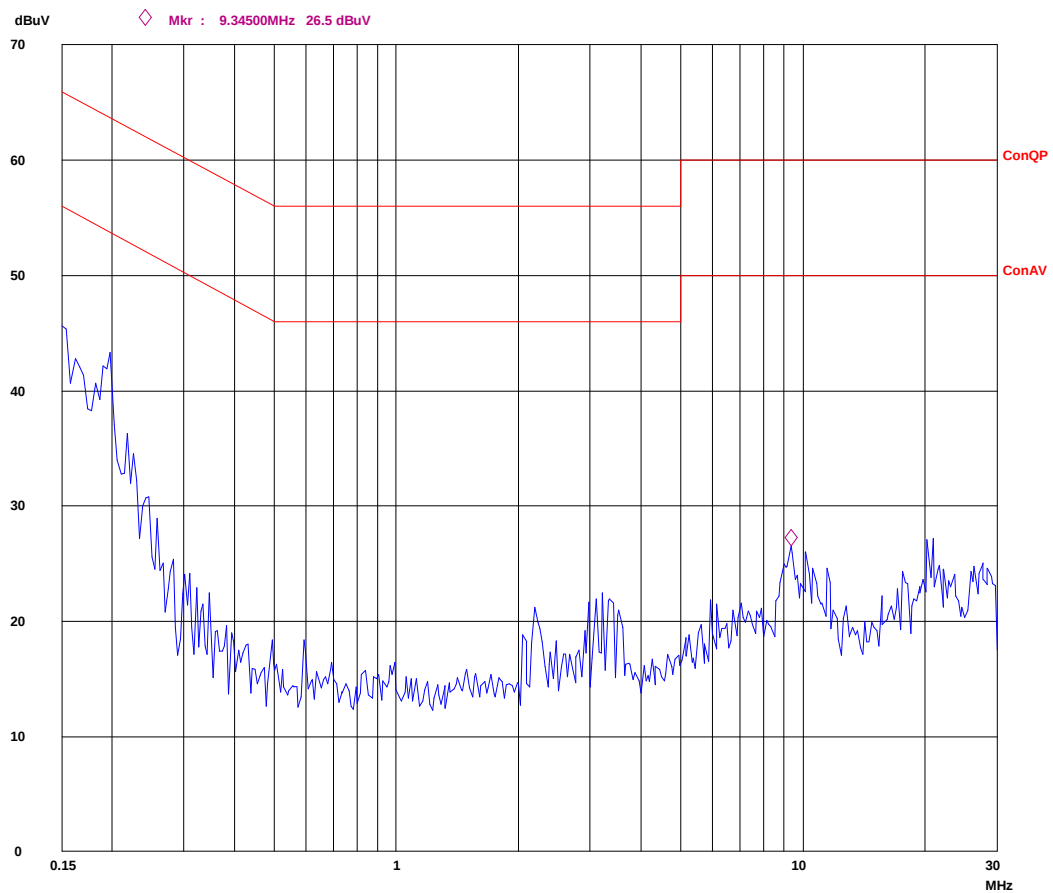
EUT:	M/N:MP935B2
Op Cond:	Downloading
Test Spec:	L
Comment:	AC 120V/60Hz



Test Plot of Conducted emissions – Neutral

Conducted Disturbance

EUT:	M/N:MP935B2
Op Cond:	Downloading
Test Spec:	N
Comment:	AC 120V/60Hz



5.1.11 Radiated emissions

RESULT:
Passed

Date of testing : 2008-02-20
 Test standard : FCC Part 15.209
 FCC Part 15.109
 Basic standard : ANSI C63.4: 2003
 Frequency range : 30 – 1000MHz
 Limits : FCC Part 15.209(a)
 FCC Part 15.109(a)
 Kind of test site : 3m Semi-Anechoic Chamber

Test Setup

Input Voltage : DC 3.7V
 Operation Mode : D, E
 Earthing : Not Connected
 Ambient temperature : 22°C
 Relative humidity : 63%
 Atmospheric pressure : 101.6 kPa

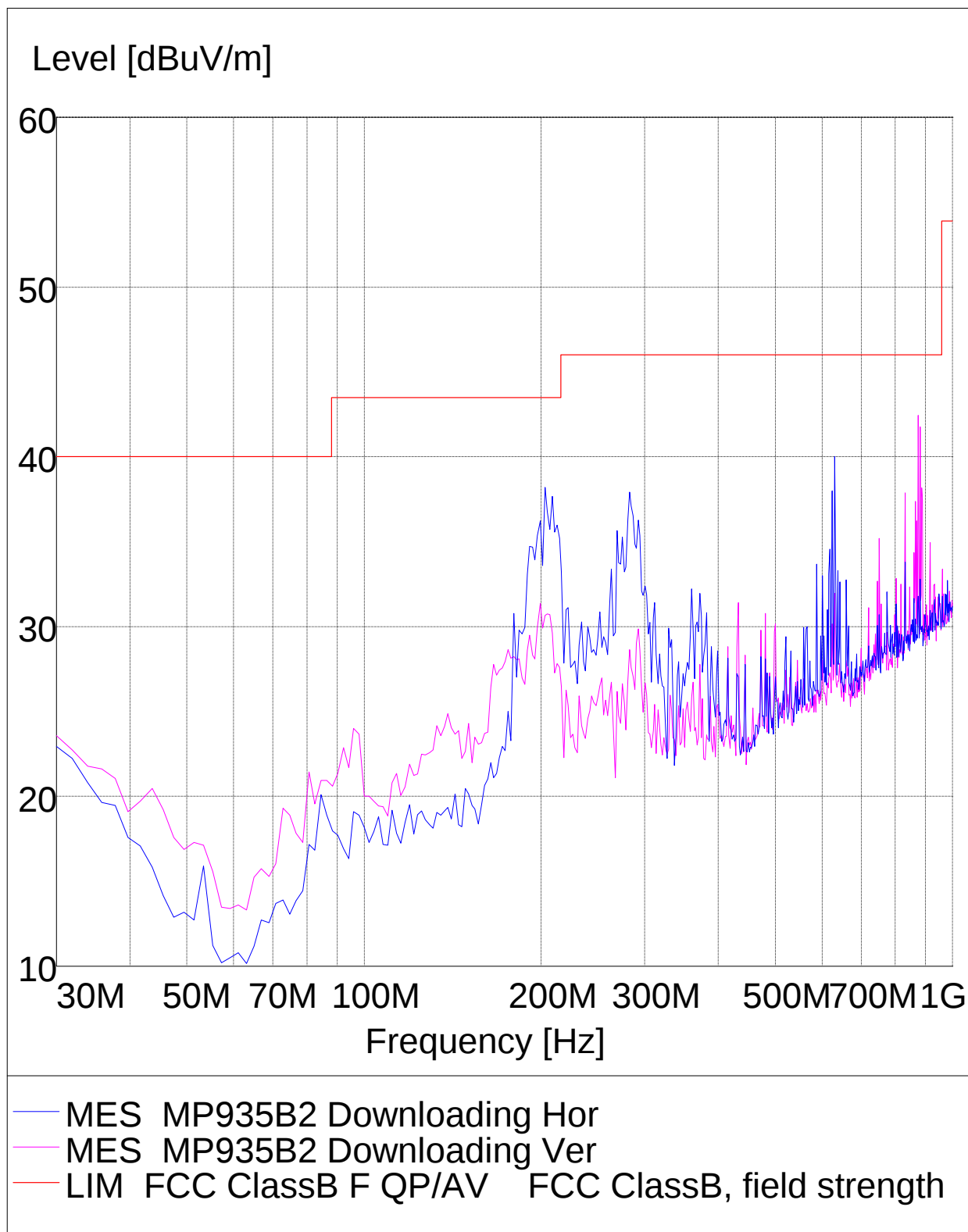
Table 13: Test result of Radiated emissions, Mode D

Frequency (MHz)	Polarity (V/H)	Level Quasi-Peak [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
200.98	Horizontal	36.9	43.5	-6.6
283.55	Horizontal	36.6	46	-9.4
200.04	Vertical	31.1	43.5	-12.4
886.41	Vertical	41.6	46	-4.4

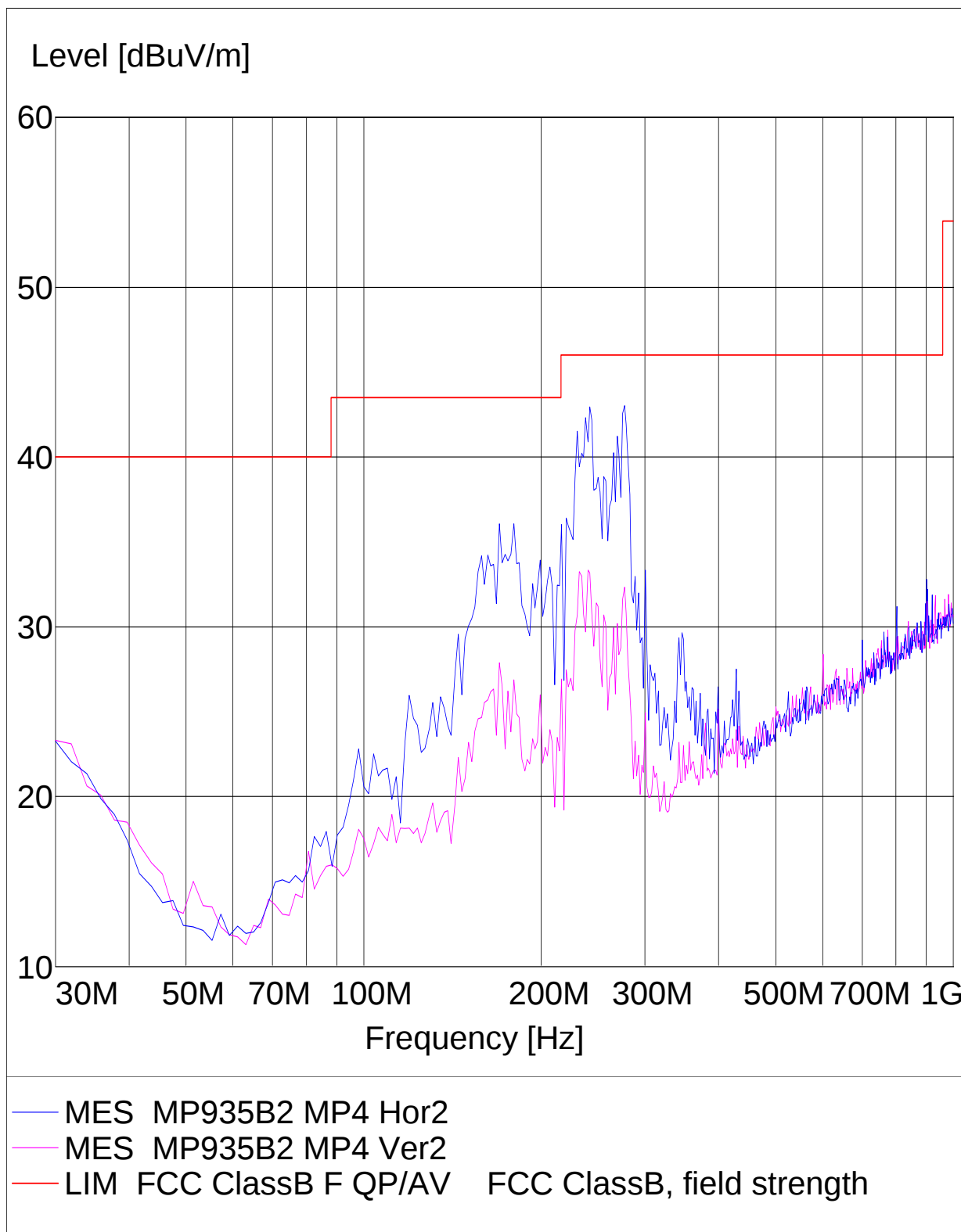
Table 14: Test result of Radiated emissions, Mode E

Frequency (MHz)	Polarity (V/H)	Level Quasi-Peak [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
230.997	Horizontal	41.7	46.0	-4.3
241.494	Horizontal	43.0	46.0	-3
277.498	Horizontal	43.4	46.0	-2.6

Test Plot of Radiated emissions, Horizontal and Vertical, Mode D



Test Plot of Radiated emissions, Horizontal and Vertical, Mode E



6. Photographs of the Test Set-Up

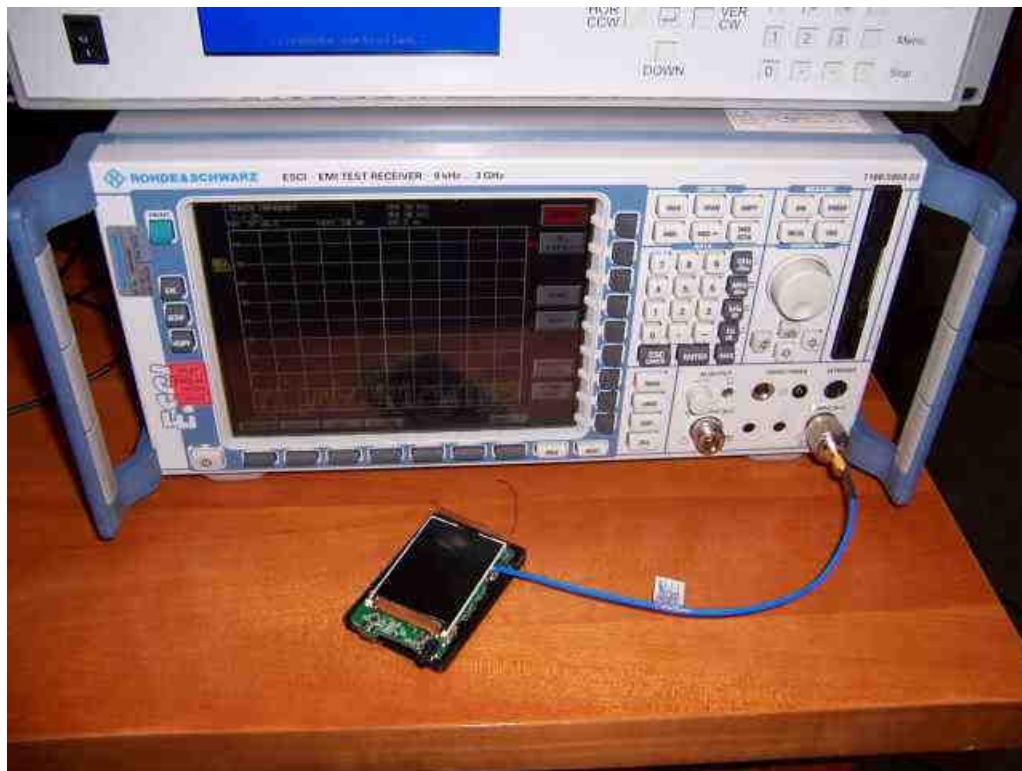
Photograph 1: Set-up for Conducted Emissions



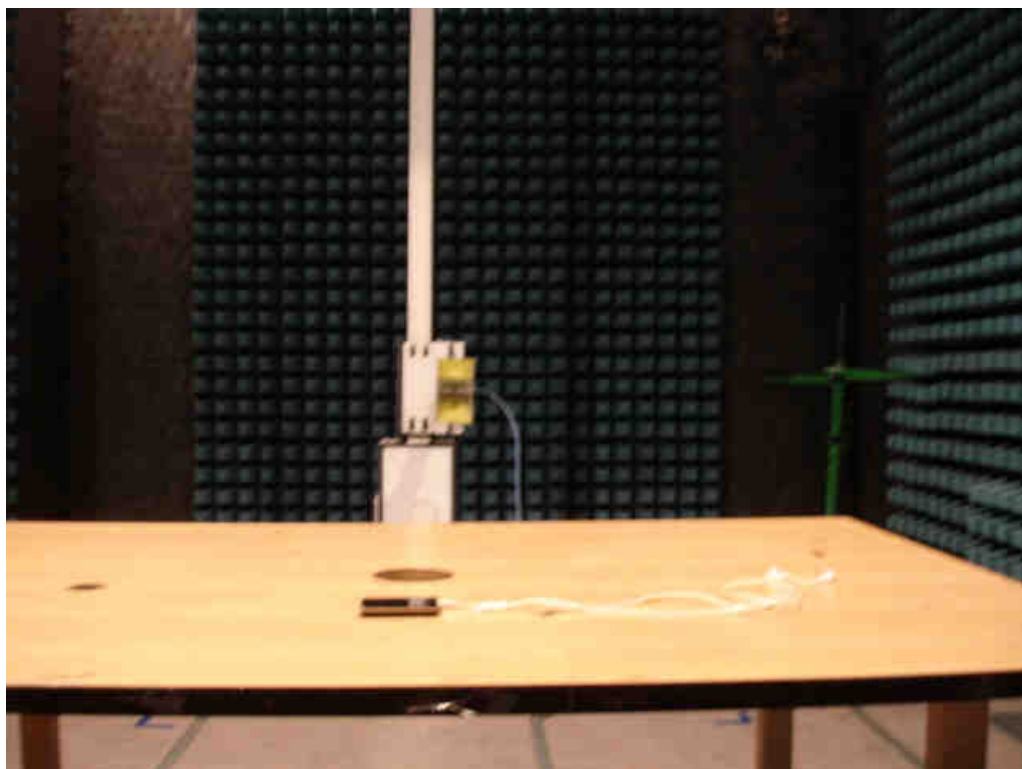
Photograph 2: Set-up for Radiated Emissions



Photograph 3: Set-up for Transmitter test



Photograph 4: Set-up for Spurious Emissions



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