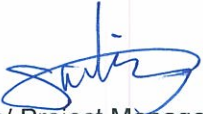


Prüfbericht - Nr.: 17016308 001 <i>Test Report No.:</i>			Seite 1 von 49 <i>Page 1 of 49</i>		
Auftraggeber: <i>Client:</i>			Logitech, Inc. 6505 Kaiser Drive, Fremont, California 94555 , United States		
Gegenstand der Prüfung: Wireless Adapter <i>Test item:</i>					
Bezeichnung: <i>Identification:</i>		A-00026		Serien-Nr.: <i>Serial No.:</i>	
Wareneingangs-Nr.: <i>Receipt No.:</i>		163063456		Eingangsdatum: <i>Date of receipt:</i>	
Prüfart: <i>Testing location:</i>		TÜV Rheinland (Guangdong) Ltd. EMC Laboratory Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China FCC Registration No.: 833845 Test site Industry Canada No.: 2932C-1			
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:		
					
2010-08-05 Sam Lin/ Project Manager			2010-08-06 Shawn Peng/ Technical Certifier		
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: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable 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 CONDUCTED EMISSIONS

RESULT: *Passed*

5.1.10 RADIATED EMISSIONS

RESULT: *Passed*

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test Result of Radiated Emissions.

Note: The Model No. was indicated as 'Ellsworth P616' during testing phase, while the final formal Model No. was revised to 'A-00026' by manufacturer later.

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.
EMC Laboratory

Guangzhou Auto Market,
Yuan Gang Section of Guangshan Road,
Guangzhou, P.R. China

FCC Registration No.: 833845

Test site Industry Canada No.: 2932C-1

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	ESCI-3	100216	2010-11-26
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2010-08-24
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2010-11-07
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2010-08-18
Pre-amplifier	MITEQ	AFS42-00101800-25-S-42	1101599	2010-07-31
Standard Gain Horn Antenna	EMCO	3160-09	21642	N/A
Pre-amplifier	MITEQ	AFS33-18002650-30-8P-44	1108282	2010-07-31
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2011-04-16
Radio Test Suite				
Receiver	Rohde & Schwarz	ESCI	100178	2010-09-27
Conducted Emission				
EMI Test Receiver	Rohde & Schwarz	ESCS30	100316	2011-03-27
Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100114	2011-03-27

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 Appendix 1 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 TÜV Rheinland (Guangdong) Ltd. test facility located at Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, 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 wireless speaker adapter with Bluetooth technology. The whole system is composed of a speaker and a Bluetooth adapter which is connected to personal computer. For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Wireless Adapter
Type Designation:	A-00026
FCC ID	DZLA00026

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 5V (via PC USB port)
Modulation	FHSS, GFSK, 8PSK, $\pi / 4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	-0.44dBi
RF Output Power	0.0021W (3.24dBm)

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 V2.1+EDR 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. 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 | - Instruction Manual |
| - Photo Document | - Rating Label |
| - Technical Description | |

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.

Full test was applied on all test modes, but only worst case was shown.

4.3 Special Accessories and Auxiliary Equipment

Auxiliary equipment:

Kind of Equipment	Manufacturer	Type	S/N
Notebook	IBM	X60	L3-BZ383

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

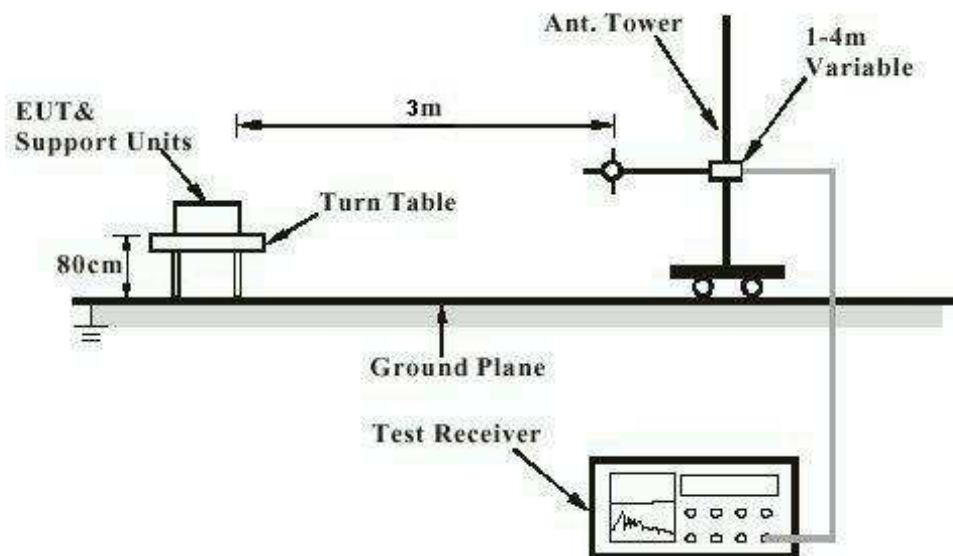


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

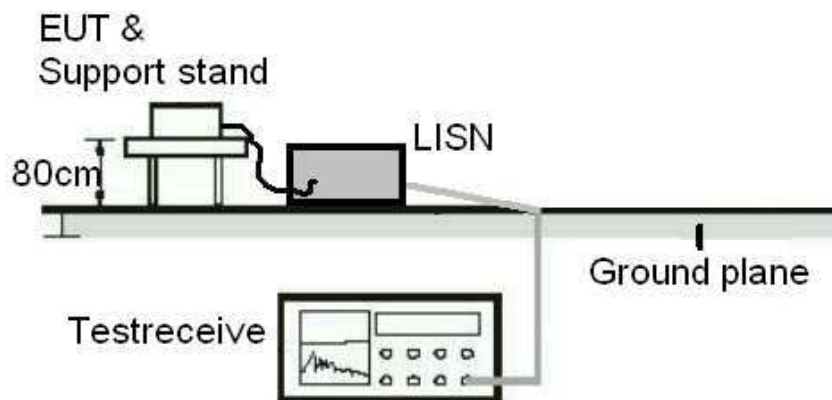
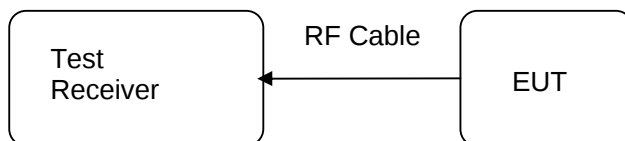


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2010-06-02
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 0dBi, 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 : 2010-06-02
 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 : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 5: Test result of Peak Output Power, GFSK modulation

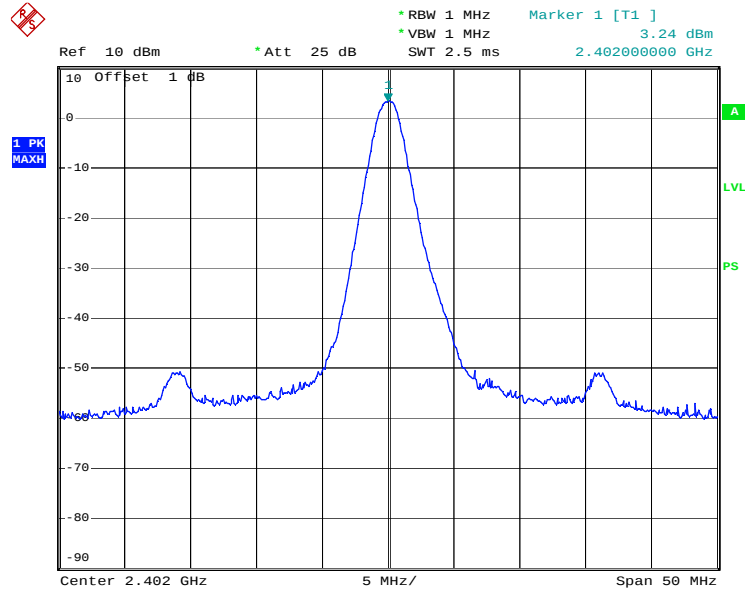
Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	3.24	0.0021	1
Middle Channel	2441	2.94	0.0020	1
High Channel	2480	2.27	0.0017	1

Table 6: Test result of Peak Output Power, 8PSK modulation

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	2.20	0.0017	1
Middle Channel	2441	1.55	0.0014	1
High Channel	2480	1.32	0.0014	1

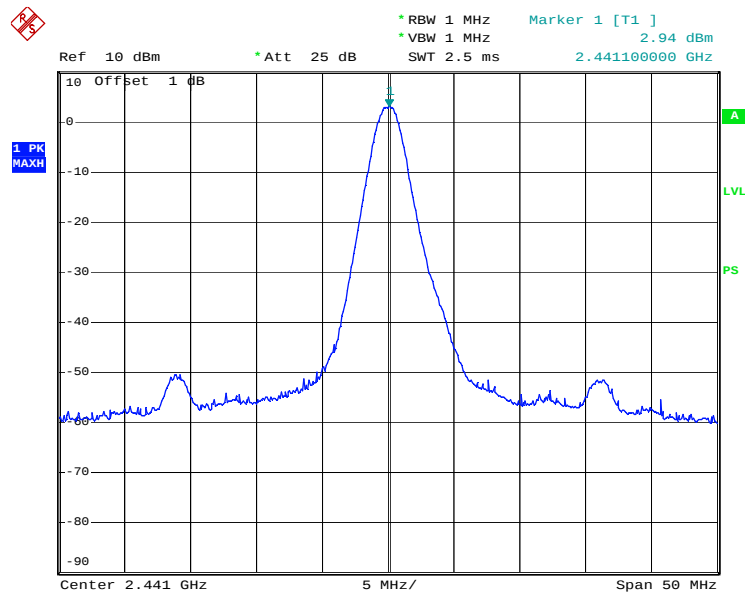
Test Plot of Peak Output Power, GFSK modulation

Low Channel



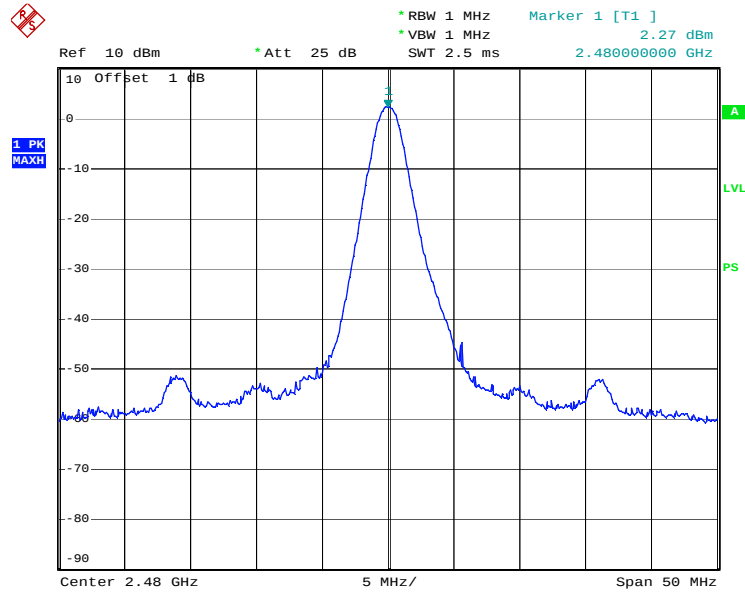
Date: 27.JUL.2010 17:03:51

Middle Channel



Date: 27.JUL.2010 17:03:20

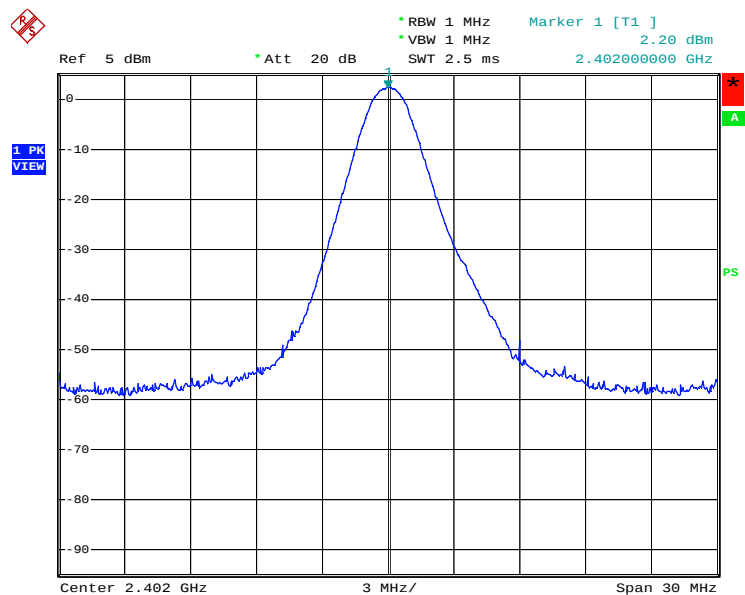
High Channel



Date: 27.JUL.2010 17:04:29

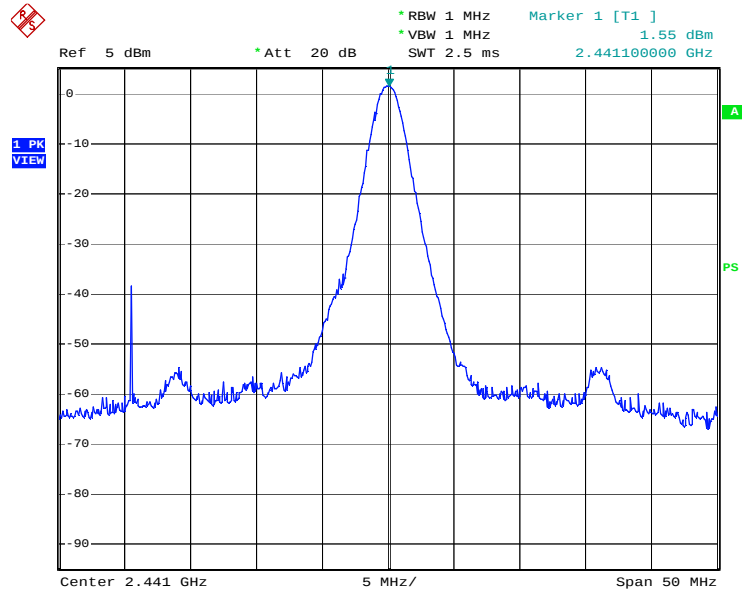
Test Plot of Peak Output Power, 8PSK modulation

Low Channel



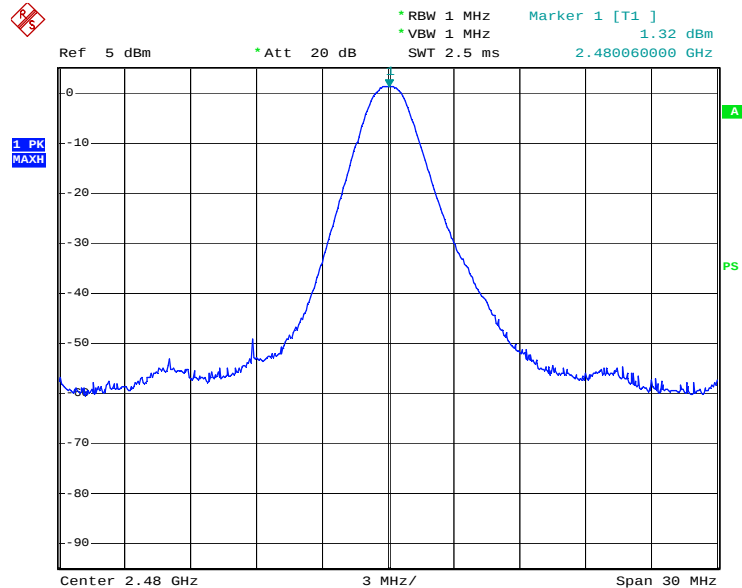
Date: 27.JUL.2010 15:29:30

Middle Channel



Date: 27.JUL.2010 15:13:27

High Channel



Date: 27.JUL.2010 15:28:00

5.1.3 20dB Bandwidth

RESULT:**Passed**

Date of testing : 2010-06-02
Test standard : FCC Part 15.247(a)(1)
Basic standard : ANSI C63.4: 2003
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 22°C
Relative humidity : 52%
Atmospheric pressure : 101 kPa

Table 7: Test result of 20dB Bandwidth, GFSK modulation

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	940	/	Pass
Mid Channel	2441	920	/	Pass
High Channel	2480	920	/	Pass

Table 8: Test result of 20dB Bandwidth, 8PSK modulation

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.32	/	Pass
Mid Channel	2441	1.34	/	Pass
High Channel	2480	1.29	/	Pass

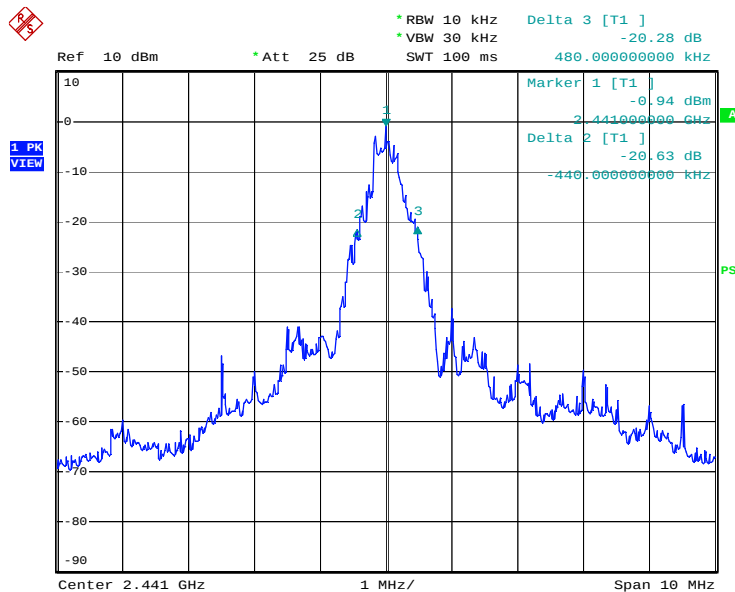
Test Plot of 20dB Bandwidth, GFSK modulation

Low Channel



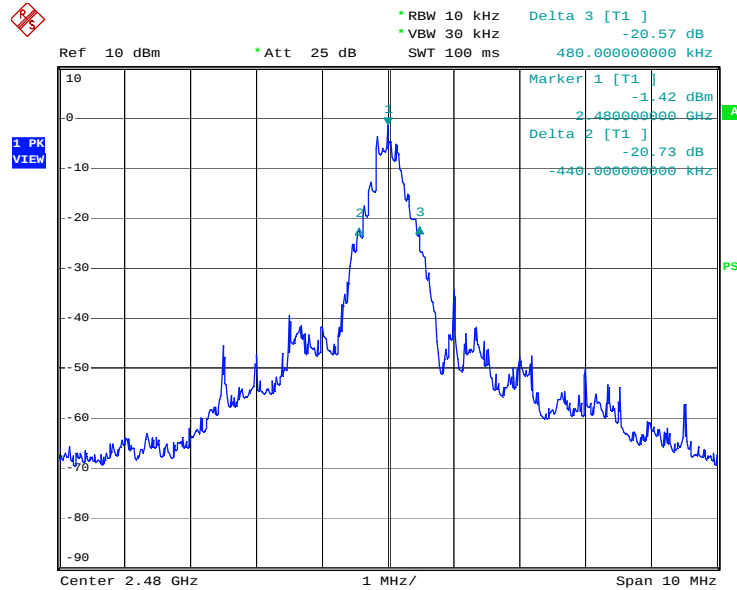
Date: 2. JUN. 2010 15:46:45

Middle Channel



Date: 2. JUN. 2010 15:44:55

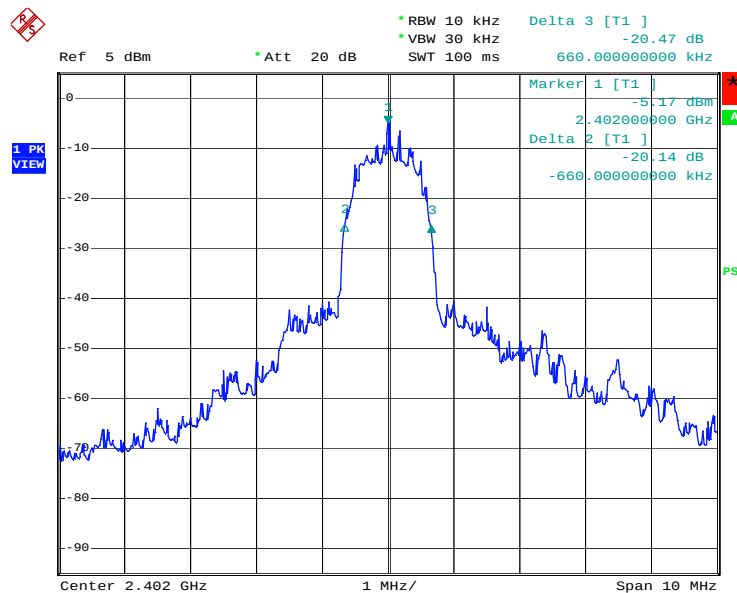
High Channel



Date: 2.JUN.2010 15:43:19

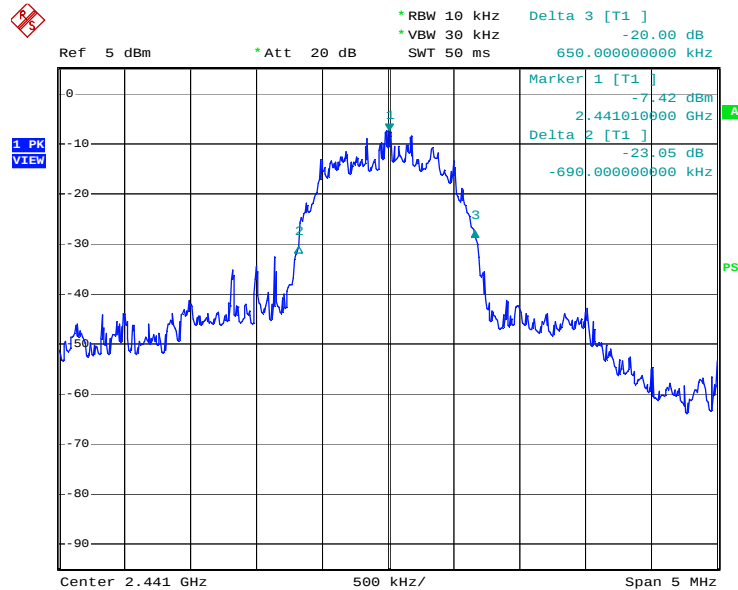
Test Plot of 20dB Bandwidth, 8PSK modulation

Low Channel



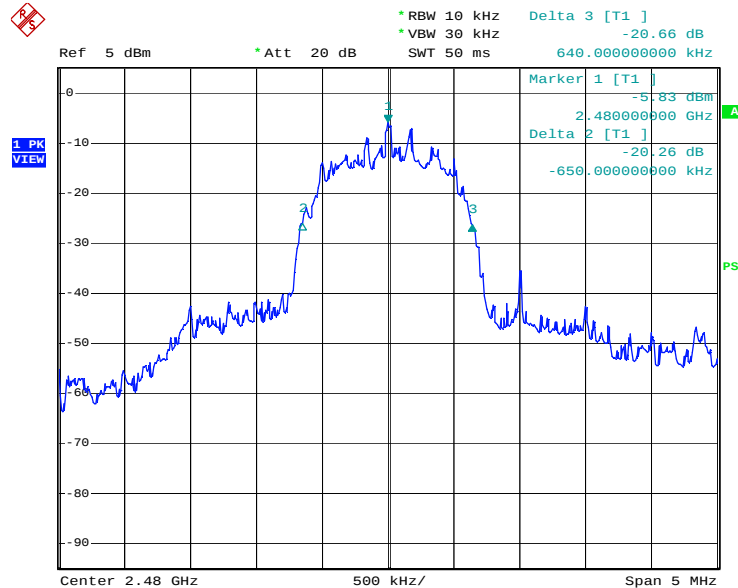
Date: 27.JUL.2010 15:22:23

Middle Channel



Date: 27.JUL.2010 15:09:12

High Channel



Date: 27.JUL.2010 15:27:11

5.1.4 100kHz Bandwidth of Frequency Band Edge

RESULT:**Passed**

Date of testing	:	2010-06-02
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

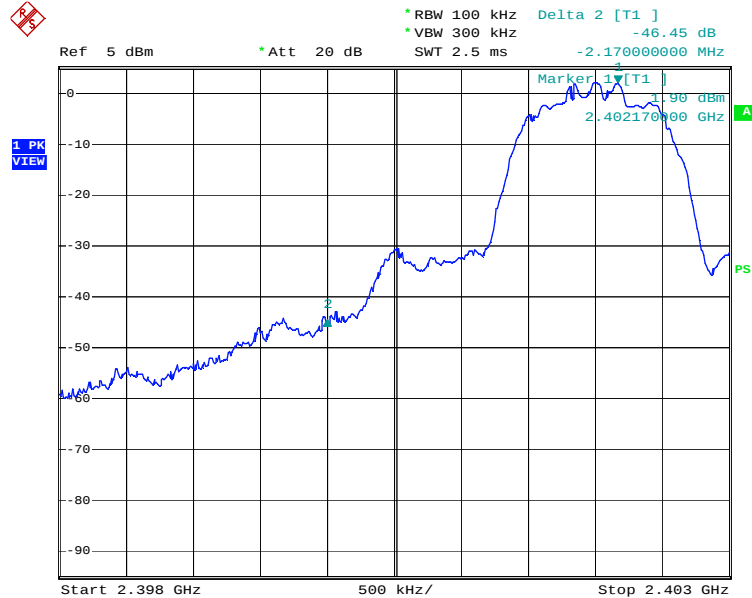
Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	22°C
Relative humidity	:	52%
Atmospheric pressure	:	101 kPa

All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well.

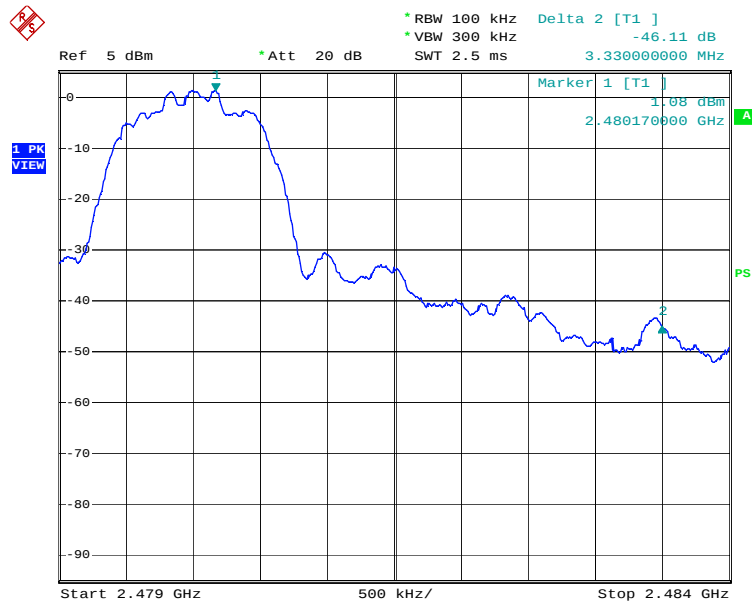
Test Plot of 100kHz Bandwidth of Frequency Band Edge, 8PSK modulation

Low Channel



Date: 27.JUL.2010 15:24:13

High Channel



Date: 27.JUL.2010 15:25:20

5.1.5 Spurious Emission

RESULT:**Passed**

Date of testing	:	2010-06-09 to 2010-06-11
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A, C
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101 kPa

Remark: Testing was carried out on all test modes, but only worst case was shown in Appendix 1. The worst case was found on GFSK modulation mode. The Radiated Emissions testing was performed in the X and Z axis mode. The X Axis mode is the worst-case recorded in this test report.

For details refer to Appendix 1.

5.1.6 Frequency Separation

RESULT:
Passed

Date of testing : 2010-06-02
 Test standard : FCC part 15.247(a)(1)
 Basic standard : ANSI C63.4: 2003
 Limit : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater

Test setup

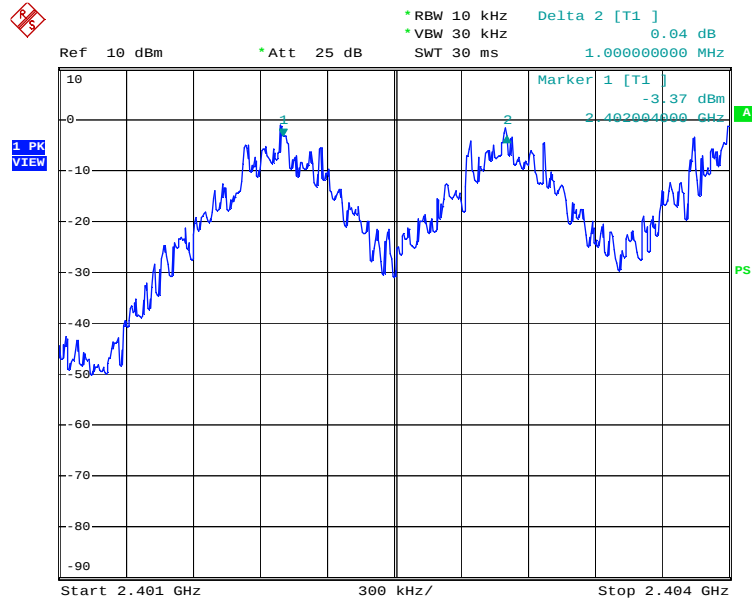
Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 9: 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 $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2479			

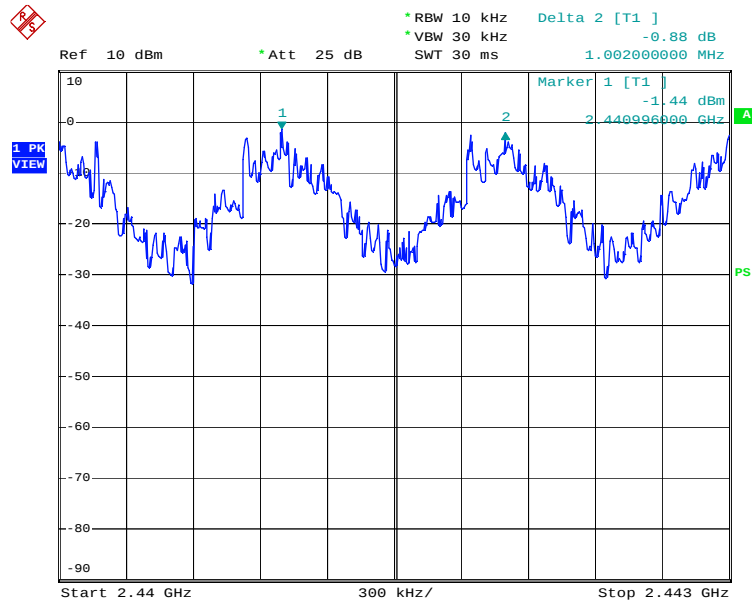
Test Plot of Frequency Separation

Low Channel



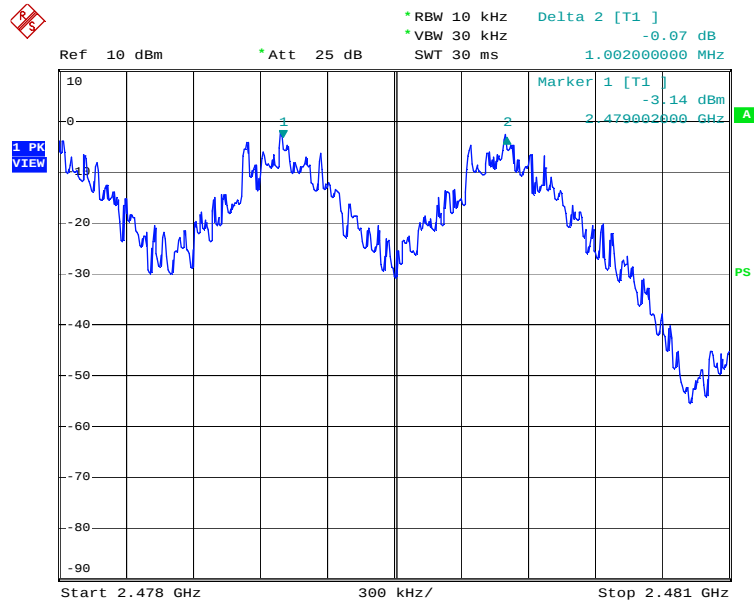
Date: 2. JUN. 2010 16:01:42

Middle Channel



Date: 2. JUN. 2010 16:03:44

High Channel



Date: 2. JUN. 2010 16:07:07

5.1.7 Number of hopping frequency

RESULT:**Passed**

Date of testing : 2010-06-02
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

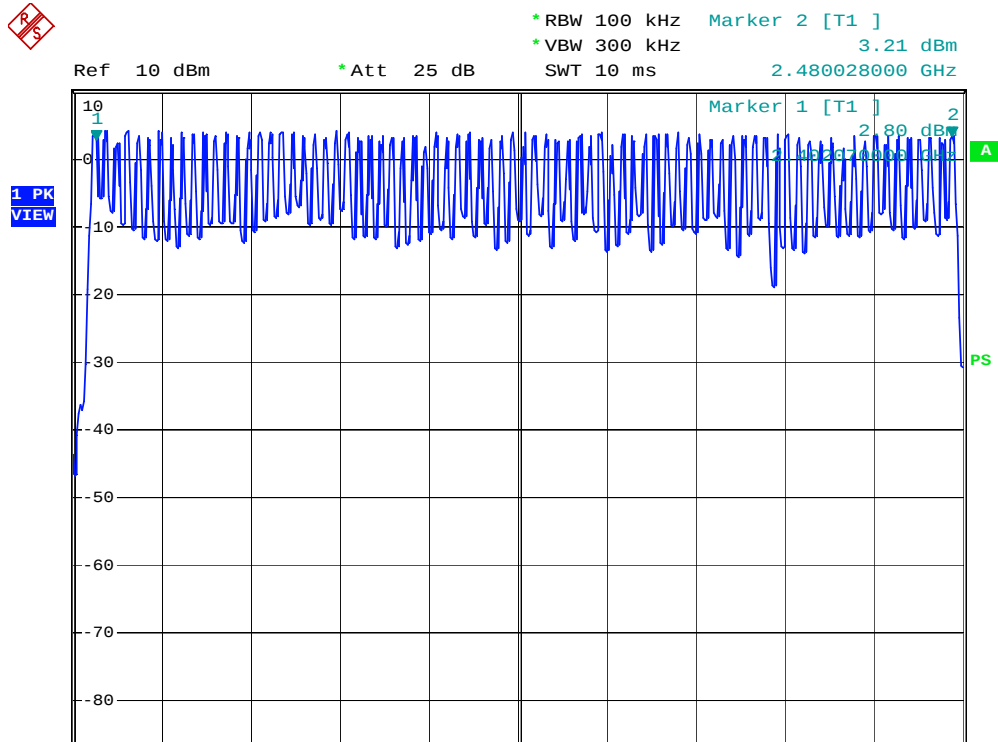
Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 22°C
Relative humidity : 52%
Atmospheric pressure : 101 kPa

Table 10: Test result of Number of hopping frequency

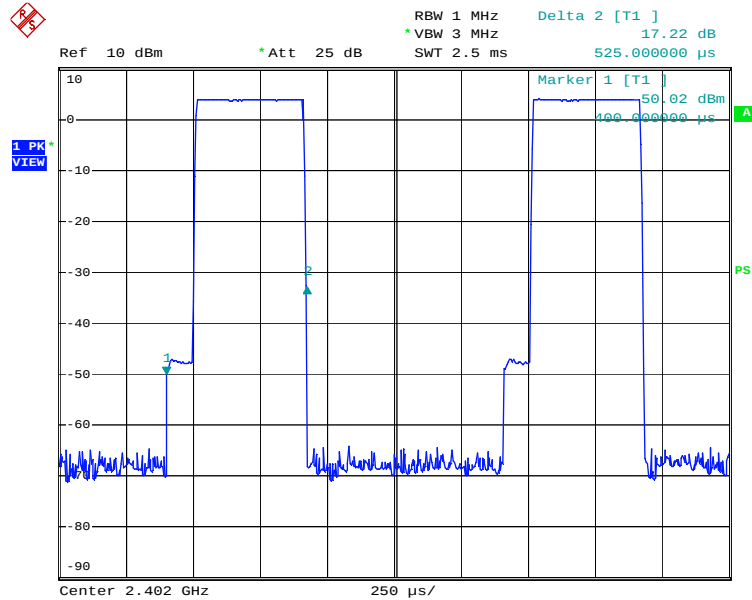
Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	≥ 15	Pass

Test Plot of Number of hopping frequencies



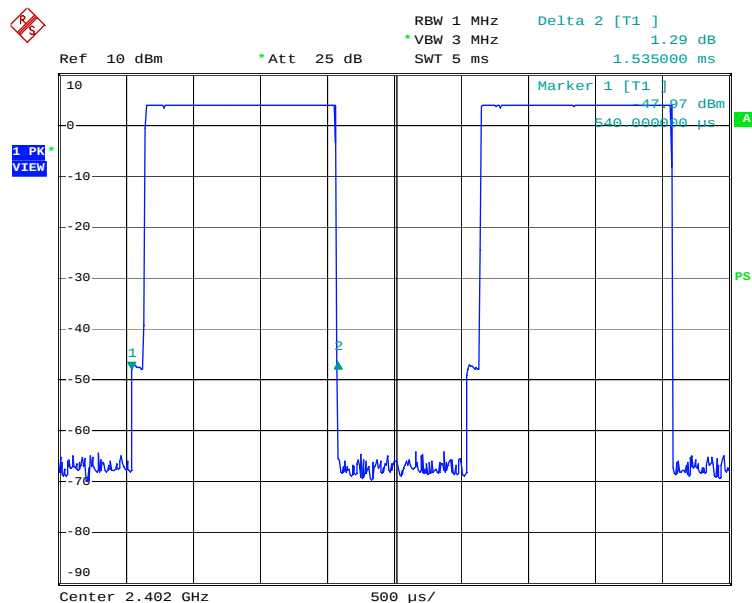
Test Plot of Time of Occupancy

Low Channel- DH1

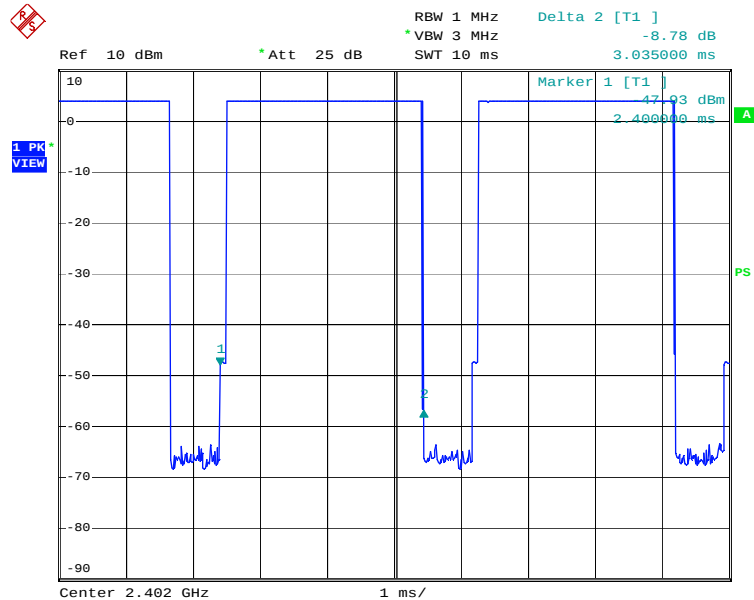


Date: 2. JUN. 2010 16:27:55

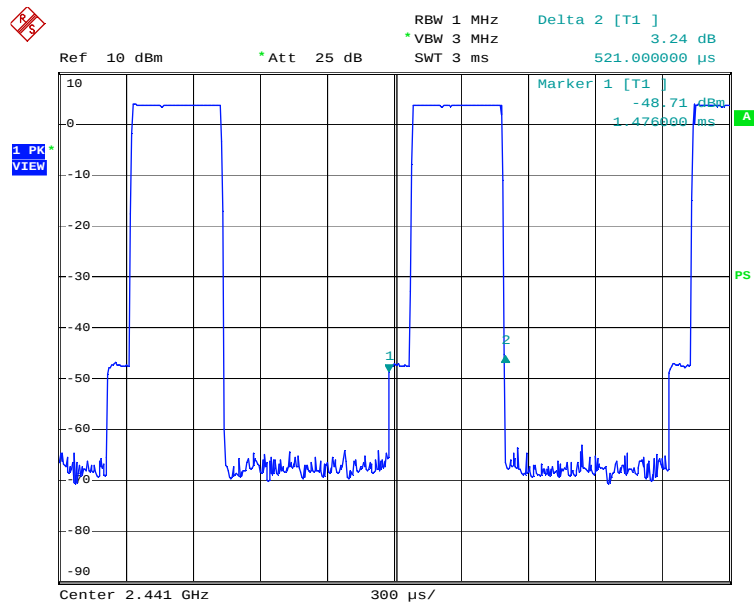
Low Channel- DH3



Date: 2. JUN. 2010 16:29:20

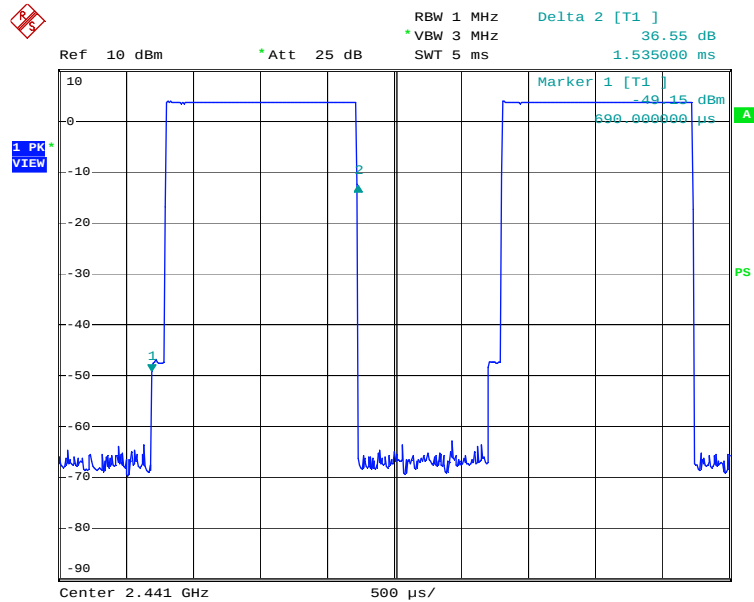
Low Channel- DH5


Date: 2. JUN. 2010 16:30:30

Middle Channel- DH1


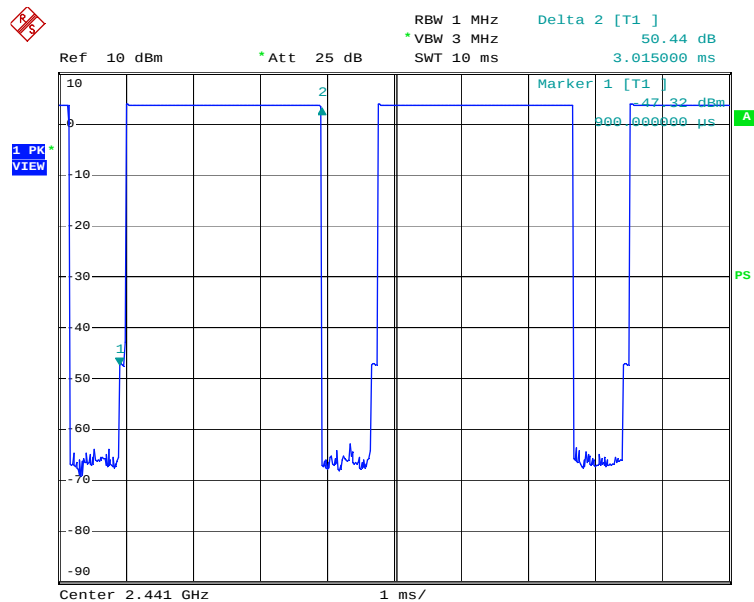
Date: 2. JUN. 2010 16:35:19

Middle Channel- DH3

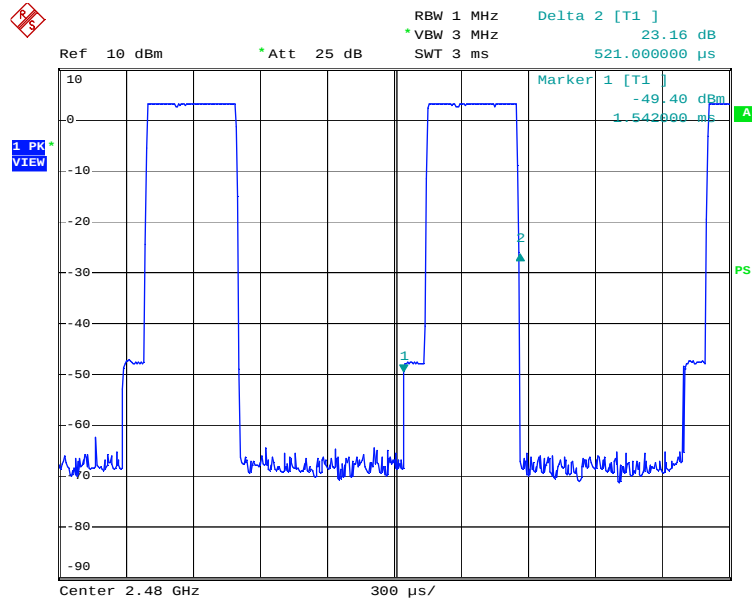


Date: 2. JUN. 2010 16:33:00

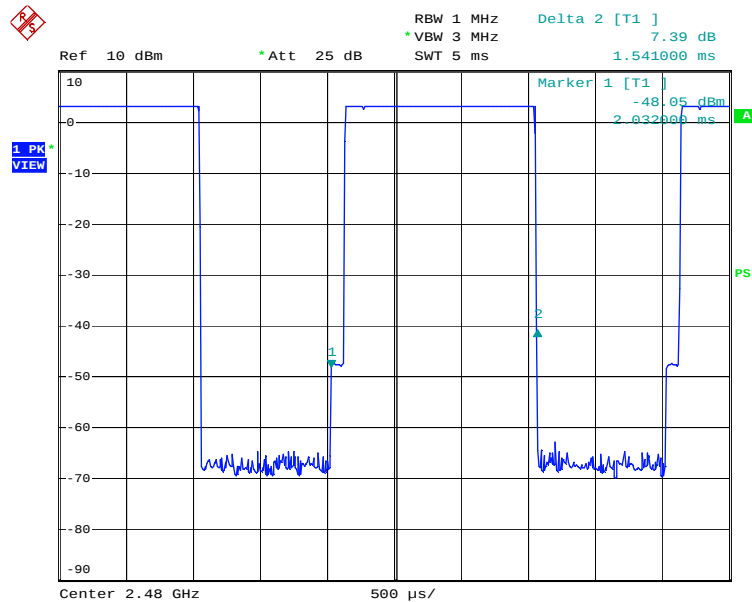
Middle Channel- DH5



Date: 2. JUN. 2010 16:31:51

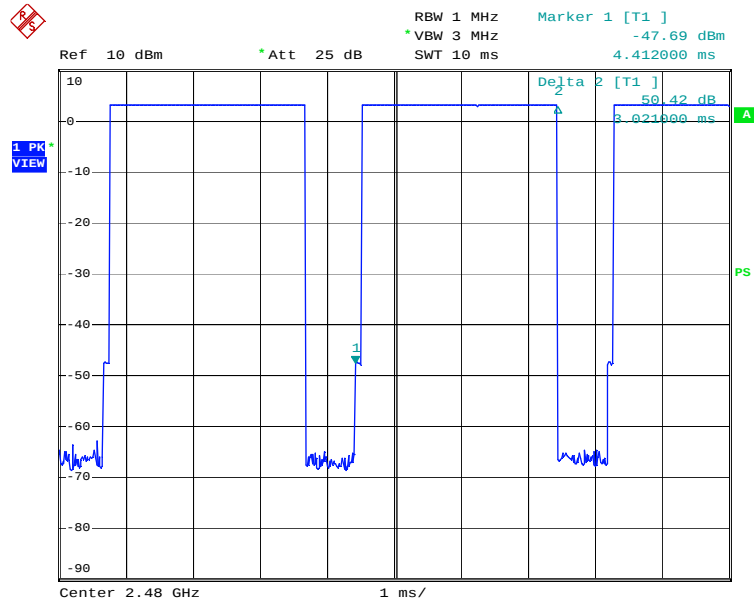
High Channel- DH1


Date: 2. JUN. 2010 16:36:21

High Channel- DH3


Date: 2. JUN. 2010 16:37:15

High Channel- DH5



Date: 2. JUN. 2010 16:38:08

5.1.9 Conducted emissions

RESULT:**Passed**

Date of testing	:	2010-06-03
Test standard	:	FCC Part 15.107(a), FCC Part 15.207(a)
Basic standard	:	ANSI C63.4: 2003
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.107(a), FCC Part 15.207(a)
Kind of test site	:	Shield room

Test setup

Input Voltage (to AC mains of PC)	:	AC 120V, 60Hz
Operation Mode	:	A
Earthing	:	Not connected
Ambient temperature	:	25°C
Relative humidity	:	51%
Atmospheric pressure	:	101 kPa

For details refer to following test curves.

Test Plot of Conducted emissions

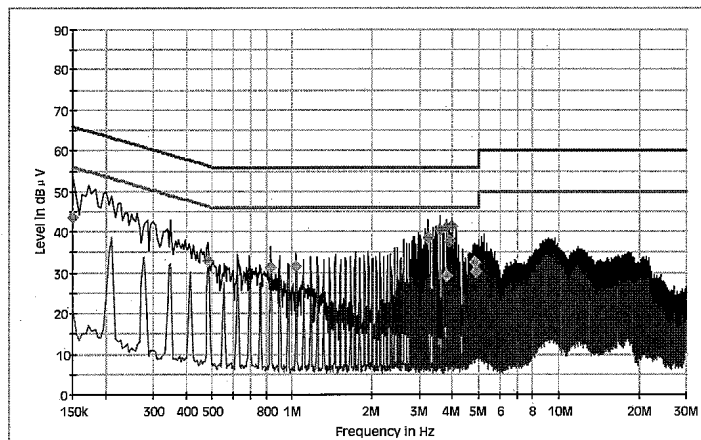
EMC Test Record (EMISSION)

Test Information

Manufacturer: Shinhint
 Test Item: Dongle
 Identification: Ellsworth P616
 Test Standard: FCC Part 15B
 Test Detail: Conducted Emission
 Operation Mode: A
 Climate Condition: 21 °C; 50%RH; 101 kPa.
 Test Voltage/ Freq.: AC120 V/ 60 Hz(DC 5V via USB port)
 Port / Line: AC Mains
 Receipt No.: 163063456 200
 Report No.:
 Result: Pass
 Comment: /

Hardware Setup: 1phase LISN ESH3-Z5 to ESCI
 Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCI 3



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line
0.150000	43.8	1000.000	9.000	GND	N
3.241500	38.4	1000.000	9.000	GND	L1
3.588000	40.3	1000.000	9.000	GND	N
3.795000	40.9	1000.000	9.000	GND	N
3.867000	37.8	1000.000	9.000	GND	L1
4.002000	41.4	1000.000	9.000	GND	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.150000	10.1	22.2	66.0	
3.241500	10.2	17.6	56.0	
3.588000	10.3	15.7	56.0	
3.795000	10.3	15.1	56.0	
3.867000	10.3	18.2	56.0	
4.002000	10.3	14.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line
0.483000	32.9	1000.000	9.000	GND	N
0.829500	31.1	1000.000	9.000	GND	L1
1.036500	31.4	1000.000	9.000	GND	L1
3.795000	29.2	1000.000	9.000	GND	N
4.830000	32.4	1000.000	9.000	GND	L1
4.902000	30.1	1000.000	9.000	GND	L1

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.483000	10.1	13.4	46.3	
0.829500	10.1	14.9	46.0	
1.036500	10.1	14.6	46.0	
3.795000	10.3	16.8	46.0	
4.830000	10.3	13.6	46.0	
4.902000	10.4	15.9	46.0	

5.1.10 Radiated emissions**RESULT:****Passed**

Date of testing	:	2009-07-31
Test standard	:	FCC Part 15.109 FCC Part 15.205
Basic standard	:	ANSI C63.4: 2003 FCC Part 15.109(a)
Kind of test site	:	3m Semi-Anechoic Chamber

Test Setup

Test Channel	:	Low/ High
Input Voltage (to AC mains of PC)	:	AC 120V, 60Hz
Operation Mode	:	A
Earthing	:	Not connected
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101 kPa

For details refer to following test curves. The Radiated Emissions testing was performed in the X and Z axis mode. The X Axis mode is the worst-case recorded in this test report.

Test Plot of Radiated emissions in restricted bands, Horizontal, Mode A.1

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

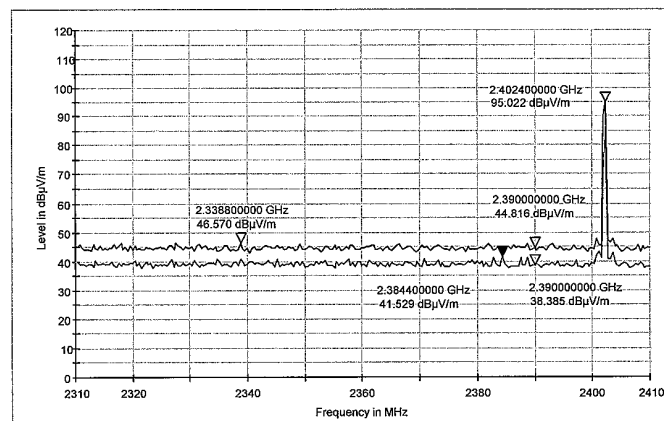
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Shinhint
Test Item:	Dongle
Identification	Ellsworth P816
Test Standard:	FCC Part 15
Test Detail:	
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163063456 200
Report No.:	17016308 001
Result:	Pass
Comment:	Horizontal

Subrange 1

Frequency Range:	2GHz - 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



Date: 6/10/2010 - Time: 11:37:44 PM

Tested by:



Reviewed by:



Test Plot of Radiated emissions in restricted bands, Vertical, Mode A.1

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

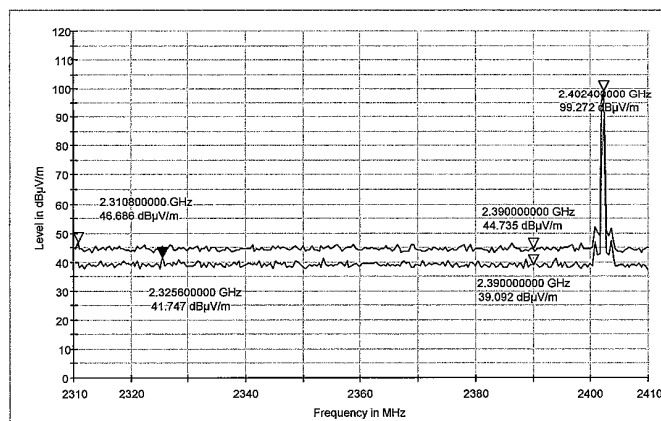
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Shinhint
Test Item:	Dongle
Identification	Ellsworth P616
Test Standard:	FCC Part 15
Test Detail:	
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163063456 200
Report No.:	17016308 001
Result:	Pass
Comment:	Vertical

Subrange 1

Frequency Range:	2GHz - 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



Date: 6/10/2010 - Time: 11:34:25 PM

Tested by:



Reviewed by:



Test Plot of Radiated emissions in restricted bands, Horizontal, Mode A.3

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

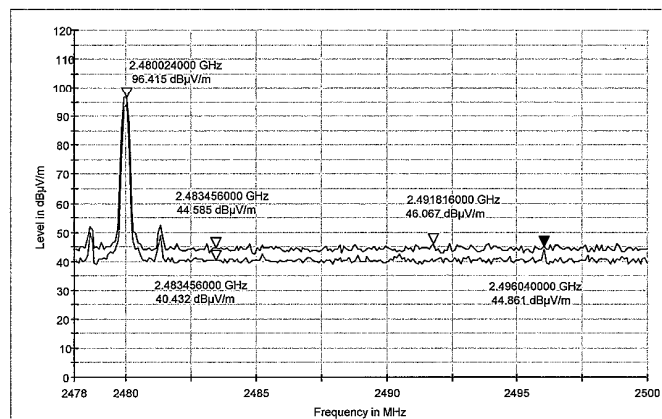
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Shinhint
Test Item:	Dongle
Identification	Ellsworth P616
Test Standard:	FCC Part 15
Test Detail:	
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq.:	DC 5V
Receipt No.:	163063456 200
Report No.:	17016308 001
Result:	Pass
Comment:	Horizontal

Subrange 1

Frequency Range:	2GHz - 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



Date: 6/10/2010 - Time: 11:43:41 PM

Tested by:



Reviewed by:



Test Plot of Radiated emissions in restricted bands, Vertical, Mode A.3

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

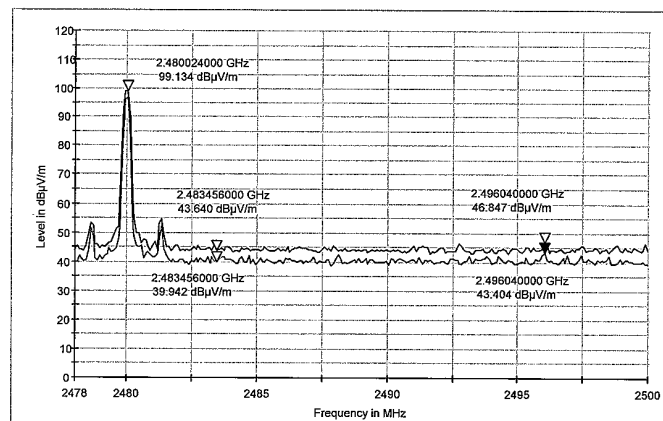
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Shinhint
Test Item:	Dongle
Identification	Ellsworth P616
Test Standard:	FCC Part 15
Test Detail:	
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163063456 200
Report No.:	17016308 001
Result:	Pass
Comment:	Vertical

Subrange 1

Frequency Range:	2GHz - 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



Date: 6/10/2010 - Time: 11:47:12 PM

Tested by:

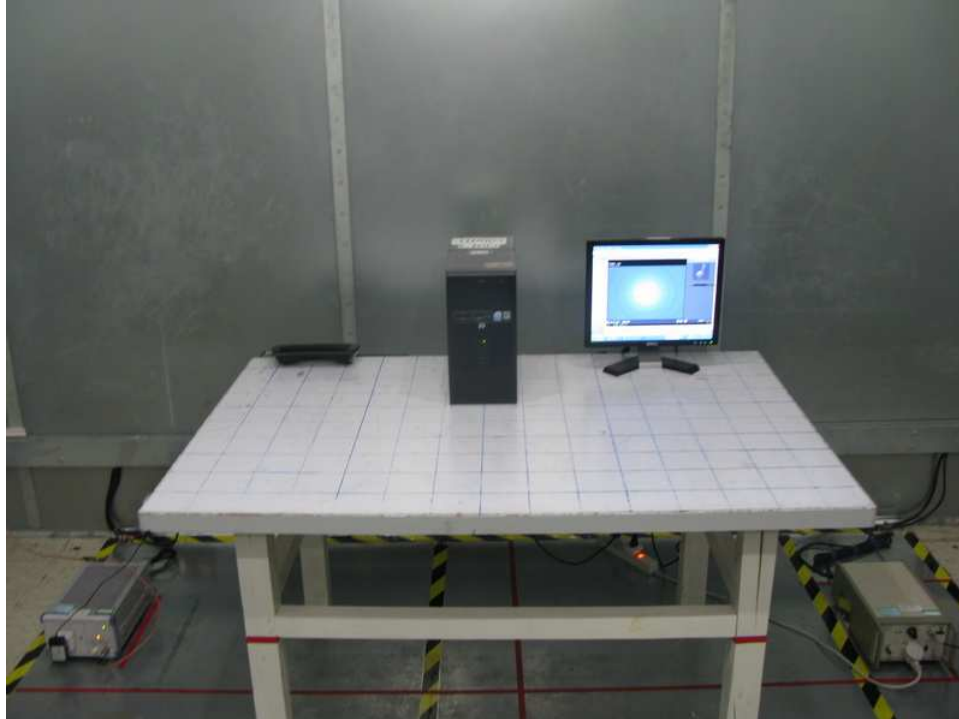


Reviewed by:



6. Photographs of the Test Set-Up

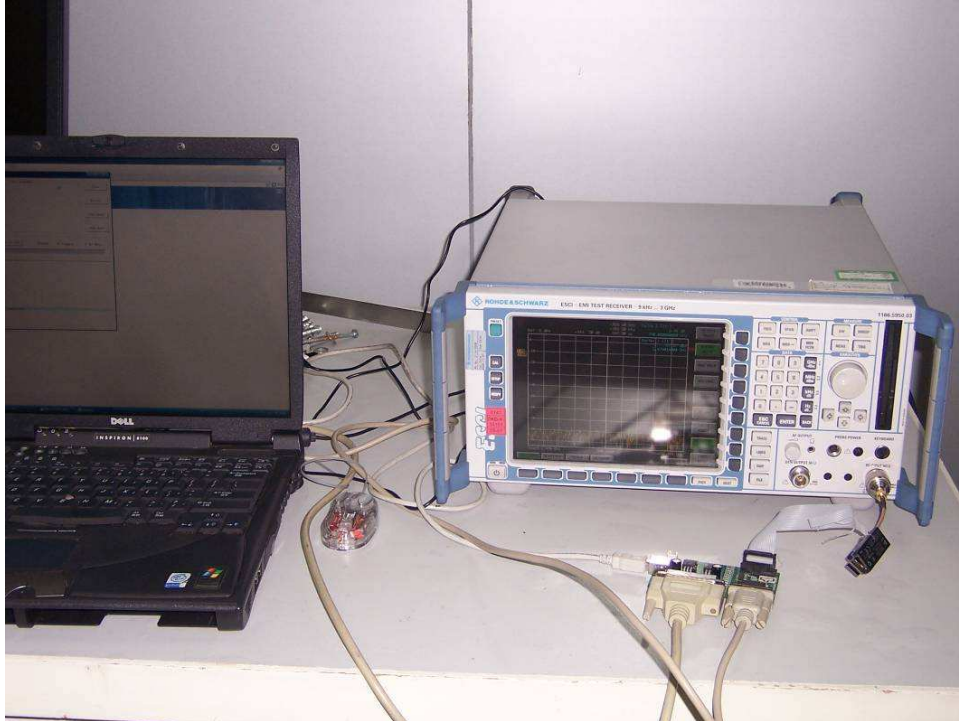
Photograph 1: Set-up for Conducted Emissions



Photograph 2: Set-up for Radiated Emissions



Photograph 3: Set-up for Transmitter test



Photograph 4: Set-up for Spurious Emissions (9kHz-30MHz)



Photograph 5: Set-up for Spurious Emissions (30MHz-1GHz)



Photograph 6: Set-up for Spurious Emissions (1GHz-18GHz)



Photograph 7: Set-up for Spurious Emissions (18GHz-26GHz)



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