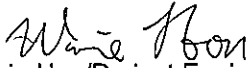



Prüfbericht - Nr.: 17017395 001		Seite 1 von 43 Page 1 of 43	
<i>Test Report No.:</i>			
Auftraggeber: <i>Client:</i>	Primax Electronics Ltd. No. 669, Ruey Kuang Rd. Neihu, Taipei 114, Taiwan		
Gegenstand der Prüfung: <i>Test item:</i>	QS2 CAR SPEAKERPHONE		
Bezeichnung: <i>Identification:</i>	RF-QS2 RF-QS2-UK	RF-QS2-T	Serien-Nr.: <i>Serial No.:</i> n.a.
Wareneingangs-Nr.: <i>Receipt No.:</i>	163066795	Eingangsdatum: <i>Date of receipt:</i>	2010-08-06
Prüfört: <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 RSS-210 Issue 7 June 2007 RSS Gen Issue 2 June 2007 RSS-102 Issue 4 March 2010		
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:		
 2010-08-30 Winnie Hou/Project Engineer		 2010-08-30 Shawn Peng/Manager	
<i>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>Name/Stellung</i> Name/Position	<i>Unterschrift</i> Signature
Sonstiges/ Other Aspects:			
The minimum margin of spurious emission is 0.6dB.			
Abkürzungen:		Abbreviations:	
<i>P(ass)</i> = entspricht Prüfgrundlage	<i>F(ail)</i> = entspricht nicht Prüfgrundlage	<i>P(ass)</i> = passed	<i>F(ail)</i> = failed
<i>NIA</i> = nicht anwendbar	<i>NIT</i> = nicht getestet	<i>NIA</i> = not applicable	<i>NIT</i> = 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 99% BANDWIDTH***RESULT: Passed***5.1.5 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH***RESULT: Passed***5.1.6 SPURIOUS EMISSION***RESULT: Passed***5.1.7 FREQUENCY SEPARATION***RESULT: Passed***5.1.8 NUMBER OF HOPPING FREQUENCY***RESULT: Passed***5.1.9 TIME OF OCCUPANCY***RESULT: Passed***5.1.10 RADIATED EMISSIONS***RESULT: Passed***6.1.1 ELECTROMAGNETIC FIELDS***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

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	2011-03-16
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2011-03-16
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100111	2012-03-16
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2011-08-21
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2011-08-24
Pre-amplifier	MITEQ	AFS42- 00101800-25- S-42	1101599	2011-07-31
Standard Gain Horn Antenna	EMCO	3160-09	21642	2014-06-26
Pre-amplifier	MITEQ	AFS33- 18002650-30- 8P-44	1108282	2011-03-16
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	2011-03-16
Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100114	2011-03-16

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 EUTs are a car speakerphone which can link with Bluetooth enabled mobile phone. The EUTs are with Bluetooth technology.
 All models are identical except model number for different market.
 For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	QS2 CAR SPEAKERPHONE
Type Designation:	RF-QS2, RF-QS2-T, RF-QS2-UK
FCC ID	EMJTRFQS2
IC	4251A-CRFQS2

Table 3: Technical Specification of EUT

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-10°C to +50°C
Operation Voltage	DC 3.7V (via Lithium Battery)
Modulation	FHSS, GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	3.5dBi
RF Output Power	0.0012W (0.62dBm)

Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	<p>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).</p>
Hopping Sequence	<p>Example of a 79 hopping sequence in data mode:</p> <p>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,</p>
Receiver input bandwidth	<p>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.</p> <p>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.</p> <p>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.</p> <p>That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.</p>

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Receiving
- C. Standby
- D. Charging
- E. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- 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.

Due to clause 3.1, full test was applied on model RF-QS2 only.

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

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories

Description	Manufacturer	Type	Rating
Car charger	Sunstrong International Industrial Ltd.	SIL-050050A-CLA	I/P: DC12/24V O/P: DC 5V, 500mA

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

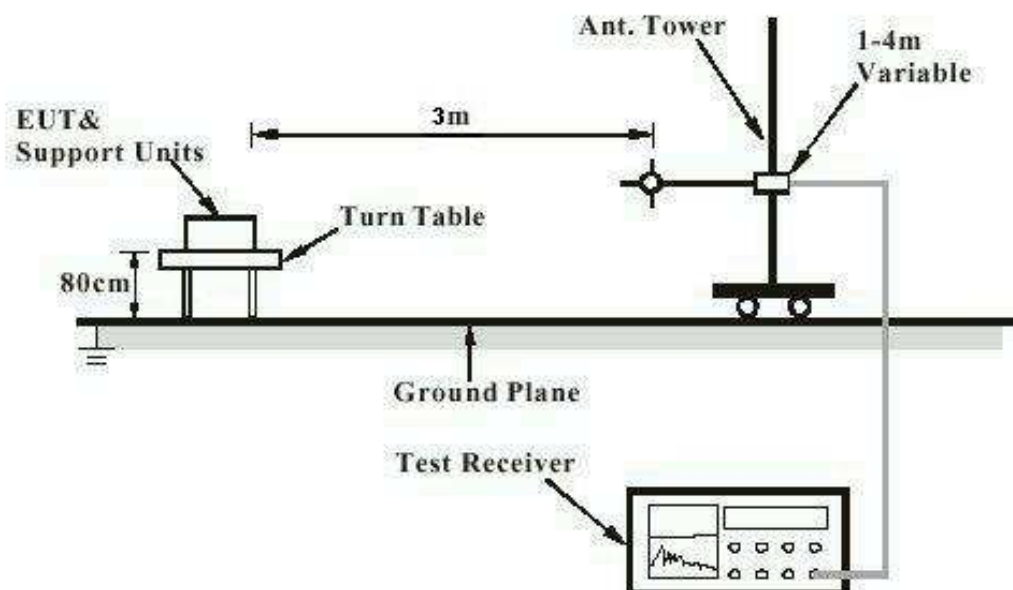


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

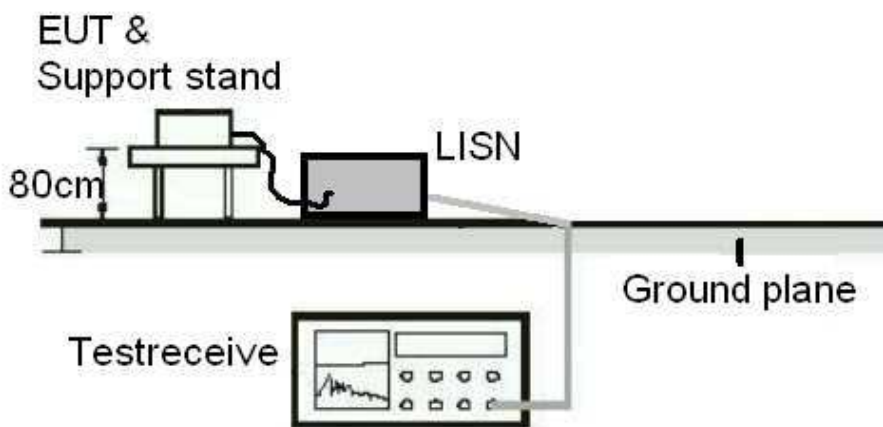
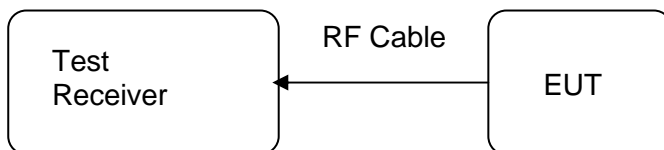


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2010-08-17
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS Gen 7.1.4
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 3.5dBi, 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 : 2010-08-17
 Test standard : FCC Part 15.247(b)(1)
 : RSS-210 A8.4 (2)
 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 (W)
		(dBm)	(W)	
Low Channel	2402	-1.42	0.00072	1
Middle Channel	2441	-1.11	0.00077	1
High Channel	2480	-1.31	0.00074	1

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

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	0.40	0.0011	1
Middle Channel	2441	0.62	0.0012	1
High Channel	2480	0.35	0.0011	1

5.1.3 20dB Bandwidth

RESULT:
Passed

Date of testing : 2010-08-17
 Test standard : FCC Part 15.247(a)(1)
 : RSS-210 A8.1 (a)
 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

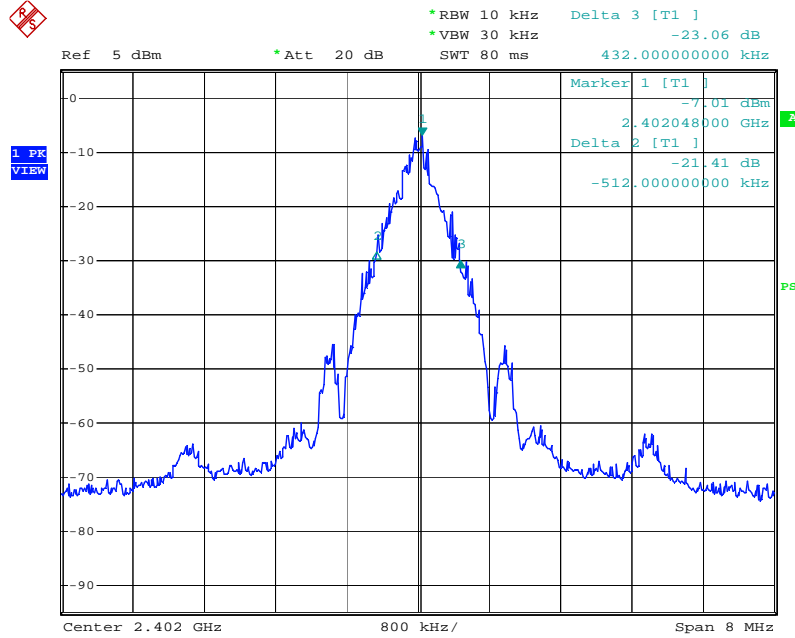
Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	944	/	Pass
Mid Channel	2441	944	/	Pass
High Channel	2480	960	/	Pass

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

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.39	/	Pass
Mid Channel	2441	1.39	/	Pass
High Channel	2480	1.39	/	Pass

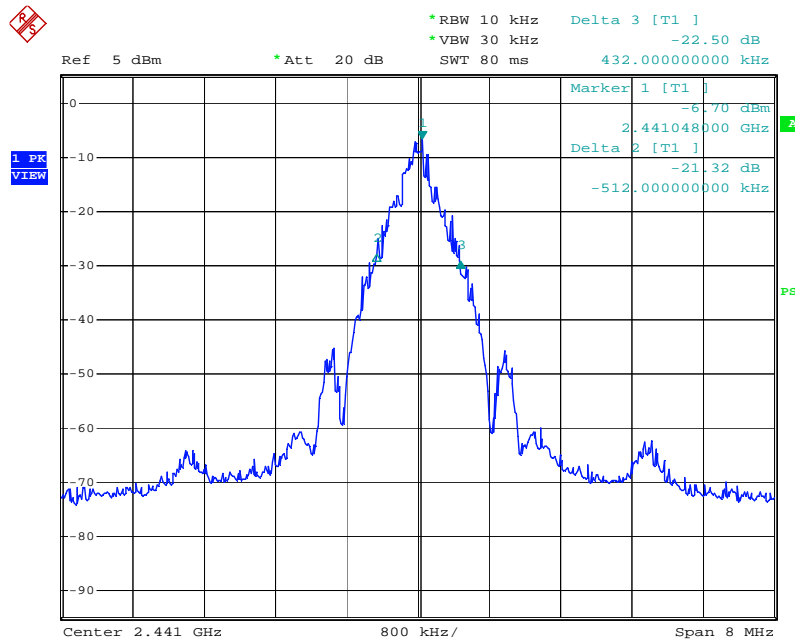
Test Plot of 20dB Bandwidth, GFSK modulation

Low Channel

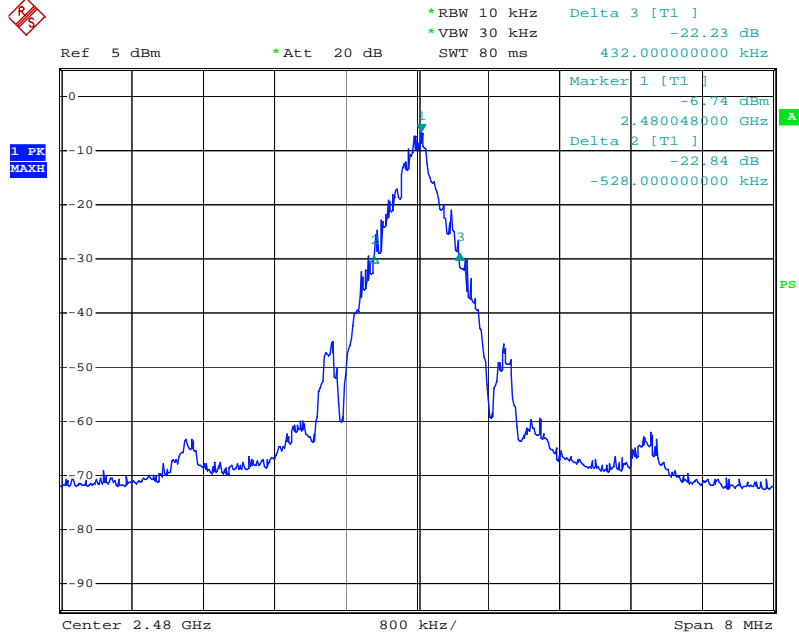


Date: 17.AUG.2010 16:55:56

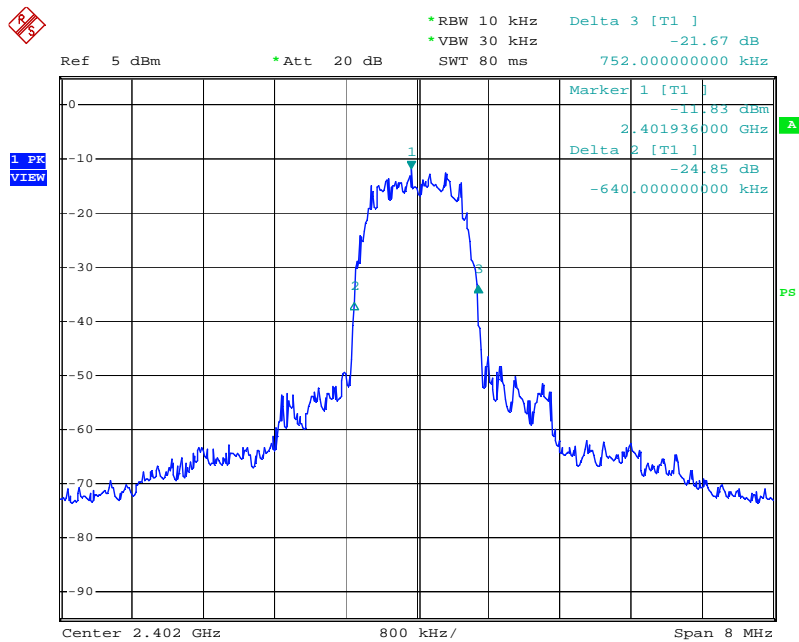
Middle Channel



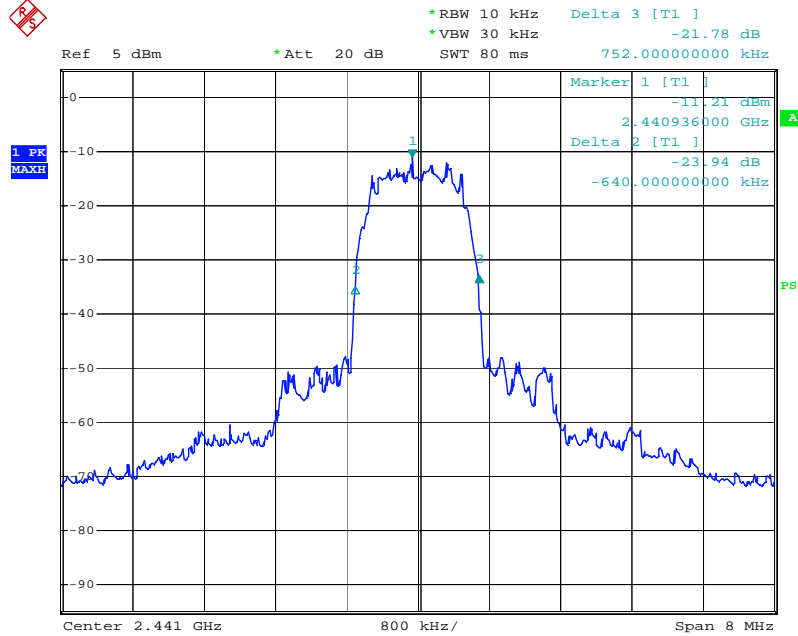
Date: 17.AUG.2010 16:54:19

High Channel


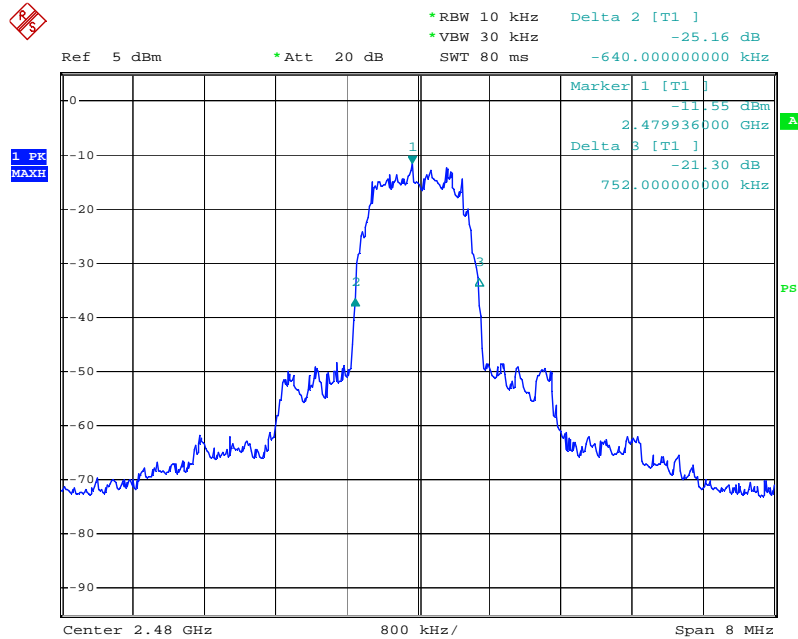
Date: 17.AUG.2010 16:44:31

Test Plot of 20dB Bandwidth, 8DPSK modulation
Low Channel


Date: 17.AUG.2010 16:58:09

Middle Channel


Date: 17.AUG.2010 16:52:40

High Channel


Date: 17.AUG.2010 16:46:36

5.1.4 99% Bandwidth

RESULT:
Passed

Date of testing : 2010-08-17
 Test standard : RSS-Gen clause 4.6.1
 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 9: Test result of 99% Bandwidth, GFSK modulation

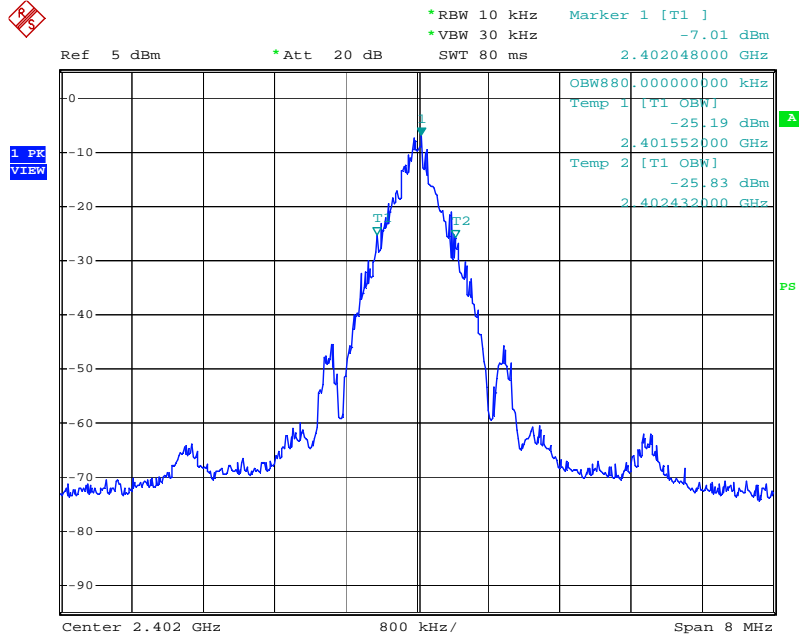
Channel	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	880	/	Pass
Mid Channel	2441	880	/	Pass
High Channel	2480	880	/	Pass

Table 10: Test result of 99% Bandwidth, 8DPSK modulation

Channel	Channel Frequency (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.216	/	Pass
Mid Channel	2441	1.216	/	Pass
High Channel	2480	1.216	/	Pass

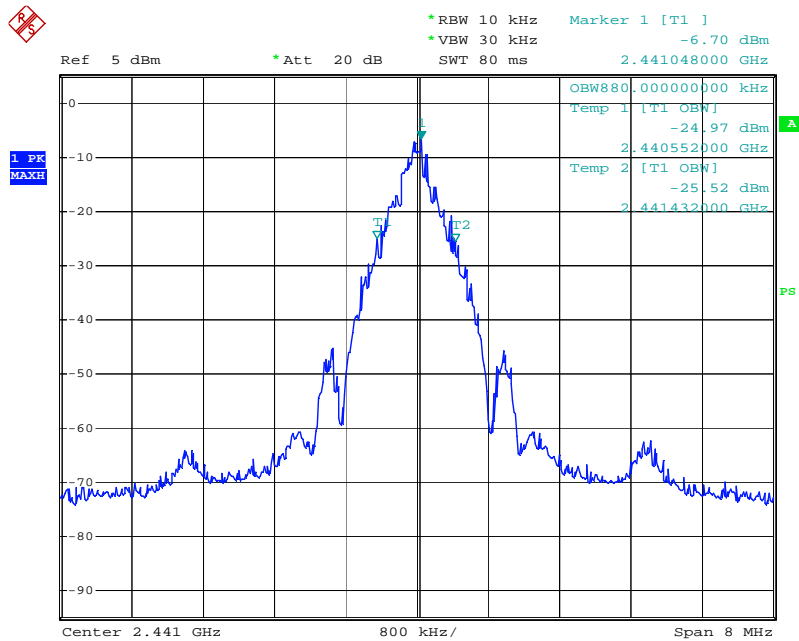
Test Plot of 99% Bandwidth, GFSK modulation

Low Channel

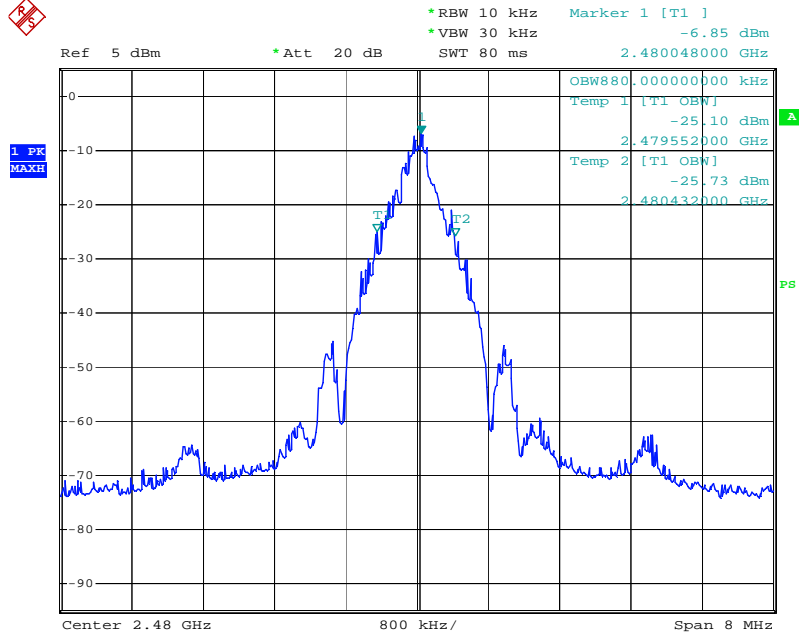


Date: 17.AUG.2010 16:56:14

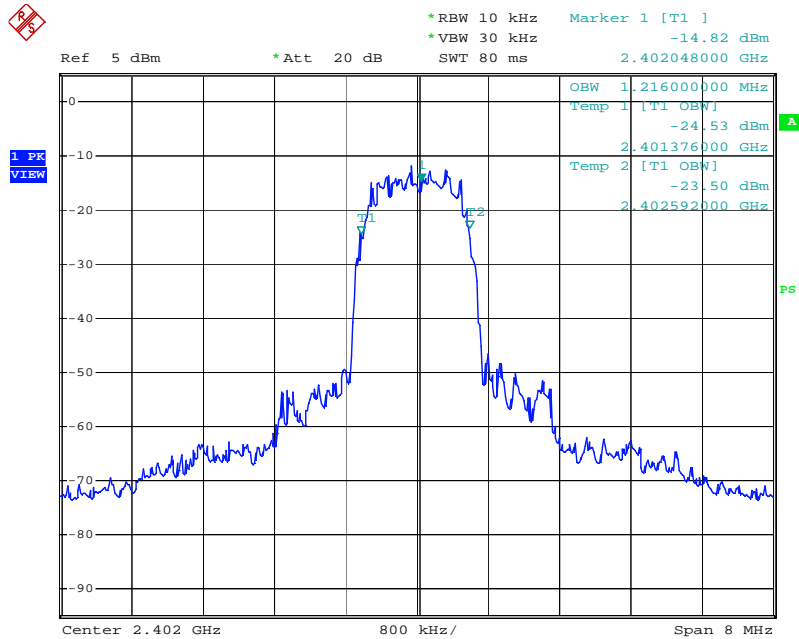
Middle Channel



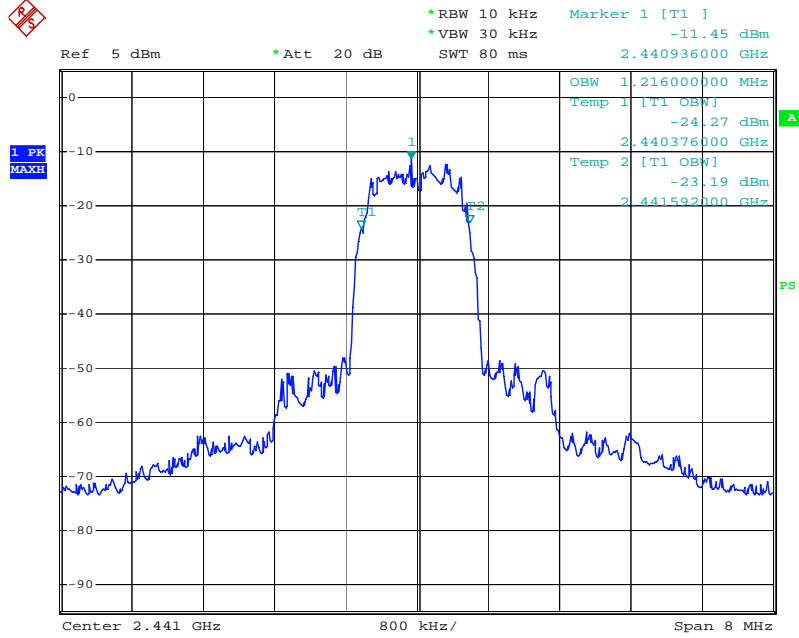
Date: 17.AUG.2010 16:53:38

High Channel


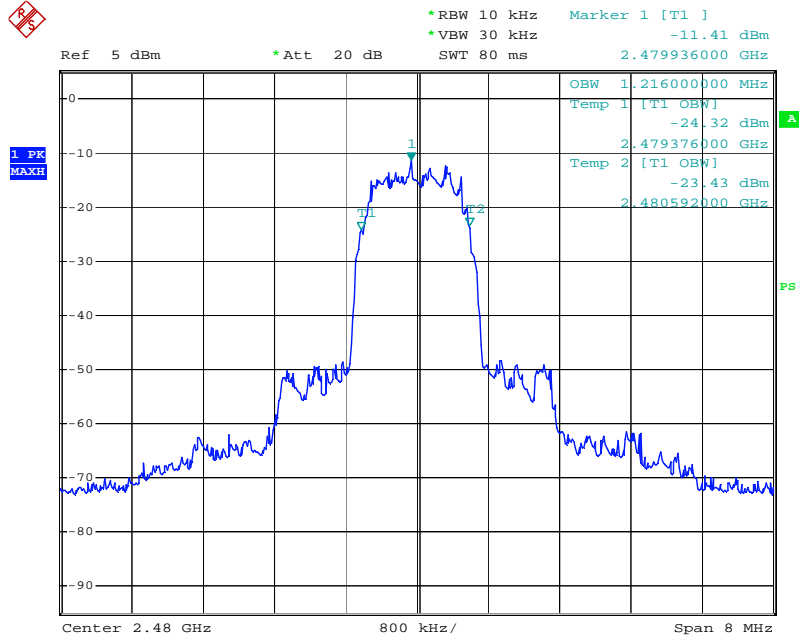
Date: 17.AUG.2010 16:44:59

Test Plot of 99% Bandwidth, 8DPSK modulation
Low Channel


Date: 17.AUG.2010 16:57:11

Middle Channel


Date: 17.AUG.2010 16:53:02

High Channel


Date: 17.AUG.2010 16:45:47

5.1.5 Conducted spurious emissions measured in 100kHz Bandwidth

RESULT:**Passed**

Date of testing : 2010-08-17
Test standard : FCC part 15.247(d)
RSS-210 A8.5
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

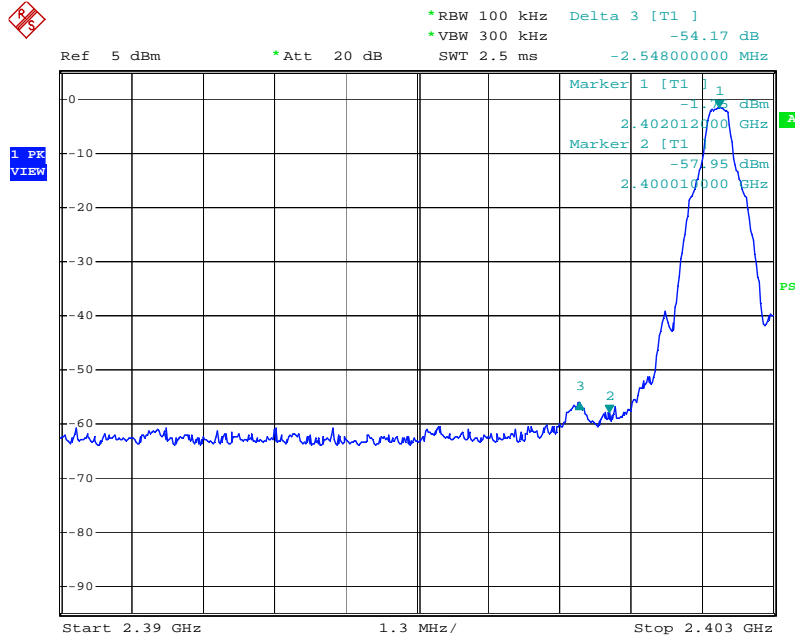
Test setup

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

All emissions are more than 40dB below fundamental, details refer to following test plot, and compliance is achieved as well.

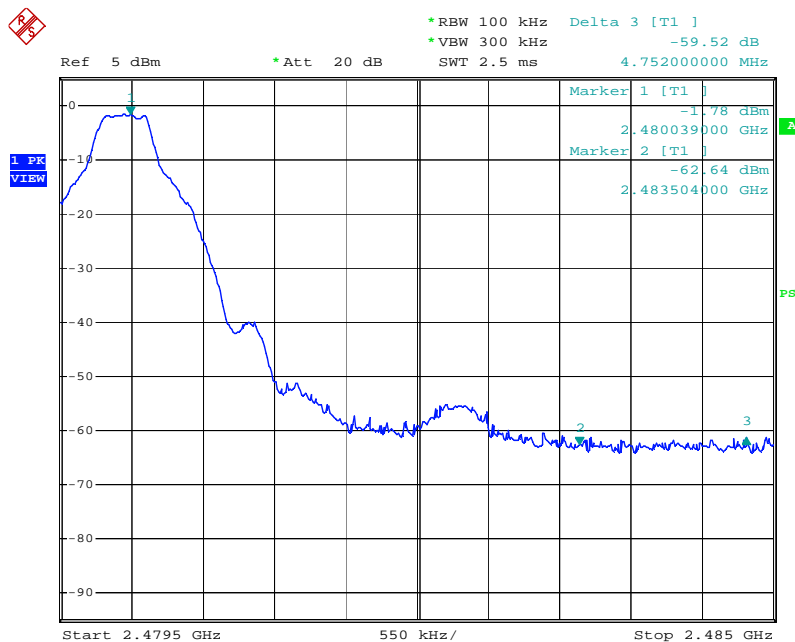
Test Plot of 100kHz Bandwidth of Frequency Band Edge, GFSK modulation

Low Channel



Date: 17.AUG.2010 16:59:54

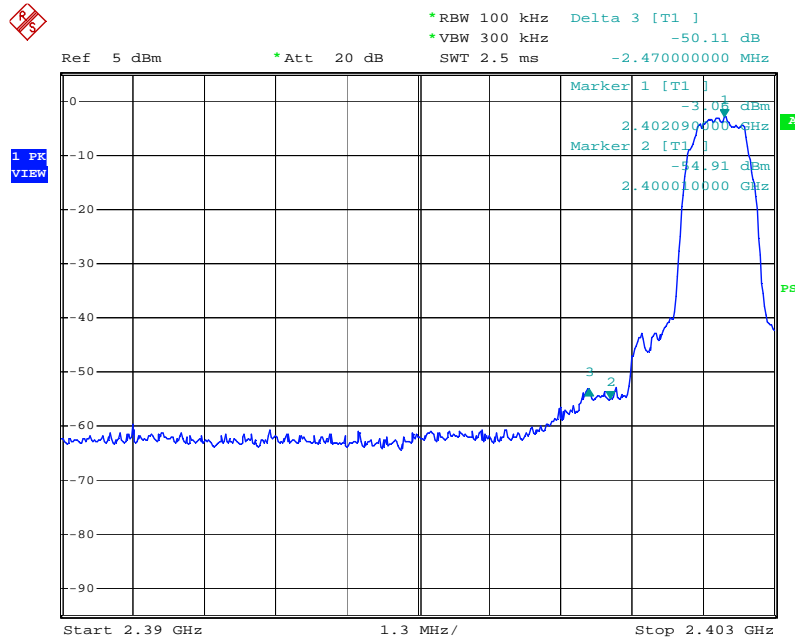
High Channel



Date: 17.AUG.2010 17:03:19

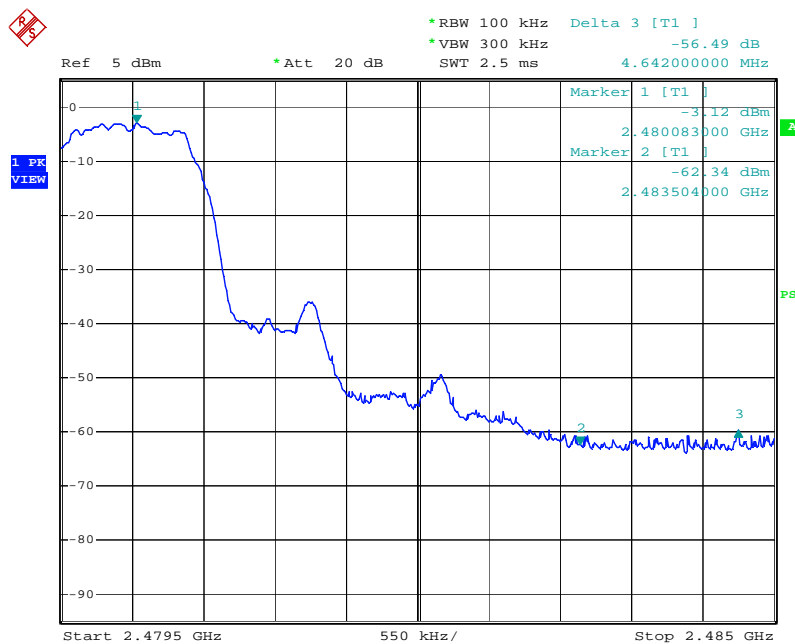
Test Plot of 100kHz Bandwidth of Frequency Band Edge, 8DPSK modulation

Low Channel



Date: 17.AUG.2010 17:01:22

High Channel



Date: 17.AUG.2010 17:04:13

5.1.6 Spurious Emission

RESULT:**Passed**

Date of testing	:	2010-08-20 to 2010-08-23
Test standard	:	FCC part 15.247(d) RSS-210 Clause 2.2
Basic standard	:	ANSI C63.4: 2003
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) Refer to RSS-210 Table 2
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 within frequency range 9kHz to the tenth harmonics. For details refer to Appendix 1. The worst case was found on 8DPSK modulation mode. The Radiated Emissions testing was performed in the X, Y and Z axis mode. The X Axis mode is the worst-case recorded in this test report.

5.1.7 Frequency Separation

RESULT:
Passed

Date of testing : 2010-08-17
 Test standard : FCC part 15.247(a)(1)
 : RSS-210 A8.1 (b)
 Basic standard : ANSI C63.4: 2003
 Limit : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater

Test setup

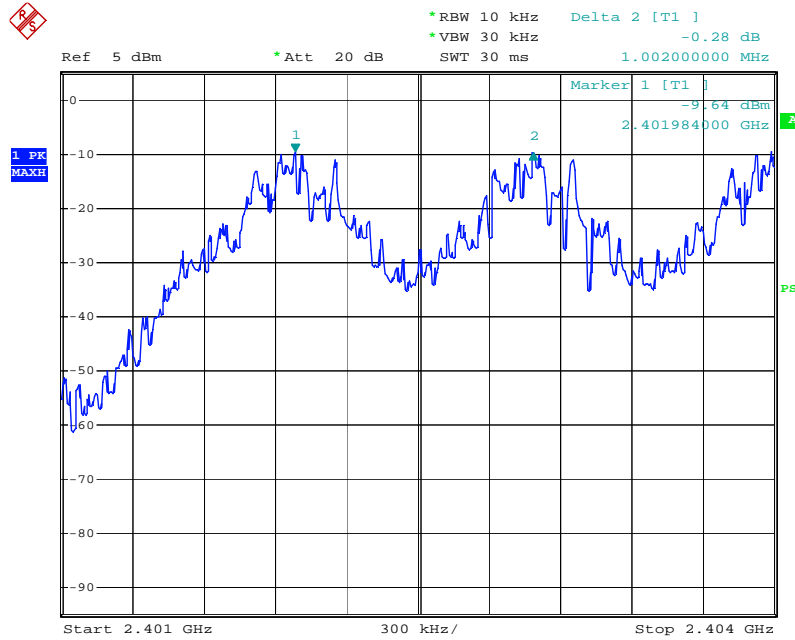
Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 11: 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			

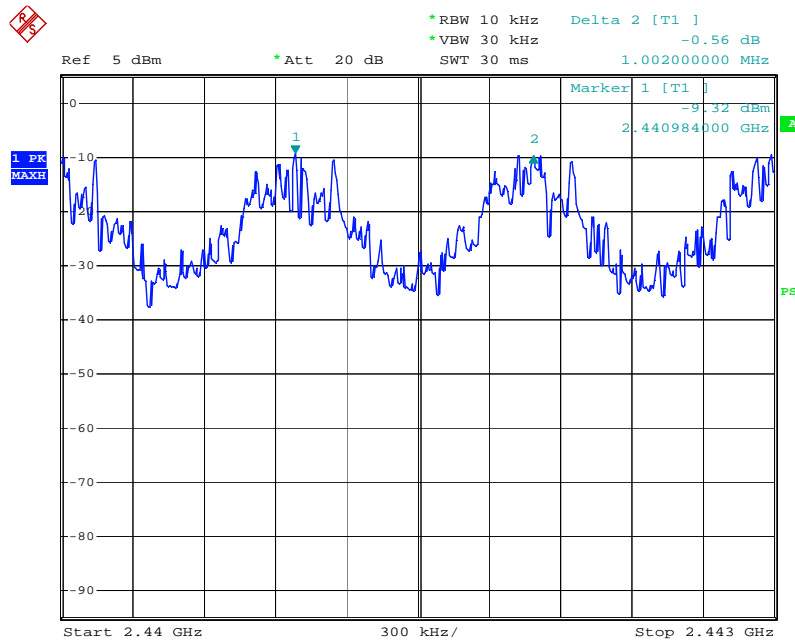
Test Plot of Frequency Separation

Low Channel

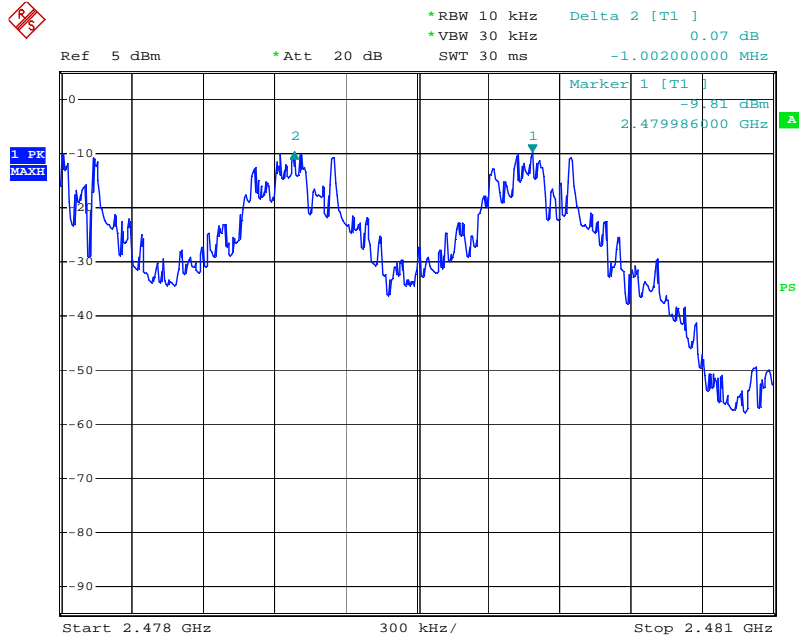


Date: 17.AUG.2010 17:11:02

Middle Channel



Date: 17.AUG.2010 17:13:24

High Channel


Date: 17.AUG.2010 17:15:41

5.1.8 Number of hopping frequency

RESULT:**Passed**

Date of testing	:	2010-08-17
Test standard	:	FCC part 15.247(a)(1)(iii) RSS-210 A8.1 (d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shield room

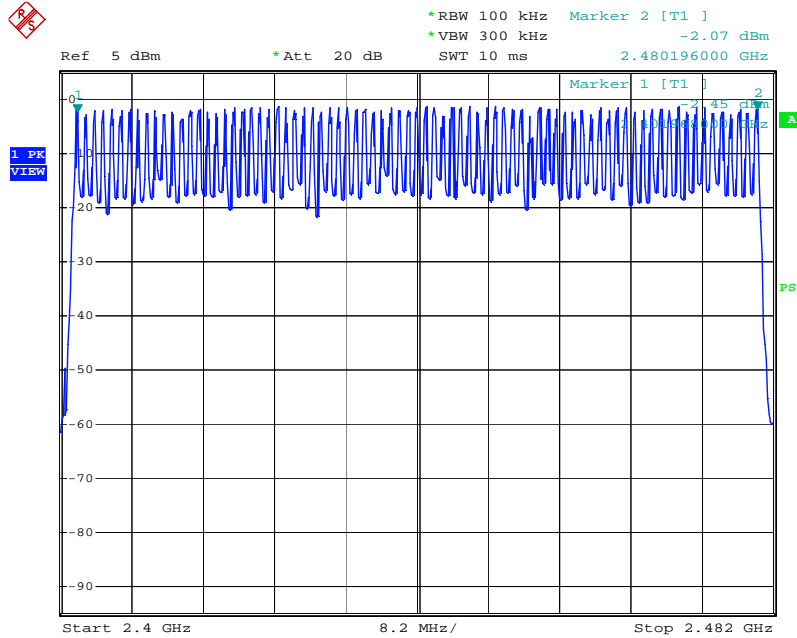
Test setup

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

Table 12: Test result of Number of hopping frequency

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

Test Plot of Number of hopping frequencies



Date: 17.AUG.2010 17:07:43

5.1.9 Time of Occupancy

RESULT:
Passed

Date of testing : 2010-08-17
 Test standard : FCC part 15.247(a)(1)(iii)
 : RSS-210 A8.1 (d)
 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 : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 13: Test result of Time of Occupancy

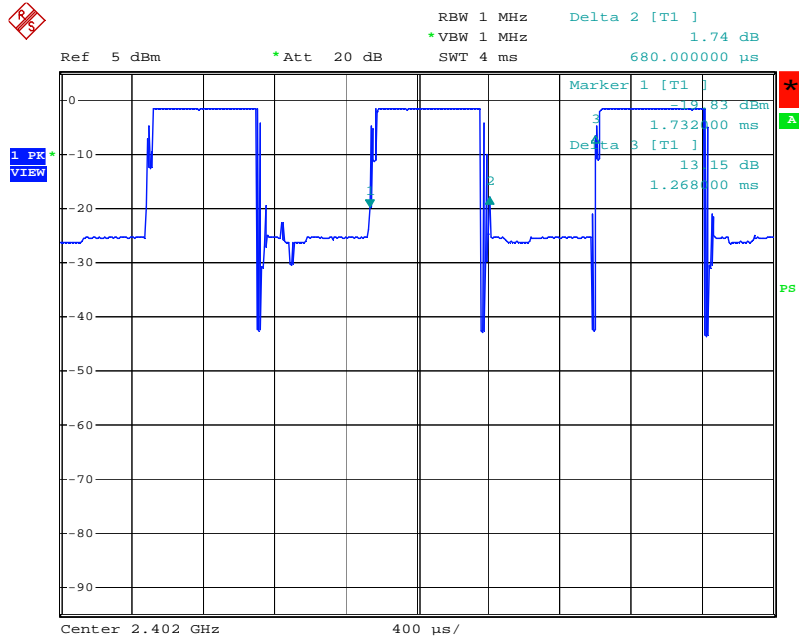
Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.680	0.218	0.4	Pass
	DH3	1.904	0.305	0.4	Pass
	DH5	3.144	0.335	0.4	Pass
Mid Channel	DH1	0.628	0.201	0.4	Pass
	DH3	1.870	0.300	0.4	Pass
	DH5	3.144	0.335	0.4	Pass
High Channel	DH1	0.628	0.201	0.4	Pass
	DH3	1.874	0.300	0.4	Pass
	DH5	3.134	0.334	0.4	Pass

Note:

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

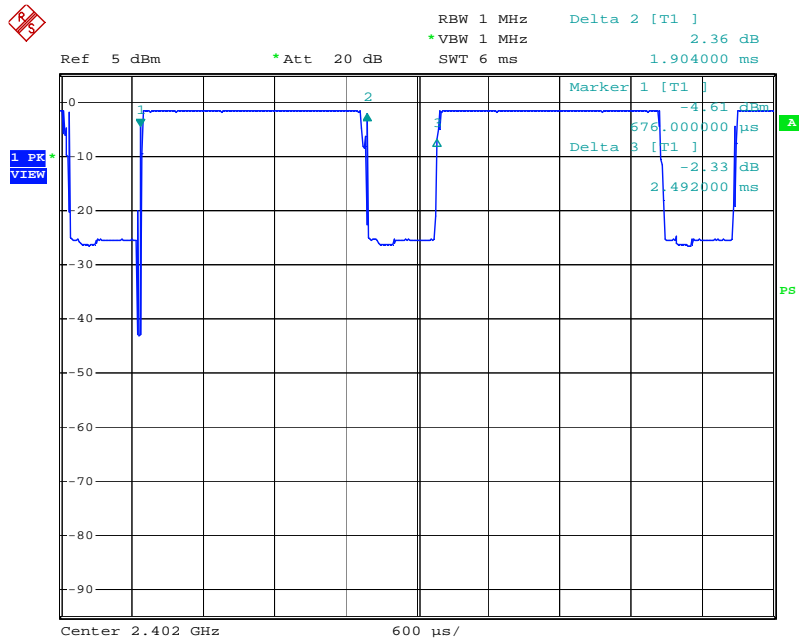
Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

Test Plot of Time of Occupancy Low Channel- DH1

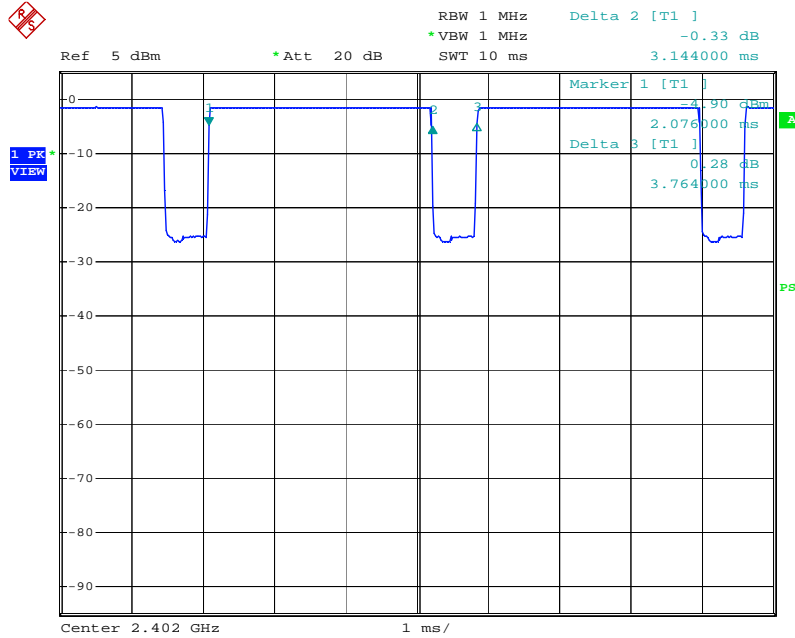


Date: 17.AUG.2010 17:20:34

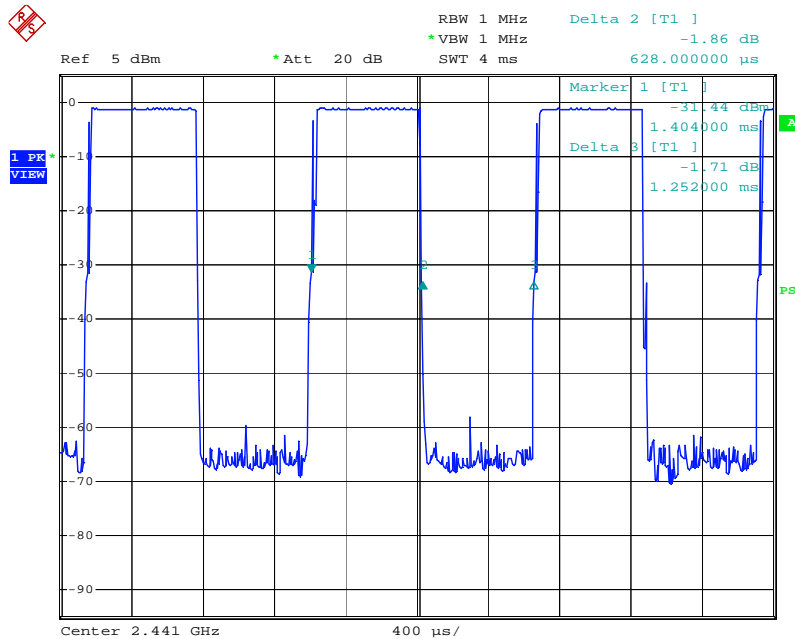
Low Channel- DH3



Date: 17.AUG.2010 17:22:35

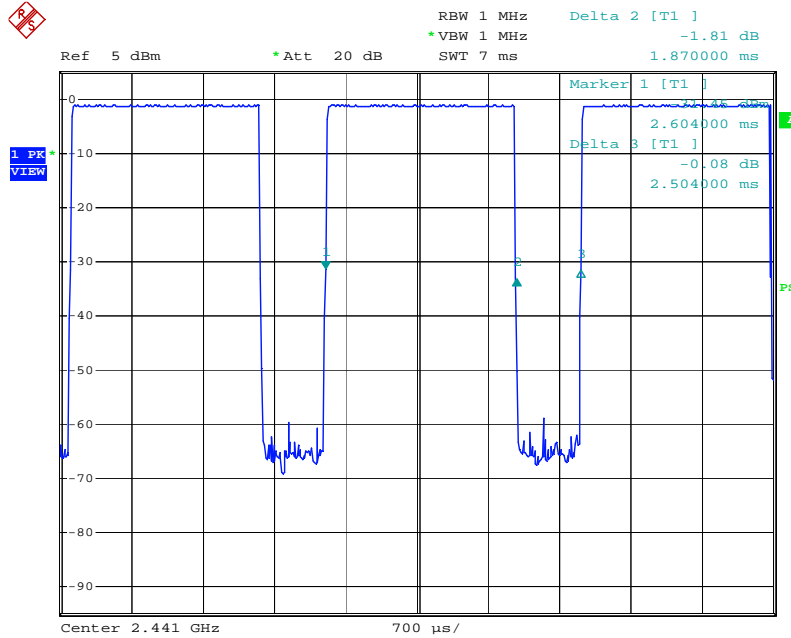
Low Channel- DH5


Date: 17.AUG.2010 17:23:31

Middle Channel- DH1


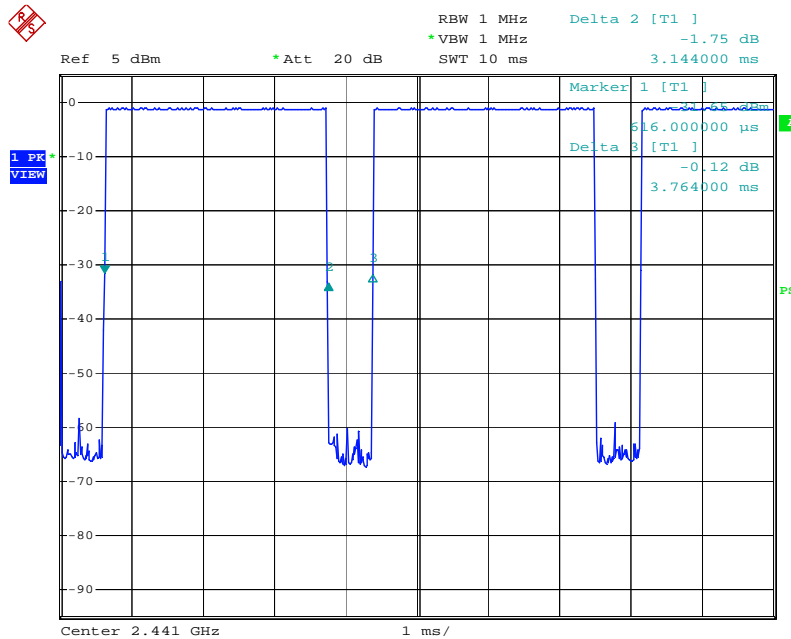
Date: 17.AUG.2010 17:26:27

Middle Channel- DH3



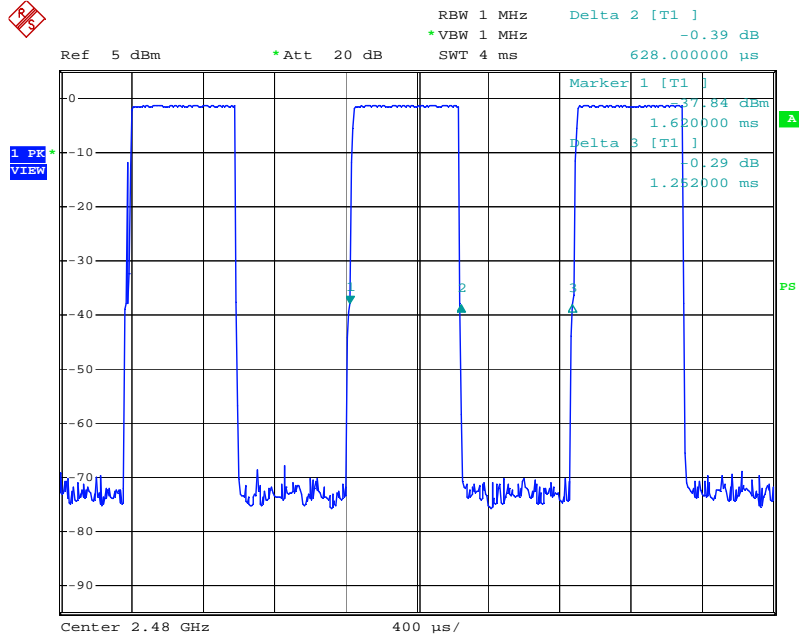
Date: 17.AUG.2010 17:25:34

Middle Channel- DH5



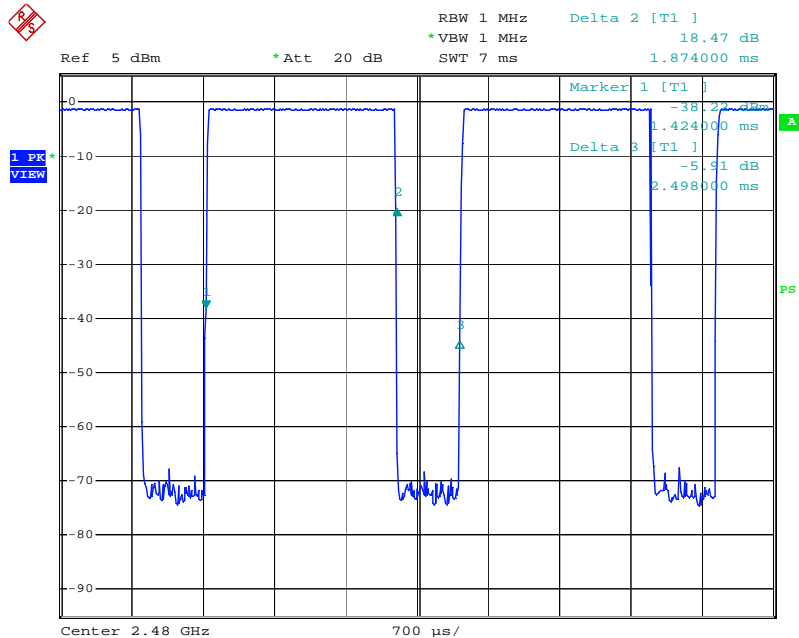
Date: 17.AUG.2010 17:24:44

High Channel- DH1



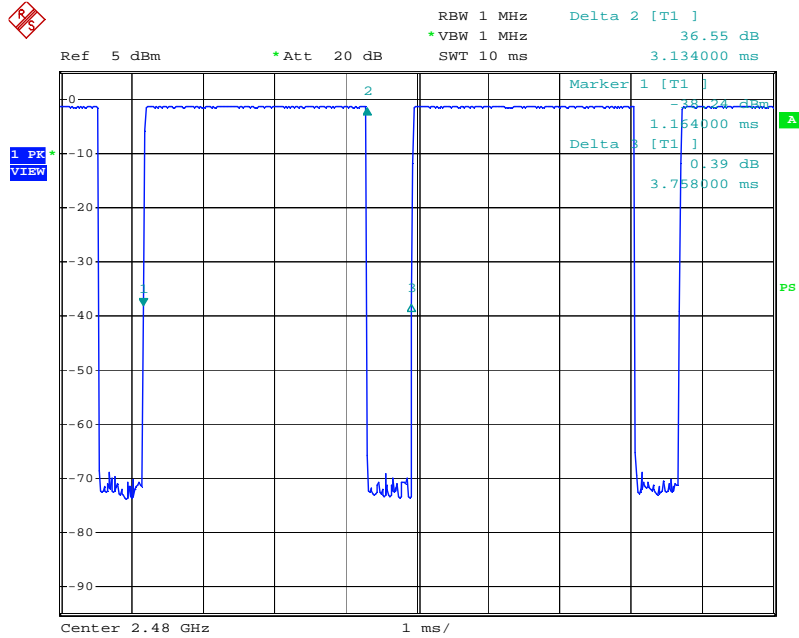
Date: 17.AUG.2010 17:27:25

High Channel- DH3



Date: 17.AUG.2010 17:28:15

High Channel- DH5



Date: 17.AUG.2010 17:29:07

5.1.10 Radiated emissions

RESULT:**Passed**

Date of testing : 2010-08-21
Test standard : FCC Part 15.109
FCC Part 15.205
RSS-210 Clause 2.6
Basic standard : ANSI C63.4: 2003
FCC Part 15.109(a)
RSS-210 Table 2
Kind of test site : 3m Semi-Anechoic Chamber

Test Setup

Test Channel : Low/ High
Input Voltage : DC 12V
(to car charger)
Operation Mode : D
Earthing : Not connected
Ambient temperature : 23°C
Relative humidity : 50%
Atmospheric pressure : 101 kPa

For details refer to Appendix 1. 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.

6. Safety Human exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:**Passed**

Test standard : RSS-102 Issue 4
FCC KDB Publication 447498

The maximum peak output power of the transmitter is 0.0012mW (0.62dBm) only, which less than 20mW. Hence the EUT is exempted from routine evaluation limits (SAR Evaluation) according to clause 2.5.1 of RSS-102 Issue 4.

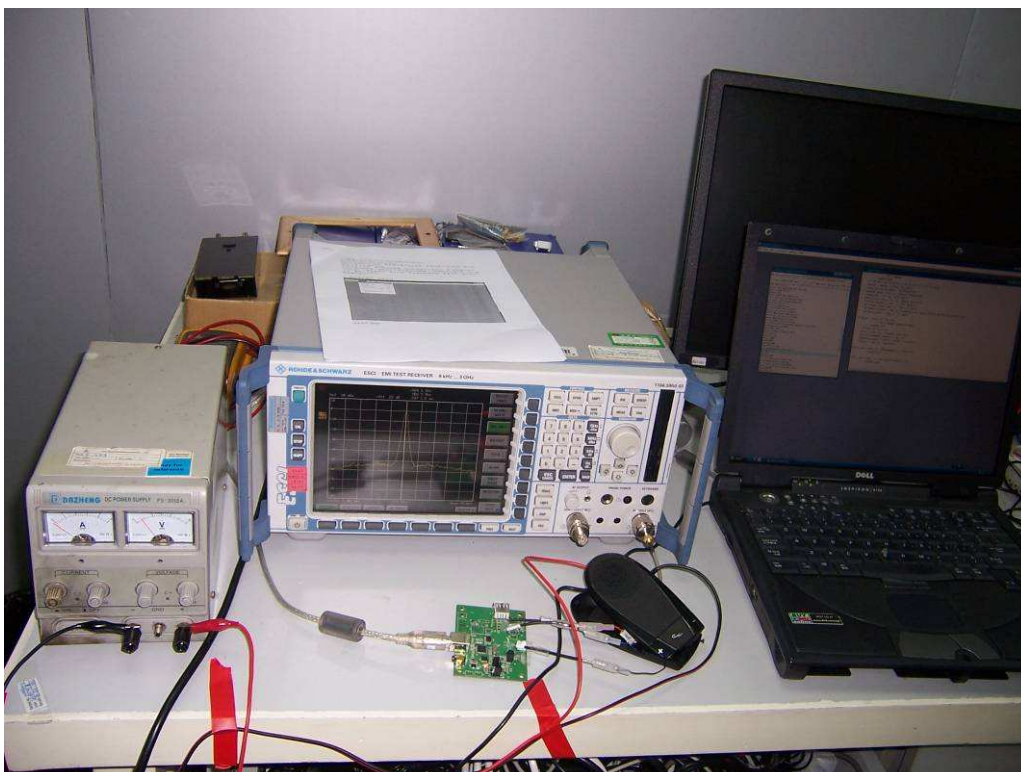
Since maximum peak output power of the transmitter is $<60/f(\text{GHz})\text{mW}$, i.e. $0.0012\text{mW} < 25(=60/2.4)\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

7. Photographs of the Test Set-Up

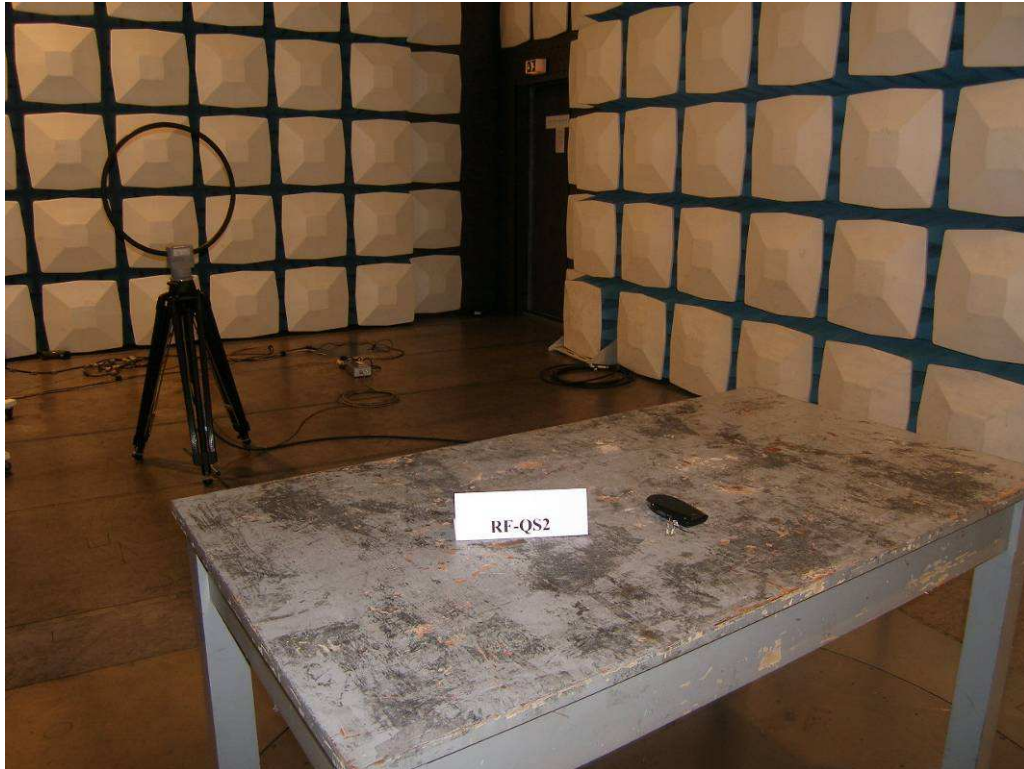
Photograph 1: Set-up for Radiated Emissions



Photograph 2: Set-up for Transmitter test



Photograph 3: Set-up for Spurious Emissions (9kHz-30MHz)



Photograph 4: Set-up for Spurious Emissions (30MHz-1GHz)



Photograph 5: Set-up for Spurious Emissions (1GHz-18GHz)



Photograph 6: Set-up for Spurious Emissions (18GHz-26GHz)



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Test Plot of Spurious emission of A.1 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

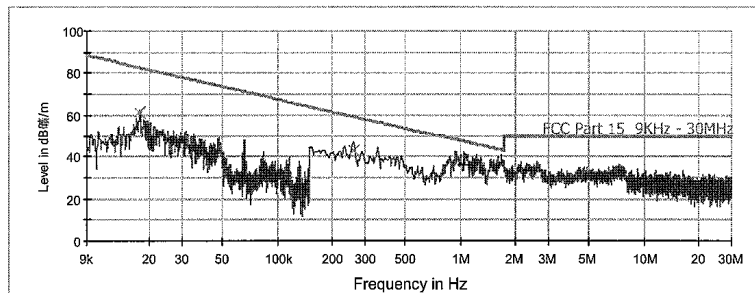
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Horizontal, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
1.042000	36.3	---	20.3	H
0.017560	---	61.1	20.7	H
0.258000	---	42.7	20.9	H

Date: 20/08/2010 - Time: 21:12:45

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

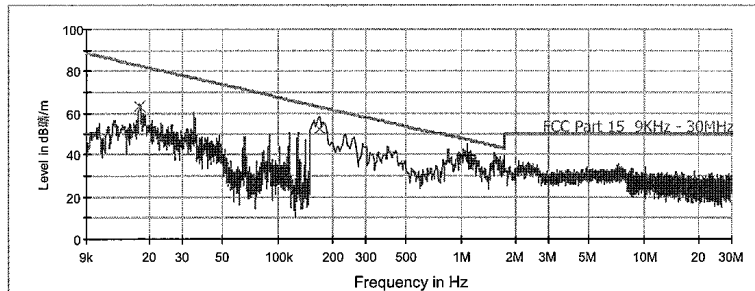
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
1.074000	39.2	---	20.3	V
0.017480	---	63.5	20.7	V
0.170000	---	52.5	20.7	V

Date: 20/08/2010 - Time: 21:16:07

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

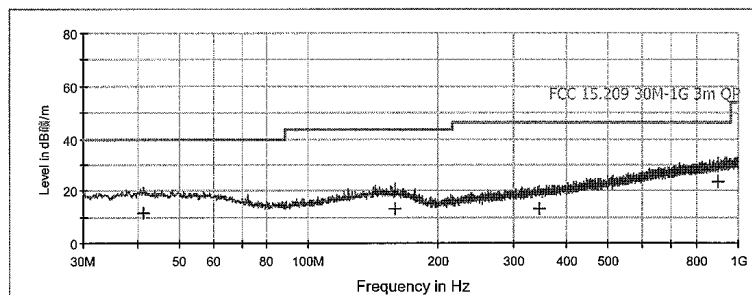
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
41.500000	11.4	14.7	28.6	40.0	H
159.500000	12.8	15.6	30.7	43.5	H
346.000000	13.3	16.2	32.7	46.0	H
898.300000	23.3	25.7	22.7	46.0	H

Date: 23/08/2010 - Time: 21:54:41

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

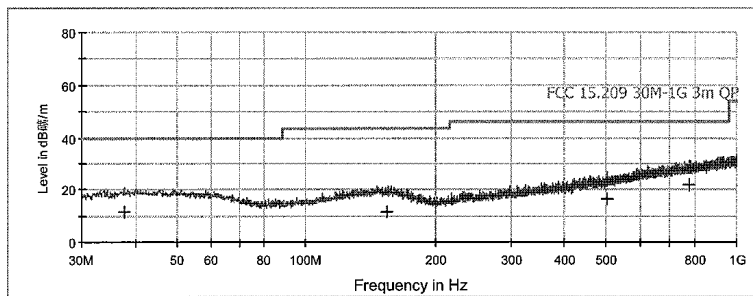
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
37.650000	11.2	14.4	28.8	40.0	V
155.000000	11.5	15.7	32.0	43.5	V
501.200000	16.1	19.4	29.9	46.0	V
777.500000	21.9	24.3	24.1	46.0	V

Date: 23/08/2010 - Time: 21:58:54

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

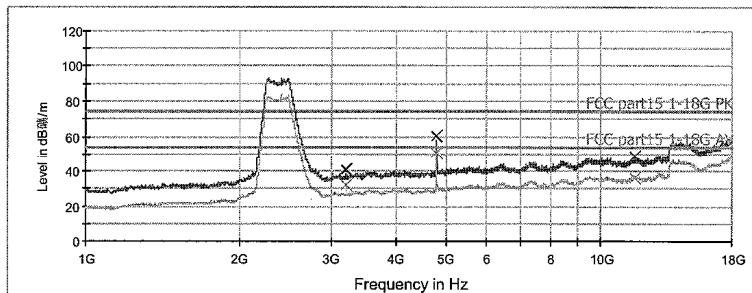
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 1GHz – 18GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3202.000000	40.8	-9.2	33.2	74.0	H
4804.000000	60.5	-5.5	13.5	74.0	H
11651.000000	48.9	5.0	25.1	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3202.000000	31.5	-9.2	22.5	54.0	H
4804.000000	50.8	-5.5	3.2	54.0	H
11651.000000	36.1	5.0	17.9	54.0	H

Date: 20/08/2010 - Time: 23:26:45

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

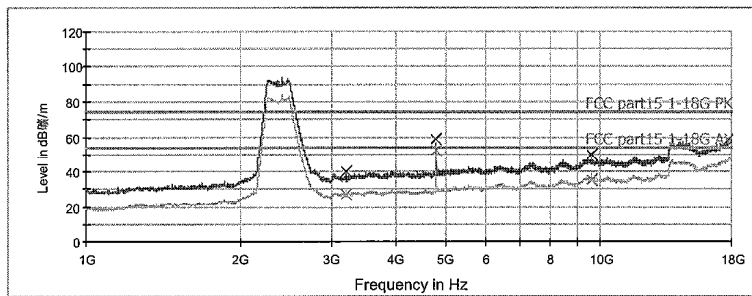
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1
 Frequency Range: 1GHz – 18GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3202.000000	40.2	-9.2	33.8	74.0	V
4804.000000	59.0	-5.5	15.0	74.0	V
9608.000000	50.2	4.8	23.8	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3202.000000	27.2	-9.2	26.8	54.0	V
4804.000000	52.5	-5.5	1.5	54.0	V
9608.000000	35.4	4.8	18.6	54.0	V

Date: 20/08/2010 - Time: 23:33:03

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

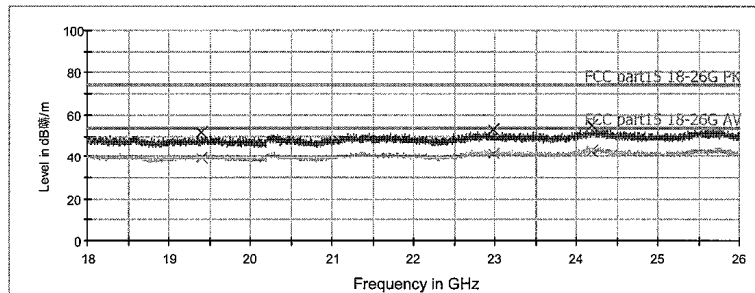
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19400.000000	51.5	5.4	22.5	74.0	H
22991.000000	53.0	6.5	21.0	74.0	H
24190.000000	55.1	6.9	18.9	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19400.000000	39.7	5.4	14.3	54.0	H
22991.000000	41.6	6.5	12.4	54.0	H
24190.000000	43.1	6.9	10.9	54.0	H

Date: 21/08/2010 - Time: 21:39:51

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.1 – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

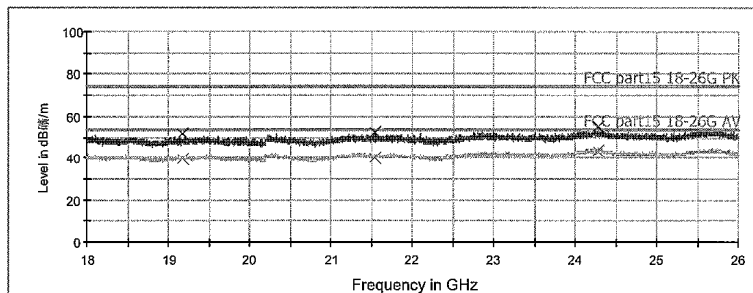
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1
 Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19176.000000	51.6	5.2	22.4	74.0	V
21543.000000	52.2	6.0	21.8	74.0	V
24274.000000	55.2	6.9	18.8	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19176.000000	39.5	5.2	14.5	54.0	V
21543.000000	40.4	6.0	13.6	54.0	V
24274.000000	43.3	6.9	10.7	54.0	V

Date: 21/08/2010 - Time: 21:43:31

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

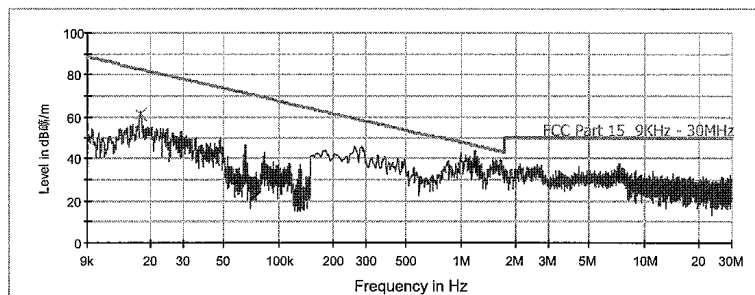
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Horizontal, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
7.298000	31.2	---	21.9	H
1.190000	36.4	---	20.3	H
0.017480	---	61.0	20.7	H

Date: 20/08/2010 - Time: 21:09:32

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

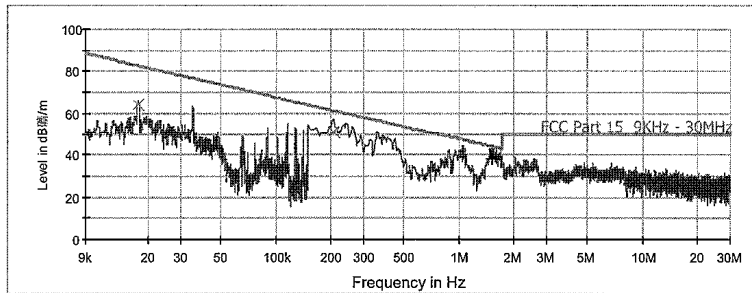
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
1.526000	38.4	---	20.2	V
0.017560	---	63.7	20.7	V
0.206000	---	51.2	20.8	V

Date: 20/08/2010 - Time: 21:04:43

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

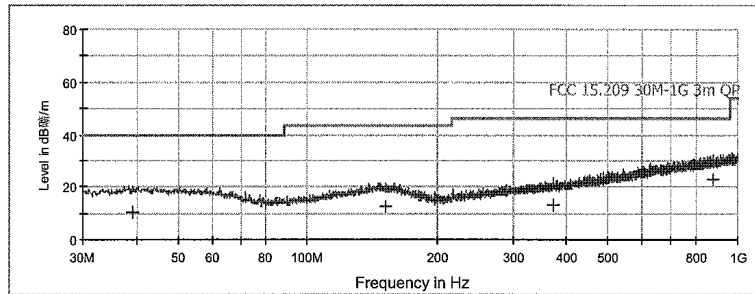
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq.:	DC 5V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Horizontal, EDR

Subrange 1	
Frequency Range:	30M-1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
39.350000	10.1	14.7	29.9	40.0	H
152.400000	12.3	15.7	31.2	43.5	H
372.600000	13.3	16.7	32.7	46.0	H
878.750000	23.1	25.4	22.9	46.0	H

Date: 23/08/2010 - Time: 21:51:09

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

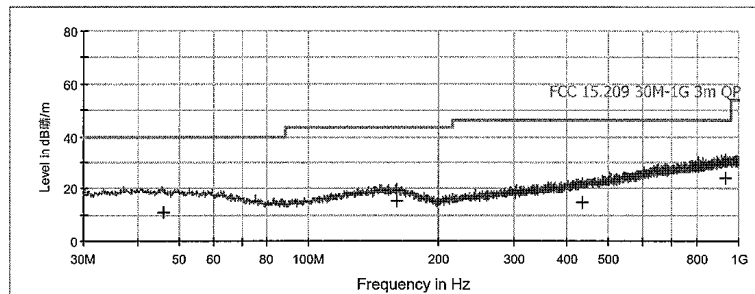
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1	
Frequency Range:	30M-1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
45.900000	11.1	14.4	28.9	40.0	V
160.000000	15.2	15.6	28.3	43.5	V
434.500000	14.8	18.4	31.2	46.0	V
932.700000	23.8	26.3	22.2	46.0	V

Date: 23/08/2010 - Time: 21:47:09

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 –Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

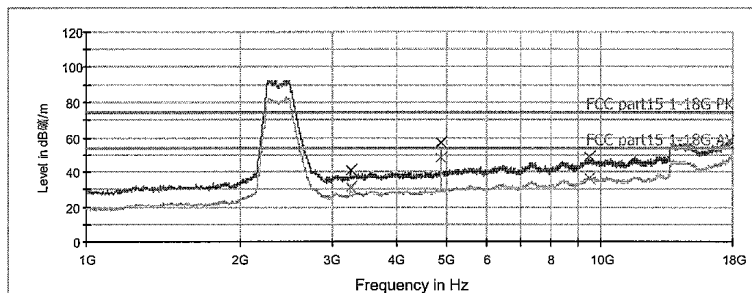
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Horizontal, EDR

Subrange 1

Frequency Range:	1GHz – 18GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3255.000000	41.2	-8.4	32.8	74.0	H
4882.000000	56.9	-5.6	17.1	74.0	H
9506.000000	49.0	4.9	25.0	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3255.000000	30.7	-8.4	23.3	54.0	H
4882.000000	48.2	-5.6	5.8	54.0	H
9506.000000	35.7	4.9	18.3	54.0	H

Date: 21/08/2010 - Time: 15:38:33

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 –Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

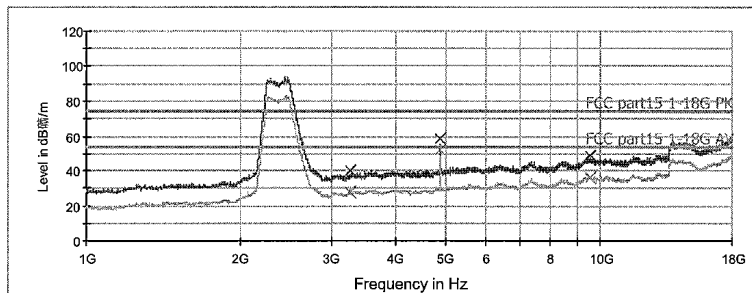
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1

Frequency Range:	1GHz – 18GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3255.000000	39.9	-8.4	34.1	74.0	V
4882.000000	58.7	-5.6	15.3	74.0	V
9540.000000	49.1	5.3	24.9	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3255.000000	27.4	-8.4	26.6	54.0	V
4882.000000	52.5	-5.6	1.5	54.0	V
9540.000000	35.8	5.3	18.2	54.0	V

Date: 21/08/2010 - Time: 15:42:58

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

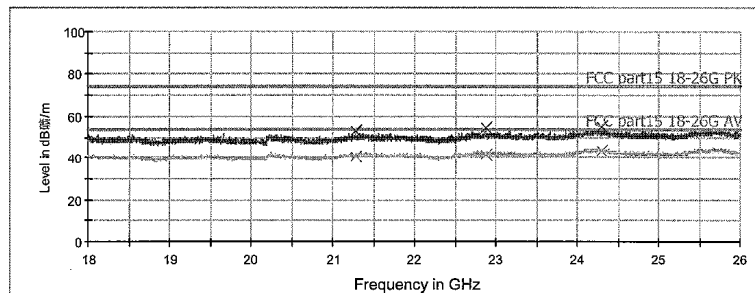
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
21281.000000	53.2	5.9	20.8	74.0	H
22875.000000	54.2	6.4	19.8	74.0	H
24297.000000	55.2	6.9	18.8	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
21281.000000	41.1	5.9	12.9	54.0	H
22875.000000	41.7	6.4	12.3	54.0	H
24297.000000	43.3	6.9	10.7	54.0	H

Date: 21/08/2010 - Time: 21:34:36

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.2 – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

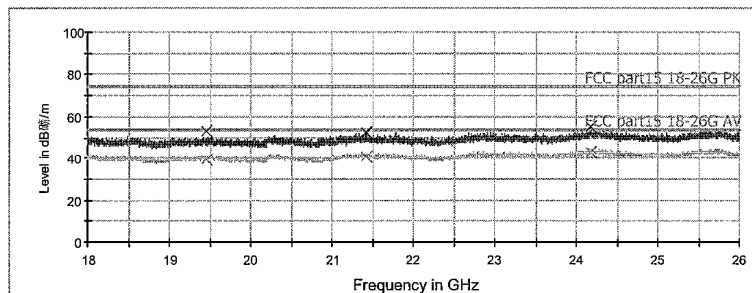
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19462.000000	52.7	5.4	21.3	74.0	V
21429.000000	52.7	5.9	21.3	74.0	V
24178.000000	55.4	6.9	18.6	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19462.000000	39.8	5.4	14.2	54.0	V
21429.000000	41.0	5.9	13.0	54.0	V
24178.000000	43.1	6.9	10.9	54.0	V

Date: 21/08/2010 - Time: 21:31:03

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

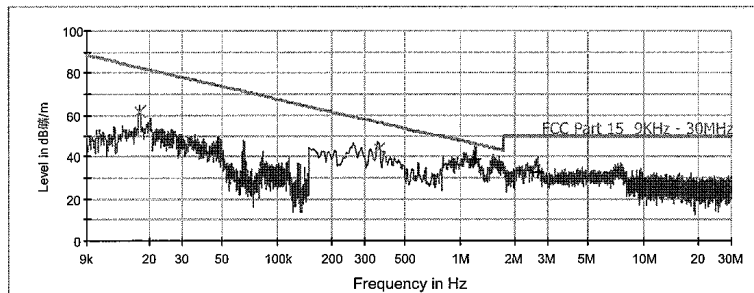
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
2.642000	32.6	---	20.3	H
1.206000	38.7	---	20.3	H
0.017560	---	61.9	20.7	H
0.358000	---	43.2	20.8	H

Date: 20/08/2010 - Time: 20:51:26

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

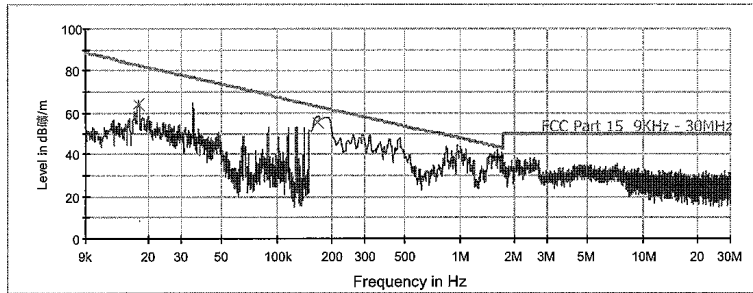
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
1.594000	39.0	---	20.2	V
0.017560	---	64.2	20.7	V
0.166000	---	55.7	20.7	V

Date: 20/08/2010 - Time: 21:00:08

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

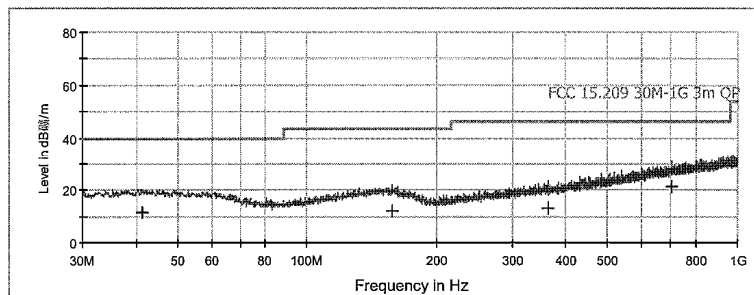
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
41.500000	11.4	14.7	28.6	40.0	H
157.900000	12.0	15.6	31.5	43.5	H
363.100000	13.1	16.5	32.9	46.0	H
702.450000	21.0	23.1	25.0	46.0	H

Date: 23/08/2010 - Time: 21:39:22

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

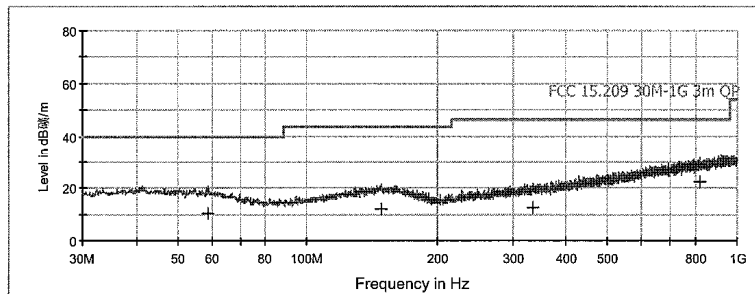
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1	
Frequency Range:	30M-1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
59.000000	10.3	13.8	29.7	40.0	V
148.450000	11.8	15.6	31.7	43.5	V
335.800000	12.6	16.0	33.4	46.0	V
821.400000	22.4	24.7	23.6	46.0	V

Date: 23/08/2010 - Time: 21:43:37

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

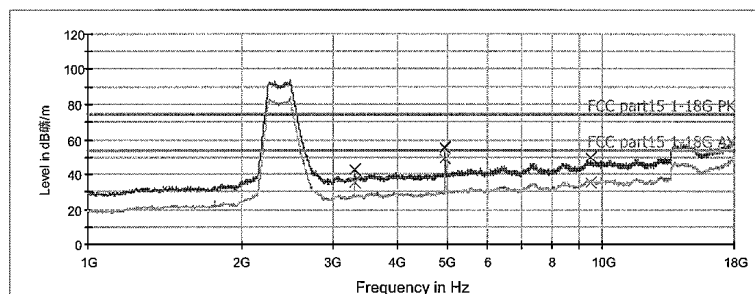
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Horizontal, EDR

Subrange 1

Frequency Range:	1GHz – 18GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3306.000000	42.6	-8.0	31.4	74.0	H
4960.000000	55.8	-5.8	16.2	74.0	H
9470.000000	49.5	4.8	24.5	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3306.000000	35.1	-8.0	18.9	54.0	H
4960.000000	49.2	-5.8	4.8	54.0	H
9470.000000	35.5	4.8	18.5	54.0	H

Date: 21/08/2010 - Time: 15:58:12

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

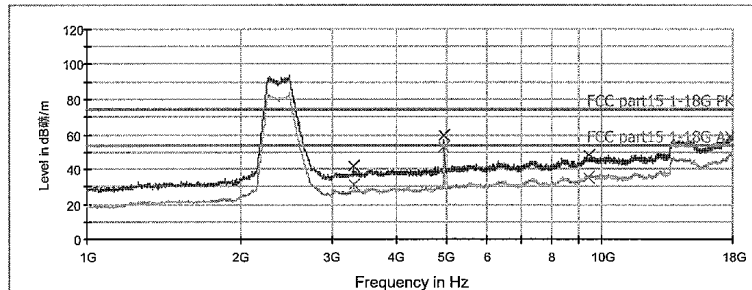
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1

Frequency Range: 1GHz – 18GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3306.000000	41.3	-8.0	32.7	74.0	V
4960.000000	59.4	-5.8	14.6	74.0	V
9462.000000	48.1	4.8	25.9	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3306.000000	30.7	-8.0	23.3	54.0	V
4960.000000	53.4	-5.8	0.6	54.0	V
9462.000000	35.5	4.8	18.5	54.0	V

Date: 21/08/2010 - Time: 15:52:12

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

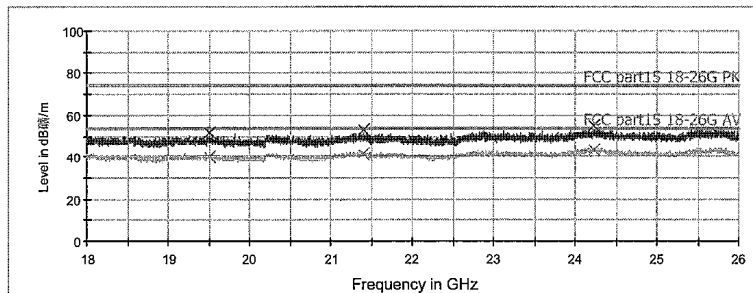
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19503.000000	51.9	5.4	22.1	74.0	H
21398.000000	52.9	5.9	21.1	74.0	H
24234.000000	55.2	6.9	18.8	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19503.000000	40.0	5.4	14.0	54.0	H
21398.000000	41.3	5.9	12.7	54.0	H
24234.000000	43.4	6.9	10.6	54.0	H

Date: 21/08/2010 - Time: 21:21:41

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of A.3 – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

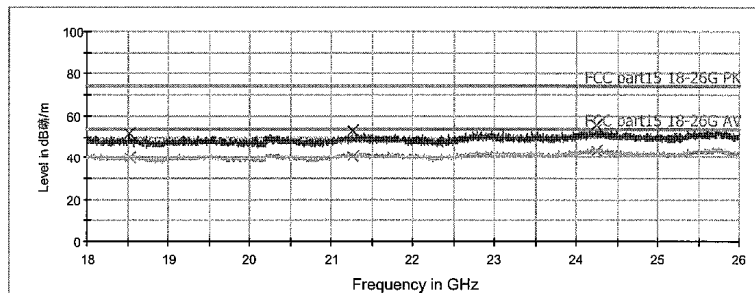
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
18524.000000	52.0	5.0	22.0	74.0	V
21255.000000	53.3	5.9	20.7	74.0	V
24250.000000	55.5	6.9	18.5	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
18524.000000	40.1	5.0	13.9	54.0	V
21255.000000	40.8	5.9	13.2	54.0	V
24250.000000	43.3	6.9	10.7	54.0	V

Date: 21/08/2010 - Time: 21:26:51

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

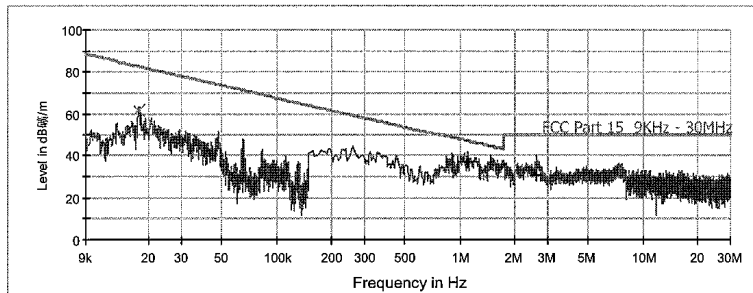
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC
 Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
2.586000	30.9	---	20.3	H
0.017560	---	61.9	20.7	H
1.102000	37.0	---	20.3	H

Date: 20/08/2010 - Time: 20:47:14

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

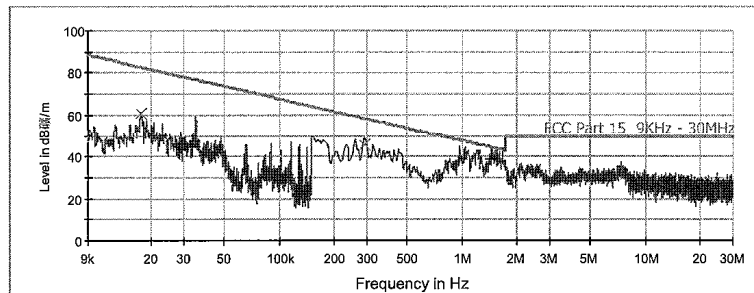
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Rx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1

Frequency Range:	9kHz - 30MHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3 -TUV SAC Active Loop Antenna HFH2-Z2

Pre TUV 9K to 30M HFH2-Z2



Result Table_Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
1.438000	38.8	---	20.2	V
0.017560	---	60.4	20.7	V
0.290000	---	45.8	20.9	V

Date: 20/08/2010 - Time: 20:40:16

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

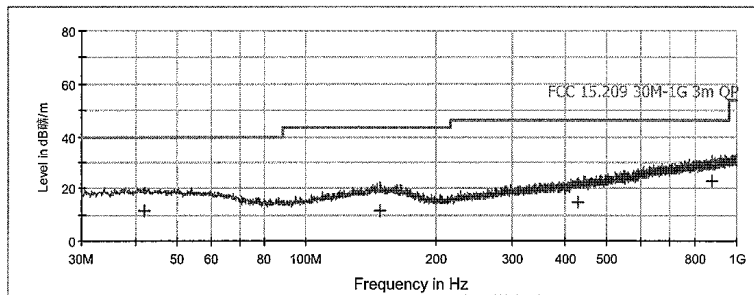
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
41.900000	11.3	14.7	28.7	40.0	H
148.900000	11.7	15.6	31.8	43.5	H
427.200000	14.7	18.2	31.3	46.0	H
874.600000	23.1	25.3	22.9	46.0	H

Date: 23/08/2010 - Time: 21:27:19

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

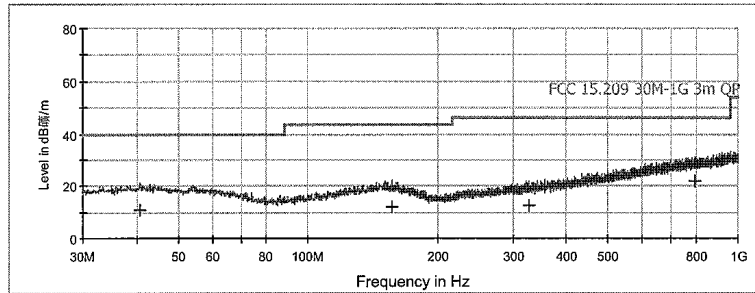
EMC Test Record (EMISSION)

Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	Rx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Vertical, EDR

Subrange 1	
Frequency Range:	30M-1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168/ TUV ESCI3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
40.800000	11.1	14.7	28.9	40.0	V
157.200000	12.2	15.6	31.3	43.5	V
326.200000	12.3	15.8	33.7	46.0	V
793.050000	22.0	24.4	24.0	46.0	V

Date: 23/08/2010 - Time: 21:23:18

Tested by: _____ Reviewed by: _____

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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

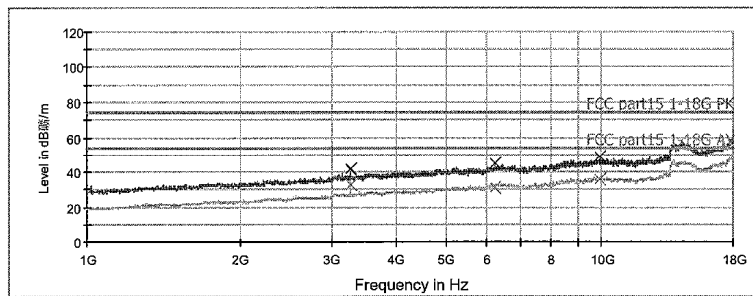
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 1GHz – 18GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3257.000000	42.0	-9.0	32.0	74.0	H
6217.000000	44.7	-3.1	29.3	74.0	H
9929.000000	48.6	5.0	25.4	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3257.000000	32.8	-9.0	21.2	54.0	H
6217.000000	31.3	-3.1	22.7	54.0	H
9929.000000	35.7	5.0	18.3	54.0	H

Date: 21/08/2010 - Time: 20:14:56

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

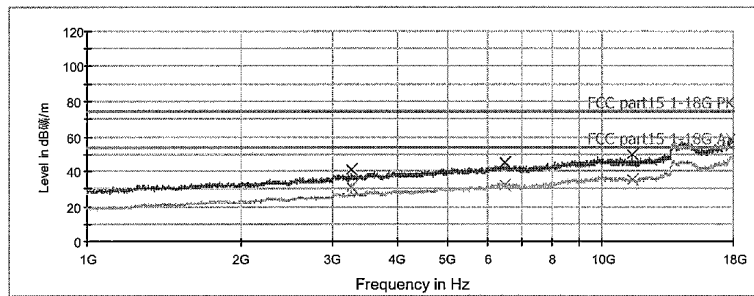
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1

Frequency Range: 1GHz – 18GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3257.000000	40.7	-9.0	33.3	74.0	V
6461.000000	45.0	-2.2	29.0	74.0	V
11408.000000	49.6	5.1	24.4	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
3257.000000	30.7	-9.0	23.3	54.0	V
6461.000000	31.9	-2.2	22.1	54.0	V
11408.000000	34.8	5.1	19.2	54.0	V

Date: 21/08/2010 - Time: 20:19:29

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

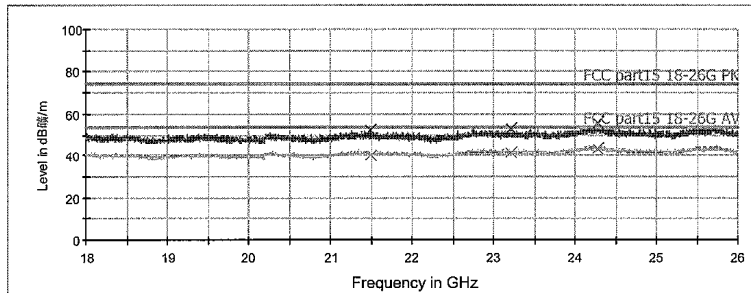
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Horizontal, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
21488.000000	52.5	5.9	21.5	74.0	H
23206.000000	53.1	6.6	20.9	74.0	H
24281.000000	55.8	6.9	18.2	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
21488.000000	40.4	5.9	13.6	54.0	H
23206.000000	41.2	6.6	12.8	54.0	H
24281.000000	43.3	6.9	10.7	54.0	H

Date: 21/08/2010 - Time: 21:51:15

Tested by: _____ Reviewed by: _____

Test Plot of Spurious emission of B – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

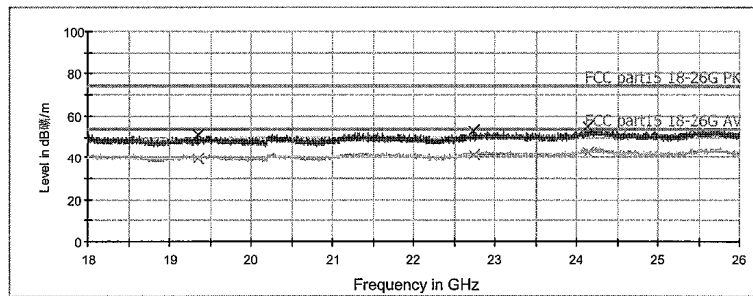
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Rx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 5V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Vertical, EDR

Subrange 1

Frequency Range: 18GHz - 26GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19349.000000	51.2	5.3	22.8	74.0	V
22743.000000	53.1	6.4	20.9	74.0	V
24149.000000	54.8	6.9	19.2	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19349.000000	39.5	5.3	14.5	54.0	V
22743.000000	41.3	6.4	12.7	54.0	V
24149.000000	42.8	6.9	11.2	54.0	V

Date: 21/08/2010 - Time: 21:47:16

Tested by: _____ Reviewed by: _____

Test plot of Radiated emissions, mode D, Horizontal polarity (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

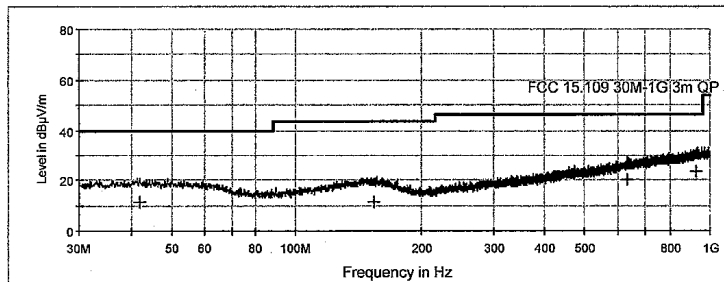
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	RE
Operation Mode:	D
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 12V
Receipt No.:	163066795 300&400
Report No.	17017395 001
Result:	Pass
Comment:	Horizontal

Subrange 1

Frequency Range:	30MHz – 1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168

FCC 15.109 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
41.900000	11.3	14.7	28.7	40.0	H
154.400000	11.5	15.7	32.0	43.5	H
633.600000	19.9	22.3	26.1	46.0	H
923.750000	23.6	26.2	22.4	46.0	H

Date: 21/08/2010 - Time: 18:14:30

Tested by:  Reviewed by: 

Test plot of Radiated emissions, mode D, Vertical polarity (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

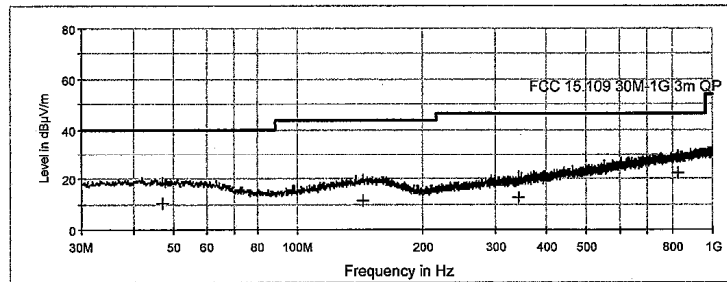
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: D
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 12V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical

Subrange 1

Frequency Range: 30MHz – 1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



FCC 15.109 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
47.100000	10.2	14.4	29.8	40.0	V
144.000000	11.4	15.2	32.1	43.5	V
343.500000	12.5	16.1	33.5	46.0	V
826.500000	22.3	24.8	23.7	46.0	V

Date: 21/08/2010 - Time: 18:20:21

Tested by:  Reviewed by: 

Test plot of Radiated emissions, mode D, Horizontal polarity (1GHz – 6GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

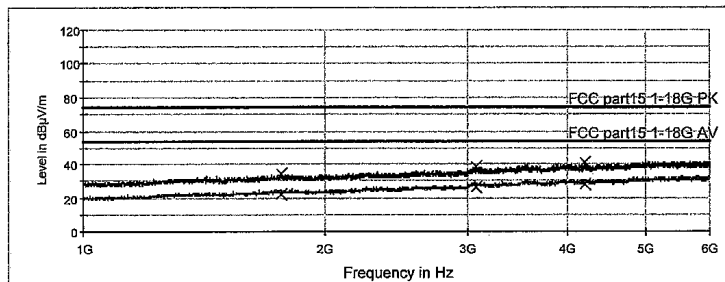
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: D
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC 12V
 Receipt No.: 163066795 300&400
 Report No. 17017395 001
 Result: Pass
 Comment: Horizontal

Subrange 1

Frequency Range: 1GHz – 6GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1765.000000	34.5	-13.8	39.5	74.0	H
3071.000000	38.7	-9.7	35.3	74.0	H
4213.000000	40.8	-6.6	33.2	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1765.000000	21.8	-13.8	32.2	54.0	H
3071.000000	25.7	-9.7	28.3	54.0	H
4213.000000	27.7	-6.6	26.3	54.0	H

Date: 21/08/2010 - Time: 18:34:35

Tested by:  Reviewed by: 

Test plot of Radiated emissions, mode D, Vertical polarity (1GHz – 6GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

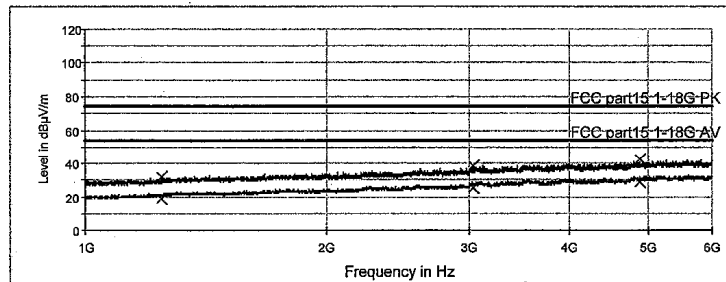
Test Information

Manufacturer: Primax
 Test Item: Bluetooth car speakerphone
 Identification: RF-QS2
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: D
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq.: DC 12V
 Receipt No.: 163066795 300&400
 Report No.: 17017395 001
 Result: Pass
 Comment: Vertical

Subrange 1

Frequency Range: 1GHz – 6GHz
 Receiver: TUV FSP 30
 Transducer: TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1249.000000	32.1	-16.1	41.9	74.0	V
3034.000000	38.6	-9.9	35.4	74.0	V
4882.000000	42.5	-5.9	31.5	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1249.000000	19.1	-16.1	34.9	54.0	V
3034.000000	25.5	-9.9	28.5	54.0	V
4882.000000	28.8	-5.9	25.2	54.0	V

Date: 21/08/2010 - Time: 18:41:01

Tested by



Reviewed by



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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

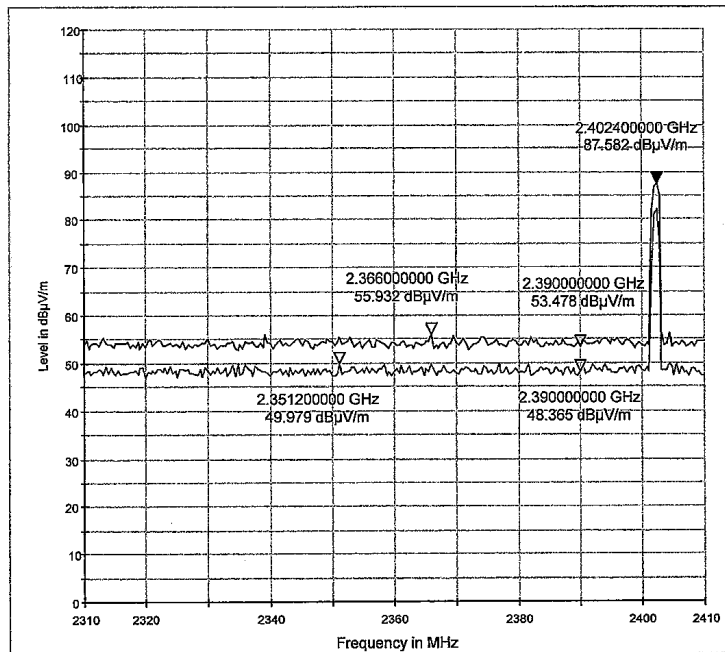
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq. :	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	
Comment:	Horizontal, EDR



Subrange 1

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

Pre TUV 1 to 18G HF906



Date: 20/08/2010 - Time: 23:17:05

Tested by:  Reviewed by: 

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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

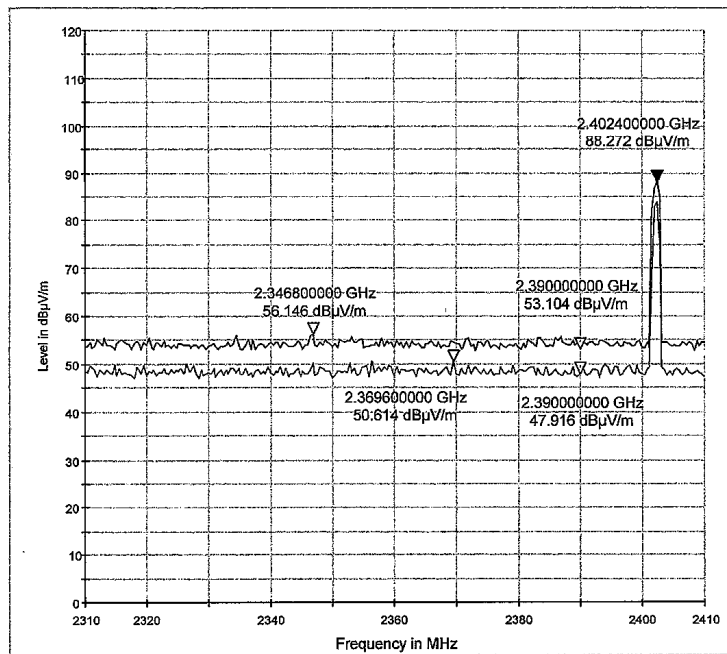
Test Information

Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq.:	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	
Comment:	Vertical, EDR



Subrange 1

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

Pre TUV 1 to 18G HF906



Date: 20/08/2010 - Time: 23:13:48

Tested by:  Reviewed by: 

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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

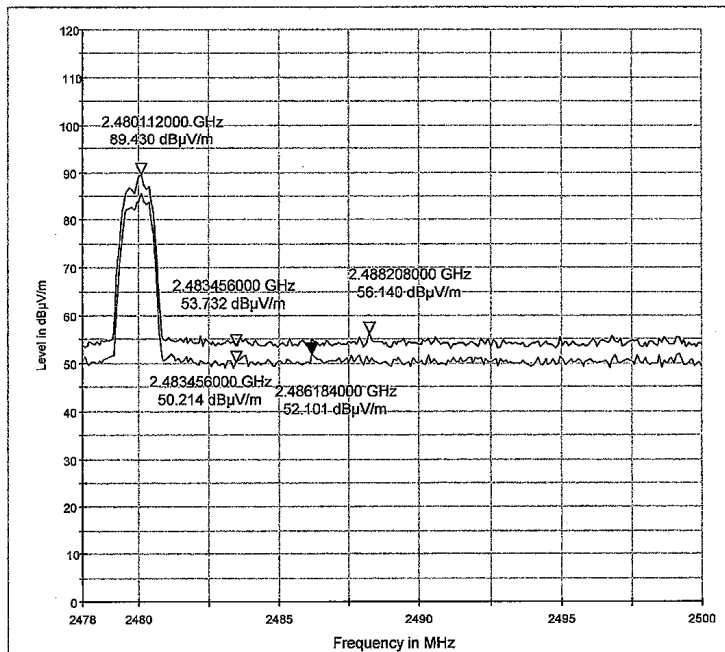
EMC Test Record (EMISSION)

Test Information



Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq.:	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	
Comment:	Horizontal, EDR

Subrange 1	
Frequency Range:	2GHz – 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 20/08/2010 - Time: 22:39:43

Tested by:  Reviewed by: 

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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

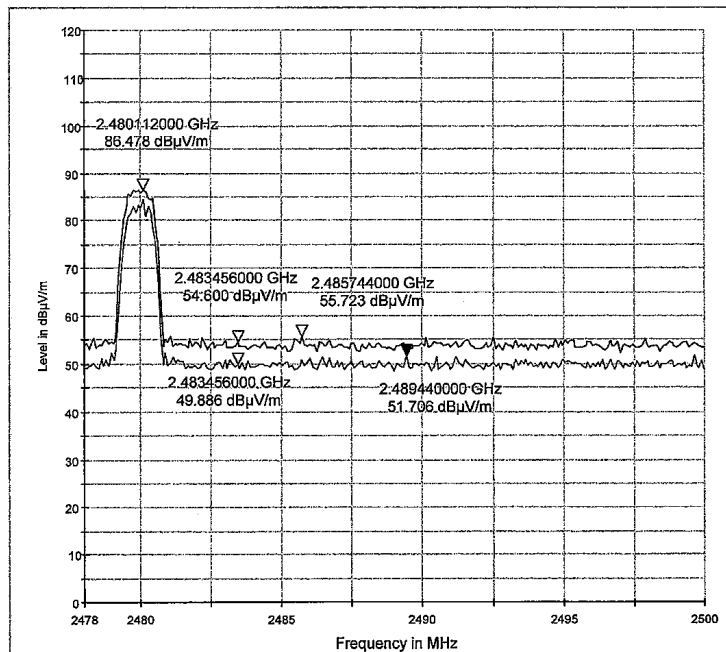
EMC Test Record (EMISSION)

Test Information


Manufacturer:	Primax
Test Item:	Bluetooth car speakerphone
Identification:	RF-QS2
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage / Freq.:	DC 5V
Receipt No.:	163066795 300&400
Report No.:	17017395 001
Result:	
Comment:	Vertical, EDR

Subrange 1	
Frequency Range:	2GHz – 3GHz
Receiver:	TUV FSP 30
Transducer:	TUV SAC HF906 / TUV FSP 30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 20/08/2010 - Time: 22:33:54

Tested by:  Reviewed by: 