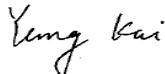
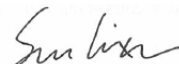


Prüfbericht - Nr.: 16801000 001			Seite 1 von 57 Page 1 of 57		
Test Report No.:					
Auftraggeber: <i>Client:</i>		Beijing Inforson Technologies Co., Ltd. Suzhou Street, Haidian District, Floor 15, Tower B2, Chang Yuan Tian Di Plaza Beijing 100080 P.R. China			
Gegenstand der Prüfung: <i>Test item:</i>		ATUAT FITNESS			
Bezeichnung: <i>Identification:</i>		AT100		Serien-Nr.: <i>Serial No.:</i>	
Wareneingangs-Nr.: <i>Receipt No.:</i>		1143006659		Eingangsdatum: <i>Date of receipt:</i>	
2012-04-01					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>			The sample is ok for test and not damaged.		
Prüfort: <i>Testing location:</i>			Refer to section 1.1		
Prüfgrundlage: <i>Test specification:</i>			FCC Part 15 Subpart C Section 15.209 FCC Part 15 Subpart C Section 15.247		
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>			Refer to section 1.1		
geprüft/ tested by:			kontrolliert/ reviewed by:		
2012-6-4 Yang, Kai/PE 			2012-6-4 Sun, Lixun/Reviewer 		
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 item. 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

4.1.1 ANTENNA REQUIREMENT

RESULT: Passed

4.1.2 PEAK OUTPUT POWER

RESULT: Passed

4.1.3 OCCUPIED BANDWIDTH

RESULT: Passed

4.1.4 CONDUCTED SPURIOUS EMISSIONS IN 100KHz BANDWIDTH

RESULT: Passed

4.1.5 SPURIOUS EMISSION

RESULT: Passed

4.1.6 FREQUENCY SEPARATION

RESULT: Passed

4.1.7 NUMBER OF HOPPING FREQUENCY

RESULT: Passed

4.1.8 TIME OF OCCUPANCY

RESULT: Passed

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1. Test Sites

1.1 Test Facilities

Laboratory: The State Radio_Monitoring_Center Testing (SRTC) (FCC Registration No.: 910917)

Address: No.98 BeiLishi Road, Xicheng District, Beijing 100037

The used test equipment is in accordance with CISPR 16-1 for measurement of radio interference.

1.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious Radiated Emissions				
Bi-log Antenna	Rohde & Schwarz	HL562	100016	2012-08-20
Horn Antenna	Rohde & Schwarz	HF906	100030	2012-08-20
EMI Test Receiver	Rohde & Schwarz	ESI40	100015	2012-08-20
Horn Antenna	Rohde & Schwarz	RA42-K-F-4B-C	002058-002	2011-08-20
Pre/Power Amplifier	Rohde & Schwarz	HP2800	800584	2012-08-20
Radio Frequency Test Suite				
EMI Test Receiver	Rohde & Schwarz	ESI40	100015	2012-08-20

1.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology P.R. China) or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

1.4 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.

1.5 Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO/IEC 17025 are:

Table 2: Measurement Uncertainty

Items	Extended Uncertainty
RE (30-1000MHz)	4.2 dB, distance:3m,k=2, $\sigma=95\%$
RE (1-25GHz)	3.7 dB, distance:3m,k=2, $\sigma=95\%$
CE	3.2 dB, k=2, $\sigma=95\%$
Uncertainty for Radiated Spurious Emission test in RF chamber	3.57 dB, k=2, $\sigma=95\%$
Uncertainty for Conduction Spurious emission test	2.00 dB, k=2, $\sigma=95\%$
Uncertainty for Output power test	0.73 dB, k=2, $\sigma=95\%$
Uncertainty for Power density test	2.00 dB, k=2, $\sigma=95\%$
Uncertainty for Frequency range test	7×10^{-8} , k=2, $\sigma=95\%$
Uncertainty for Bandwidth test	83 kHz, k=2, $\sigma=95\%$

2. General Product Information

2.1 Product Function and Intended Use

The EUT (equipment under test) is atuat fitness with bluetooth technology. For the further information refer to the User Manual and Circuit Diagram.

2.2 Ratings and System Details

Table 3: Rating of EUT

Kind of Equipment:	Atuat Fitness
Type Designation:	AT100
FCC ID	BEEAT100
Rated Input Voltage	DC 3.7V

Table 4: Technical Specification

Item	Description
Operating Frequency band	2402-2480MHz
Channel Number	79
Channel Separation	1MHz
Modulation	GFSK, DQPSK
Antenna	Integrated Antenna, Non-User Replaceable
Bluetooth spec	2.0+EDR
Antenna Gain (dBi)	1
RF output power level	Fix

2.3 Independent Operation Modes

The basic operation modes are:

- A. On, transmitting, basic data rate
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. On, transmitting, enhance data rate
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- C. Off

2.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

2.5 Submitted Documents

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

3. Test Set-up and Operation Modes

3.1 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. And prior to the measurements, the test object operated about 5 minutes (warm-up) in order to stabilize its operating conditions and to ensure reliable measurement values.

3.2 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.

As the sample has two antenna which with the same structure and characteristic, and there is only one antenna can transmit at one time, for all of the tests in this report, the both antennas' output were pre-tested, and the final test was performed on the larger antenna's output status to get the maximal value.

3.3 Special Accessories and Auxiliary Equipment

None.

3.4 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.

3.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

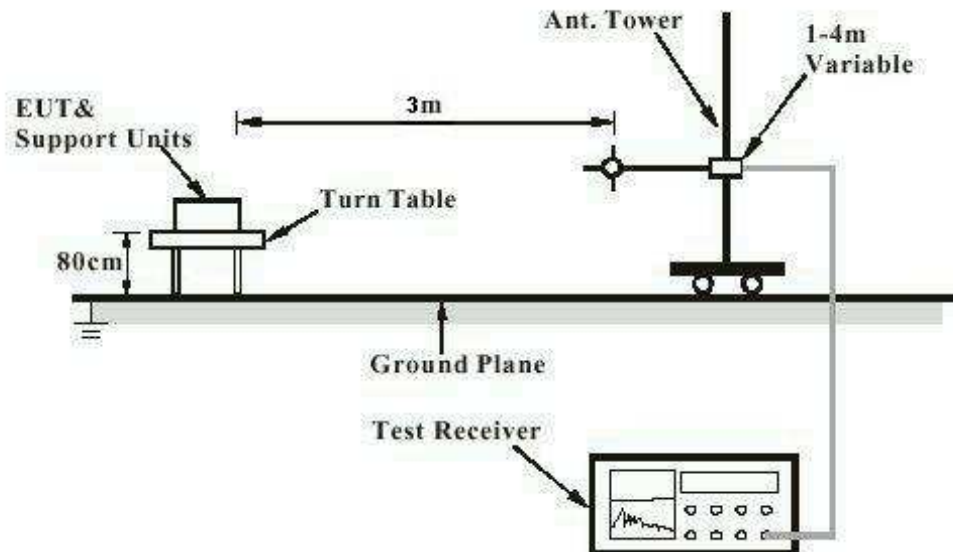


Diagram of Measurement Equipment Configuration for Conduction Measurement

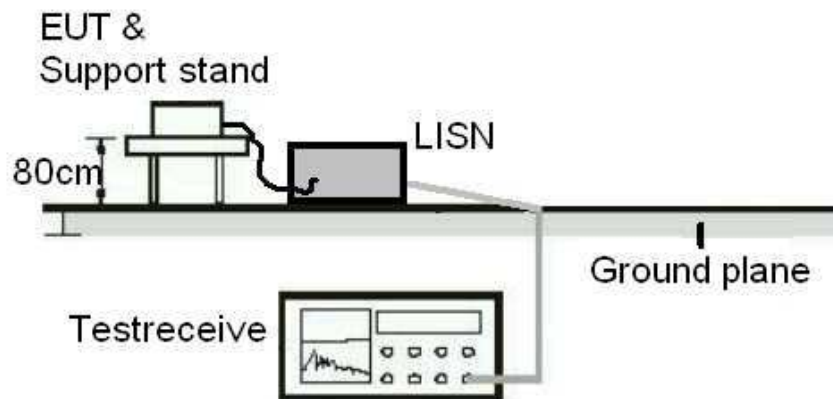
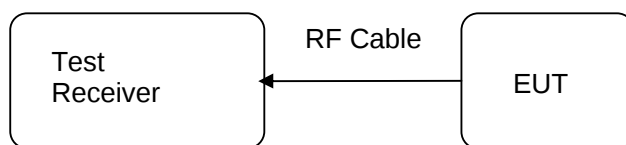


Diagram of Measurement Equipment Configuration for Transmitter Measurement



4. Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2012-02-03
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

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

4.1.2 Peak Output Power

RESULT:
Passed

Test date : 2012-02-03
 Test standard : FCC Part 15.247(b)(1)
 Basic standard : ANSI C63.4: 2003
 Limit : 0.125 Watt
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A+B
 Ambient temperature : 23°C
 Relative humidity : 54%
 Atmospheric pressure : 101 kPa

Table 5: Test result of Peak Output Power, basic data rate

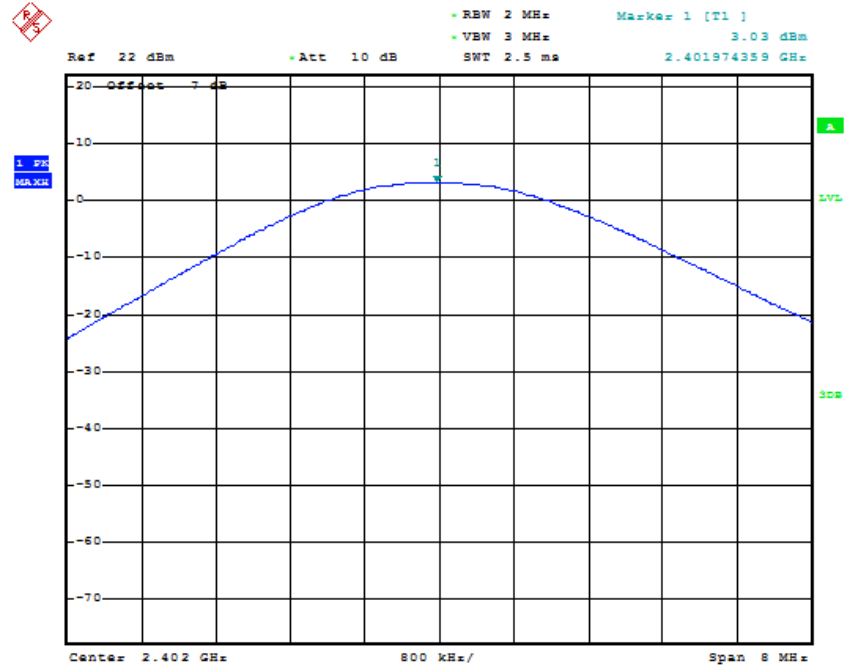
Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(mW)	(mW)
Low Channel	2402	3.03	2.01	125
Middle Channel	2441	1.32	1.36	125
High Channel	2480	1.88	1.54	125

Table 6: Test result of Peak Output Power, enhance data rate

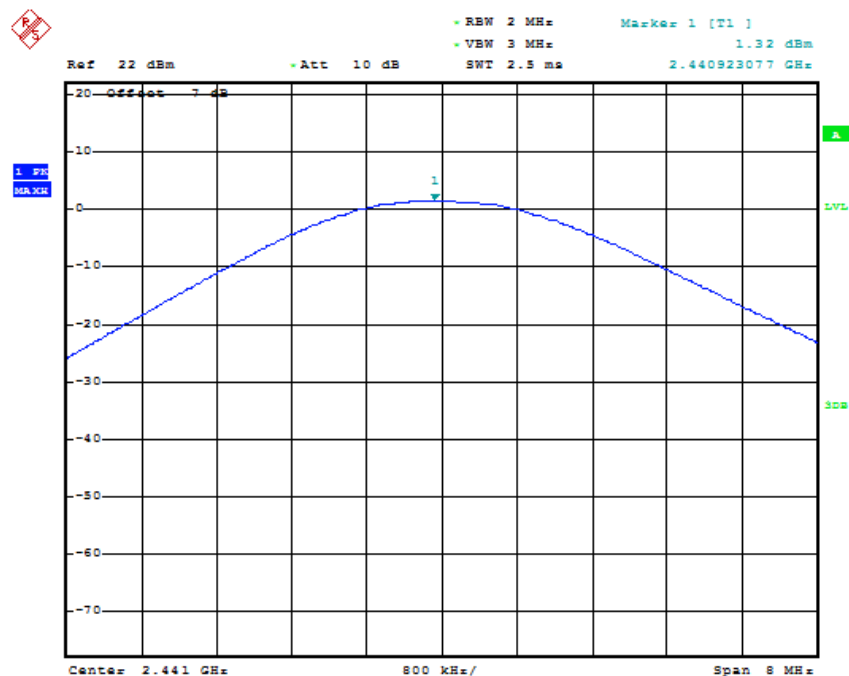
Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(mW)	(mW)
Low Channel	2402	2.90	1.95	125
Middle Channel	2441	1.29	1.35	125
High Channel	2480	2.07	1.61	125

Test Graph of Peak Output Power, Basic Data Rate

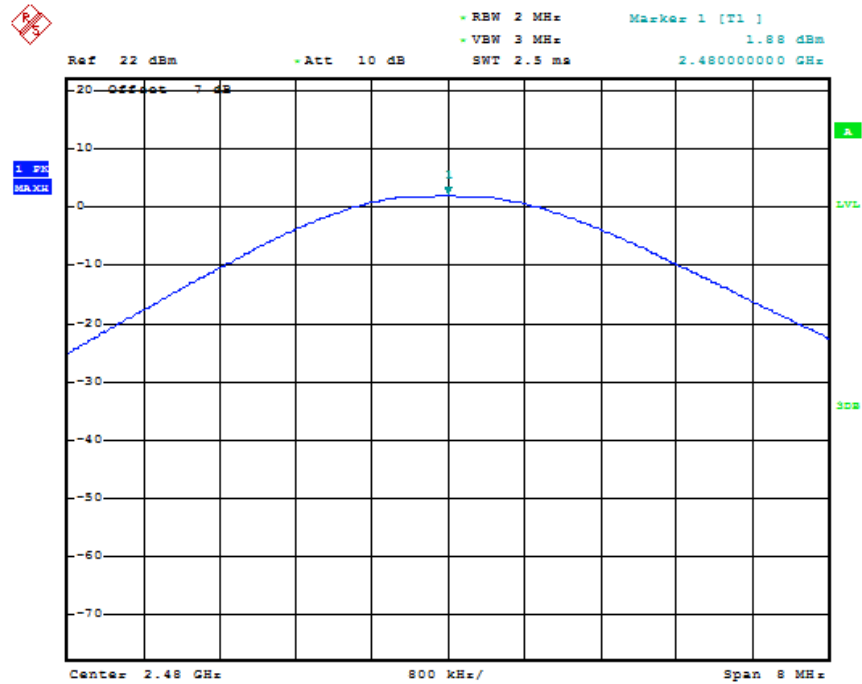
Low Channel



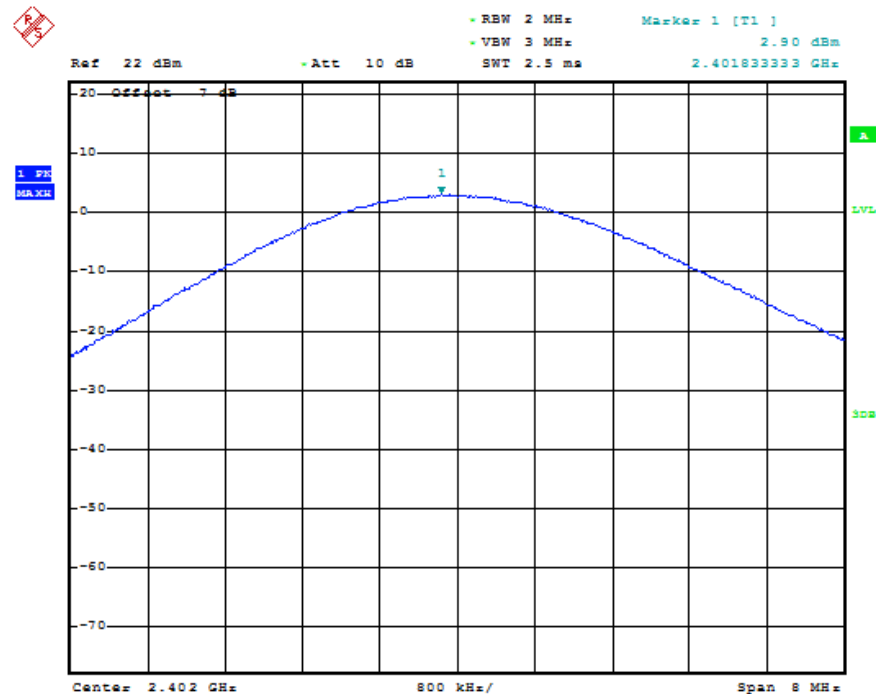
Middle Channel



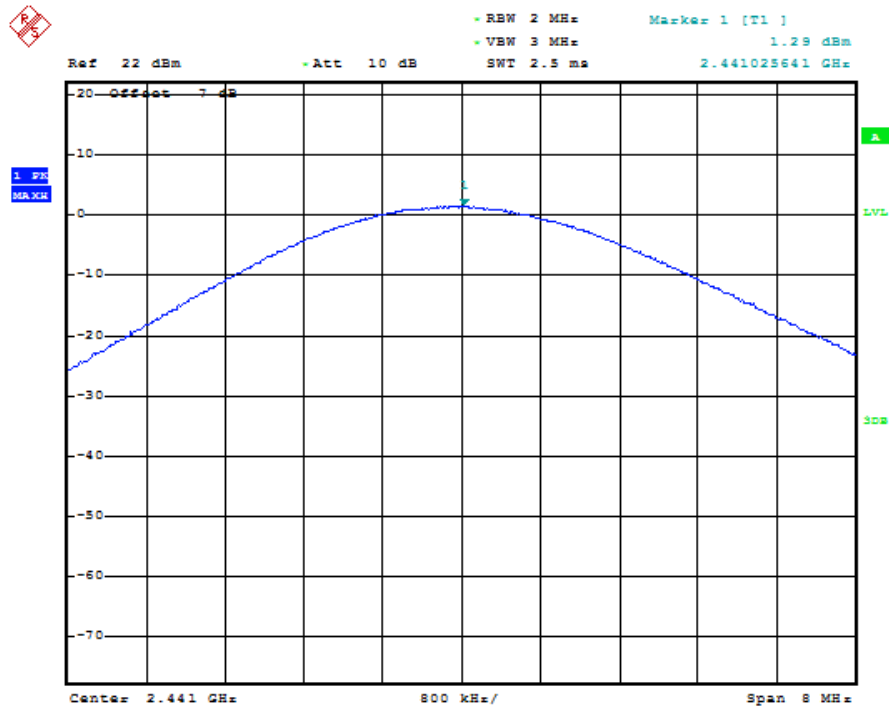
High Channel



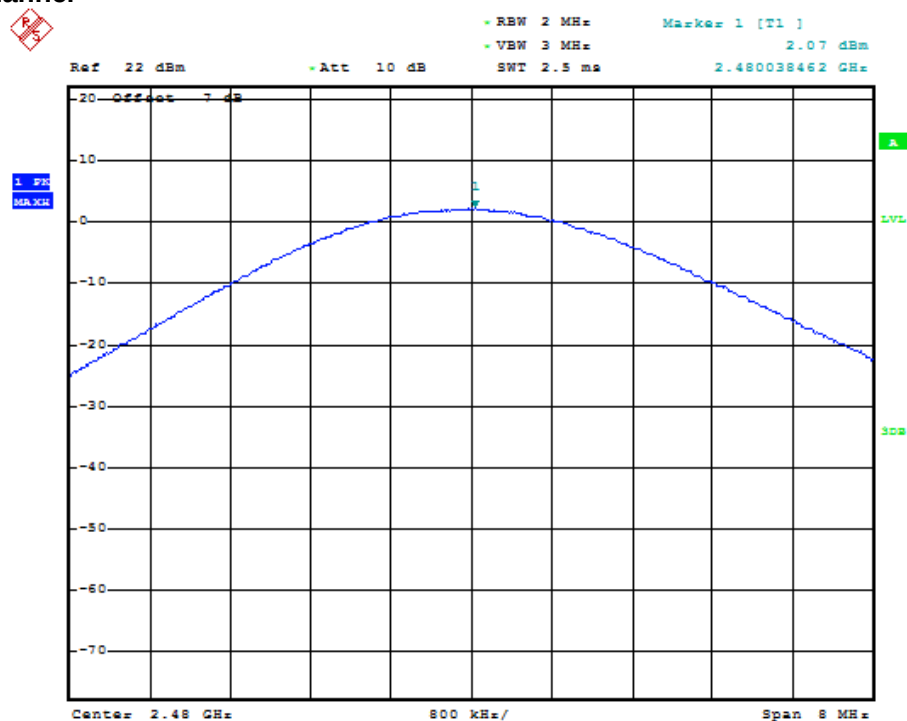
Test Graph of Peak Output Power, Enhance Data Rate Low Channel



Middle Channel



High Channel



4.1.3 Occupied Bandwidth

RESULT:
Passed

Date of testing : 2012-02-03
 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+B
 Ambient temperature : 23°C
 Relative humidity : 54%
 Atmospheric pressure : 101 kPa

Table 7: Test result of occupied Bandwidth, basic data rate

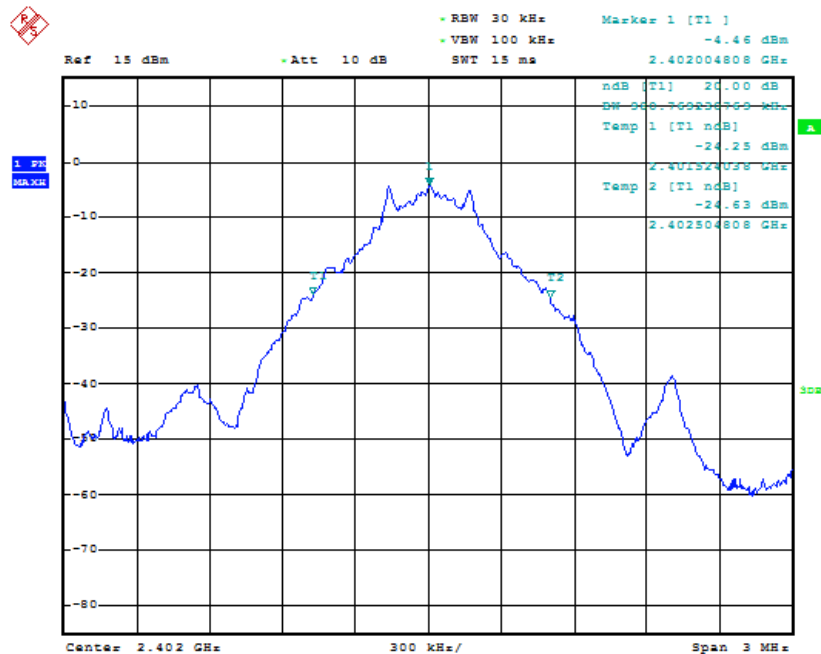
Channel	Channel Frequency (MHz)	Occupied Bandwidth (kHz)	Result
Low Channel	2402	900.7	Passed
Mid Channel	2441	906.3	Passed
High Channel	2480	942.3	Passed

Table 8: Test result of occupied Bandwidth, enhance data rate

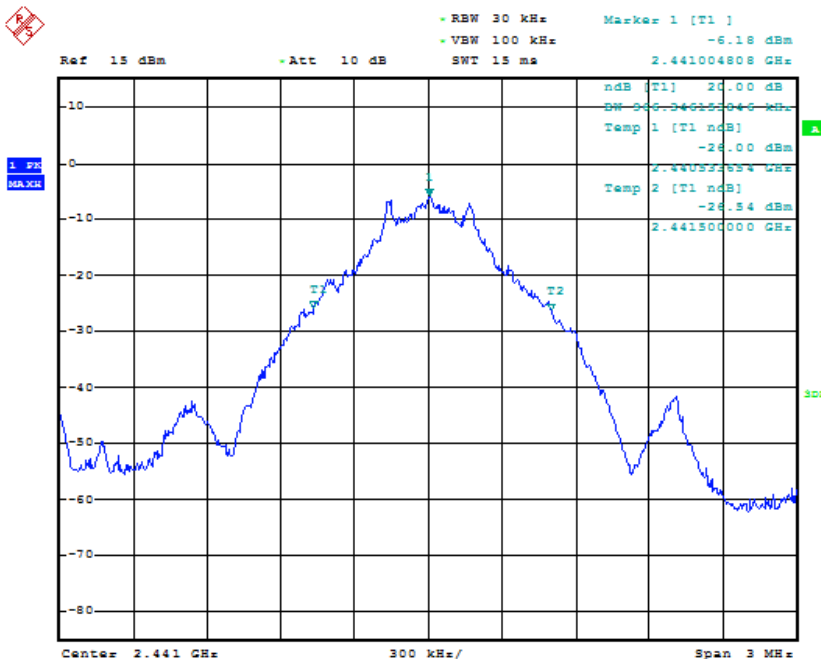
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	Result
Low Channel	2402	1.302	Passed
Mid Channel	2441	1.293	Passed
High Channel	2480	1.274	Passed

Notes: No specific occupied bandwidth requirement in part 15.247(a) (1).

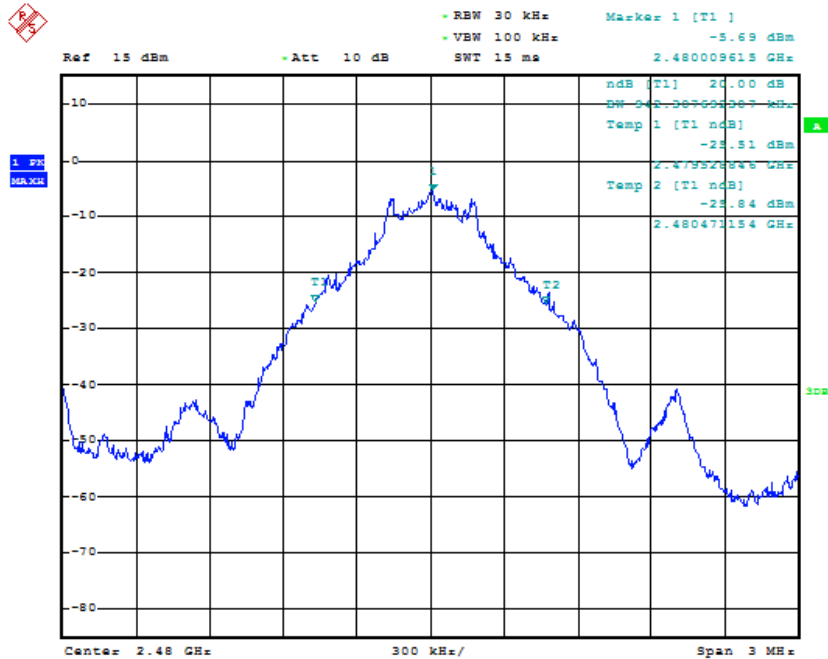
Test Graph of 20dB Bandwidth, Basic Data Rate Low Channel



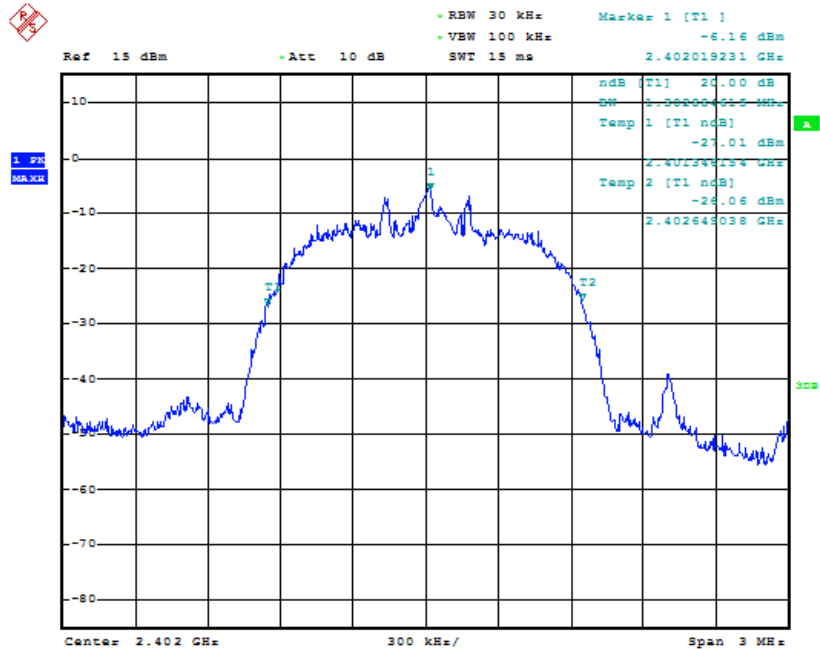
Middle Channel

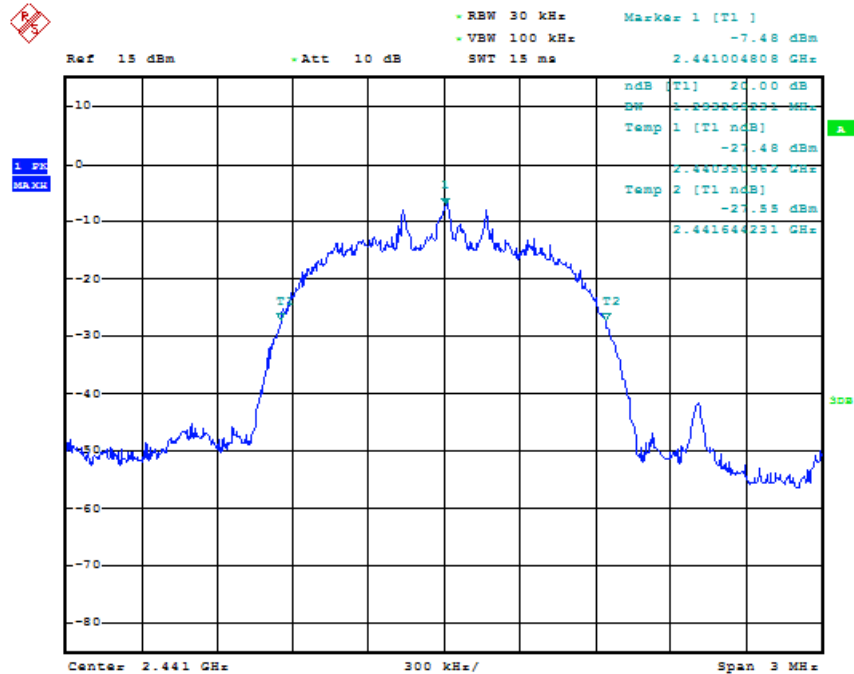
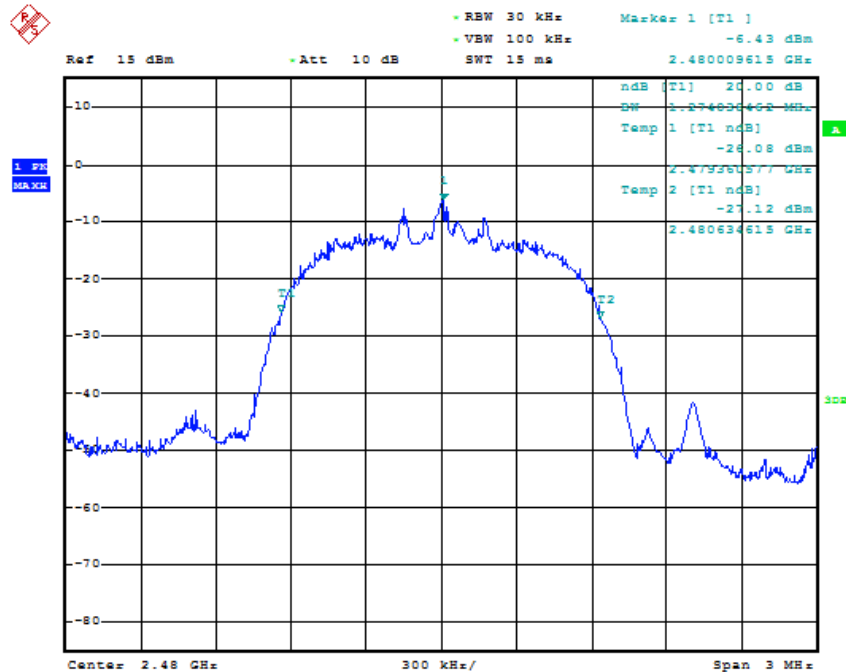


High Channel



Test Graph of 20dB Bandwidth, Enhance Data Rate Low Channel



Middle Channel

High Channel


4.1.4 Conducted Spurious Emissions in 100kHz Bandwidth

RESULT:**Passed**

Date of testing	:	2012-02-03
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

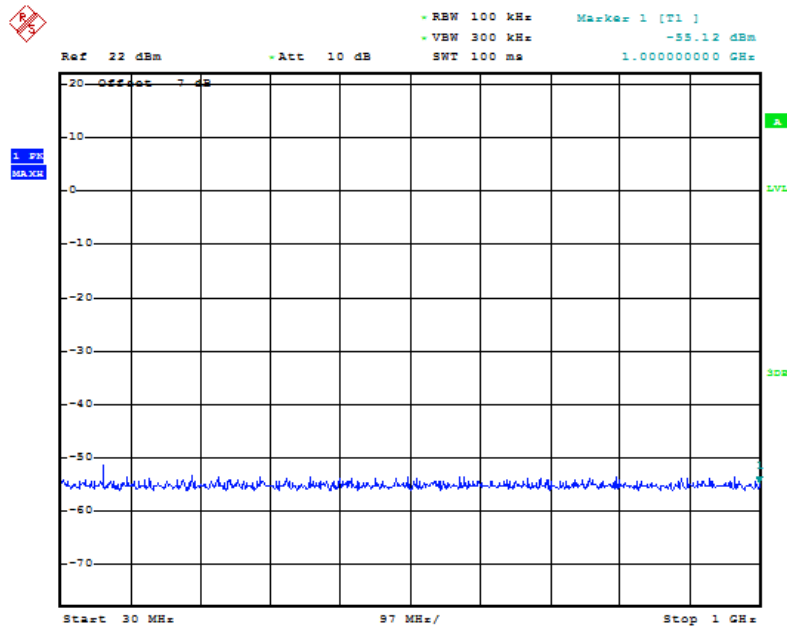
Test setup

Test Channel	:	Low/ High
Operation mode	:	A+B
Ambient temperature	:	23°C
Relative humidity	:	54%
Atmospheric pressure	:	101 kPa

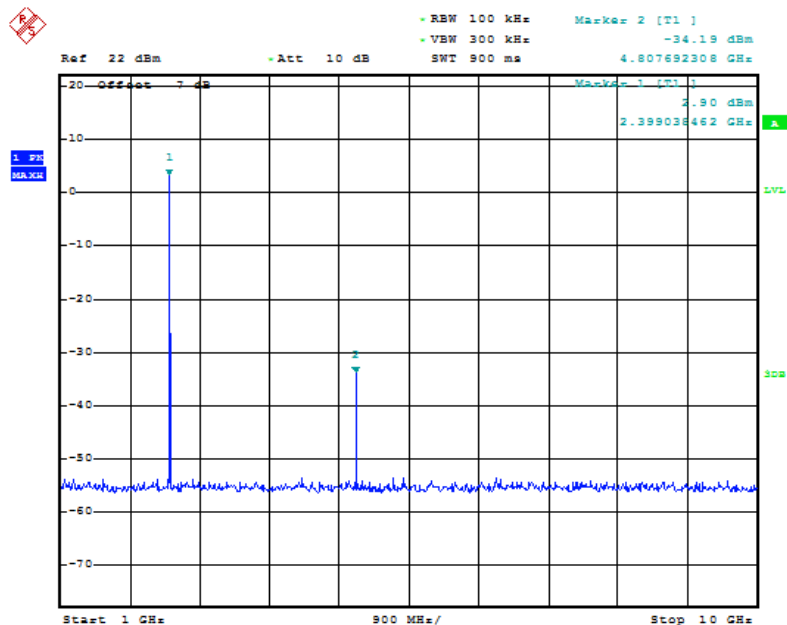
All emissions are more than 20dB below fundamental, details refer to following test Graph, and compliance is achieved as well.

Test Graph of Conducted Spurious Emissions measured in 100kHz Bandwidth, Basic Data Rate

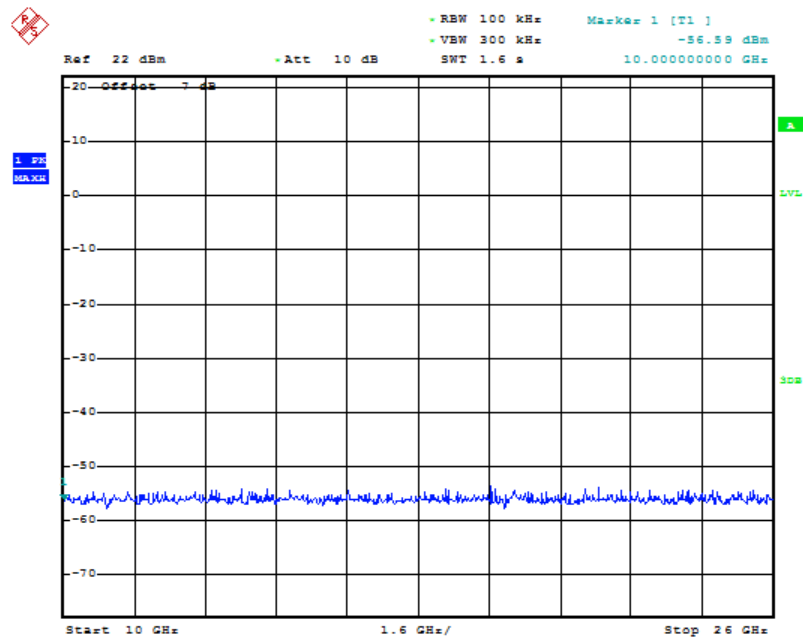
Low Channel



30MHz-1GHz

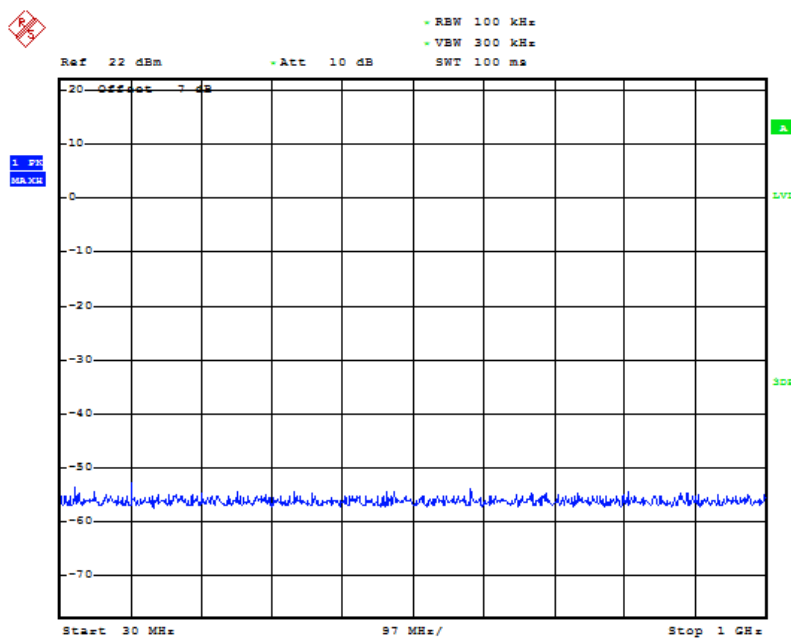


1GHz-10GHz

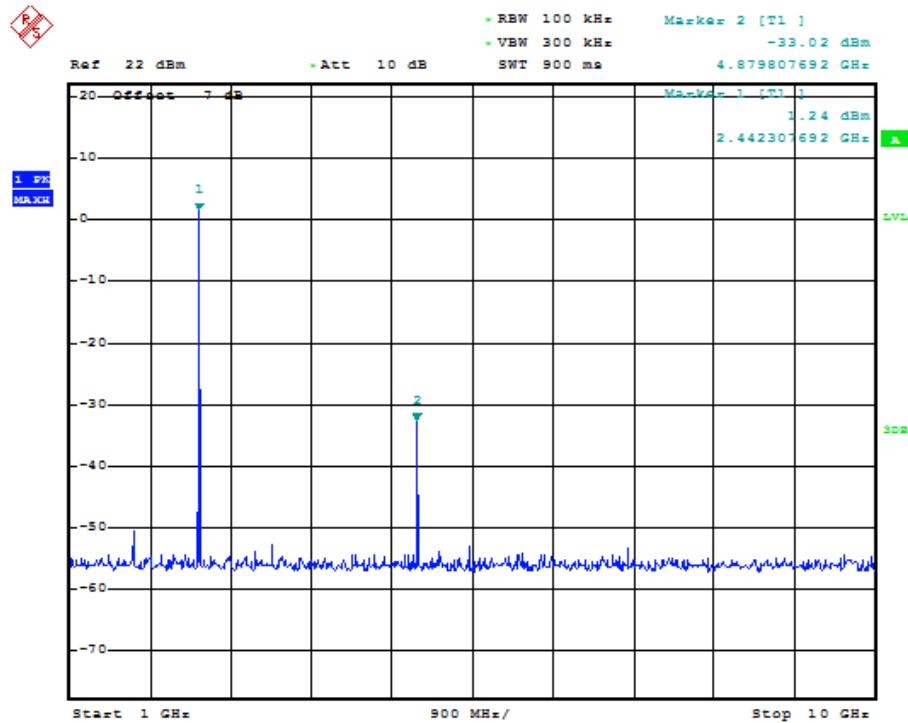


10GHz-26GHz

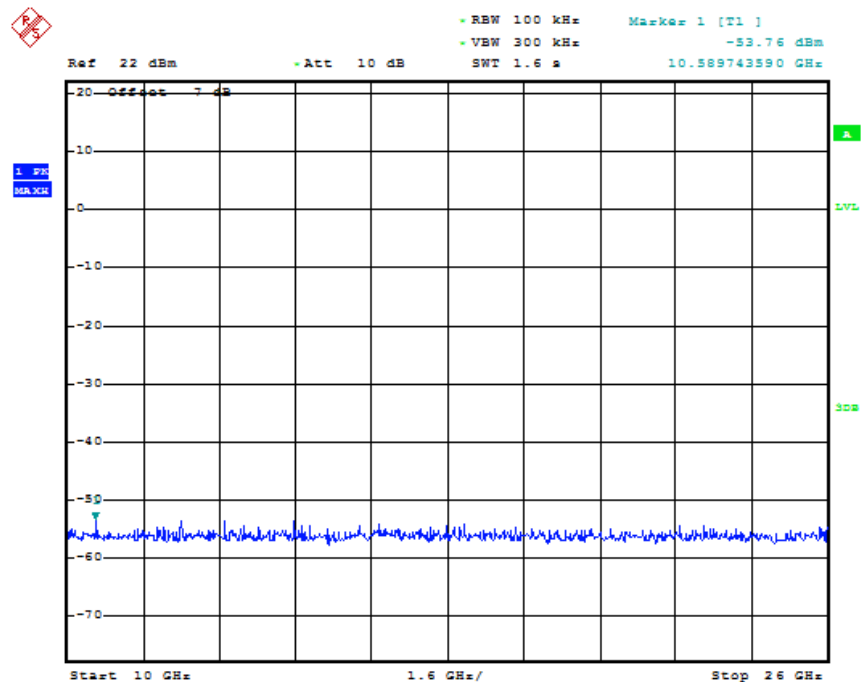
Middle Channel



30MHz-1GHz

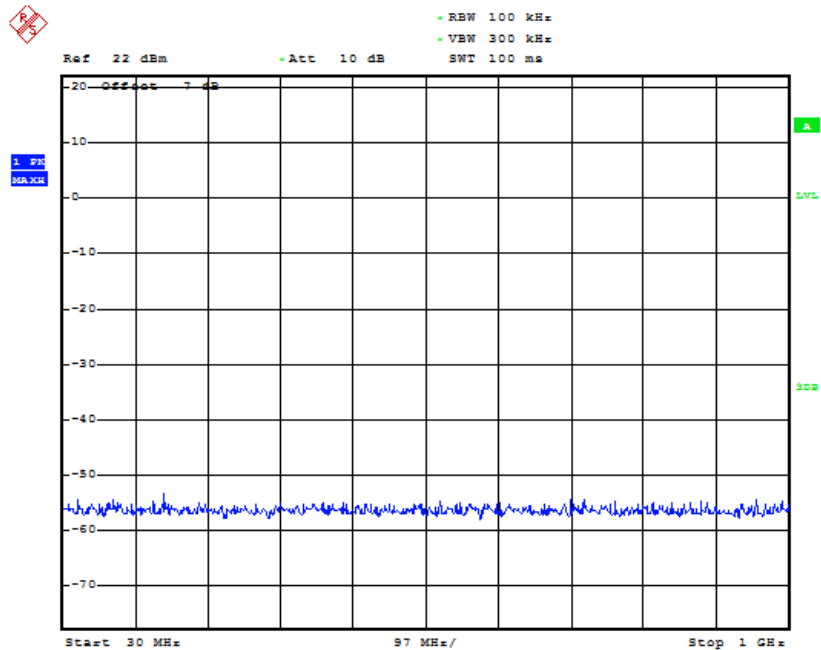


1GHz-10GHz

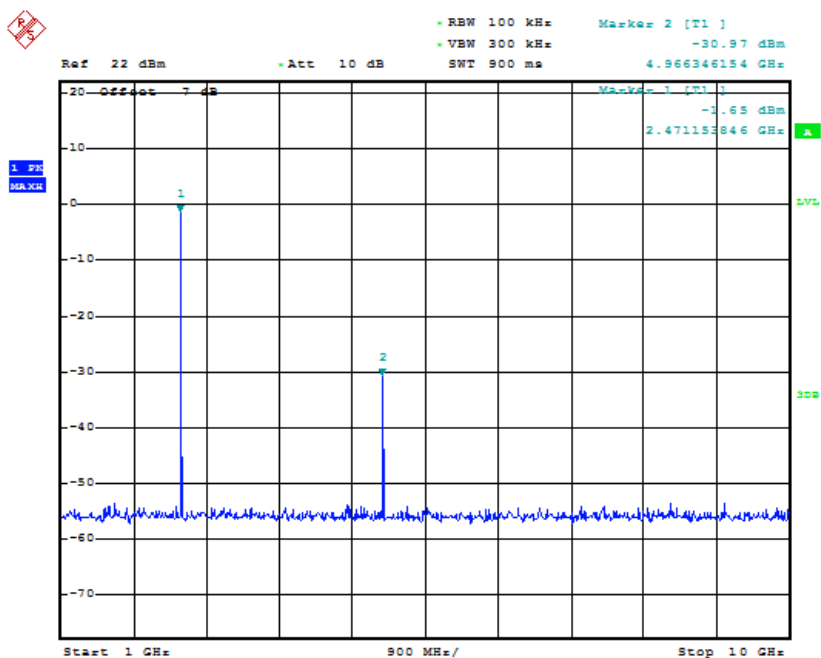


10GHz-26GHz

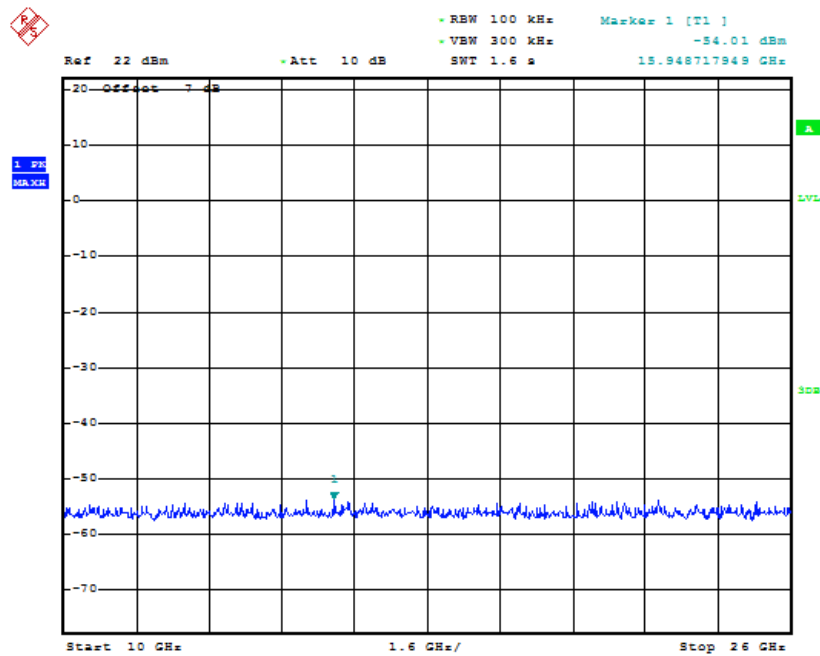
High Channel



30MHz-1GHz



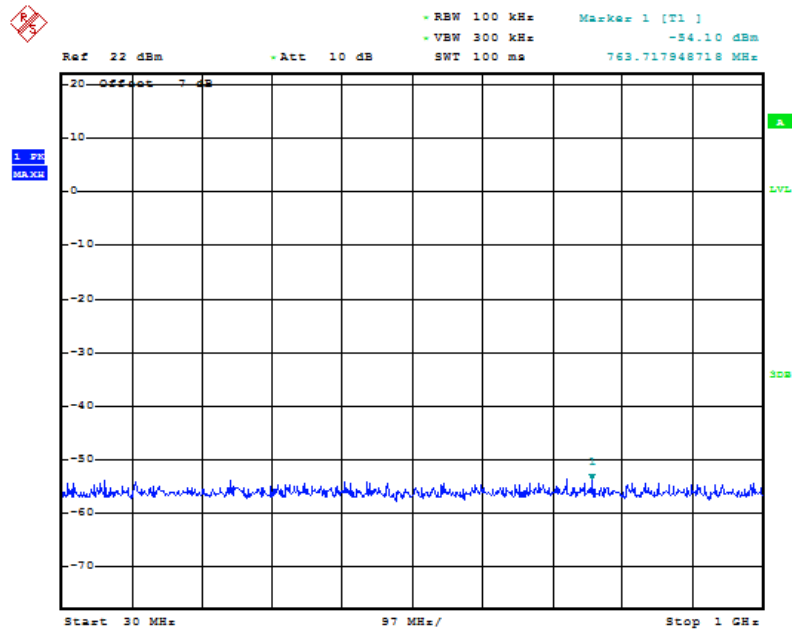
1GHz-10GHz



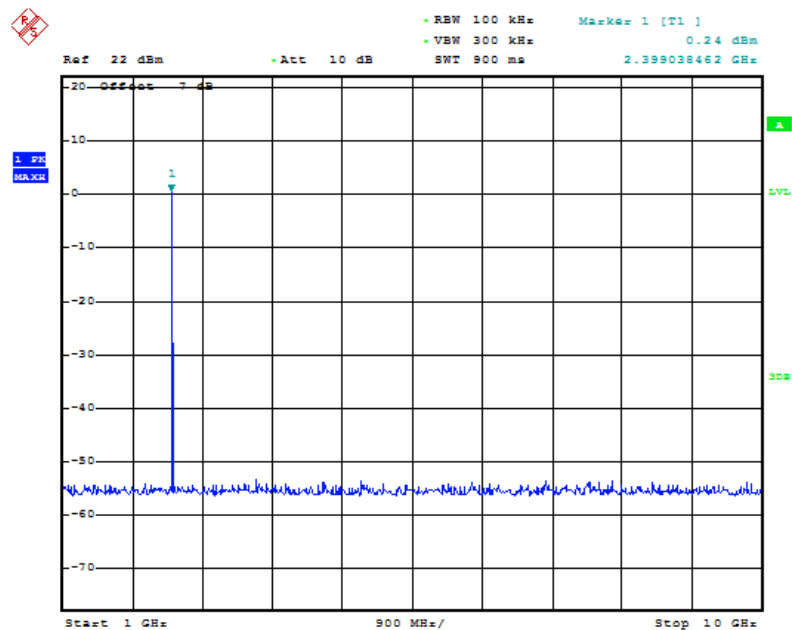
10GHz-25GHz

Test Graph of Conducted Spurious Emissions measured in 100kHz Bandwidth, Enhance Data Rate

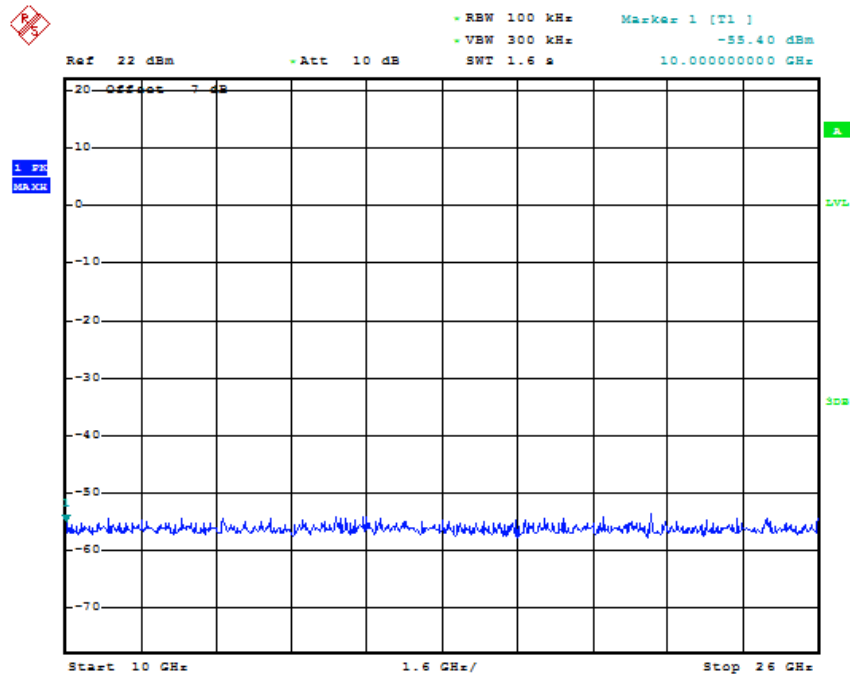
Low Channel



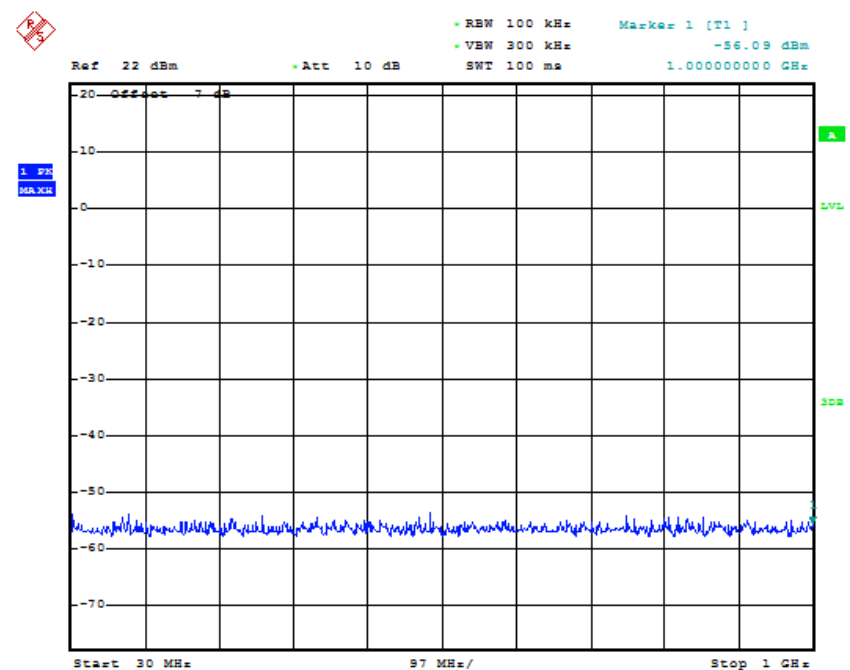
30MHz-1GHz

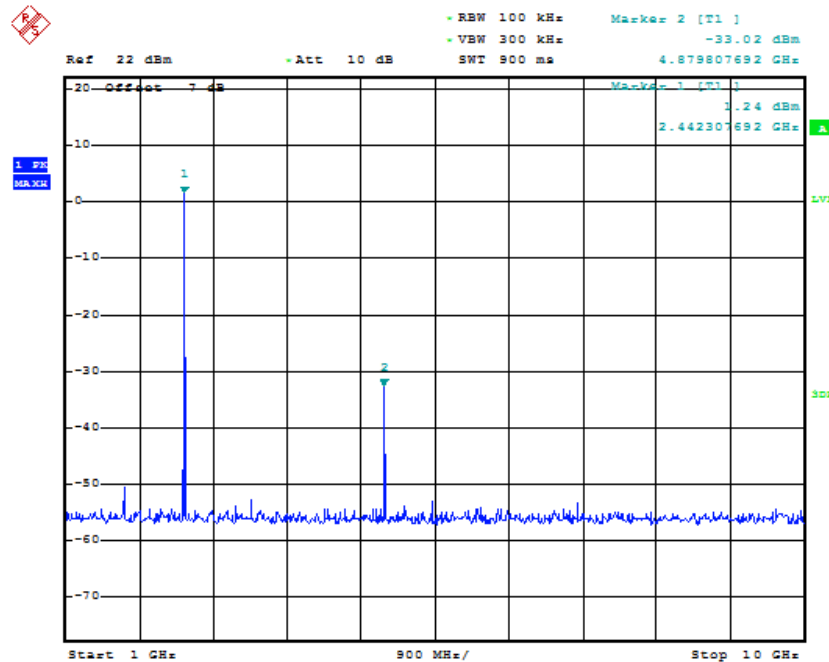


1GHz-10GHz

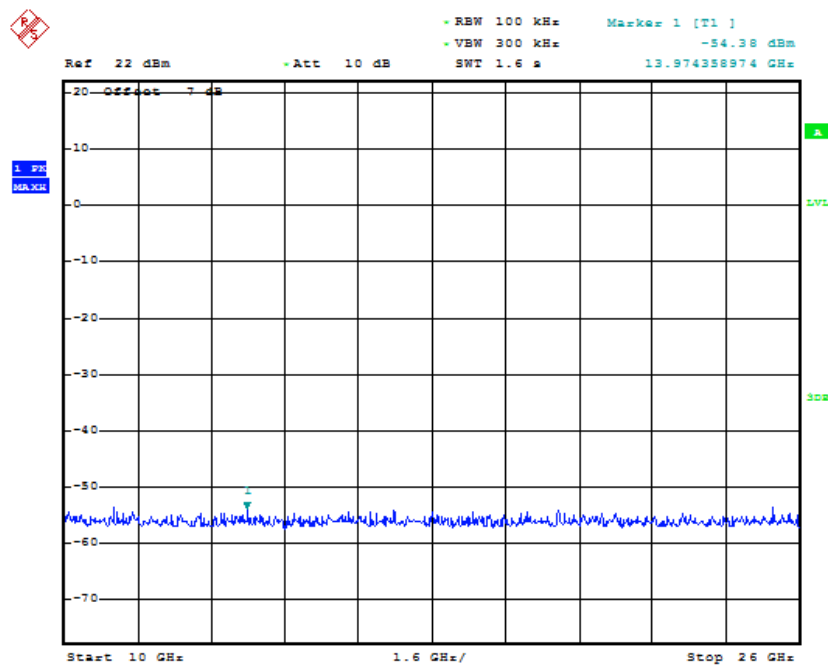


Middle Channel



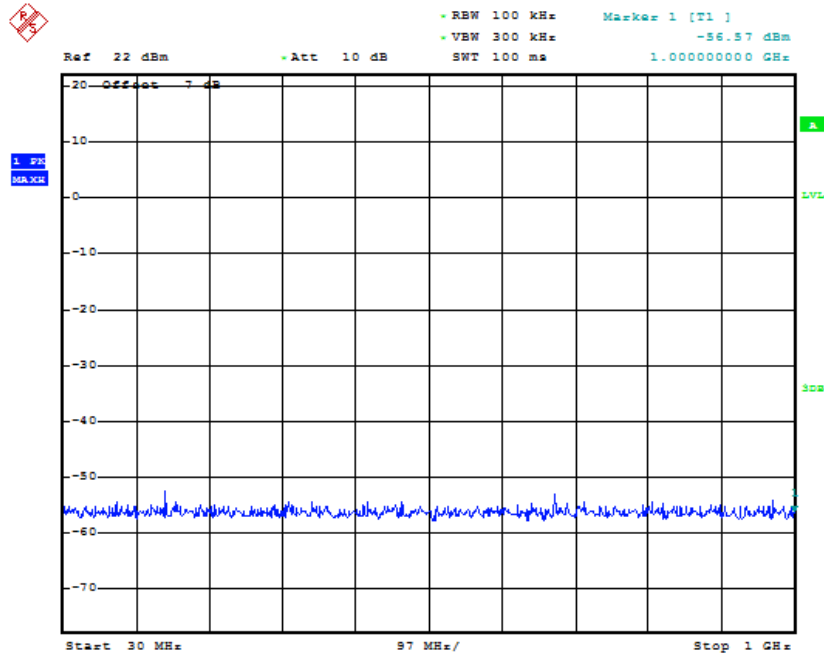


1GHz-10GHz

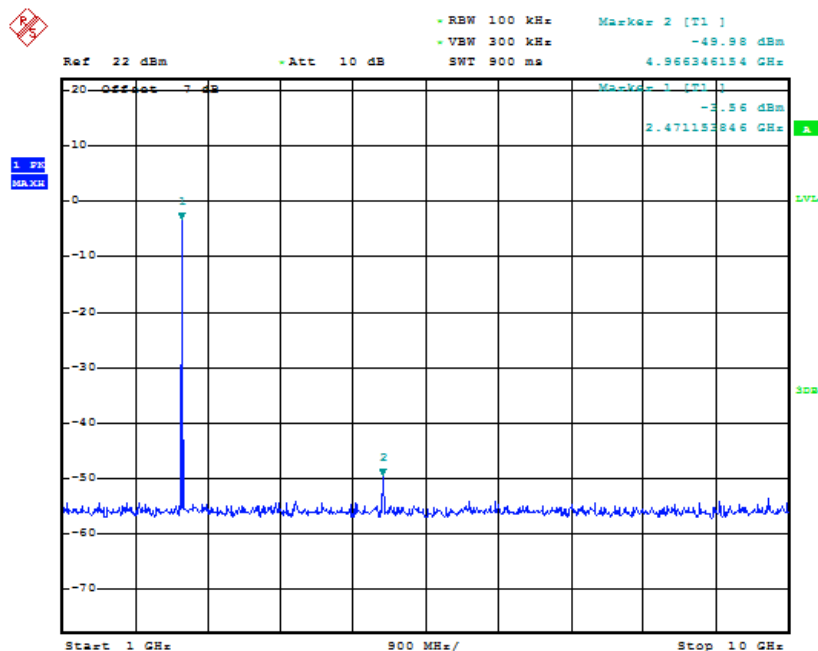


10GHz-26GHz

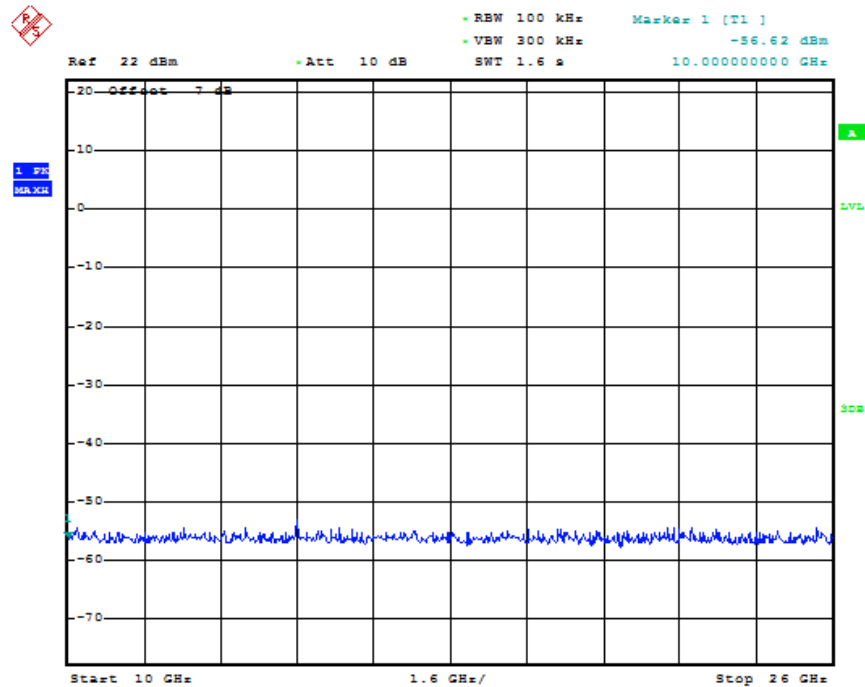
High Channel



30MHz-1GHz



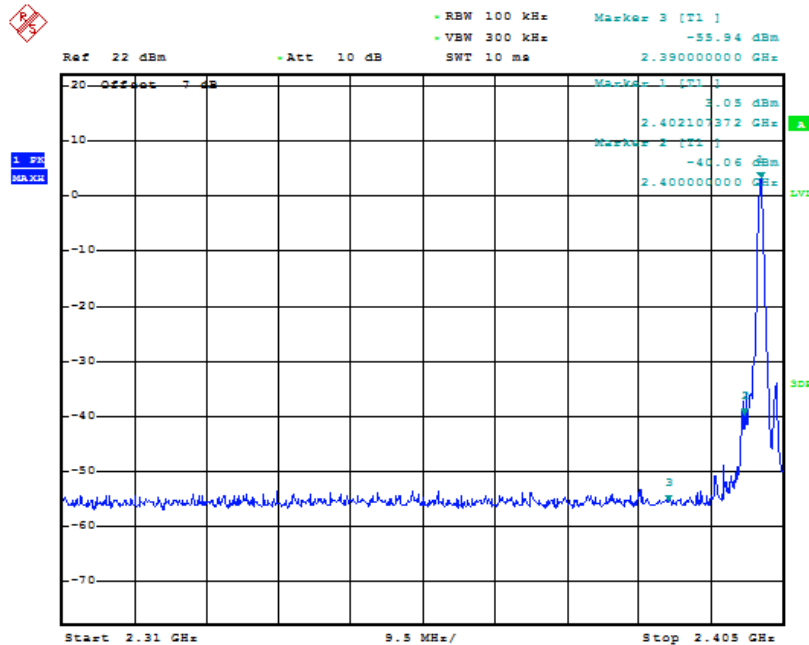
1GHz-10GHz



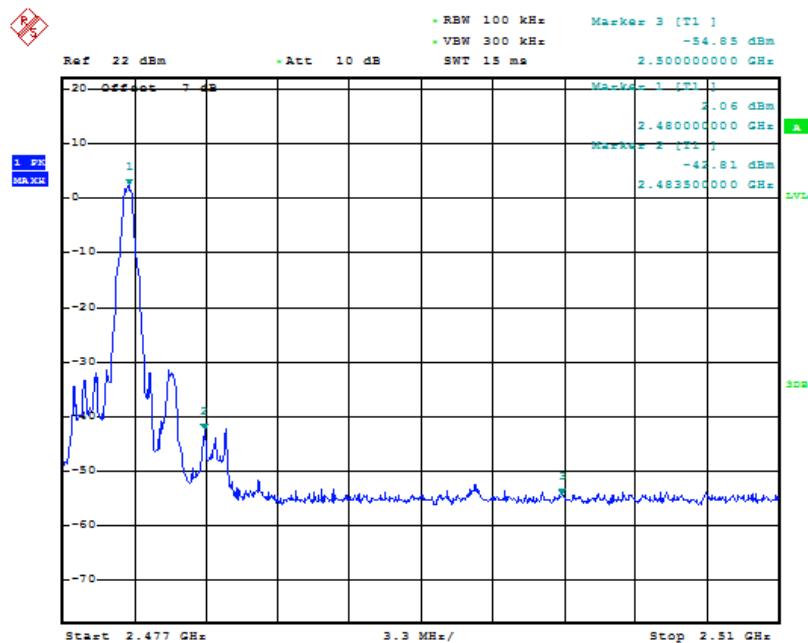
10GHz-26GHz

Test Graph of Band Edge measured in 100kHz Bandwidth, Basic Data Rate

Low Channel

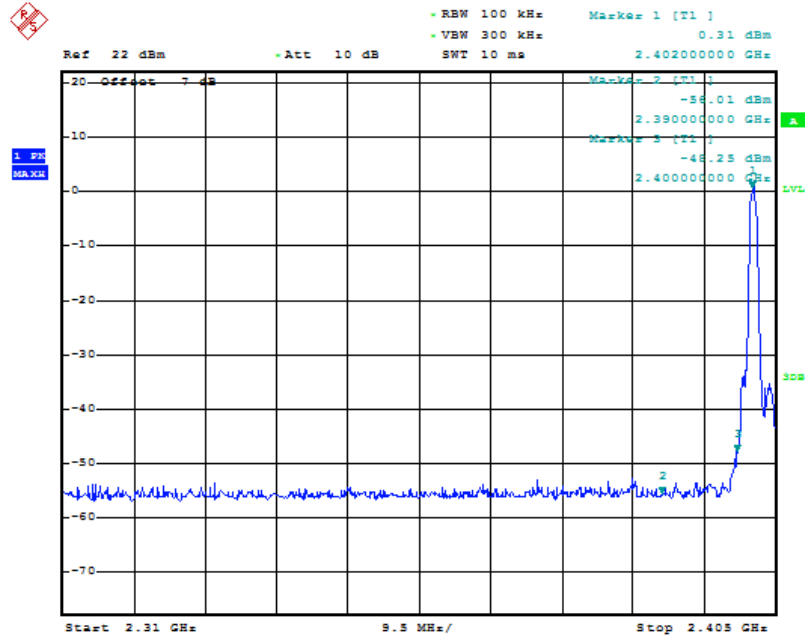


High Channel

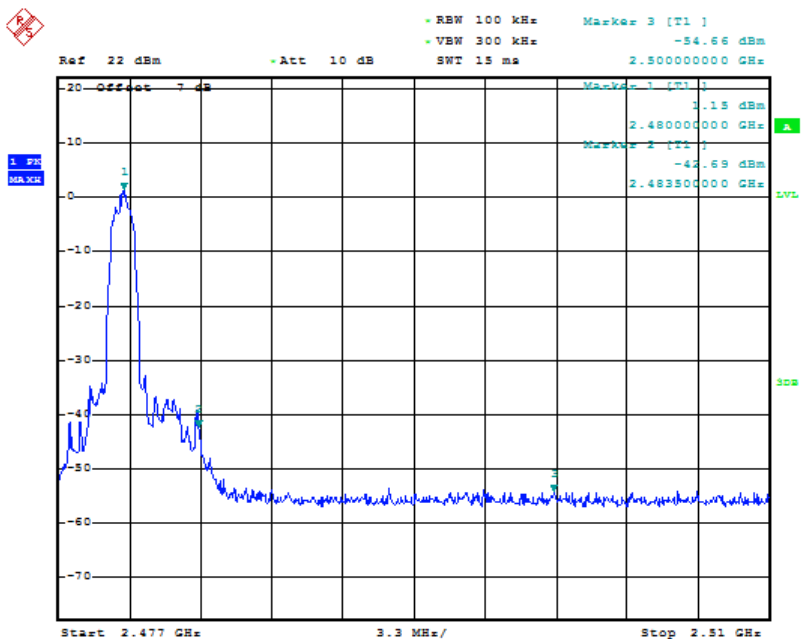


Test Graph of Band Edge measured in 100kHz Bandwidth, Enhance Data Rate

Low Channel



High Channel



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4.1.5 Spurious Emission

RESULT:**Passed**

Date of testing	:	2012-02-15
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	Refer to 15.209(a)
Frequency	:	30MHz-25GHz
range	:	
Kind of test site	:	3m Semi-Anechoic Chamber

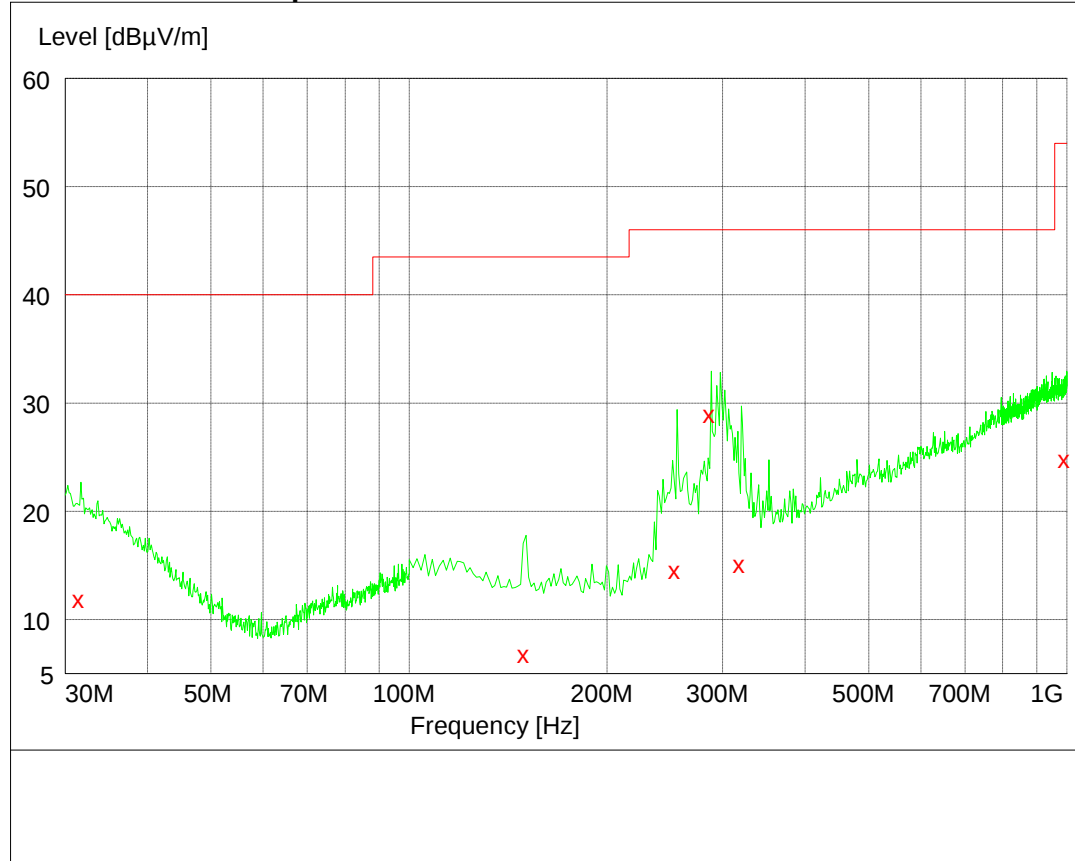
Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A+B
Ambient temperature	:	23°C
Relative humidity	:	51%
Atmospheric pressure	:	100 kPa

During the test, the wooden table was rotated 360° around and the antenna was varied from 1m to 4m to find the maximum disturbance. The test was performed with the antenna both in its horizontal and vertical polarizations.

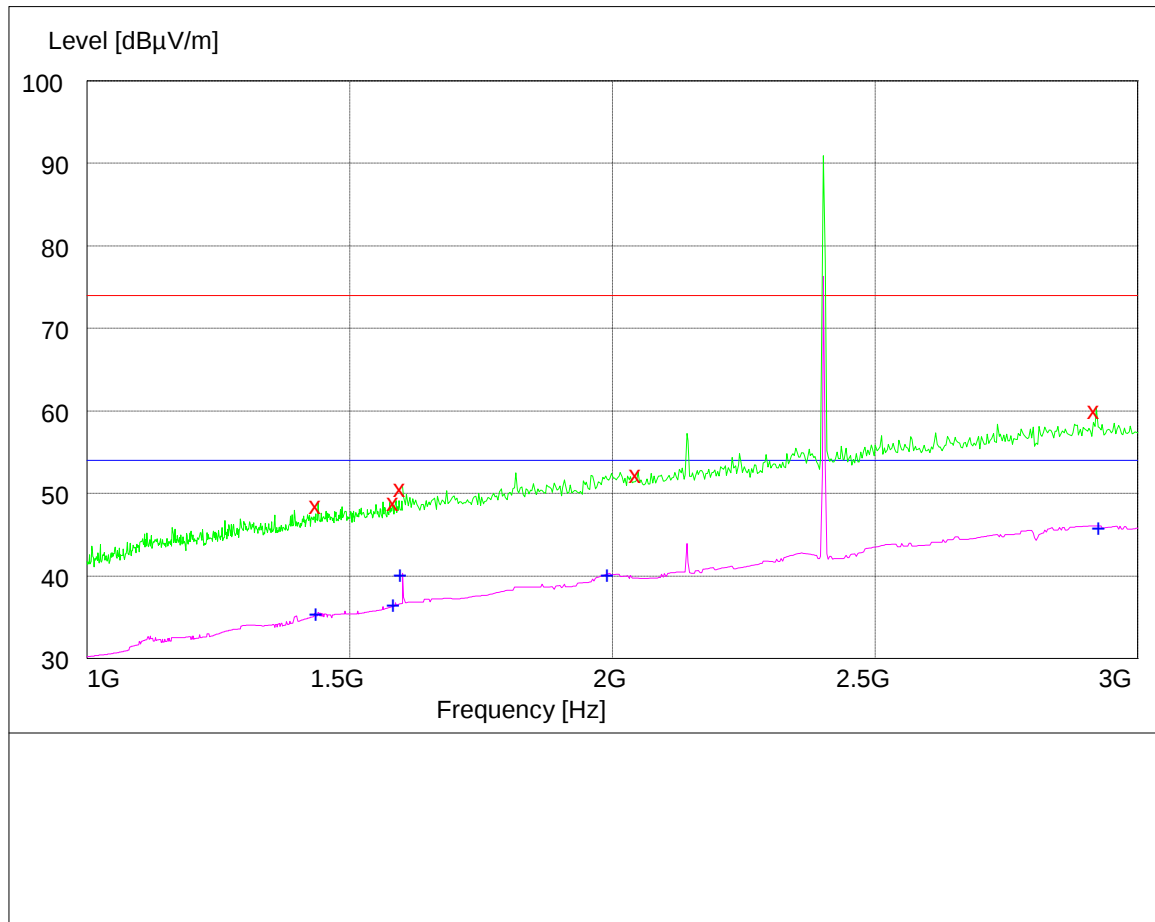
A pre-test was performed in the basic data rate and the enhance data rate, only the worst result was showed in the report.

The following figures and tables were those measured by an automatic measurement system. The vertical results are marked with red, and the horizontal ones are marked with blue. Plots of the band edge are also shown.

Figure 1: Spurious emission measurement results, low channel, 30MHz-1GHz, vertical and horizontal polarization


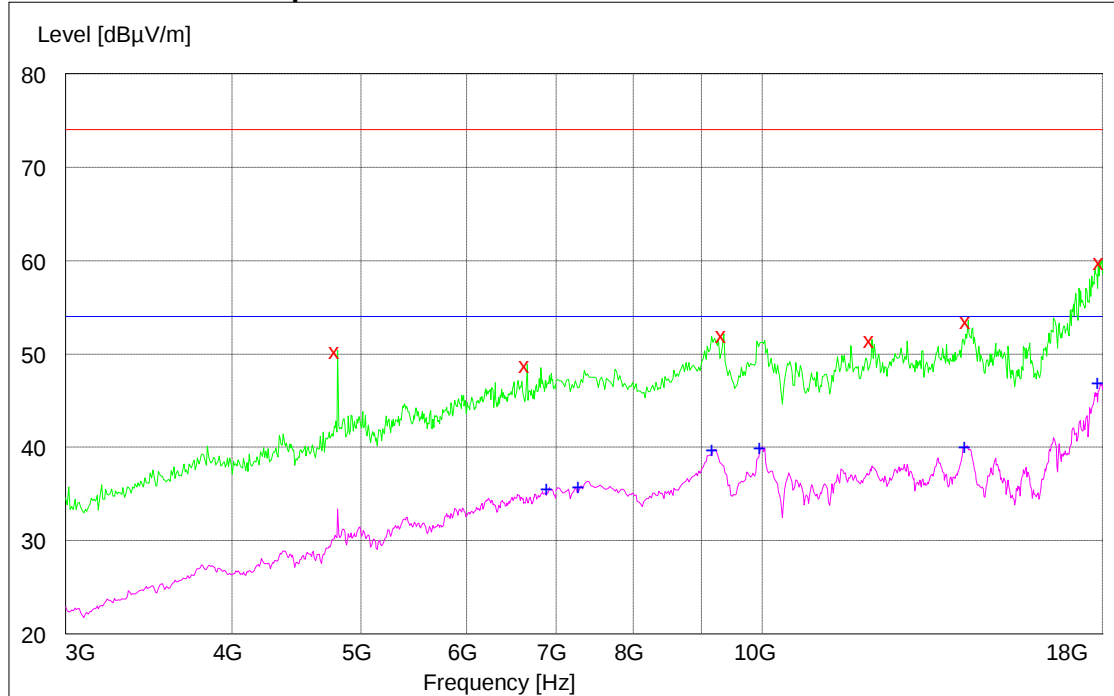
Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Azimuth (deg)	Height (cm)	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
31.683367	H	270.00	100.0	40.0	12.00	28.0
150.501002	H	180.00	200.0	43.5	6.90	36.6
255.711423	V	180.00	100.0	46.0	14.70	31.3
287.975952	H	180.00	100.0	46.0	29.10	16.9
320.240481	H	0.00	100.0	46.0	15.30	30.7
999.599198	V	270.00	200.0	54.0	24.90	29.1

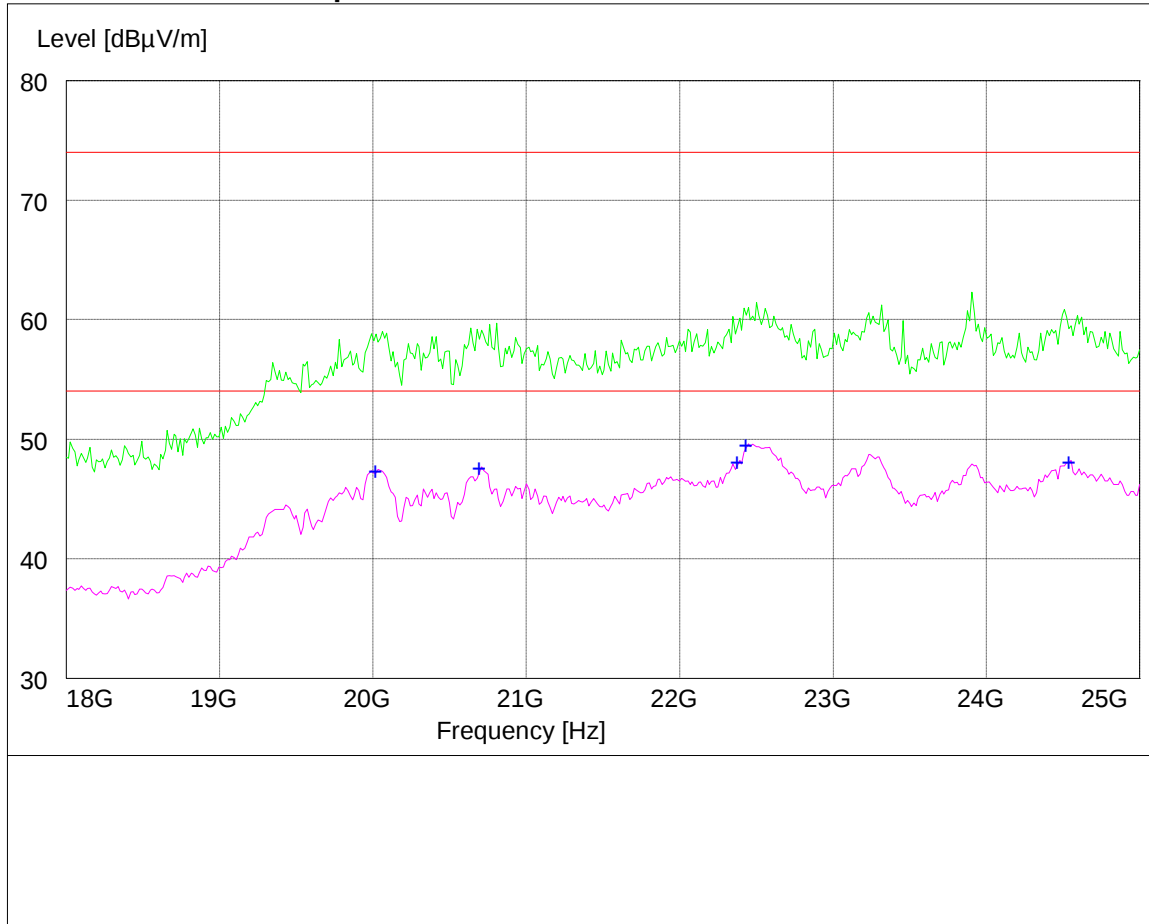
Figure 2: Spurious emission measurement results, low channel, 1GHz -3GHz, vertical and horizontal polarization


Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
1440.080160	V	Peak	74.0	48.81	25.2
1440.080160	V	AV	54.0	35.55	18.4
1587.975952	H	Peak	74.0	49.14	24.9
1586.773547	H	AV	54.0	36.74	17.3
1600.000000	H	Peak	74.0	50.82	23.2
1600.000000	H	AV	54.0	40.34	13.7
2048.897796	V	Peak	74.0	52.58	21.4
1995.591182	V	AV	54.0	40.34	13.7
2921.442886	V	Peak	74.0	60.36	13.6
2929.859719	V	AV	54.0	46.09	7.9

Figure 3: Spurious emission measurement results, low channel, 3GHz-18GHz, vertical and horizontal polarization

Final measurement result:

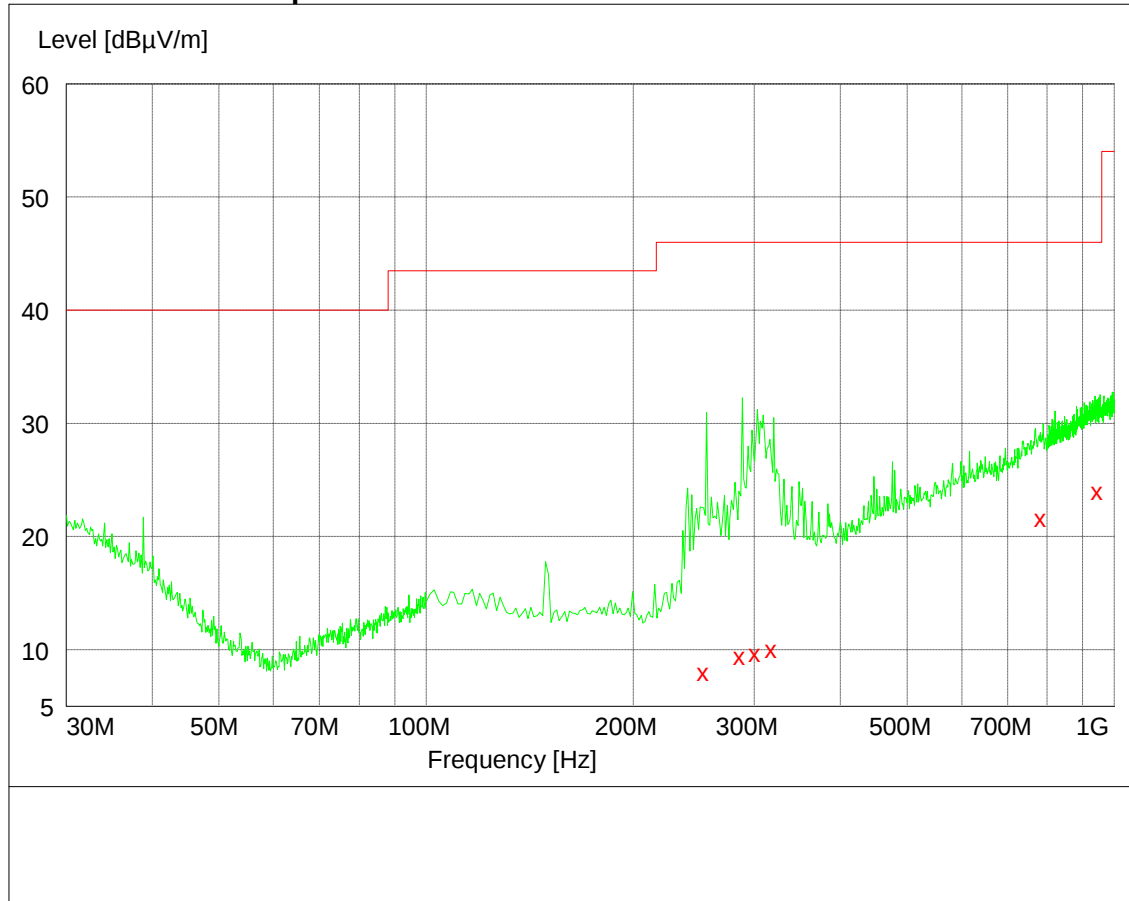
Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
4803.607214	V	Peak	74.0	50.36	23.6
6663.326653	H	Peak	74.0	48.86	25.1
9358.717435	H	Peak	74.0	52.15	21.8
12092.184369	V	Peak	74.0	51.51	22.5
14274.549098	V	Peak	74.0	53.60	20.4
17977.955912	H	Peak	74.0	59.96	14.0
6919.839679	H	AV	54.0	35.68	18.3
7308.617234	V	AV	54.0	35.88	18.1
9204.408818	V	AV	54.0	39.78	14.2
9997.995992	V	AV	54.0	40.02	14.0
14252.505010	H	AV	54.0	40.17	13.8
17933.867735	H	AV	54.0	46.95	7.0

Figure 4: Spurious emission measurement results, low channel, 18GHz-25GHz, vertical and horizontal polarization


Final measurement result:

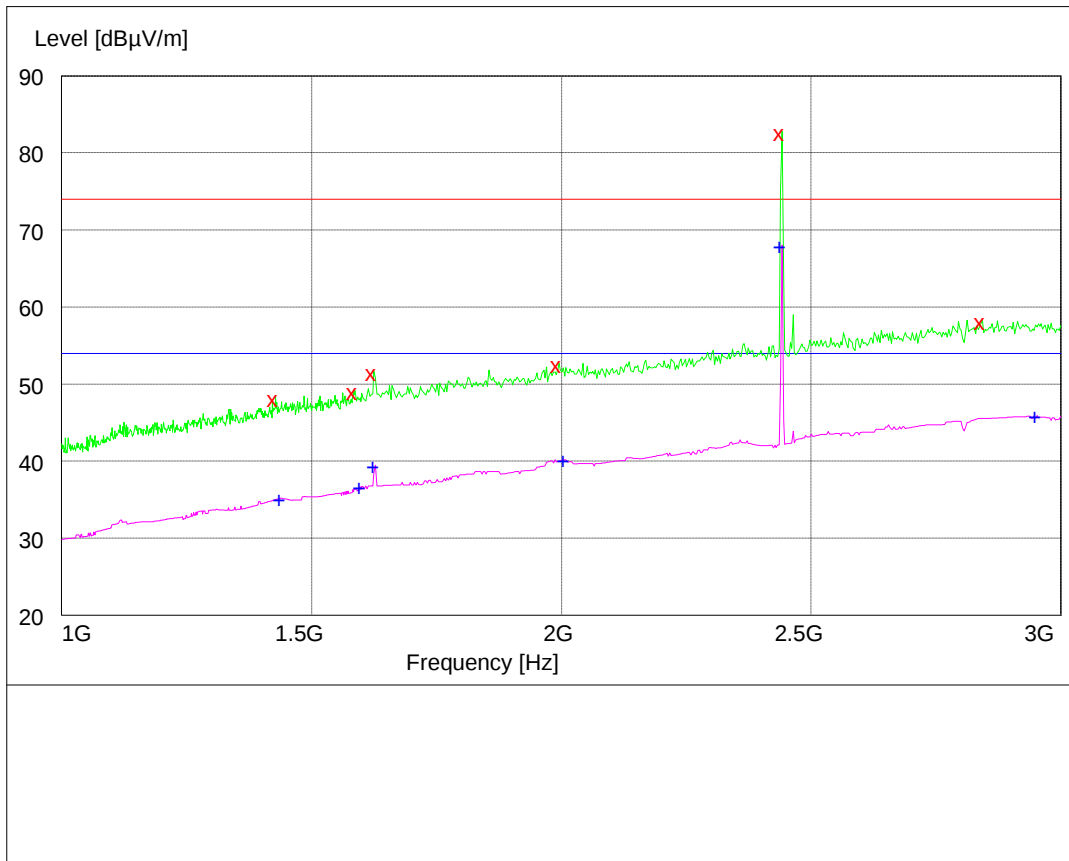
Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
20134.068136	V	AV	54.0	48.49	5.5
20726.414830	V	AV	54.0	47.19	6.8
22362.781563	H	AV	54.0	48.74	5.3
22546.893788	H	AV	54.0	50.61	3.4
24451.102204	H	AV	54.0	48.45	5.6

Figure 5: Spurious emission measurement results, mid channel, 30Hz-1GHz, vertical and horizontal polarization



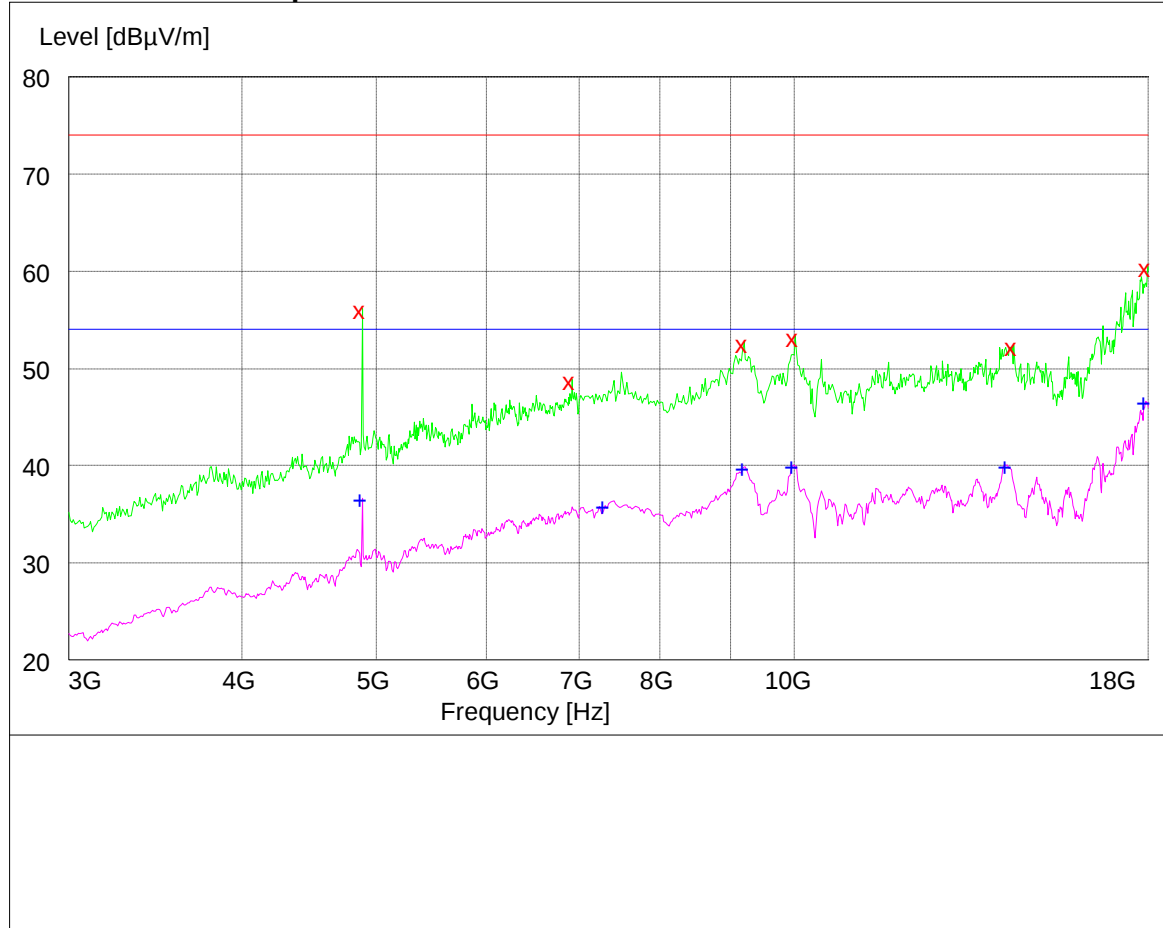
Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Azimuth (deg)	Height (cm)	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
255.711423	H	0.00	100.0	46.0	8.10	37.9
287.975952	H	180.00	200.0	46.0	9.50	36.5
303.406814	V	270.00	100.0	46.0	9.80	36.2
320.240481	H	0.00	100.0	46.0	10.10	35.9
788.777555	H	0.00	100.0	46.0	21.70	24.3
953.507014	V	90.00	100.0	46.0	24.10	21.9

Figure 6: Spurious emission measurement results, mid channel, 1GHz-3GHz, vertical and horizontal polarization


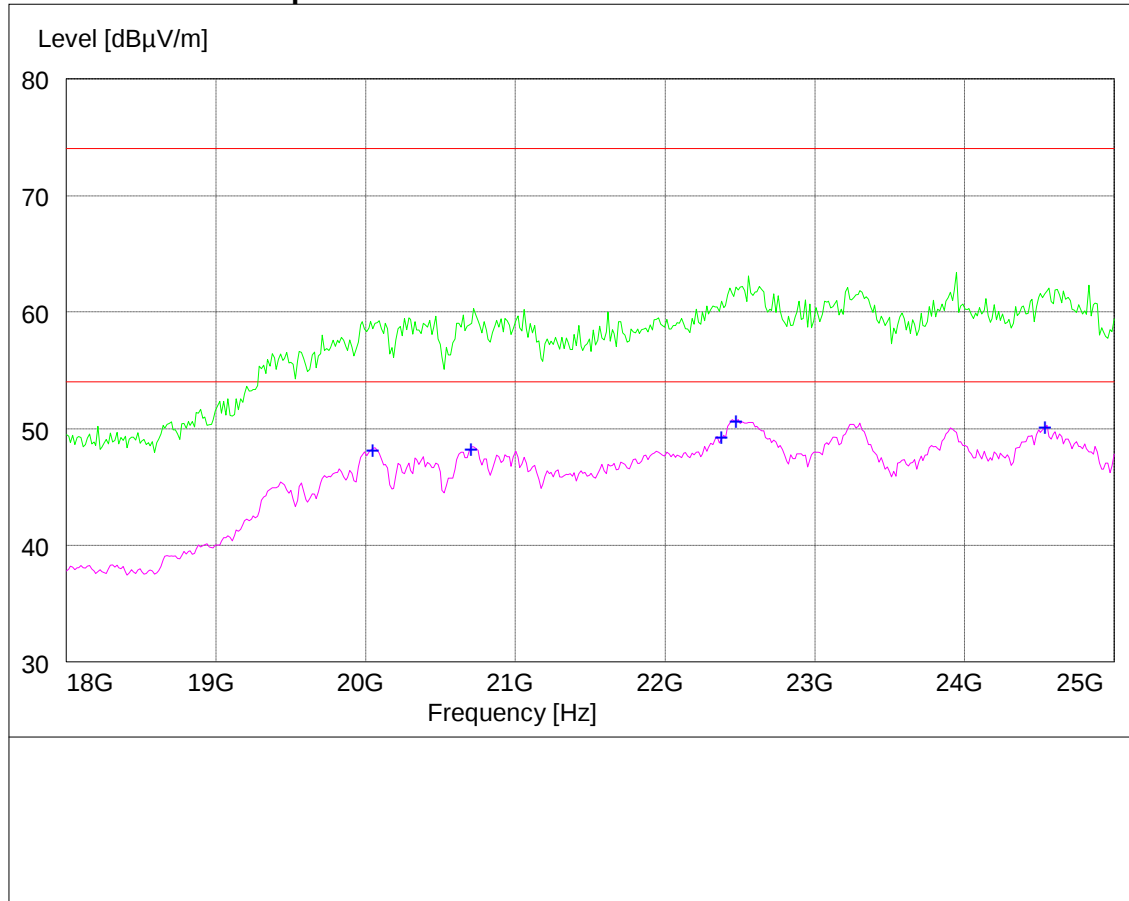
Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
1428.056112	V	Peak	74.0	48.31	25.7
1440.080160	V	AV	54.0	35.20	18.8
1586.773547	H	Peak	74.0	49.19	24.8
1600.000000	H	AV	54.0	36.70	17.3
1625.250501	H	Peak	74.0	51.70	22.3
1628.056112	H	AV	54.0	39.47	14.5
1995.591182	V	Peak	74.0	52.68	21.3
2009.619238	V	AV	54.0	40.21	13.8
2842.885772	V	Peak	74.0	58.33	15.7
2952.304609	V	AV	54.0	45.95	8.1

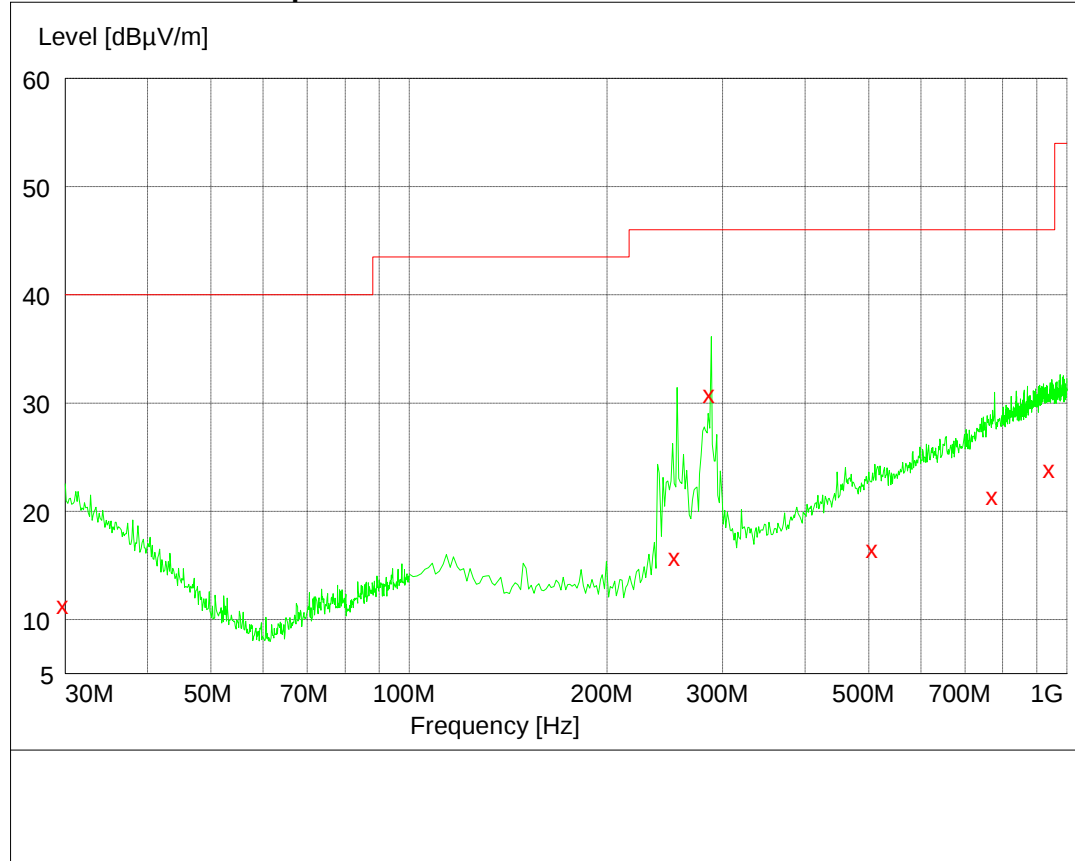
Figure 7: Spurious emission measurement results, mid channel, 3GHz-18GHz, vertical and horizontal polarization


Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBμV/m)	Level (dBμV/m)	Margin (QP) dB
4883.767535	V	Peak	74.0	56.15	17.8
4883.767535	V	AV	54.0	36.65	17.4
6919.839679	H	Peak	74.0	48.89	25.1
7308.617234	H	AV	54.0	35.88	18.1
9204.408818	H	Peak	74.0	52.70	21.3
9204.408818	H	AV	54.0	39.89	14.1
10020.040080	V	Peak	74.0	53.34	20.7
9997.995992	V	AV	54.0	40.07	13.9
14406.813627	V	Peak	74.0	52.39	21.6
14252.505010	V	AV	54.0	40.08	13.9
17977.955912	H	Peak	74.0	60.50	13.5
17933.867735	H	AV	54.0	46.60	7.4

Figure 8: Spurious emission measurement results, mid channel, 18GHz-25GHz, vertical and horizontal polarization

Final measurement result:

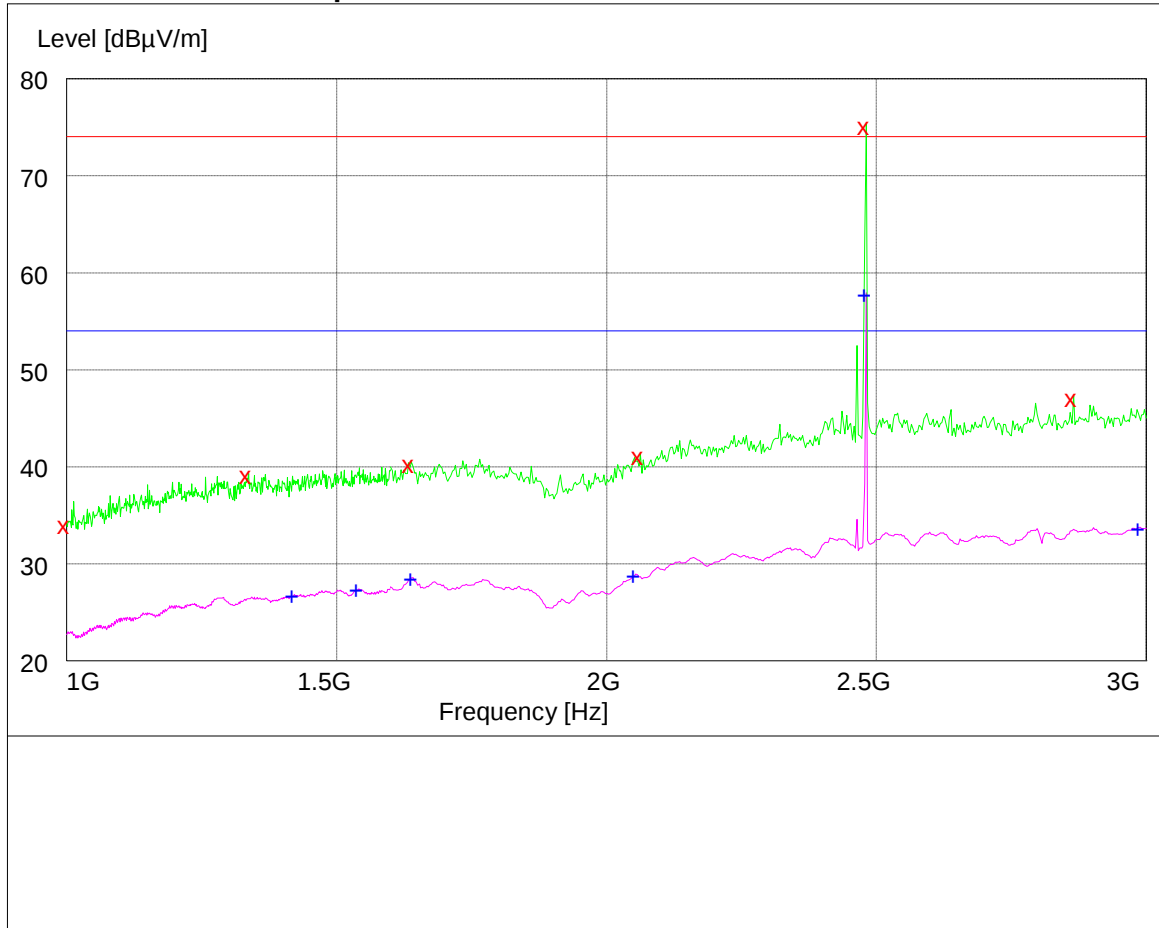
Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
20161.124348	V	AV	54.0	47.35	6.7
20731.445886	V	AV	54.0	48.14	5.8
22387.784763	H	AV	54.0	49.44	4.6
22528.977856	H	AV	54.0	50.19	3.8
24491.102204	H	AV	54.0	50.18	3.8

Figure 9: Spurious emission measurement results, high channel, 30MHz-1GHz, vertical and horizontal polarization


Final measurement result:

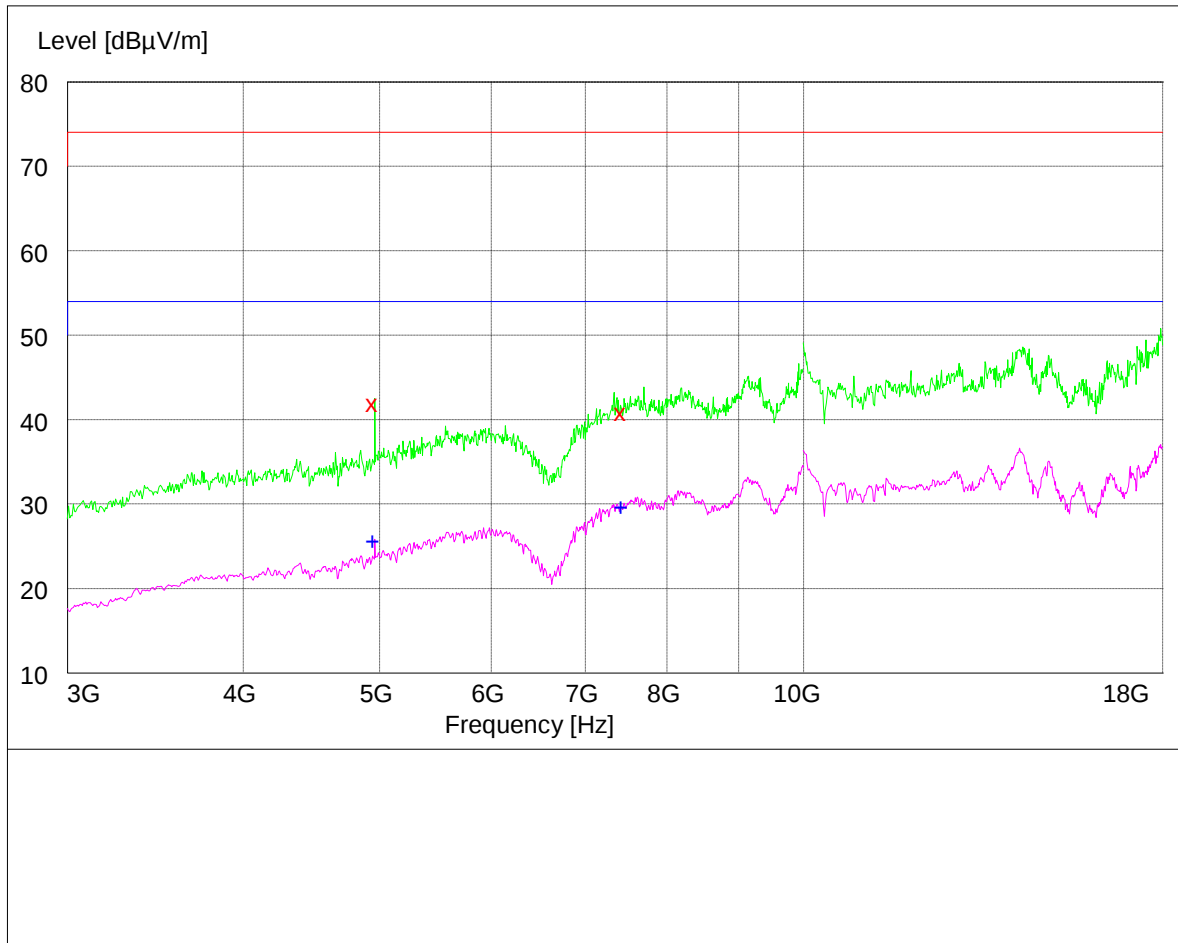
Frequency(MHz)	polarization (horizontal H/ vertical V)	Azimuth (deg)	Height (cm)	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
30.000000	H	0.00	100.0	40.0	11.40	28.6
255.711423	H	180.00	100.0	46.0	15.90	30.1
287.975952	V	0.00	100.0	46.0	31.00	15.0
511.022044	H	180.00	100.0	46.0	16.60	29.4
777.555110	V	270.00	100.0	46.0	21.50	24.5
949.498998	V	0.00	100.0	46.0	24.00	22.0

Figure 10: Spurious emission measurement results, high channel, 1GHz-3GHz, vertical and horizontal polarization

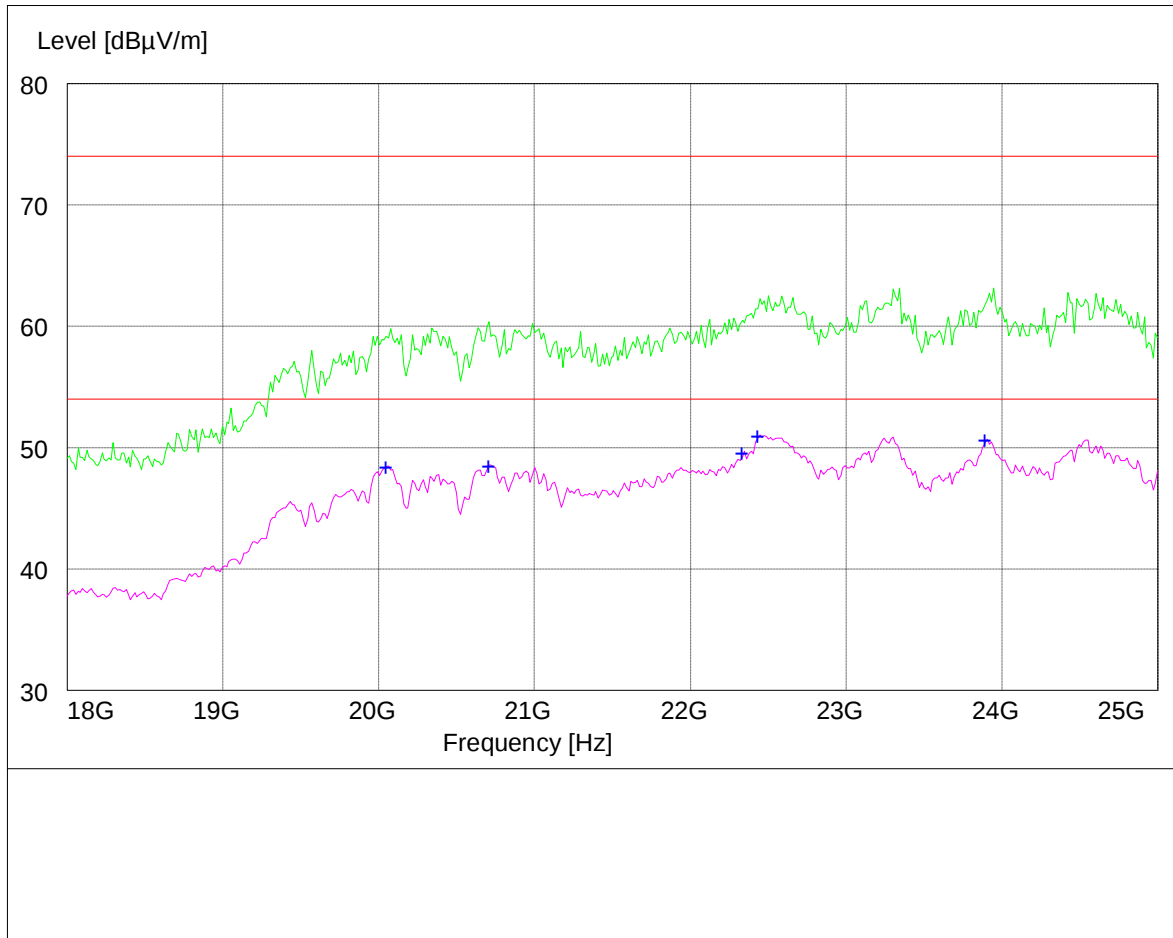


Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
1000.000000	V	Peak	74.0	34.13	39.87
1422.044088	V	AV	54.0	26.86	27.14
1336.673347	H	Peak	74.0	39.33	34.67
1541.082164	H	AV	54.0	27.44	26.56
1639.278557	V	Peak	74.0	40.53	33.47
1642.084168	V	AV	54.0	28.58	25.42
2062.925852	H	Peak	74.0	41.28	32.72
2054.509018	H	AV	54.0	28.96	25.04
2865.330661	V	Peak	74.0	47.29	26.71
2988.777555	V	AV	54.0	33.78	20.22

Figure 11: Spurious emission measurement results, high channel, 3GHz-18GHz, vertical and horizontal polarization

Final measurement result:

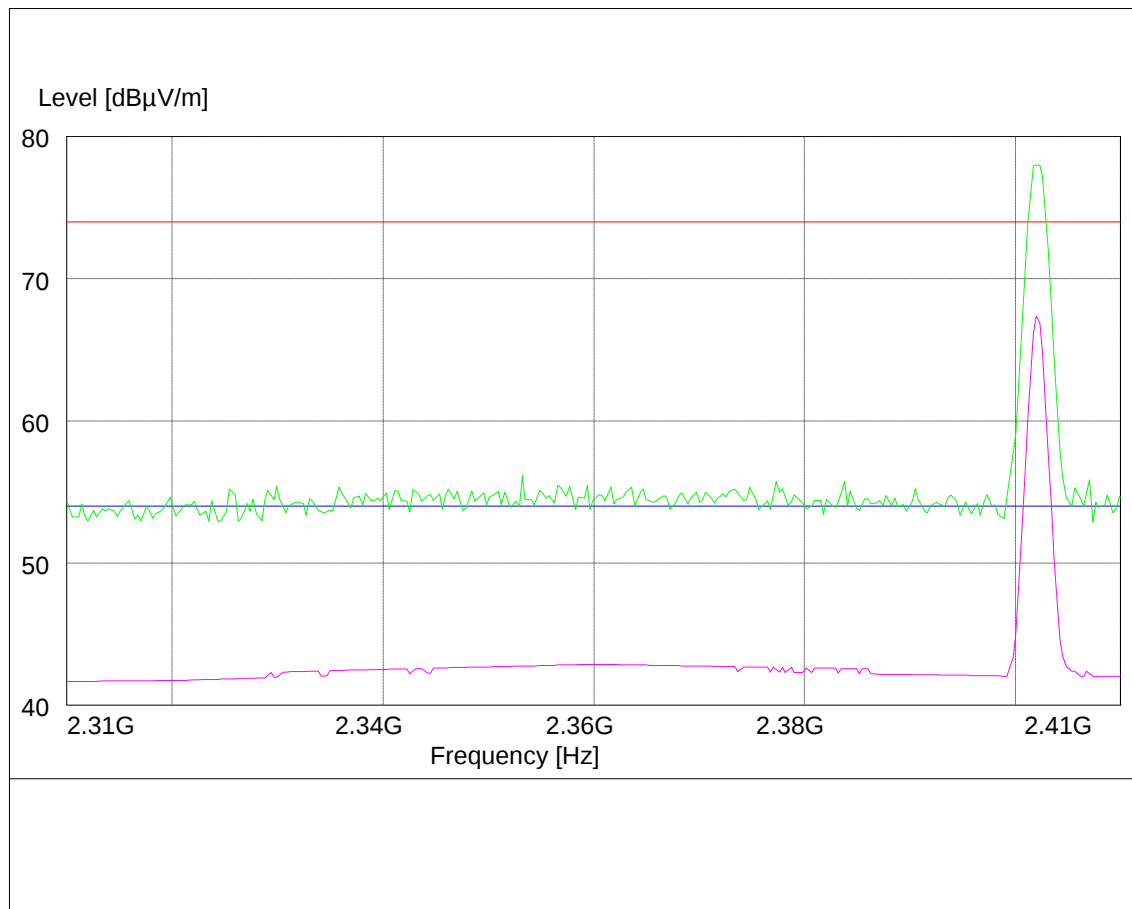
Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
4959.919000	H	Peak	74.0	42.13	31.9
4959.919000	H	AV	54.0	25.83	28.2
7450.901000	V	Peak	74.0	41.07	32.9
7450.901000	V	AV	54.0	29.81	24.2

Figure 12: Spurious emission measurement results, high channel, 18GHz-25GHz, vertical and horizontal polarization


Final measurement result:

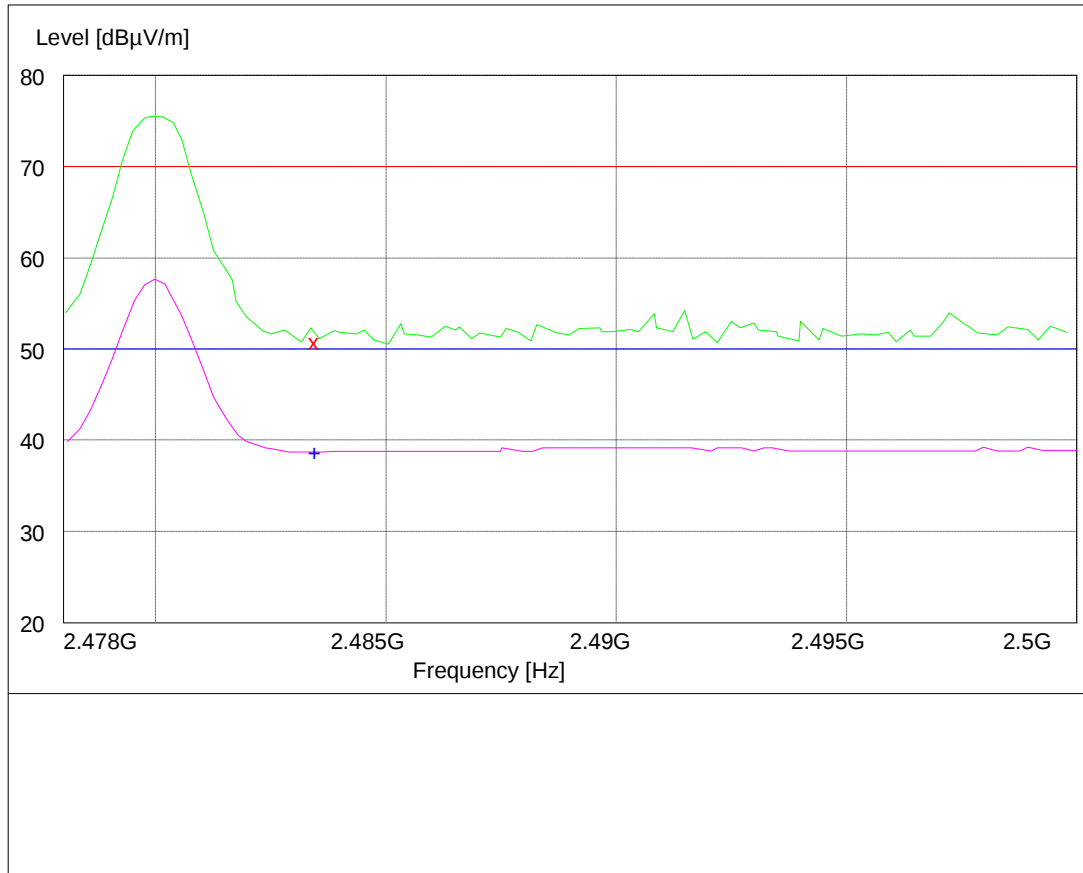
Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Limit (dBuV/m)	Level (dBuV/m)	Margin (QP) dB
20102.124548	V	AV	54.0	48.47	5.5
20681.442486	V	AV	54.0	48.58	5.4
22408.691295	H	AV	54.0	49.72	4.3
22506.891288	H	AV	54.0	51.03	3.0
23914.812323	H	AV	54.0	50.69	3.3

Figure 13: Band Edge measurement results
Low Channel, vertical and horizontal polarization



Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Level (dBμV/m)	Result
2402	H	Peak	77.18	--
2402	H	AV	66.34	--
2390	H	Peak	54.25	Passed
2390	H	AV	42.12	Passed

High Channel, vertical and horizontal polarization


Final measurement result:

Frequency(MHz)	polarization (horizontal H/ vertical V)	Detector	Level (dBuV/m)	Result
2480.0	H	Peak	75.38	--
2480.0	H	AV	57.94	--
2483.5	H	Peak	50.86	Passed
2483.5	H	AV	38.73	Passed

4.1.6 Frequency Separation

RESULT:
Passed

Date of testing : 2012-02-03
 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+B
 Ambient temperature : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

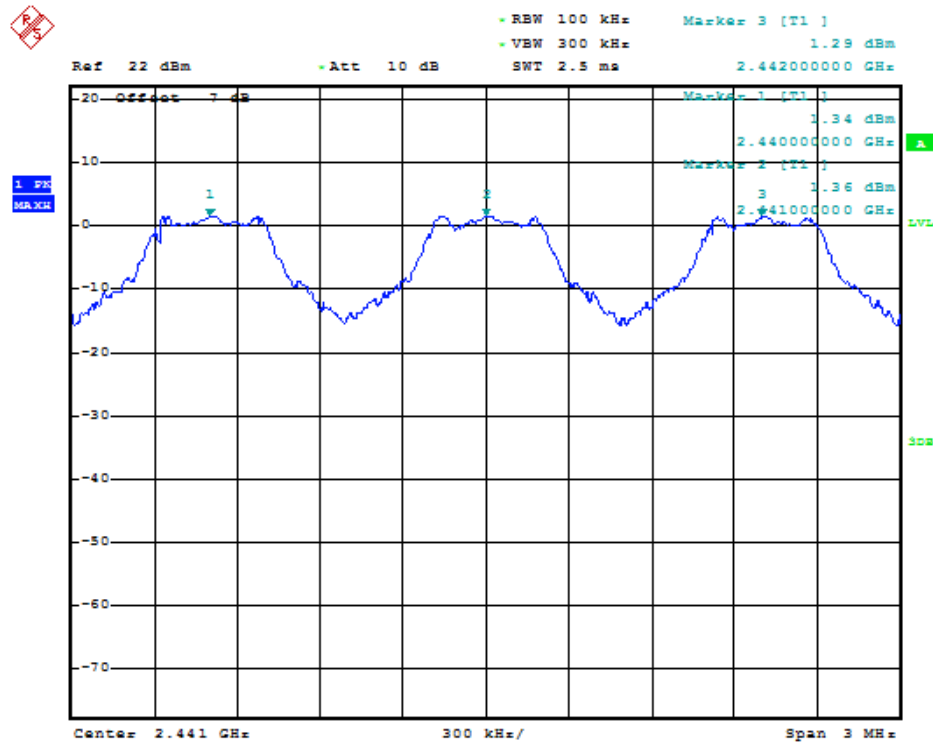
Table 9: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Passed
Adjacency Channel	2442			
Adjacency Channel	2440			

The frequency separation value that was found at the lowest and highest frequency is the same as the middle channel.

The frequency separation value in enhance data rate is the same as in basic data rate.

Test Plot of Frequency Separation



4.1.7 Number of hopping frequency**RESULT:****Passed**

Date of testing : 2012-02-03
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

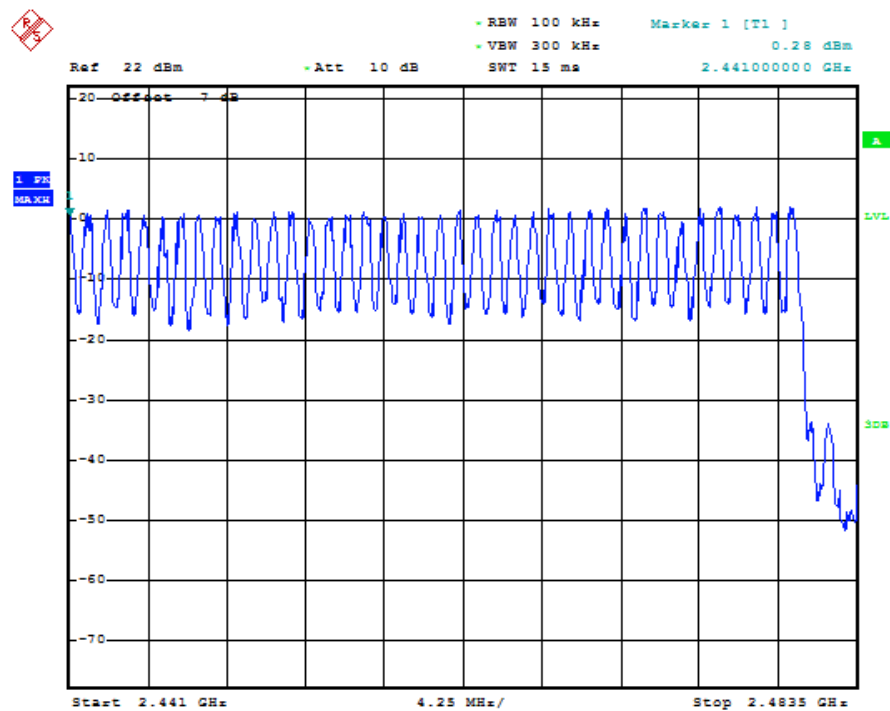
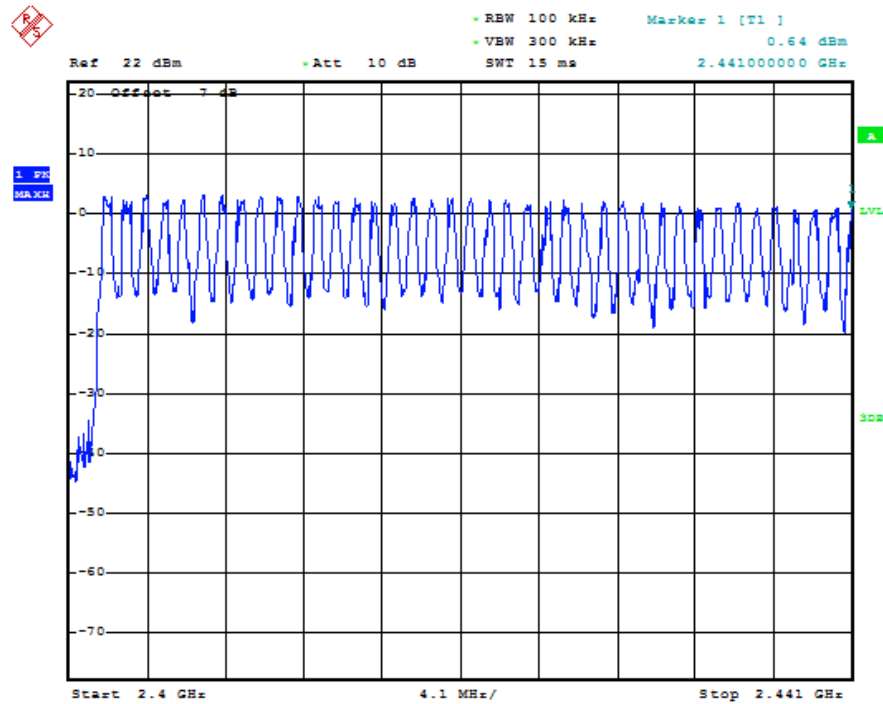
Test Channel : Low/ Middle/ High
Operation Mode : A+B
Ambient temperature : 22°C
Relative humidity : 52%
Atmospheric pressure : 101 kPa

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	Passed

The number of hopping frequency in enhance data rate is the same as in basic data rate.

Test Plot of Number of hopping frequencies



4.1.8 Time of Occupancy

RESULT:
Passed

Date of testing : 2012-02-03
 Test standard : FCC part 15.247(a)(1)(iii)
 Basic standard : ANSI C63.4: 2003
 Limits : 0.4s
 Kind of test site : Shield room

Test setup

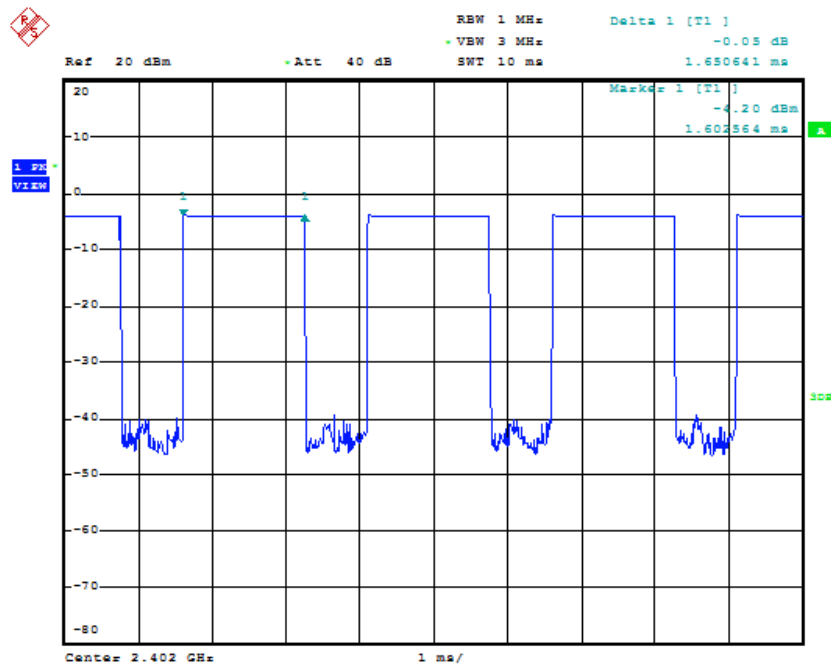
Test Channel : Low/ Middle/ High
 Operation Mode : A+B
 Ambient temperature : 22°C
 Relative humidity : 52%
 Atmospheric pressure : 101 kPa

Table 11: Test result of Time of Occupancy

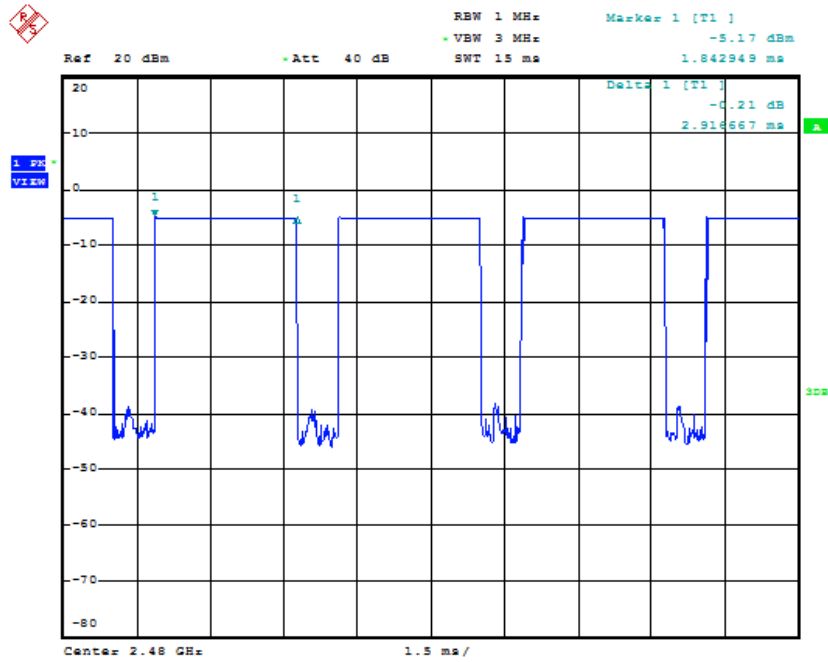
Data Mode	Pulse width (ms)	Formula of Dwell time	Measured Dwell time (s)	Limit (s)	Result
DH1	0.392	Pulse width*1600*31.6/2/79	0.125	<0.4	Passed
DH3	1.650	Pulse width*1600*31.6/4/79	0.264	<0.4	Passed
DH5	2.917	Pulse width*1600*31.6/6/79	0.311	<0.4	Passed

Note:

1. The dwell time value that was found at the lowest and highest frequency is the same as the middle channel.
2. Dwell time=Pulse width*(Hopping rate/Number of Channel)*Period

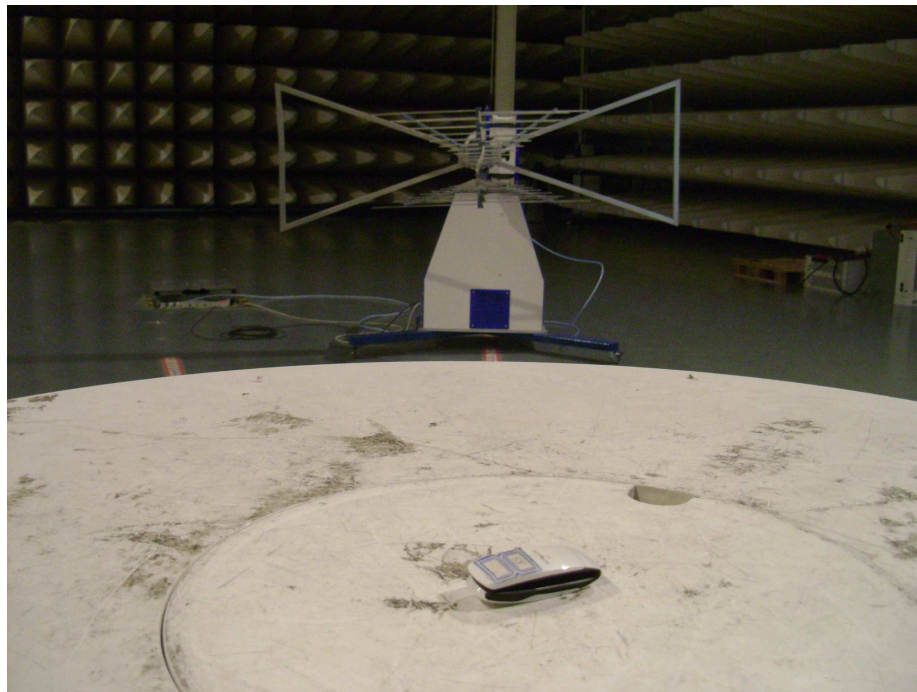


Middle Channel- DH5

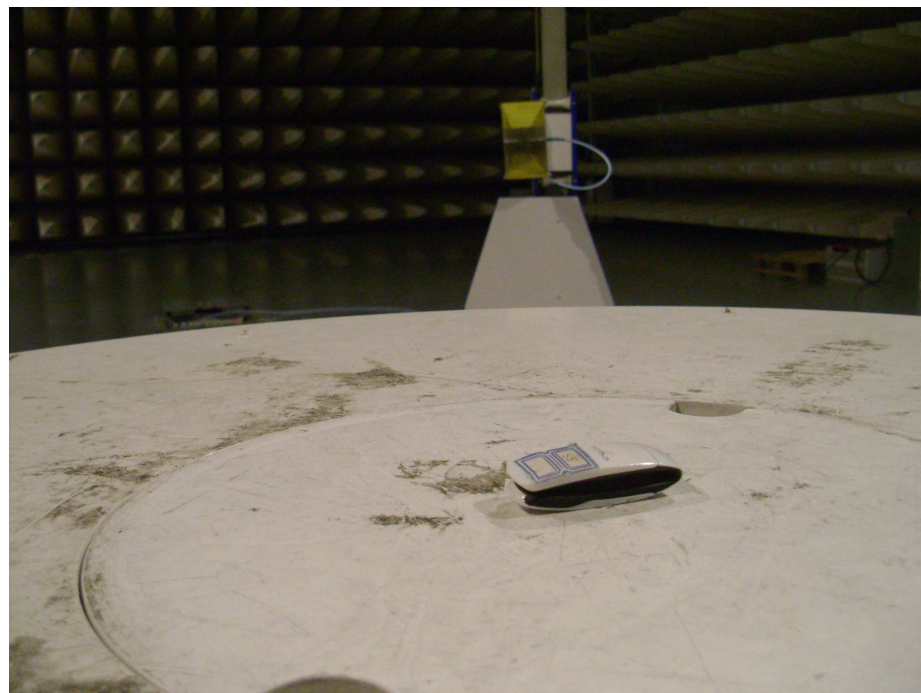


5. Photographs of the Test Set-Up

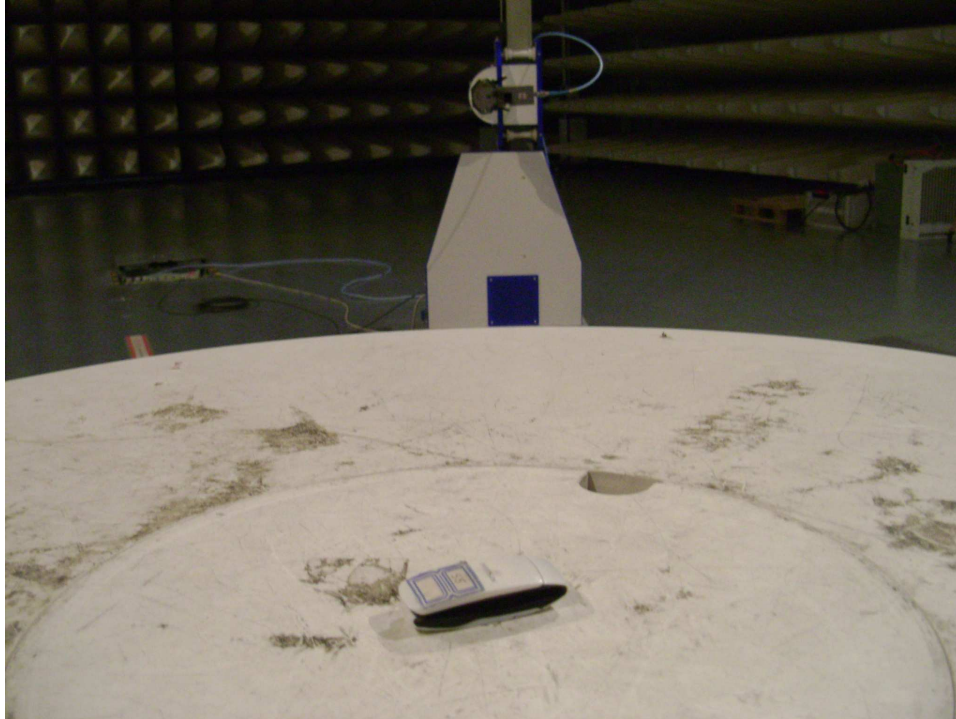
Photograph 1: Set-up for Spurious Emissions 30MHz – 1GHz



Photograph 2: Set-up for Spurious Emissions 1GHz – 18GHz



Photograph 3: Set-up for Spurious Emissions 18GHz – 25GHz



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