



# FCC PART 15C TEST REPORT No. I14Z45272-GTE03

for

**VSN Technologies Inc.**

**Quad GSM/Dual WCDMA Smart Phone**

**Model Name: V1000**

**Marketing Name: R.35**

**FCC ID: 2AA9WV1000**

with

**Hardware Version: P3**

**Software Version: TBW972618\_9007\_V006119**

**Issued Date : 2014-03-19**



**DAR accreditation (DIN EN ISO/IEC 17025): No. D-PL-12123-01-01**

**FCC 2.948 Listed: No.733176**

**IC O.A.T.S listed: No.6629B**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

**Test Laboratory:**

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology  
No.18A, Kangding Street, Beijing Economic-Technological Development Area, Beijing, China 100176  
Tel:+86(0)10-67857376, Fax:+86(0)10-67857376 Email:welcome@emcrite.com. www.emcrite.com

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## 1. Test Laboratory

### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No.18A, Kangding Street, Beijing Economical Development Area,  
Beijing, China  
Postal Code: 100176  
Telephone: 00861067857376  
Fax: 00861067857376

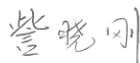
### 1.2. Testing Environment

Normal Temperature: 15-35℃  
Extreme Temperature: -20/+55℃  
Relative Humidity: 20-75%

### 1.3. Project data


Project Leader: Zi Xiaogang  
Testing Start Date: 2014-02-26  
Testing End Date: 2014-03-18

### 1.4. Signature



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**Zi Xiaogang**  
**(Prepared this test report)**



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**Sun Xiangqian**  
**(Reviewed this test report)**



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**Lu Bingsong**  
**Deputy Director of the laboratory**  
**(Approved this test report)**

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: VSN Technologies Inc.  
Address /Post: 1975 E. Sunrise Blvd., #400 Fort Lauderdale, FL  
City: fort lauderdale  
Postal Code: 33323  
Country: United States  
Contact Person: Donghailun  
Contact Email: amit.verma@vsnmobil.com  
Telephone: 9546094912  
Fax: 9543068450

### **2.2. Manufacturer Information**

Company Name: Beijing Benywave Technology Co. Ltd.  
Address /Post: NO.55 Jiachang 2 Road, OPTO-Mechatronics  
Industrial Park, Tongzhou District  
City: Beijing  
Postal Code: 100111  
Country: China  
Telephone: +86-10-58928917

### 3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

#### 3.1. About EUT

Description	Quad GSM/Dual WCDMA Smart Phone
Model Name	V1000
Marketing Name	R.35
FCC ID	2AA9WV1000
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	GFSK/ $\pi/4$ DQPSK/8DPSK
Number of Channels	79
Power Supply	3.8V DC by Battery

#### 3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
UT11a	862955020000750	P3	TBW972618_9007_V006119
UT09a	862955020000719	P3	TBW972618_9007_V006119

\*EUT ID: is used to identify the test sample in the lab internally.

#### 3.3. Internal Identification of AE used during the test

AE ID*	Description		
AE1	Battery	/	1445272BA003
AE2	Battery	/	1445272BA004
AE3	Battery	/	1445272BA005
AE4	Battery	/	1445272BA006
AE5	Travel charger	/	1445272CH001
AE6	Travel charger	/	1445272CH004
AE7	Travel charger	/	1445272CH005
AE1, AE2, AE3, AE4			
Model		TBW5913	
Manufacturer		REVEL	
Capacitance		1420mAh	
Nominal voltage		3.7V	
AE5, AE6, AE7			
Model		/	
Manufacturer		REVEL	
Length of cable		/	

\*AE ID: is used to identify the test sample in the lab internally.

#### 3.4. Normal Accessory setting

Fully charged battery should be used during the test.

### **3.5. General Description**

The Equipment Under Test (EUT) is a model of Quad GSM/Dual WCDMA Smart Phone with integrated antenna. It consists of normal options: lithium battery, charger. Manual and specifications of the EUT were provided to fulfil the test.

## **4. Reference Documents**

### **4.1. Documents supplied by applicant**

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

### **4.2. Reference Documents for testing**

The following documents listed in this section are referred for testing.

FCC CFR 47, Part 15, Subpart C:		
FCC Part15	15.205 Restricted bands of operation;	10–1–13
	15.209 Radiated emission limits, general requirements;	Edition
	15.247 Operation within the bands 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz.	
FCC Part 2	Frequency Allocations and Radio Treaty Matters;	10–1–13
	General Rules and Regulations	Edition
ANSI C63.10	American National Standard for Testing Unlicensed Wireless Devices	2009

## 5. LABORATORY ENVIRONMENT

**Control room / conducted chamber** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω

**Fully-anechoic chamber 2** (8.6 meters×6.1 meters×3.85 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 1 Ω
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 MHz

**Semi-anechoic chamber 2 / Fully-anechoic chamber 3** (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz



## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of Test Results

Abbreviations used in this clause:

- P** Pass, The EUT complies with the essential requirements in the standard.
- F** Fail, The EUT does not comply with the essential requirements in the standard
- NA** Not Applicable, The test was not applicable
- NP** Not Performed, The test was not performed by TMC

SUMMARY OF MEASUREMENT RESULTS	Sub-clause	Verdict
Peak Output Power - Conducted	15.247 (b)(1)	<b>P</b>
Frequency Band Edges	15.247 (d)	<b>P</b>
Conducted Emission	15.247 (d)	<b>P</b>
Radiated Emission	15.247, 15.205, 15.209	<b>P</b>
Time of Occupancy (Dwell Time)	15.247 (a) (1)(iii)	<b>P</b>
20dB Bandwidth	15.247 (a)(1)	<b>NA</b>
Carrier Frequency Separation	15.247 (a)(1)	<b>P</b>
Number of hopping channels	15.247 (a)(b)(iii)	<b>P</b>
AC Powerline Conducted Emission	15.107, 15.207	<b>P</b>

Please refer to **ANNEX A** for detail.

The measurement is made according to ANSI C63.10.

### 6.2. Statements

TMC has evaluated the test cases requested by the applicant /manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.2

## 7. Test Equipments Utilized

### Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Vector Signal Analyzer	FSU26	200030	Rohde & Schwarz	2014-06-12
2	Bluetooth Tester	CBT32	100649	Rohde & Schwarz	2015-02-09

### Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	2014-11-05
2	EMI Antenna	VULB 9163	9163 175	Schwarzbeck	2014-07-13
3	EMI Antenna	3117	00119021	ETS-Lindgren	2014-04-19
4	Dual-Ridge Waveguide Horn Antenna	3116	2663	ETS-Lindgren	2014-06-30
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	2014-06-30
6	Bluetooth Tester	CBT	100153	Rohde & Schwarz	2014-09-15
7	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2014-04-14
8	Loop Antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2014-12-12
9	Pre-amplifier(18GHz)	SCU18	1005277	Rohde & Schwarz	/
10	Pre-amplifier(26.5GHz)	SCU26	1006788	Rohde & Schwarz	/

### Anechoic chamber

Fully anechoic chamber by Frankonia German.

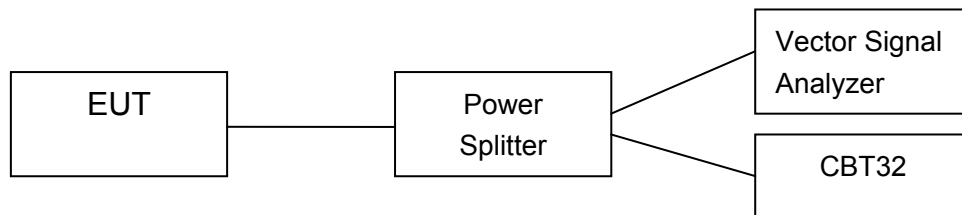
## ANNEX A: MEASUREMENT RESULTS

### A.1. Measurement Method

#### A.1.1. Conducted Measurements

The measurement is made according to ANSI C63.10.

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode (Transmitter, receiver or transmitter & receiver).
- 3). Set the EUT to the required channel.
- 4). Set the EUT hopping mode (hopping or hopping off).
- 5). Set the spectrum analyzer to start measurement.
- 6). Record the values. Vector Signal Analyzer



#### A.1.2. Radiated Emission Measurements

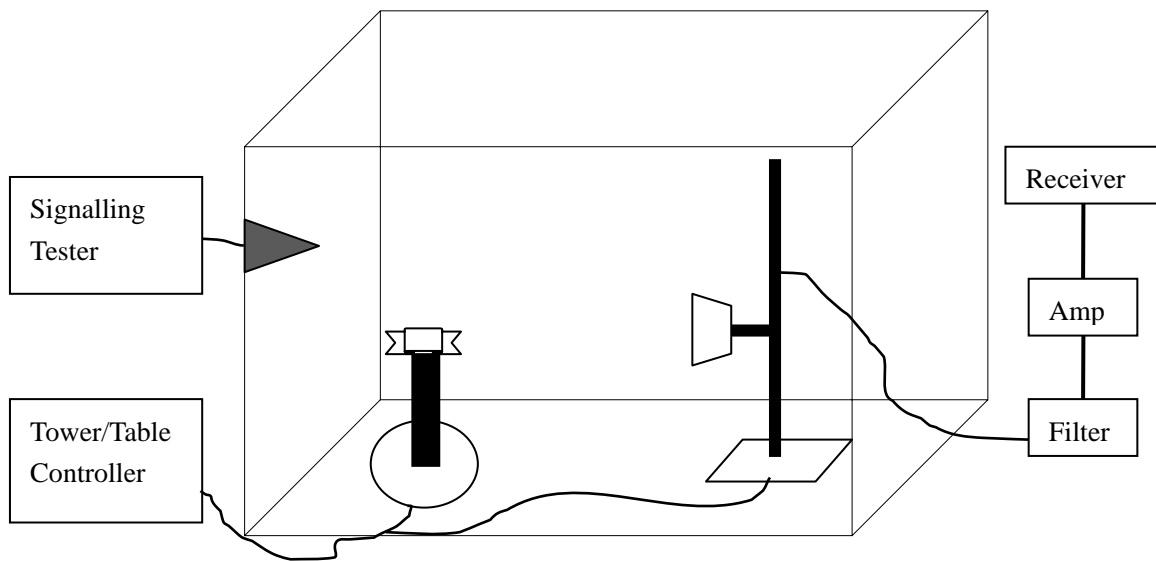
The measurement is made according to ANSI C63.10

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 1MHz;



## A.2. Peak Output Power - Conducted

### Measurement Limit:

Standard	Limit (dBm)
FCC Part 15.247(b)(1)	< 30

The measurement is made according to ANSI C63.10.

### Test Condition

Hopping Mode	RBW	VBW	Span	Sweeptime
Hopping OFF	3MHz	3MHz	5MHz	2.5ms

### Measurement Results:

#### For GFSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	5.88	6.54	6.48	P

#### For $\pi/4$ DQPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	5.76	6.40	6.33	P

#### For 8DPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	6.00	6.66	6.60	P

**Conclusion: PASS**

### A.3. Frequency Band Edges - Conducted

#### Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

The measurement is made according to ANSI C63.10.

#### Measurement Result:

##### For GFSK

Channel	Hopping	Band Edge Power ( dBc)		Conclusion
0	Hopping OFF	Fig.1	-56.13	P
	Hopping ON	Fig.2	-52.57	P
78	Hopping OFF	Fig.3	-61.08	P
	Hopping ON	Fig.4	-49.32	P

##### For $\pi/4$ DQPSK

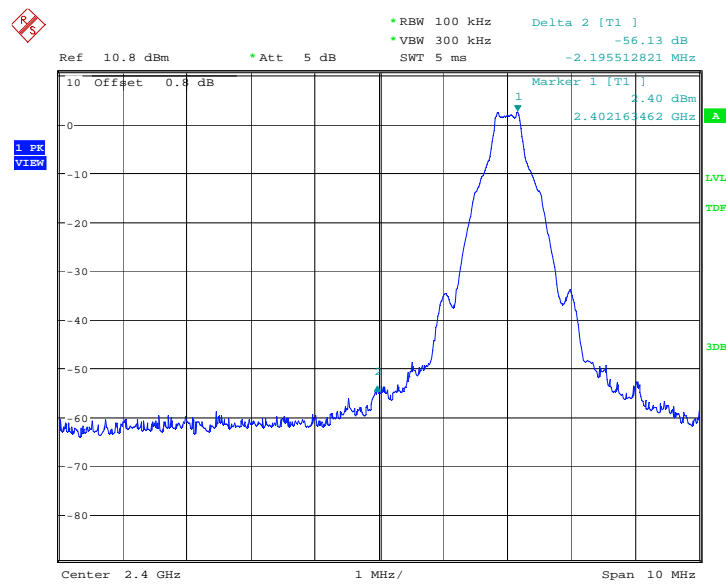
Channel	Hopping	Band Edge Power ( dBc)		Conclusion
0	Hopping OFF	Fig.5	-54.88	P
	Hopping ON	Fig.6	-56.15	P
78	Hopping OFF	Fig.7	-58.70	P
	Hopping ON	Fig.8	-59.57	P

##### For 8DPSK

Channel	Hopping	Band Edge Power ( dBc)		Conclusion
0	Hopping OFF	Fig.9	-55.55	P
	Hopping ON	Fig.10	-52.74	P
78	Hopping OFF	Fig.11	-57.50	P
	Hopping ON	Fig.12	-59.77	P

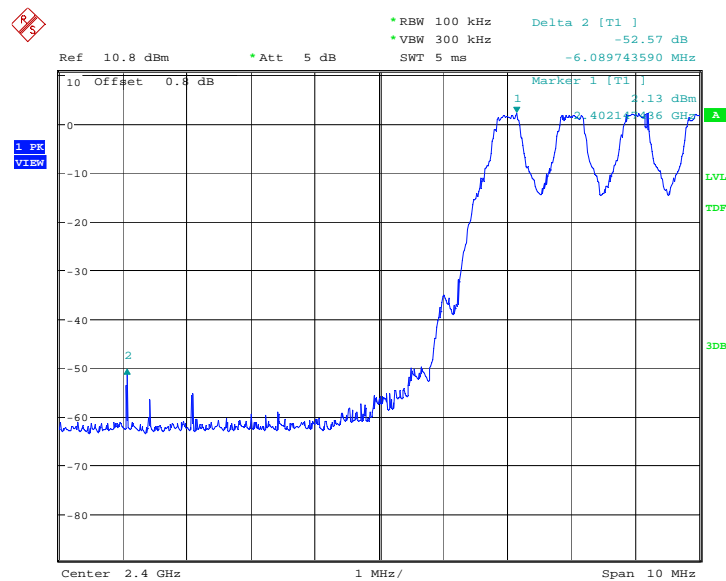
**Conclusion: PASS**

Test graphs as below



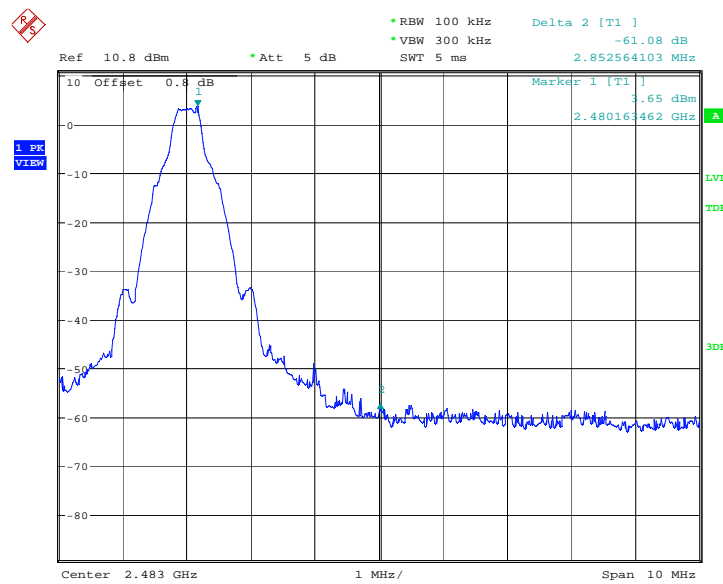
Date: 11.MAR.2014 16:56:05

Fig.1. Frequency Band Edges: GFSK, Channel 0, Hopping Off



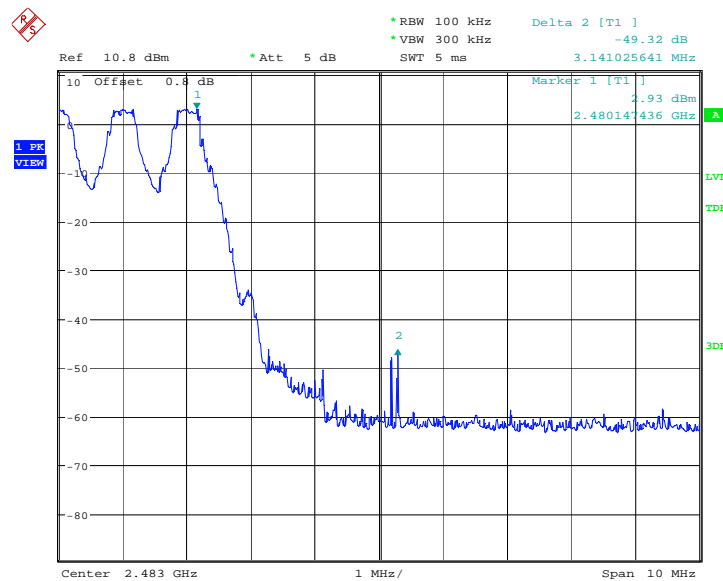
Date: 11.MAR.2014 16:58:25

Fig.2. Frequency Band Edges: GFSK, Channel 0, Hopping On



Date: 11.MAR.2014 16:56:22

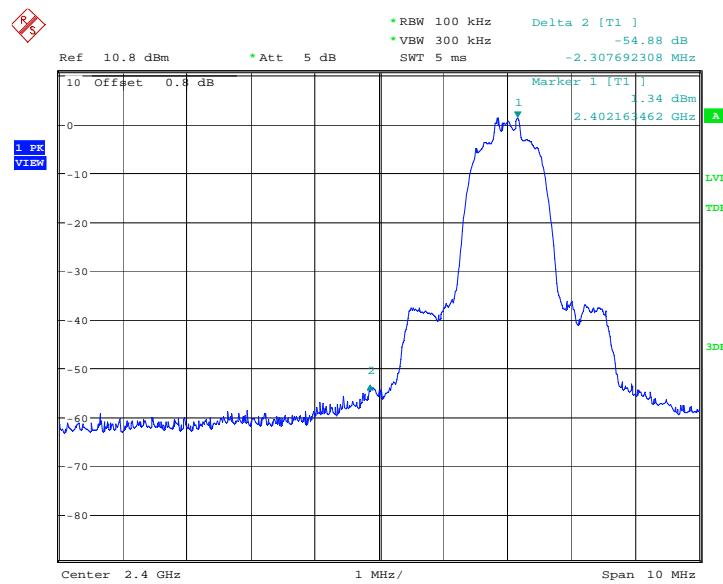
Fig.3. Frequency Band Edges: GFSK, Channel 78, Hopping Off



Date: 11.MAR.2014 17:00:28

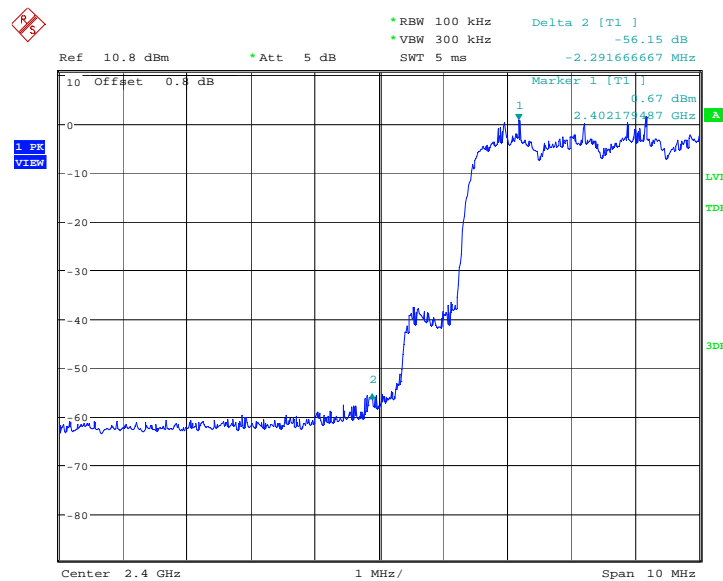
Fig.4. Frequency Band Edges: GFSK, Channel 78, Hopping On





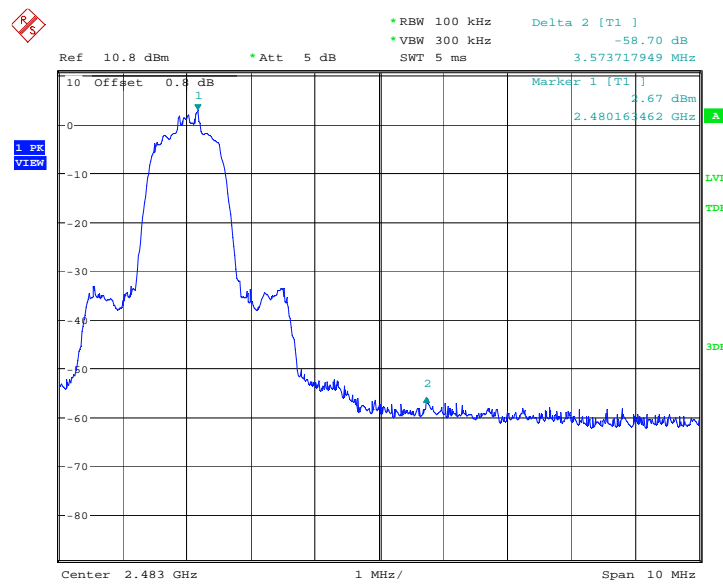
Date: 11.MAR.2014 17:17:34

Fig.5. Frequency Band Edges:  $\pi/4$  DQPSK, Channel 0, Hopping Off



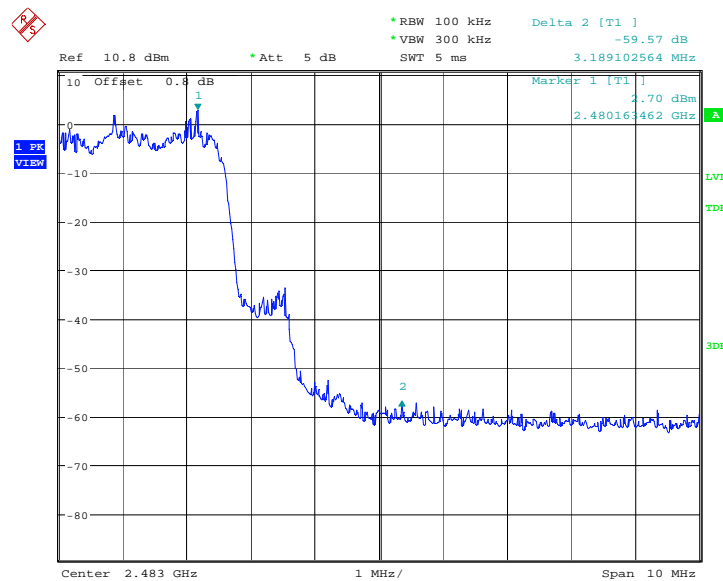
Date: 11.MAR.2014 17:19:54

Fig.6. Frequency Band Edges:  $\pi/4$  DQPSK, Channel 0, Hopping On



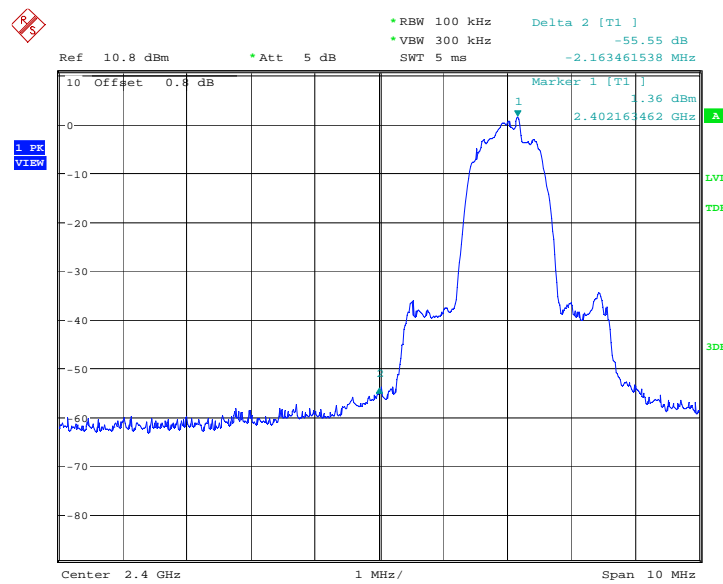
Date: 11.MAR.2014 17:17:51

Fig.7. Frequency Band Edges:  $\pi/4$  DQPSK, Channel 78, Hopping Off



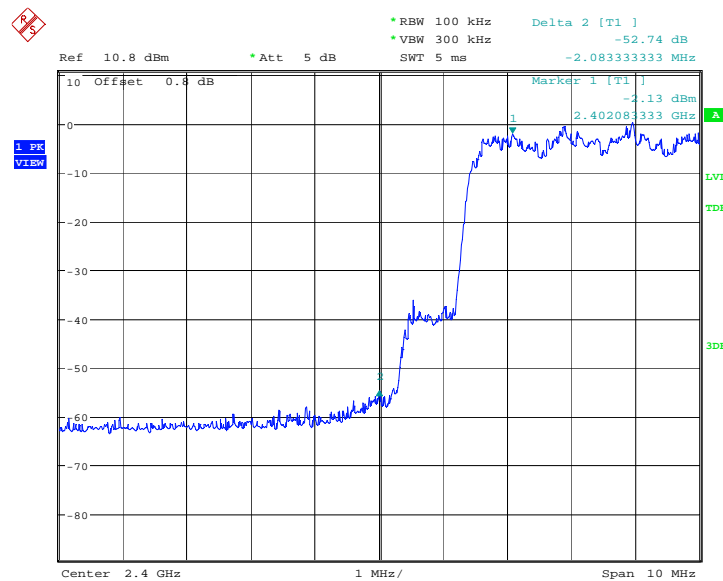
Date: 11.MAR.2014 17:21:56

Fig.8. Frequency Band Edges:  $\pi/4$  DQPSK, Channel 78, Hopping On



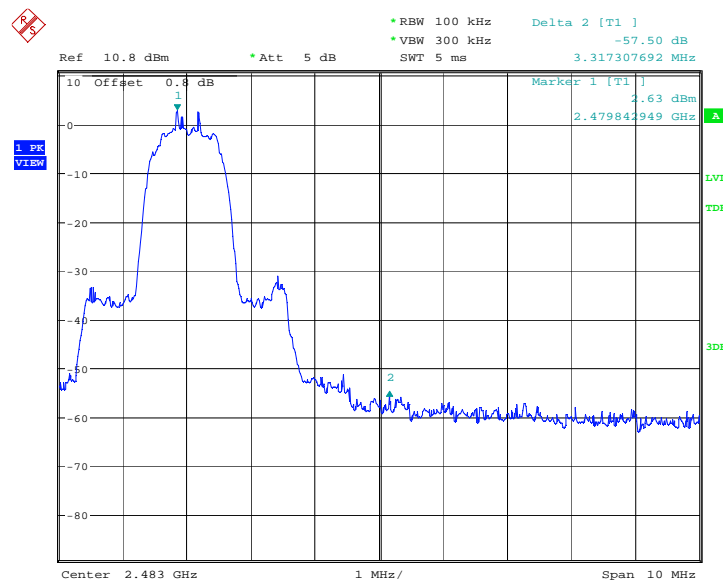
Date: 11.MAR.2014 17:39:05

Fig.9. Frequency Band Edges: 8DPSK, Channel 0, Hopping Off



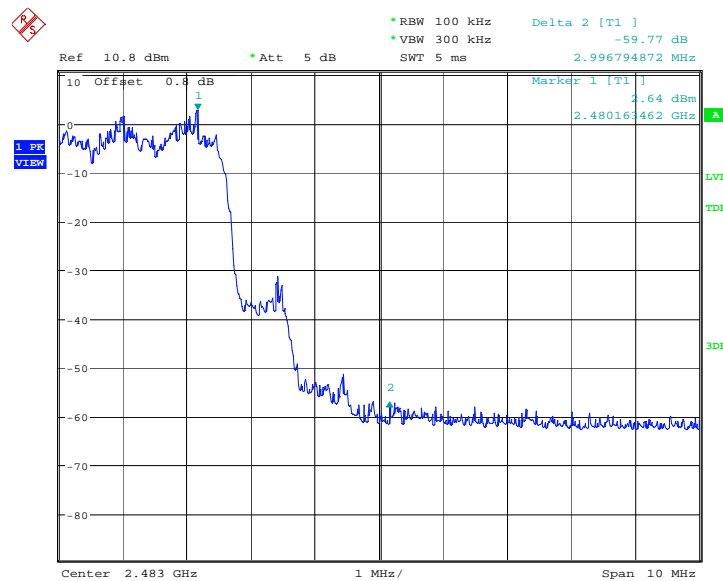
Date: 11.MAR.2014 17:41:25

Fig.10. Frequency Band Edges: 8DPSK, Channel 0, Hopping On



Date: 11.MAR.2014 17:39:22

Fig.11. Frequency Band Edges: 8DPSK, Channel 78, Hopping Off



Date: 11.MAR.2014 17:43:27

Fig.12. Frequency Band Edges: 8DPSK, Channel 78, Hopping On

#### A.4. Conducted Emission

##### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

The measurement is made according to ANSI C63.10

##### Measurement Results:

###### For GFSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	Center Frequency	Fig.13	P
	30 MHz ~ 1 GHz	Fig.14	P
	1 GHz ~ 3 GHz	Fig.15	P
	3 GHz ~ 10 GHz	Fig.16	P
	10 GHz ~ 26 GHz	Fig.17	P
Ch 39 2441 MHz	Center Frequency	Fig.18	P
	30 MHz ~ 1 GHz	Fig.19	P
	1 GHz ~ 3 GHz	Fig.20	P
	3 GHz ~ 10 GHz	Fig.21	P
	10 GHz ~ 26 GHz	Fig.22	P
Ch 78 2480 MHz	Center Frequency	Fig.23	P
	30 MHz ~ 1 GHz	Fig.24	P
	1 GHz ~ 3 GHz	Fig.25	P
	3 GHz ~ 10 GHz	Fig.26	P
	10 GHz ~ 26 GHz	Fig.27	P

###### For $\pi/4$ DQPSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	Center Frequency	Fig.28	P
	30 MHz ~ 1 GHz	Fig.29	P
	1 GHz ~ 3 GHz	Fig.30	P
	3 GHz ~ 10 GHz	Fig.31	P
	10 GHz ~ 26 GHz	Fig.32	P
Ch 39 2441 MHz	Center Frequency	Fig.33	P
	30 MHz ~ 1 GHz	Fig.34	P
	1 GHz ~ 3 GHz	Fig.35	P
	3 GHz ~ 10 GHz	Fig.36	P
	10 GHz ~ 26 GHz	Fig.37	P
Ch 78 2480 MHz	Center Frequency	Fig.38	P
	30 MHz ~ 1 GHz	Fig.39	P

	1 GHz ~ 3 GHz	Fig.40	P
	3 GHz ~ 10 GHz	Fig.41	P
	10 GHz ~ 26 GHz	Fig.42	P

**For 8DPSK**

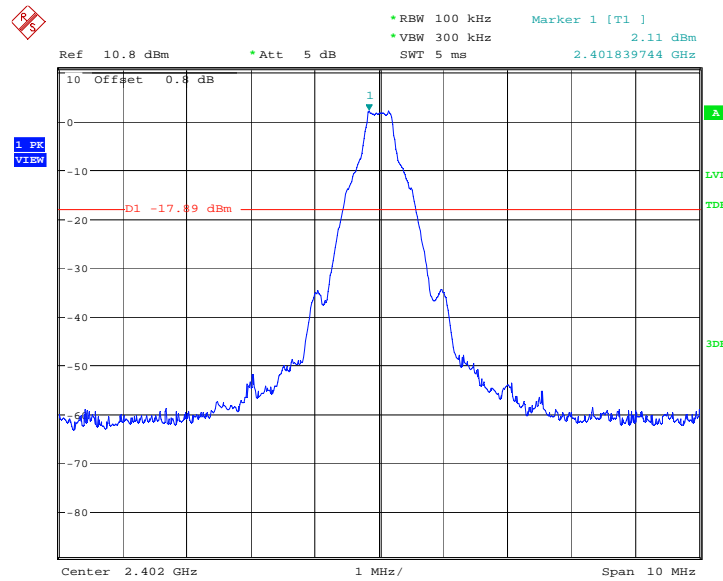
Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	Center Frequency	Fig.43	P
	30 MHz ~ 1 GHz	Fig.44	P
	1 GHz ~ 3 GHz	Fig.45	P
	3 GHz ~ 10 GHz	Fig.46	P
	10 GHz ~ 26 GHz	Fig.47	P
Ch 39 2441 MHz	Center Frequency	Fig.48	P
	30 MHz ~ 1 GHz	Fig.49	P
	1 GHz ~ 3 GHz	Fig.50	P
	3 GHz ~ 10 GHz	Fig.51	P
	10 GHz ~ 26 GHz	Fig.52	P
Ch 78 2480 MHz	Center Frequency	Fig.53	P
	30 MHz ~ 1 GHz	Fig.54	P
	1 GHz ~ 3 GHz	Fig.55	P
	3 GHz ~ 10 GHz	Fig.56	P
	10 GHz ~ 26 GHz	Fig.57	P

**Conclusion: PASS**

**Note:**

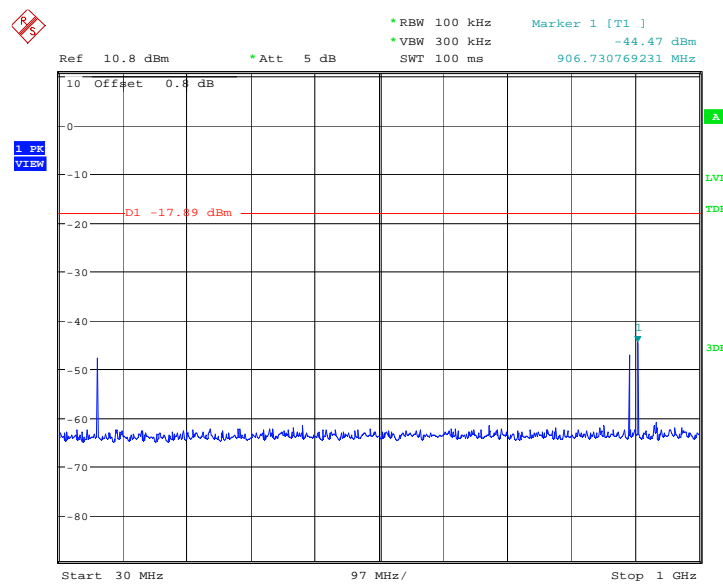
The conducted spurious emission measurement over 9kHz - 30MHz had been investigated.  
All spurious emissions were attenuated at least 20dB compared to the limit.

Test graphs as below



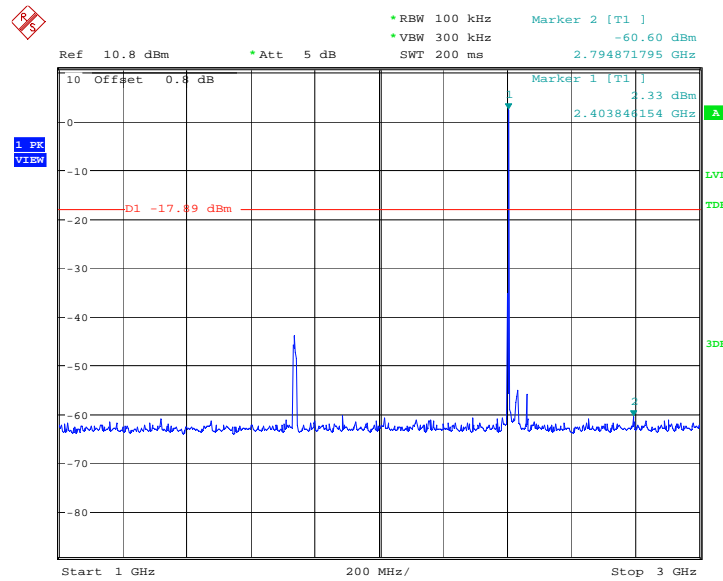
Date: 11.MAR.2014 17:00:47

Fig.13. Conducted spurious emission: GFSK, Channel 0,2402MHz



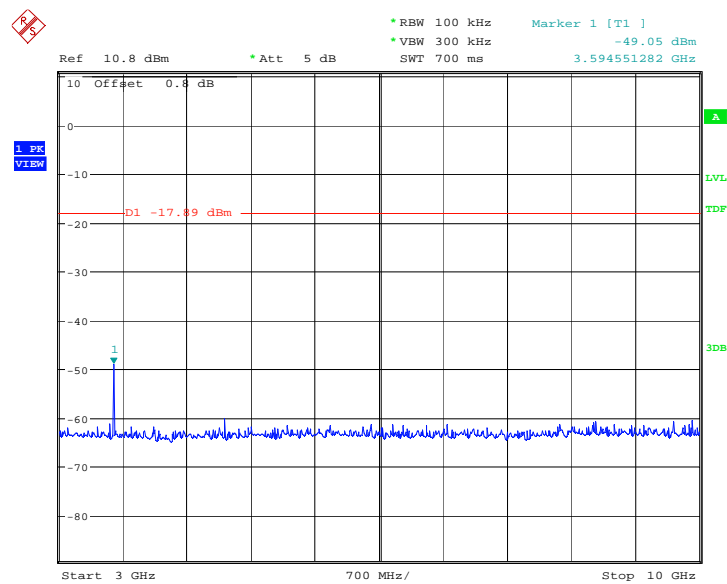
Date: 11.MAR.2014 17:01:03

Fig.14. Conducted spurious emission: GFSK, Channel 0, 30MHz - 1GHz



Date: 11.MAR.2014 17:01:35

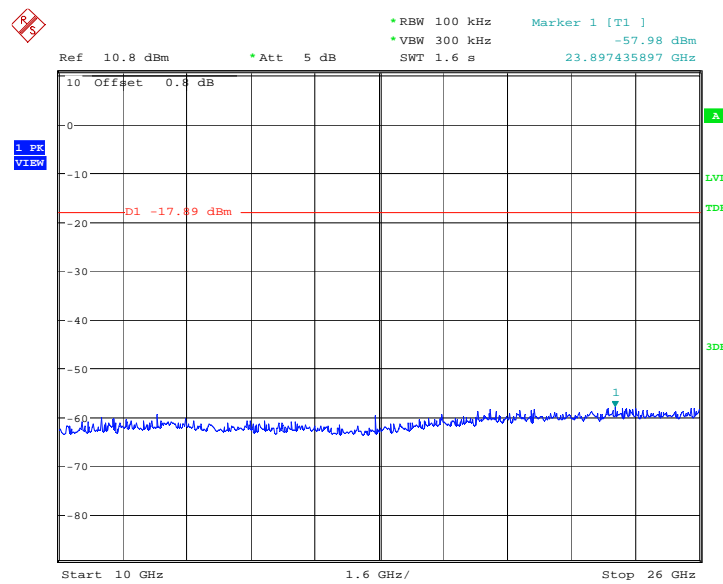
Fig.15. Conducted spurious emission: GFSK, Channel 0, 1GHz - 3GHz



Date: 11.MAR.2014 17:01:51

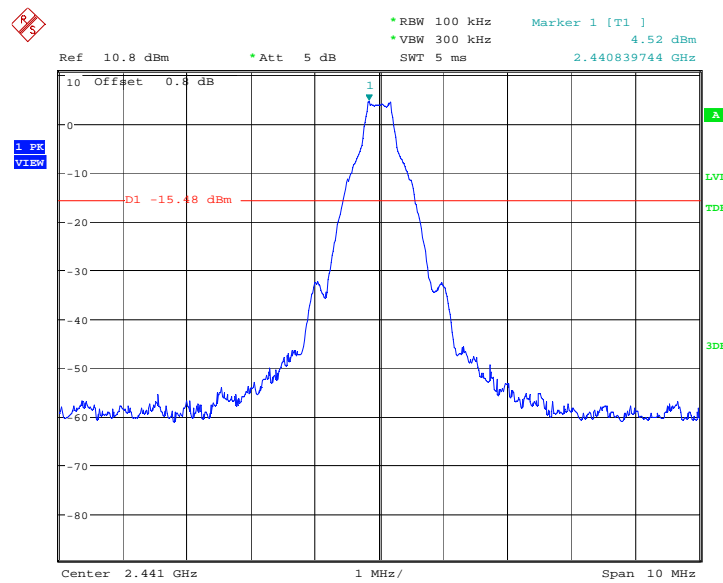
Fig.16. Conducted spurious emission: GFSK, Channel 0, 3GHz - 10GHz





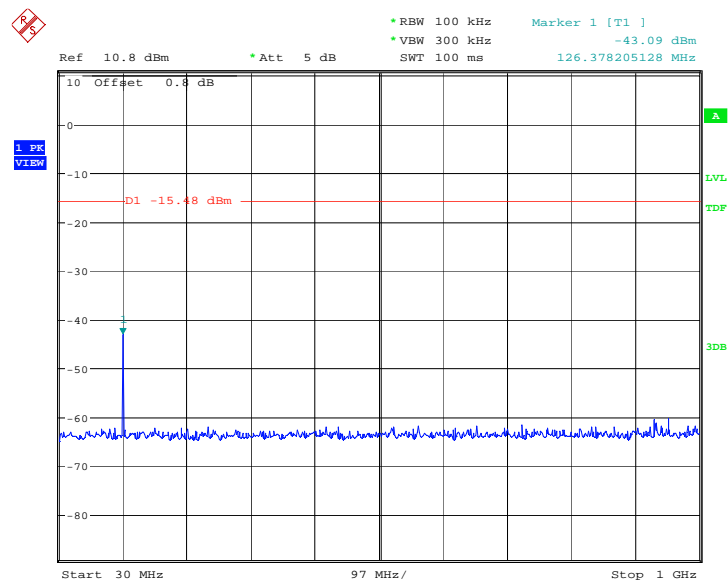
Date: 11.MAR.2014 17:02:08

Fig.17. Conducted spurious emission: GFSK, Channel 0,10GHz - 26GHz



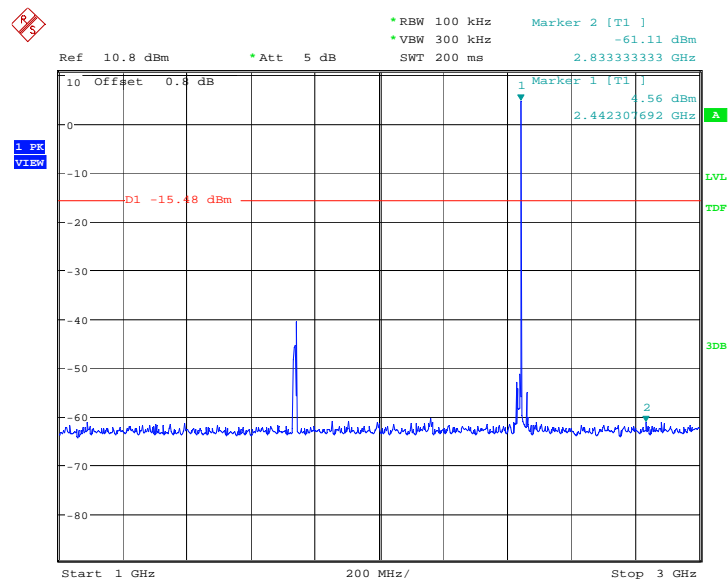
Date: 11.MAR.2014 17:02:25

Fig.18. Conducted spurious emission: GFSK, Channel 39, 2441MHz



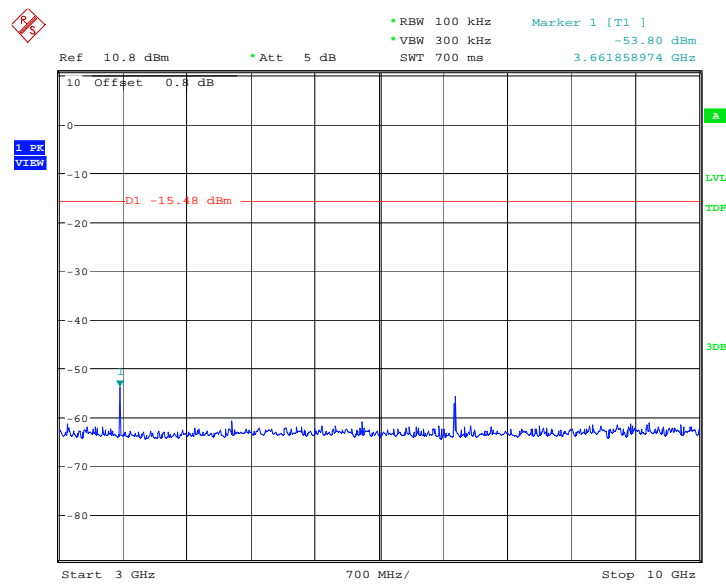
Date: 11.MAR.2014 17:02:41

Fig.19. Conducted spurious emission: GFSK, Channel 39, 30MHz - 1GHz



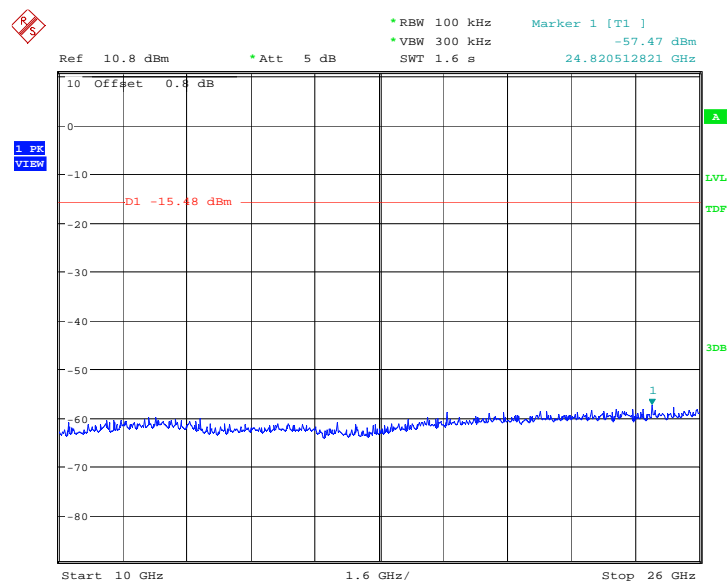
Date: 11.MAR.2014 17:03:13

Fig.20. Conducted spurious emission: GFSK, Channel 39, 1GHz - 3GHz



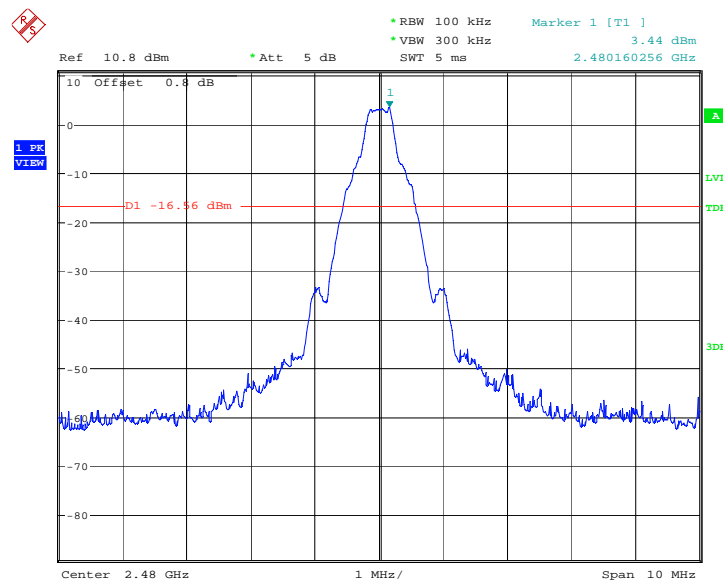
Date: 11.MAR.2014 17:03:29

Fig.21. Conducted spurious emission: GFSK, Channel 39, 3GHz – 10GHz



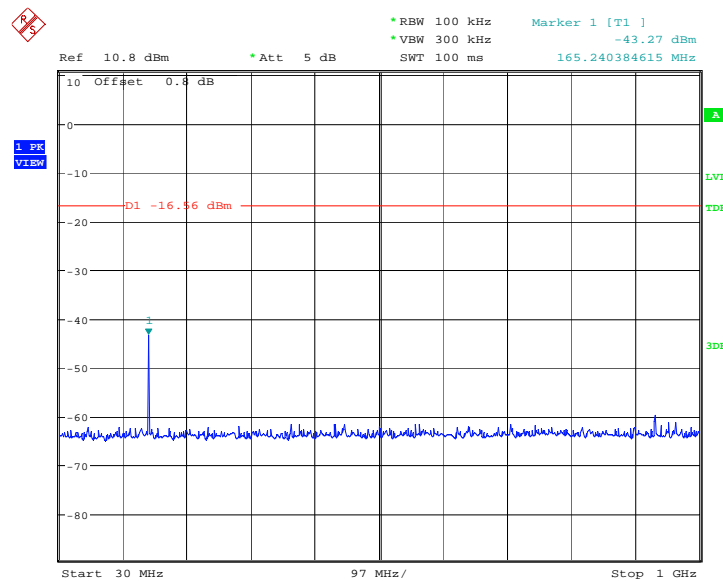
Date: 11.MAR.2014 17:03:46

Fig.22. Conducted spurious emission: GFSK, Channel 39, 10GHz – 26GHz



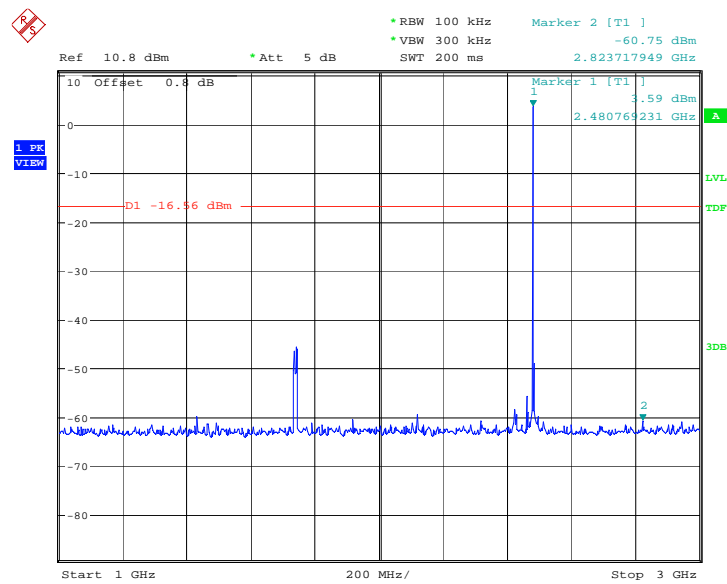
Date: 11.MAR.2014 17:04:03

Fig.23. Conducted spurious emission: GFSK, Channel 78, 2480MHz



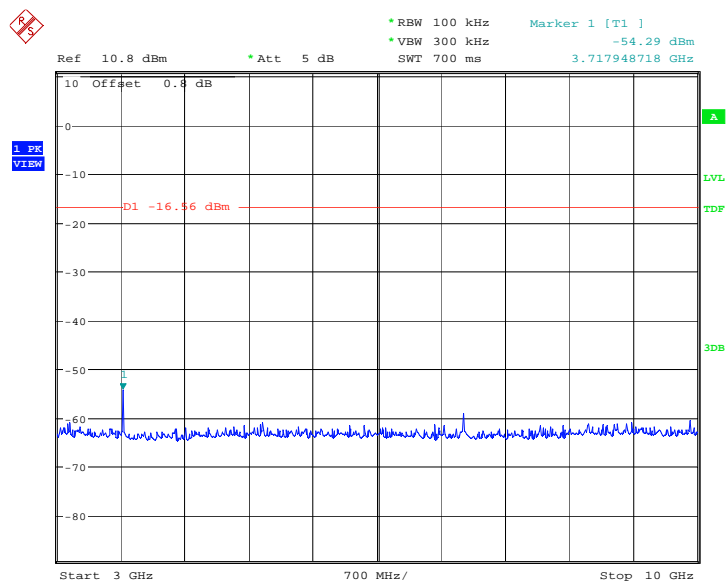
Date: 11.MAR.2014 17:04:19

Fig.24. Conducted spurious emission: GFSK, Channel 78, 30MHz - 1GHz



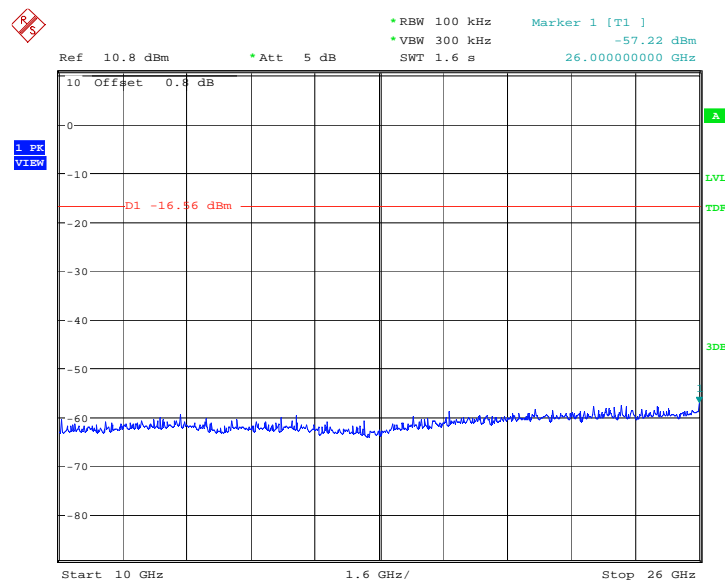
Date: 11.MAR.2014 17:04:51

Fig.25. Conducted spurious emission: GFSK, Channel 78, 1GHz - 3GHz



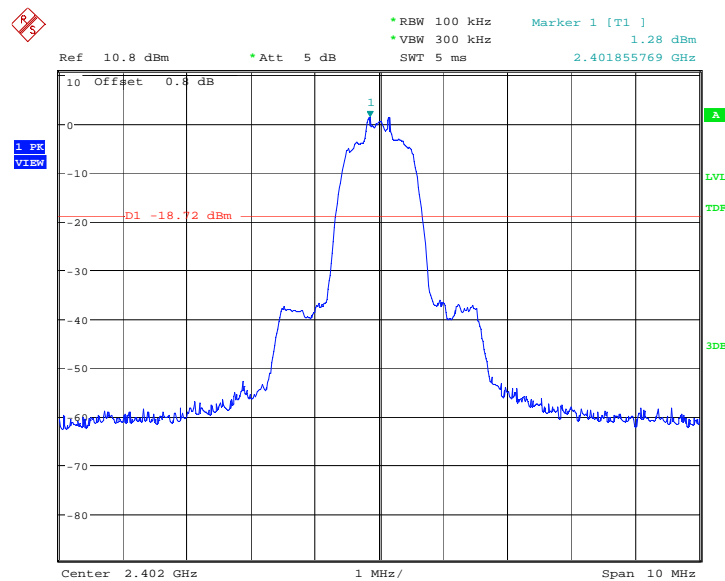
Date: 11.MAR.2014 17:05:07

Fig.26. Conducted spurious emission: GFSK, Channel 78, 3GHz - 10GHz



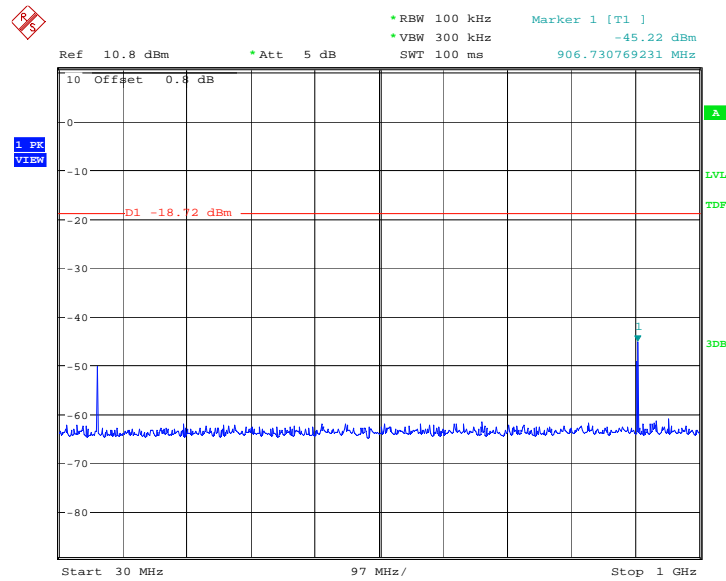
Date: 11.MAR.2014 17:05:24

Fig.27. Conducted spurious emission: GFSK, Channel 78, 10GHz - 26GHz



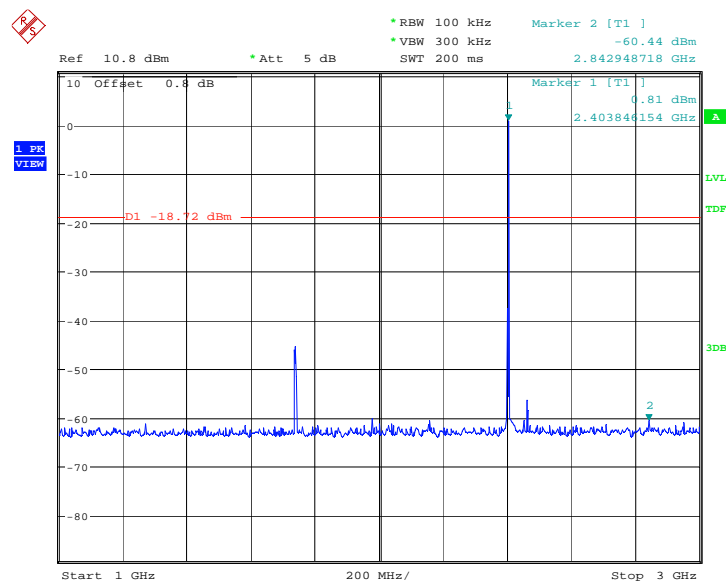
Date: 11.MAR.2014 17:22:15

Fig.28. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 0, 2402MHz



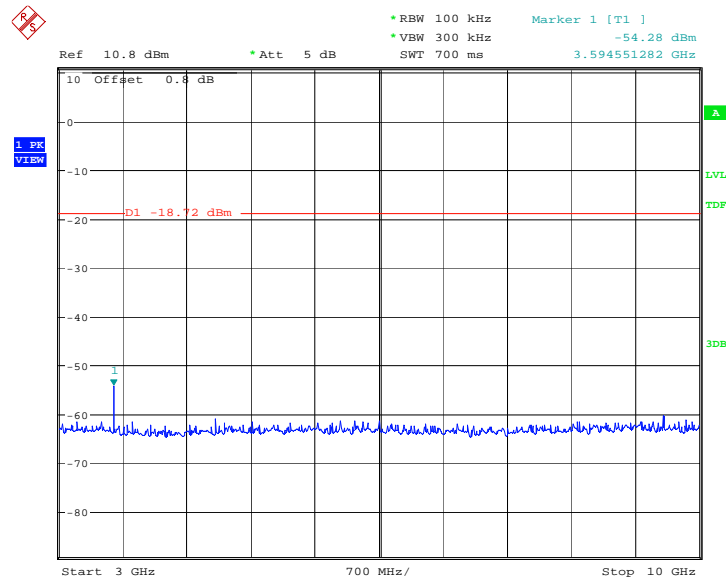
Date: 11.MAR.2014 17:22:32

Fig.29. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 0, 30MHz - 1GHz



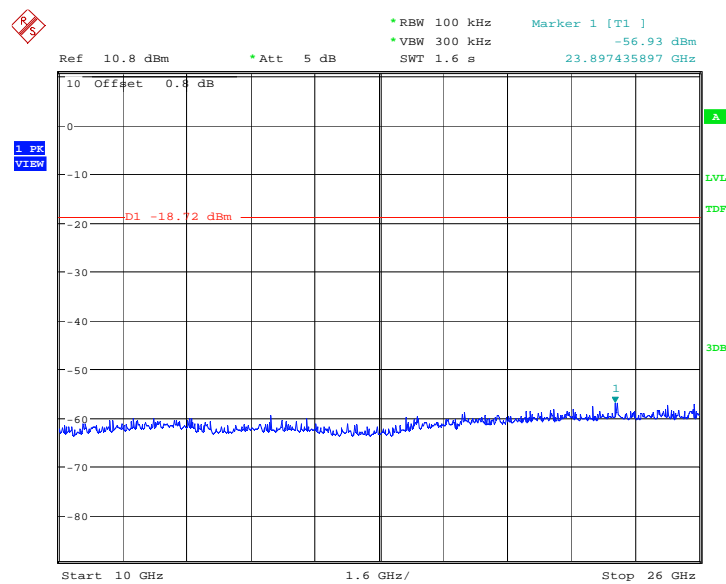
Date: 11.MAR.2014 17:23:03

Fig.30. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 0, 1GHz - 3GHz



Date: 11.MAR.2014 17:23:20

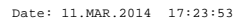
Fig.31. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 0, 3GHz - 10GHz



Date: 11.MAR.2014 17:23:36

Fig.32. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 0, 10GHz - 26GHz





Ref 10.8 dBm \* Att 5 dB RBW 100 kHz VBW 300 kHz SWT 100 ms Marker 1 [T1] -44.79 dBm 906.730769231 MHz

Offset 0.8 dB

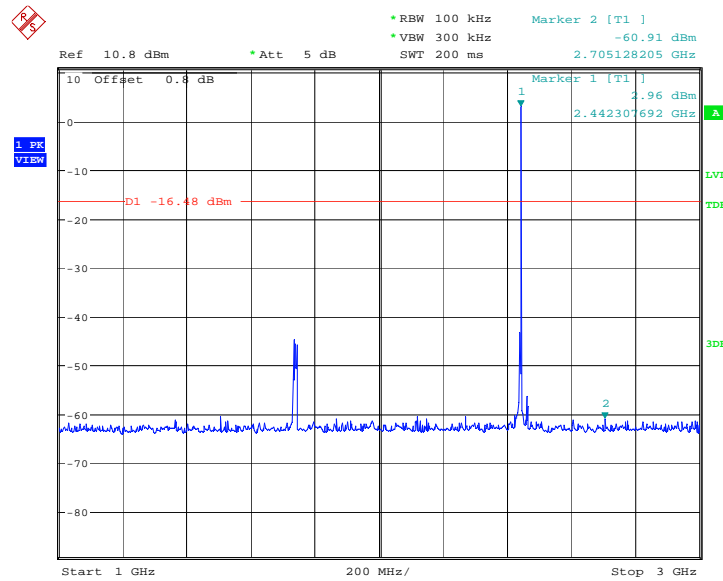
1 PK VIEW

D1 -16.48 dBm

Start 30 MHz 97 MHz/ Stop 1 GHz

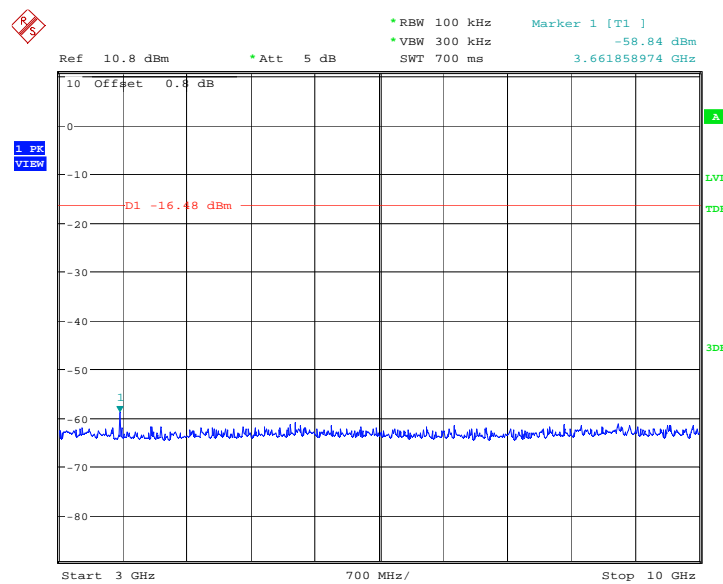
Date: 11.MAR.2014 17:24:10

Fig.34. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 39, 30MHz - 1GHz



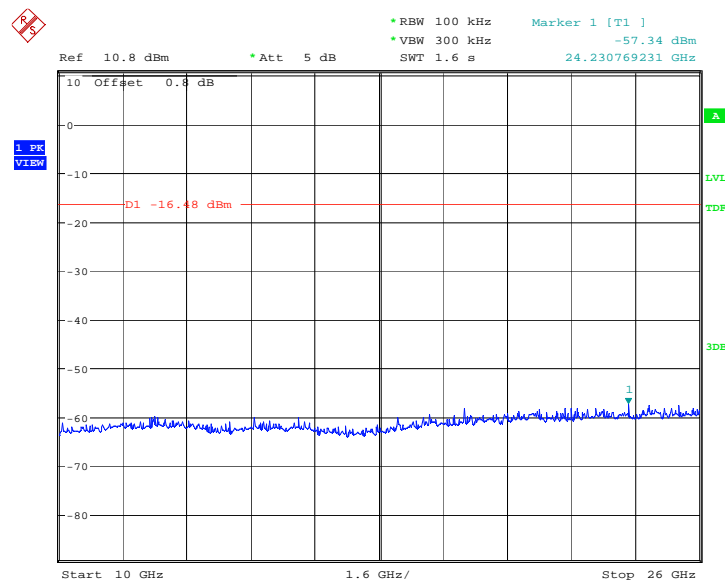
Date: 11.MAR.2014 17:24:41

Fig.35. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 39, 1GHz - 3GHz



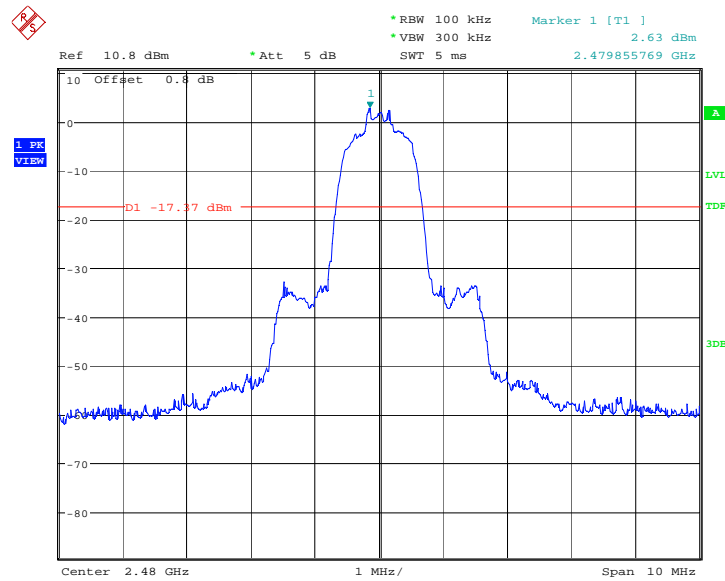
Date: 11.MAR.2014 17:24:58

Fig.36. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 39, 3GHz - 10GHz



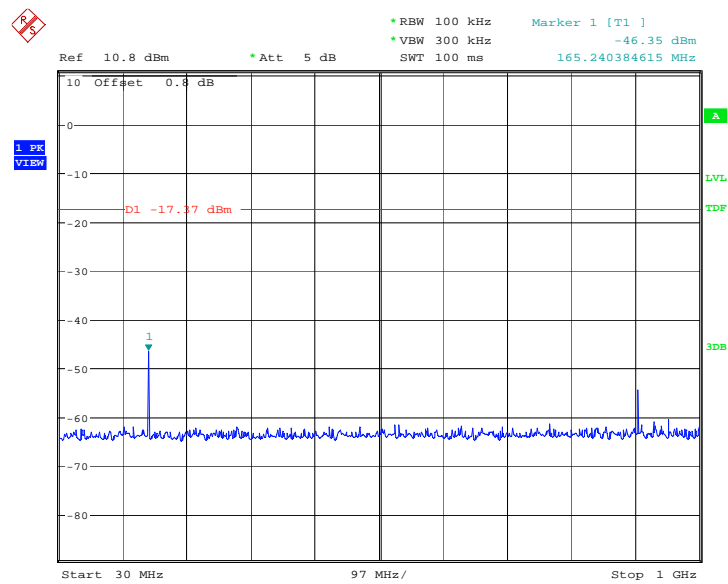
Date: 11.MAR.2014 17:25:15

Fig.37. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 39, 10GHz – 26GHz



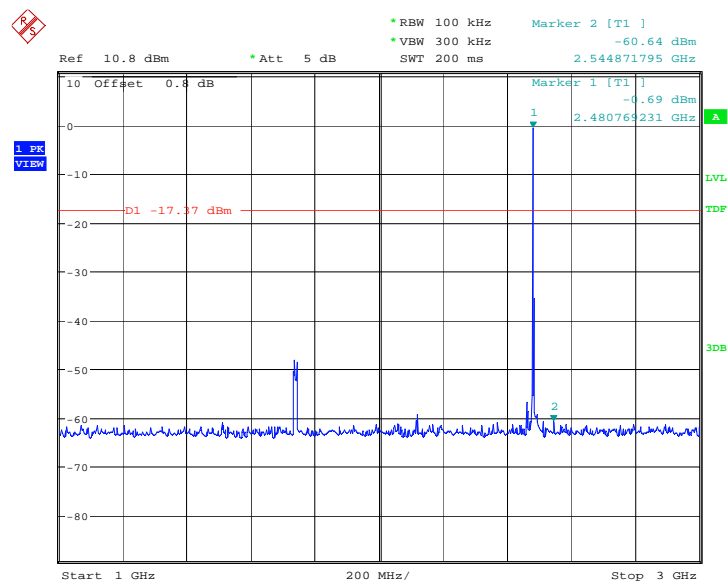
Date: 11.MAR.2014 17:25:31

Fig.38. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 78, 2480MHz



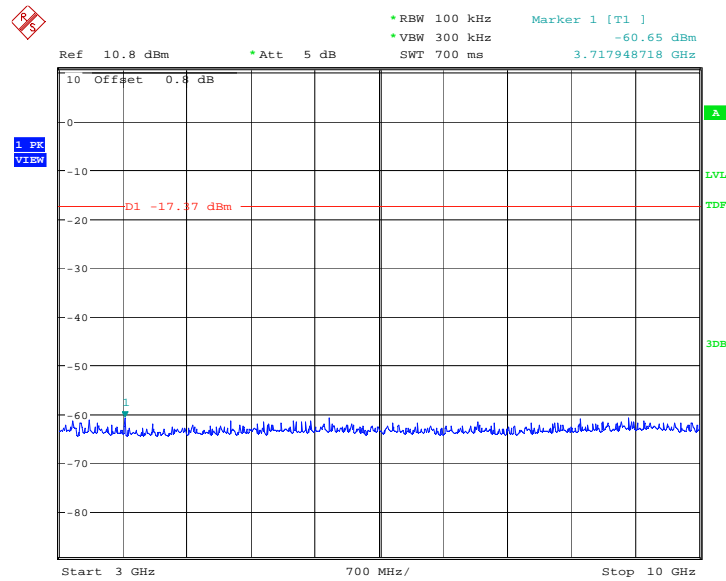
Date: 11.MAR.2014 17:25:48

Fig.39. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 78, 30MHz - 1GHz



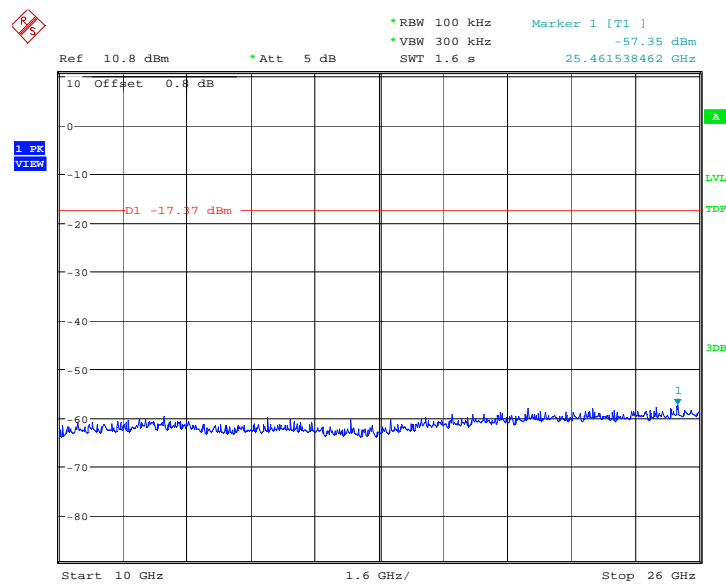
Date: 11.MAR.2014 17:26:20

Fig.40. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 78, 1GHz - 3GHz



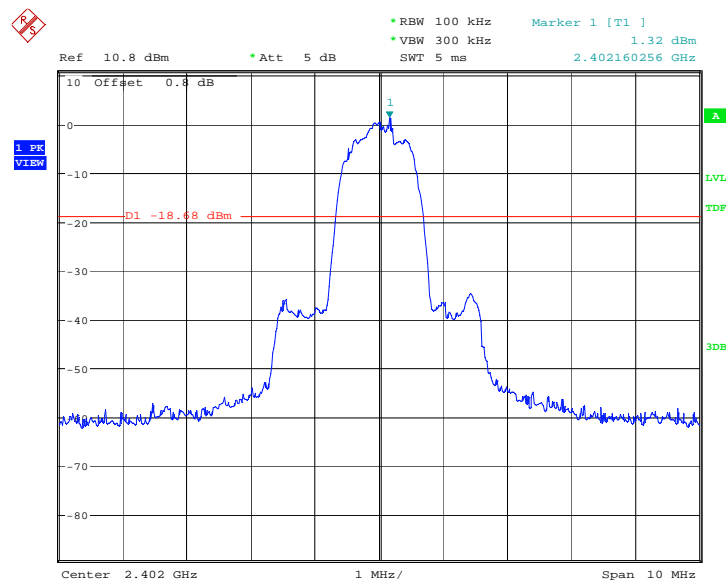
Date: 11.MAR.2014 17:26:36

Fig.41. Conducted spurious emission:  $\pi/4$  DQPSK, Channel 78, 3GHz - 10GHz



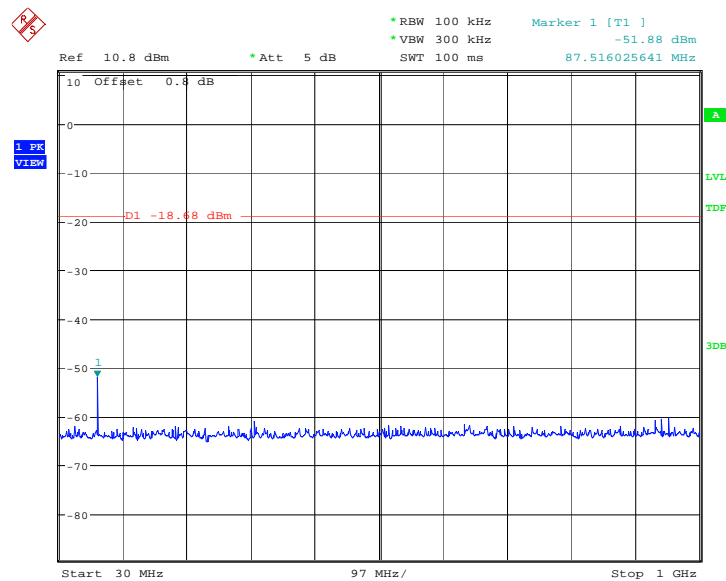
Date: 11.MAR.2014 17:26:53

Fig.42. Fig.30 Conducted spurious emission:  $\pi/4$  DQPSK, Channel 78, 10GHz - 26GHz



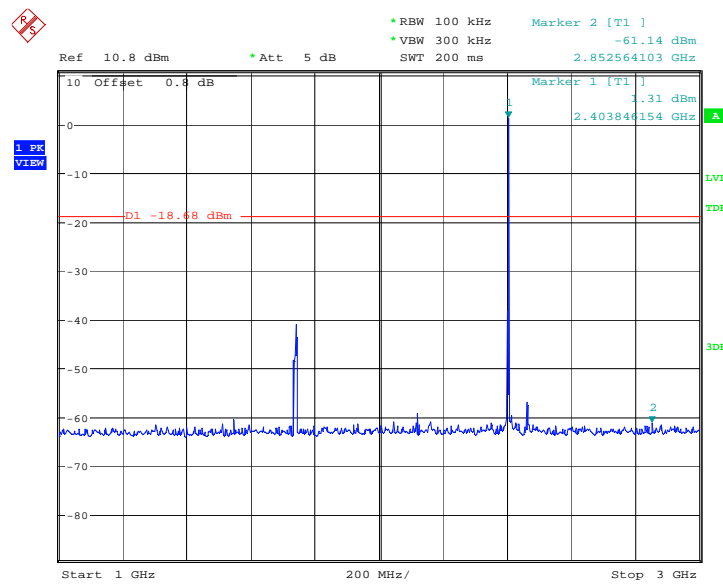
Date: 11.MAR.2014 17:43:46

Fig.43. Conducted spurious emission: 8DPSK, Channel 0,2402MHz



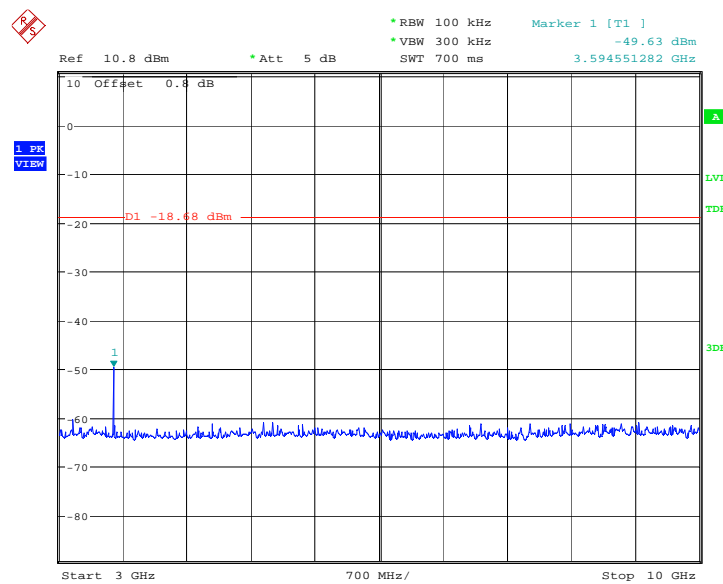
Date: 11.MAR.2014 17:44:02

Fig.44. Conducted spurious emission: 8DPSK, Channel 0, 30MHz - 1GHz



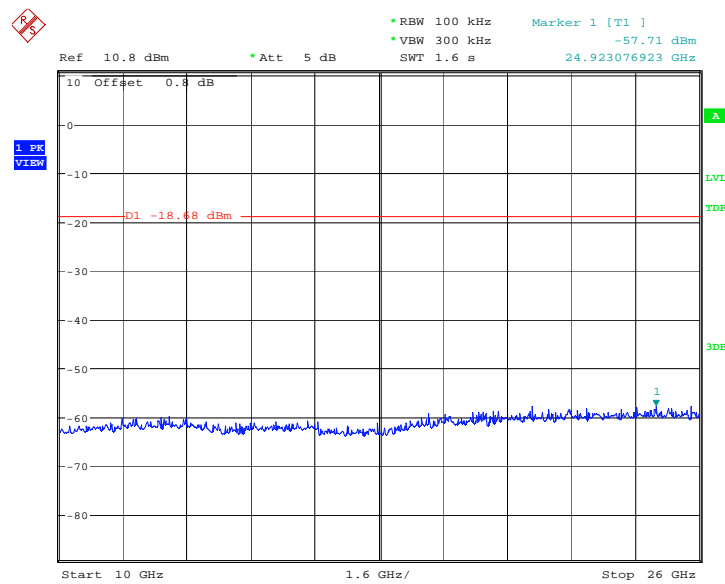
Date: 11.MAR.2014 17:44:34

Fig.45. Conducted spurious emission: 8DPSK, Channel 0, 1GHz - 3GHz



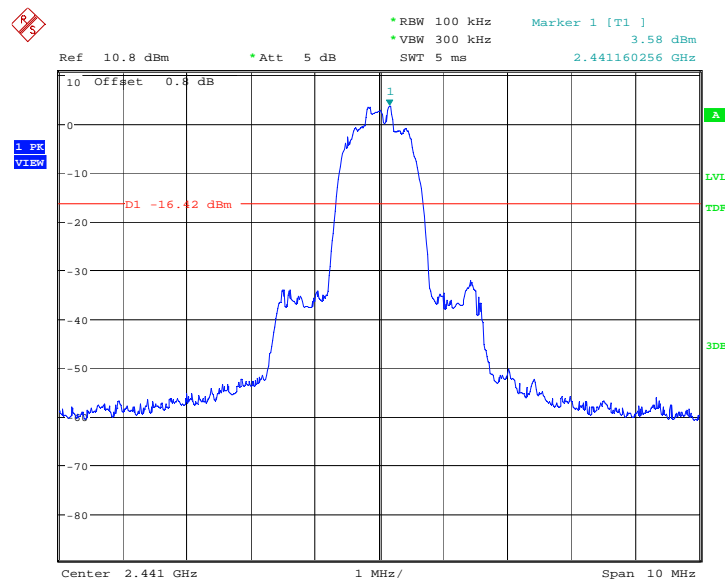
Date: 11.MAR.2014 17:44:51

Fig.46. Conducted spurious emission: 8DPSK, Channel 0, 3GHz - 10GHz



Date: 11.MAR.2014 17:45:07

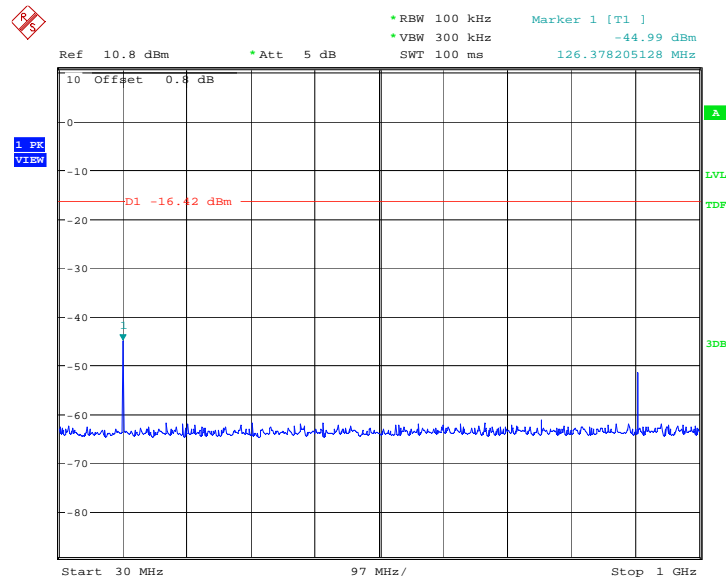
Fig.47. Conducted spurious emission: 8DPSK, Channel 0,10GHz - 26GHz



Date: 11.MAR.2014 17:45:24

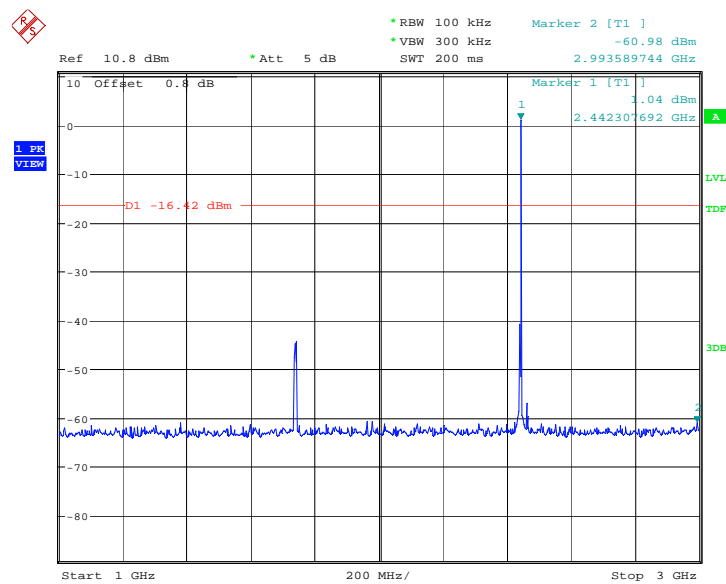
Fig.48. Conducted spurious emission: 8DPSK, Channel 39, 2441MHz





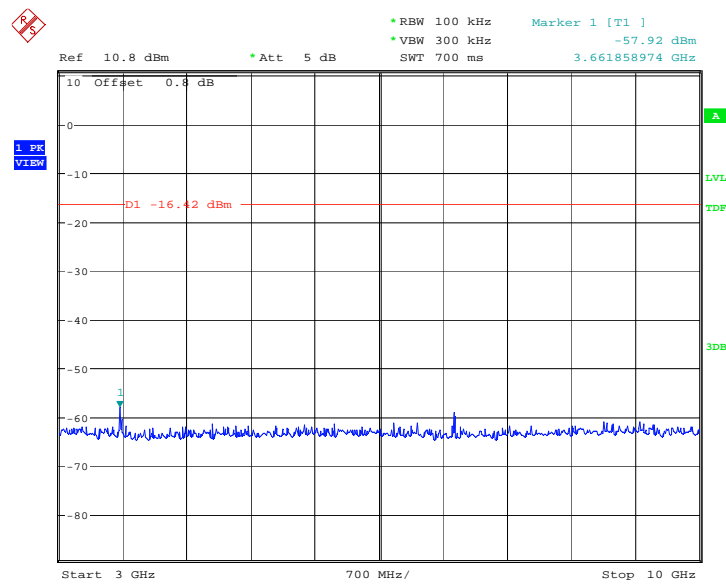
Date: 11.MAR.2014 17:45:41

Fig.49. Conducted spurious emission: 8DPSK, Channel 39, 30MHz - 1GHz



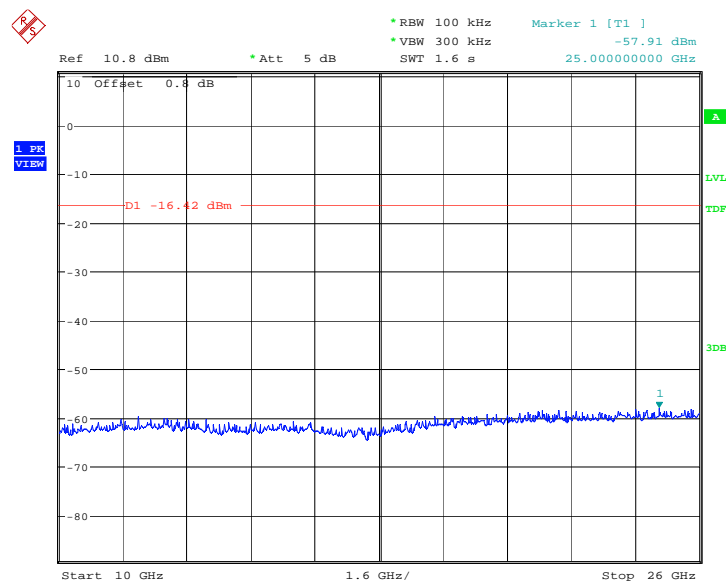
Date: 11.MAR.2014 17:46:12

Fig.50. Conducted spurious emission: 8DPSK, Channel 39, 1GHz - 3GHz



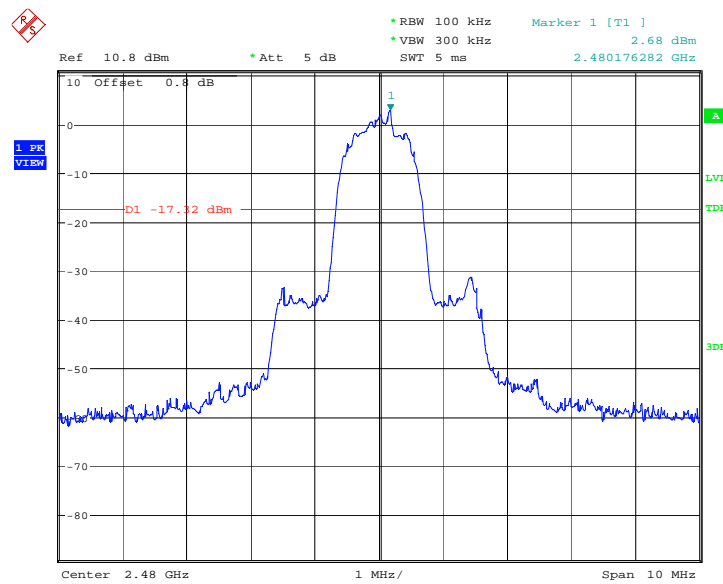
Date: 11.MAR.2014 17:46:29

Fig.51. Conducted spurious emission: 8DPSK, Channel 39, 3GHz - 10GHz



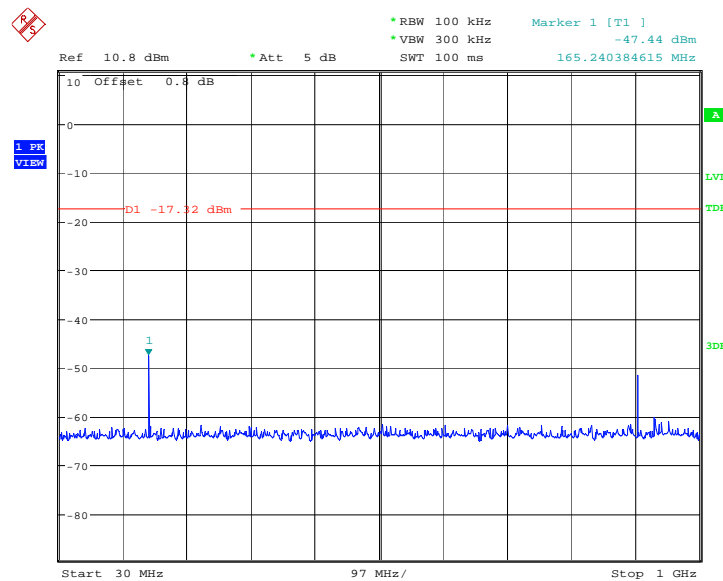
Date: 11.MAR.2014 17:46:45

Fig.52. Conducted spurious emission: 8DPSK, Channel 39, 10GHz - 26GHz



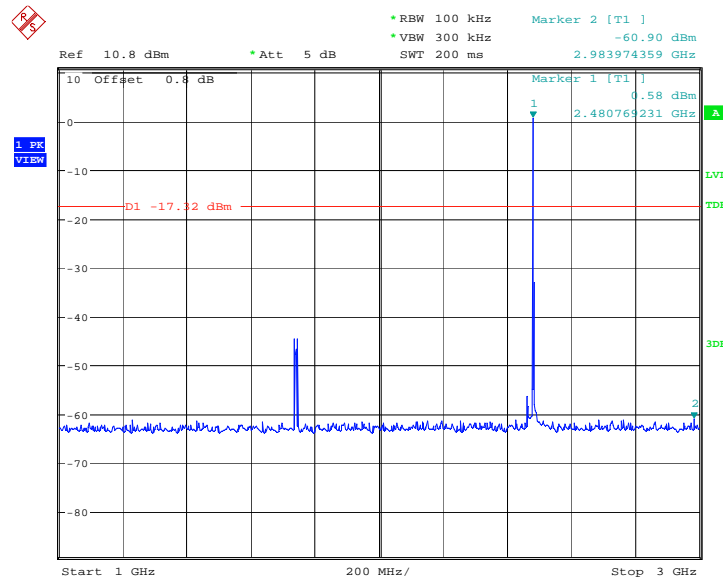
Date: 11.MAR.2014 17:47:02

Fig.53. Conducted spurious emission: 8DPSK, Channel 78, 2480MHz



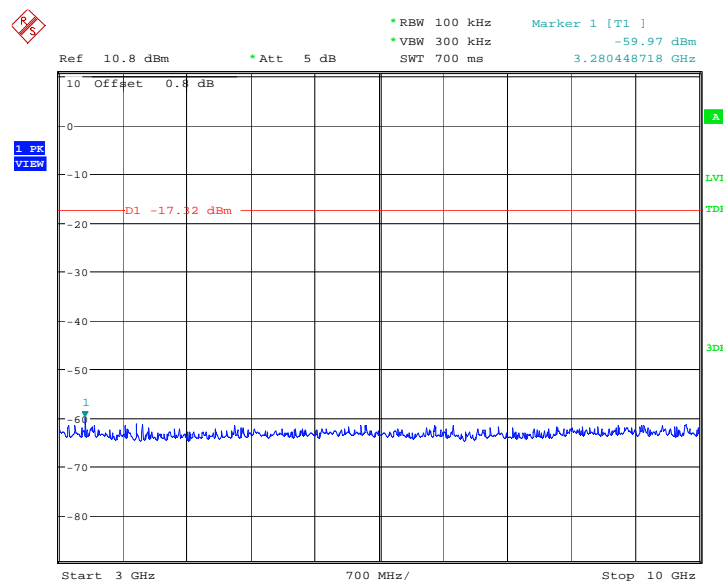
Date: 11.MAR.2014 17:47:19

Fig.54. Conducted spurious emission: 8DPSK, Channel 78, 30MHz - 1GHz



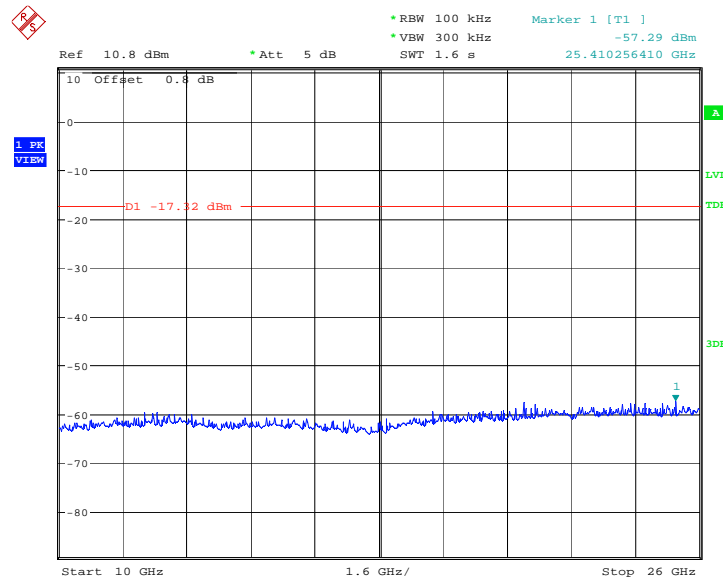
Date: 11.MAR.2014 17:47:50

Fig.55. Conducted spurious emission: 8DPSK, Channel 78, 1GHz - 3GHz



Date: 11.MAR.2014 17:48:07

Fig.56. Conducted spurious emission: 8DPSK, Channel 78, 3GHz - 10GHz



Date: 11.MAR.2014 17:48:23

Fig.57. Conducted spurious emission: 8DPSK, Channel 78, 10GHz - 26GHz

## A.5. Radiated Emission

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

The measurement is made according to ANSI C63.10

### Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

### Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
0.009-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

### Measurement Results:

Result= $P_{Mea}$ +ARPL

### For GFSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.58	P
	3 GHz ~ 18 GHz	Fig.59	P
Ch 39 2441 MHz	9 KHz ~ 30 MHz	Fig.60	P
	30 MHz ~ 1 GHz	Fig.61	P
	1 GHz ~ 3 GHz	Fig.62	P
	3 GHz ~ 18 GHz	Fig.63	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.64	P
	3 GHz ~ 18 GHz	Fig.65	P

Power	2.38GHz~2.4GHz---L	Fig.66	P
Power	2.45GHz~2.5GHz---H	Fig.67	P
For all channels	18 GHz ~ 26 GHz	Fig.68	P

#### For $\pi/4$ DQPSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.69	P
	3 GHz ~ 18 GHz	Fig.70	P
Ch 39 2441 MHz	30 MHz ~ 1 GHz	Fig.71	P
	1 GHz ~ 3 GHz	Fig.72	P
	3 GHz ~ 18 GHz	Fig.73	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.74	P
	3 GHz ~ 18 GHz	Fig.75	P
Power	2.38GHz~2.4GHz---L	Fig.76	P
Power	2.45GHz~2.5GHz---H	Fig.77	P
For all channels	18 GHz ~ 26 GHz	Fig.78	P

#### For 8DPSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.79	P
	3 GHz ~ 18 GHz	Fig.80	P
Ch 39 2441 MHz	30 MHz ~ 1 GHz	Fig.81	P
	1 GHz ~ 3 GHz	Fig.82	P
	3 GHz ~ 18 GHz	Fig.83	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.84	P
	3 GHz ~ 18 GHz	Fig.85	P
Power	2.38GHz~2.4GHz---L	Fig.86	P
Power	2.45GHz~2.5GHz---H	Fig.87	P
For all channels	18 GHz ~ 26 GHz	Fig.88	P

#### GFSK Ch 0 - Average

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	PMea(dBuv/m)	Polarization
2390.000	34.5	-11.10	45.6	H
17952.000	41.6	27.90	13.7	H
17968.500	41.4	27.90	13.5	H
17955.000	41.4	27.90	13.5	V
17971.500	41.4	27.90	13.5	V
17941.500	41.4	27.90	13.5	H

#### GFSK Ch 39 - Average

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
17962.500	41.5	27.90	13.6	V
17965.500	41.4	27.90	13.5	H

17968.500	41.4	27.90	13.5	V
17946.000	41.3	27.90	13.4	H
17941.500	41.3	27.90	13.4	V
17952.000	41.3	27.90	13.4	V

**GFSK Ch 78 - Average**

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
2483.562	35.5	-11.20	46.7	V
17962.500	41.5	27.90	13.6	V
17941.500	41.4	27.90	13.5	V
17965.500	41.4	27.90	13.5	H
17938.500	41.3	27.90	13.4	V
17968.500	41.3	27.90	13.4	H

 **$\pi/4$  DQPSK Ch 0 - Average**

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
2390.000	33.6	-11.10	44.7	H
17941.500	41.6	27.90	13.7	H
17962.500	41.6	27.90	13.7	H
17968.500	41.5	27.90	13.6	V
17965.500	41.4	27.90	13.5	H
17952.000	41.3	27.90	13.4	V

 **$\pi/4$  DQPSK Ch 39 - Average**

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
17955.000	41.6	27.90	13.7	H
17941.500	41.5	27.90	13.6	V
17968.500	41.4	27.90	13.5	V
17965.500	41.4	27.90	13.5	H
17949.000	41.4	27.90	13.5	H
17962.500	41.3	27.90	13.4	V

 **$\pi/4$  DQPSK Ch 78 - Average**

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
2483.500	34.5	-11.20	45.7	V
17952.000	41.6	27.90	13.7	H
17971.500	41.6	27.90	13.7	V
17941.500	41.5	27.90	13.6	V
17955.000	41.5	27.90	13.6	H
17968.500	41.4	27.90	13.5	H

**8DPSK Ch 0 - Average**

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
2390.000	33.6	-11.10	44.7	V
17968.500	41.6	27.90	13.7	H



17971.500	41.5	27.90	13.6	H
17955.000	41.4	27.90	13.5	V
17965.500	41.4	27.90	13.5	V
17941.500	41.3	27.90	13.4	V

#### 8DPSK Ch 39 - Average

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
17952.000	41.5	27.90	13.600	H
17968.500	41.5	27.90	13.600	V
17965.500	41.4	27.90	13.500	H
17946.000	41.4	27.90	13.500	V
17955.000	41.4	27.90	13.500	H
17971.500	41.4	27.90	13.500	H

#### 8DPSK Ch 78 - Average

Frequency(MHz)	Result(dBuv/m)	ARPL (dB)	Pmea(dBuv/m)	Polarization
2483.500	33.9	-11.20	45.1	H
17968.500	41.6	27.90	13.7	V
17952.000	41.5	27.90	13.6	H
17971.500	41.5	27.90	13.6	V
17949.000	41.5	27.90	13.6	V
17941.500	41.4	27.90	13.5	H

**Conclusion: PASS**

**Note: The worst case is given.**

**Test graphs as below:**

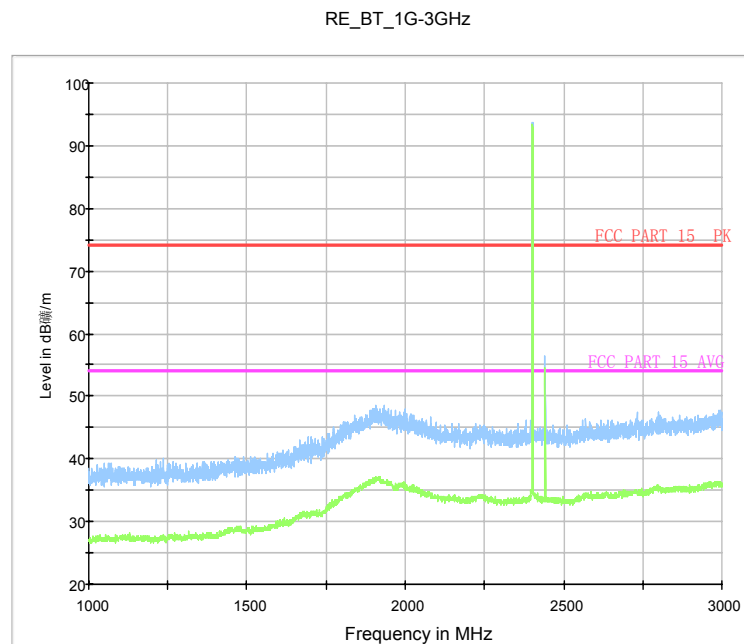


Fig.58. Radiated emission: GFSK, Channel 0, 1 GHz - 3 GHz

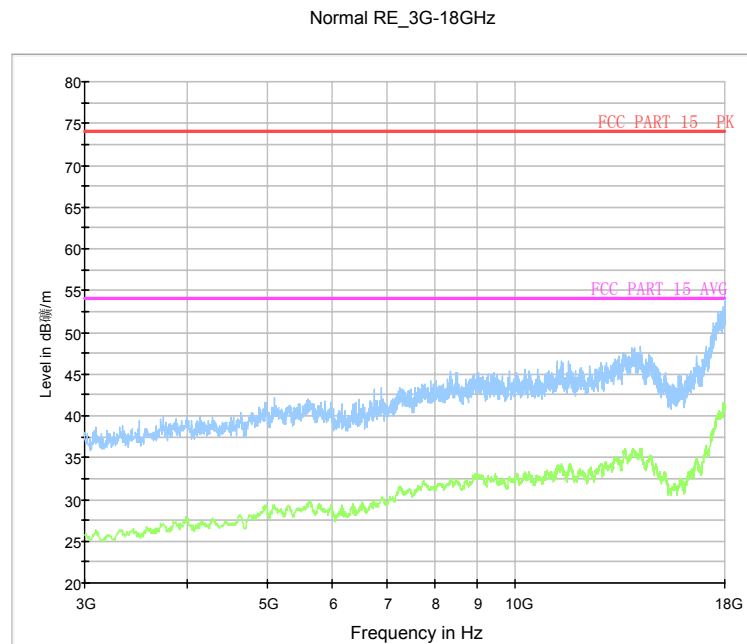


Fig.59. Radiated emission: GFSK, Channel 0, 3 GHz - 18 GHz

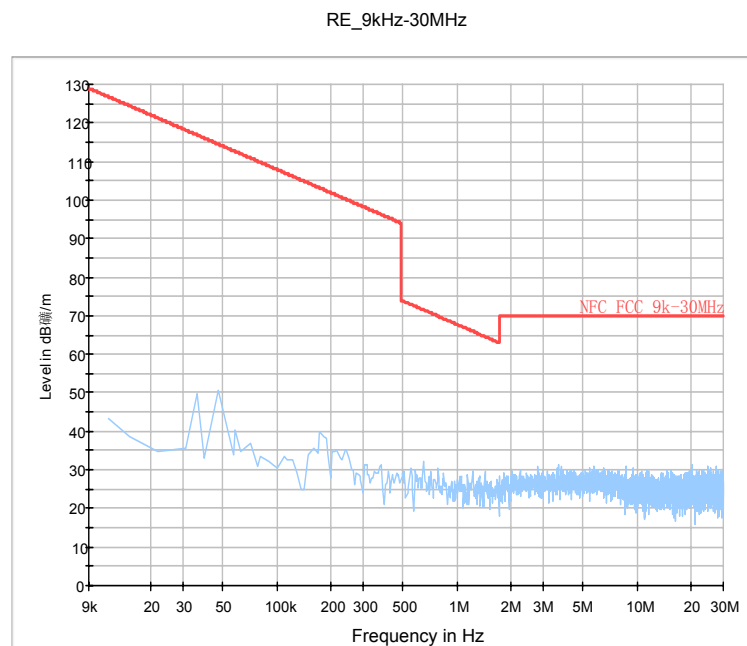


Fig.60. Radiated emission: GFSK, Channel 39, 9 KHz - 30 MHz

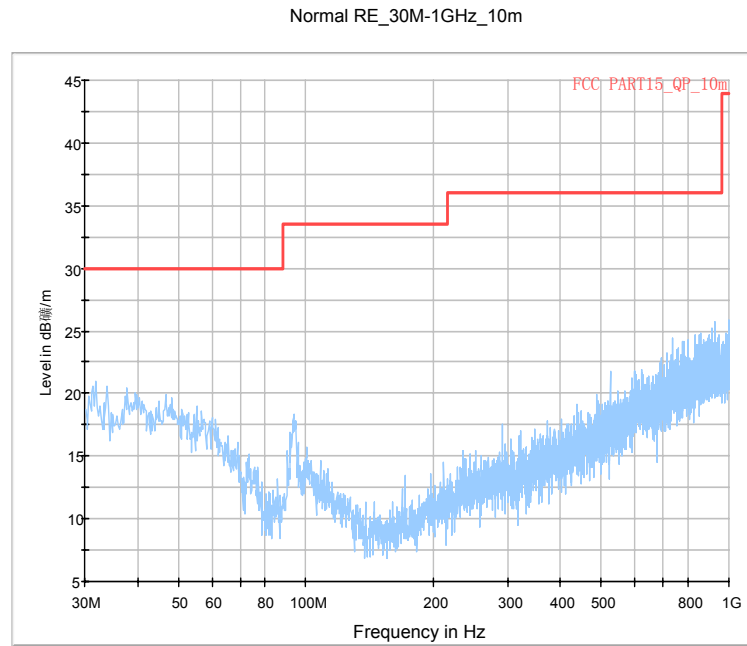


Fig.61. Radiated emission: GFSK, Channel 39, 30 MHz - 1 GHz

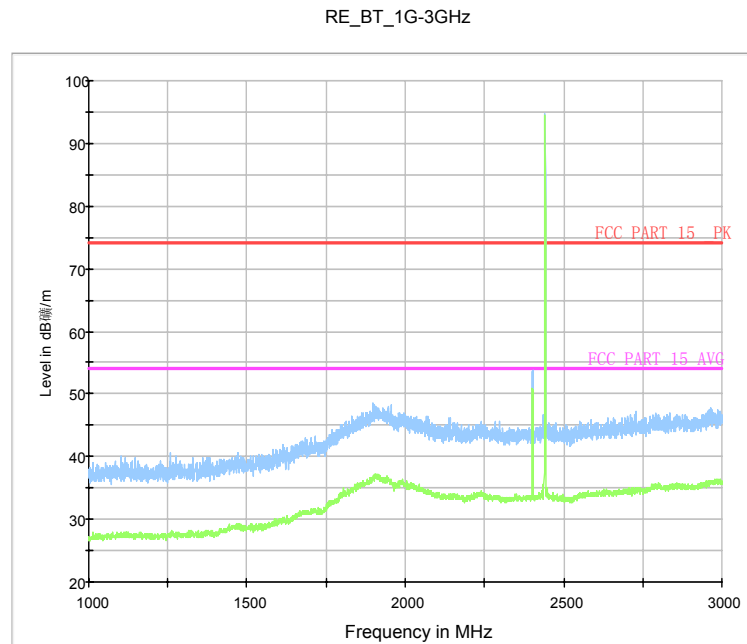


Fig.62. Radiated emission: GFSK, Channel 39, 1 GHz - 3 GHz

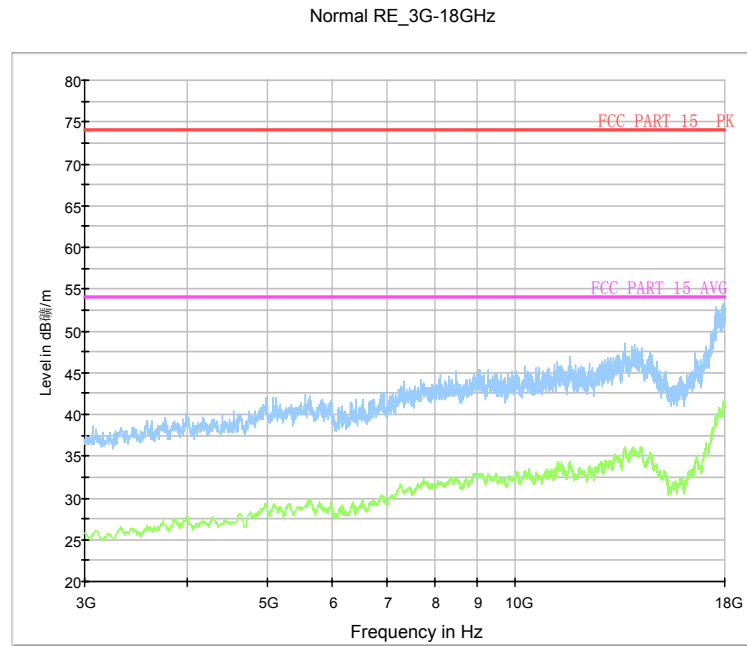


Fig.63. Radiated emission: GFSK, Channel 39, 3 GHz - 18 GHz

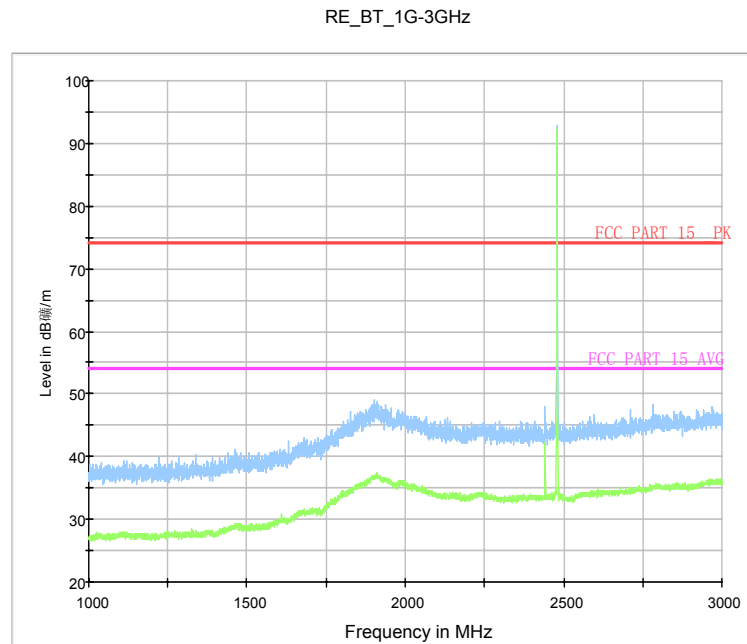


Fig.64. Radiated emission: GFSK, Channel 78, 1 GHz - 3 GHz

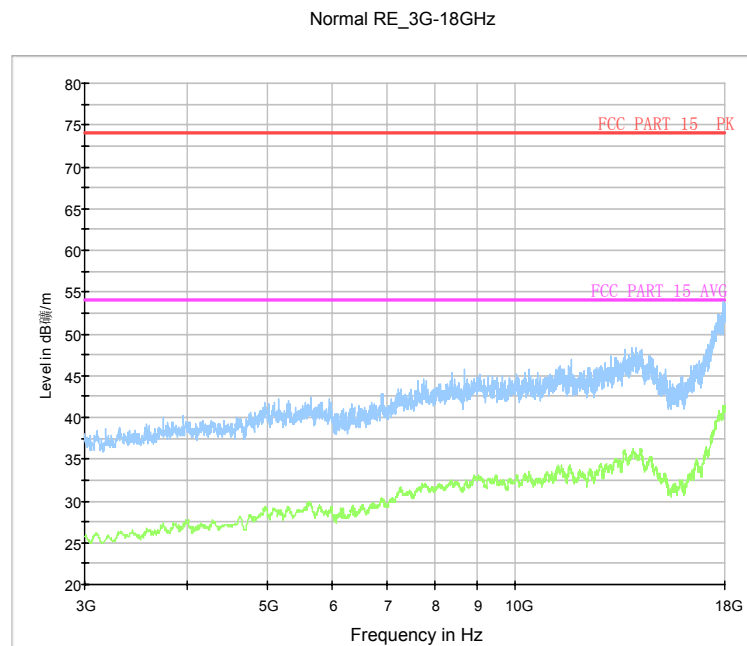


Fig.65. Radiated emission: GFSK, Channel 78, 3 GHz - 18 GHz

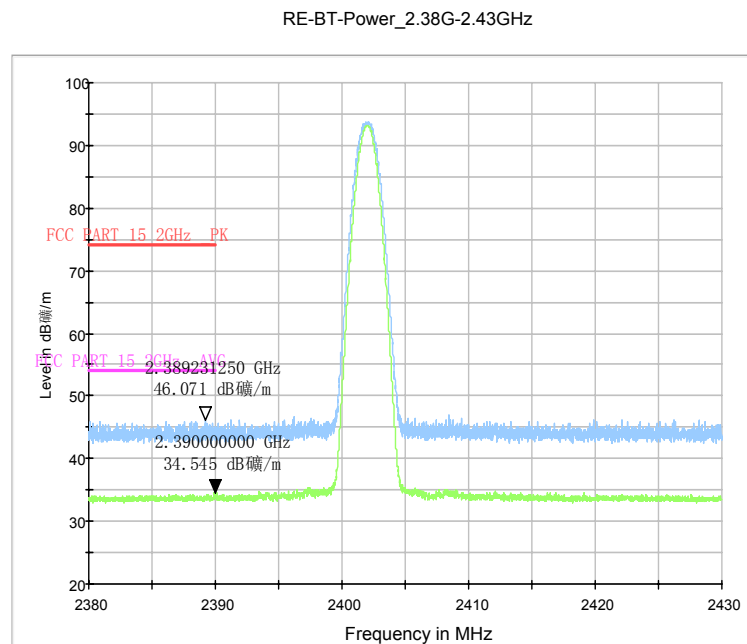


Fig.66. Radiated emission (Power): GFSK, low channel

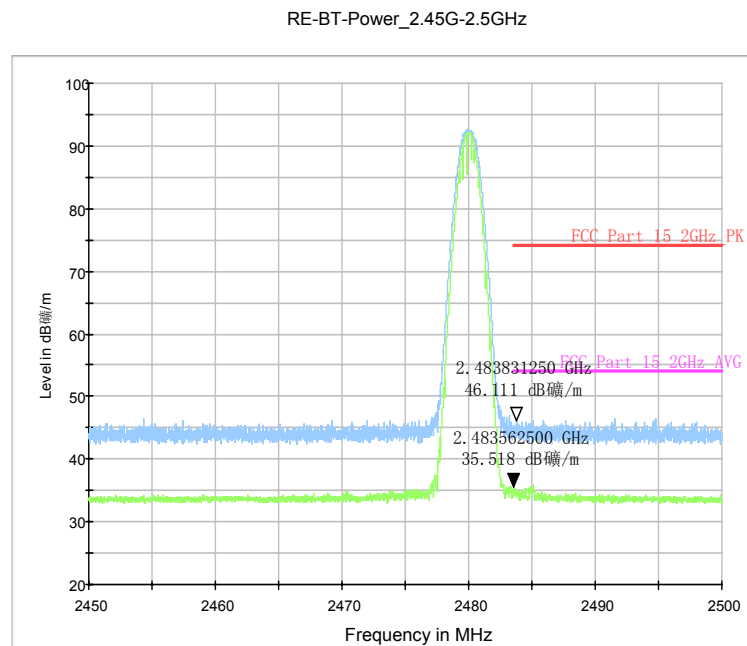


Fig.67. Radiated emission (Power) GFSK, high channel

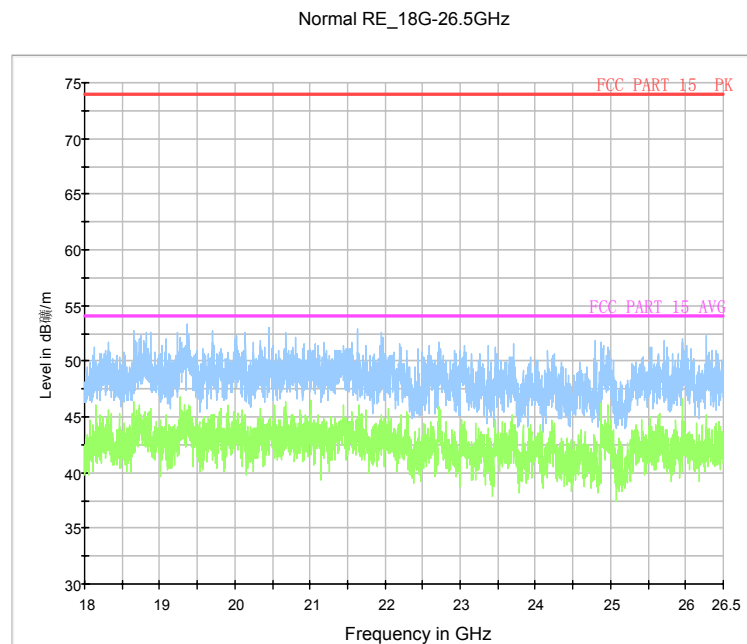


Fig.68. Radiated emission: GFSK, 18 GHz – 26.5 GHz

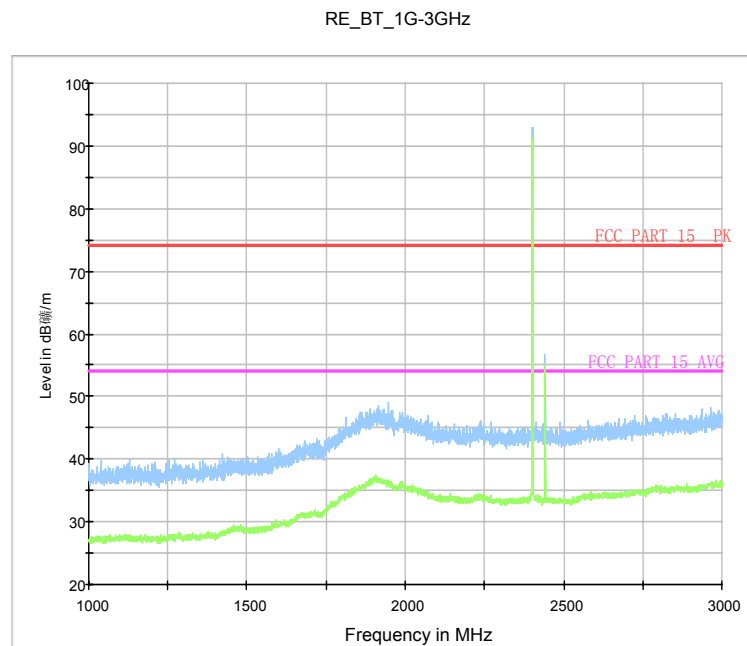


Fig.69. Radiated emission:  $\pi/4$  DQPSK, Channel 0, 1 GHz - 3 GHz

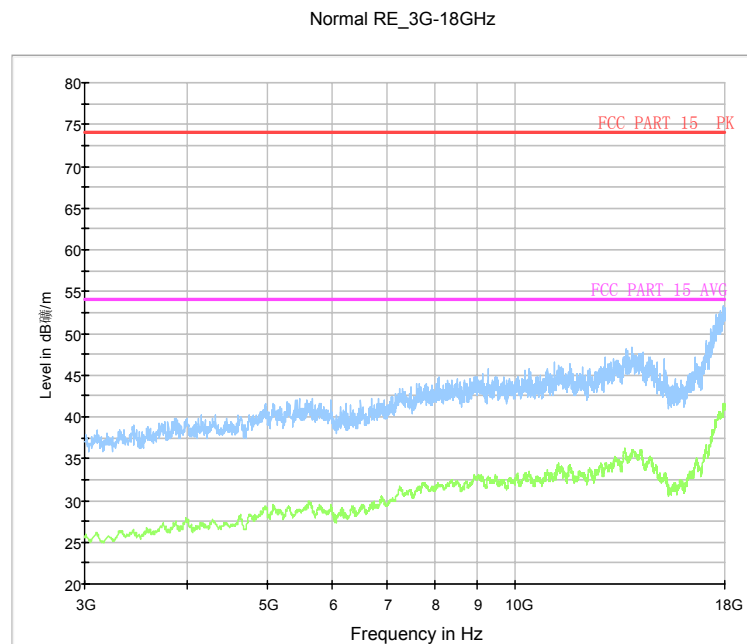


Fig.70. Radiated emission:  $\pi/4$  DQPSK, Channel 0, 3 GHz - 18 GHz

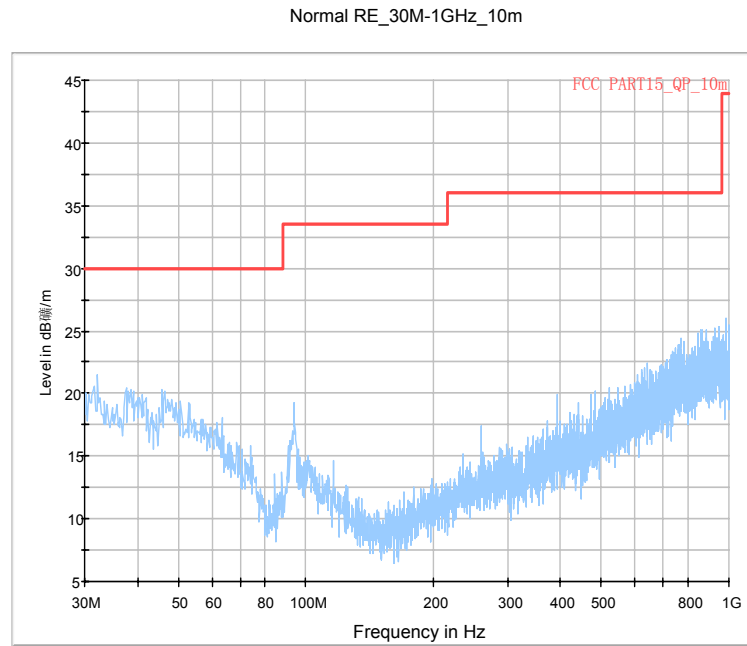


Fig.71. Radiated emission:  $\pi/4$  DQPSK, Channel 39, 30 MHz - 1 GHz

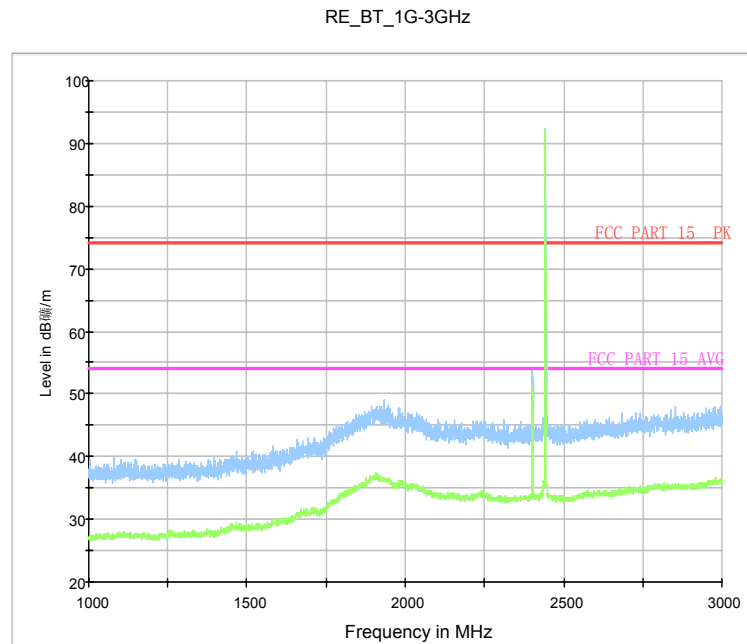


Fig.72. Radiated emission:  $\pi/4$  DQPSK, Channel 39, 1 GHz - 3 GHz



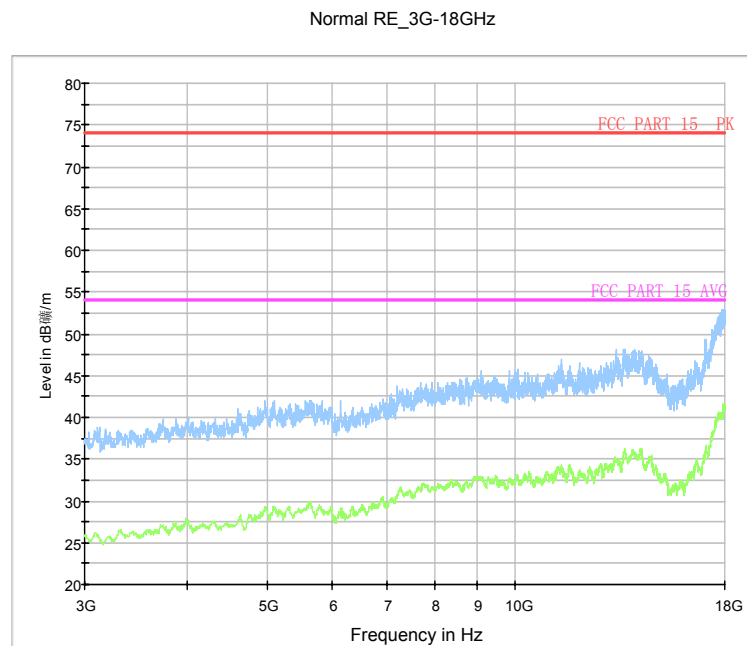


Fig.73. Radiated emission:  $\pi/4$  DQPSK, Channel 39, 3 GHz - 18 GHz

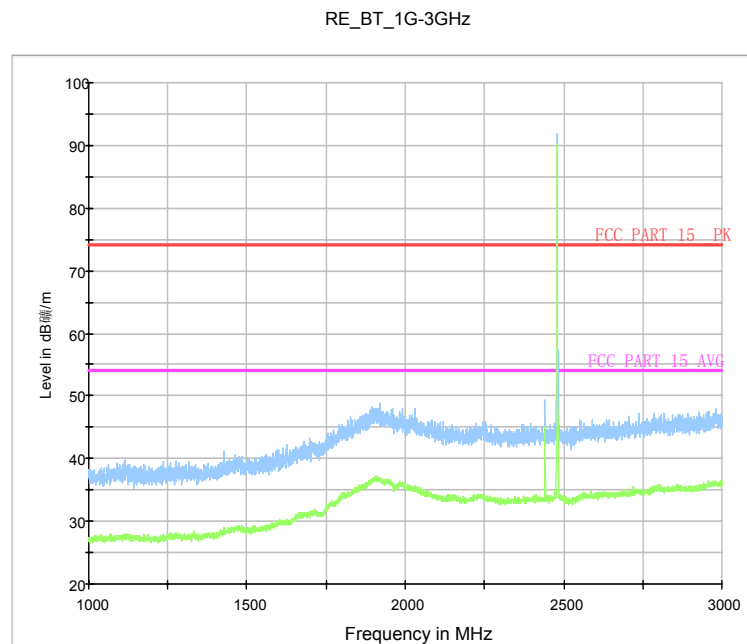


Fig.74. Radiated emission:  $\pi/4$  DQPSK, Channel 78, 1 GHz - 3 GHz

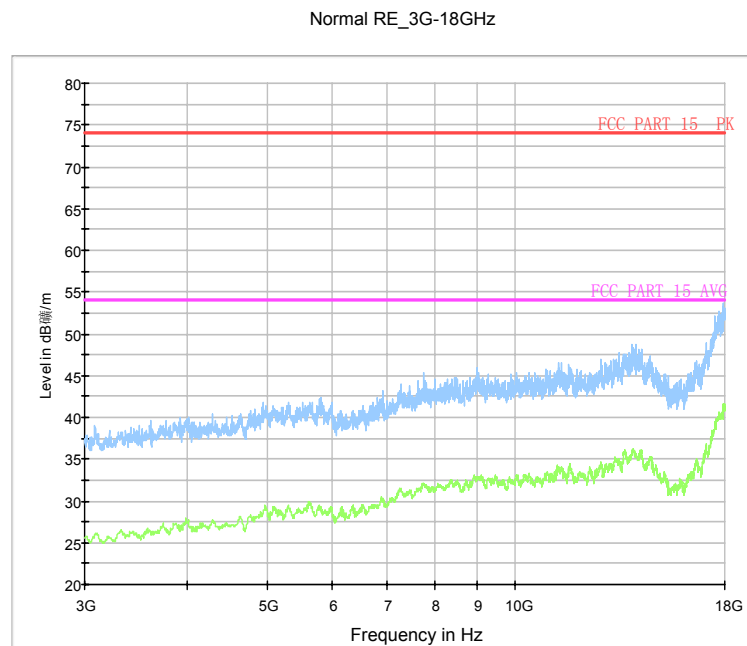


Fig.75. Radiated emission:  $\pi/4$  DQPSK, Channel 78, 3 GHz - 18 GHz

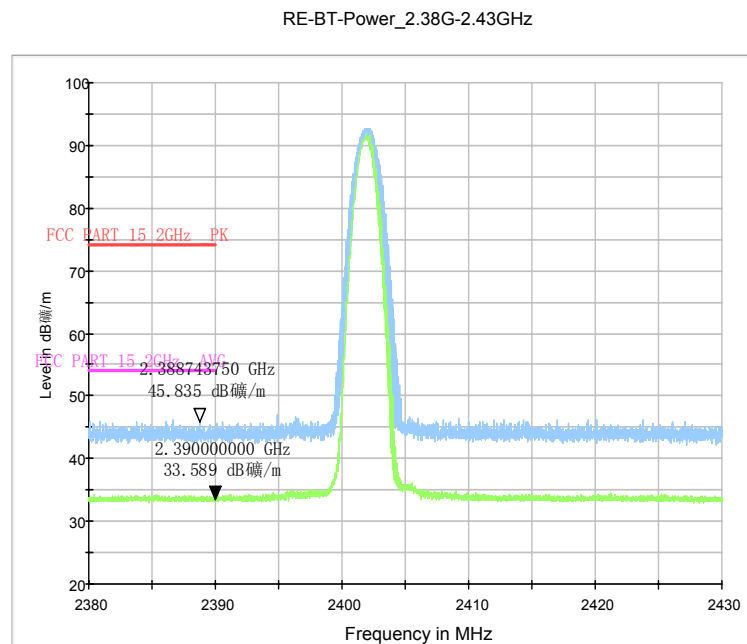


Fig.76. Radiated emission (Power):  $\pi/4$  DQPSK, low channel

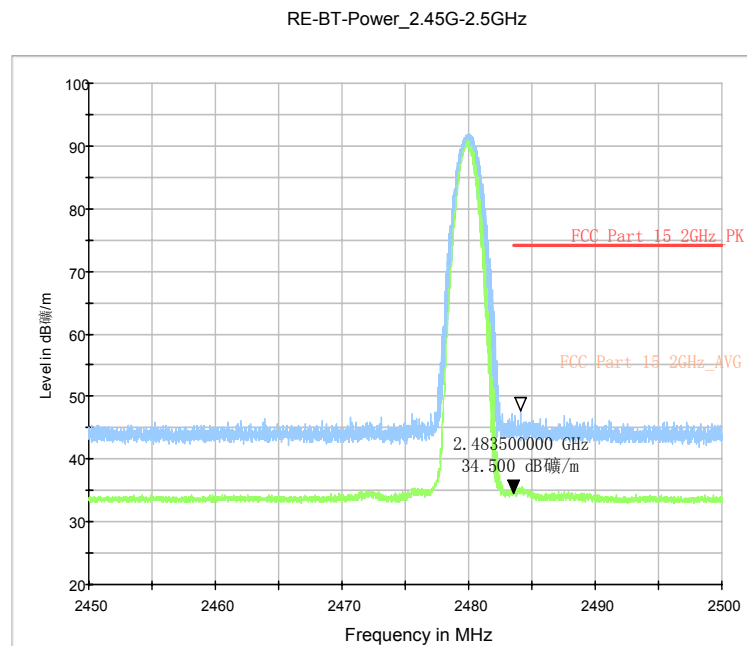


Fig.77. Radiated emission (Power):  $\pi/4$  DQPSK, high channel

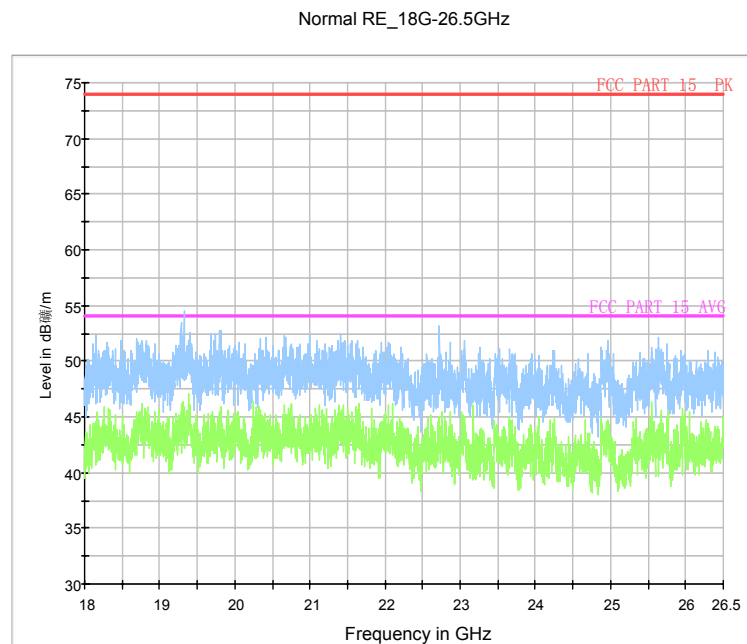


Fig.78. Radiated emission:  $\pi/4$  DQPSK, 18 GHz - 26 GHz

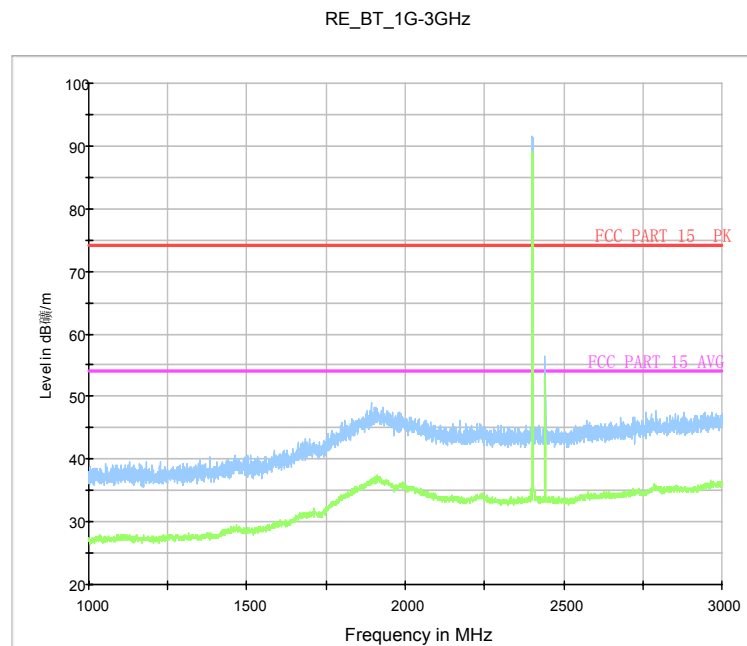


Fig.79. Radiated emission: 8DPSK, Channel 0, 1 GHz - 3 GHz

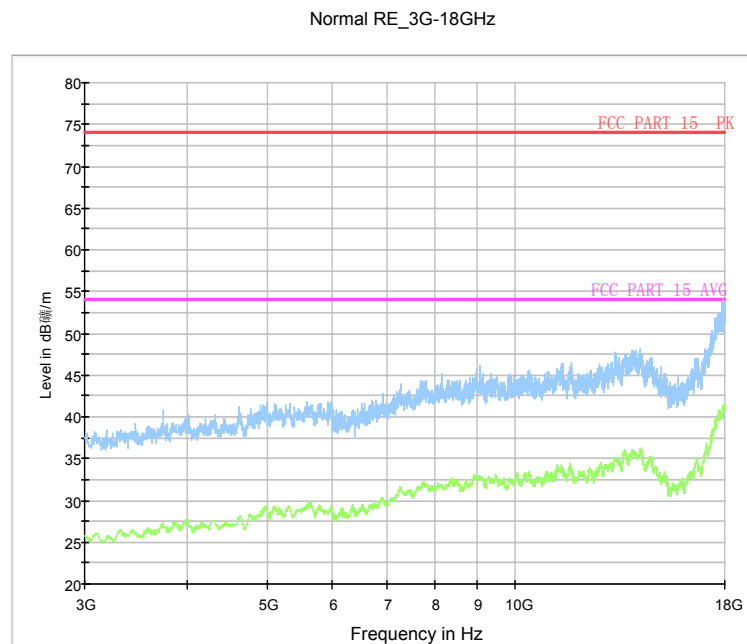


Fig.80. Radiated emission: 8DPSK, Channel 0, 3 GHz - 18 GHz

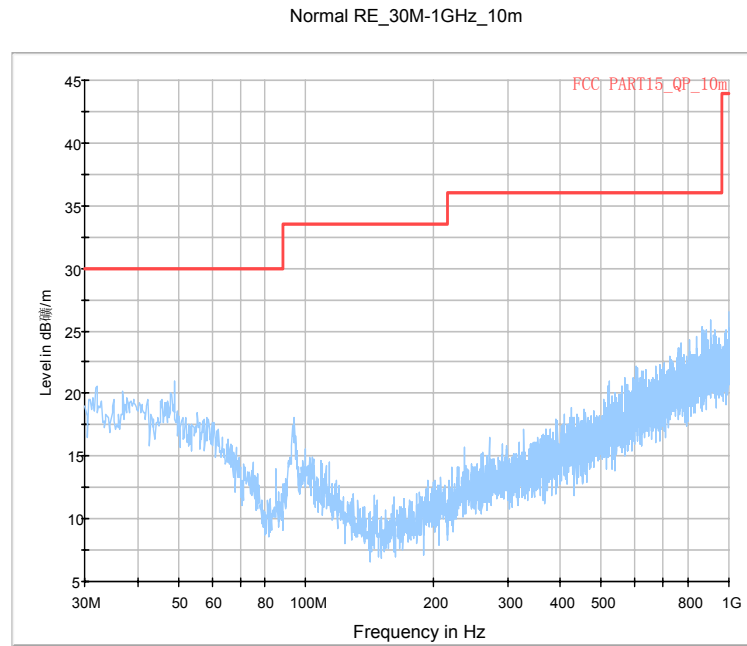


Fig.81. Radiated emission: 8DPSK, Channel 39, 30 MHz - 1 GHz

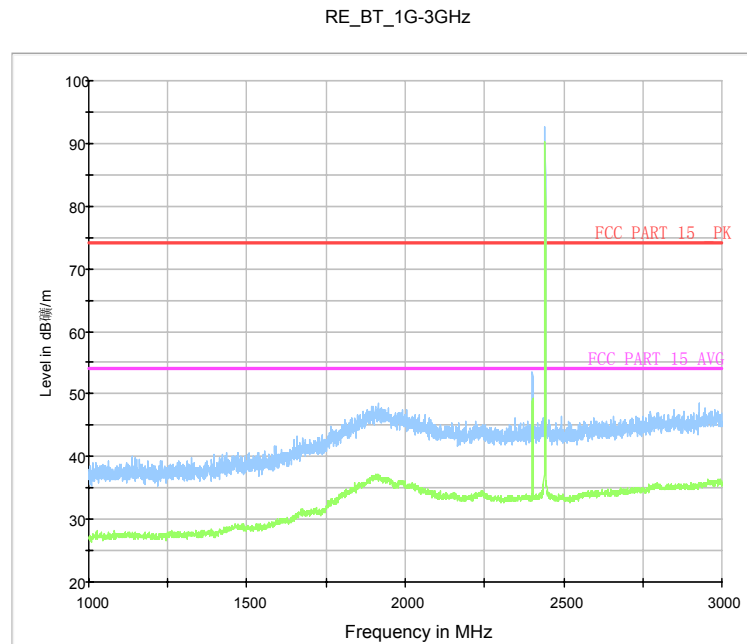


Fig.82. Radiated emission: 8DPSK, Channel 39, 1 GHz - 3 GHz

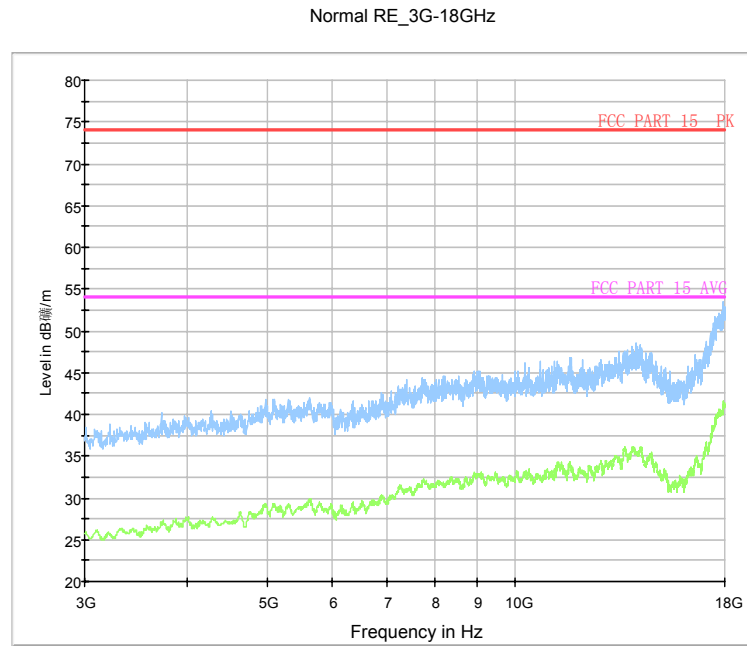


Fig.83. Radiated emission: 8DPSK, Channel 39, 3 GHz - 18 GHz

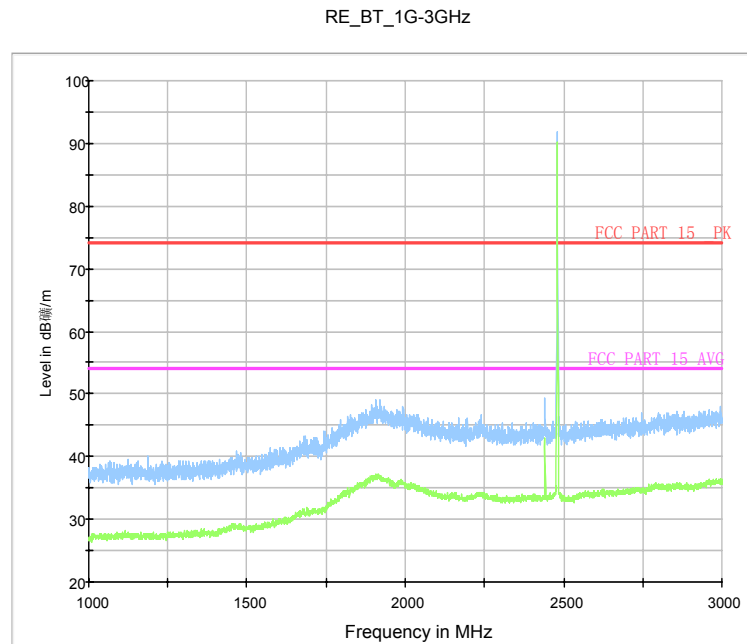


Fig.84. Radiated emission: 8DPSK, Channel 78, 1 GHz - 3 GHz

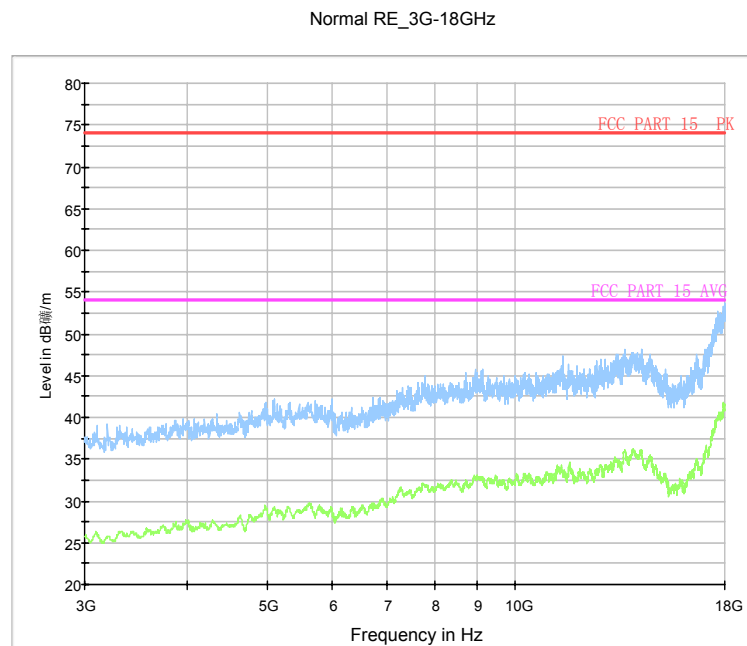


Fig.85. Radiated emission: 8DPSK, Channel 78, 3 GHz - 18 GHz

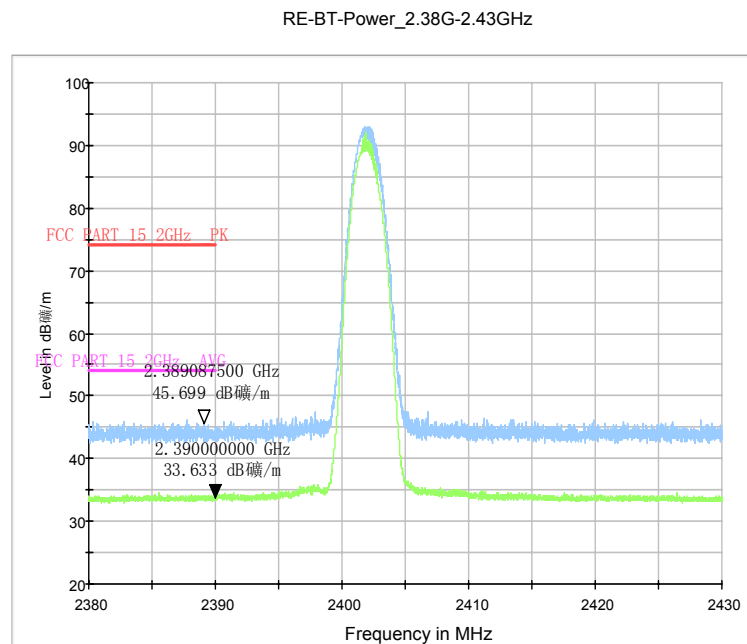


Fig.86. Radiated emission (Power): 8DPSK, low channel

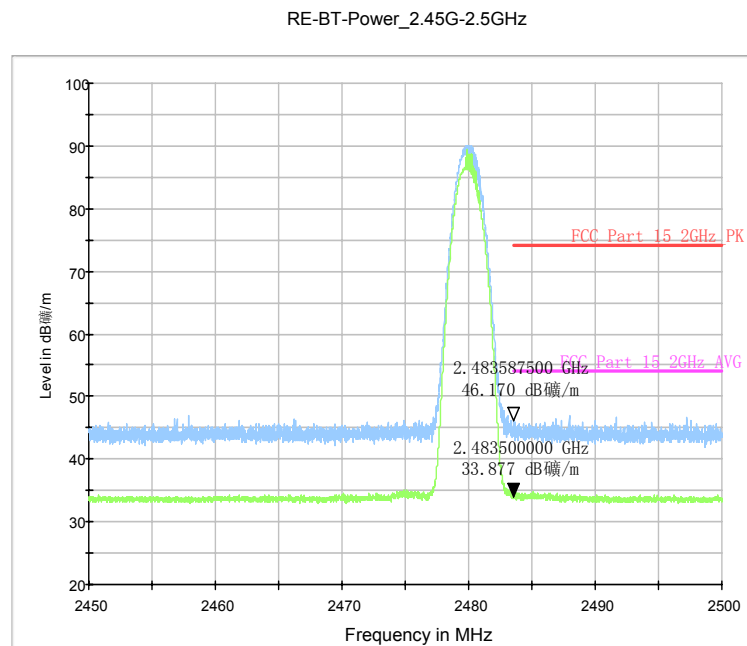


Fig.87. Radiated emission (Power): 8DPSK, high channel

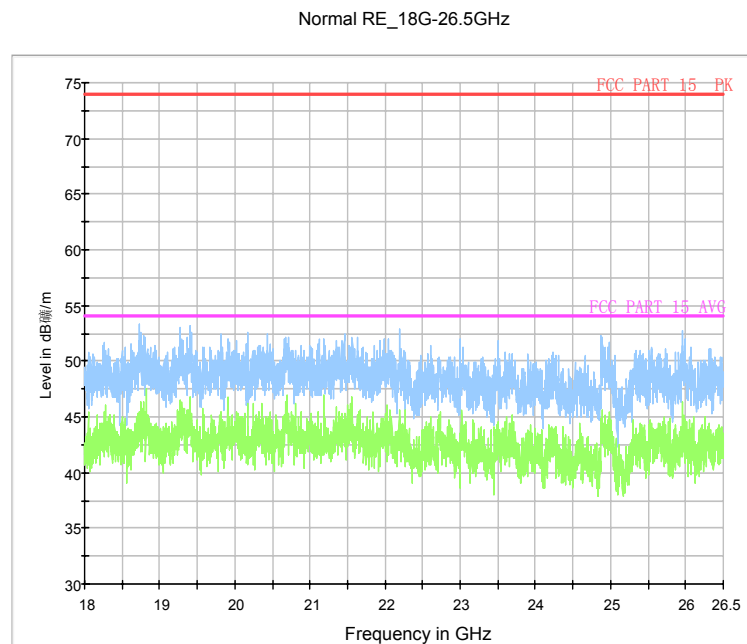


Fig.88. Radiated emission: 8DPSK, 18 GHz - 26 GHz



## A.6. Time of Occupancy (Dwell Time)

### Measurement Limit:

Standard	Limit (ms)
FCC 47 CFR Part 15.247(a) (1)(iii)	< 400

The measurement is made according to ANSI C63.10

According to Part 15.247(a) (1)(iii), the average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. So the dwell time results below are calculated by the width per pulse (Fig.85 e.g.) $\times 0.4s \times 79$ .

### Measurement Result:

#### For GFSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.89	109.26	P
		Fig.90		
	DH3	Fig.91	191.81	P
		Fig.92		
	DH5	Fig.93	188.03	P
		Fig.94		

#### For $\pi/4$ DQPSK

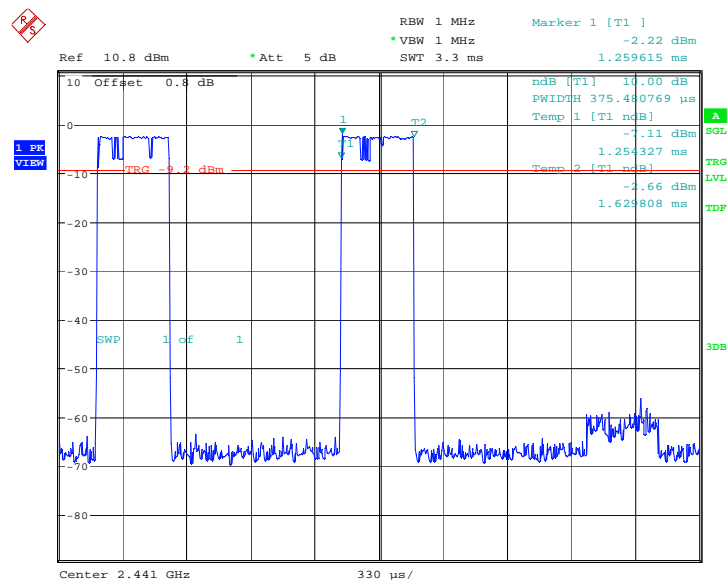
Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.95	108.14	P
		Fig.96		
	DH3	Fig.97	154.60	P
		Fig.98		
	DH5	Fig.99	202.87	P
		Fig.100		

#### For 8DPSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.101	101.15	P
		Fig.102		
	DH3	Fig.103	156.25	P
		Fig.104		
	DH5	Fig.105	185.48	P
		Fig.106		

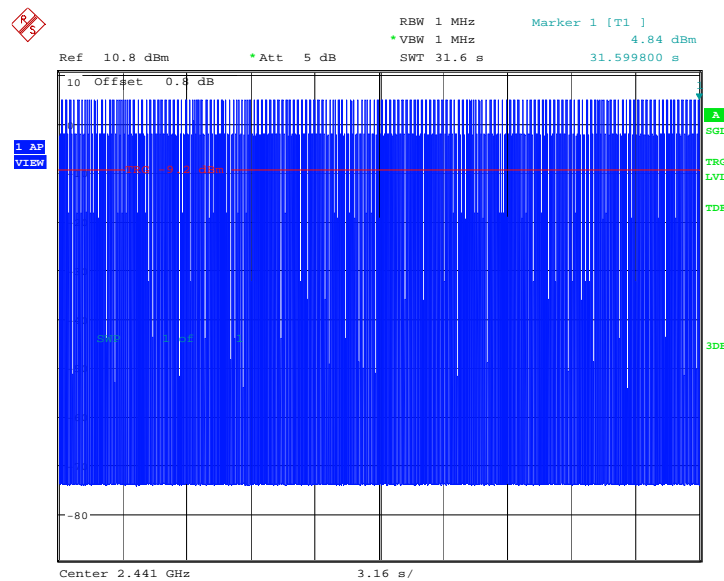
**Conclusion: PASS**

**Test graphs as below:**



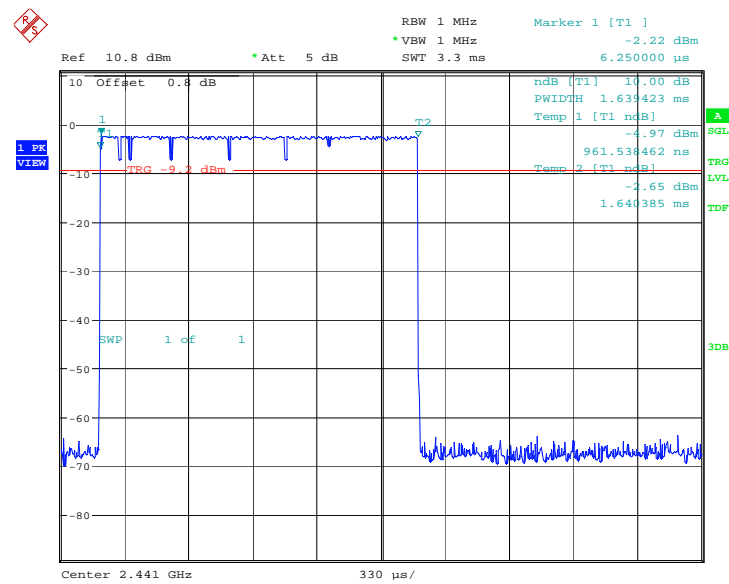
Date: 11.MAR.2014 17:06:50

Fig.89. Time of occupancy (Dwell Time): Channel 39, Packet DH1



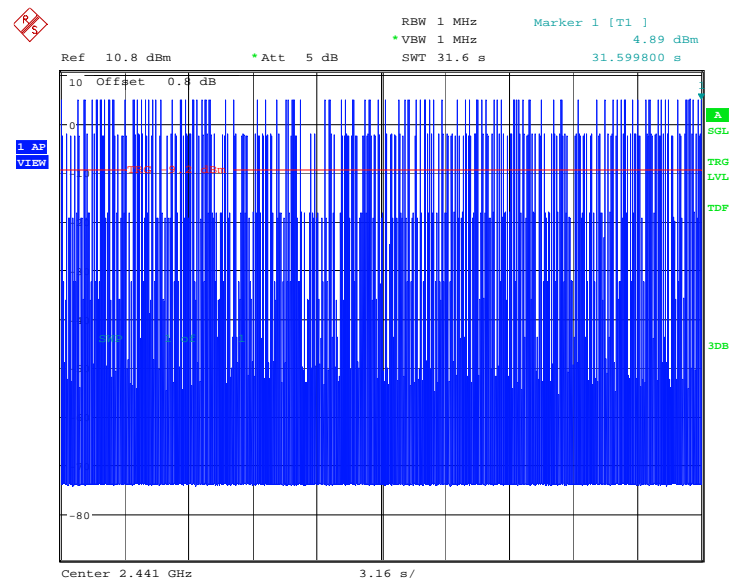
Date: 11.MAR.2014 17:06:38

Fig.90. Number of Transmissions Measurement:Channel 39,Packet DH1



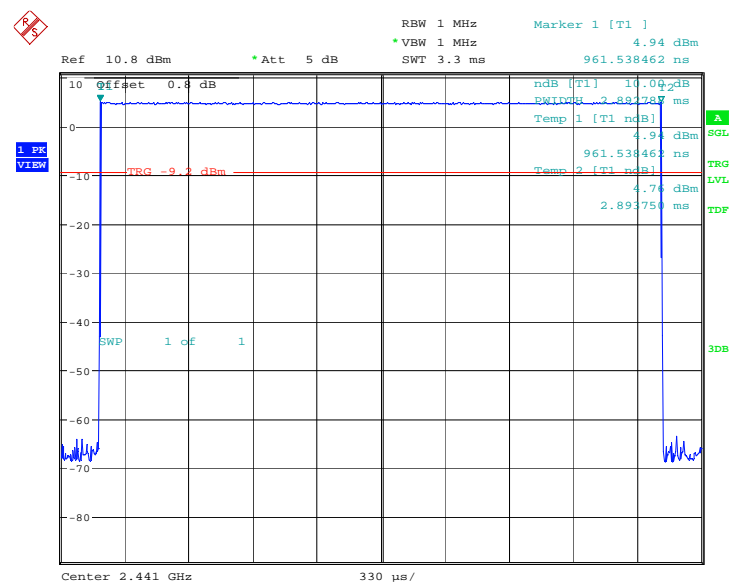
Date: 11.MAR.2014 17:08:10

Fig.91. Time of occupancy (Dwell Time): Channel 39, Packet DH3



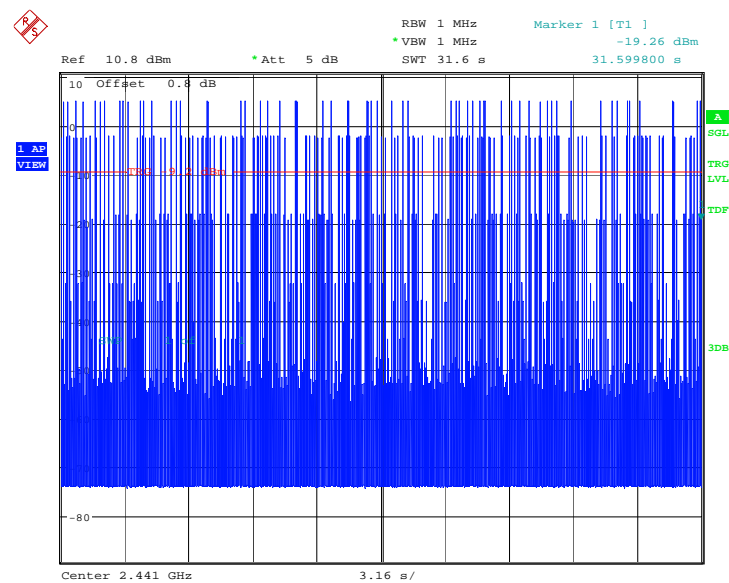
Date: 11.MAR.2014 17:07:58

Fig.92. Number of Transmissions Measurement:Channel 39,Packet DH3



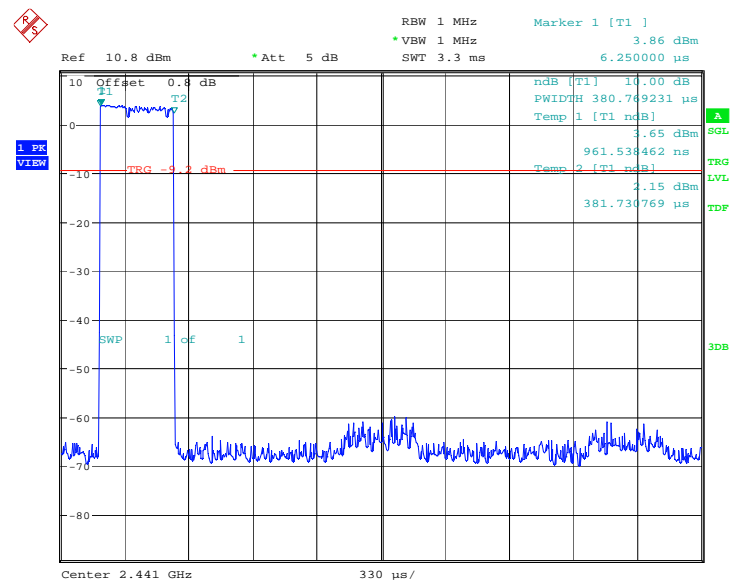
Date: 11.MAR.2014 17:09:26

Fig.93. Time of occupancy (Dwell Time): Channel 39, Packet DH5



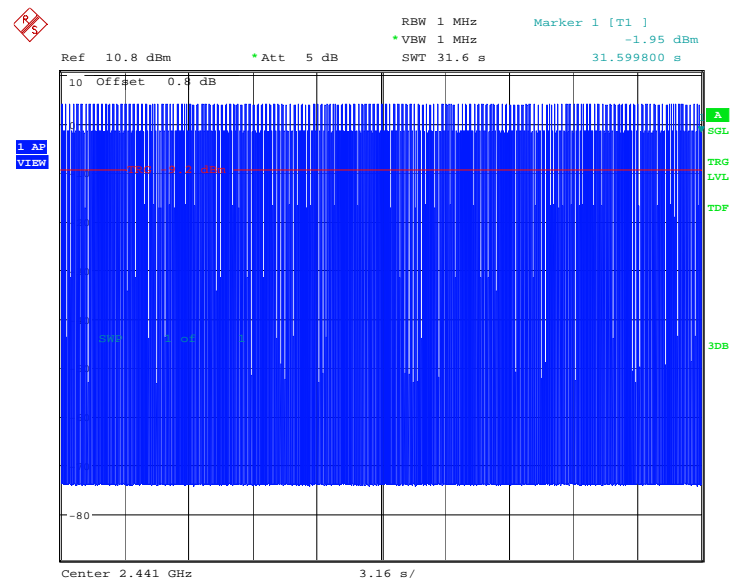
Date: 11.MAR.2014 17:09:14

Fig.94. Number of Transmissions Measurement:Channel 39,Packet DH5



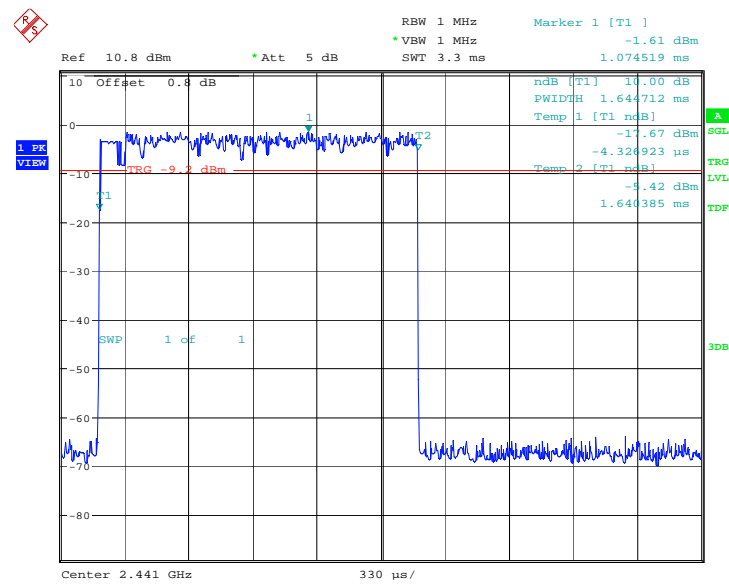
Date: 11.MAR.2014 17:28:19

Fig.95. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH1



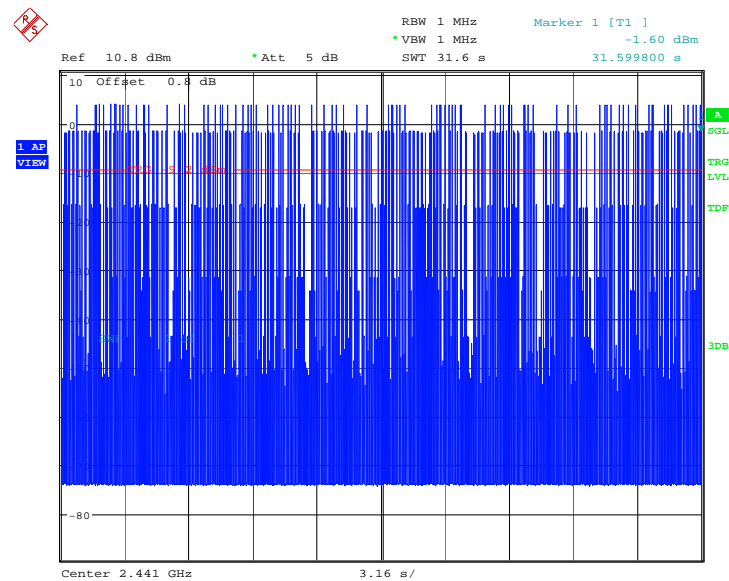
Date: 11.MAR.2014 17:28:07

Fig.96. Number of Transmissions Measurement:Channel 39,Packet 2-DH1



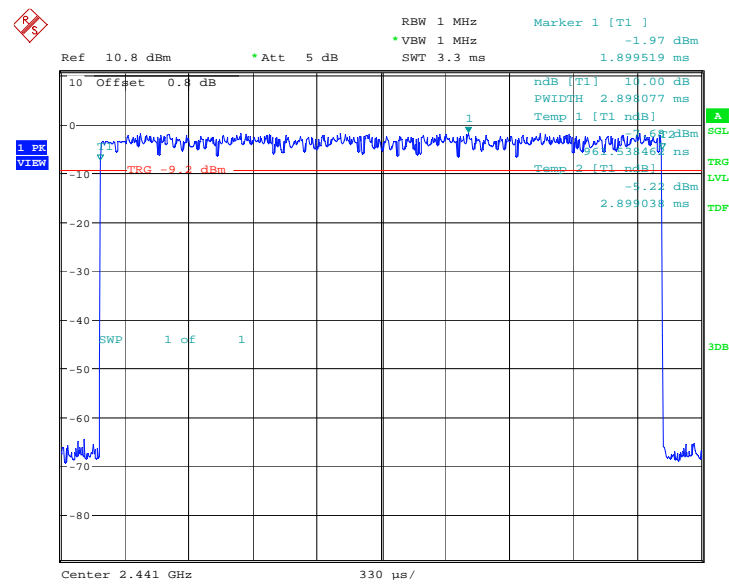
Date: 11.MAR.2014 17:29:39

Fig.97. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH3



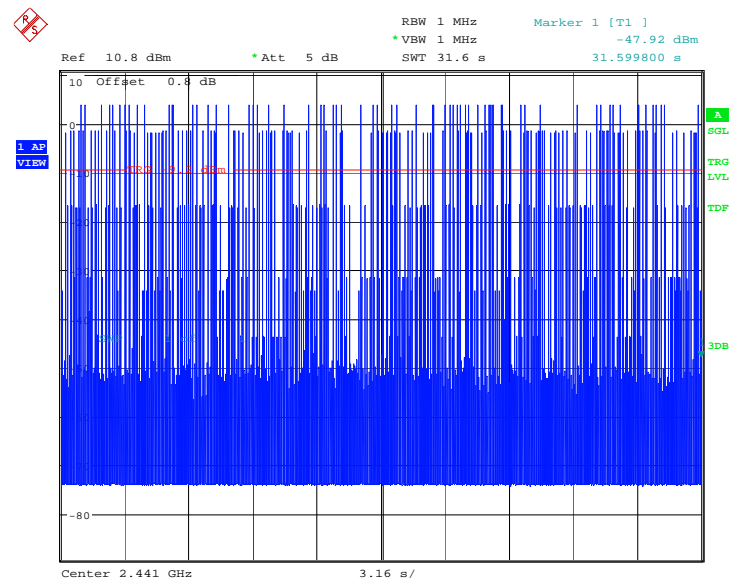
Date: 11.MAR.2014 17:29:27

Fig.98. Number of Transmissions Measurement:Channel 39,Packet 2-DH3



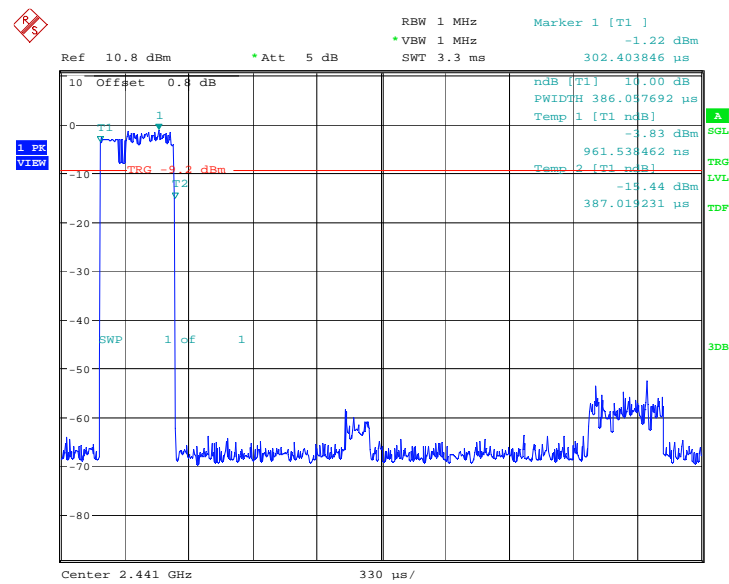
Date: 11.MAR.2014 17:30:57

Fig.99. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH5



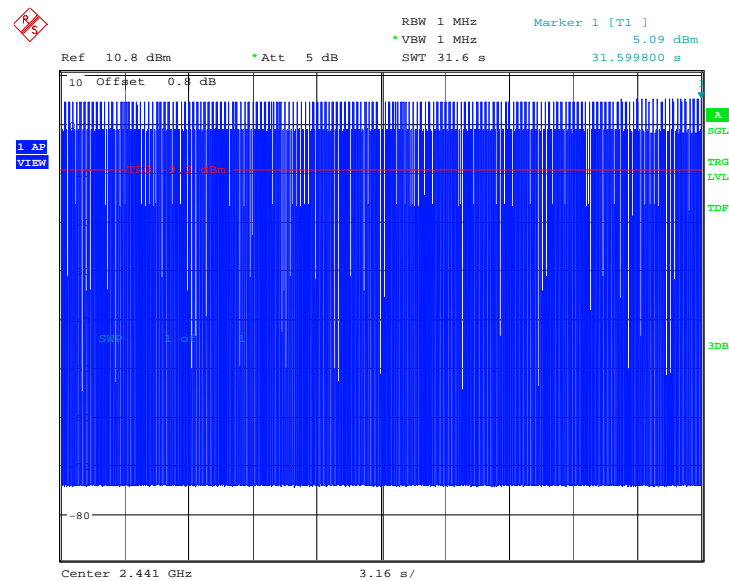
Date: 11.MAR.2014 17:30:45

Fig.100. Number of Transmissions Measurement:Channel 39,Packet 2-DH5



Date: 12.MAR.2014 07:50:24

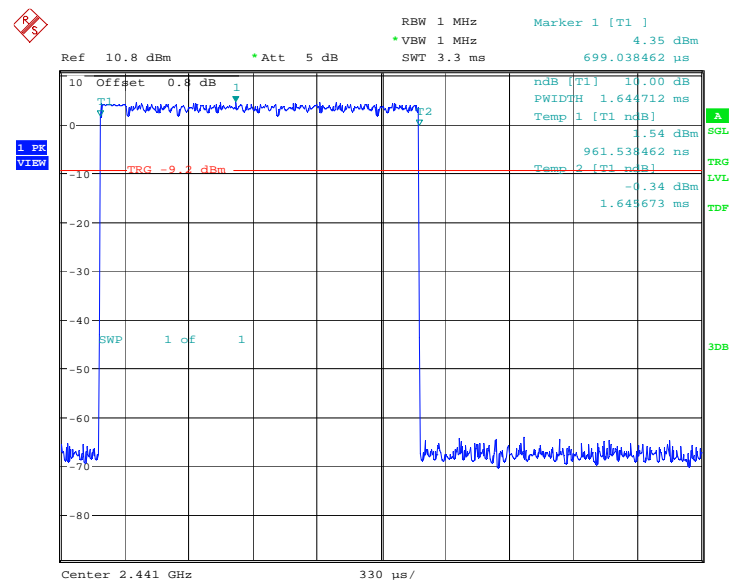
Fig.101. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH1



Date: 12.MAR.2014 07:50:12

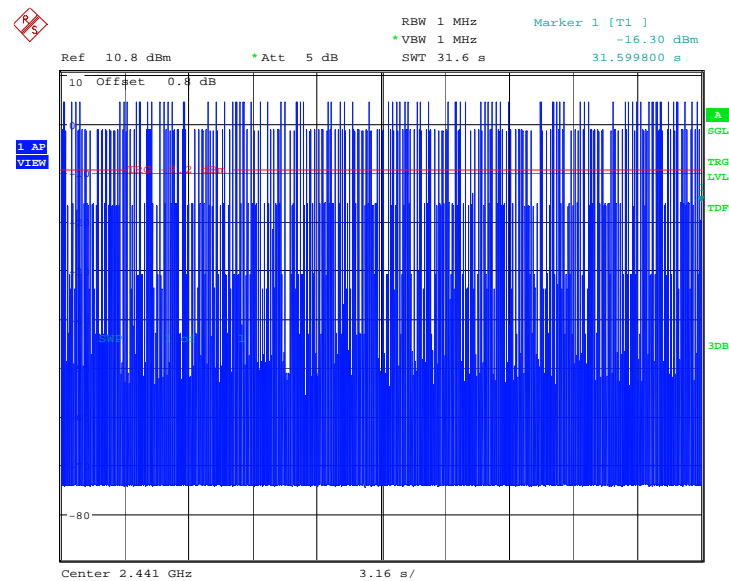
Fig.102. Number of Transmissions Measurement:Channel 39,Packet 3-DH1





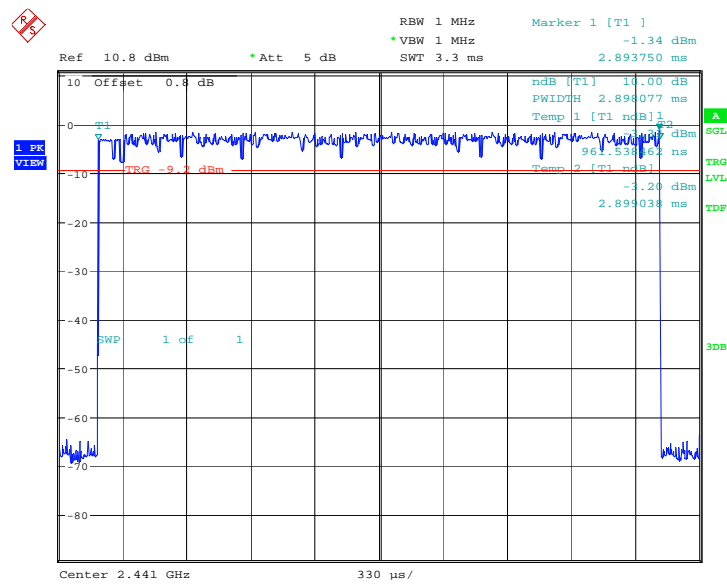
Date: 12.MAR.2014 07:51:44

Fig.103. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH3



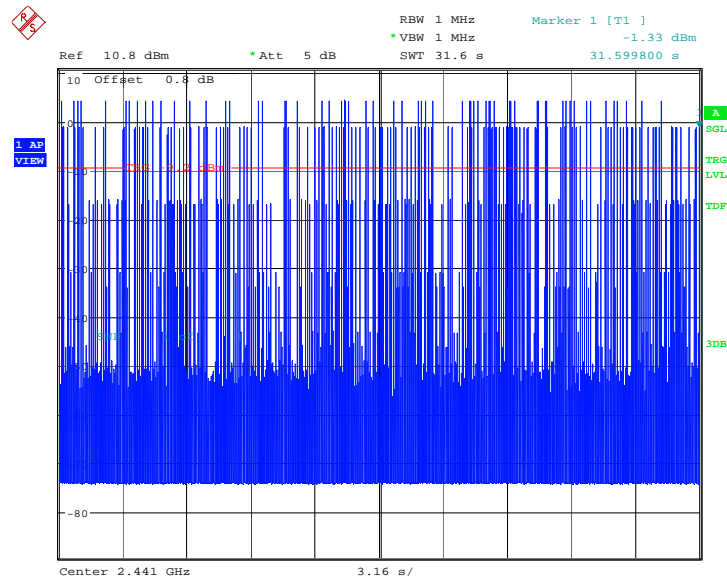
Date: 12.MAR.2014 07:51:32

Fig.104. Number of Transmissions Measurement:Channel 39,Packet 3-DH3



Date: 12.MAR.2014 07:53:00

Fig.105. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH5



Date: 12.MAR.2014 07:52:48

Fig.106. Number of Transmissions Measurement:Channel 39,Packet 3-DH5

## A.7. 20dB Bandwidth

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a)(1)	NA *

The measurement is made according to ANSI C63.10

\* Comment: This test case is not required according to the latest FCC 47 CFR Part 15.247. But the test results are necessary for “carrier frequency separation” test case, in Annex A.8.

### Measurement Results:

#### For GFSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.107	875.00	NA
39	Fig.108	870.19	NA
78	Fig.109	822.12	NA

#### For $\pi/4$ DQPSK

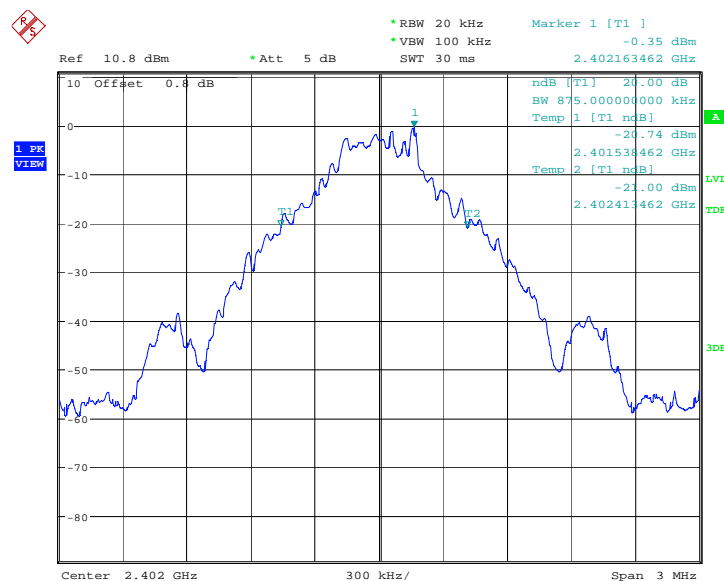
Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.110	1274.04	NA
39	Fig.111	1259.62	NA
78	Fig.112	1274.04	NA

#### For 8DPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.113	1254.81	NA
39	Fig.114	1274.04	NA
78	Fig.115	1254.81	NA

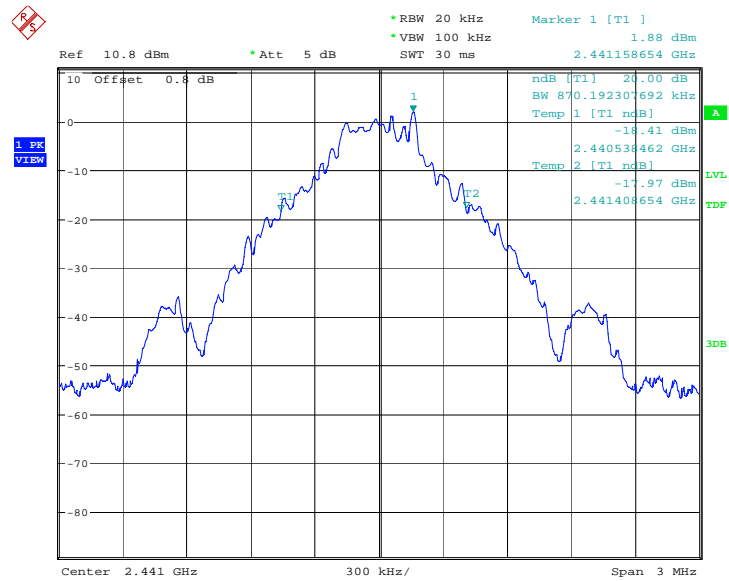
**Conclusion: NA**

Test graphs as below:



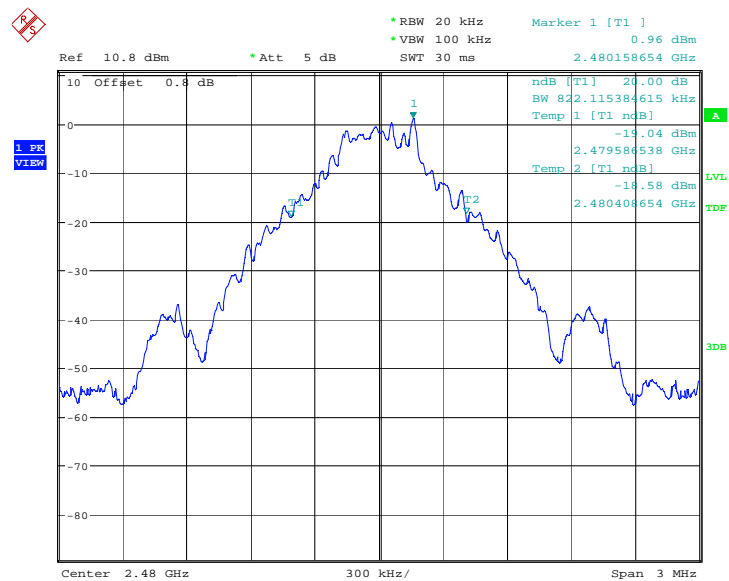
Date: 11.MAR.2014 17:10:00

Fig.107. 20dB Bandwidth: GFSK, Channel 0



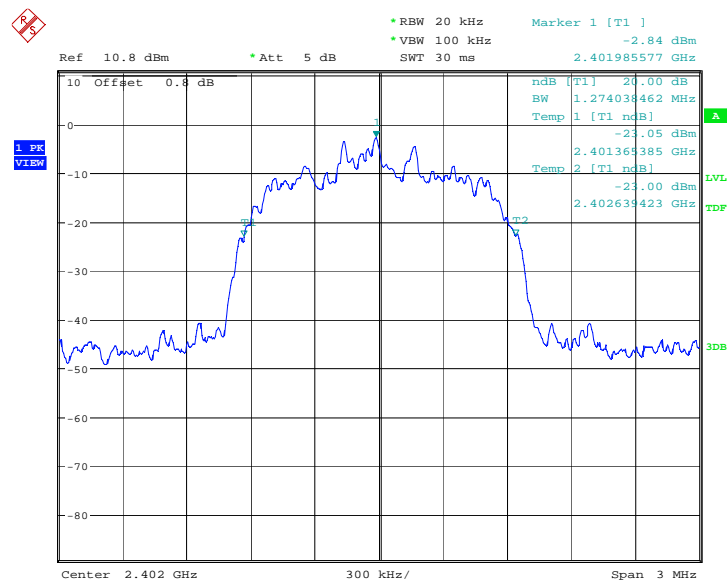
Date: 11.MAR.2014 17:10:31

Fig.108. 20dB Bandwidth: GFSK, Channel 39



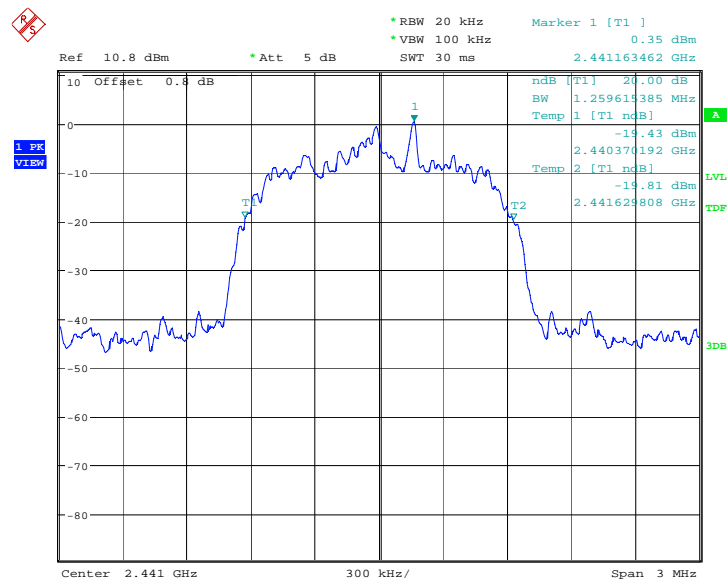
Date: 11.MAR.2014 17:11:03

Fig.109. 20dB Bandwidth: GFSK, Channel 78



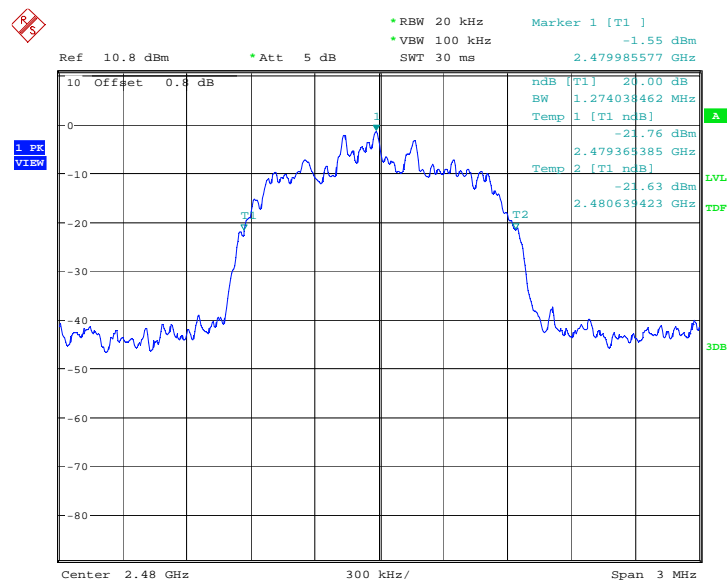
Date: 11.MAR.2014 17:31:30

Fig.110. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 0



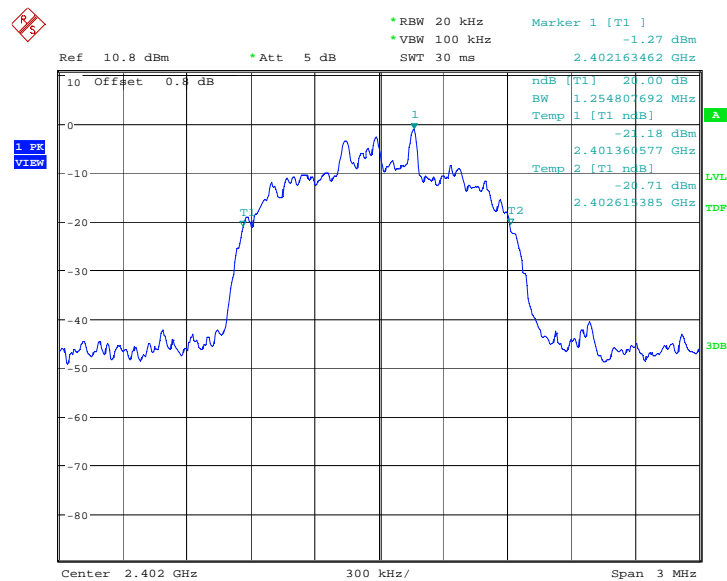
Date: 11.MAR.2014 17:32:02

Fig.111. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 39



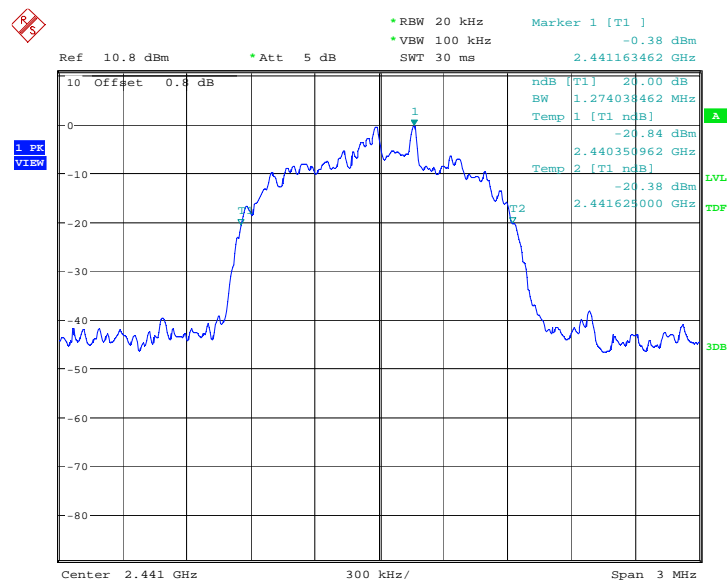
Date: 11.MAR.2014 17:32:34

Fig.112. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 78



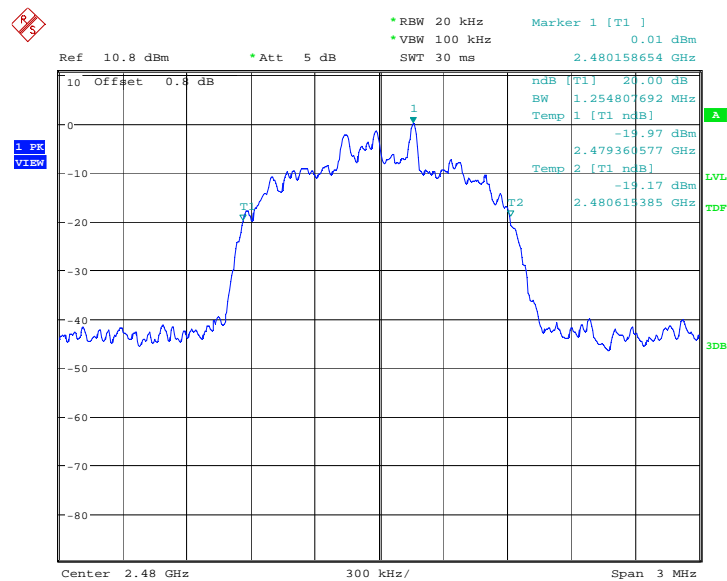
Date: 11.MAR.2014 17:53:02

Fig.113. 20dB Bandwidth: 8DPSK, Channel 0



Date: 11.MAR.2014 17:53:34

Fig.114. 20dB Bandwidth: 8DPSK, Channel 39



Date: 11.MAR.2014 17:54:06

Fig.115. 20dB Bandwidth: 8DPSK, Channel 78

## A.8. Carrier Frequency Separation

### Measurement Limit:

Standard	Limit(kHz)
FCC 47 CFR Part 15.247(a)(1)	over 25 kHz or $(2/3) * 20\text{dB bandwidth}$

The measurement is made according to ANSI C63.10

\* Comment: This limit should be over 25 kHz or  $(2/3) * 20\text{dB bandwidth}$ , whichever is greater.

### Measurement Result:

#### For GFSK

Channel	Carrier frequency separation (kHz)	Conclusion
39	Fig.116	P

#### For $\pi/4$ DQPSK

Channel	Carrier frequency separation (kHz)	Conclusion
39	Fig.117	P

#### For 8DPSK

Channel	Carrier frequency separation (kHz)	Conclusion
39	Fig.118	P

**Conclusion: PASS**

Test graphs as below:

Ref 10.8 dBm Att 5 dB RBW 300 kHz VBW 1 MHz SWT 2.5 ms Delta 2 [T1] 0.08 dB -1.009615385 MHz

Marker 1 [T1] 2.44083653 GHz -1.009615385 dBm

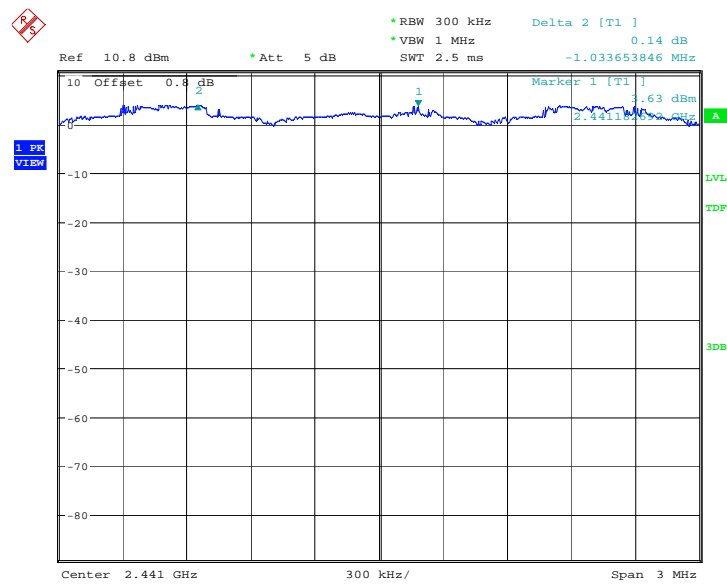
Center 2.441 GHz 300 kHz/ Span 3 MHz

Date: 11.MAR.2014 17:13:08

Fig.116. Carrier frequency separation measurement: GFSK, Channel 39

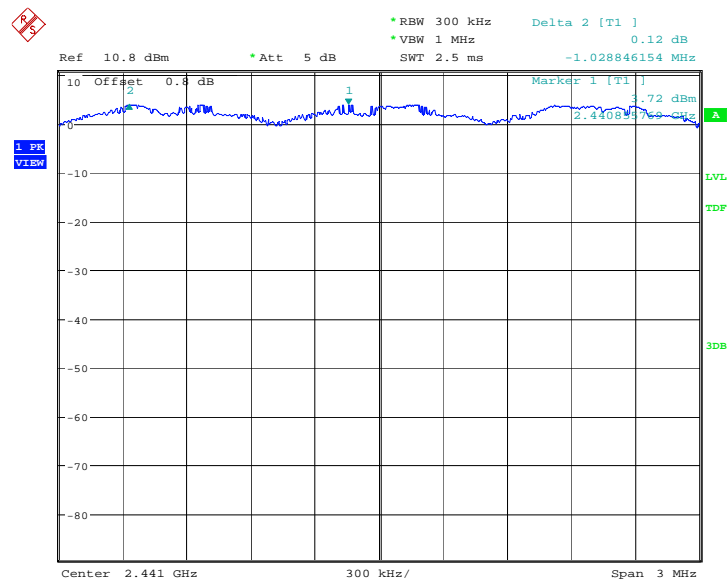
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Date: 11.MAR.2014 17:34:38

Fig.117. Carrier frequency separation measurement:  $\pi/4$  DQPSK, Channel 39



Date: 11.MAR.2014 17:56:10

Fig.118. Carrier frequency separation measurement: 8DPSK, Channel 39

## A.9. Number of Hopping Channels

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) (1)(iii)	At least 15 non-overlapping channels

The measurement is made according to ANSI C63.10

### Measurement Result:

#### For GFSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.119	P
40~78	Fig.120	

#### For $\pi/4$ DQPSK

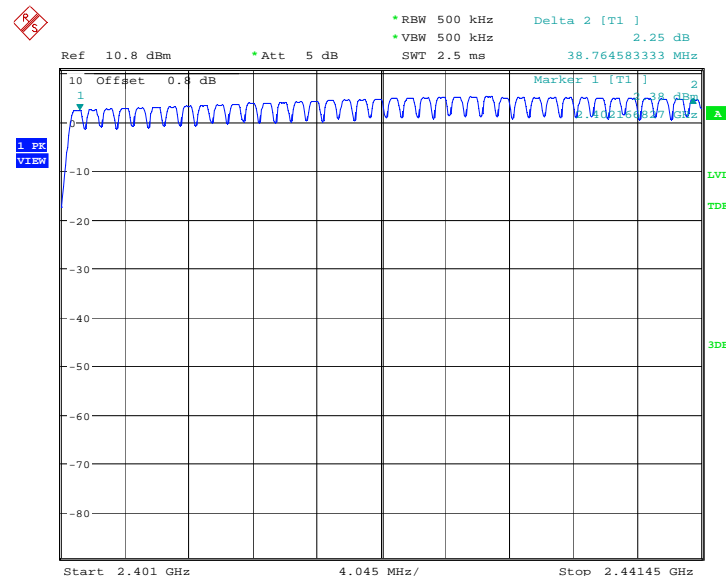
Channel	Number of hopping channels	Conclusion
0~39	Fig.121	P
40~78	Fig.122	

#### For 8DPSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.123	P
40~78	Fig.124	

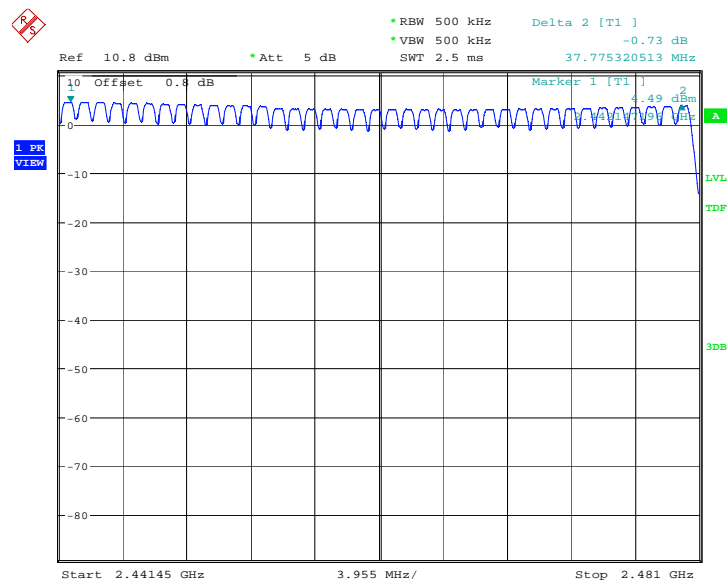
**Conclusion: PASS**

Test graphs as below:



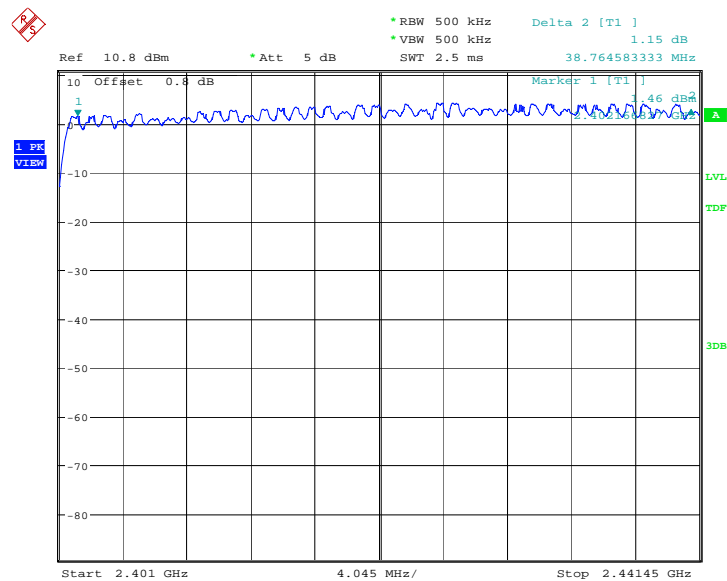
Date: 11.MAR.2014 17:15:12

Fig.119. Number of hopping frequencies: GFSK, Channel 0 - 39



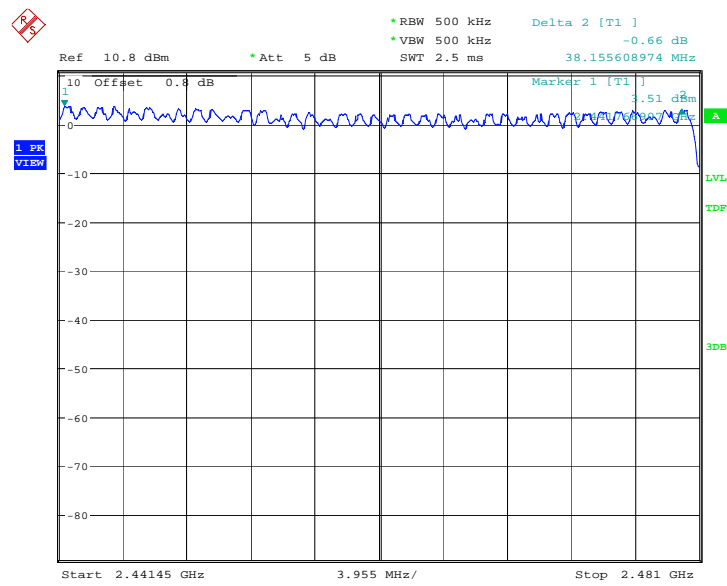
Date: 11.MAR.2014 17:17:14

Fig.120. Number of hopping frequencies: GFSK, Channel 40 - 78



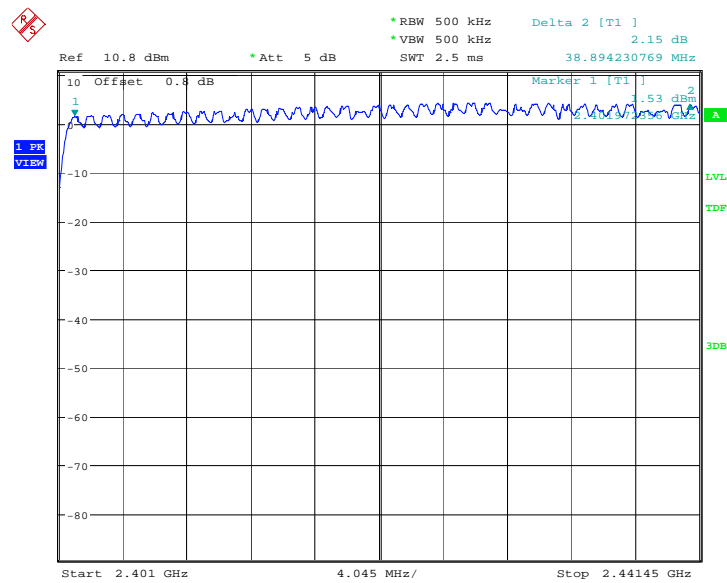
Date: 11.MAR.2014 17:36:43

Fig.121. Number of hopping frequencies:  $\pi/4$  DQPSK, Channel 0 - 39



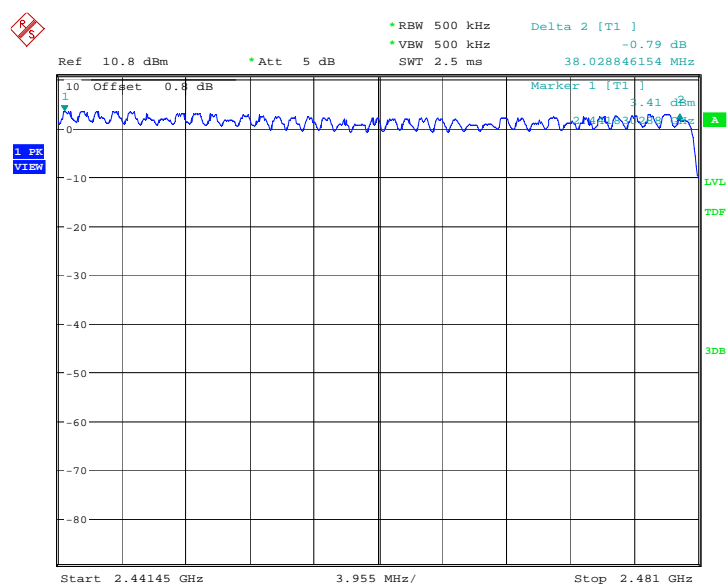
Date: 11.MAR.2014 17:38:45

Fig.122. Number of hopping frequencies:  $\pi/4$  DQPSK, Channel 40 - 78



Date: 11.MAR.2014 17:58:15

Fig.123. Number of hopping frequencies: 8DPSK, Channel 0 - 39



Date: 11.MAR.2014 18:00:17

Fig.124. Number of hopping frequencies: 8DPSK, Channel 40 - 78

## A.10. AC Powerline Conducted Emission

### Test Condition

Voltage (V)	Frequency (Hz)
120	60

The measurement is made according to ANSI C63.10

### Measurement Method:

The EUT is connected to the travel adapter, and travel adapter is connected to the LISN directly. EUT is under test mode, and the modulation method is GFSK.

### Measurement Result and limit:

#### Bluetooth (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Conclusion
0.15 to 0.5	66 to 56	P
0.5 to 5	56	
5 to 30	60	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

#### Bluetooth (Average Limit)

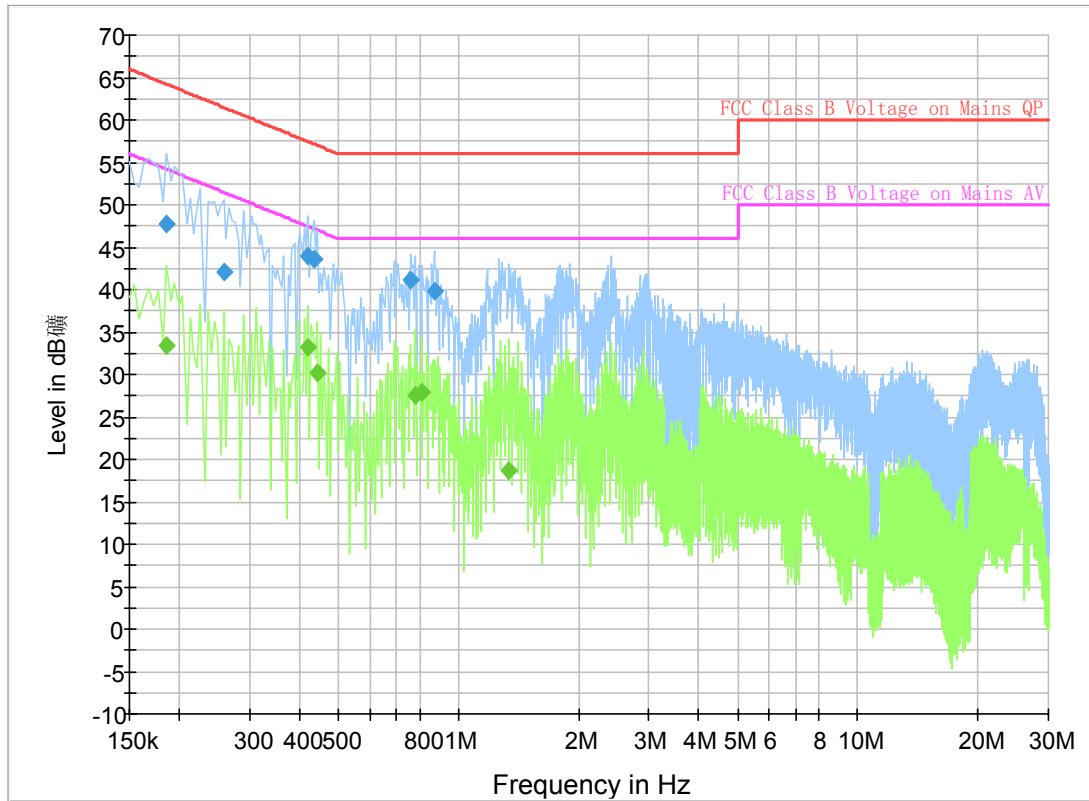
Frequency range (MHz)	Average Limit (dBμV)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

The measurement is made according to ANSI C63.10

**Conclusion: PASS**

**Test graphs as below:**

Traffic:



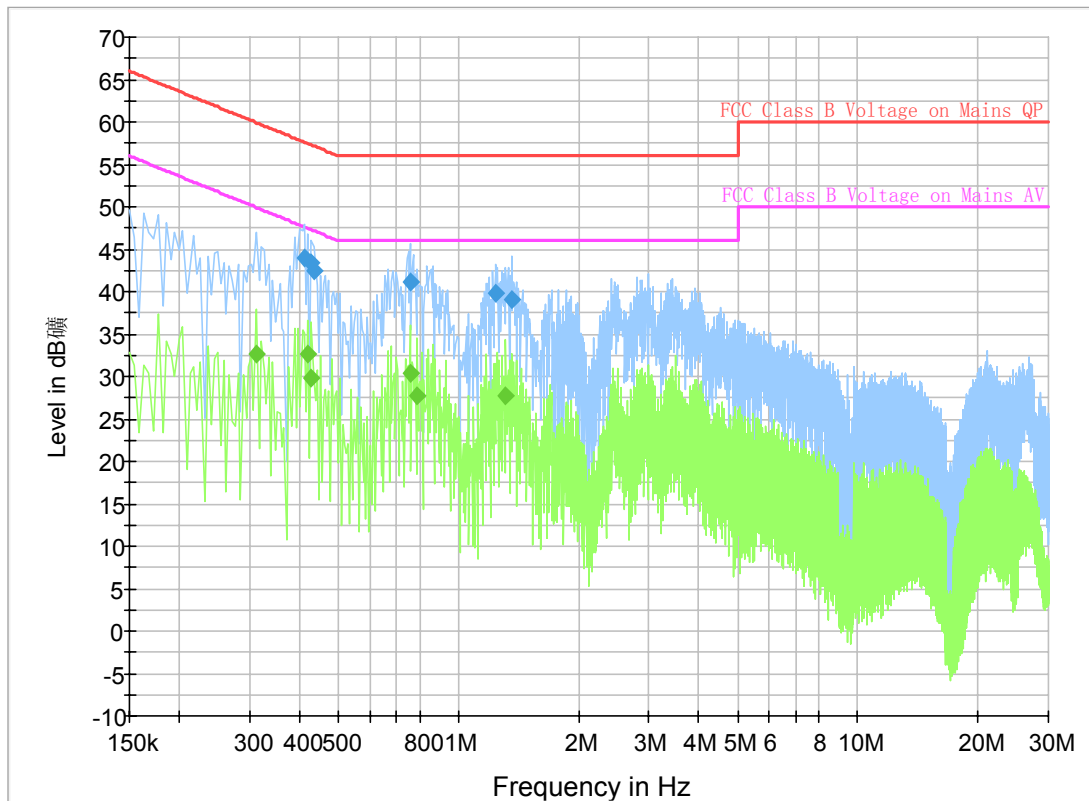
### Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.186000	47.7	GND	L1	9.8	16.5	64.2
0.258000	42.0	GND	N	9.8	19.5	61.5
0.420000	44.0	GND	L1	9.8	13.4	57.4
0.433500	43.6	GND	L1	9.8	13.6	57.2
0.762000	41.1	GND	L1	9.8	15.0	56.0
0.870000	39.8	GND	L1	9.8	16.2	56.0

### Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.186000	33.4	GND	L1	9.8	20.8	54.2
0.420000	33.1	GND	L1	9.8	14.3	47.4
0.442500	30.1	GND	L1	9.8	16.9	47.0
0.780000	27.6	GND	L1	9.8	18.4	46.0
0.811500	28.0	GND	L1	9.8	18.0	46.0
1.338000	18.7	GND	L1	9.7	27.3	46.0

Idle:

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.411000	43.9	GND	L1	9.8	13.7	57.6
0.429000	43.4	GND	L1	9.8	13.9	57.3
0.433500	42.5	GND	L1	9.8	14.7	57.2
0.757500	41.2	GND	L1	9.8	14.8	56.0
1.243500	39.7	GND	L1	9.7	16.3	56.0
1.360500	39.1	GND	L1	9.7	16.9	56.0

**Final Result 2**

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.312000	32.6	GND	L1	9.8	17.3	49.9
0.420000	32.6	GND	L1	9.8	14.9	47.4
0.429000	29.8	GND	L1	9.8	17.4	47.3
0.757500	30.3	GND	L1	9.8	15.7	46.0
0.789000	27.8	GND	L1	9.8	18.2	46.0
1.315500	27.8	GND	L1	9.7	18.2	46.0

\*\*\* END OF REPORT BODY \*\*\*