FCC PART 15C
TEST REPORT
No. 2012EEB00456-BT

For

Cellon Communications Technology(ShenZhen)Co., Ltd.

GSM QUAD BAND AND UMTS 850/1900

Model Name: C3560

Market Name: C3560,C3560CA,C3560EN,C3560CL, C3560PR,C3560CP

With

Hardware Version: A3560_MB_P1B

Software Version: A3560_1.0_Lab_Test_Only

FCC ID: T38C3560

Issued Date: Nov 13th, 2012

Test Laboratory:
FCC 2.948 Listed: No.733176
IC O.A.T.S listed: No.6629A-1

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.

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CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MIIT
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Telephone:	+86(0)10-62304633-2678
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1.2. Testing Environment

Normal Temperature:	15℃-30℃
Extreme Temperature:	-20℃/+55℃
Relative Humidity:	30%-60%

1.3. Project data

Project Leader:	Zhou Yi
Test Engineer:	Yang Zi'an
Testing Start Date:	Apr 6th, 2012
Testing End Date:	Apr 20th, 2012

1.4. Signature

Yang Zi'an
(Prepared this test report)

Zhou Yi
(Reviewed this test report)

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

2. Client Information

2.1. Applicant Information

Company Name:	Cellon Communications Technology(ShenZhen)Co., Ltd.
Address /Post:	13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial Park NanShan, ShenZhen
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Country:	China
Contact	maggie.xu
Email	maggie.xu@cellon.com
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Fax:	0755-86365686

2.2. Manufacturer Information

Company Name:	Cellon Communications Technology(ShenZhen)Co., Ltd.
Address /Post:	13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial Park NanShan, ShenZhen
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Postal Code:	518000
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Telephone:	0755-86365704
Fax:	0755-86365686

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

3.1. About EUT

Description	GSM QUAD BAND AND UMTS 850/1900
Model Name	C3560
Marketing Name	C3560,C3560CA,C3560EN,C3560CL,C3560PR,C3560CP
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	GFSK/π/4 DQPSK/8DPSK
Number of Channels	79
Extreme Temperature	-20℃/+55℃
Normal Voltage	3.7V
Extreme Low Voltage	3.6V
Extreme High Voltage	4.2V

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N01	357428021081999	A3560_MB_P1B	A3560_1.0_Lab_Test_Only

*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	Type	SN
AE1	Charger	CNR1218	/
AE2	Li-ion Battery	BTR380	/

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

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.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz.	Oct, 2011 Edition
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003
FCC Public Notice DA 00-705	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems	March 30, 2000

5. LABORATORY ENVIRONMENT

Half-anechoic chamber (11.20 meters×6.10 meters×5.60 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2M Ω
Ground system resistance	< 0.5 Ω
Normalized Site Attenuation (NSA)	< ±3.5dB, with 3m of Measuring distance, 30MHz 1000MHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

Fully-anechoic chamber (11.20 meters×6.10 meters×6.60 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2M Ω
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 30MHz to 18 000 MHz

Control room & Conduction Lab did not exceed following limits along the EMC testing:

Items	Control room	Conduction Lab
Temperature	Min.= 15℃, Max.= 30℃	Min.= 15℃, Max.= 30℃
Relative humidity	Min.=30 %, Max.= 60 %	Min.=30 %, Max.= 60 %
Shielding effectiveness	> 110 dB	> 110 dB
Electrical insulation	> 2M Ω	> 2M Ω
Ground system resistance	< 0.5 Ω	< 0.5 Ω

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

No	Test cases	Sub-clause of Part15C	Verdict
1	Maximum Peak Output Power	15.247 (a)	**P**
2	Band Edges Compliance	15.247 (d)	**P**
3	Conducted Spurious Emission	15.247	**P**
4	Radiated Spurious Emission	15.247,15.205,15.209	**P**
5	Occupied 20dB bandwidth	15.247(a)	**P**
6	Time of Occupancy(Dwell Time)	15.247(a)	**P**
7	Number of Hopping Channel	15.247(a)	**P**
8	Carrier Frequency Separation	15.247(a)	**P**
9	AC Powerline Conducted Emission	15.107,15.207	**P**

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

6.3. Terms used in the result table

Terms used in Condition column

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage
V min	Low Voltage
V max	High voltage

Terms used in Verdict column

P	Pass
NA	Not Available
F	Fail

Abbreviations

AC	Alternating Current
AFH	Adaptive Frequency Hopping
BW	Band Width
E.I.R.P.	equivalent isotropical radiated power
ISM	Industrial, Scientific and Medical
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
Tx	Transmitter

7. Test Equipments Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Spectrum Analyzer	FSP40	100378	Rohde & Schwarz	2012-12-22
2	Bluetooth Tester	CBT32	100584	Rohde & Schwarz	2013-01-12

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Chamber	FACT5-2.0	4166	ETS-Lindgren	2013-04-17
2	Test Receiver	ESCI	100701	Rohde & Schwarz	2013-08-03
3	Spectrum Analyzer	FSP40	100378	Rohde & Schwarz	2012-12-22
4	BiLog Antenna	VULB9163	9163-330	Schwarzbeck	2014-02-24
5	Dual-Ridge Waveguide Horn Antenna	3164-05	00085724	ETS-Lindgren	2014-02-17
6	Test Receiver	ESCI	100702	R&S	2013-08-03
7	LISN	ESH2-Z5	100196	R&S	2013-01-25

Anechoic chamber

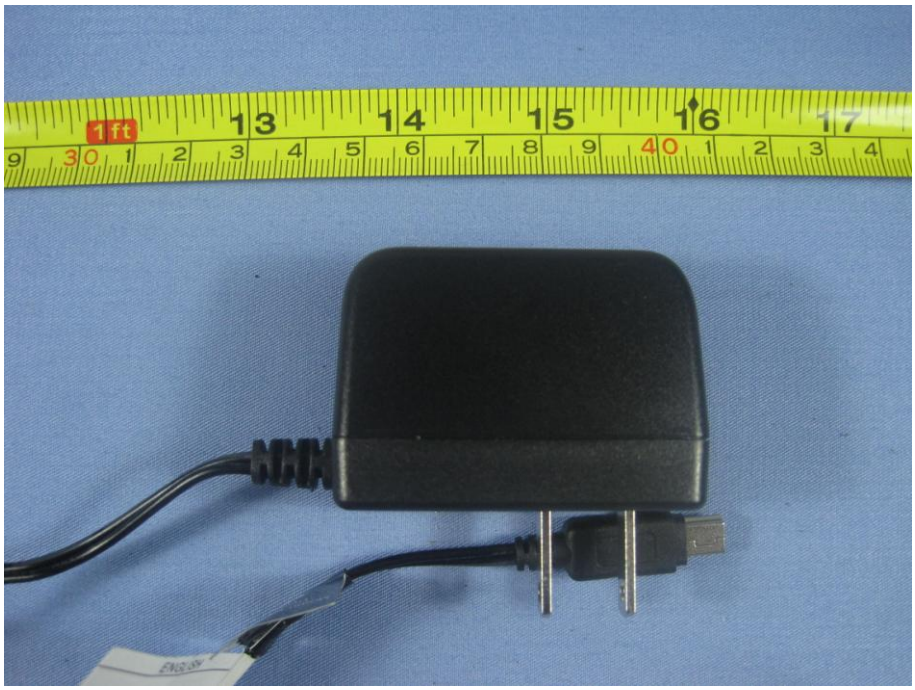
Fully anechoic chamber by ETS-Lindgren.

ANNEX A: EUT photograph

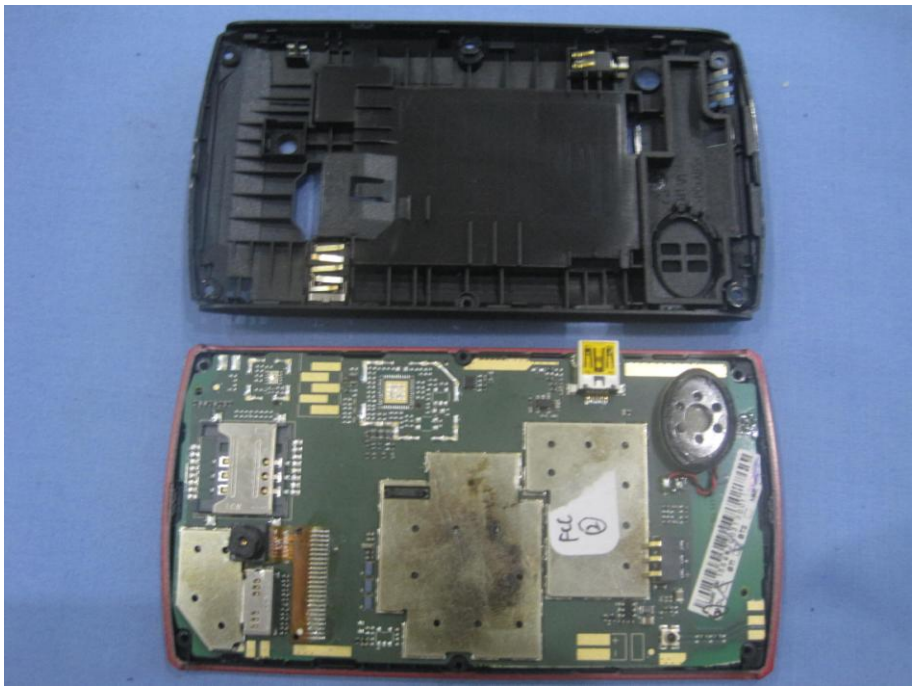
Pic A-1 Mobile phone

Pic A-2 Mobile phone

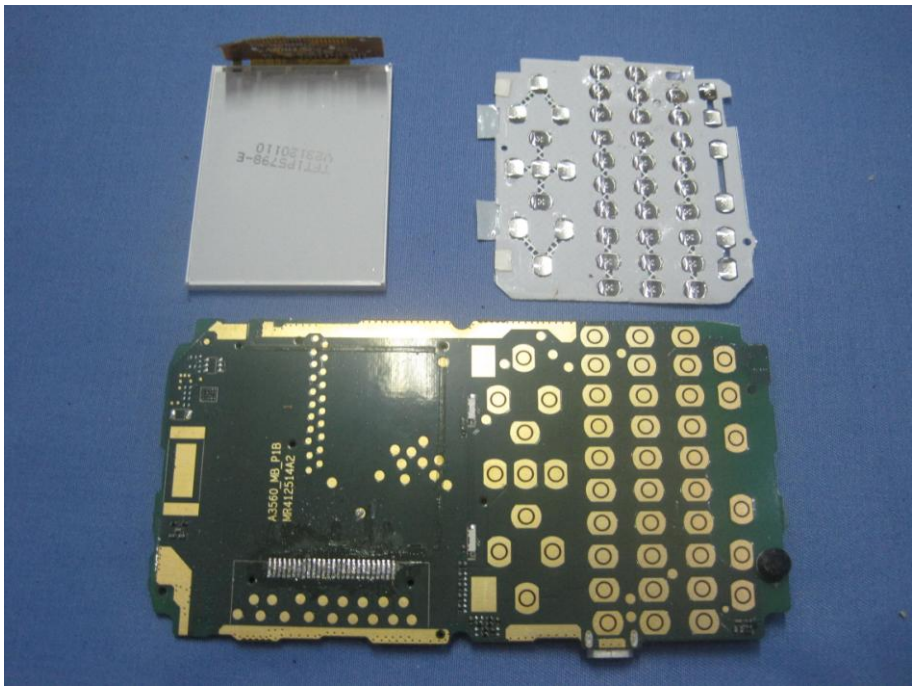
Pic A-3 Battery



Pic A-4 Charger



Pic A-5 Mobile phone Disassembly



Pic A-6 Mobile phone Disassembly

ANNEX B: MEASUREMENT RESULTS

B.1 Maximum Peak Output Power

Measurement Limit and Method:

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

The measurement is made according to ANSI C63.4 and KDB558074, and power output option 1 (RBW=20MHz) in KDB558074 is used for the test. EUT is operating in continuous transmitting mode

Measurement Results:

Mode	Test Result (dBm)		
	2402MHz (Ch0)	2441MHz (Ch39)	2480 MHz (Ch78)
GFSK	4.82	5.11	5.49
π /4 DQPSK	4.30	4.74	5.00
8DPSK	4.16	4.53	4.83

Conclusion: PASS

B.2 Band Edges Compliance

Measurement Limit:

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

The measurement is made according to ANSI C63.4 and KDB558074

Measurement Result:

Mode	Channel	Hopping	Test Results	Conclusion
GFSK	0	ON	Fig.1	P
	78	ON	Fig.2	P
π /4 DQPSK	0	ON	Fig.3	P
	78	ON	Fig.4	P
8DPSK	0	ON	Fig.5	P
	78	ON	Fig.6	P

See ANNEX C for test graphs.

Conclusion: Pass

B.3 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 C63.4 and KDB558074

Measurement Results:

MODE	Channel	Frequency Range	Test Results	Conclusion
GFSK	0	2.402 GHz	Fig.7	P
		30 MHz-3 GHz	Fig.8	P
		3GHz-18Ghz	Fig.9	P
	78	2.480 GHz	Fig.10	P
		30 MHz-3 GHz	Fig.11	P
		3GHz-18Ghz	Fig.12	P
π /4 DQPSK	0	2.402 GHz	Fig.13	P
		30 MHz-3 GHz	Fig.14	P
		3GHz-18Ghz	Fig.15	P
	78	2.480 GHz	Fig.16	P
		30 MHz-3 GHz	Fig.17	P
		3GHz-18Ghz	Fig.18	P
8DPSK	0	2.402 GHz	Fig.19	P
		30 MHz-3 GHz	Fig.20	P
		3GHz-18Ghz	Fig.21	P
	78	2.480 GHz	Fig.22	P
		30 MHz-3 GHz	Fig.23	P
		3GHz-12Ghz	Fig.24	P
/	All channel	18GHz-26GHz	Fig.25	P

See ANNEX C for test graphs.

Conclusion: Pass

B.4 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 C63.4 and KDB558074.

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	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)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

Measurement Results:

Mode	Channel	Frequency Range	Test Results	Conclusion
GFSK	0	30 MHz ~1 GHz	Fig.26	P
		1 GHz ~ 3 GHz	Fig.27	P
		3 GHz ~ 18 GHz	Fig.28	P
	78	30 MHz ~1 GHz	Fig.29	P
		1 GHz ~ 3 GHz	Fig.30	P
		3 GHz ~ 18 GHz	Fig.31	P
π /4 DQPSK	0	30 MHz ~1 GHz	Fig.32	P
		1 GHz ~ 3 GHz	Fig.33	P
		3 GHz ~ 18 GHz	Fig.34	P
	78	30 MHz ~1 GHz	Fig.35	P
		1 GHz ~ 3 GHz	Fig.36	P
		3 GHz ~ 18 GHz	Fig.37	P
8DPSK	0	30 MHz ~1 GHz	Fig.38	P
		1 GHz ~ 3 GHz	Fig.39	P
		3 GHz ~ 18 GHz	Fig.40	P
	78	30 MHz ~1 GHz	Fig.41	P
		1 GHz ~ 3 GHz	Fig.42	P
		3 GHz ~ 18 GHz	Fig.43	P
/	All channels	18 GHz~ 26.5 GHz	Fig.44	P

See ANNEX C for test graphs.

Conclusion: Pass

B.5 Occupied 20dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	/

The measurement is made according to ANSI C63.4 and KDB558074

Measurement Result:

Mode	Channel	Occupied 20dB Bandwidth (MHz)		conclusion
GFSK	39	Fig.45	1.129	/
π /4 DQPSK	39	Fig.46	1.302	/
8DPSK	39	Fig.47	1.317	/

See ANNEX C for test graphs.

Conclusion: Pass

B.6 Time of Occupancy (Dwell Time)

Measurement Limit:

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

Measurement Results:

Mode	Channel	Packet	Dwell Time(ms)		Conclusion
GFSK	39	DH5	Fig.48 Fig.49	178.6	**P**
π /4 DQPSK	39	2-DH5	Fig.50 Fig.51	125.6	**P**
8DPSK	39	3-DH5	Fig.52 Fig.53	216.5	**P**

See ANNEX C for test graphs.

Conclusion: Pass

B.7 Number of Hopping Channels

Measurement Limit:

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

Measurement Results:

Mode	Channel	Packet	Number of hopping channels		Test result	Conclusion
GFSK	39	DH5	Fig.54	Fig.55	79	**P**
π /4 DQPSK	39	2-DH5	Fig.56	Fig.57	79	**P**
8DPSK	39	3-DH5	Fig.58	Fig.59	79	**P**

See ANNEX C for test graphs.

Conclusion: Pass

B.8 Carrier Frequency Separation

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) RSS-210 Issue8 A8.1	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hoping channel, whichever is greater.

Measurement Results:

Mode	Channe	Packet	Separation of hopping	Test	Conclusion
GFSK	39	DH5	Fig.60	1005.80	**P**
π /4 DQPSK	39	2-DH5	Fig.61	1005.80	**P**
8DPSK	39	3-DH5	Fig.62	1013.00	**P**

See ANNEX C for test graphs.

Conclusion: Pass

B.9 AC Power line Conducted Emission

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit:

BT (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)			Conclusion
		With charger			
		GFSK	π /4 DQPSK	8DPSK	
0.15 to 0.5	66 to 56	Fig.63	Fig.64	Fig.65	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.					

BT (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)			Conclusion
		With charger			
		GFSK	π /4 DQPSK	8DPSK	
0.15 to 0.5	56 to 46	Fig.63	Fig.64	Fig.65	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 C63.4 and KDB558074

See ANNEX C for test graphs.

Conclusion: Pass

ANNEX C: TEST FIGURE LIST

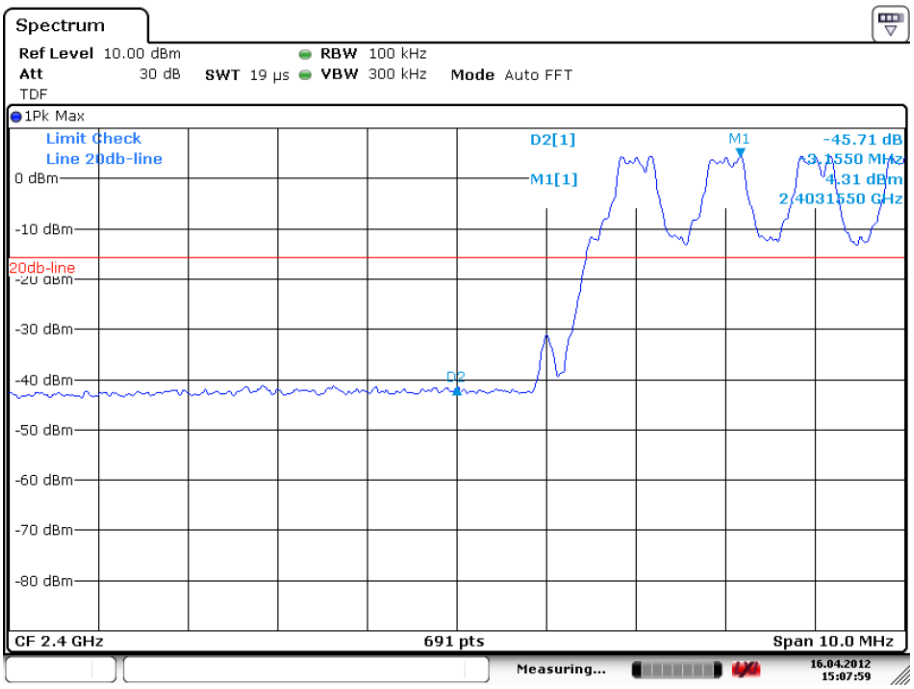


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Fig. 1 Band Edges (GFSK, Ch 0, Hopping ON)

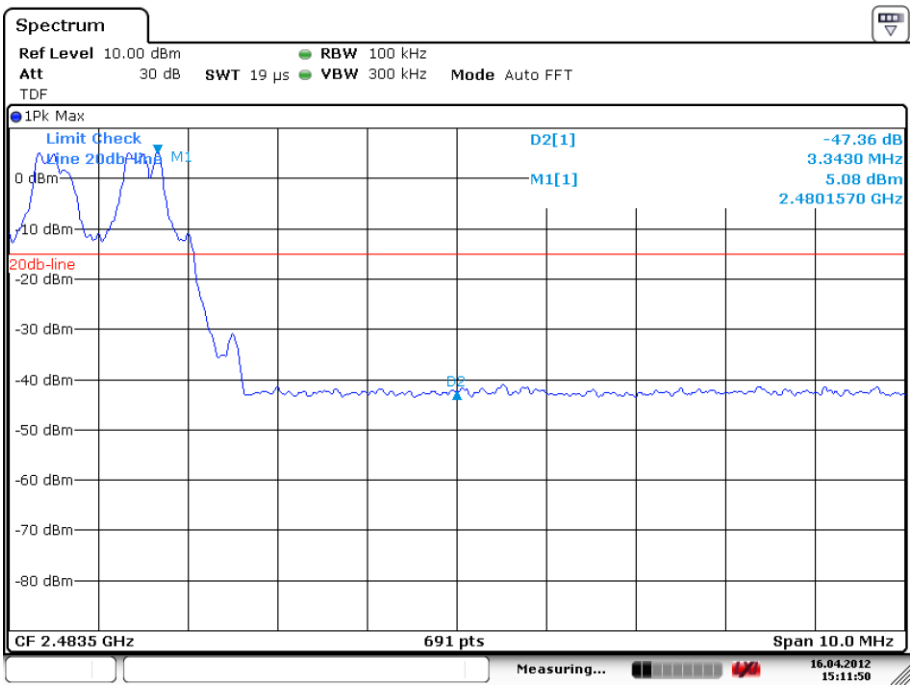

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Fig. 2 Band Edges (GFSK, Ch 78, Hopping ON)

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Fig. 3 Band Edges (π /4 DQPSK, Ch 0, Hopping ON)

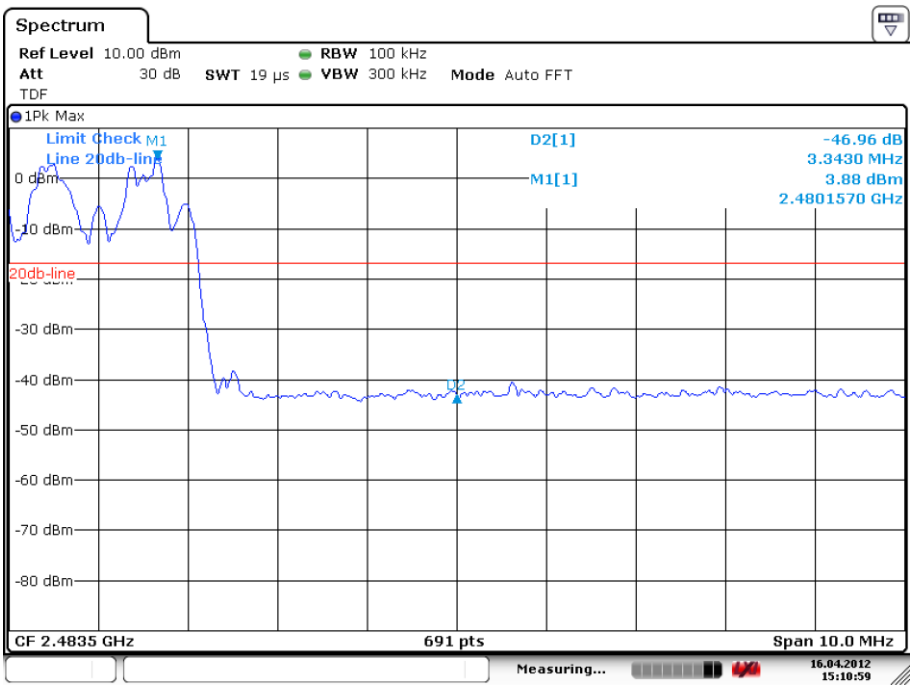

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Fig. 4 Band Edges (π /4 DQPSK, Ch 78, Hopping ON)

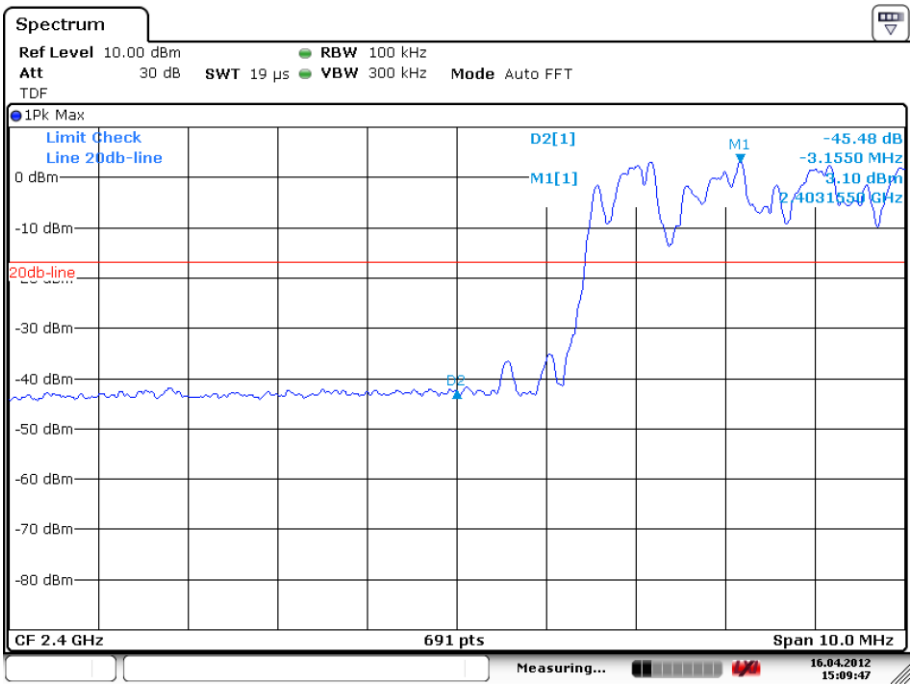

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Fig. 5 Band Edges (8DPSK, Ch 0, Hopping ON)

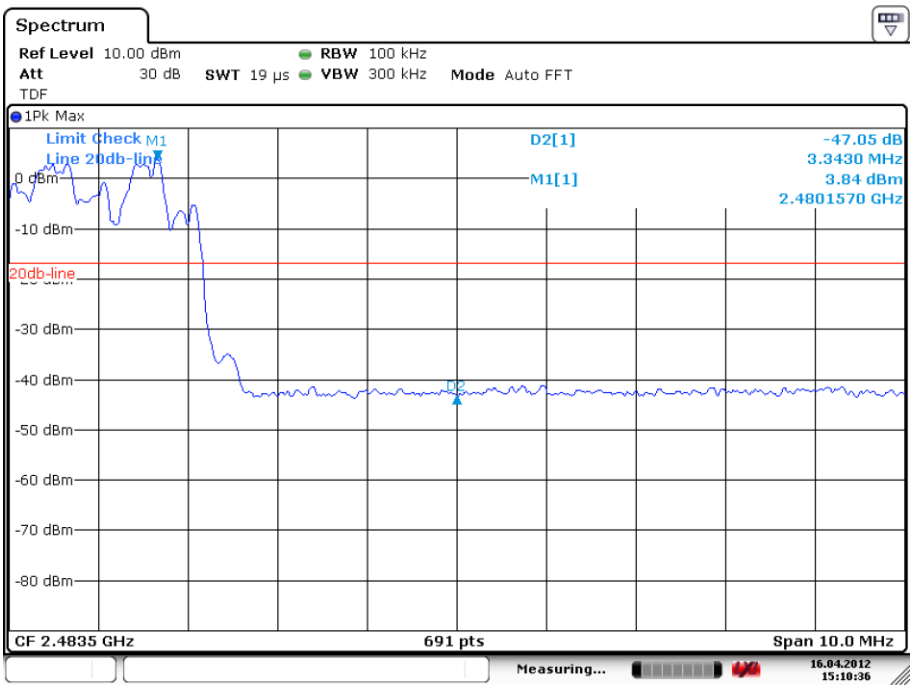

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Fig. 6 Band Edges (8DPSK, Ch 78, Hopping ON)

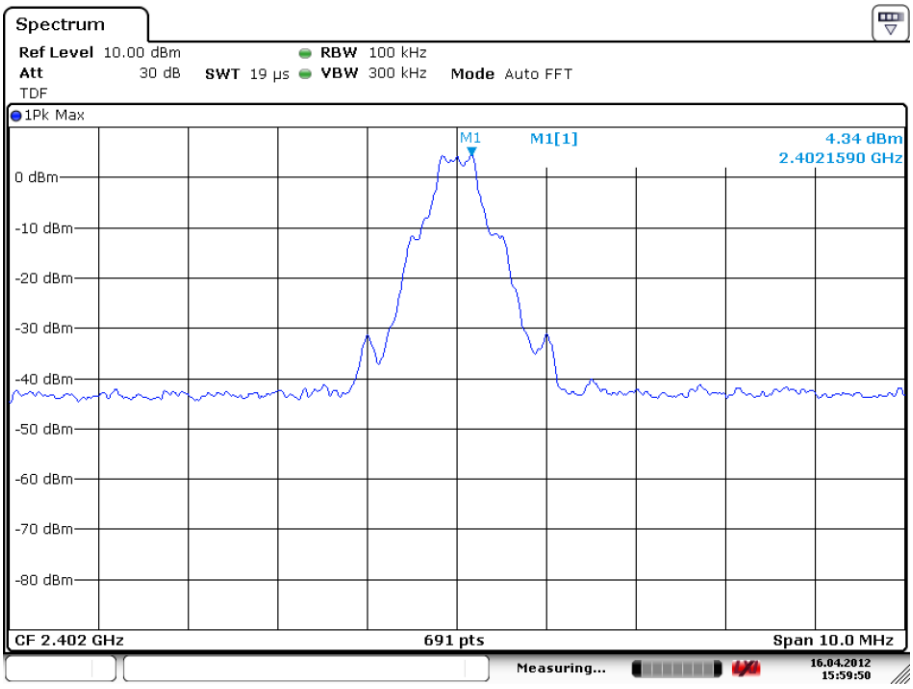

Fig. 7 Conducted Spurious Emission (GFSK, Ch0, 2.402GHz)

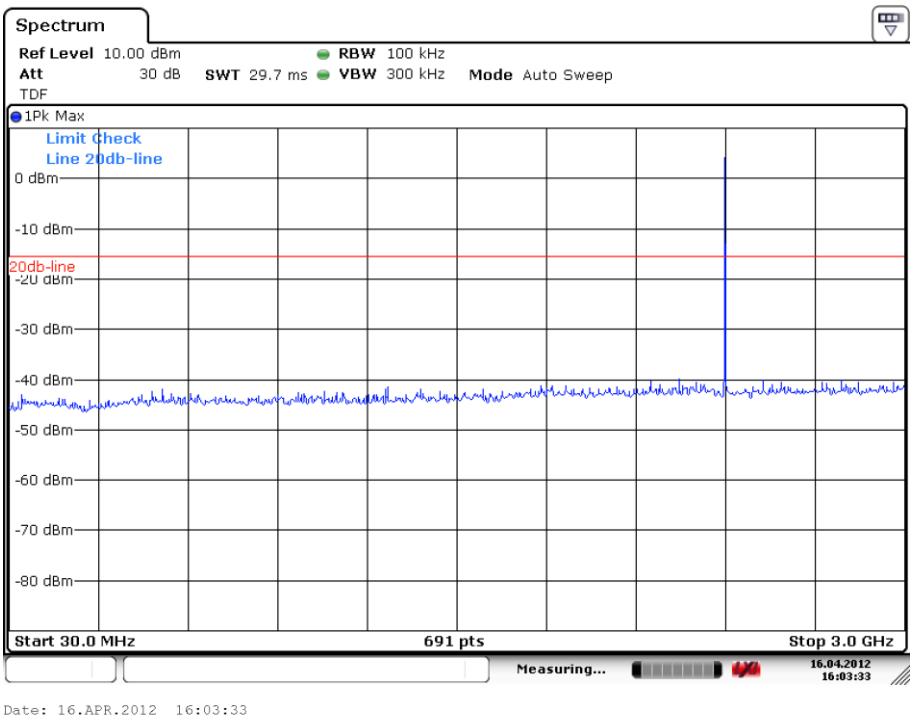

Fig. 8 Conducted Spurious Emission (GFSK, Ch0, 30 MHz-3 GHz)

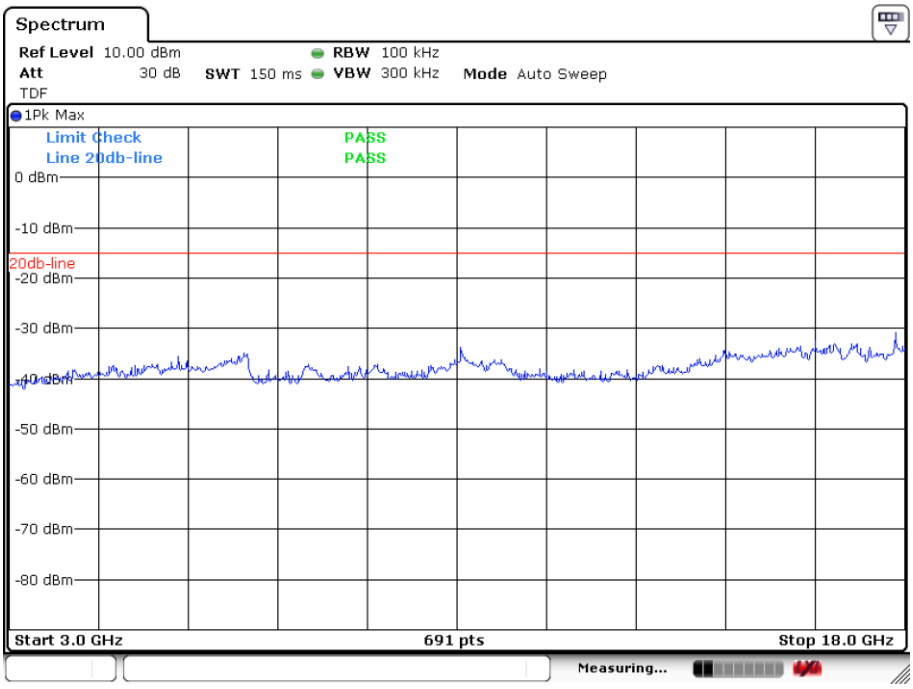

Fig. 9 Conducted Spurious Emission (GFSK, Ch0, 3GHz-18 GHz)

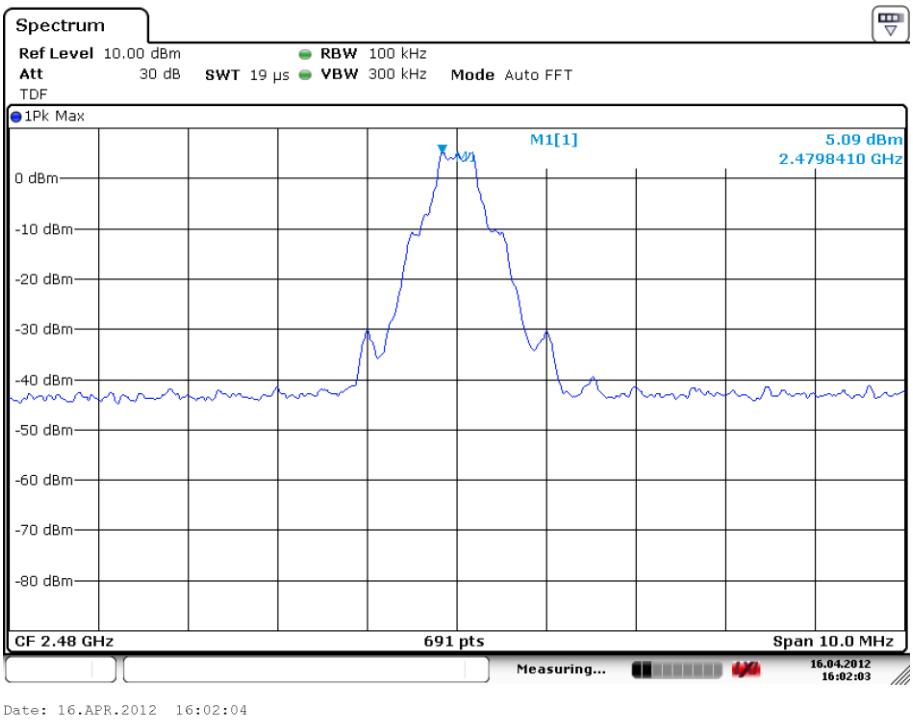

Fig. 10 Conducted Spurious Emission (GFSK, Ch78, 2.480GHz)

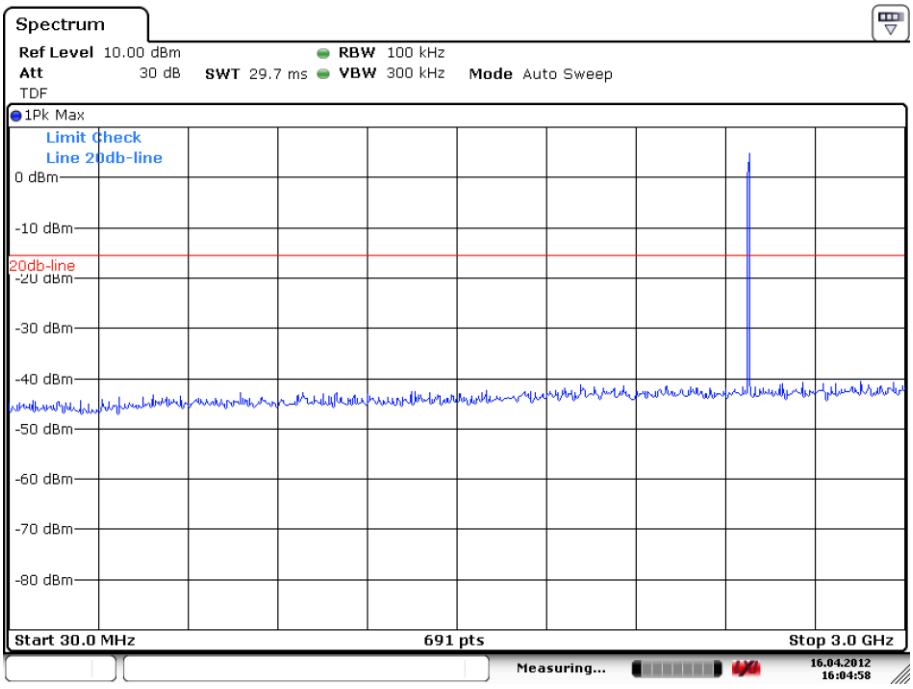

Fig. 11 Conducted Spurious Emission (GFSK, Ch78, 30 MHz-3 GHz)

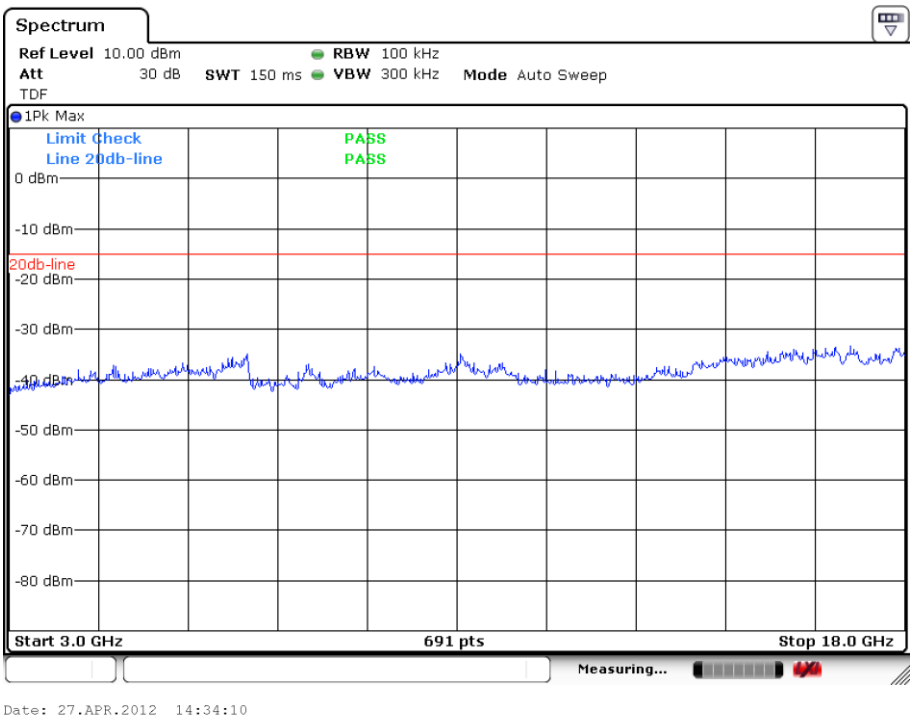

Fig. 12 Conducted Spurious Emission (GFSK, Ch78, 3GHz-18 GHz)

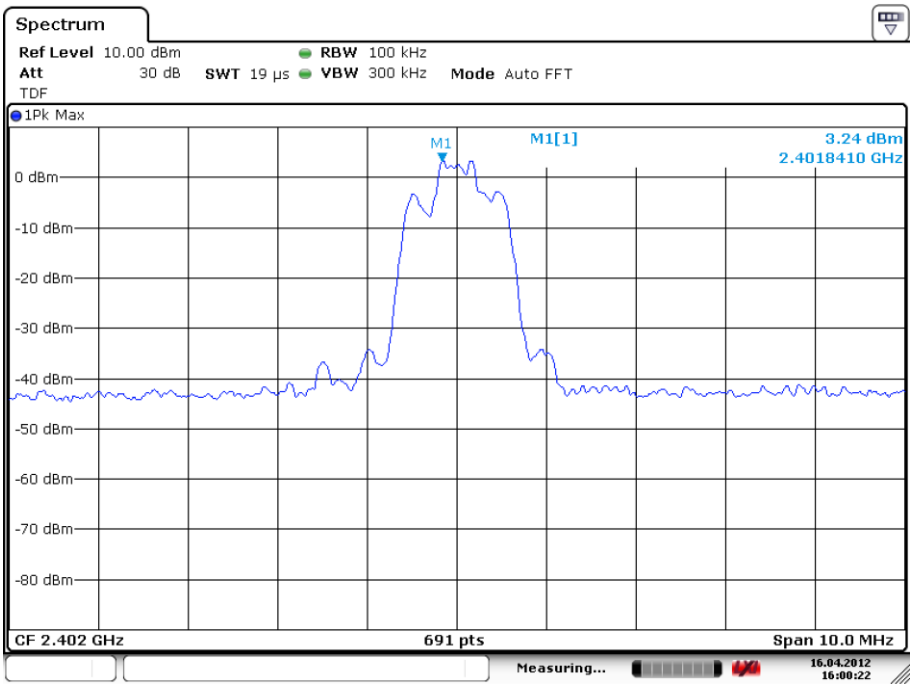

Fig. 13 Conducted Spurious Emission (π /4 DQPSK, Ch0, 2.402GHz)

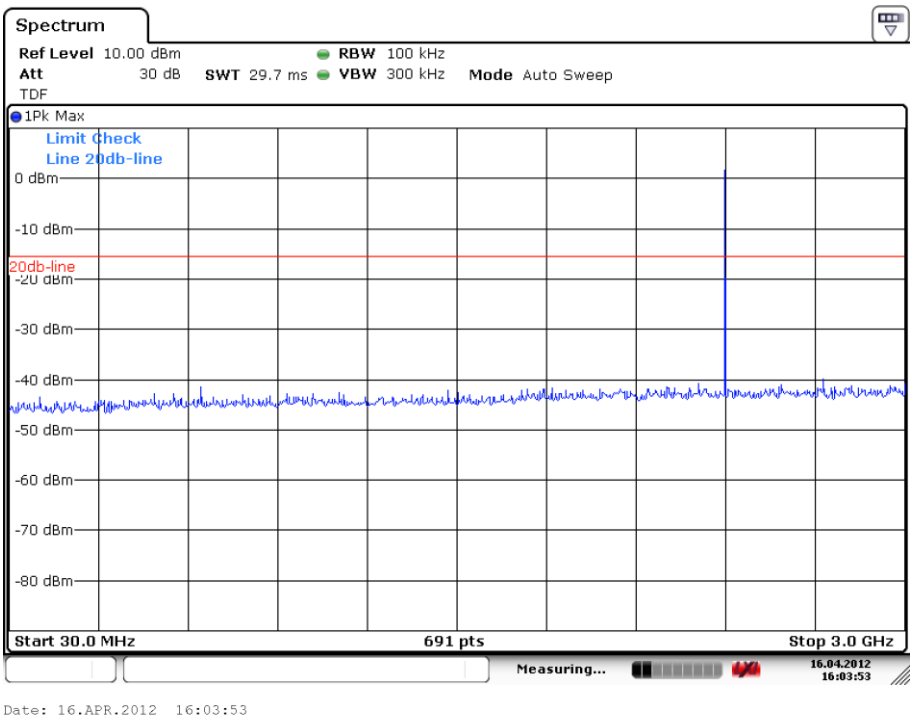

Fig. 14 Conducted Spurious Emission (π /4 DQPSK, Ch0, 30 MHz-3 GHz)

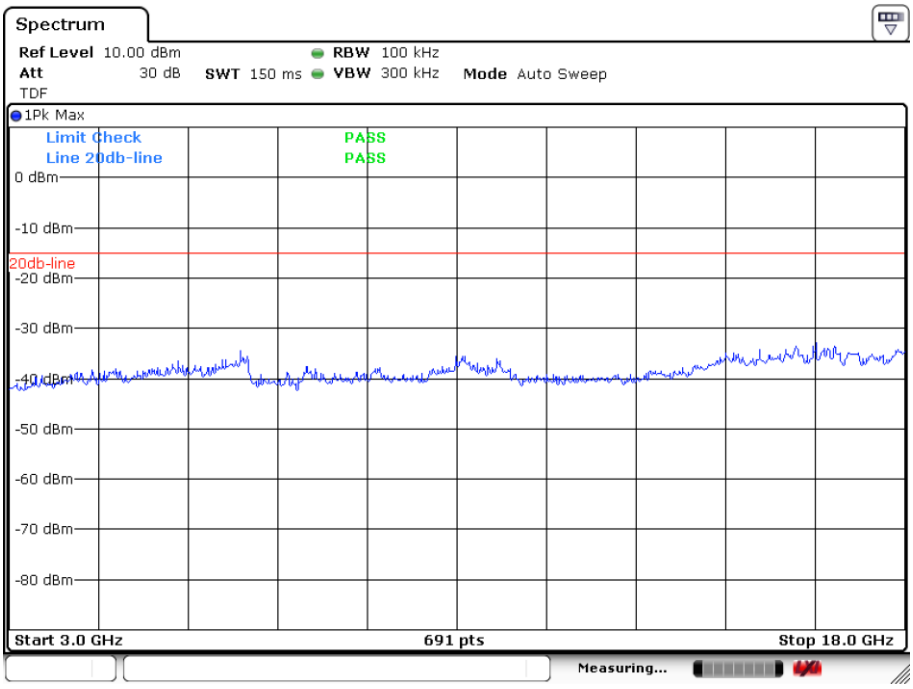

Fig. 15 Conducted Spurious Emission (π /4 DQPSK, Ch0, 3GHz-18 GHz)

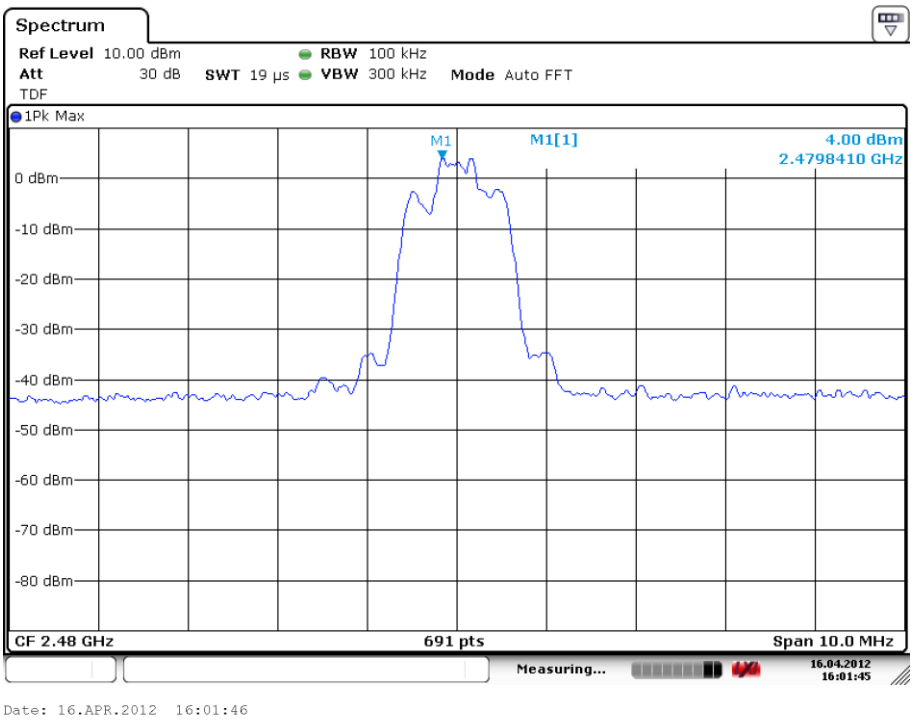

Fig. 16 Conducted Spurious Emission (π /4 DQPSK, Ch78, 2.480GHz)

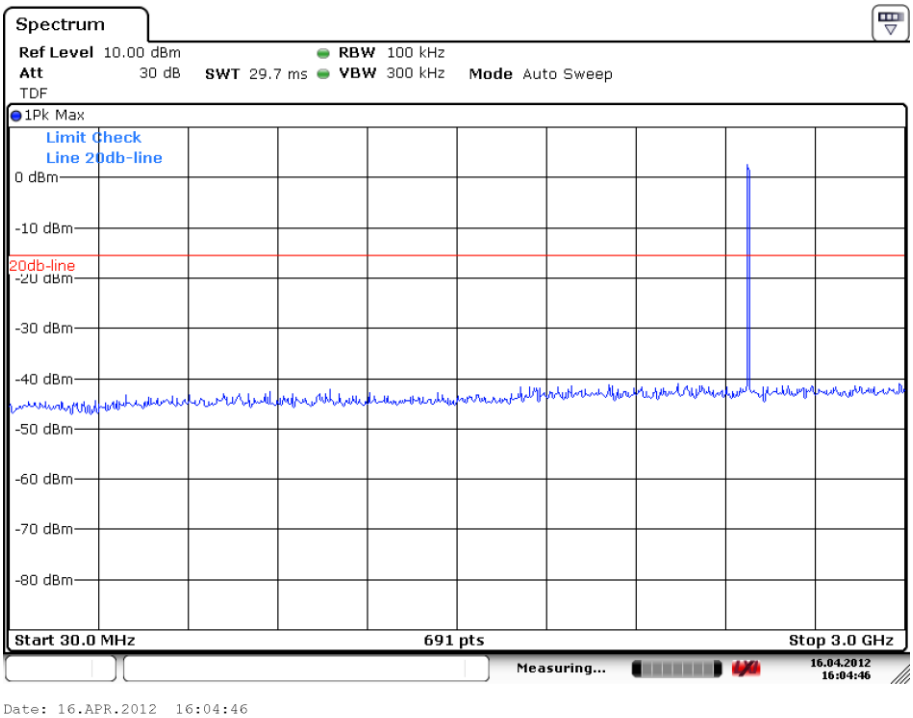

Fig. 17 Conducted Spurious Emission (π /4 DQPSK, Ch78, 30 MHz-3 GHz)

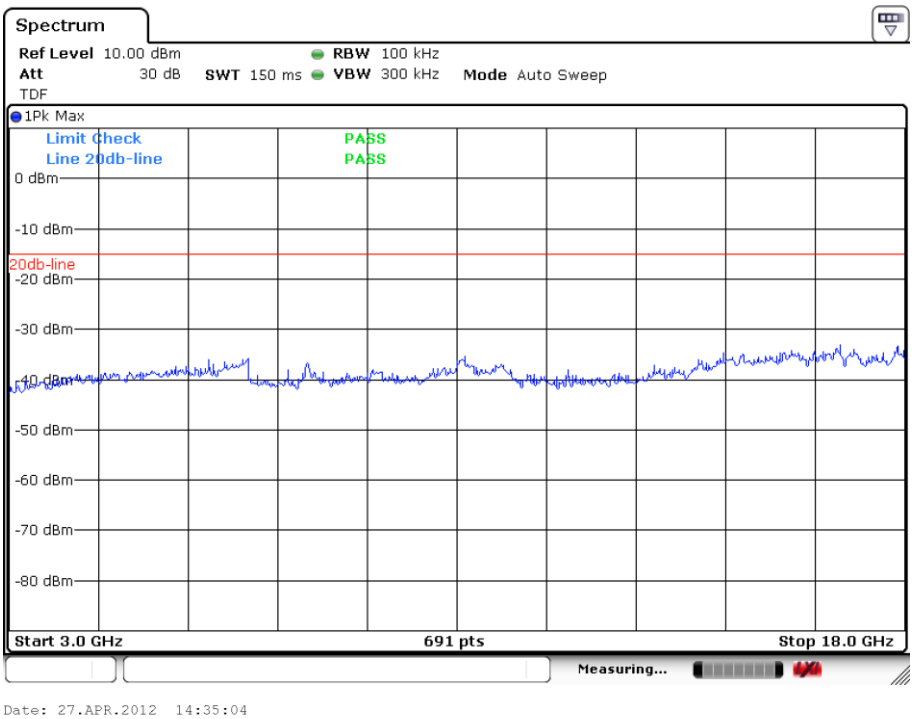

Fig. 18 Conducted Spurious Emission (π /4 DQPSK, Ch78, 3GHz-18 GHz)

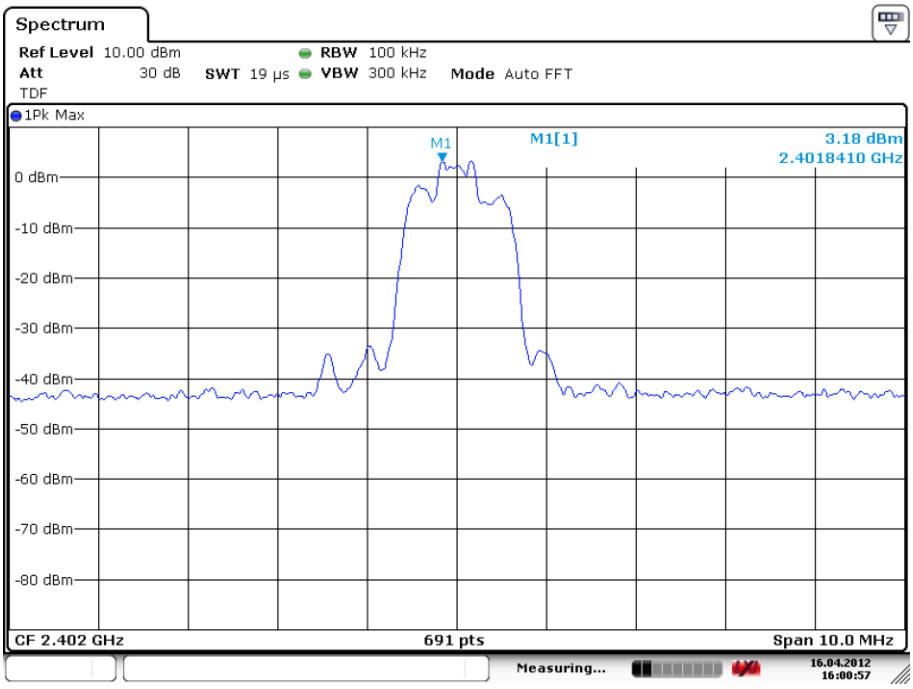

Fig. 19 Conducted Spurious Emission (8DPSK, Ch0, 2.402GHz)

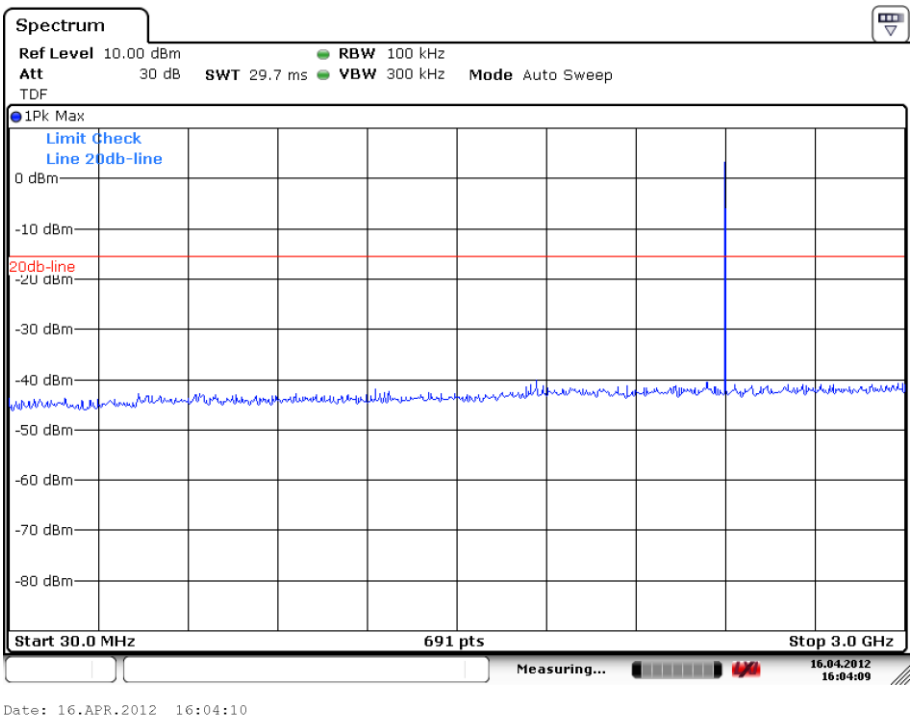

Fig. 20 Conducted Spurious Emission (8DPSK, Ch0, 30 MHz-3 GHz)

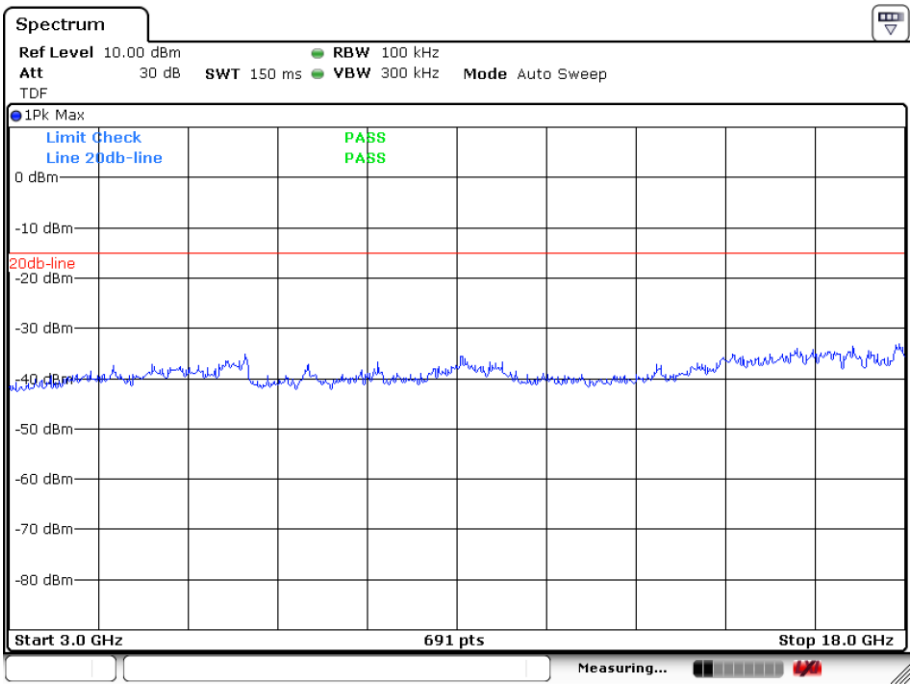

Fig. 21 Conducted Spurious Emission (8DPSK, Ch0, 3GHz-18 GHz)

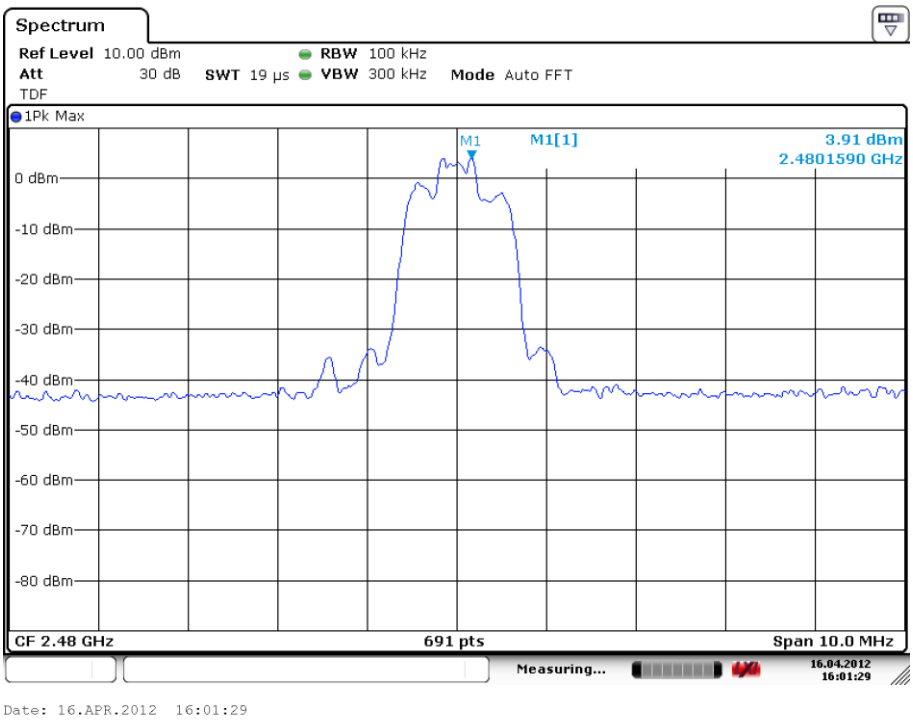

Fig. 22 Conducted Spurious Emission (8DPSK, Ch78, 2.480GHz)

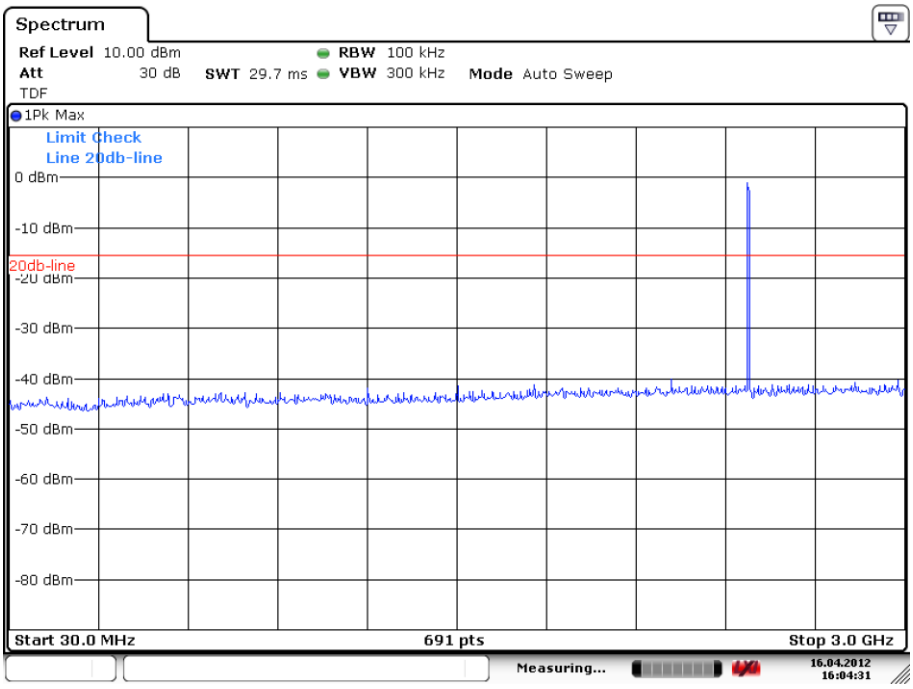

Fig. 23 Conducted Spurious Emission (8DPSK, Ch78, 30 MHz-3 GHz)

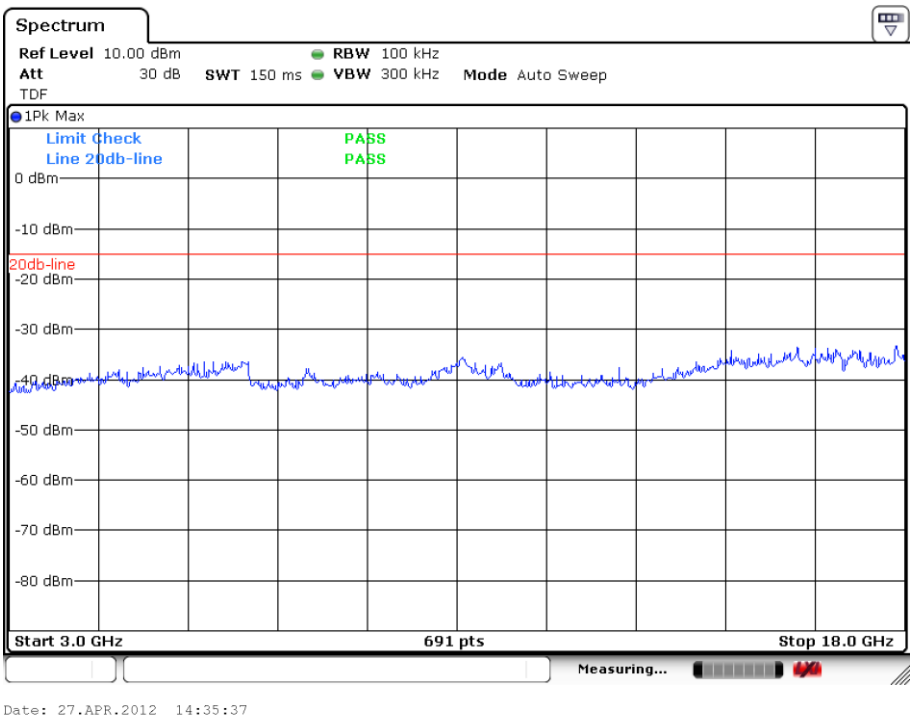

Fig. 24 Conducted Spurious Emission (8DPSK, Ch78, 3GHz-18 GHz)

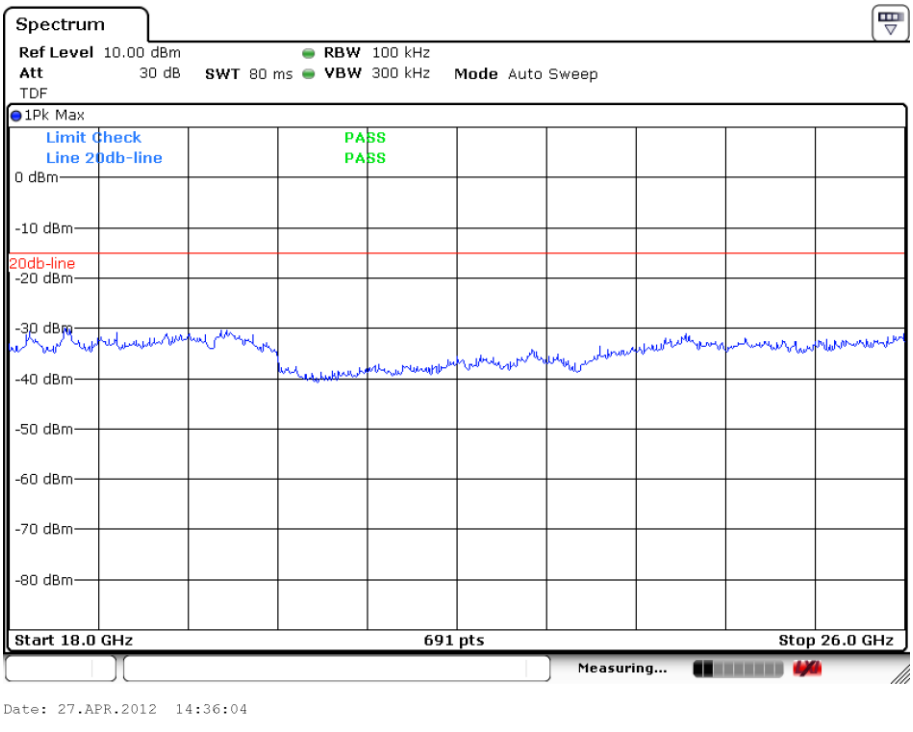

Fig. 25 Conducted Spurious Emission (All channel, 18 GHz-26 GHz)

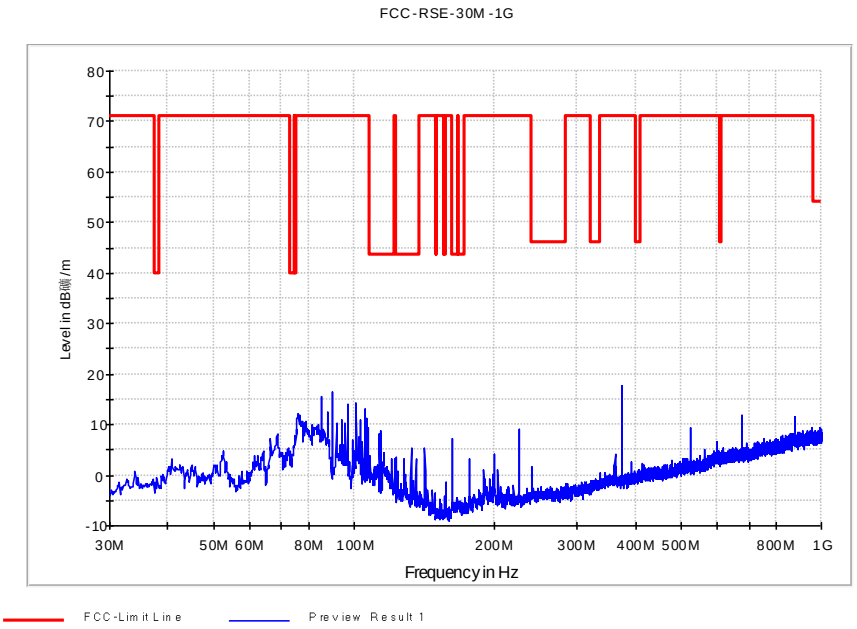

Fig. 26 Radiated Spurious Emission (GFSK, Ch0, 30 MHz ~1 GHz)

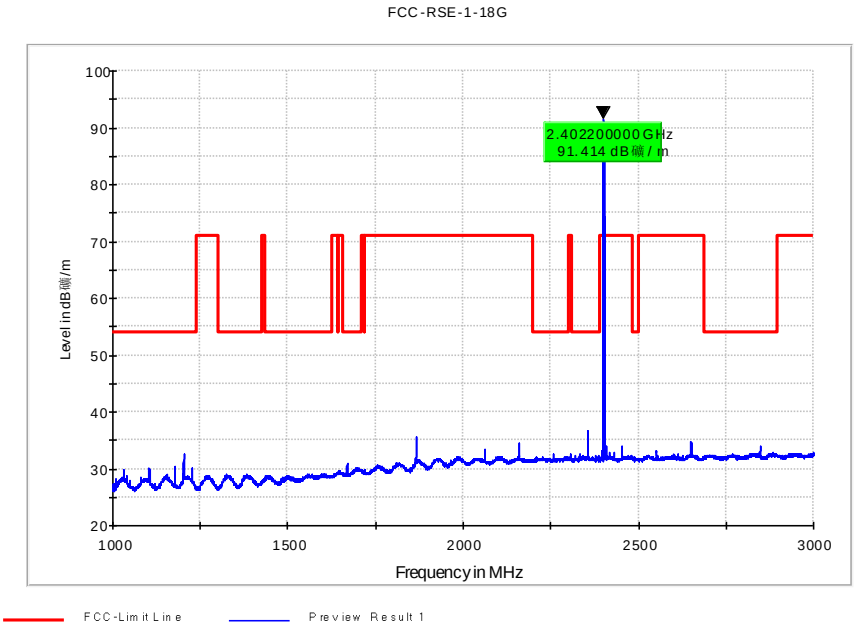

Fig. 27 Radiated Spurious Emission (GFSK, Ch0, 1 GHz ~3 GHz)

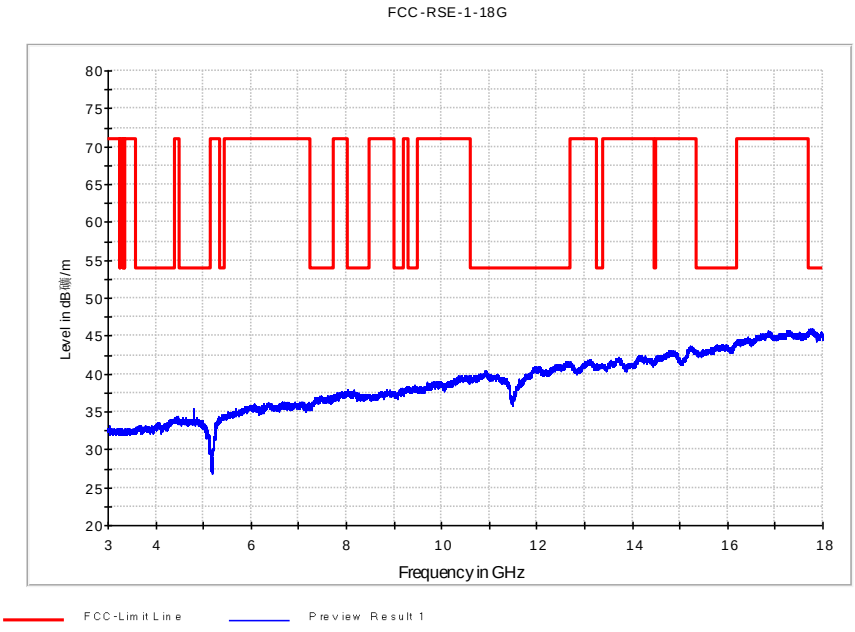

Fig. 28 Radiated Spurious Emission (GFSK, Ch0, 3 GHz ~18 GHz)

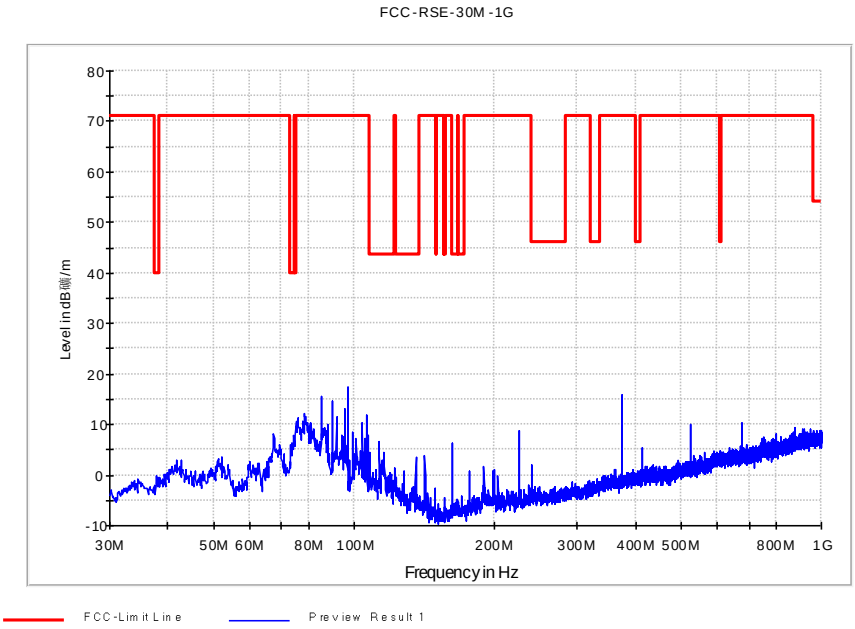

Fig. 29 Radiated Spurious Emission (GFSK, Ch78, 30 MHz ~1 GHz)

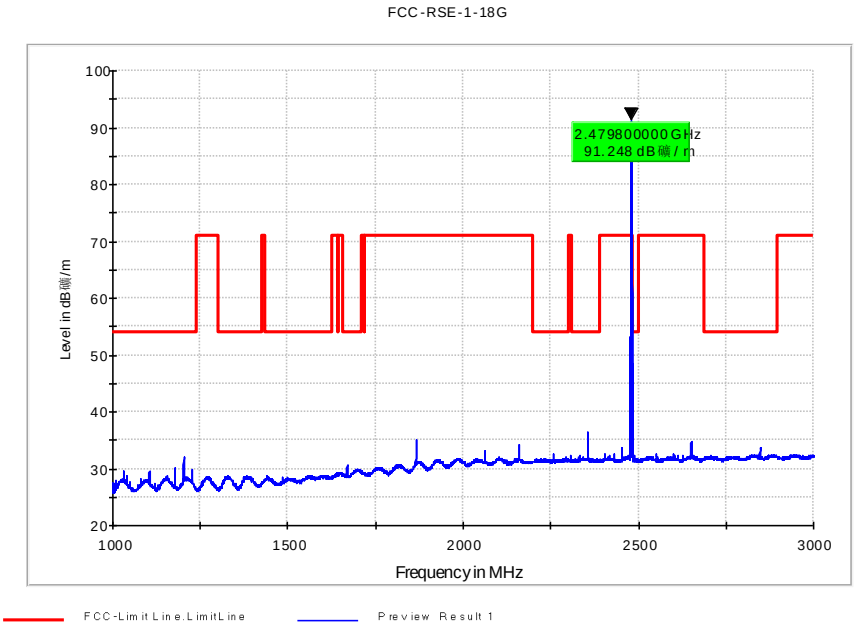

Fig. 30 Radiated Spurious Emission (GFSK, Ch78, 1 GHz ~3 GHz)

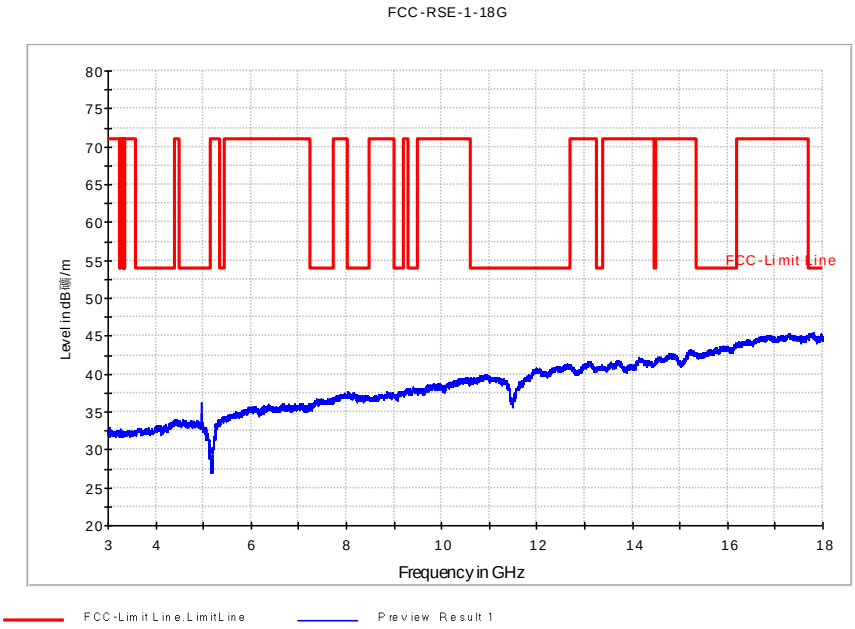

Fig. 31 Radiated Spurious Emission (GFSK, Ch78, 3 GHz ~18 GHz)

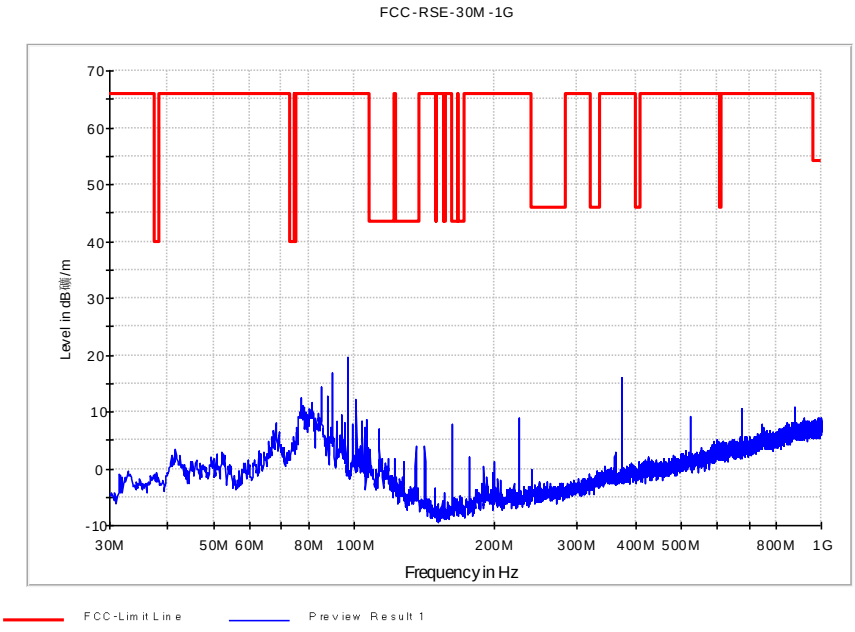

Fig. 32 Radiated Spurious Emission (π /4 DQPSK, Ch0, 30 MHz ~1 GHz)

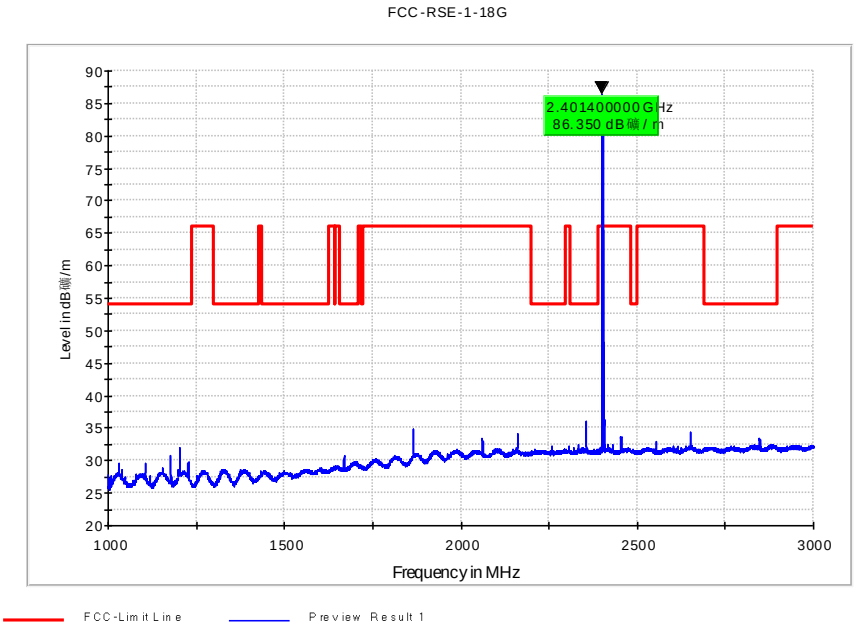

Fig. 33 Radiated Spurious Emission (π /4 DQPSK, Ch0, 1 GHz ~3 GHz)

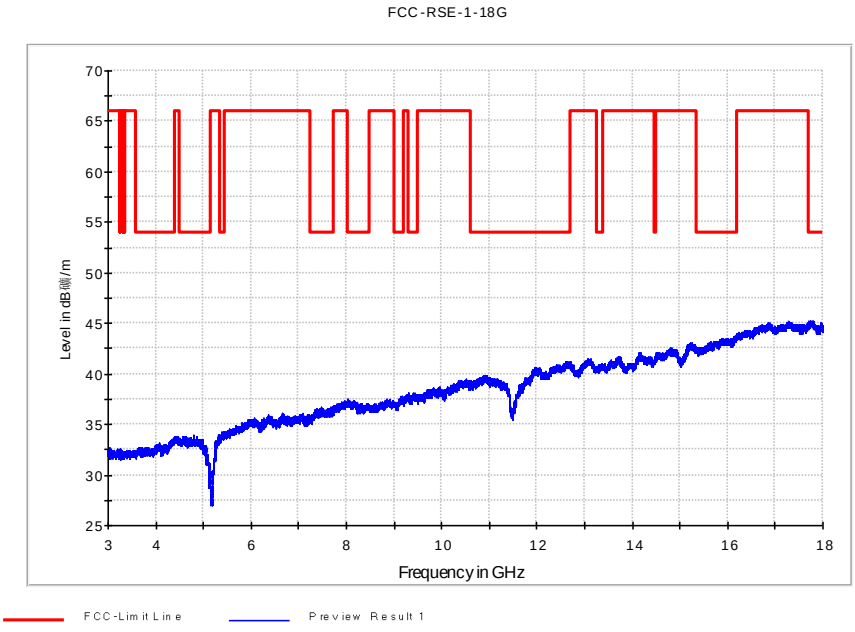

Fig. 34 Radiated Spurious Emission (π /4 DQPSK, Ch0, 3 GHz ~18 GHz)

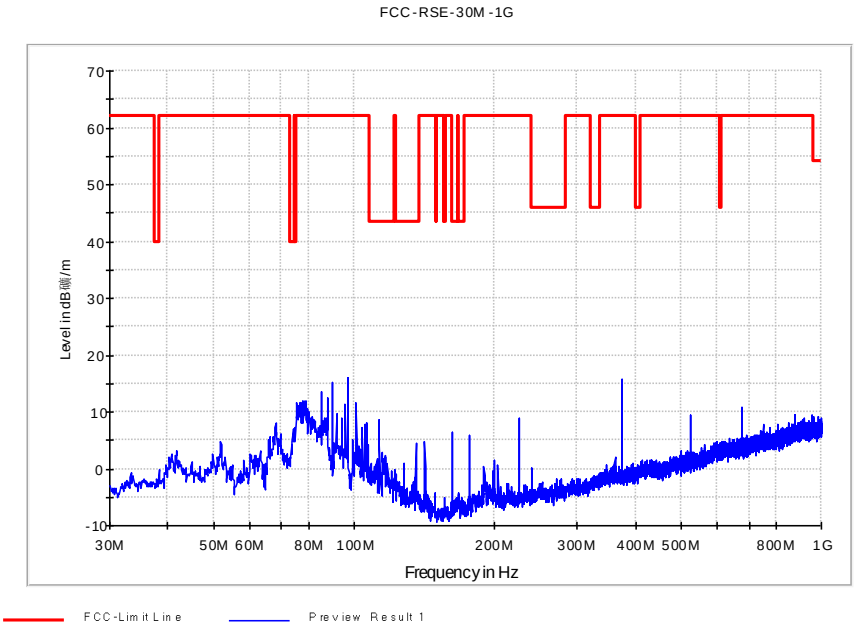

Fig. 35 Radiated Spurious Emission (π /4 DQPSK, Ch78, 30 MHz ~1 GHz)

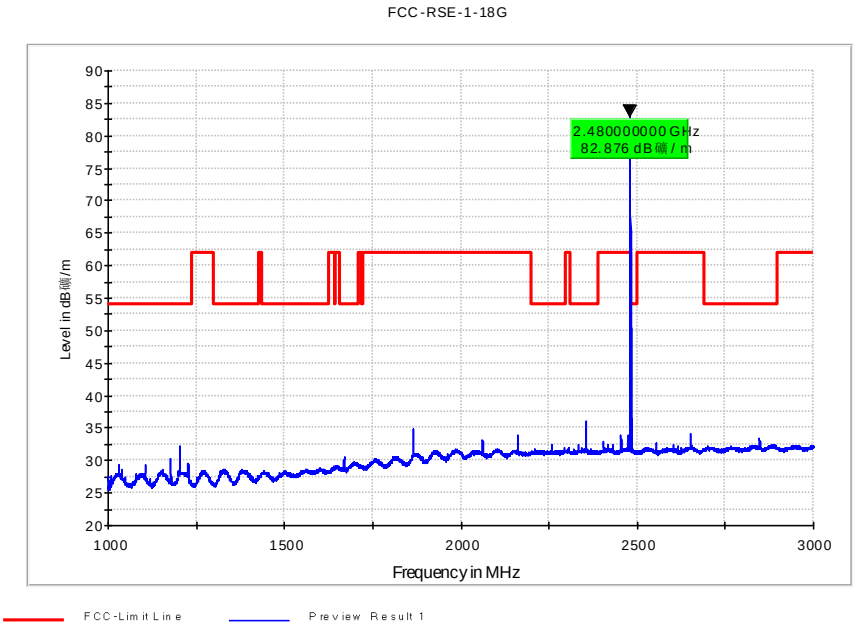

Fig. 36 Radiated Spurious Emission (π /4 DQPSK, Ch78, 1 GHz ~3 GHz)

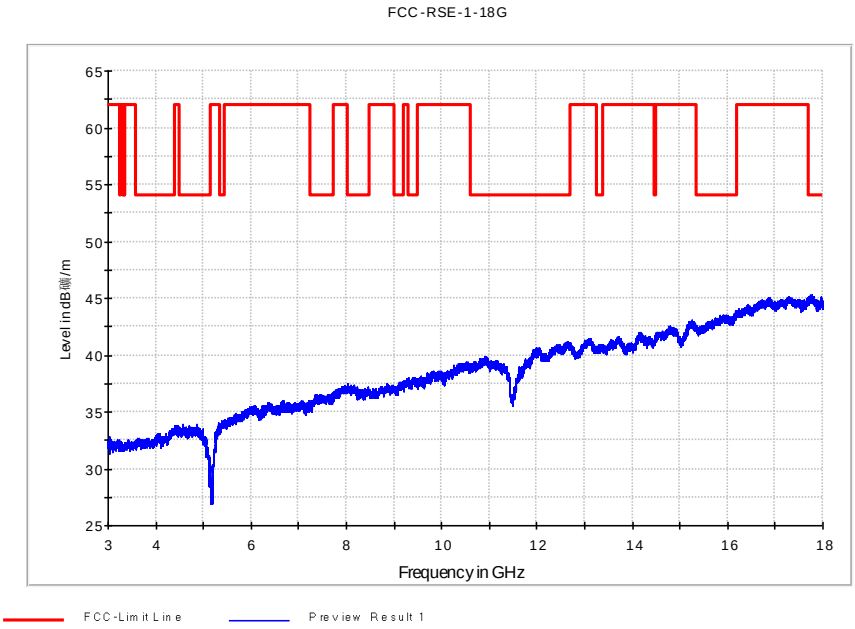

Fig. 37 Radiated Spurious Emission (π /4 DQPSK, Ch78, 3 GHz ~18 GHz)

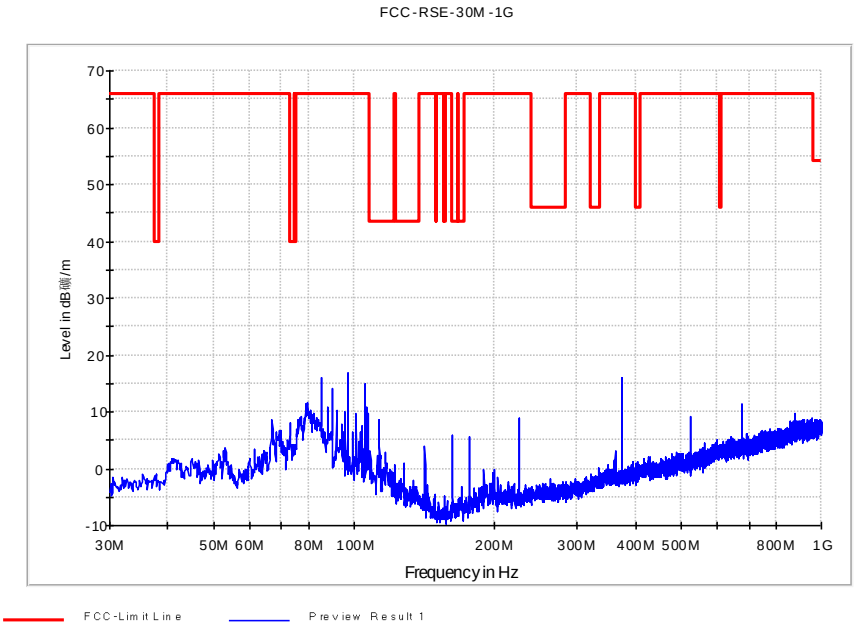

Fig. 38 Radiated Spurious Emission (8DPSK, Ch0, 30 MHz ~1 GHz)

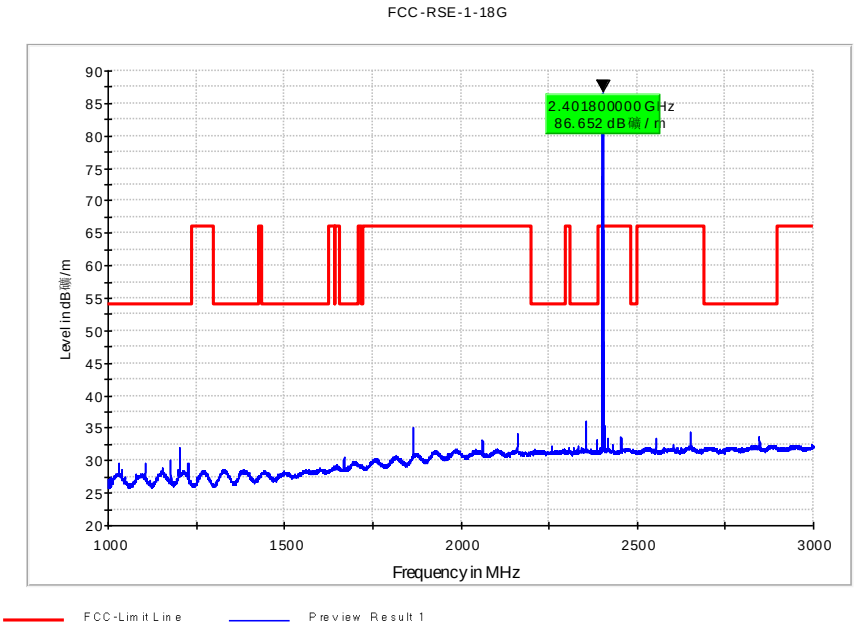

Fig. 39 Radiated Spurious Emission (8DPSK, Ch0, 1 GHz ~3 GHz)

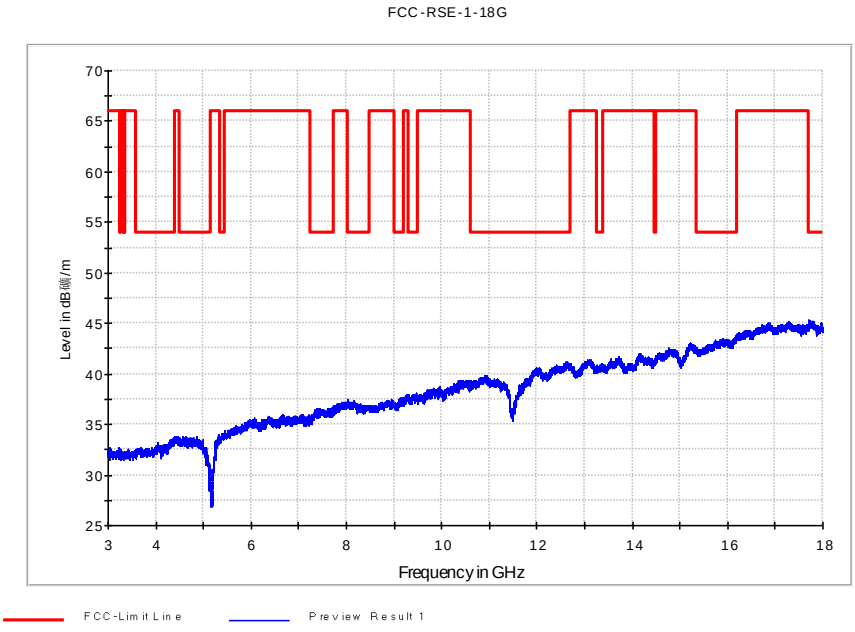

Fig. 40 Radiated Spurious Emission (8DPSK, Ch0, 3 GHz ~18 GHz)

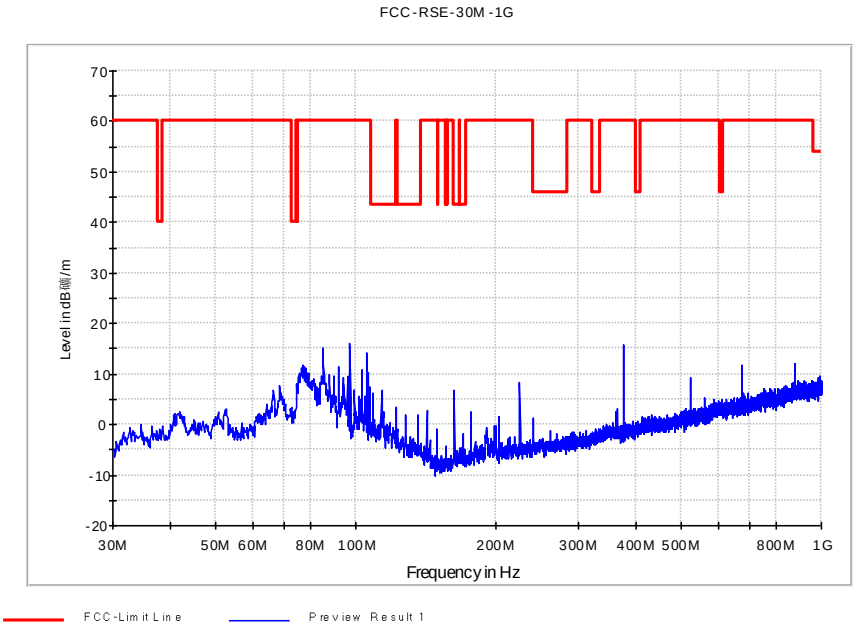

Fig. 41 Radiated Spurious Emission (8DPSK, Ch78, 30 MHz ~1 GHz)

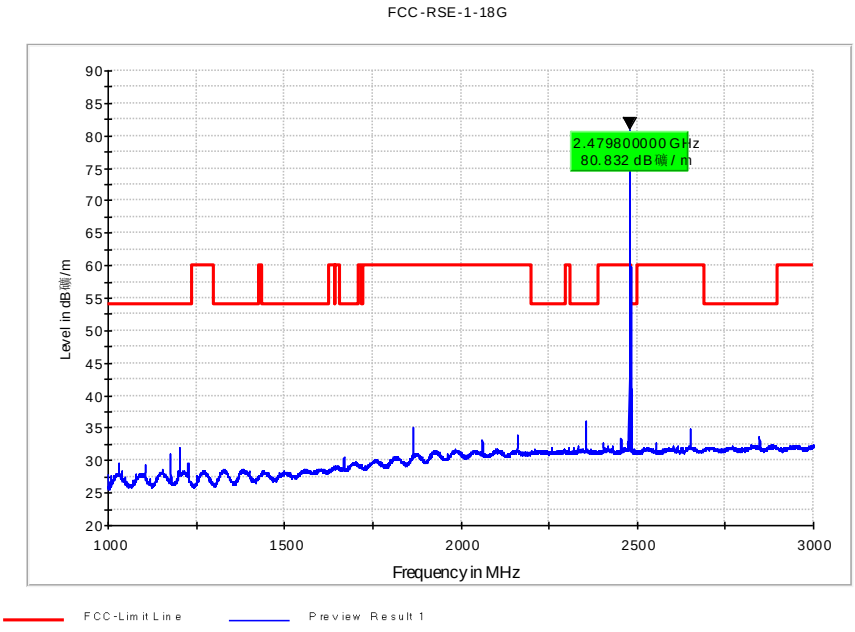

Fig. 42 Radiated Spurious Emission (8DPSK, Ch78, 1 GHz ~3 GHz)

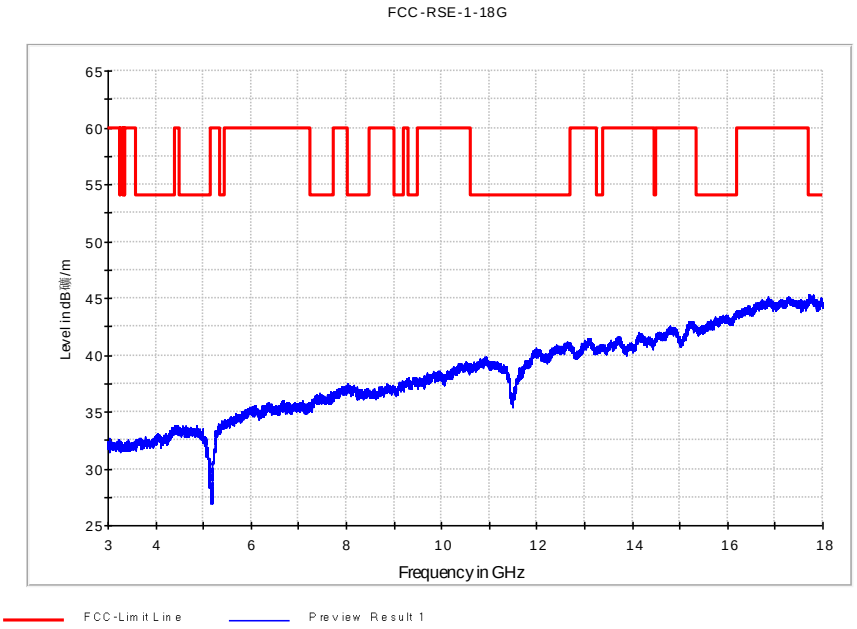

Fig. 43 Radiated Spurious Emission (8DPSK, Ch78, 3 GHz ~18 GHz)

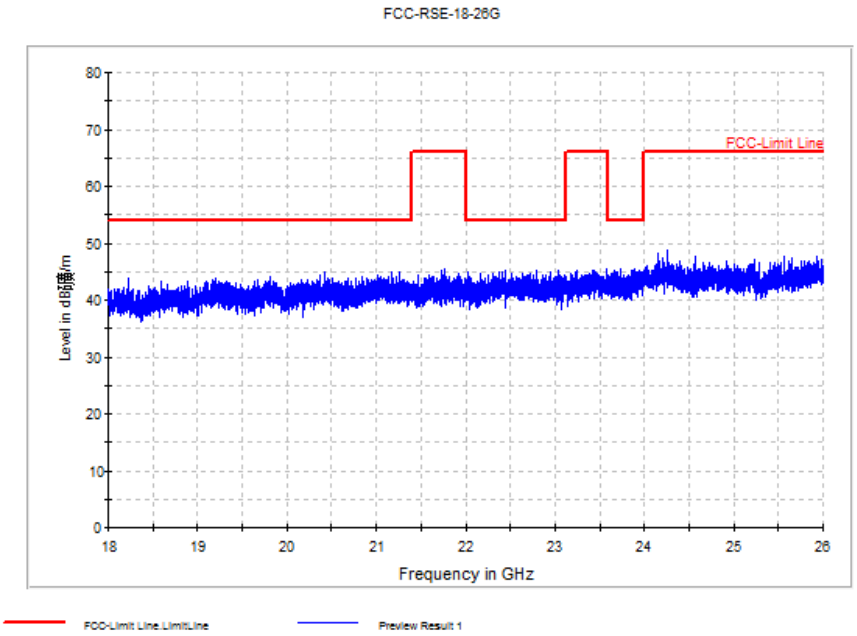

Fig. 44 Radiated Spurious Emission (All channel, 18 GHz ~26 GHz)

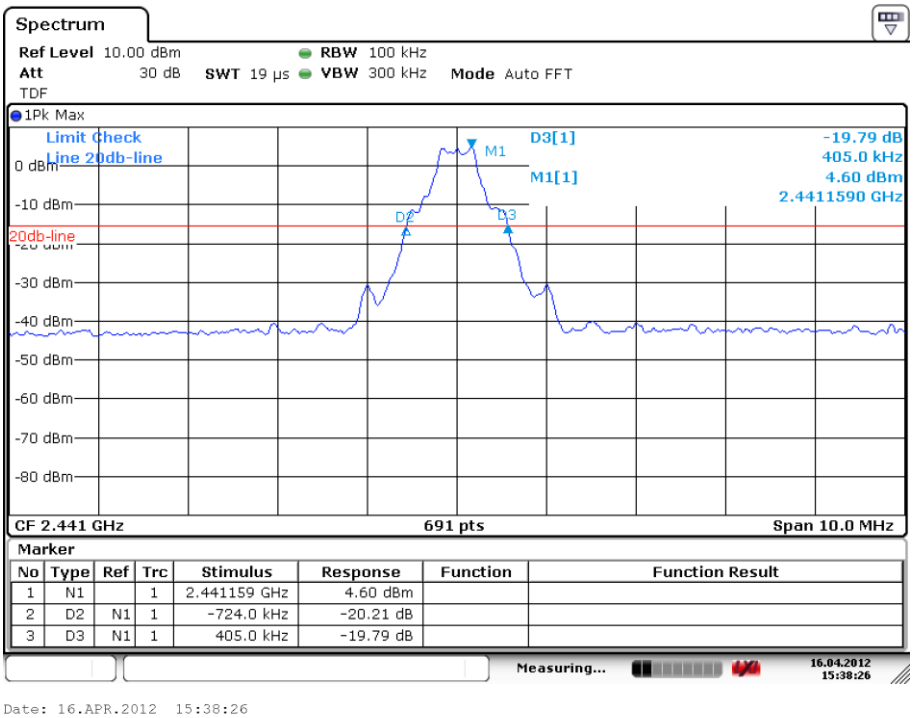

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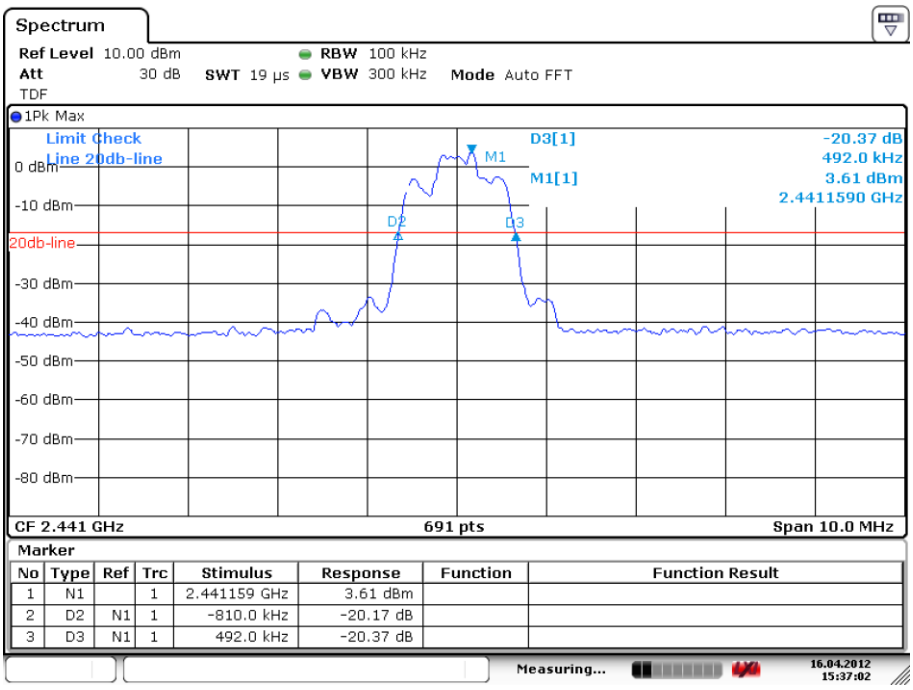
Fig. 45 Occupied 20dB Bandwidth (GFSK, Ch 39)



Date: 16.APR.2012 15:37:02

Fig. 46 Occupied 20dB Bandwidth (π /4 DQPSK, Ch 39)

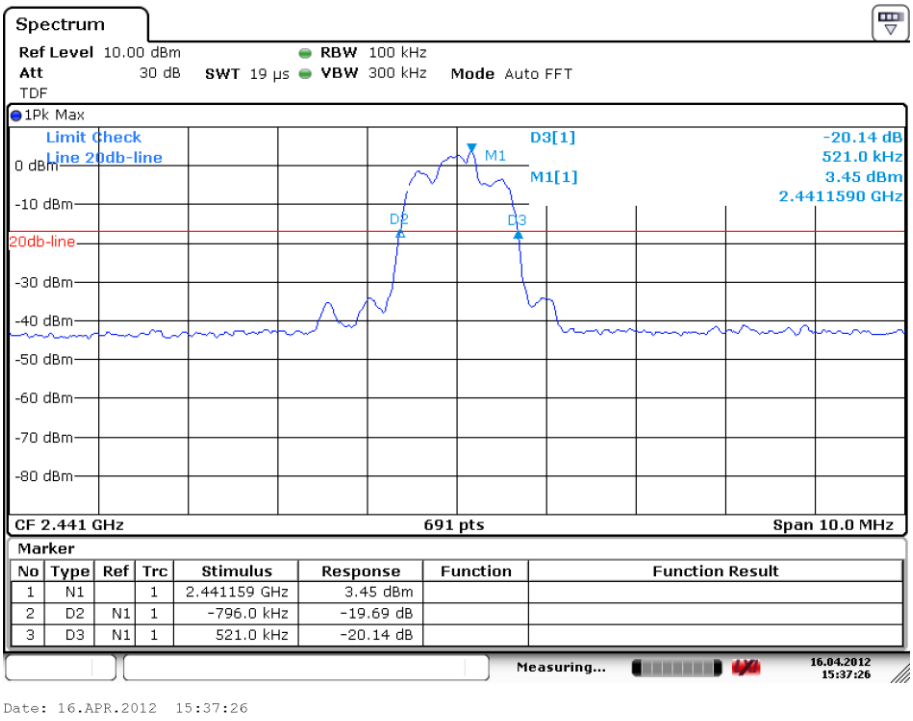


Fig. 47 Occupied 20dB Bandwidth (8DPSK, Ch 39)

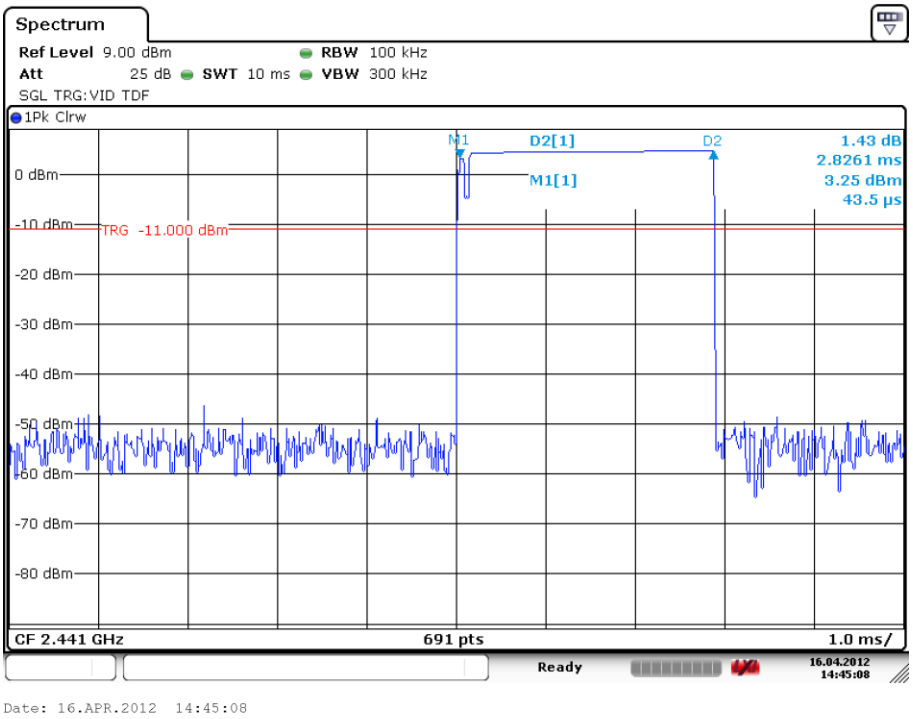


Fig. 48 Time of Occupancy(Dwell Time) (GFSK, Ch39)

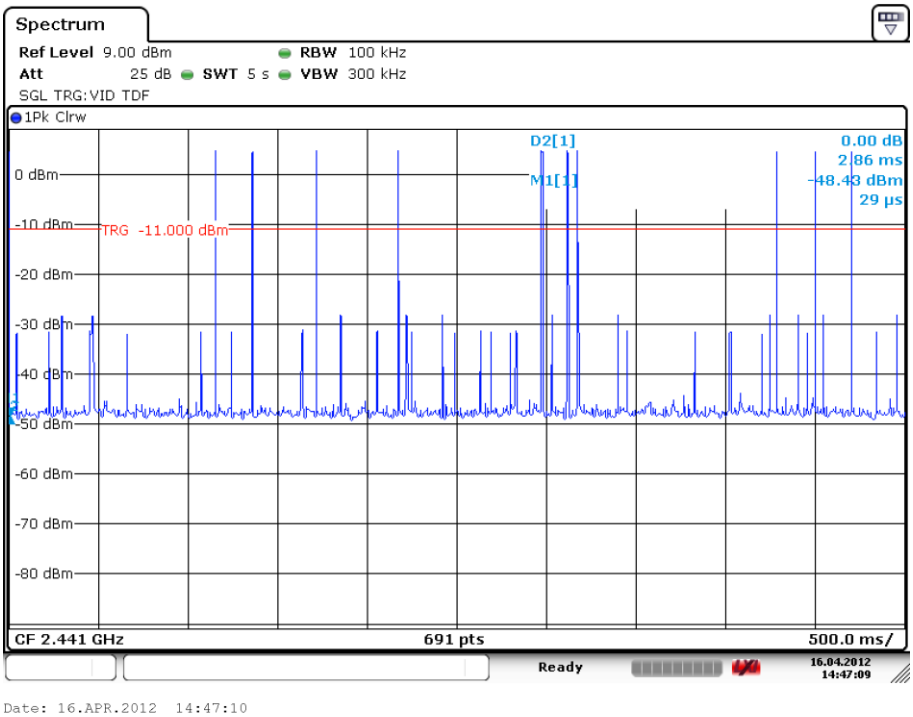


Fig. 49 Number of Transmissions (GFSK, Ch39)

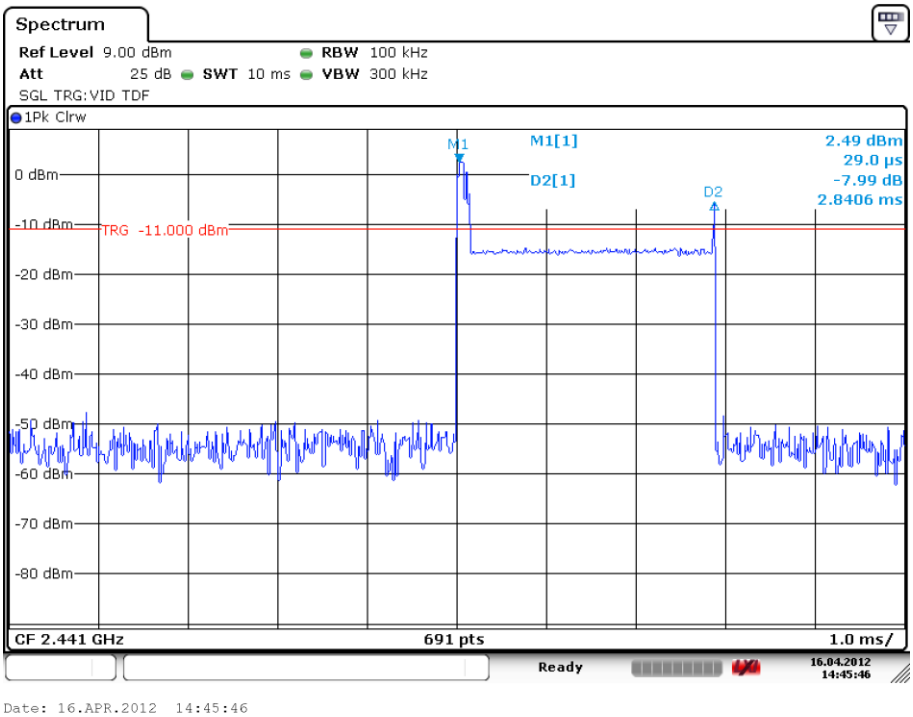
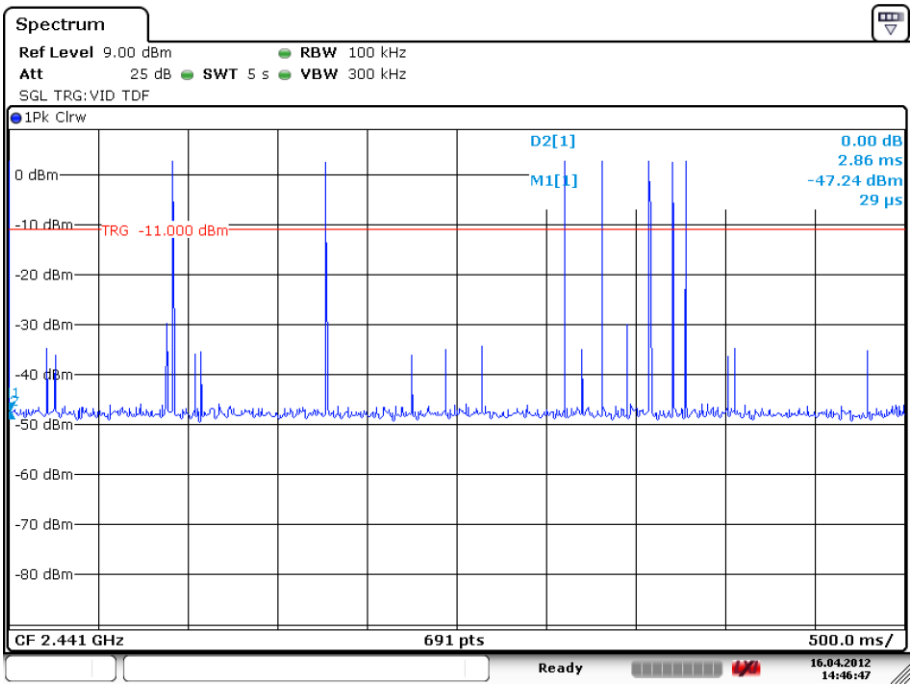
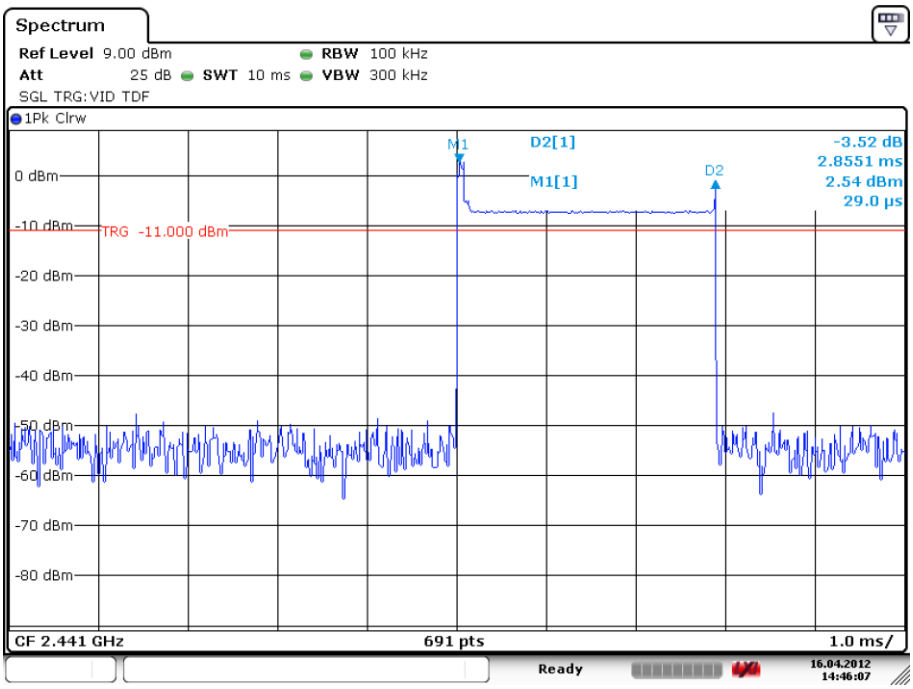


Fig. 50 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)



Date: 16.APR.2012 14:46:47

Fig. 51 Number of Transmissions (π /4 DQPSK, Ch39)



Date: 16.APR.2012 14:46:07

Fig. 52 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

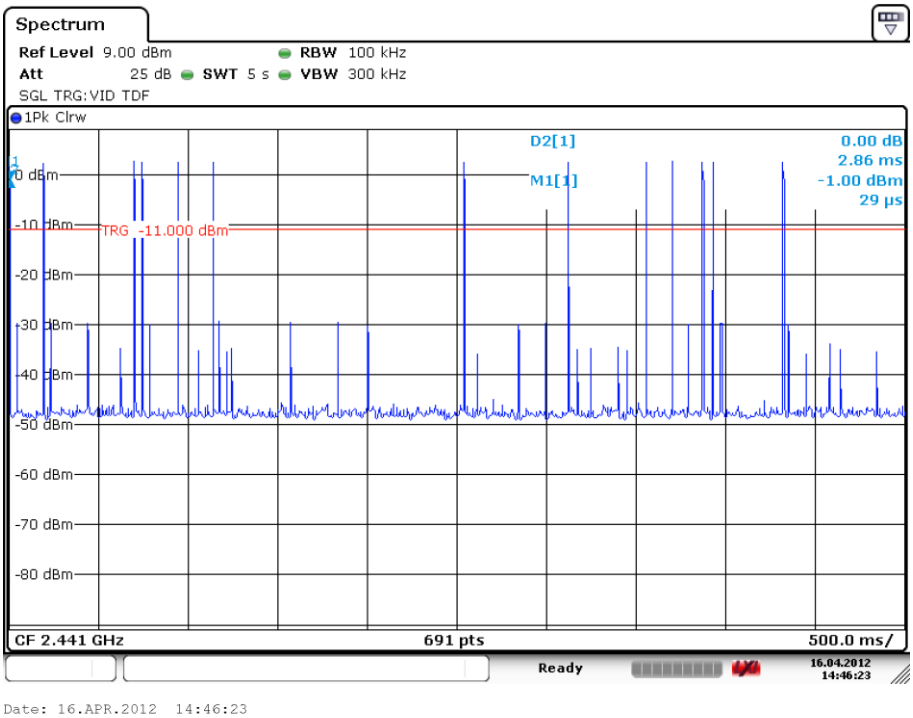


Fig. 53 Number of Transmissions (8DPSK, Ch39)

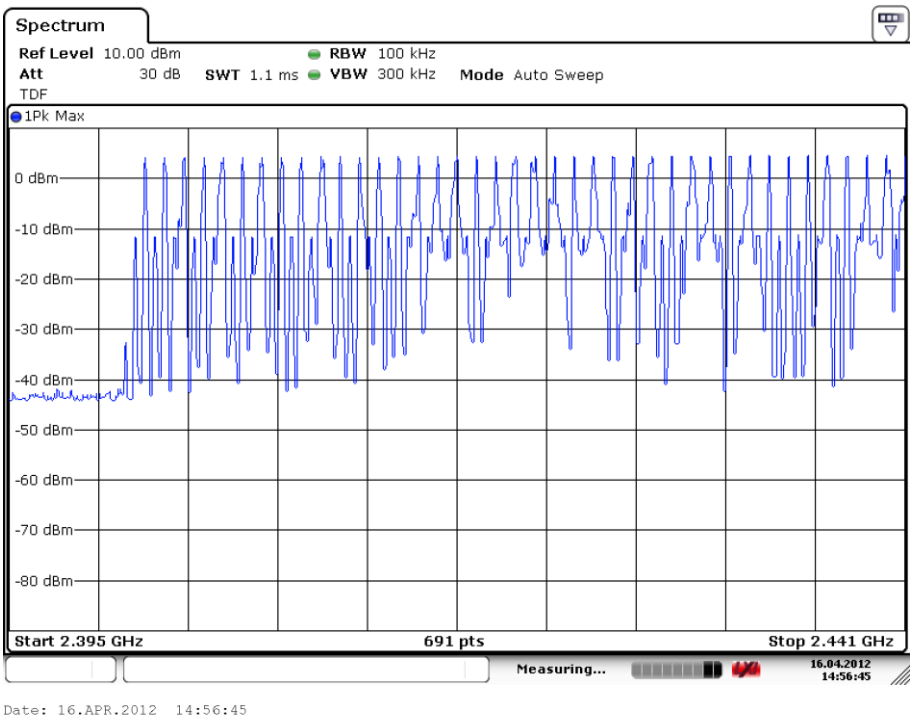
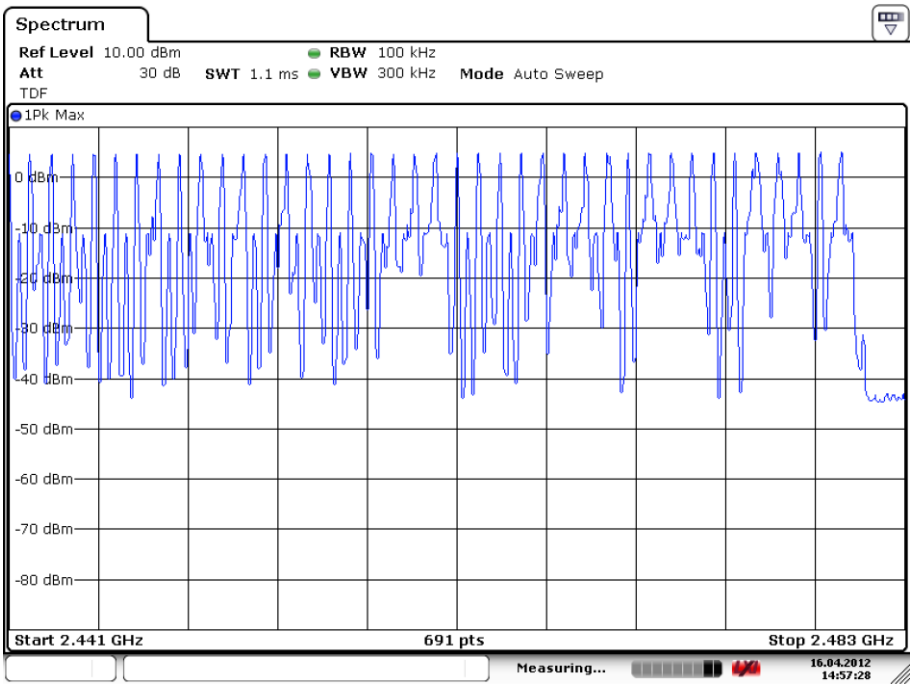
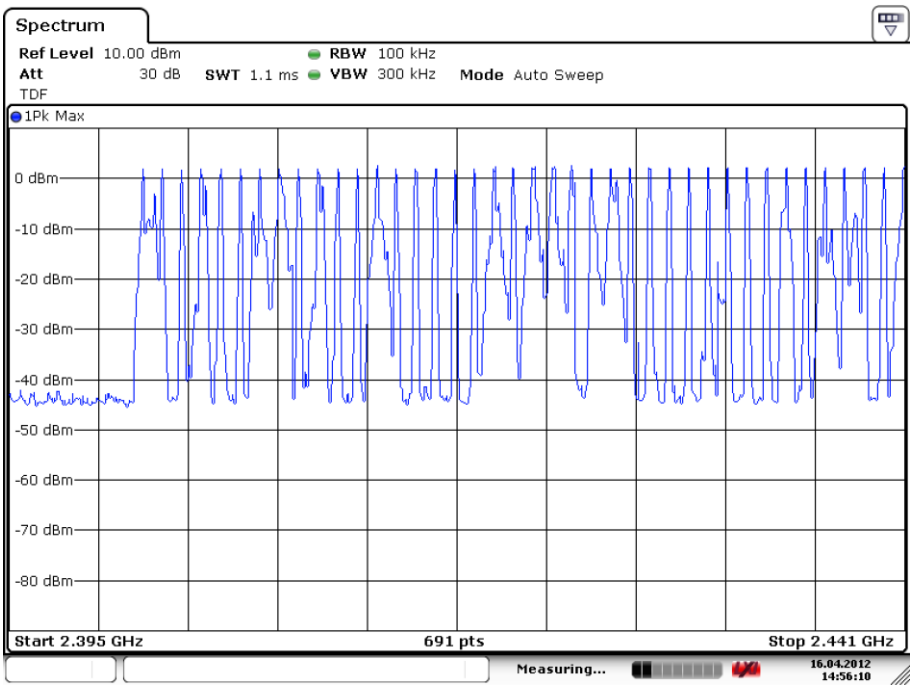


Fig. 54 Hopping channel ch0~39 (GFSK, Ch39)



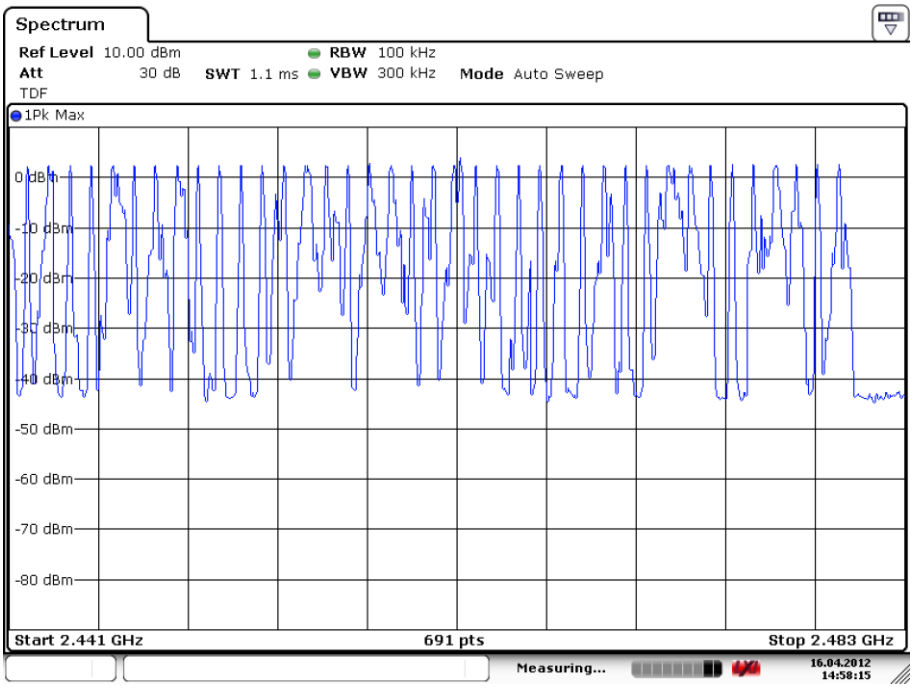
Date: 16.APR.2012 14:57:28

Fig. 55 Hopping channel ch39~78 (GFSK, Ch39)



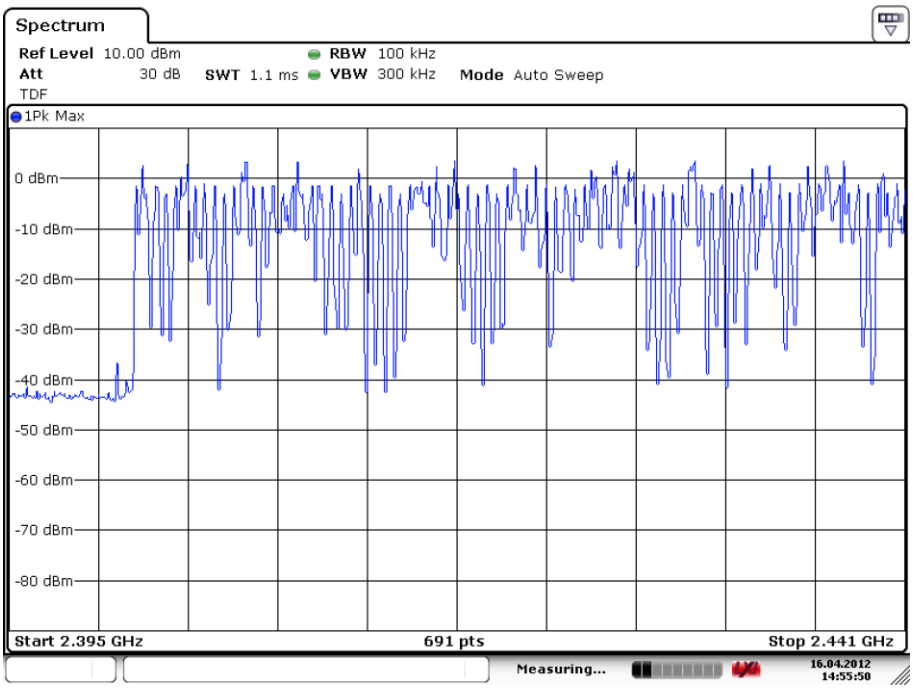
Date: 16.APR.2012 14:56:10

Fig. 56 Hopping channel ch0~39 (π /4 DQPSK, Ch39)



Date: 16.APR.2012 14:58:15

Fig. 57 Hopping channel ch39~78 (π /4 DQPSK, Ch39)



Date: 16.APR.2012 14:55:50

Fig. 58 Hopping channel ch0~39 (8DPSK, Ch39)

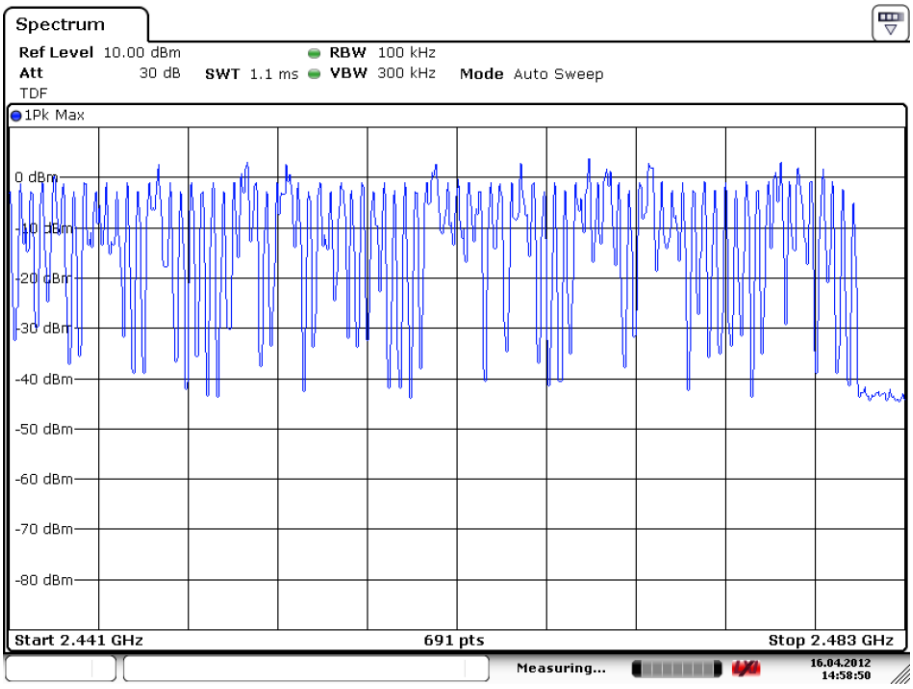


Fig. 59 Hopping channel ch39~78 (8DPSK, Ch39)

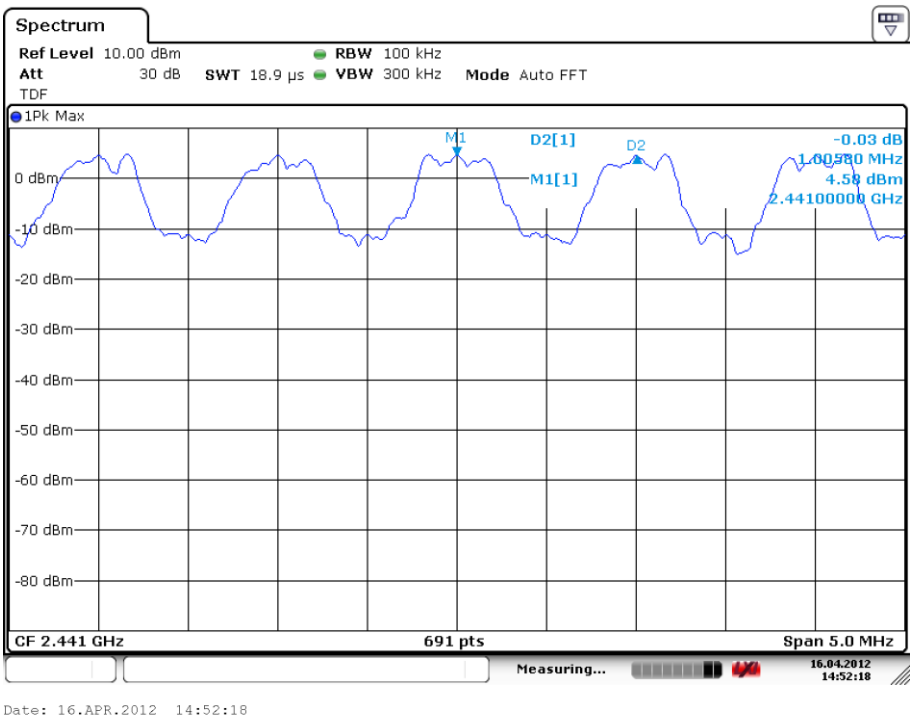
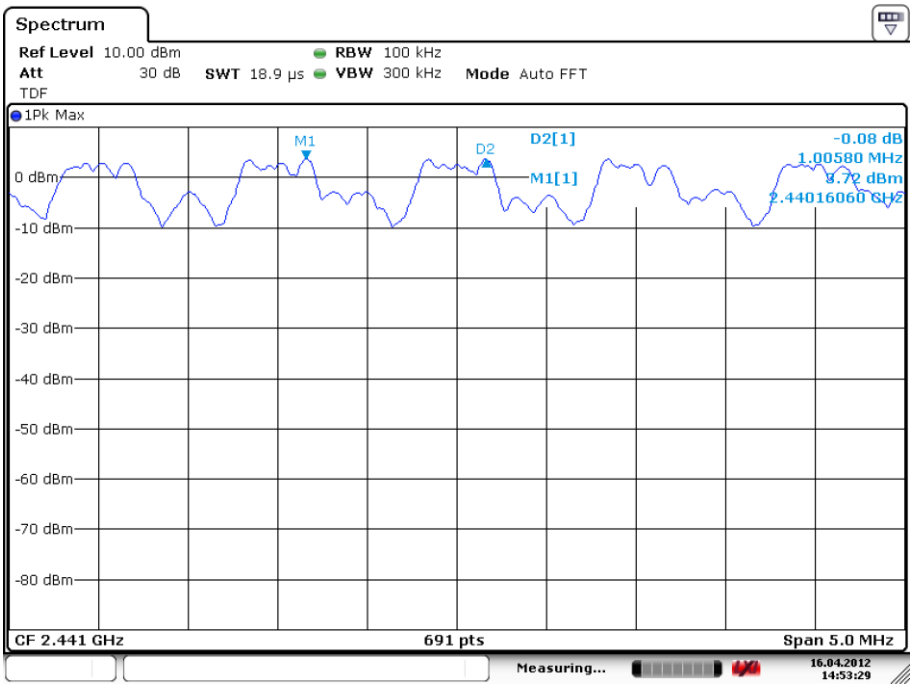
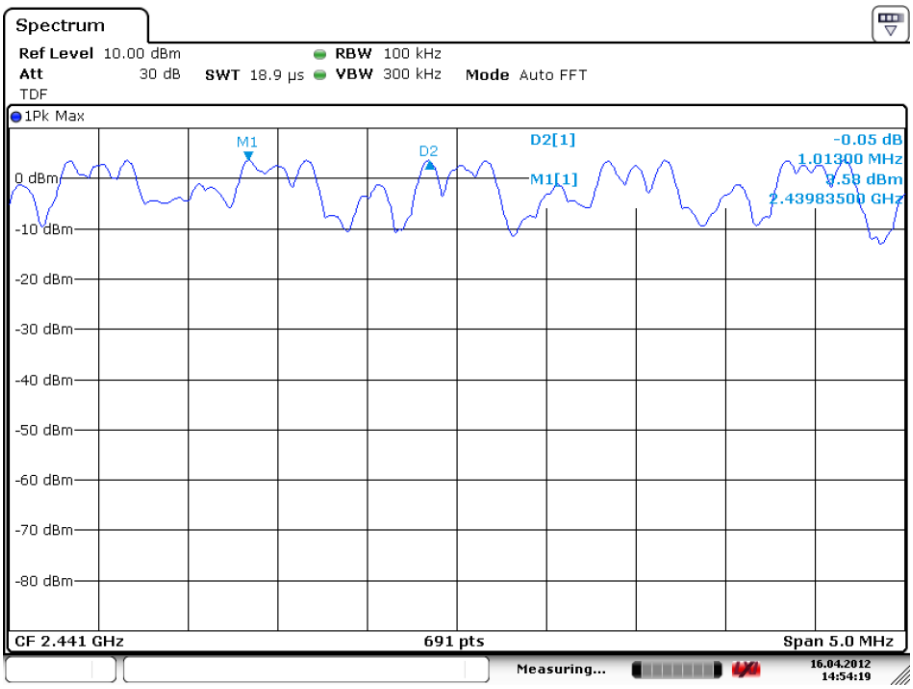


Fig. 60 Carrier Frequency Separation (GFSK, Ch39)



Date: 16.APR.2012 14:53:29

Fig. 61 Carrier Frequency Separation (π /4 DQPSK, Ch39)



Date: 16.APR.2012 14:54:19

Fig. 62 Carrier Frequency Separation (8DPSK, Ch39)

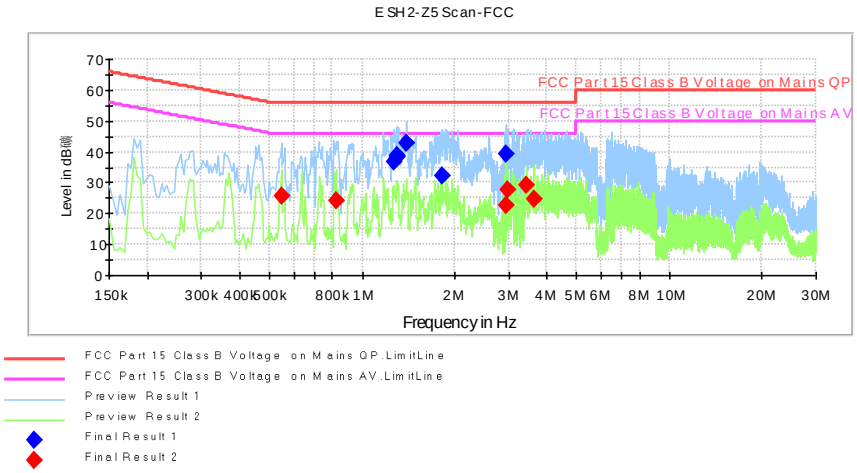


Fig. 63 AC Power line Conducted Emission (GFSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.275000	37.0	FLO	N	10.1	19.0	56.0
1.293000	38.8	FLO	N	10.1	17.2	56.0
1.306500	38.4	FLO	N	10.1	17.6	56.0
1.392000	42.7	FLO	N	10.1	13.3	56.0
1.815000	32.1	FLO	N	10.1	23.9	56.0
2.958000	39.1	FLO	L1	10.1	16.9	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.546000	25.5	FLO	L1	10.1	20.5	46.0
0.820500	24.2	FLO	L1	10.0	21.8	46.0
2.958000	22.9	FLO	L1	10.1	23.1	46.0
2.967000	27.9	FLO	L1	10.2	18.1	46.0
3.439500	29.3	FLO	L1	10.2	16.7	46.0
3.615000	24.5	FLO	N	10.2	21.5	46.0

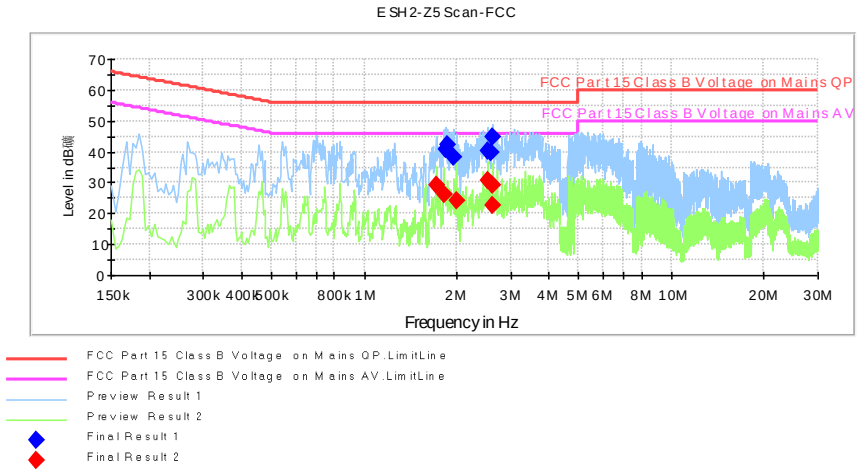


Fig. 64 AC Power line Conducted Emission (π /4 DQPSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.842000	40.9	FLO	L1	10.1	15.1	56.0
1.860000	42.1	FLO	L1	10.1	13.9	56.0
1.959000	38.3	FLO	L1	10.1	17.7	56.0
2.535000	40.3	FLO	L1	10.2	15.7	56.0
2.580000	39.7	FLO	L1	10.2	16.3	56.0
2.611500	45.0	FLO	L1	10.2	11.0	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.720500	29.1	FLO	L1	10.1	16.9	46.0
1.815000	26.2	FLO	L1	10.1	19.8	46.0
1.990500	24.3	FLO	L1	10.1	21.7	46.0
2.535000	30.7	FLO	L1	10.2	15.3	46.0
2.620500	29.1	FLO	L1	10.2	16.9	46.0
2.629500	22.7	FLO	N	10.2	23.3	46.0

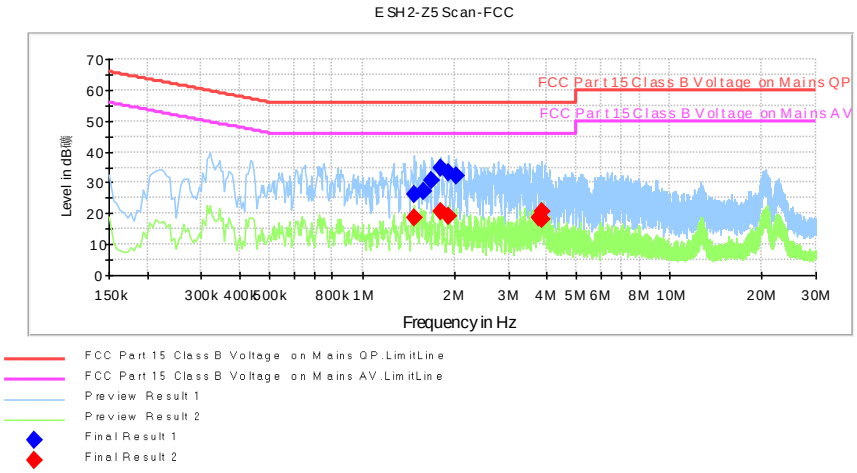


Fig. 65 AC Power line Conducted Emission (8DPSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.477500	26.1	FLO	N	10.1	29.9	56.0
1.590000	27.0	FLO	N	10.1	29.0	56.0
1.689000	30.7	FLO	L1	10.1	25.3	56.0
1.806000	34.6	FLO	L1	10.1	21.4	56.0
1.905000	33.2	FLO	L1	10.1	22.8	56.0
2.013000	32.1	FLO	L1	10.1	23.9	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.477500	18.5	FLO	L1	10.1	27.5	46.0
1.806000	20.7	FLO	L1	10.1	25.3	46.0
1.905000	19.2	FLO	L1	10.1	26.8	46.0
3.736500	18.6	FLO	L1	10.2	27.4	46.0
3.831000	17.9	FLO	L1	10.2	28.1	46.0
3.853500	20.7	FLO	L1	10.2	25.3	46.0

ANNEX D: TEST LAYOUT

Layout of Radiated Spurious Emission Test

Radiated spurious emission

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