



FCC PART 15C TEST REPORT No. 2012EEB00455-BT

For

Cellon Communications Technology(ShenZhen)Co., Ltd.

GSM QUAD Band and UMTS 850/1900 Mobile Phone

Model Name: C8660

Market Name: C8660, C8660CA, C8660EN, C8660CP, C8660TL,

C8660NZ, C8660AR, C8660AF

With

Hardware Version: A8660_MB_P2C

Software Version: ADR21_Claro_CA_2.7

FCC ID: T38C8660

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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1. Test Laboratory

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China
Postal Code: 100191
Telephone: 00861062304633
Fax: 00861062304793

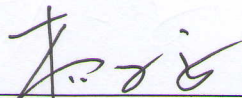
1.2. Testing Environment

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

1.3. Project data

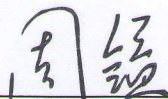
Project Leader: Zhou Yi
Test Engineer: Yang Zi'an
Testing Start Date: May 17th, 2012
Testing End Date: May 31st, 2012

1.4. Signature



Yang Zi'an

(Prepared this test report)



Zhou Yi

(Reviewed this test report)



Lu Minniu

Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

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2.2. Manufacturer Information

Company Name:	Cellon Communications Technology(ShenZhen)Co., Ltd.
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Country:	China
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Email	maggie.xu@cellon.com
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 Mobile Phone
Model Name	C8660
Marketing Name	C8660, C8660CA, C8660EN, C8660CP, C8660TL, C8660NZ, C8660AR, C8660AF
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	GFSK/ $\pi/4$ DQPSK/8DPSK
Number of Channels	79

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
EUT1	357428021084795	A8660_MB_P2C	ADR21_Claro_CA_2.7

*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	SPS-015757	/
AE2	Li-ion Battery	BTR8093	/

*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 C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
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 °C, Max. = 30 °C
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 °C, Max. = 30 °C
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°C, Max.= 30°C	Min.= 15°C, Max.= 30°C
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
0	Antenna Requirement	15.203	P
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/manufacture 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 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	2013-11-21
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	Rohde & Schwarz	2013-08-03
7	LISN	ESH2-Z5	100196	Rohde & Schwarz	2013-01-25
8	Signal Generator	SMR40	100541	Rohde & Schwarz	2013-01-11
9	Dual-Ridge Waveguide Horn Antenna	3117	00066585	ETS-Lindgren	2013-03-31

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren.

ANNEX A: EUT photograph



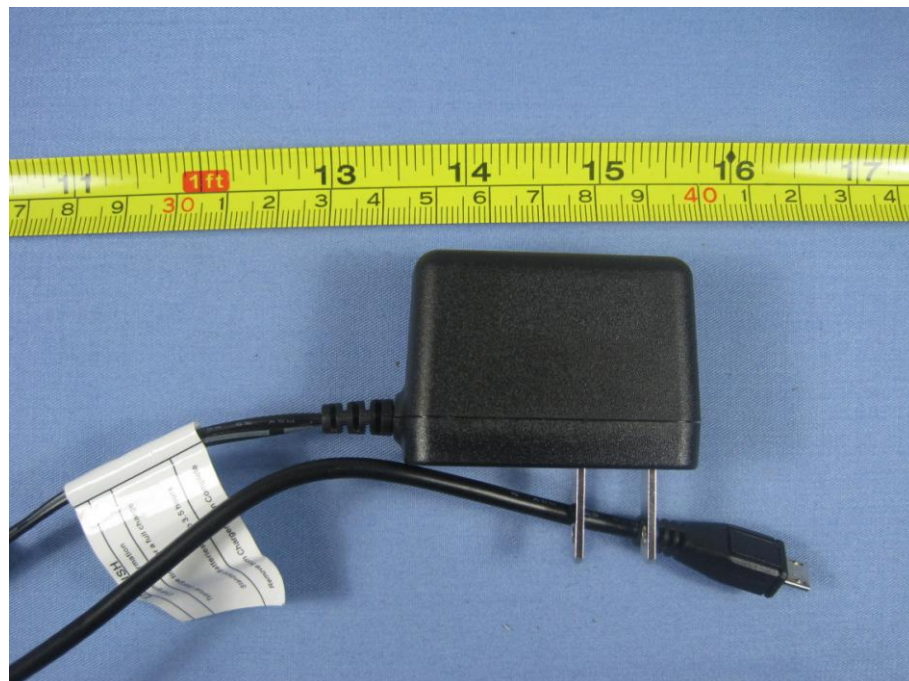
Pic A-1 Mobile phone



Pic A-2 Mobile phone



Pic A-3 Battery



Pic A-4 Charger

ANNEX B: MEASUREMENT RESULTS

B.0 Antenna requirement

Measurement Limit:

Standard	Requirement
FCC CRF Part 15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, § 15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

**Conclusion: The Directional gains of antenna used for transmitting is 1.3 dBi.
The RF transmitter uses an integrate antenna without connector.**

B.1 Maximum Peak Output Power

Measurement Limit:

Standard	Limit (dBm)
FCC CRF Part 15.247(a)	< 21 (125mW)

Measurement Results:

Mode	Test Result (dBm)		
	2402MHz (Ch0)	2441MHz (Ch39)	2480 MHz (Ch78)
GFSK	8.30	8.59	8.56
$\pi/4$ DQPSK	8.69	9.01	9.20
8DPSK	8.58	8.90	9.05

Conclusion: Pass

B.2 Band Edges Compliance

Measurement Limit:

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

Measurement Result:

Mode	Channel	Hopping	Test Results	Conclusion
GFSK	0	ON	Fig.1	P
	78	ON	Fig.2	P
$\pi/4$ 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

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
$\pi/4$ 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)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength($\mu\text{V/m}$)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

Note: According to the performance evaluation, the radiated emission margin of EUT is over 20dB in the band below 30MHz. Therefore, the measurement starts from 30MHz to tenth harmonic..

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
$\pi/4$ 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)	/

Measurement Result:

Mode	Channel	Occupied 20dB Bandwidth (MHz)		conclusion
GFSK	39	Fig.45	1.135	/
$\pi/4$ DQPSK	39	Fig.46	1.309	/
8DPSK	39	Fig.47	1.295	/

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	272.0	P
			Fig.49		
$\pi/4$ DQPSK	39	2-DH5	Fig.50	328.0	P
			Fig.51		
8DPSK	39	3-DH5	Fig.52	291.6	P
			Fig.53		

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
$\pi/4$ 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)	By a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater

Measurement Results:

Mode	Channel	Packet	Separation of hopping channels	Test result (MHz)	Conclusion
GFSK	39	DH5	Fig.60	1.020	P
$\pi/4$ DQPSK	39	2-DH5	Fig.61	1.013	P
8DPSK	39	3-DH5	Fig.62	1.005	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 o 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	$\pi/4$ 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.					

See ANNEX C for test graphs.

Conclusion: Pass

ANNEX C: TEST FIGURE LIST

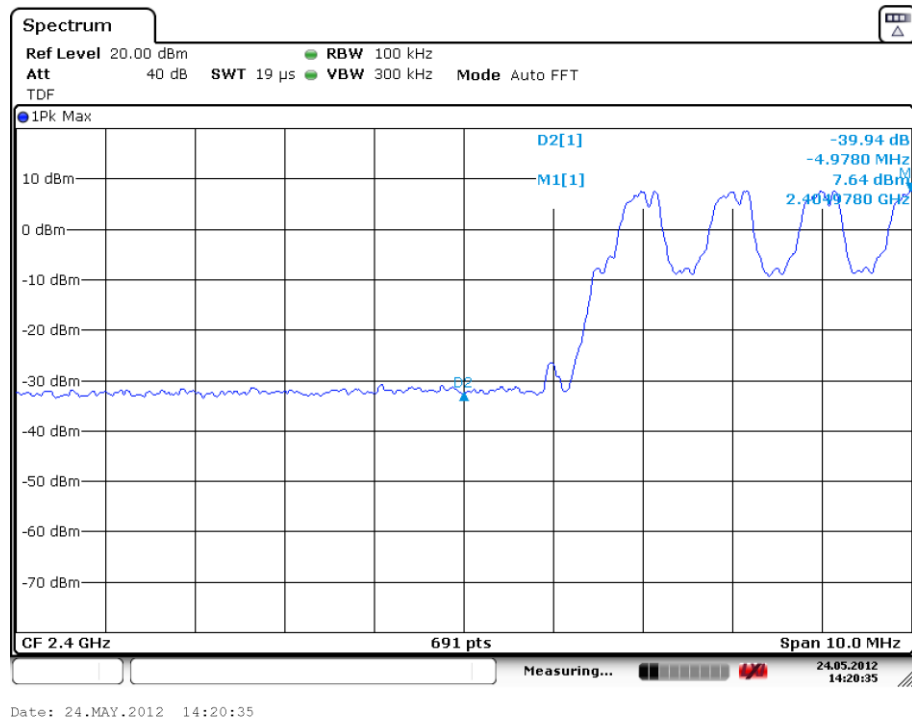


Fig. 1 Band Edges (GFSK, Ch 0, Hopping ON)

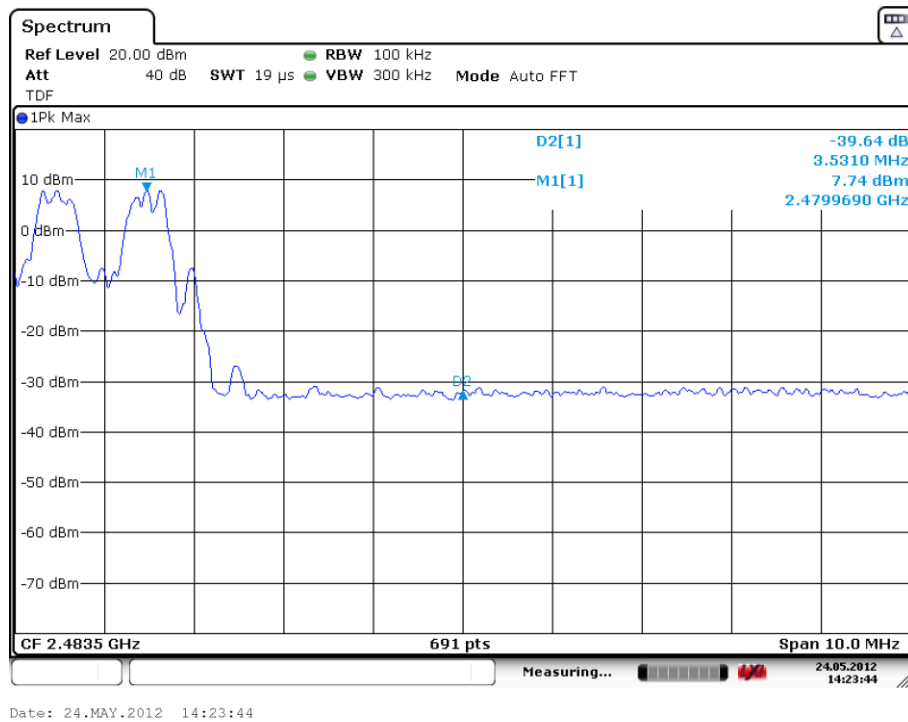


Fig. 2 Band Edges (GFSK, Ch 78, Hopping ON)

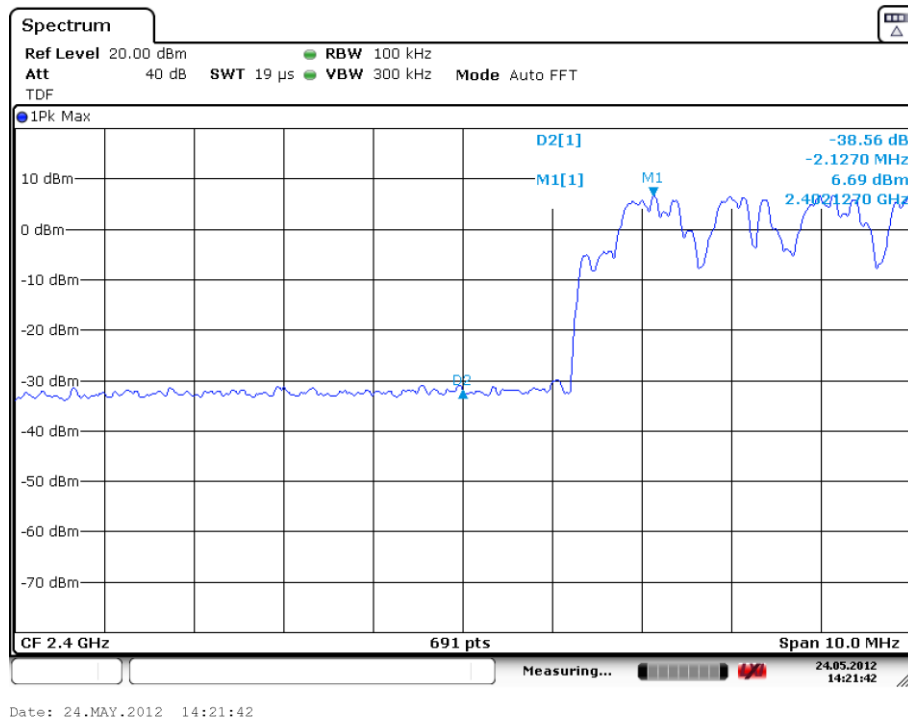


Fig. 3 Band Edges ($\pi/4$ DQPSK, Ch 0, Hopping ON)

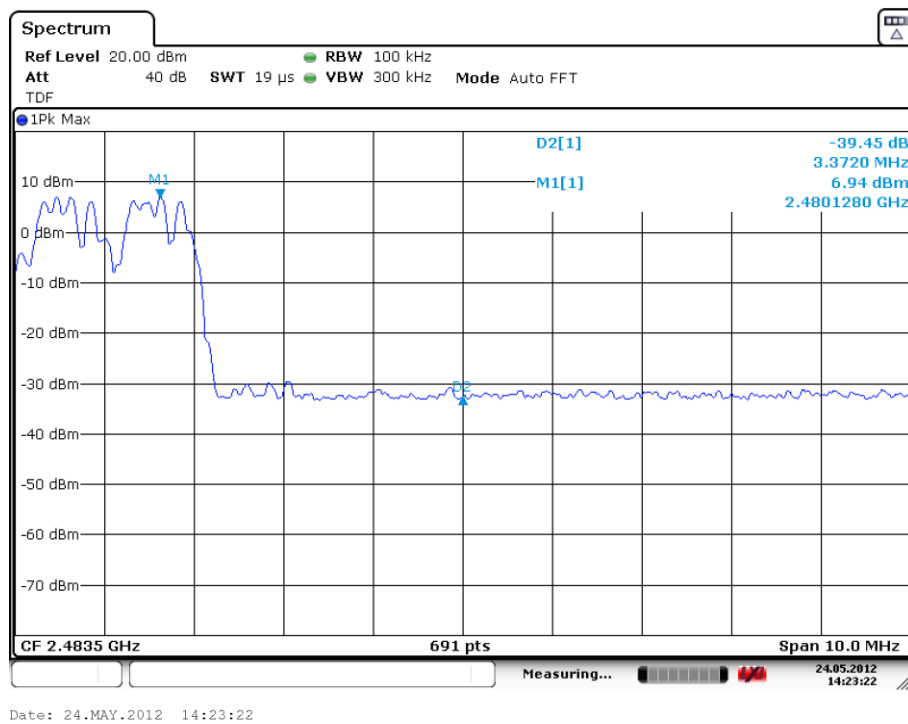


Fig. 4 Band Edges ($\pi/4$ DQPSK, Ch 78, Hopping ON)

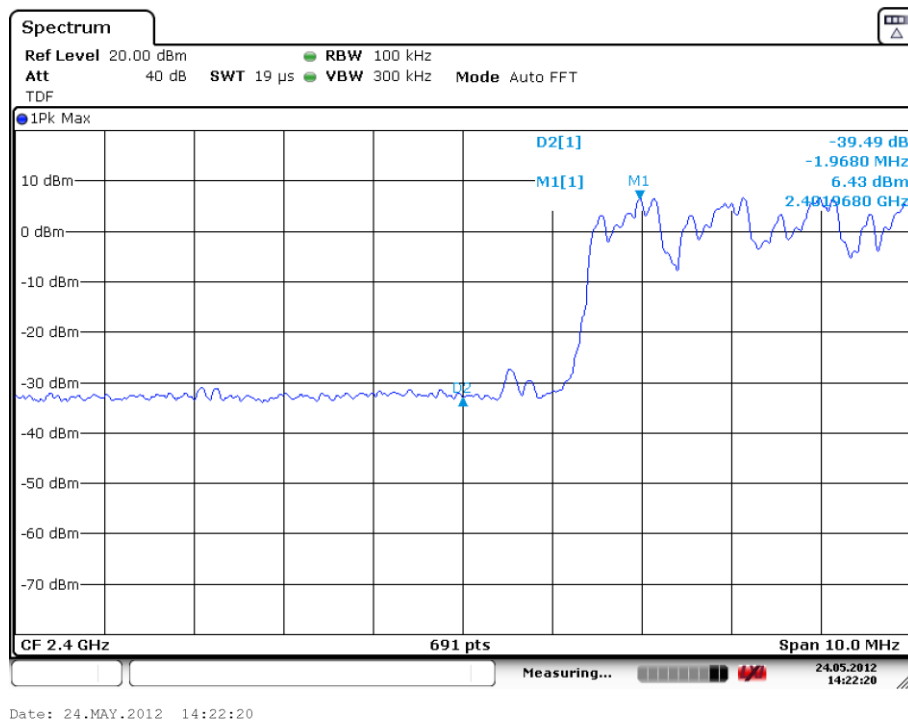


Fig. 5 Band Edges (8DPSK, Ch 0, Hopping ON)

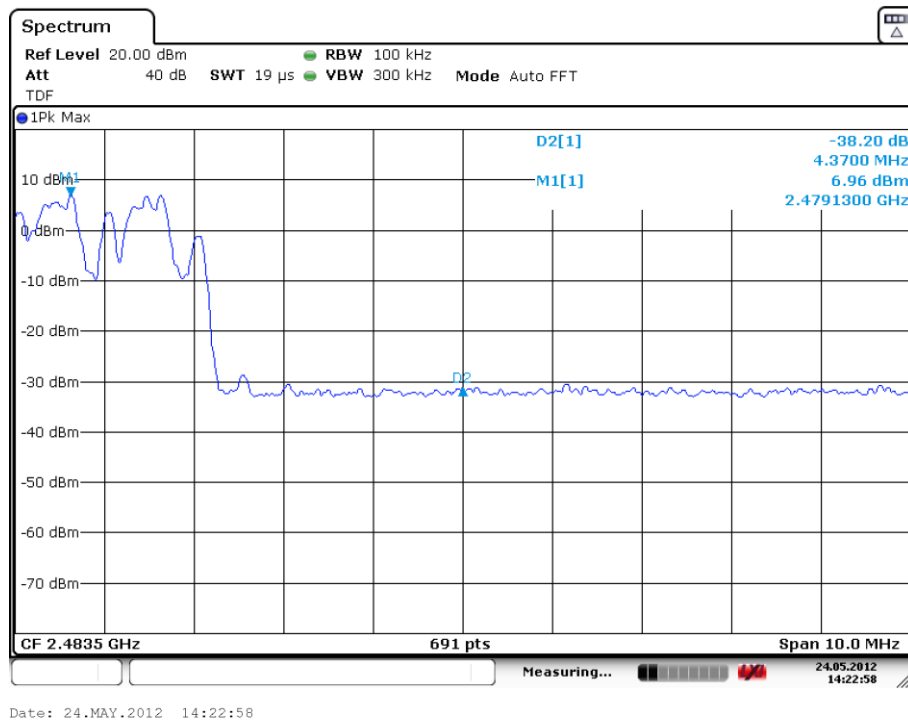


Fig. 6 Band Edges (8DPSK, Ch 78, Hopping ON)

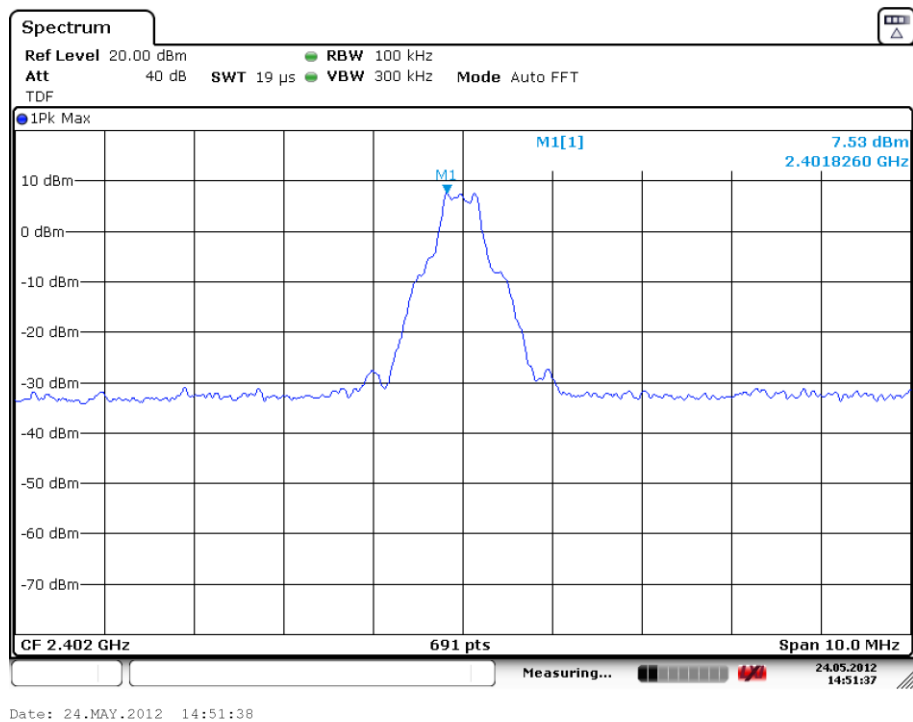


Fig. 7 Conducted Spurious Emission (GFSK, Ch0, 2.402GHz)

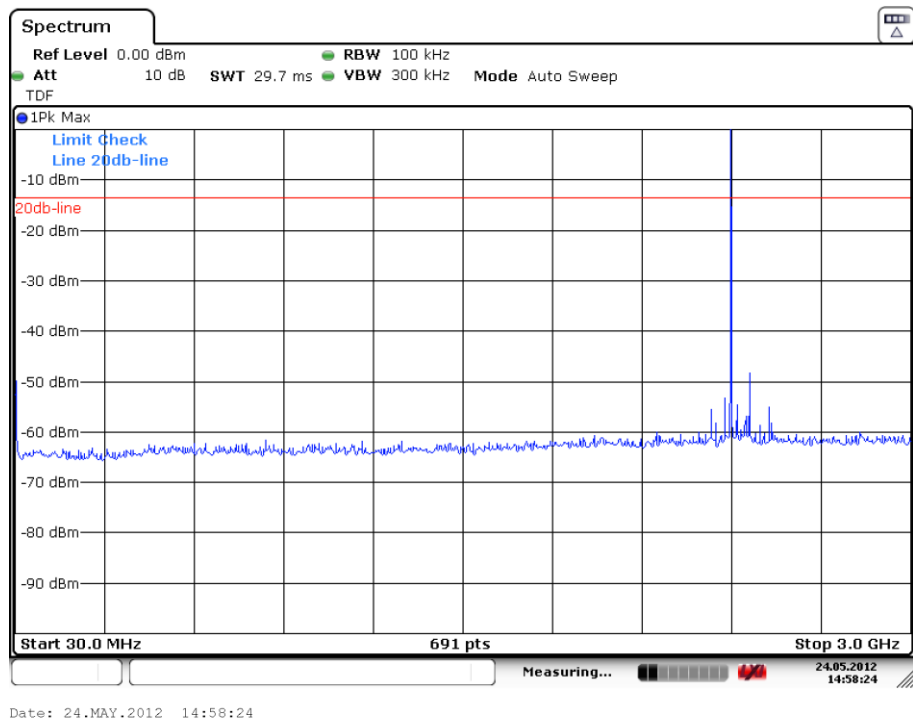


Fig. 8 Conducted Spurious Emission (GFSK, Ch0, 30 MHz-3 GHz)

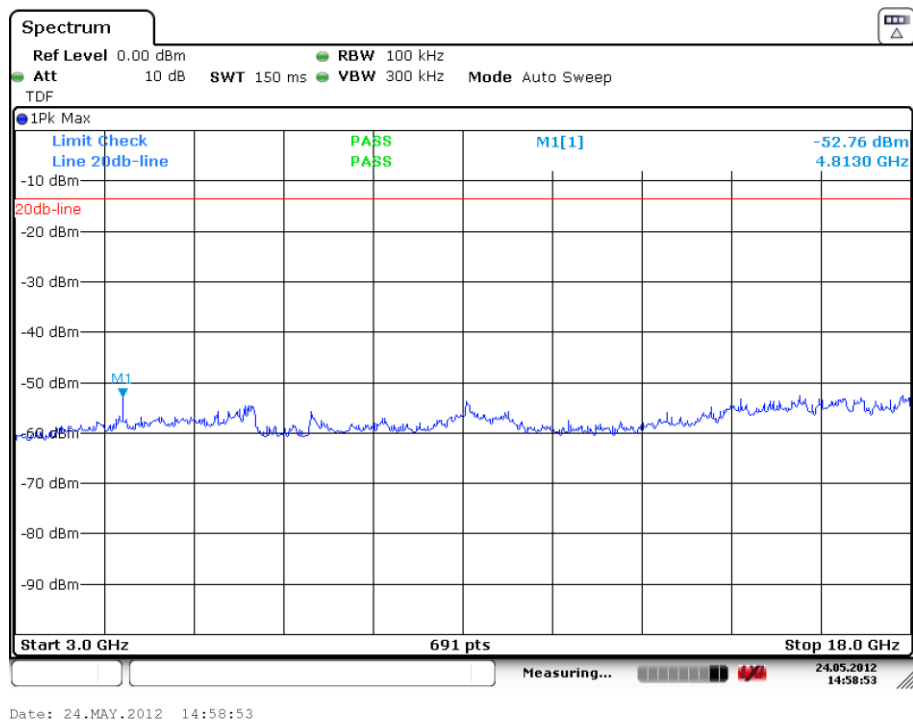


Fig. 9 Conducted Spurious Emission (GFSK, Ch0, 3GHz-18 GHz)

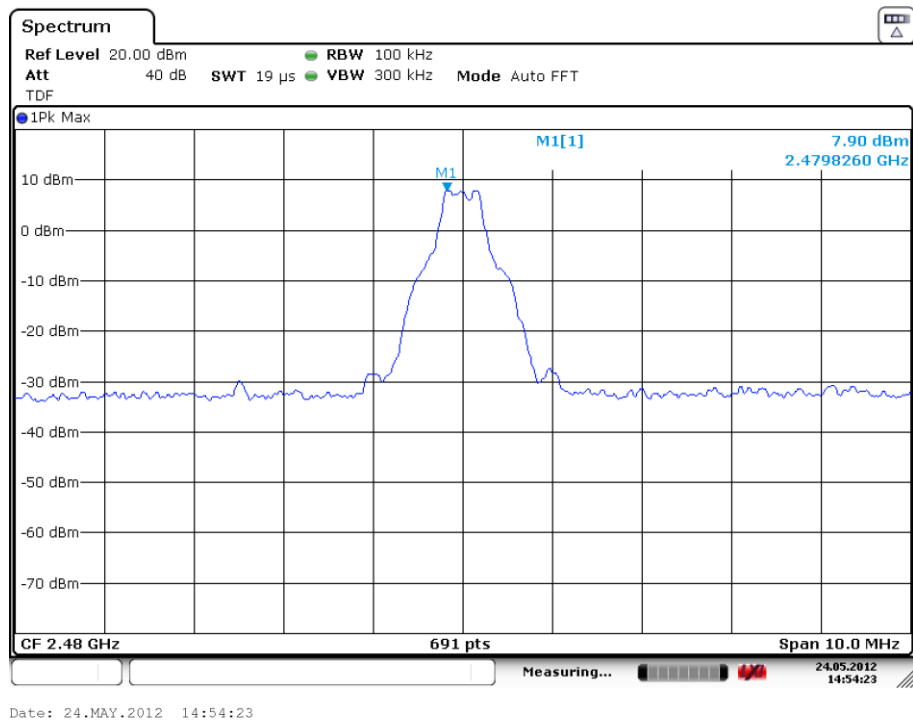


Fig. 10 Conducted Spurious Emission (GFSK, Ch78, 2.480GHz)

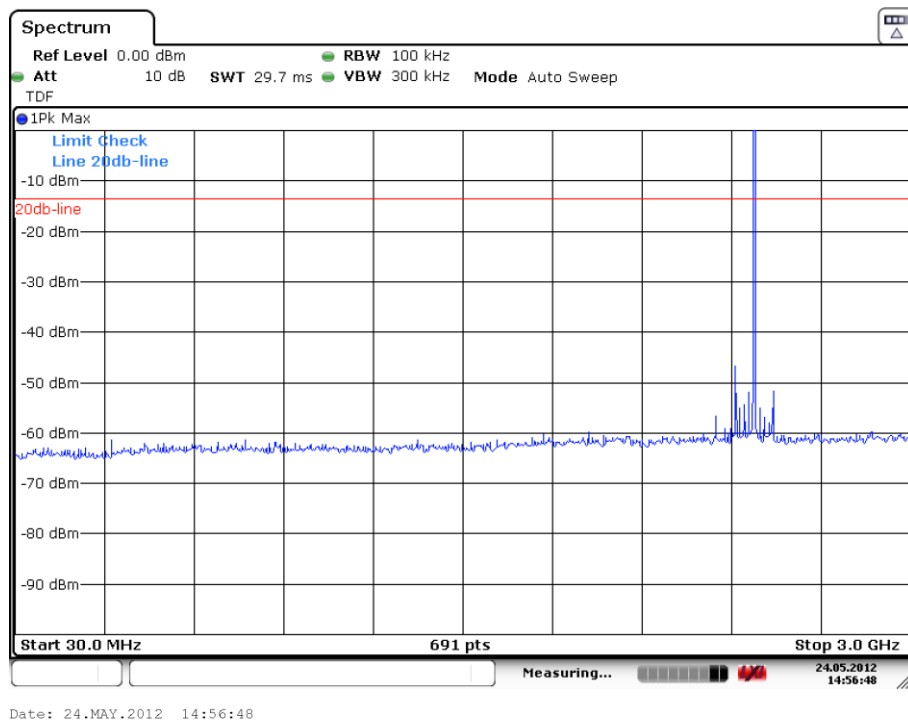


Fig. 11 Conducted Spurious Emission (GFSK, Ch78, 30 MHz-3 GHz)

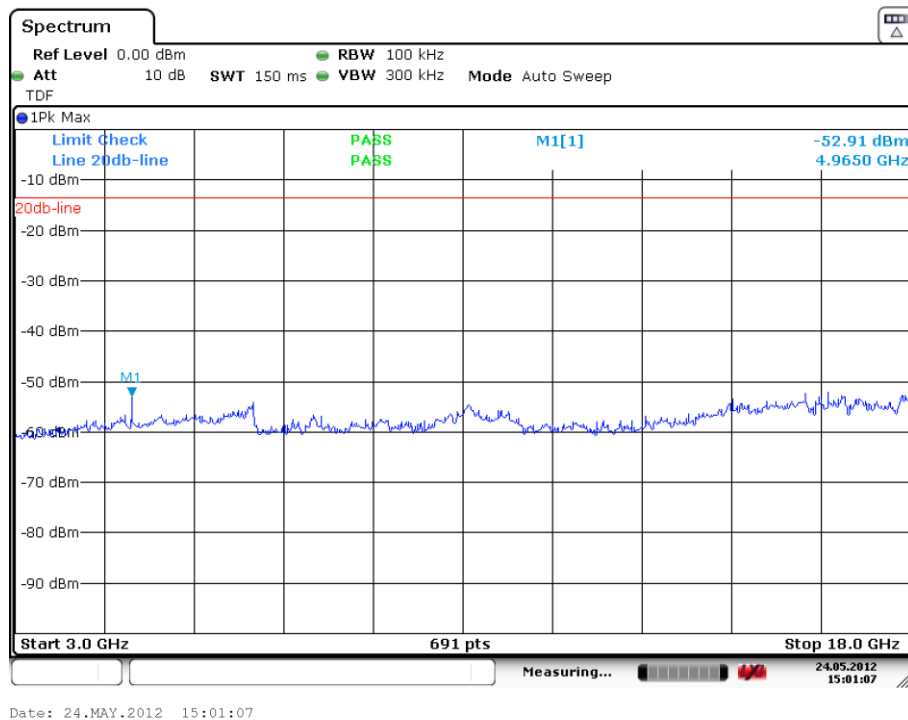


Fig. 12 Conducted Spurious Emission (GFSK, Ch78, 3GHz-18 GHz)

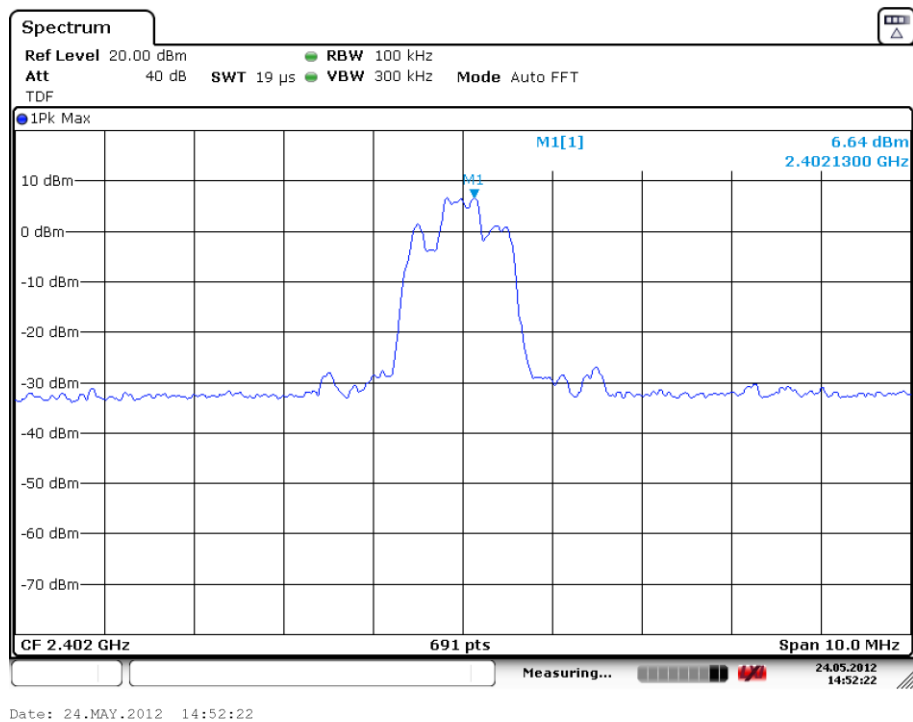


Fig. 13 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch0, 2.402GHz)

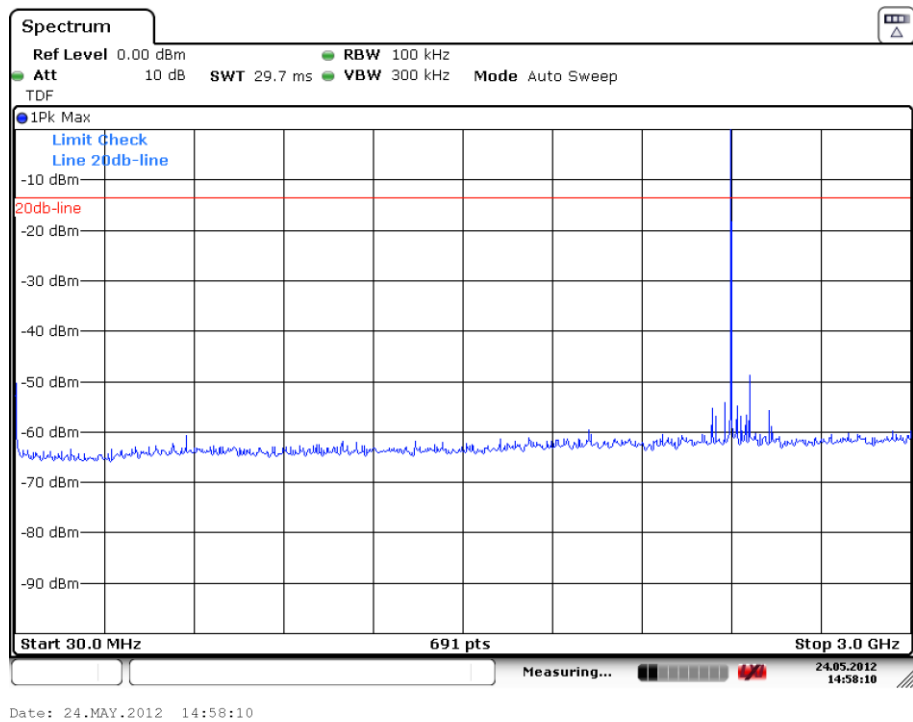


Fig. 14 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch0, 30 MHz-3 GHz)

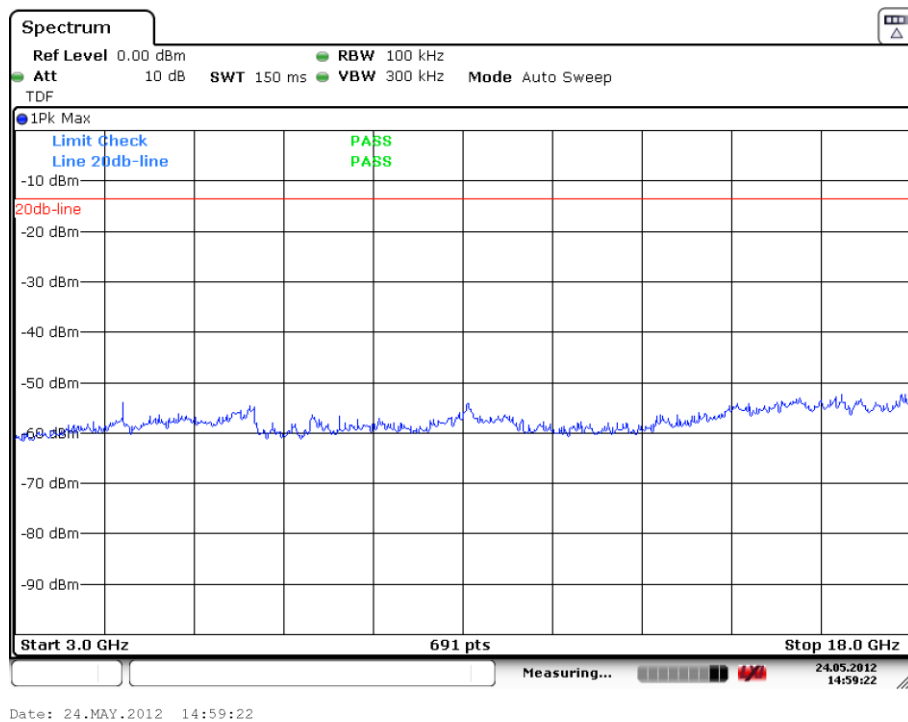


Fig. 15 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch0, 3GHz-18 GHz)

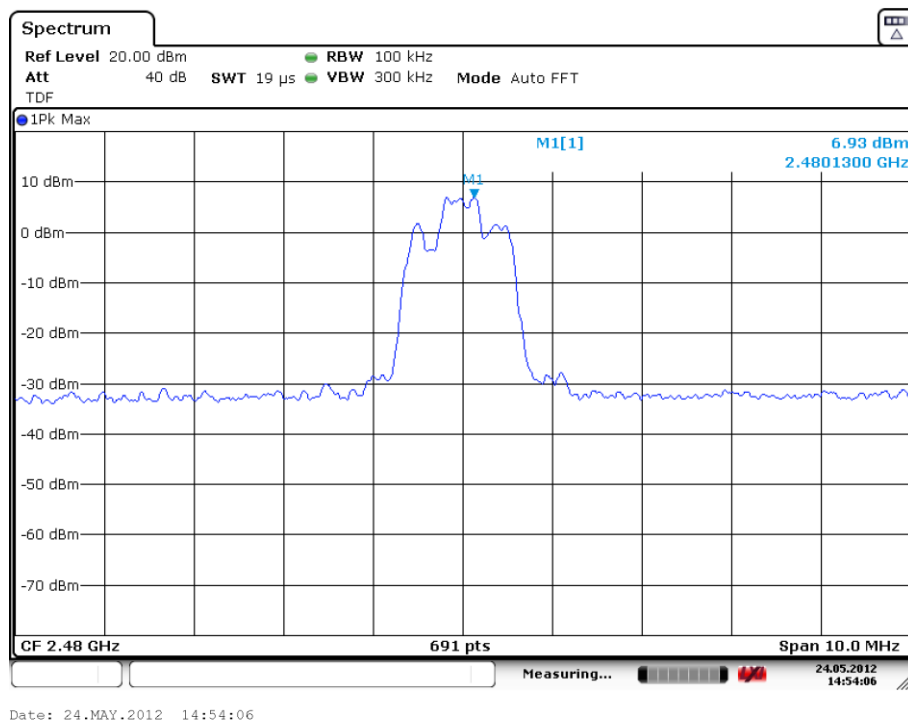


Fig. 16 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch78, 2.480GHz)

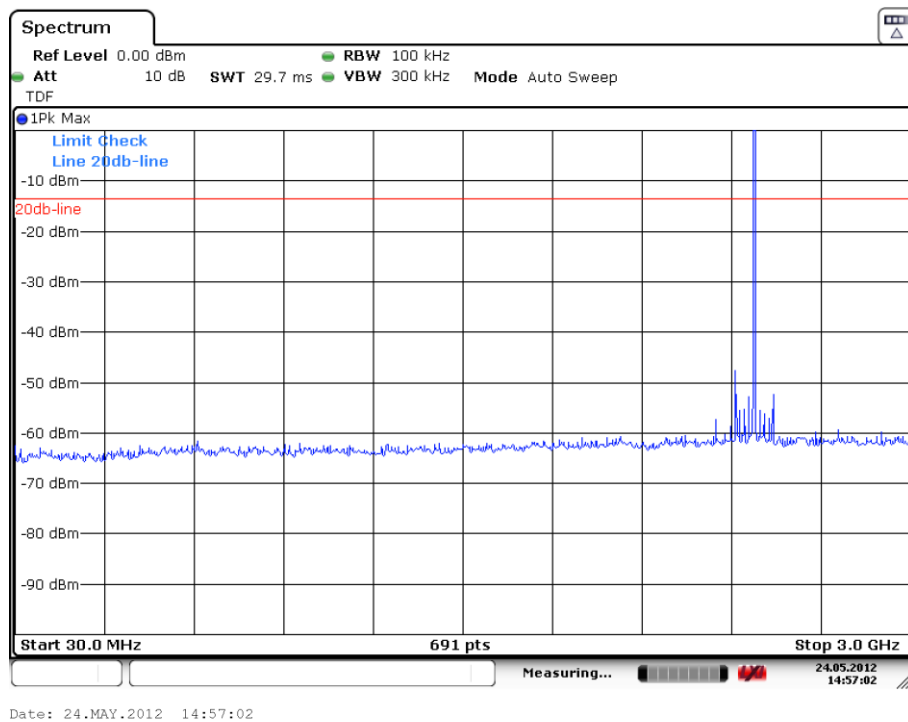


Fig. 17 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch78, 30 MHz-3 GHz)

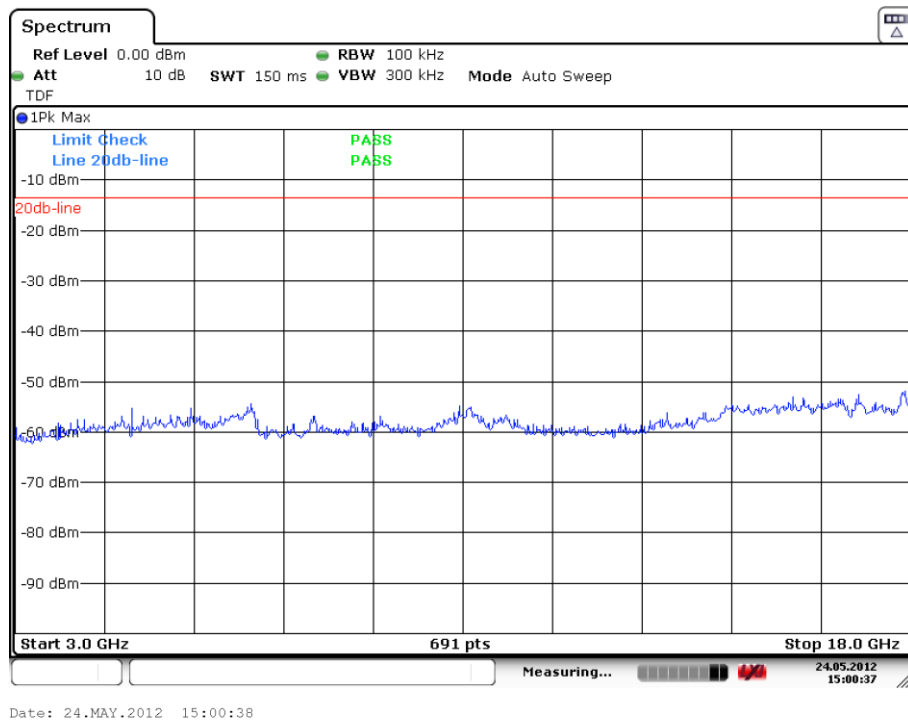


Fig. 18 Conducted Spurious Emission ($\pi/4$ DQPSK, Ch78, 3GHz-18 GHz)

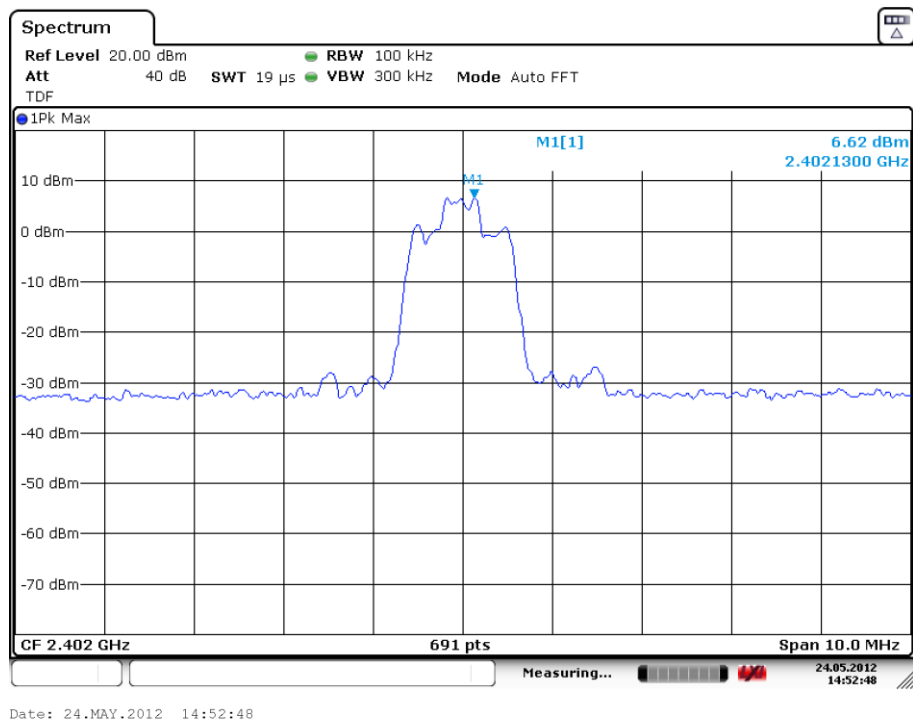


Fig. 19 Conducted Spurious Emission (8DPSK, Ch0, 2.402GHz)

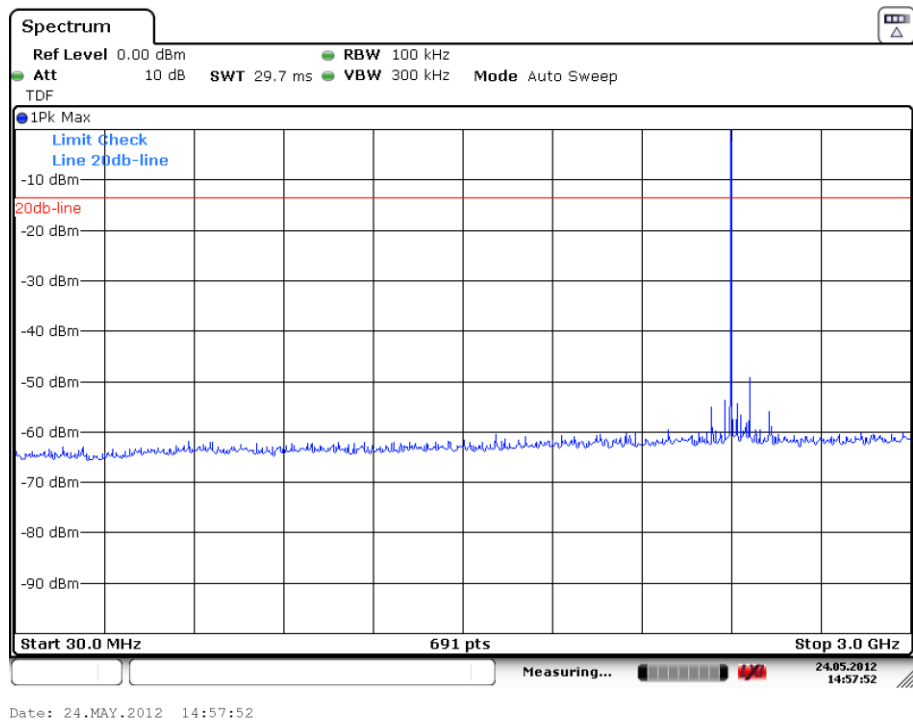


Fig. 20 Conducted Spurious Emission (8DPSK, Ch0, 30 MHz-3 GHz)

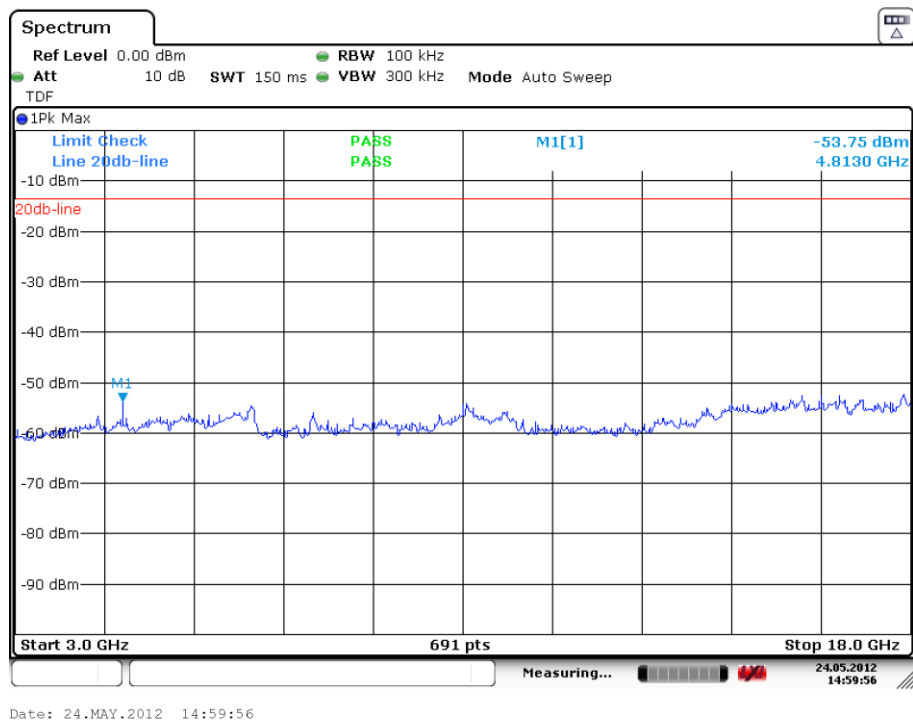


Fig. 21 Conducted Spurious Emission (8DPSK, Ch0, 3GHz-18 GHz)

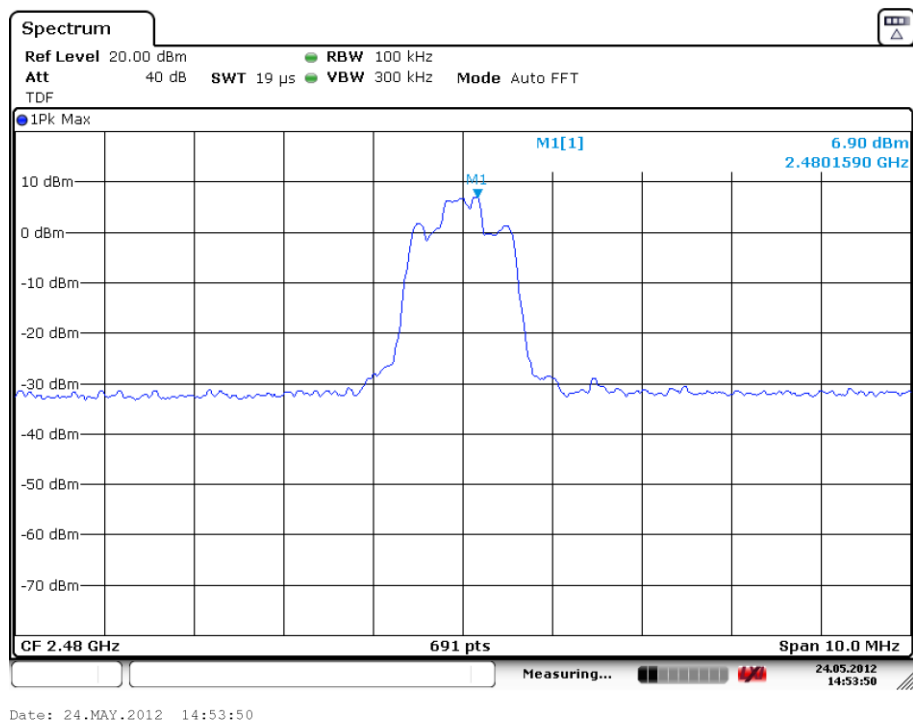


Fig. 22 Conducted Spurious Emission (8DPSK, Ch78, 2.480GHz)

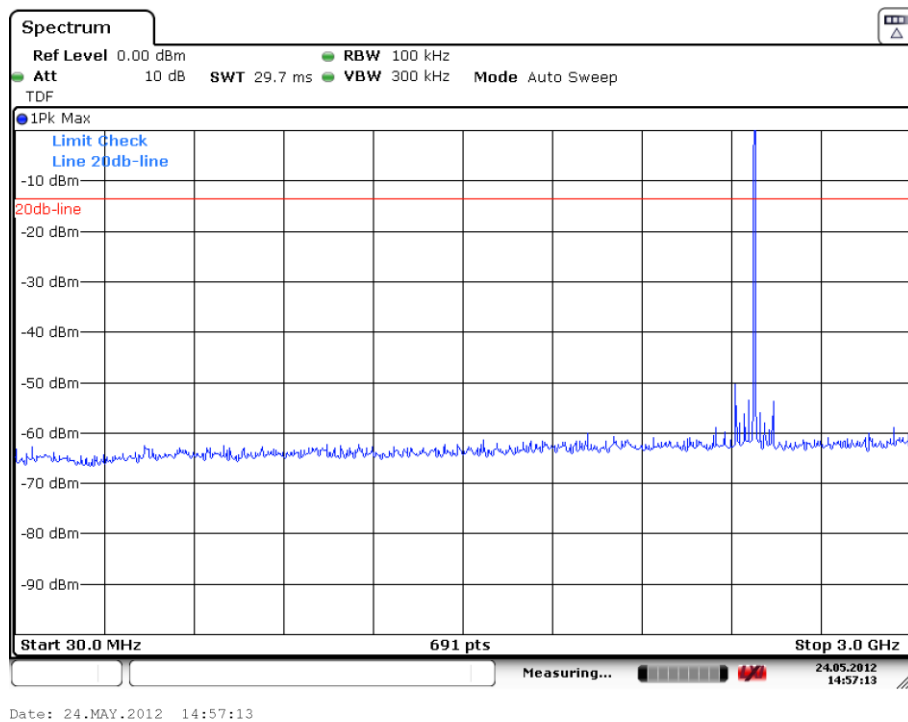


Fig. 23 Conducted Spurious Emission (8DPSK, Ch78, 30 MHz-3 GHz)

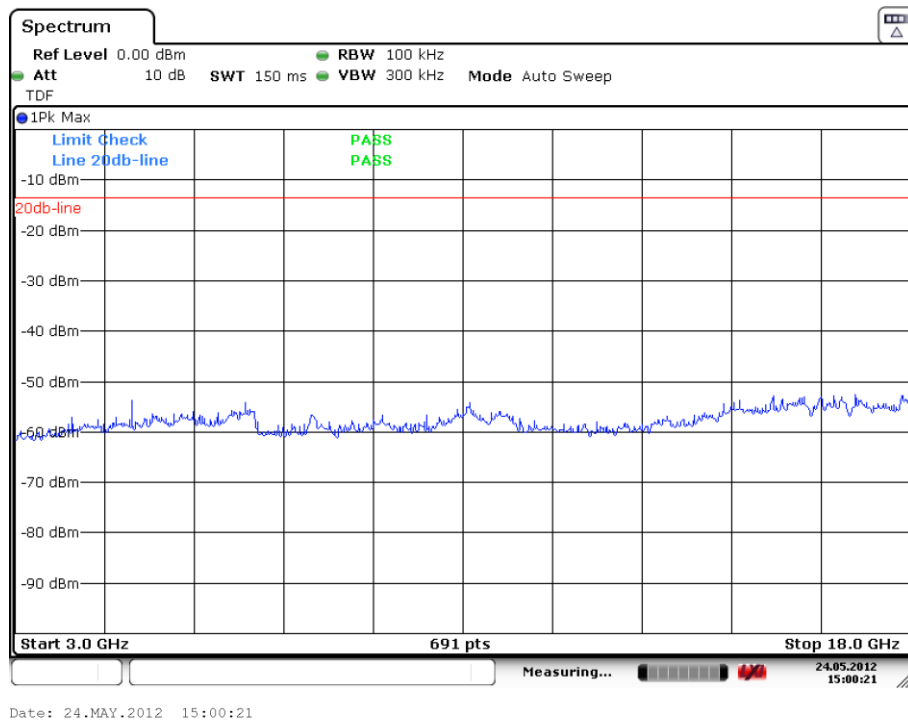


Fig. 24 Conducted Spurious Emission (8DPSK, Ch78, 3GHz-18 GHz)

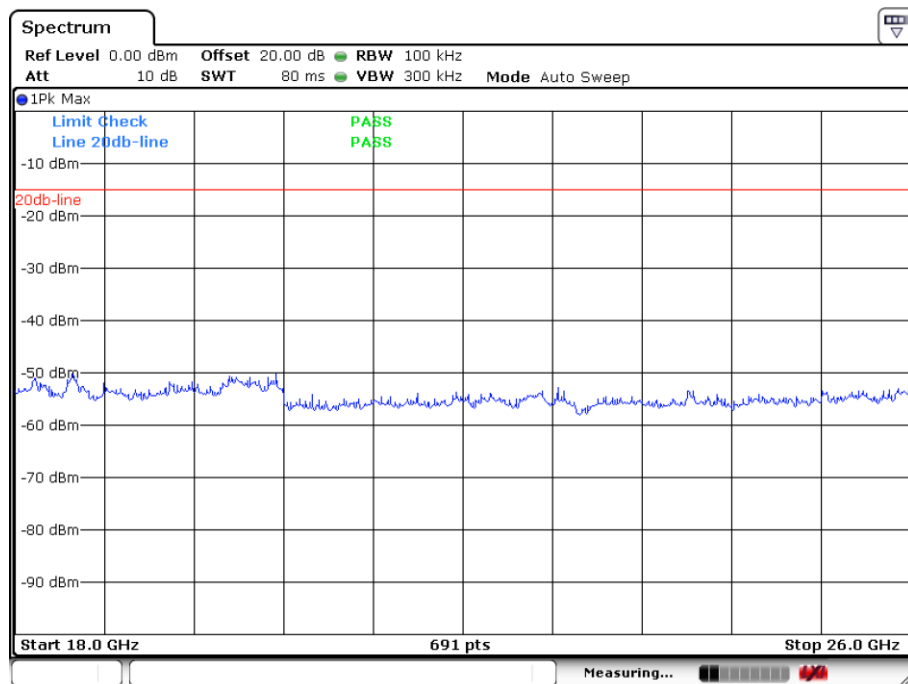


Fig. 25 Conducted Spurious Emission (All channel, 18 GHz-26 GHz)

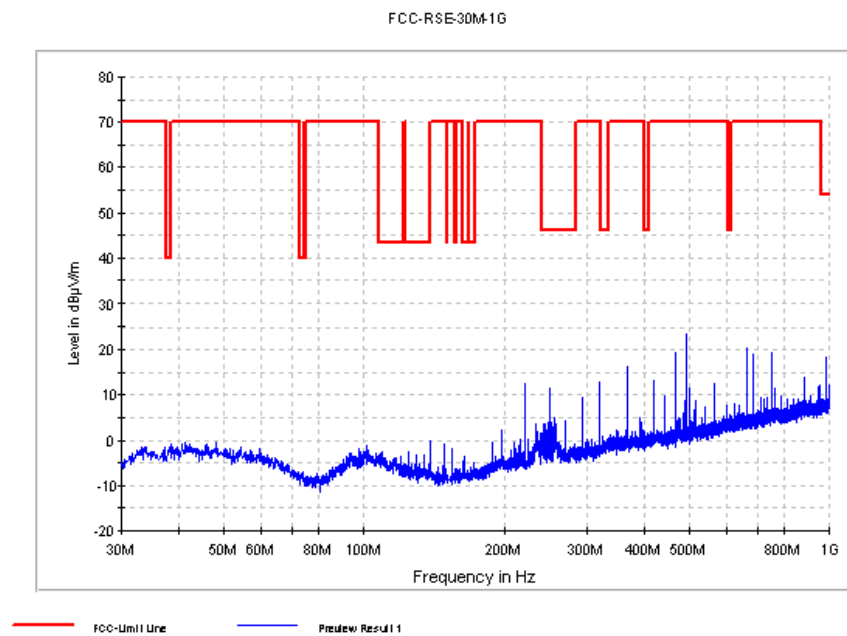


Fig. 26 Radiated Spurious Emission (GFSK, Ch0, 30 MHz ~1 GHz)

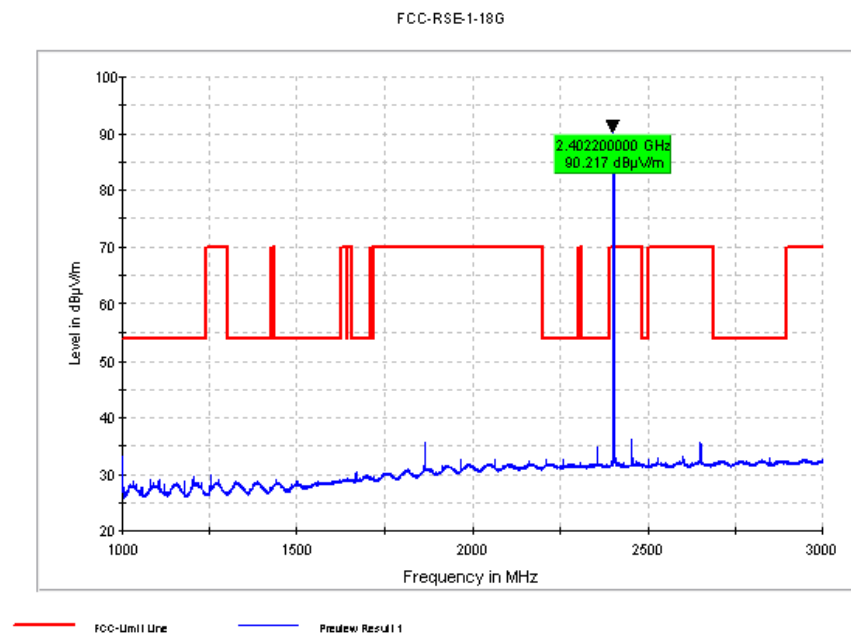


Fig. 27 Radiated Spurious Emission (GFSK, Ch0, 1 GHz ~3 GHz)

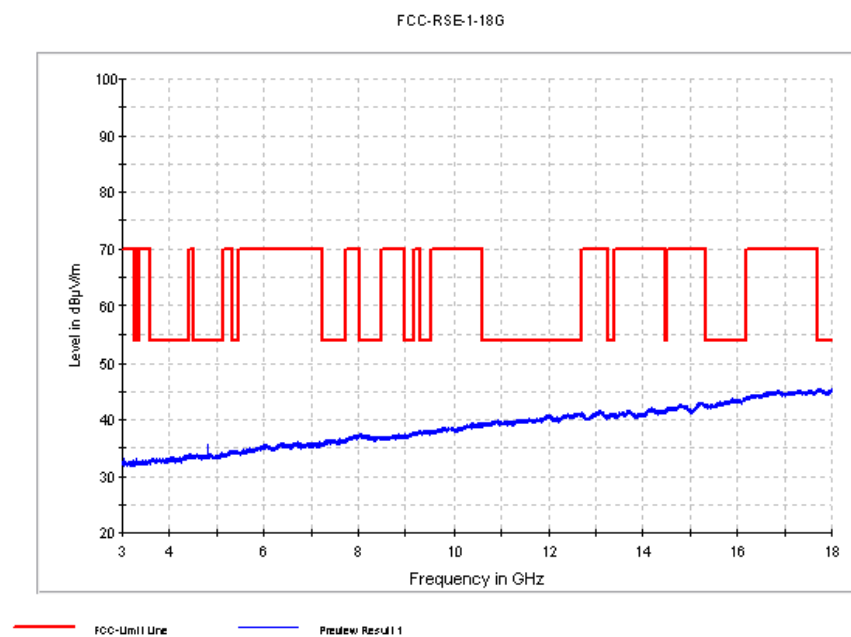


Fig. 28 Radiated Spurious Emission (GFSK, Ch0, 3 GHz ~18 GHz)

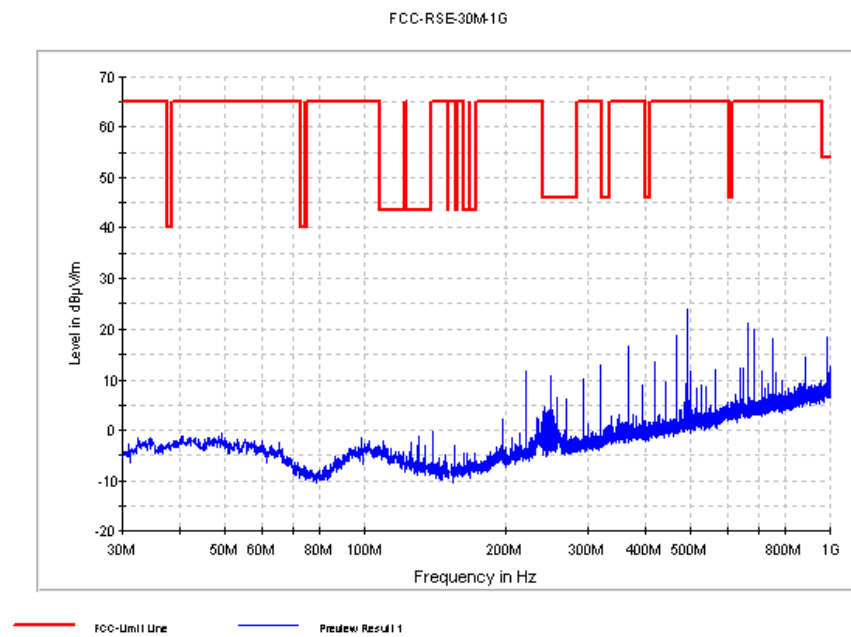


Fig. 29 Radiated Spurious Emission (GFSK, Ch78, 30 MHz ~1 GHz)

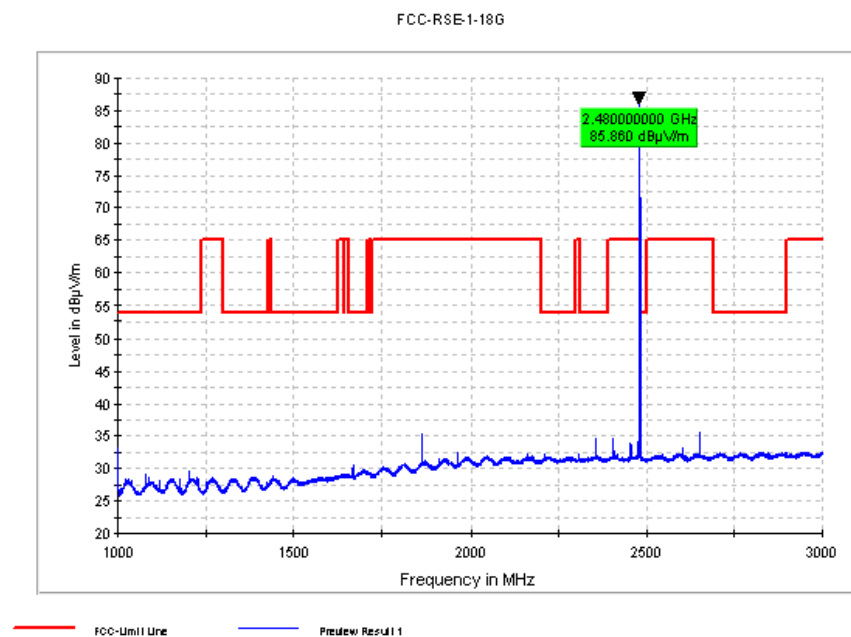


Fig. 30 Radiated Spurious Emission (GFSK, Ch78, 1 GHz ~3 GHz)

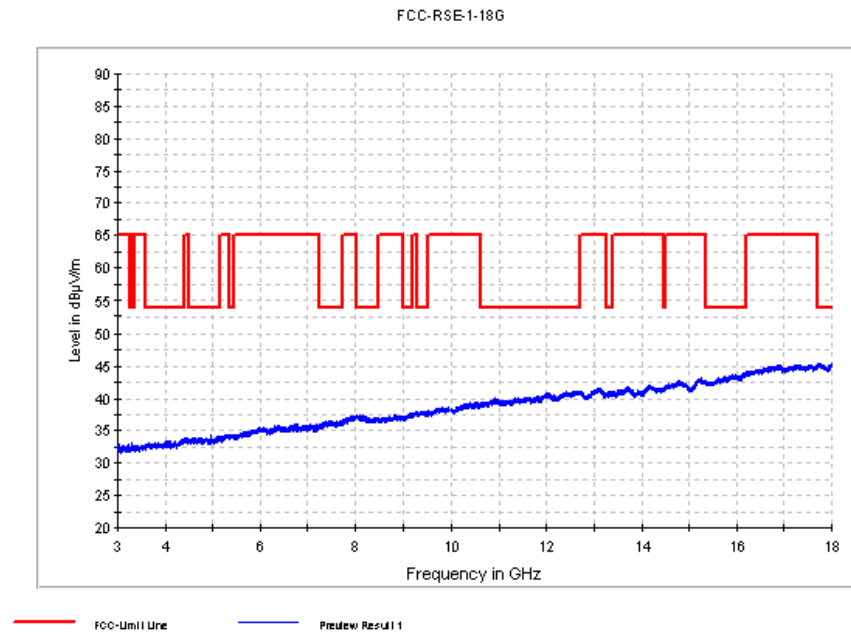


Fig. 31 Radiated Spurious Emission (GFSK, Ch78, 3 GHz ~18 GHz)

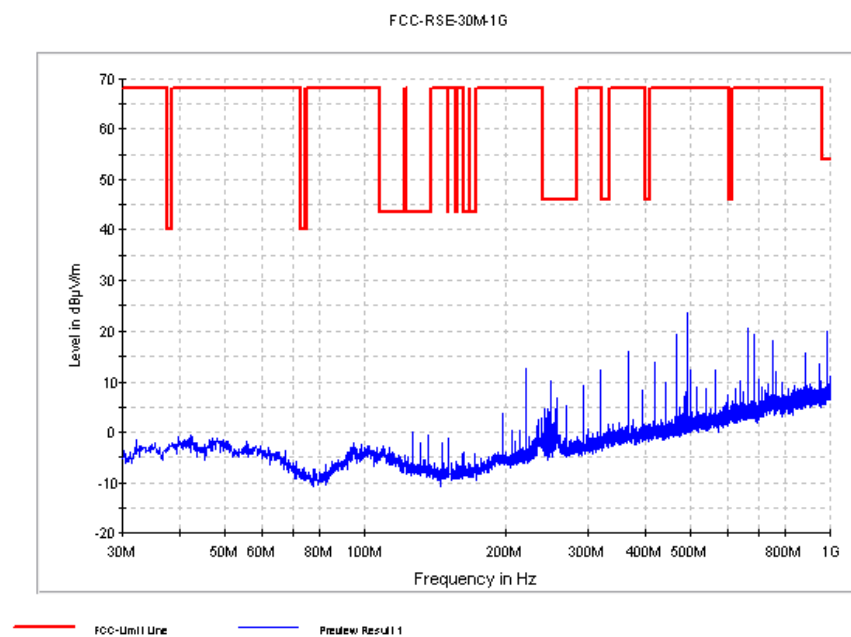


Fig. 32 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch0, 30 MHz ~1 GHz)

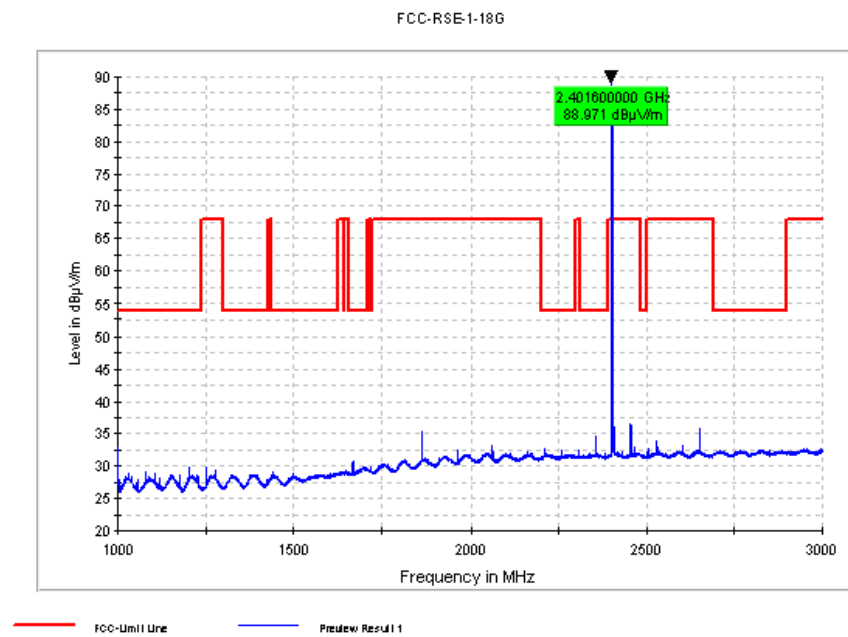


Fig. 33 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch0, 1 GHz ~3 GHz)

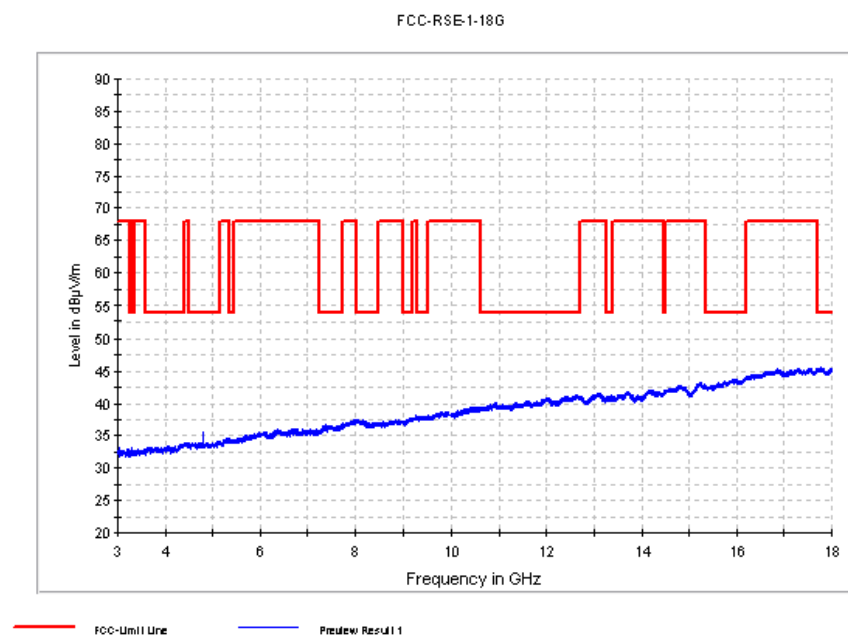


Fig. 34 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch0, 3 GHz ~18 GHz)

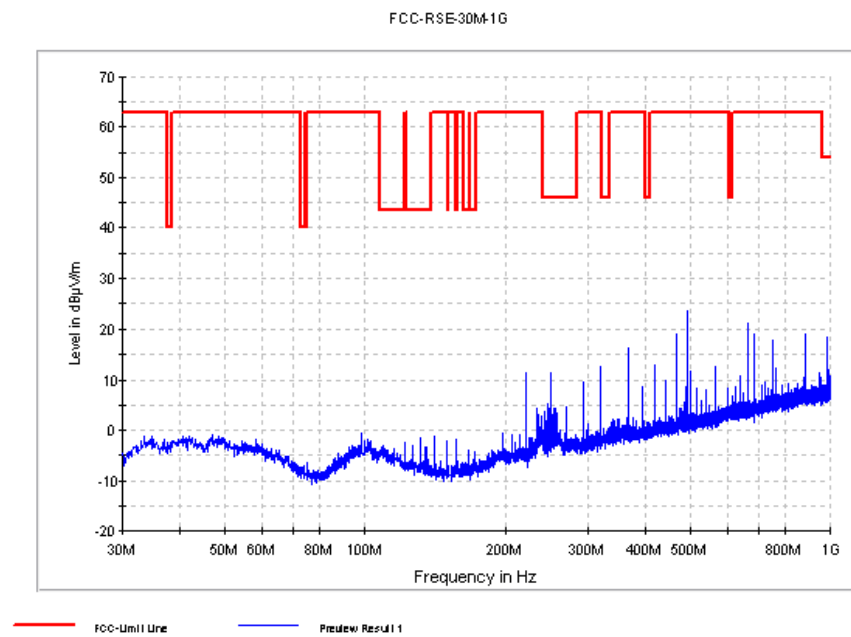


Fig. 35 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch78, 30 MHz ~1 GHz)

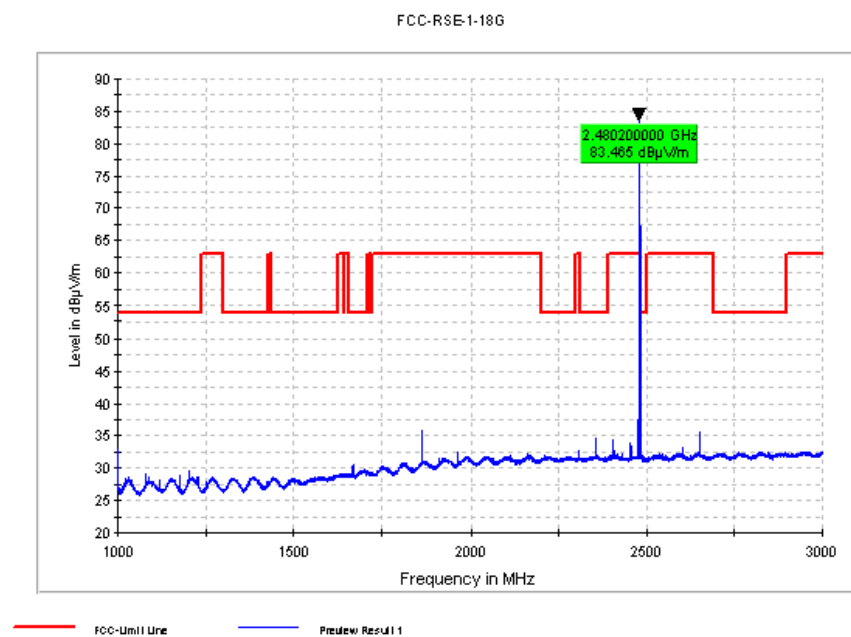


Fig. 36 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch78, 1 GHz ~3 GHz)

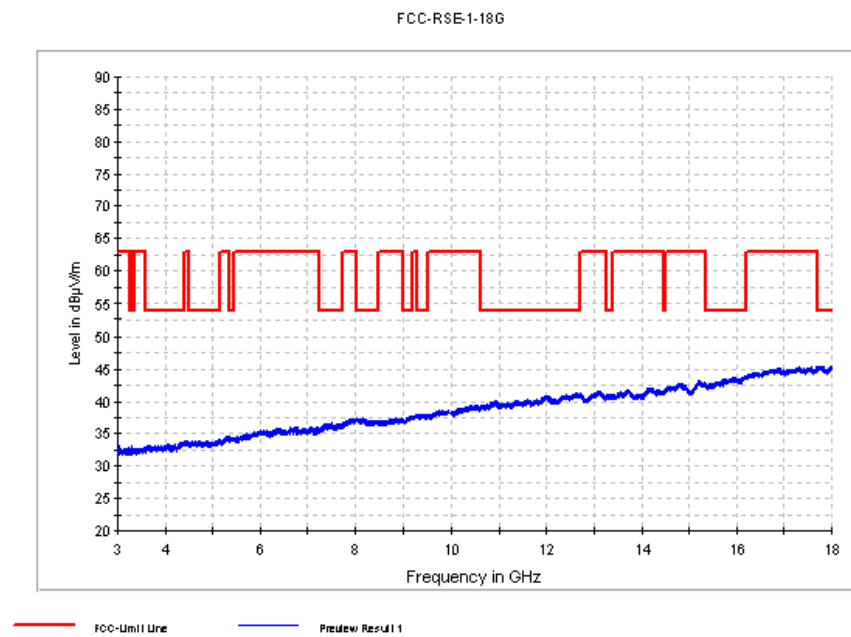


Fig. 37 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch78, 3 GHz ~18 GHz)

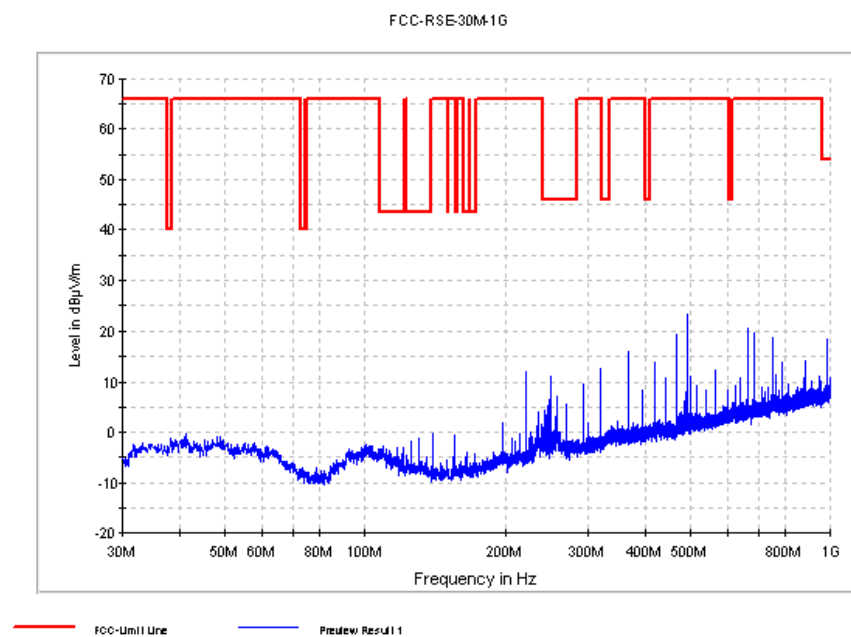


Fig. 38 Radiated Spurious Emission (8DPSK, Ch0, 30 MHz ~1 GHz)

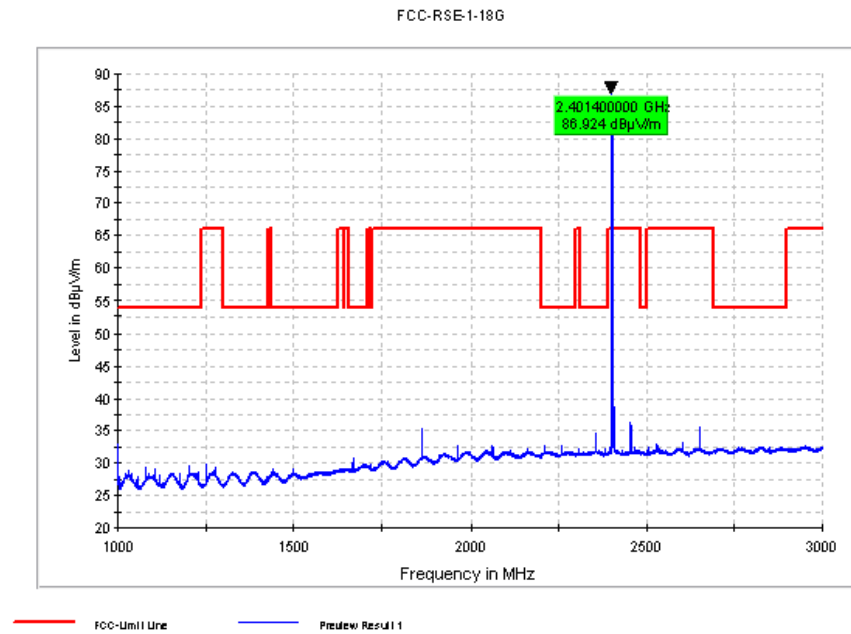


Fig. 39 Radiated Spurious Emission (8DPSK, Ch0, 1 GHz ~3 GHz)

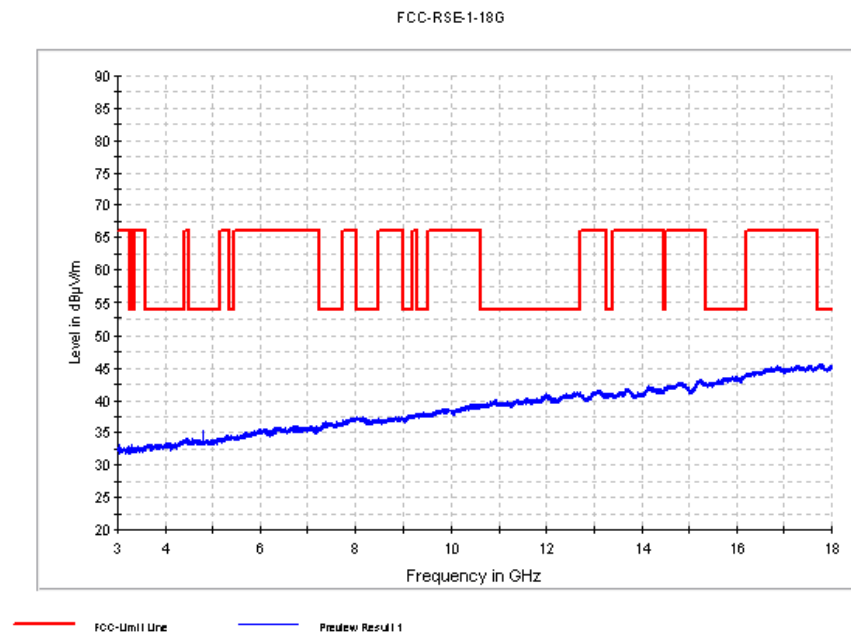


Fig. 40 Radiated Spurious Emission (8DPSK, Ch0, 3 GHz ~18 GHz)

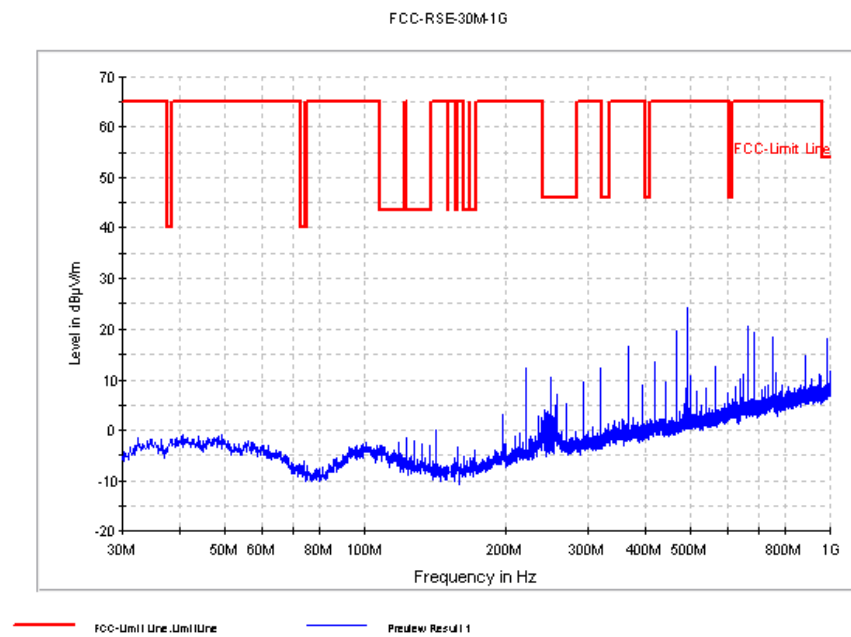


Fig. 41 Radiated Spurious Emission (8DPSK, Ch78, 30 MHz ~1 GHz)

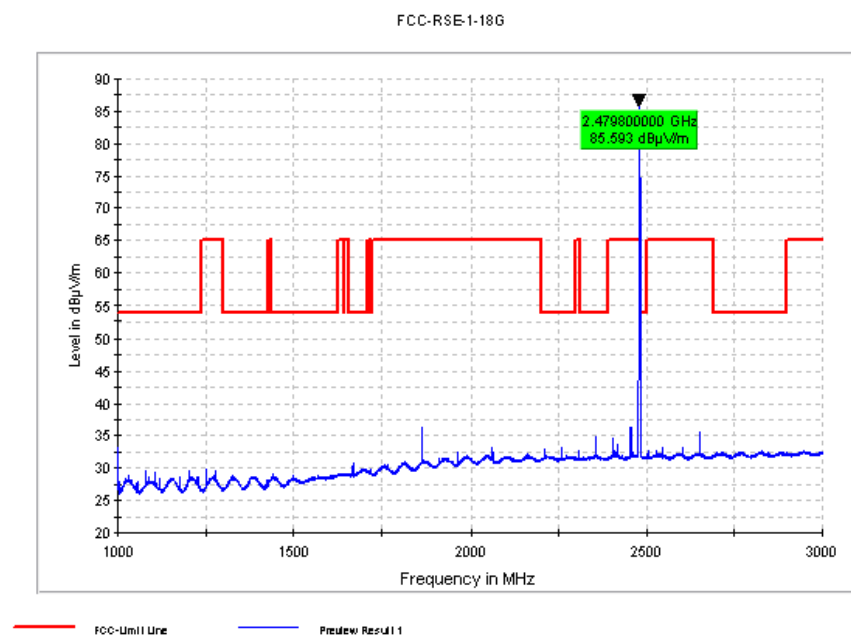


Fig. 42 Radiated Spurious Emission (8DPSK, Ch78, 1 GHz ~3 GHz)

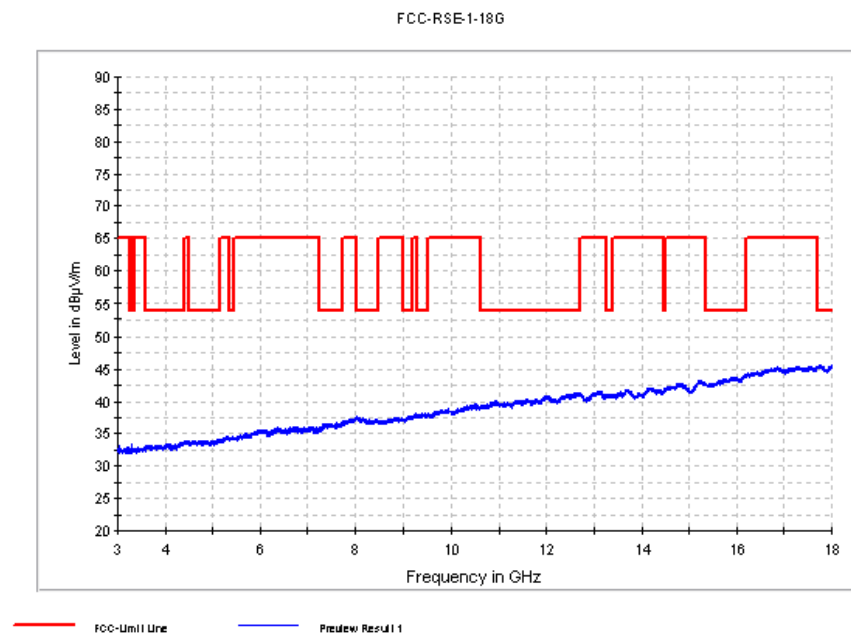


Fig. 43 Radiated Spurious Emission (8DPSK, Ch78, 3 GHz ~18 GHz)

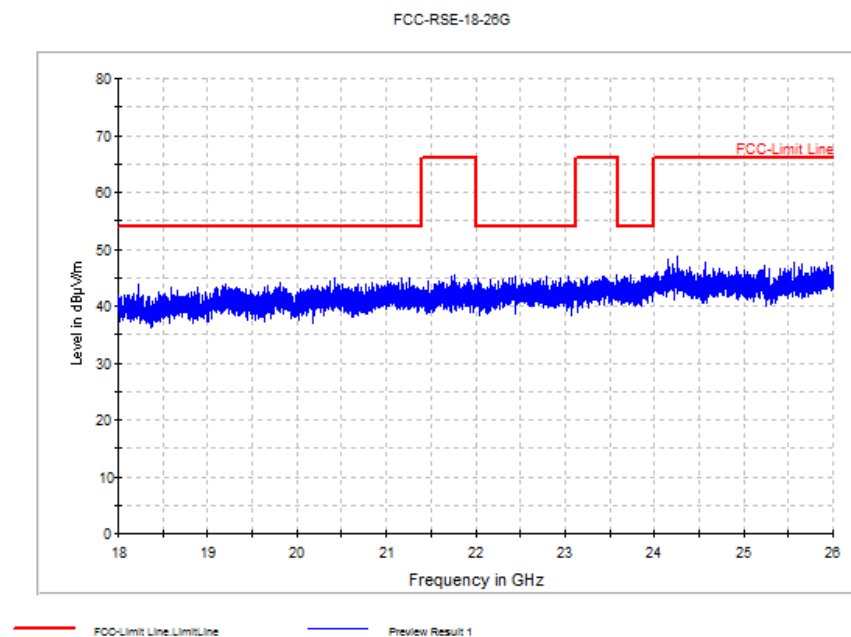


Fig. 44 Radiated Spurious Emission (All channel, 18 GHz ~26 GHz)

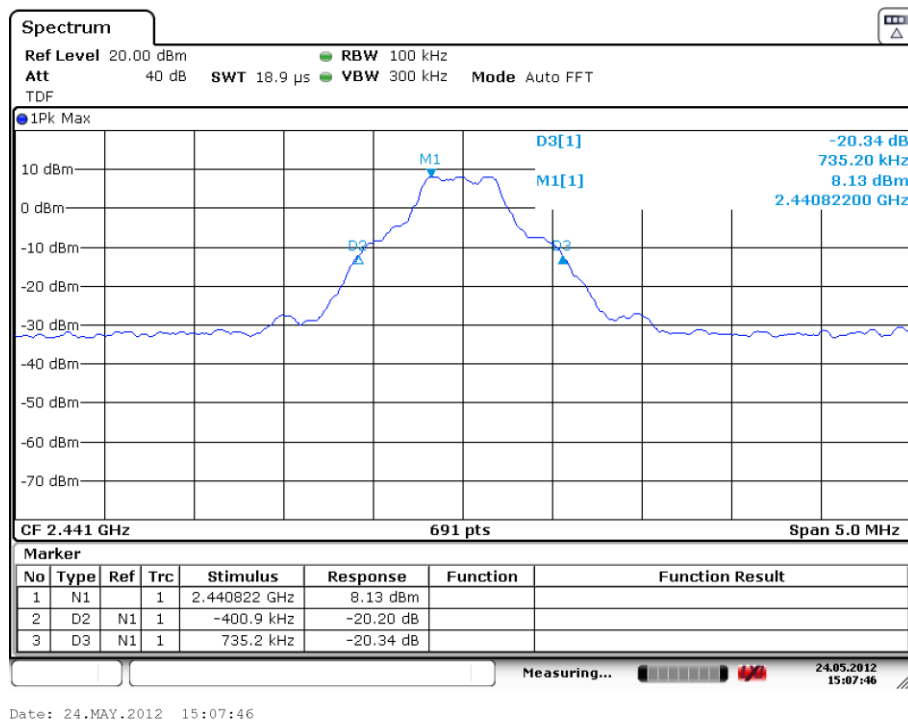


Fig. 45 Occupied 20dB Bandwidth (GFSK, Ch 39)

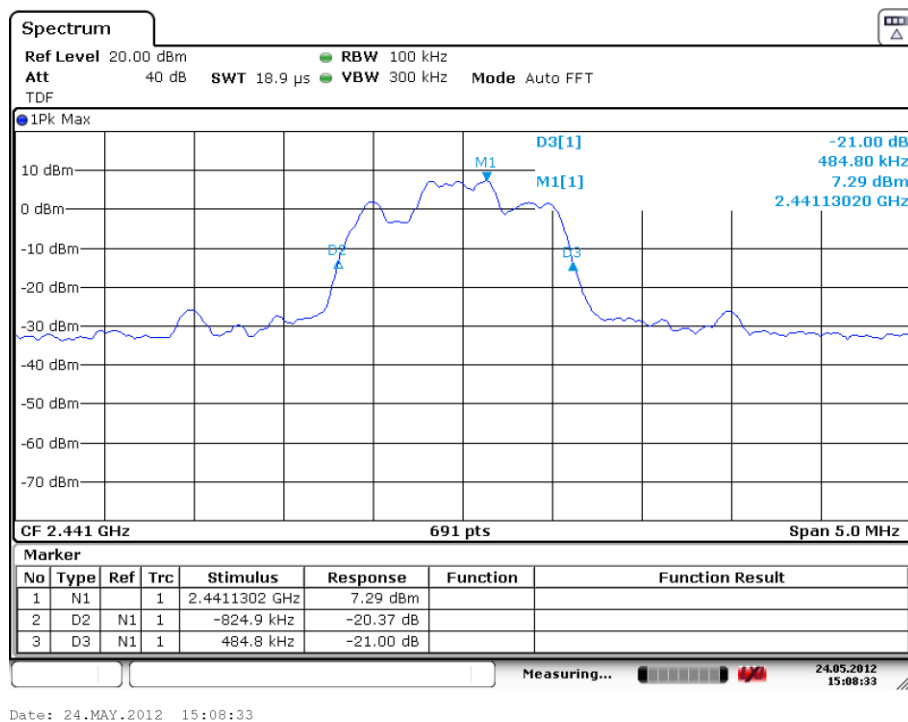


Fig. 46 Occupied 20dB Bandwidth ($\pi/4$ DQPSK, Ch 39)

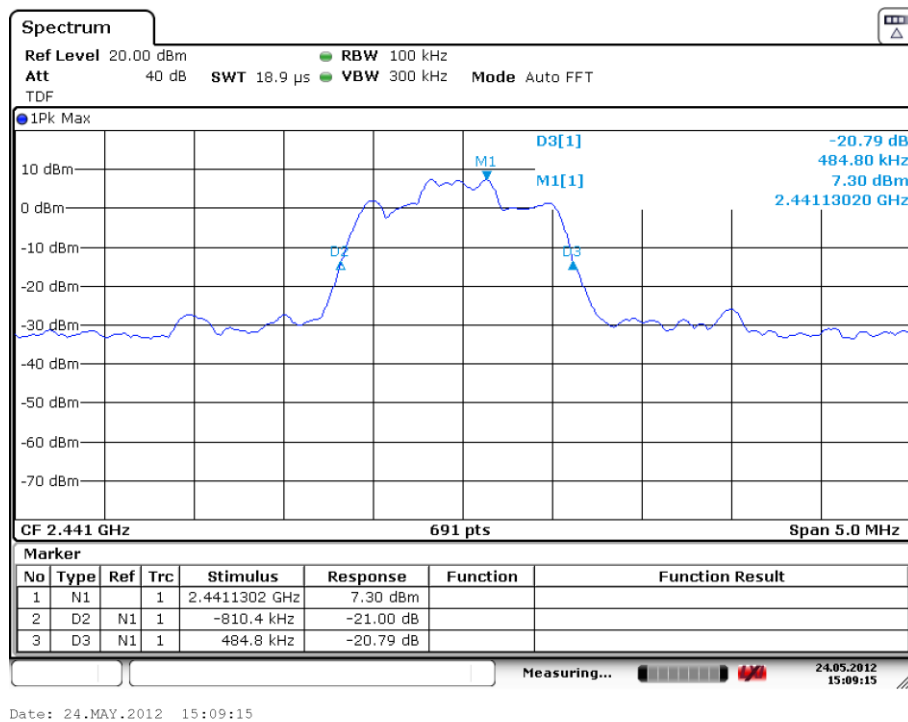


Fig. 47 Occupied 20dB Bandwidth (8DPSK, Ch 39)

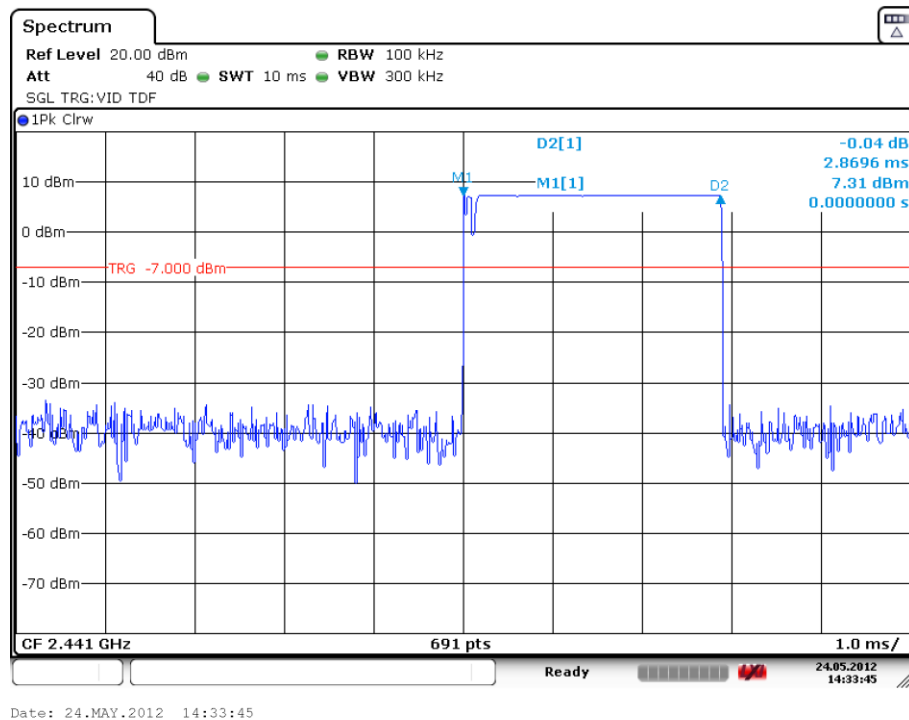


Fig. 48 Time of Occupancy(Dwell Time) (GFSK, Ch39)

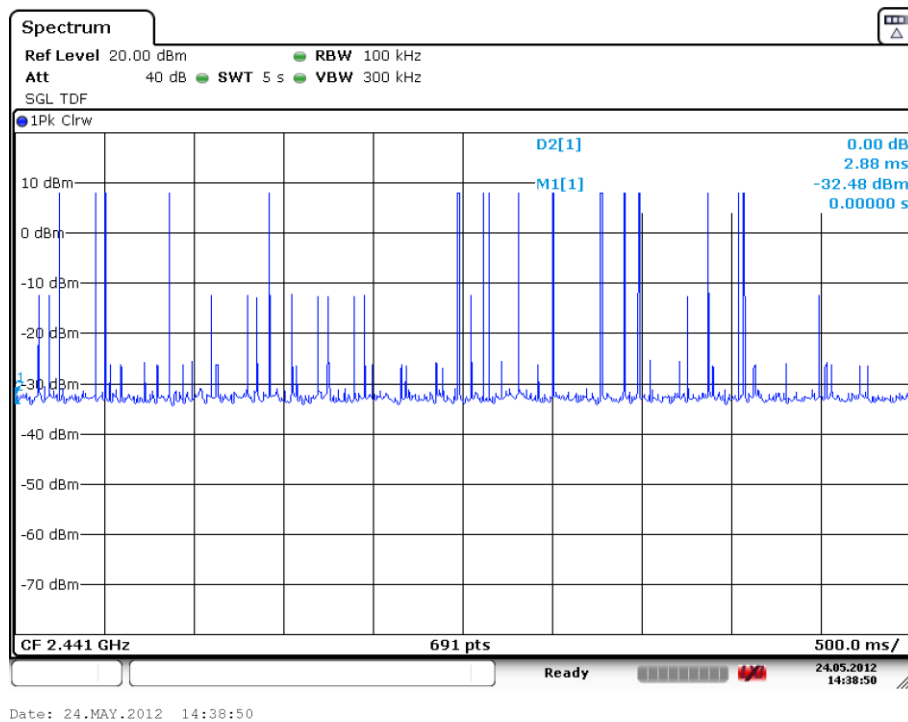


Fig. 49 Number of Transmissions (GFSK, Ch39)

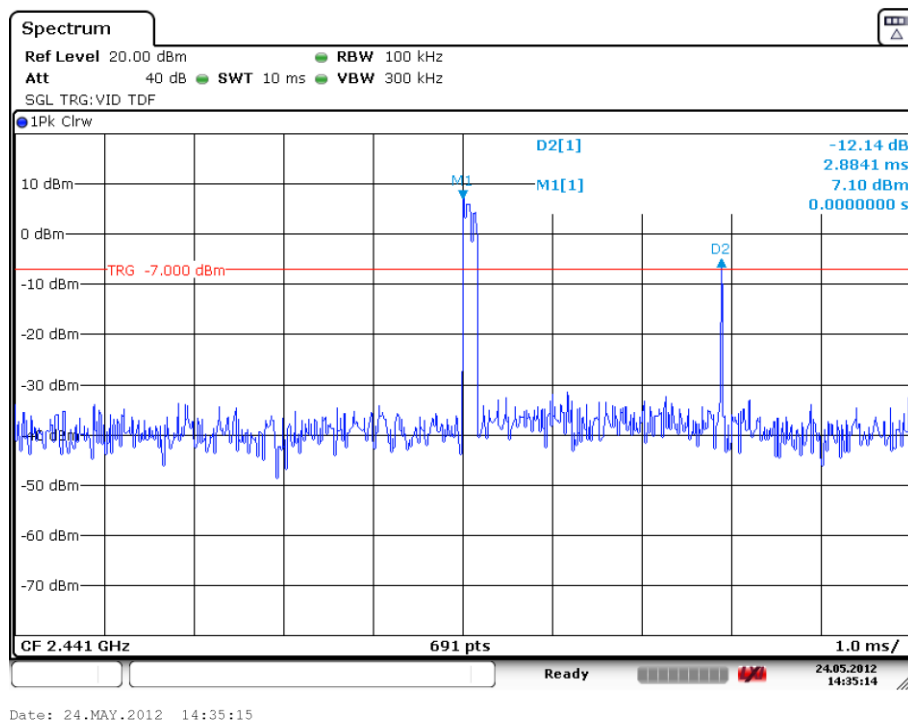


Fig. 50 Time of Occupancy(Dwell Time) ($\pi/4$ DQPSK, Ch39)

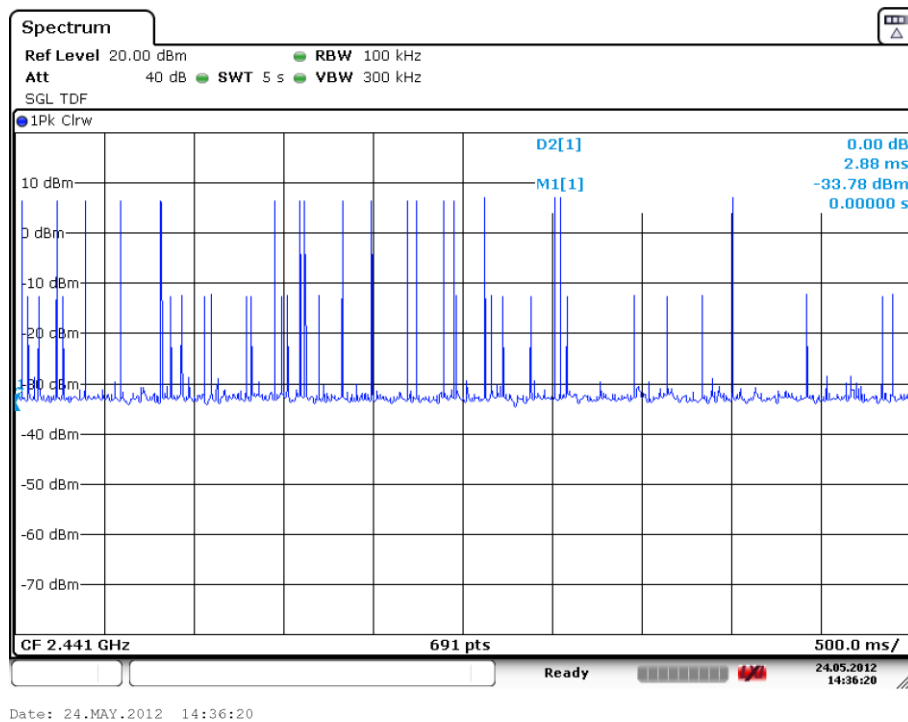


Fig. 51 Number of Transmissions ($\pi/4$ DQPSK, Ch39)

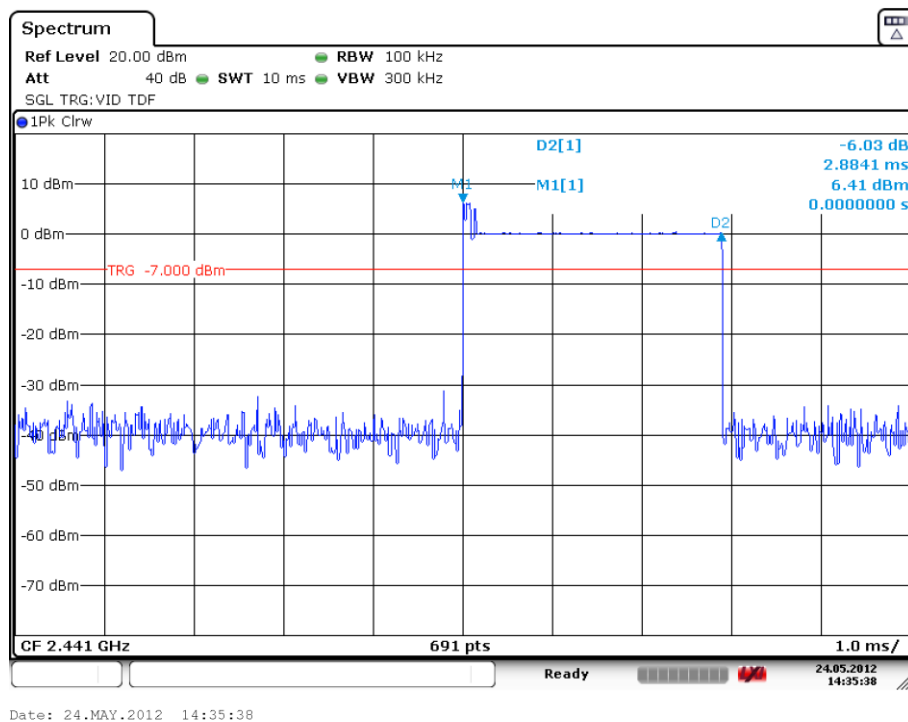


Fig. 52 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

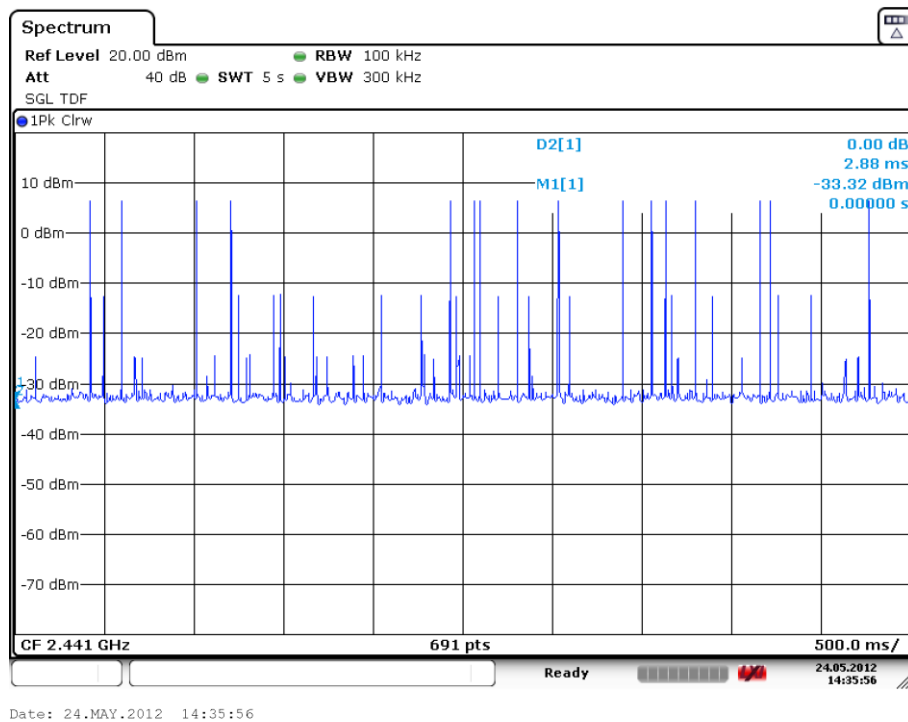


Fig. 53 Number of Transmissions (8DPSK, Ch39)

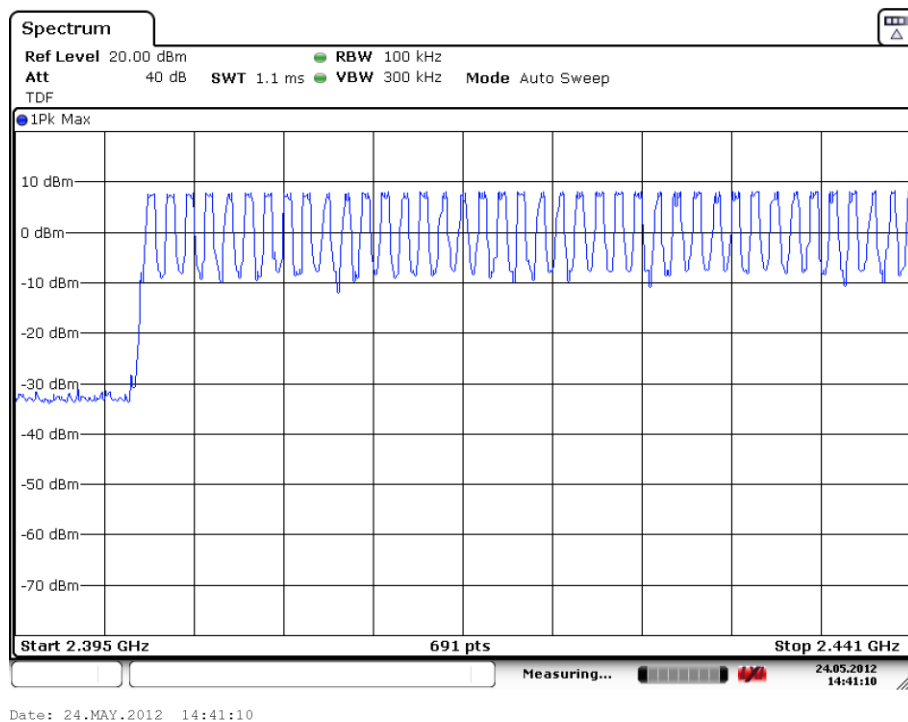


Fig. 54 Hopping channel ch0~39 (GFSK, Ch39)

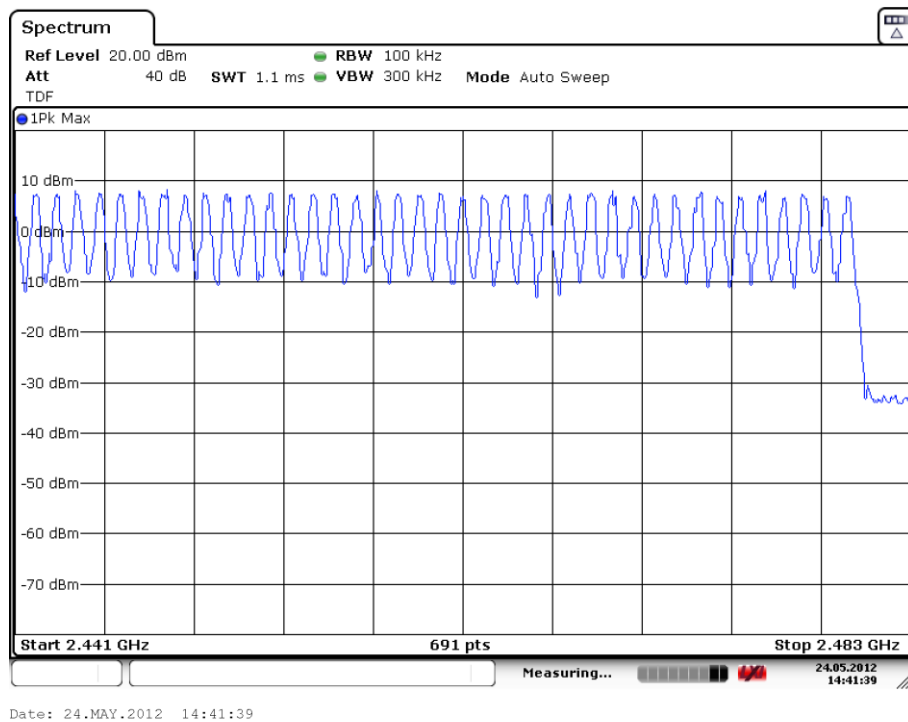


Fig. 55 Hopping channel ch39~78 (GFSK, Ch39)

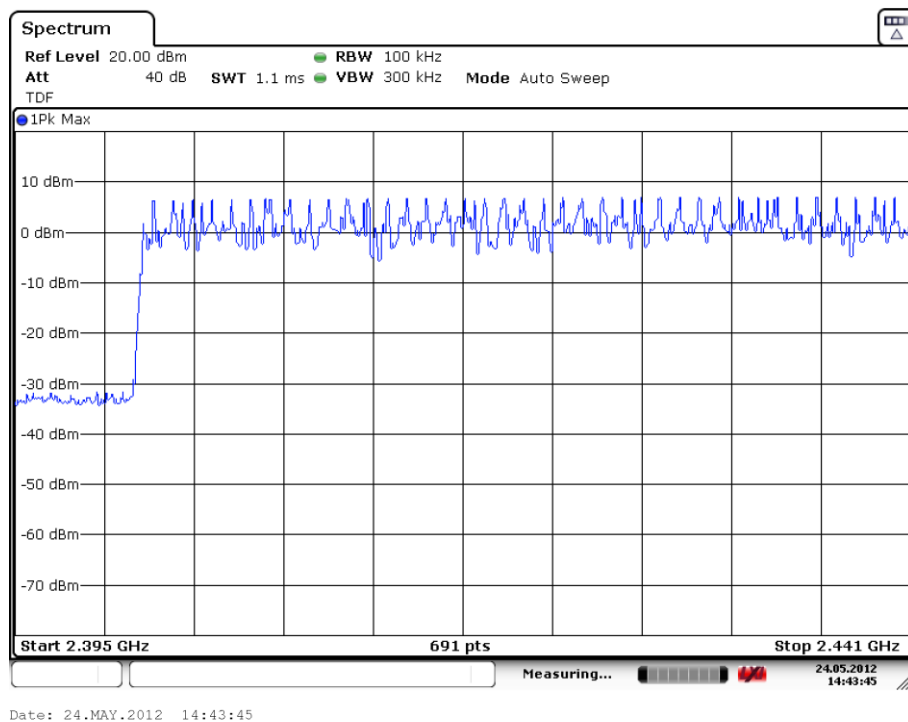


Fig. 56 Hopping channel ch0~39 ($\pi/4$ DQPSK, Ch39)

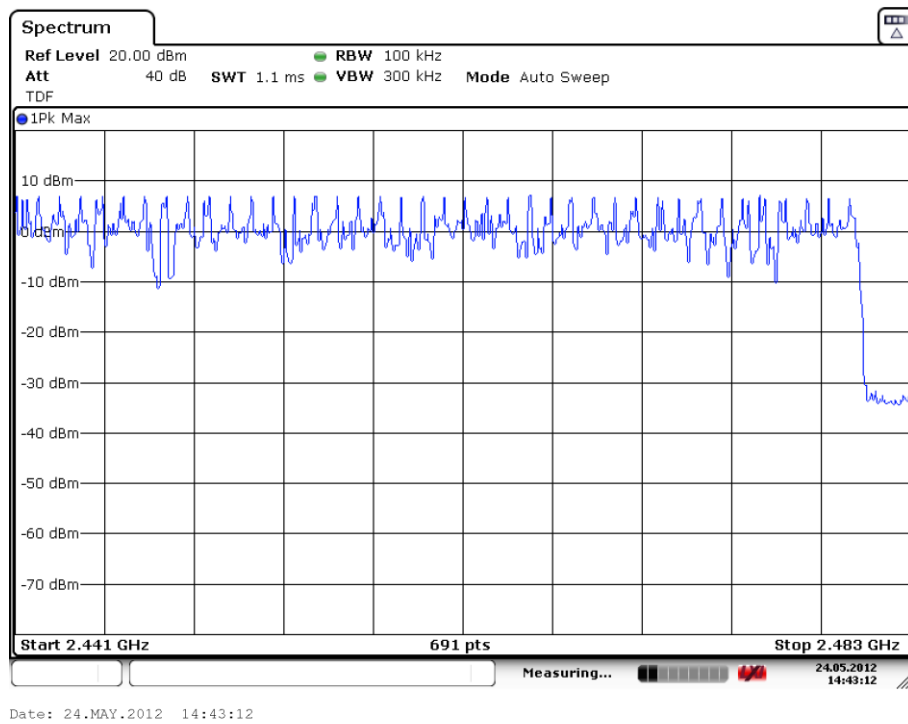


Fig. 57 Hopping channel ch39~78 ($\pi/4$ DQPSK, Ch39)

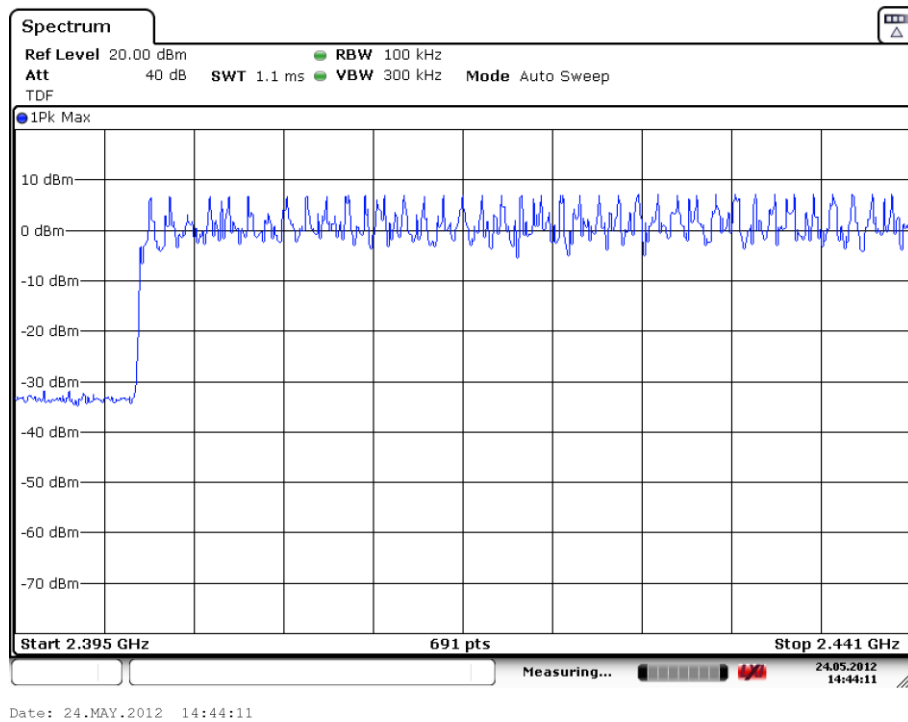


Fig. 58 Hopping channel ch0~39 (8DPSK, Ch39)

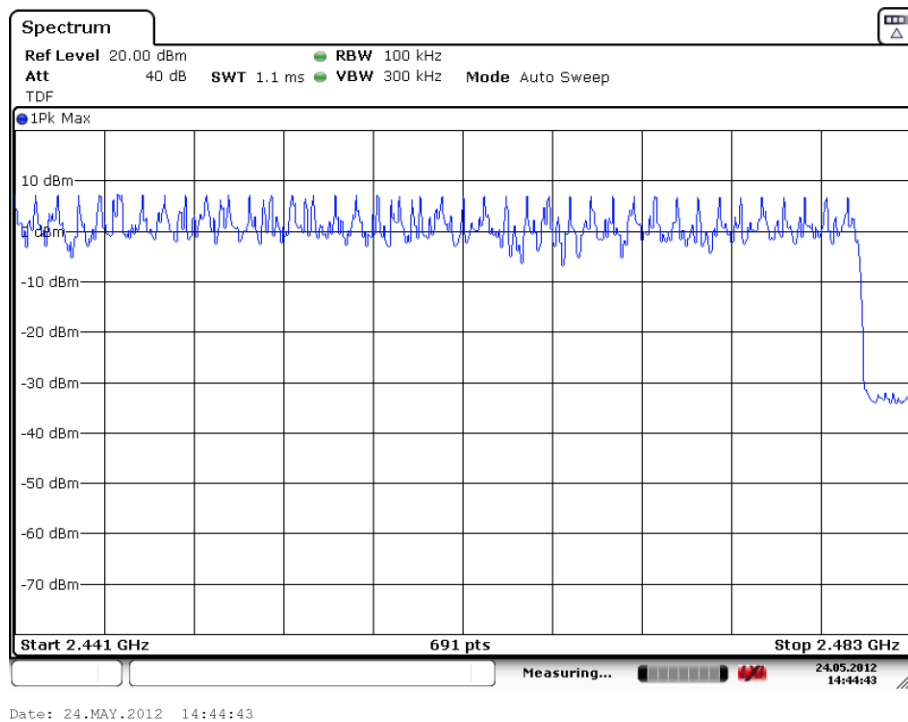


Fig. 59 Hopping channel ch39~78 (8DPSK, Ch39)

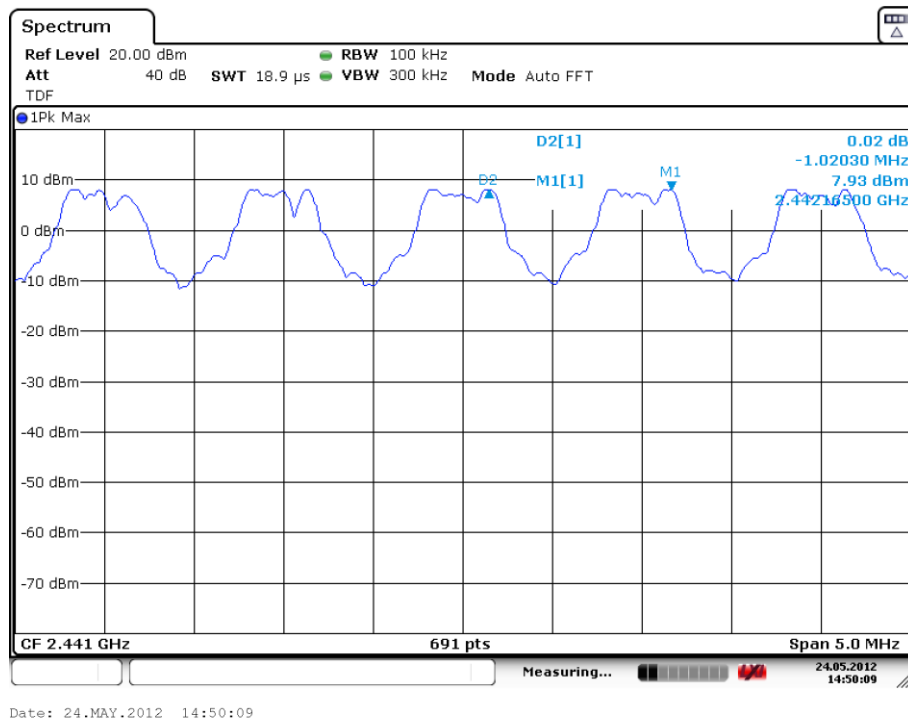


Fig. 60 Carrier Frequency Separation (GFSK, Ch39)

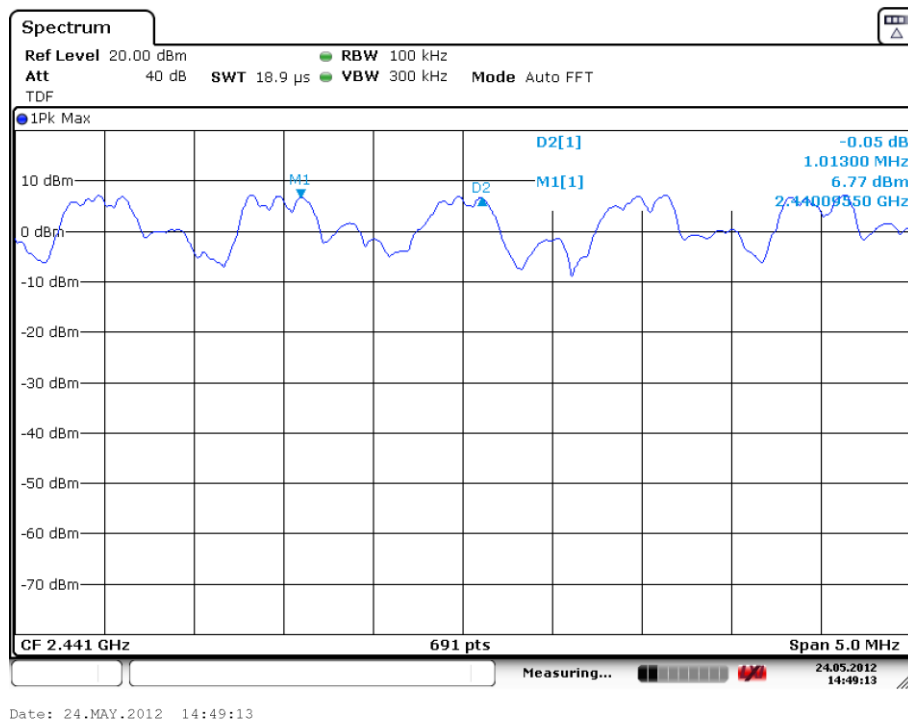


Fig. 61 Carrier Frequency Separation ($\pi/4$ DQPSK, Ch39)

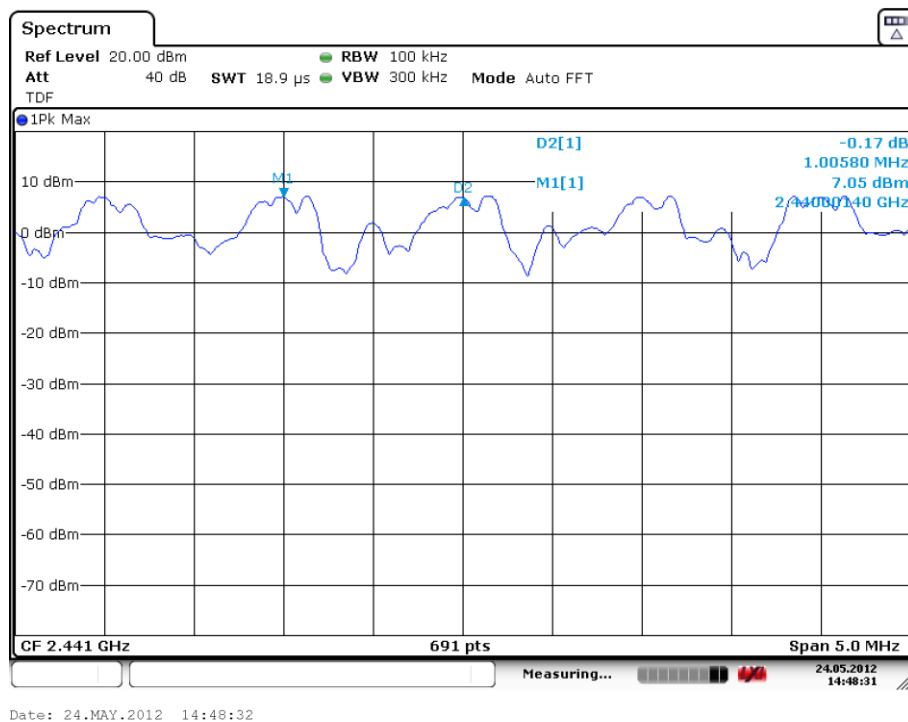


Fig. 62 Carrier Frequency Separation (8DPSK, Ch39)

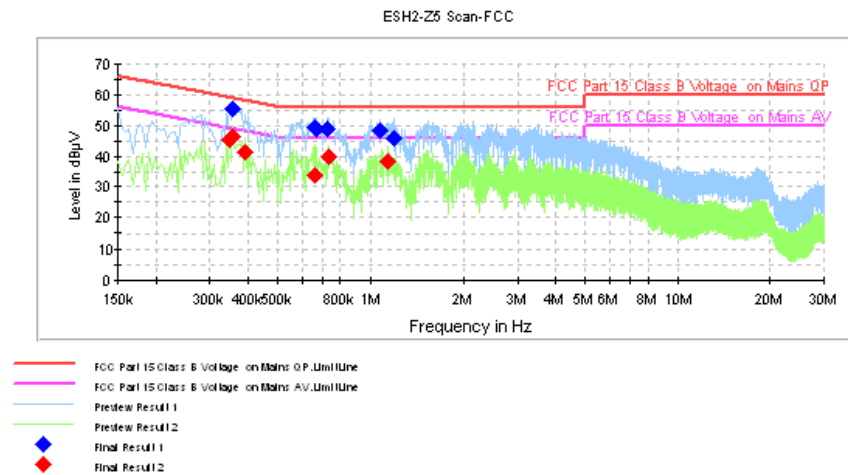


Fig. 63 AC Power line Conducted Emission (GFSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.357000	55.2	FLO	L1	10.0	3.6	58.8
0.663000	49.6	FLO	L1	10.0	6.4	56.0
0.672000	48.6	FLO	L1	10.0	7.4	56.0
0.726000	48.9	FLO	L1	10.0	7.1	56.0
1.077000	48.5	FLO	L1	10.1	7.5	56.0
1.194000	45.8	FLO	L1	10.1	10.2	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.348000	45.5	FLO	L1	10.0	3.5	49.0
0.357000	46.3	FLO	L1	10.0	2.5	48.8
0.388500	41.3	FLO	L1	10.0	6.8	48.1
0.663000	33.7	FLO	N	10.0	12.3	46.0
0.730500	39.9	FLO	L1	10.0	6.1	46.0
1.144500	38.5	FLO	L1	10.1	7.5	46.0

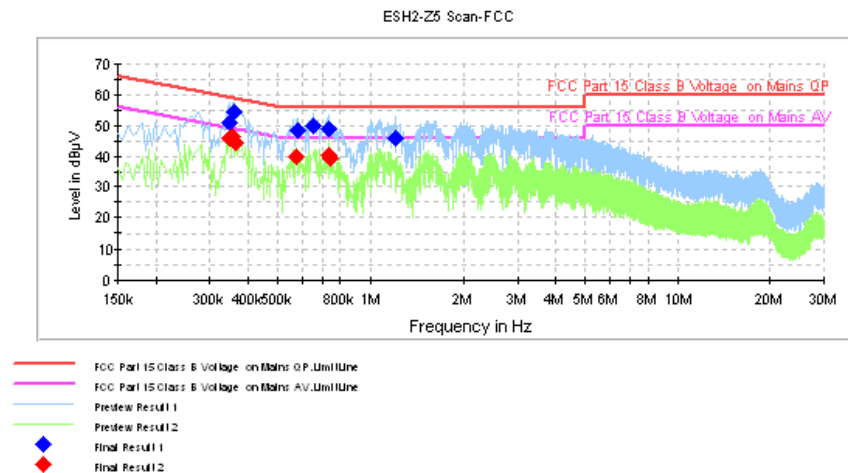


Fig. 64 AC Power line Conducted Emission ($\pi/4$ DQPSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.348000	51.1	FLO	N	10.1	7.9	59.0
0.361500	54.4	FLO	L1	10.0	4.3	58.7
0.582000	48.5	FLO	L1	10.1	7.5	56.0
0.649500	49.9	FLO	L1	10.0	6.1	56.0
0.730500	49.0	FLO	L1	10.0	7.0	56.0
1.207500	46.0	FLO	L1	10.1	10.0	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.348000	46.0	FLO	L1	10.0	3.0	49.0
0.357000	46.3	FLO	L1	10.0	2.5	48.8
0.366000	44.1	FLO	L1	10.0	4.5	48.6
0.573000	39.6	FLO	L1	10.1	6.4	46.0
0.730500	40.1	FLO	L1	10.0	5.9	46.0
0.739500	39.1	FLO	L1	10.0	6.9	46.0

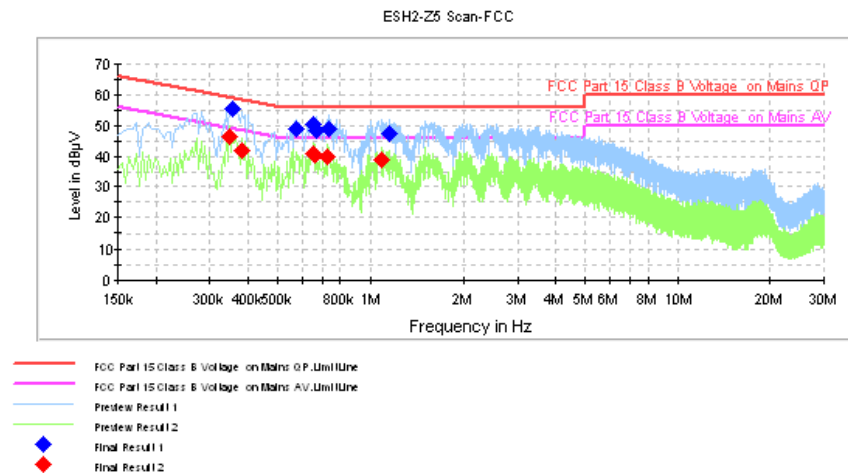


Fig. 65 AC Power line Conducted Emission (8DPSK, Ch39)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.357000	55.4	FLO	L1	10.0	3.4	58.8
0.573000	48.8	FLO	L1	10.1	7.2	56.0
0.654000	50.2	FLO	L1	10.0	5.8	56.0
0.672000	48.5	FLO	L1	10.0	7.5	56.0
0.735000	48.7	FLO	L1	10.0	7.3	56.0
1.162500	47.2	FLO	L1	10.1	8.8	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.348000	46.2	FLO	L1	10.0	2.8	49.0
0.379500	42.0	FLO	L1	10.0	6.3	48.3
0.654000	40.9	FLO	L1	10.0	5.1	46.0
0.663000	40.5	FLO	L1	10.0	5.5	46.0
0.721500	39.8	FLO	L1	10.0	6.2	46.0
1.086000	38.8	FLO	L1	10.1	7.2	46.0

*** END OF REPORT BODY ***