





FCC PART 15C TEST REPORT

No. 122Z70189-IOT01

for

Samsung Electronics Co., Ltd.

Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN

Model Name: SM-T509

FCC ID: ZCASMT509

with

Hardware Version: REV1.0

Software Version: T509.001

Issued Date: 2022-8-16

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 CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

No.52, HuayuanNorth Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512,Fax:+86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.chinattl.com





REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22Z70189-IOT01	Rev.0	1st edition	2022-8-16





CONTENTS

1. 11	EST LABORATORY	5
1.1.	INTRODUCTION &ACCREDITATION	5
1.2.	TESTING LOCATION	5
1.3.	TESTING ENVIRONMENT	6
1.4.	PROJECT DATA	6
1.5.	SIGNATURE	6
2. CI	LIENT INFORMATION	7
2.1.	APPLICANT INFORMATION	7
2.2.	MANUFACTURER INFORMATION	7
3. E(QUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	8
3.1.	Авоит ЕИТ	8
3.2.	INTERNAL IDENTIFICATION OF EUT	8
3.3.	INTERNAL IDENTIFICATION OF AE	8
3.4.	NORMAL ACCESSORY SETTING	9
3.5.	GENERAL DESCRIPTION	9
4. RI	EFERENCE DOCUMENTS	10
4.1.	DOCUMENTS SUPPLIED BY APPLICANT	10
4.2.	REFERENCE DOCUMENTS FOR TESTING	10
5. TI	EST RESULTS	11
5.1.	SUMMARY OF TEST RESULTS	11
5.2.	STATEMENTS	11
6. TI	EST FACILITIES UTILIZED	12
7. M	EASUREMENT UNCERTAINTY	13
7.1.	PEAK OUTPUT POWER - CONDUCTED	13
7.2.	Frequency Band Edges - Conducted	13
7.3.	Frequency Band Edges - Radiated	13
7.4.	TRANSMITTER SPURIOUS EMISSION - CONDUCTED	13
7.5.	Transmitter Spurious Emission - Radiated	13
7.6.	TIME OF OCCUPANCY (DWELL TIME)	13
7.7.	20dB Bandwidth	14
7.8.	CARRIER FREQUENCY SEPARATION	14
7.9.	AC POWERLINE CONDUCTED EMISSION	14
ANNE	X A: EUT PARAMETERS	15
ANNE	X B: DETAILED TEST RESULTS	16
B.1.	Measurement Method	16
	PEAK OUTPUT POWER	





	26
	30
	55
	62
	73
	79
	82
	86
٠,	90





1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Conducted testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,

P. R. China100191

Radiated testing Location: CTTL(BDA)

Address: No. 18A, Kangding Street, Beijing Economic-Technology

Development Area, Beijing, 100176, P.R. China





1.3. Testing Environment

Normal Temperature: $20-27^{\circ}$ C Relative Humidity: 20-50%

1.4. Project data

Testing Start Date: 2022-7-12 Testing End Date: 2022-8-16

1.5. Signature

Wu Le

(Prepared this test report)

Sun Zhenyu

(Reviewed this test report)

Hu Xiaoyu

(Approved this test report)



Address



2. Client Information

2.1. Applicant Information

Company Name: Samsung Electronics Co., Ltd.

Address 19 Chapin Rd., Building D Pine Brook, NJ 07058

Contact: Jenni Chun

Email: j1.chun@samsung.com

Tel: +1-201-937-4203

2.2. Manufacturer Information

Company Name: Samsung Electronics Co., Ltd.

Samsung R5, Maetan dong 129, Samsung ro

Youngtong gu, Suwon city 443 742, Korea

Contact: Kobe Cho

Email: ggobi.cho@samsung.com Tel: +82 - 10 - 2722 - 4159





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

3.1. About EUT

Description Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN

Model Name SM-T509 FCC ID ZCASMT509

Frequency Band ISM 2400MHz~2483.5MHz Type of Modulation GFSK/π/4 DQPSK/8DPSK

Number of Channels 79

Power Supply 3.8V DC by Battery

Antenna gain -1.53dBi

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT11a	I22Z70189UT11a	REV1.0	T509.001	2022-7-13
UT15a	I22Z70189UT15a	REV1.0	T509.001	2022-7-12

^{*}EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	Remark
AE1	Adapter1	/
AE2	Adapter 2	/
AE3	Adapter 3	/
AE4	Adapter 4	/
AE5	Adapter 5	/
AE6	USB cable1	/
AE7	USB cable2	/
AE8	USB cable3	/
AE9	Headset1	/
AE10	Headset2	/
AE11 Battery		/
AE1		
Model		EP-TA50JWE
Manufacturer	•	HAEM Co.,Ltd
Length of cab	ole	/
AE2		
Model		EP-TA50EWE
Manufacturer	HAEM Co.,Ltd	
Length of cab	ole	/





AE3

Model EP-TA50JWE Manufacturer RFTECH Co., Ltd

Length of cable /

AE4

Model EP-TA50EWE Manufacturer RFTECH Co., Ltd

Length of cable /

AE5

Model EP-TA50UWE Manufacturer HAEM Co.,Ltd

Length of cable /

AE6

Model EP-DT725BWE Manufacturer RFTECH Co., Ltd.

Length of cable /

AE7

Model EP-DT725BWE

Manufacturer DONGGUAN KSD CO.,LTD

Length of cable /

AE8

Model EP-DR140AWE

Manufacturer CRESYN HANOI Co., Ltd

Length of cable /

AE9

Model EHS64AVFWE

Manufacturer DONGGUAN YOUNGBO ELECTRONICS CO.,LTD

Length of cable

AE10

Model EHS61ASFWE

Manufacturer DONGGUAN YOUNGBO ELECTRONICS CO.,LTD

Length of cable /

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 Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN with integrated antenna. It consists of normal options: lithium battery, charger. Manual and specifications of the EUT were provided to fulfill the test. Samples undergoing test were selected by the Client.

^{*}AE ID: is used to identify the test sample in the lab internally.





4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters, referring to Annex A for detailed information, is supplied by the client 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 CFR 47, Part 15, Subpart C:	
	15.205 Restricted bands of operation;	
FCC Part15	15.209 Radiated emission limits, general requirements;	2019
	15.247 Operation within the bands 902–928MHz,	
	2400-2483.5 MHz, and 5725-5850 MHz.	
ANCI 062 10	American National Standard of Procedures for	luna 2012
ANSI C63.10	Compliance Testing of Unlicensed Wireless Devices	June,2013





5. Test Results

5.1. 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 CTTL

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

Please refer to ANNEX A for detail.

The measurement is made according to ANSI C63.10.

5.2. Statements

CTTL has evaluated the test cases requested by the applicant /manufacturer as listed in section 5.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.2





6. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ26	100024	R&S	1 year	2023-03-23
2	Bluetooth Tester	CBT	100315	R&S	1 year	2023-01-22
3	LISN	ENV216	101459	R&S	1 year	2023-03-26
4	Test Receiver	ESCI	100766	R&S	1 year	2023-03-02
5	Universal Radio Communication Tester	CMW500	159408	R&S	1 year	2023-04-01
6	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	R&S	1 year	2022-09-15
2	Test Receiver	ESW44	103015	R&S	1 year	2022-09-02
3	EMI Antenna	VULB9163	01176	Schwarzbeck	1 year	2022-11-15
4	EMI Antenna	3117	00139065	ETS-Lindgren	1 year	2022-09-13
5	EMI Antenna	LB-180400 -25-C-KF	J211060826	A-INFO	1 year	2023-02-27
6	EMI Antenna	3115	00167252	ETS-Lindgren	1 year	2022-12-26
7	Loop Antenna	HFH2-Z2	829324/007	R&S	1 year	2022-12-22
8	Universal Radio Communication Tester	CMW500	159408	R&S	1 year	2023-04-01





7. Measurement Uncertainty

7.1. Peak Output Power - Conducted

Measurement Uncertainty:

7.2. Frequency Band Edges - Conducted

Measurement Uncertainty:

Measurement Uncertainty (k=2)	0.66dB
-------------------------------	--------

7.3. Frequency Band Edges - Radiated

Measurement Uncertainty:

Measurement Uncertainty (k=2)	/
-------------------------------	---

7.4. Transmitter Spurious Emission - Conducted

Measurement Uncertainty:

Frequency Range	Uncertainty (k=2)
30 MHz ~ 8 GHz	1.22dB
8 GHz ~ 12.75 GHz	1.51dB
12.7GHz ~ 26 GHz	1.51dB

7.5. Transmitter Spurious Emission - Radiated

Measurement Uncertainty:

Frequency Range	Uncertainty(dBm) (k=2)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.73
1GHz ≤ f ≤18GHz	5.58
18GHz ≤ f ≤40GHz	3.37

7.6. Time of Occupancy (Dwell Time)

Measurement Uncertainty:

Measurement Uncertainty (k=2) 0.88ms





7.7. 20dB Bandwidth

Measurement Uncertainty:

7.8. Carrier Frequency Separation

Measurement Uncertainty:

Measurement Uncertainty (k=2)	61.936Hz
-------------------------------	----------

7.9. AC Powerline Conducted Emission

Measurement Uncertainty:

Measurement Uncertainty (k=2)	3.10dB
-------------------------------	--------





ANNEX A: EUT parameters

Disclaimer: The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.





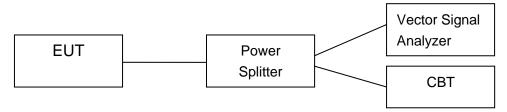
ANNEX B: Detailed Test Results

B.1. Measurement Method

B.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



B.1.2. Radiated Emission Measurements

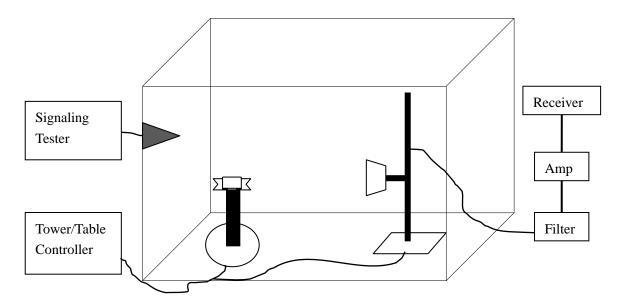
The measurement is made according to ANSI C63.10

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. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

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 = 3MHz;







B.2. Peak Output Power

B.2.1. Peak Output Power - Conducted

Method of Measurement: See ANSI C63.10-clause 7.8.5

a) Use the following spectrum analyzer settings:

Span: 6MHzRBW: 3MHzVBW: 3MHz

Sweep time: 2.5msDetector function: peak

• Trace: max hold

b) Allow trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission.

d) The indicated level is the peak output power.

Measurement Limit:

Standard	Limits		
FCC Part 15.247 (b)(1)	Bandwidth≤1MHz	30dBm (1W)	
	Bandwidth>1MHz	21dBm (125mW)	

Measurement Results:

For GFSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	9.09	8.46	9.02	Р

For $\pi/4$ DQPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	10.59	10.59	10.82	Р

For 8DPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	10.76	10.83	10.96	Р

Conclusion: PASS





B.2.2. E.I.R.P.

The radiated E.I.R.P. is listed below:

Antenna gain = -1.53dBi

For GFSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
E.I.R.P (dBm)	7.56	6.93	7.49	Р

Forπ/4 DQPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
E.I.R.P (dBm)	9.06	9.06	9.29	Р

For 8DPSK

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz	Conclusion
E.I.R.P (dBm)	9.23	9.30	9.43	Р

Note: E.I.R.P. are calculated with the antenna gain.

Conclusion: PASS





B.3. Frequency Band Edges – Conducted

Method of Measurement: See ANSI C63.10-clause 7.8.6

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below (be sure to enter all losses between the unlicensed wireless device output and the spectrum analyzer).

- Span: 10 MHz

Resolution Bandwidth: 100 kHzVideo Bandwidth: 300 kHz

Sweep Time:AutoDetector: PeakTrace: max hold

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel.

Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission. This is not an absolute field strength measurement; it is only a relative measurement to determine the amount by which the emission drops at the band edge relative to the highest fundamental emission level.

Measurement Limit:

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

Measurement Result:

For GFSK

Channel	Hopping	Band Edge Power (dBc)		Conclusion
0	Hopping OFF	Fig.1	-63.07	Р
U	Hopping ON	Fig.2	-63.04	Р
70	Hopping OFF	Fig.3	-62.06	Р
78	Hopping ON	Fig.4	-65.08	Р

For $\pi/4$ DQPSK

Channel	Hopping	Band Edge Power (dBc) Conclu		Conclusion
0	Hopping OFF	Fig.5	-55.30	Р
0	Hopping ON	Fig.6	-59.89	Р
78	Hopping OFF	Fig.7	-57.23	Р
70	Hopping ON	Fig.8	-60.73	Р

For 8DPSK

Channel	Hopping	Band Edge	Power (dBc)	Conclusion
0	Hopping OFF	Fig.9	-55.06	Р
0	Hopping ON	Fig.10	-57.96	Р





70	Hopping OFF	Fig.11	-55.72	Р
70	Hopping ON	Fig.12	-59.57	Р

Conclusion: PASS
Test graphs as below

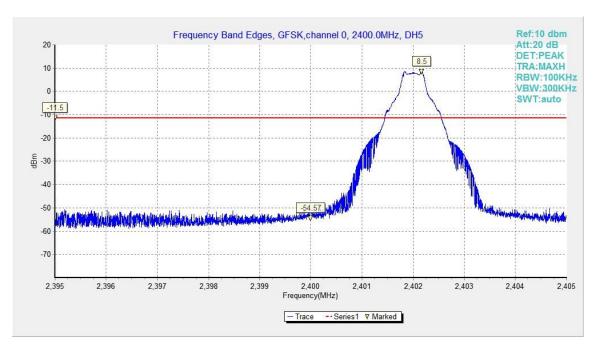


Fig.1. Frequency Band Edges: GFSK, Channel 0, Hopping Off

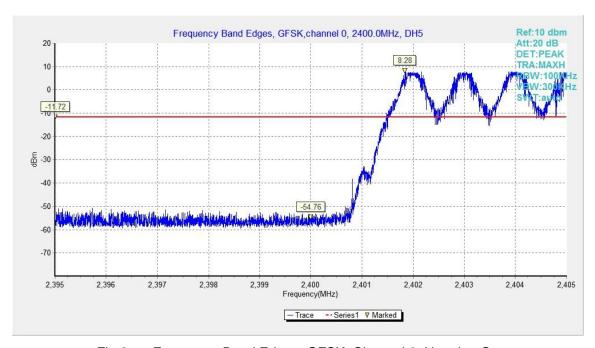


Fig.2. Frequency Band Edges: GFSK, Channel 0, Hopping On





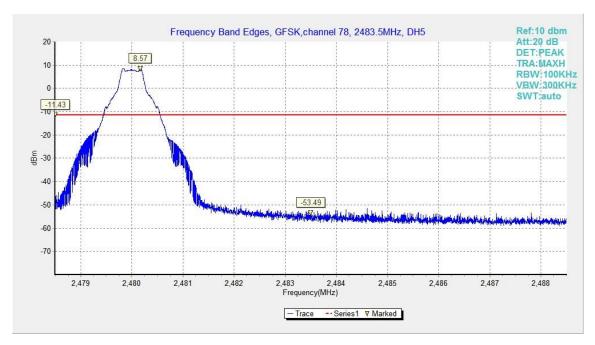


Fig.3. Frequency Band Edges: GFSK, Channel 78, Hopping Off

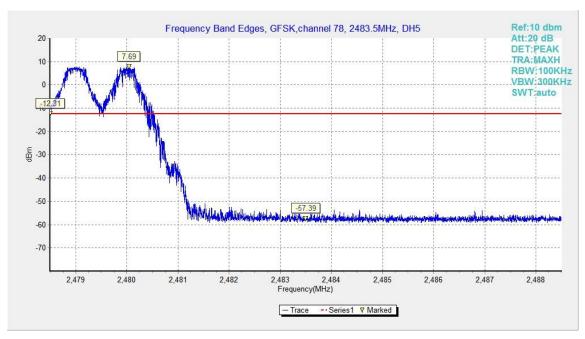


Fig.4. Frequency Band Edges: GFSK, Channel 78, Hopping On





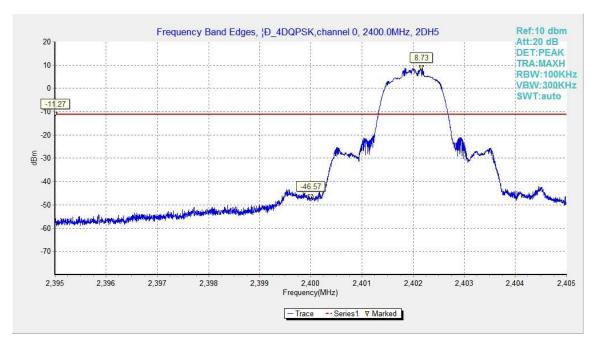


Fig.5. Frequency Band Edges: $\pi/4$ DQPSK, Channel 0, Hopping Off

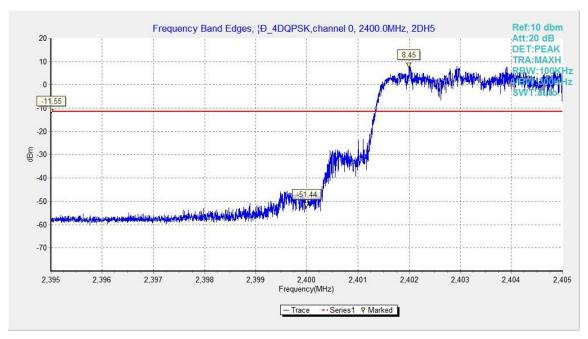


Fig.6. Frequency Band Edges: π/4 DQPSK, Channel 0, Hopping On





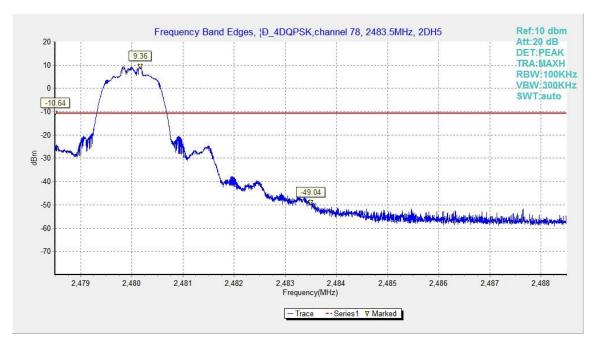


Fig.7. Frequency Band Edges: $\pi/4$ DQPSK, Channel 78, Hopping Off

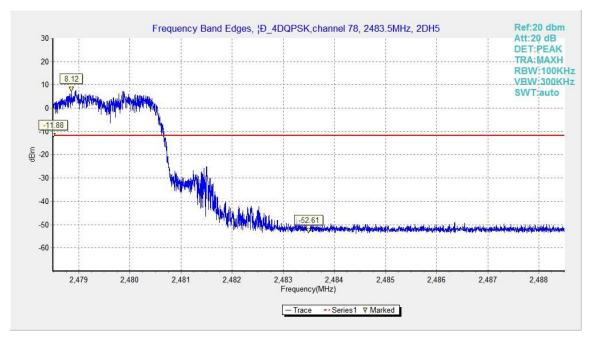


Fig.8. Frequency Band Edges: π/4 DQPSK, Channel 78, Hopping On





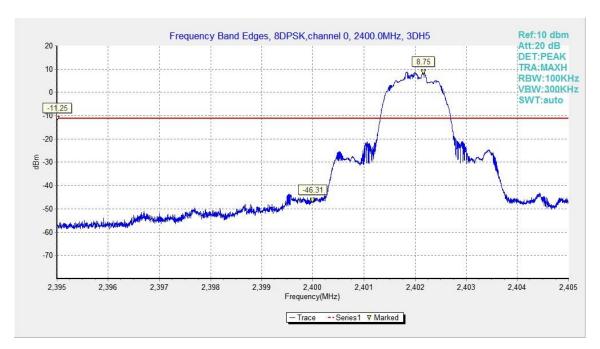


Fig.9. Frequency Band Edges: 8DPSK, Channel 0, Hopping Off

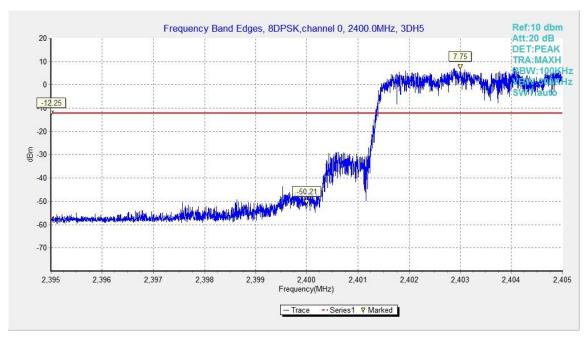


Fig.10. Frequency Band Edges: 8DPSK, Channel 0, Hopping On





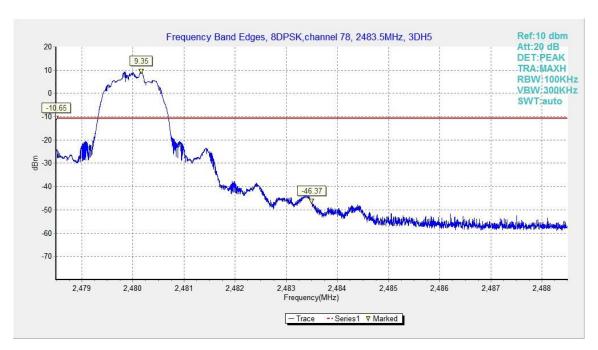


Fig.11. Frequency Band Edges: 8DPSK, Channel 78, Hopping Off

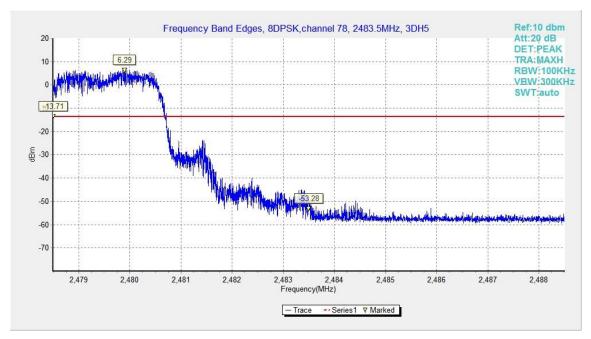


Fig.12. Frequency Band Edges: 8DPSK, Channel 78, Hopping On





B.4. Frequency Band Edges – Radiated

Method of Measurement: See ANSI C63.10-2013-clause 6.4 &6.5 & 6.6 Measurement Limit:

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

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	Field strength	Field strength	Measurement distance
(MHz)	(uV/m)	(dBuV/m)	(m)
Above 960	500	54	3

Set up:

Tabletop devices shall be placed on a nonconducting platform with nominal top surface dimensions 1 m by 1.5 m and the table height shall be 1.5 m.

The EUT and transmitting antenna shall be centered on the turntable.

Measurement Results:

EUT ID: UT11a

Mode	Channel	Frequency Range	Test Results	Conclusion
GFSK	0	2.31GHz ~2.45GHz	Fig.13	Р
GFSK	78	2.45GHz ~2.5GHz	Fig.14	Р

Mode	Channel	Frequency Range	Test Results	Conclusion
-/4 DODSK	0	2.31GHz ~2.43GHz	Fig.15	Р
π/4 DQPSK	78	2.45GHz ~2.5GHz	Fig.16	Р

Mode	Channel	Frequency Range	Test Results	Conclusion
ODDCK	0	2.31GHz ~2.45GHz	Fig.17	Р
8DPSK	78	2.45GHz ~2.5GHz	Fig.18	Р

Conclusion: PASS





Test graphs as below

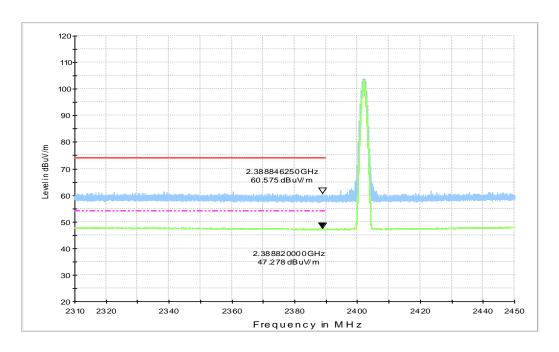


Fig.13. Frequency Band Edges: GFSK, Channel 0, 2.31 GHz - 2.45GHz

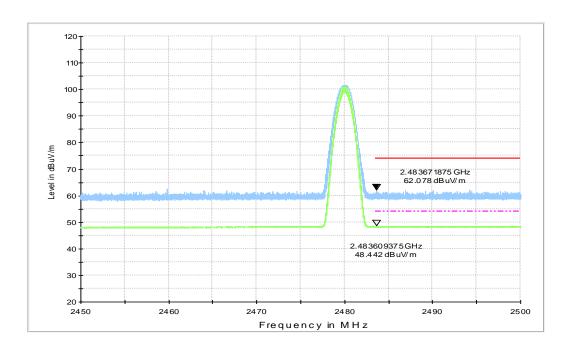


Fig.14. Frequency Band Edges: GFSK, Channel 78, 2.45 GHz - 2.50GHz





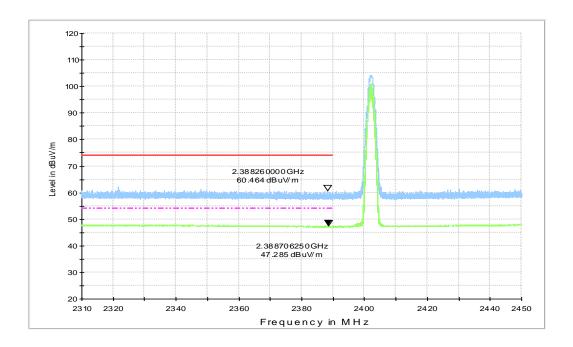


Fig.15. Frequency Band Edges: $\pi/4$ DQPSK, Channel 0, 2.31 GHz - 2.45GHz

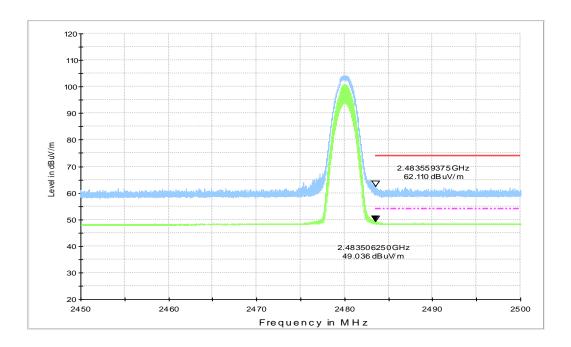


Fig.16. Frequency Band Edges: $\pi/4$ DQPSK, Channel 78, 2.45 GHz - 2.50GHz





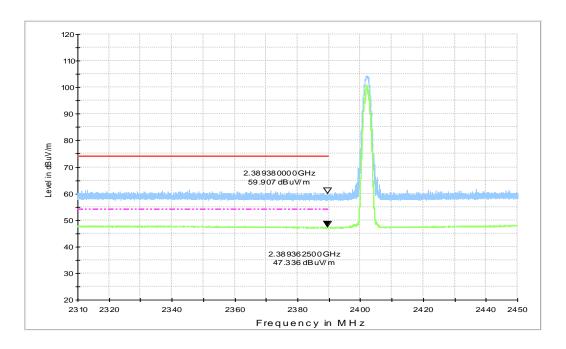


Fig.17. Frequency Band Edges: 8DPSK, Channel 0, 2.38 GHz - 2.45GHz

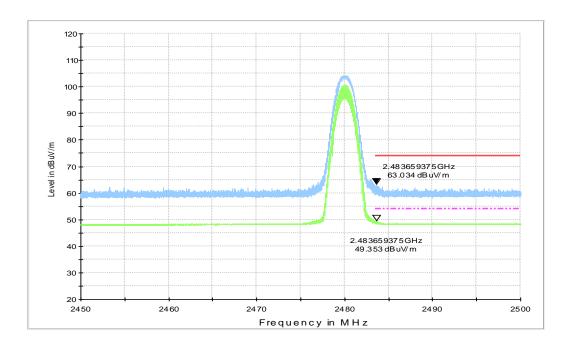


Fig.18. Frequency Band Edges: 8DPSK, Channel 78, 2.45 GHz - 2.50GHz





B.5. Transmitter Spurious Emission - Conducted

Method of Measurement: See ANSI C63.10-clause 7.8.8

Measurement Procedure - Reference Level

- 1. Set the RBW = 100 kHz.
- 2. Set the VBW = 300 kHz.
- 3. Set the span to 5-30 % greater than the EBW.
- 4. Detector = peak.
- 5. Sweep time = auto couple.
- 6. Trace mode = max hold.
- 7. Allow trace to fully stabilize.
- 8. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW. Next, determine the power in 100 kHz band segments outside of the authorized frequency band using the following measurement:

Measurement Procedure - Unwanted Emissions

- 1. Set RBW = 100 kHz.
- 2. Set VBW = 300 kHz.
- 3. Set span to encompass the spectrum to be examined.
- 4. Detector = peak.
- 5. Trace Mode = max hold.
- 6. Sweep = auto couple.
- 7. Allow the trace to stabilize (this may take some time, depending on the extent of the span).

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified above.

Measurement Limit:

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

Measurement Results:

For GFSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0	Center Frequency	Fig.19	Р





2402 MHz	30 MHz ~ 1 GHz	Fig.20	Р
	1 GHz ~ 3 GHz	Fig.21	Р
	3 GHz ~ 10 GHz	Fig.22	Р
	10 GHz ~ 26 GHz	Fig.23	Р
Ch 39 2441 MHz	Center Frequency	Fig.24	Р
	30 MHz ~ 1 GHz	Fig.25	Р
	1 GHz ~ 3 GHz	Fig.26	Р
	3 GHz ~ 10 GHz	Fig.27	Р
	10 GHz ~ 26 GHz	Fig.28	Р
	Center Frequency	Fig.29	Р
Ch 78 2480 MHz	30 MHz ~ 1 GHz	Fig.30	Р
	1 GHz ~ 3 GHz	Fig.31	Р
	3 GHz ~ 10 GHz	Fig.32	Р
	10 GHz ~ 26 GHz	Fig.33	Р

For $\pi/4$ DQPSK

Channel	Frequency Range	Test Results	Conclusion
Chambe	-		
Ch 0	Center Frequency	Fig.34	Р
	30 MHz ~ 1 GHz	Fig.35	Р
2402 MHz	1 GHz ~ 3 GHz	Test Results Fig.34 Fig.35 Fig.36 Fig.37 Fig.38 Fig.39 Fig.40 Fig.41 Fig.42 Fig.43 Fig.44 Fig.45 Fig.45 Fig.46 Fig.47	Р
2 102 1111 12	3 GHz ~ 10 GHz		Р
	10 GHz ~ 26 GHz	Fig.38	Р
Ol- 20	Center Frequency	Fig.39	Р
	30 MHz ~ 1 GHz	Fig.40	Р
Ch 39 2441 MHz	1 GHz ~ 3 GHz	Fig.34 Fig.35 Fig.36 Fig.37 Fig.38 Fig.39 Fig.40 Fig.41 Fig.42 Fig.43 Fig.43 Fig.44 Fig.45 Fig.46	Р
2111111112	3 GHz ~ 10 GHz	Fig.42	Р
	10 GHz ~ 26 GHz	Fig.43	Р
Ch 78 2480 MHz	Center Frequency	Fig.44	Р
	30 MHz ~ 1 GHz	Fig.45	Р
	1 GHz ~ 3 GHz	Fig.46	Р
	3 GHz ~ 10 GHz	Fig.47	Р
	10 GHz ~ 26 GHz	Fig.48	Р

For 8DPSK

Channel	Frequency Range	Test Results	Conclusion
	Center Frequency	Fig.49	Р
Ch O	30 MHz ~ 1 GHz	Fig.50	Р
Ch 0 2402 MHz	1 GHz ~ 3 GHz	1 GHz ~ 3 GHz Fig.51	Р
2402 WH 12	3 GHz ~ 10 GHz	Fig.52	Р
	10 GHz ~ 26 GHz	Fig.53	Р





Ch 39 2441 MHz	Center Frequency	Fig.54	Р
	30 MHz ~ 1 GHz	Fig.55	Р
	1 GHz ~ 3 GHz	Fig.56	Р
	3 GHz ~ 10 GHz	Fig.57	Р
	10 GHz ~ 26 GHz	Fig.58	Р
Ch 78 2480 MHz	Center Frequency	Fig.59	Р
	30 MHz ~ 1 GHz	Fig.60	Р
	1 GHz ~ 3 GHz	Fig.61	Р
	3 GHz ~ 10 GHz	Fig.62	Р
	10 GHz ~ 26 GHz	Fig.63	Р

Conclusion: PASS
Test graphs as below

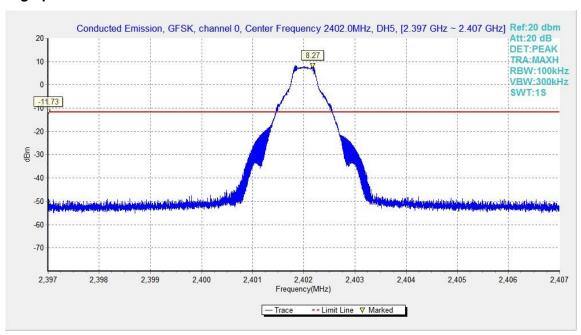


Fig.19. Conducted spurious emission: GFSK, Channel 0,2402MHz





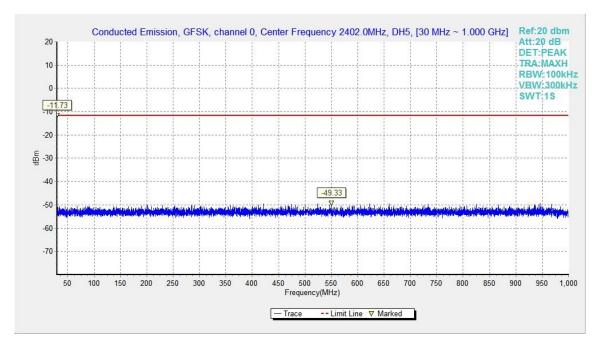


Fig.20. Conducted spurious emission: GFSK, Channel 0, 30MHz - 1GHz

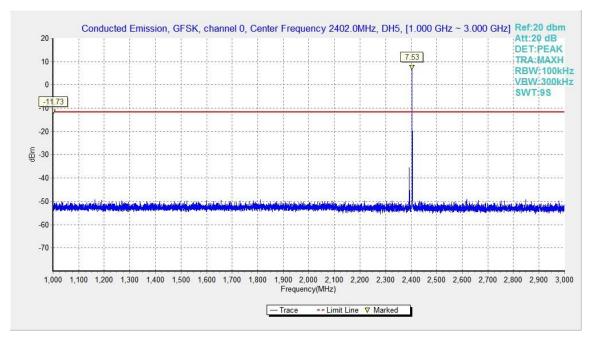


Fig.21. Conducted spurious emission: GFSK, Channel 0, 1GHz - 3GHz



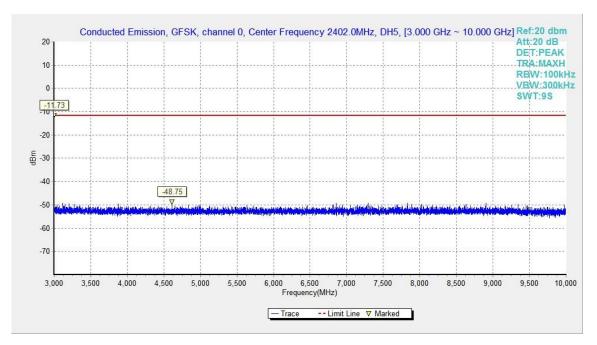


Fig.22. Conducted spurious emission: GFSK, Channel 0, 3GHz - 10GHz

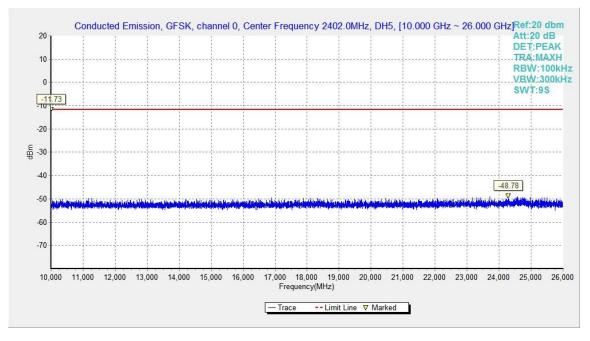


Fig.23. Conducted spurious emission: GFSK, Channel 0,10GHz - 26GHz





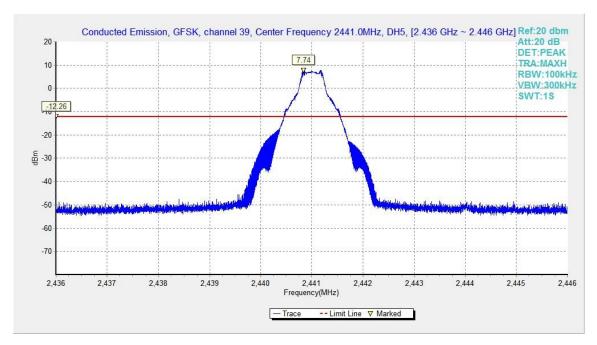


Fig.24. Conducted spurious emission: GFSK, Channel 39, 2441MHz

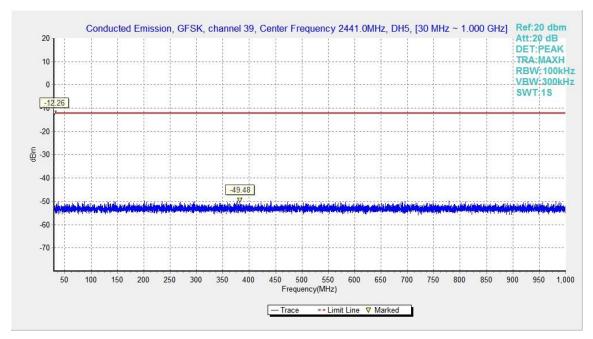


Fig.25. Conducted spurious emission: GFSK, Channel 39, 30MHz - 1GHz



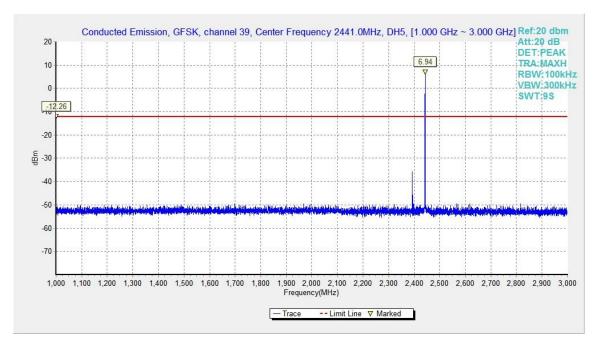


Fig.26. Conducted spurious emission: GFSK, Channel 39, 1GHz – 3GHz

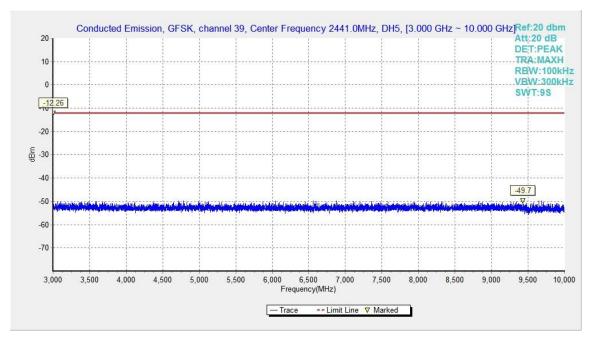


Fig.27. Conducted spurious emission: GFSK, Channel 39, 3GHz - 10GHz





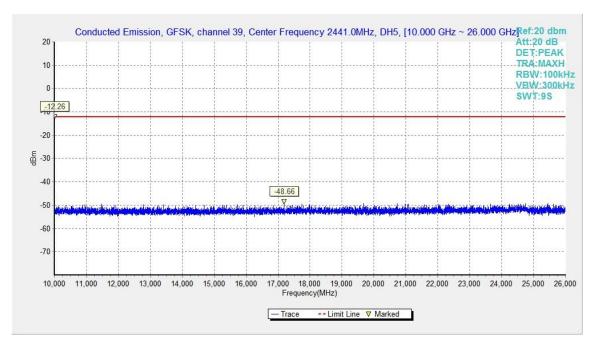


Fig.28. Conducted spurious emission: GFSK, Channel 39, 10GHz – 26GHz

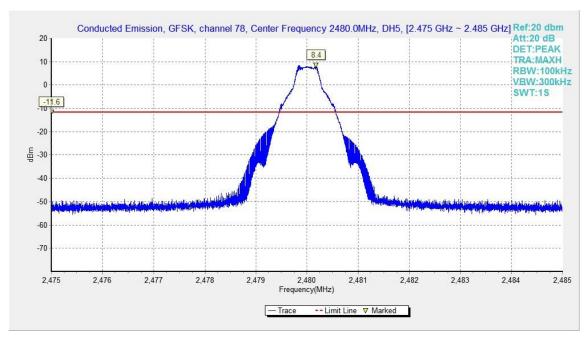


Fig.29. Conducted spurious emission: GFSK, Channel 78, 2480MHz





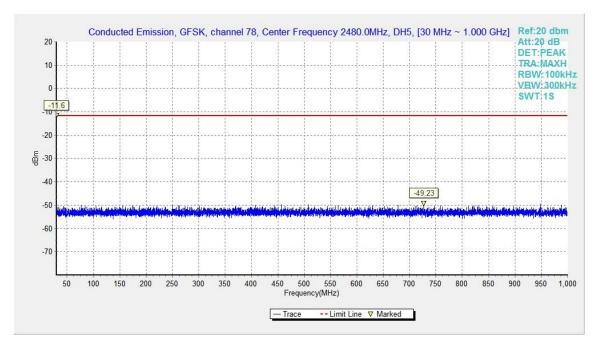


Fig.30. Conducted spurious emission: GFSK, Channel 78, 30MHz - 1GHz

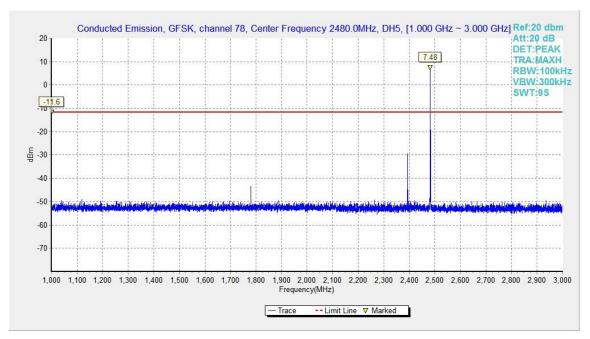


Fig.31. Conducted spurious emission: GFSK, Channel 78, 1GHz - 3GHz





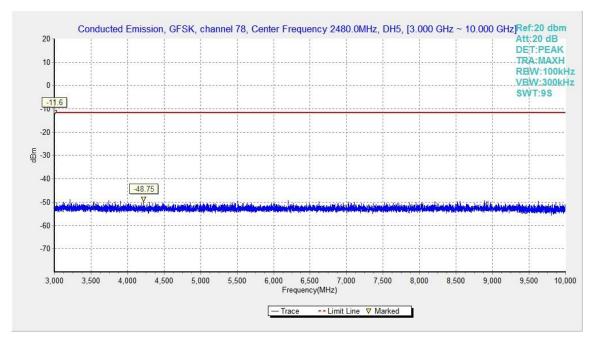


Fig.32. Conducted spurious emission: GFSK, Channel 78, 3GHz - 10GHz

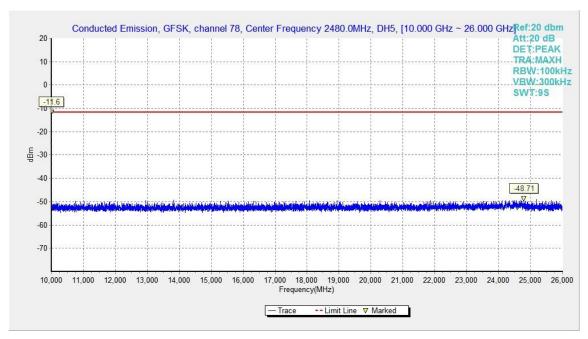


Fig.33. Conducted spurious emission: GFSK, Channel 78, 10GHz - 26GHz





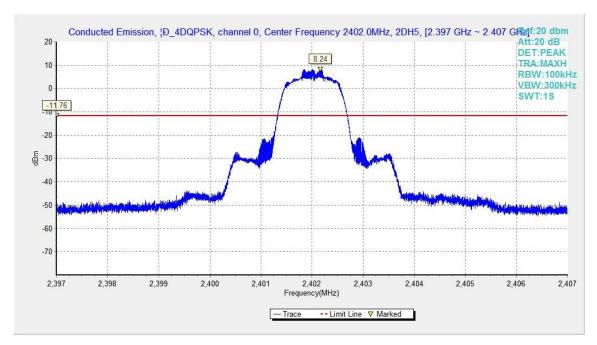


Fig.34. Conducted spurious emission: π/4 DQPSK, Channel 0,2402MHz

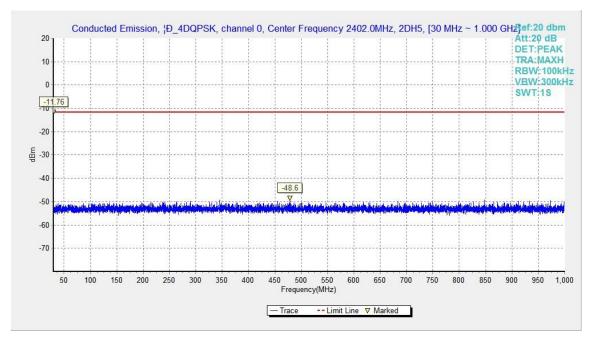


Fig.35. Conducted spurious emission: $\pi/4$ DQPSK, Channel 0, 30MHz - 1GHz



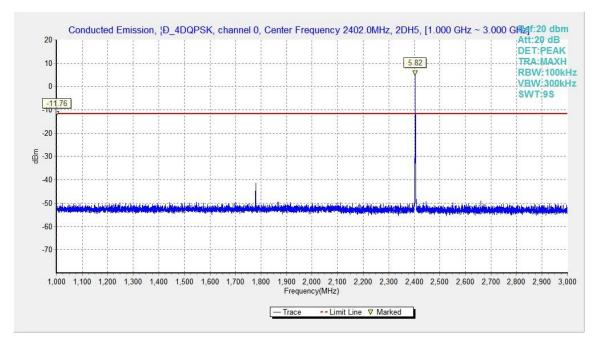


Fig.36. Conducted spurious emission: π/4 DQPSK, Channel 0, 1GHz - 3GHz

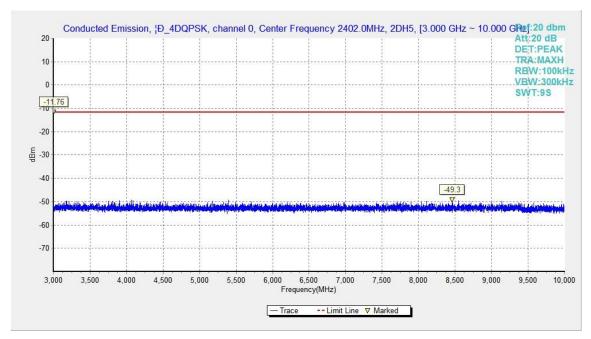


Fig.37. Conducted spurious emission: $\pi/4$ DQPSK, Channel 0, 3GHz - 10GHz





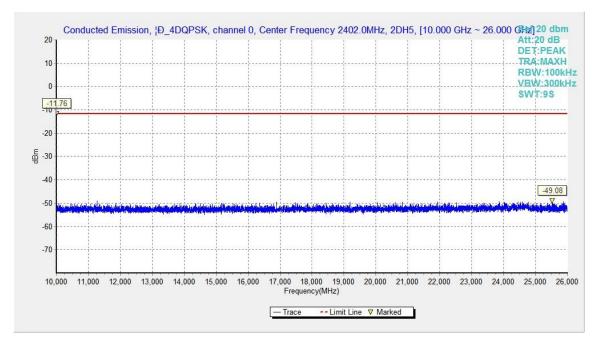


Fig.38. Conducted spurious emission: $\pi/4$ DQPSK, Channel 0,10GHz - 26GHz

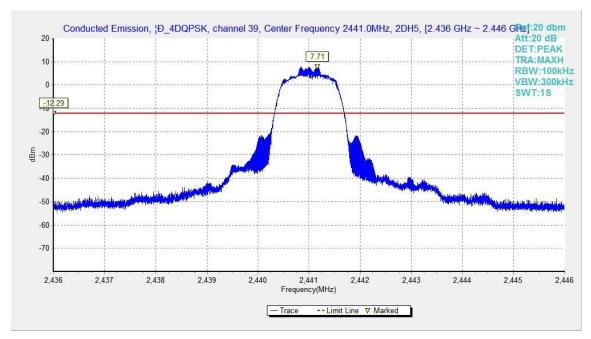


Fig.39. Conducted spurious emission: $\pi/4$ DQPSK, Channel 39, 2441MHz





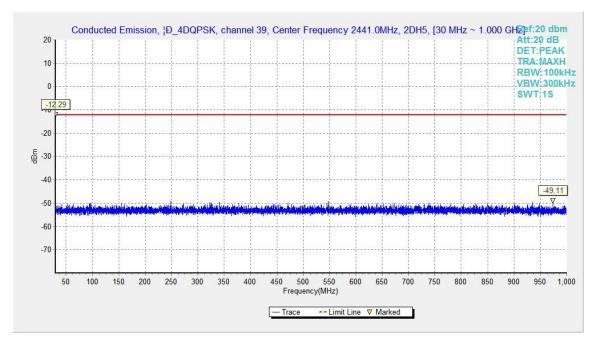


Fig.40. Conducted spurious emission: $\pi/4$ DQPSK, Channel 39, 30MHz - 1GHz

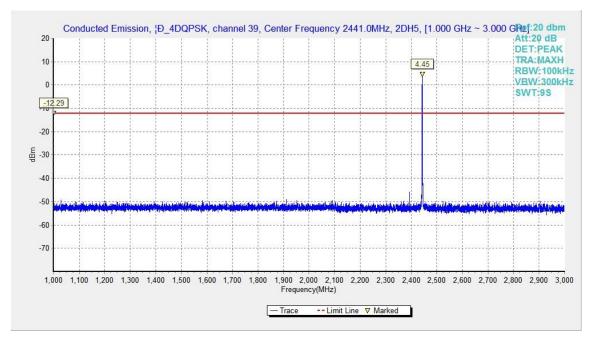


Fig.41. Conducted spurious emission: $\pi/4$ DQPSK, Channel 39, 1GHz - 3GHz





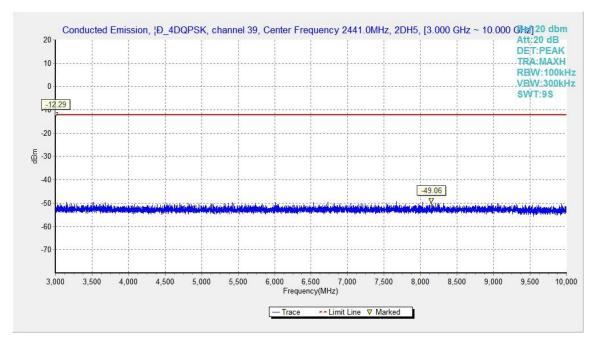


Fig.42. Conducted spurious emission: π/4 DQPSK, Channel 39, 3GHz - 10GHz

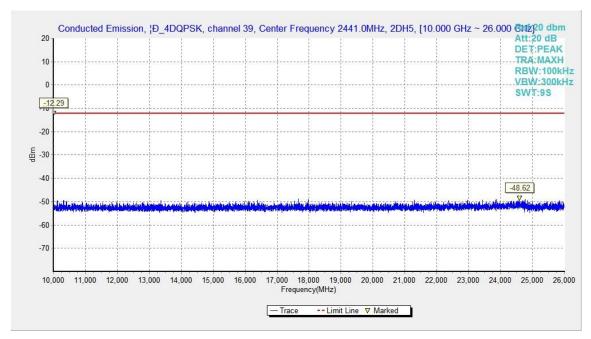


Fig.43. Conducted spurious emission: π/4 DQPSK, Channel 39, 10GHz – 26GHz



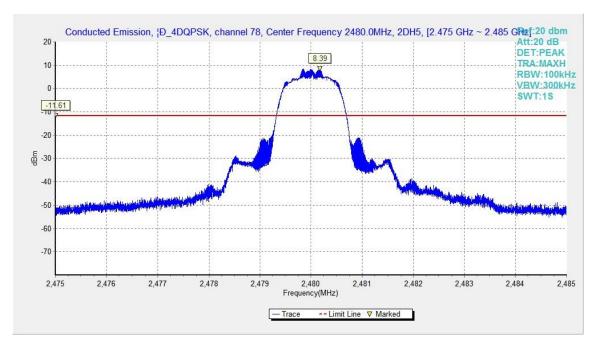


Fig.44. Conducted spurious emission: π/4 DQPSK, Channel 78, 2480MHz

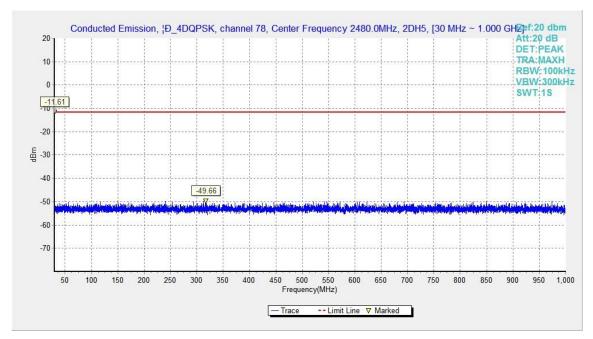


Fig.45. Conducted spurious emission: π/4 DQPSK, Channel 78, 30MHz - 1GHz





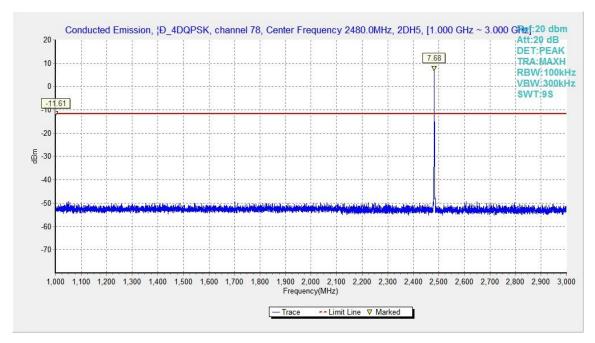


Fig.46. Conducted spurious emission: $\pi/4$ DQPSK, Channel 78, 1GHz - 3GHz

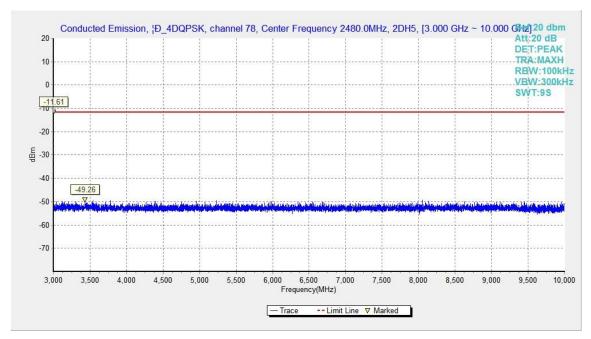


Fig.47. Conducted spurious emission: π/4 DQPSK, Channel 78, 3GHz - 10GHz



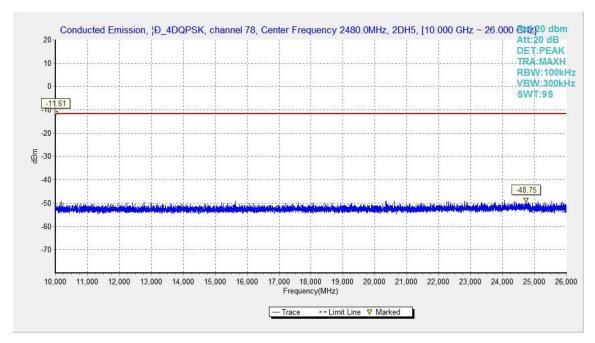


Fig.48. Conducted spurious emission: π/4 DQPSK, Channel 78, 10GHz - 26GHz

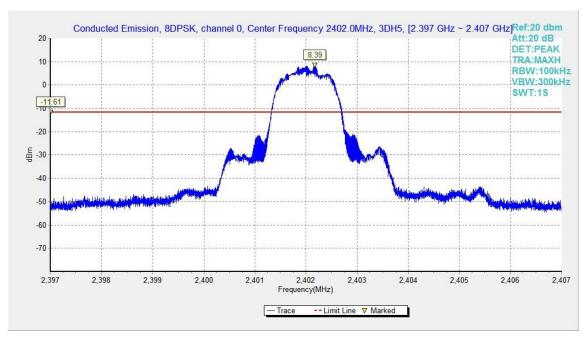


Fig.49. Conducted spurious emission: 8DPSK, Channel 0,2402MHz





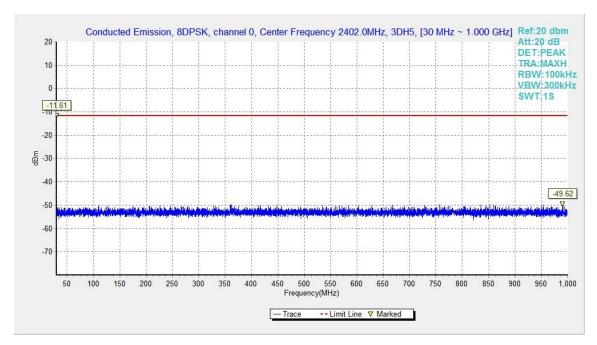


Fig.50. Conducted spurious emission: 8DPSK, Channel 0, 30MHz - 1GHz

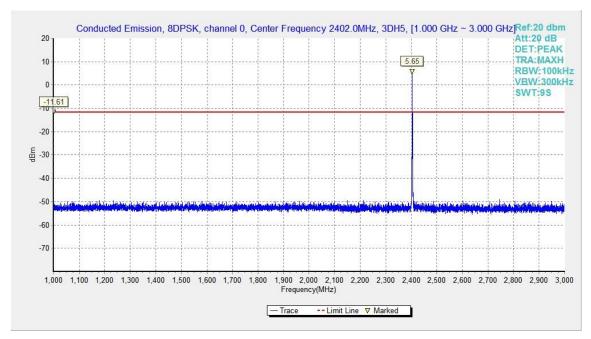


Fig.51. Conducted spurious emission: 8DPSK, Channel 0, 1GHz - 3GHz



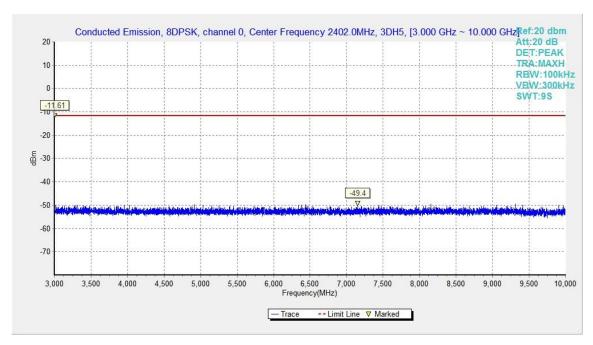


Fig.52. Conducted spurious emission: 8DPSK, Channel 0, 3GHz - 10GHz

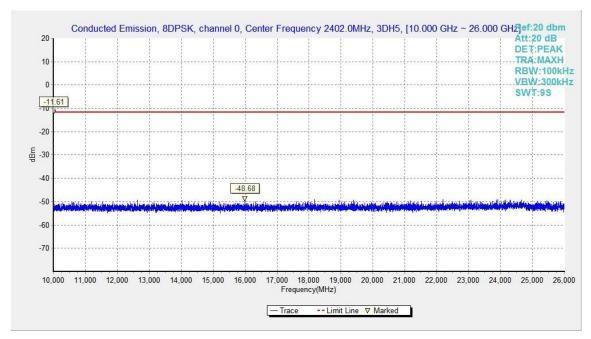


Fig.53. Conducted spurious emission: 8DPSK, Channel 0,10GHz - 26GHz





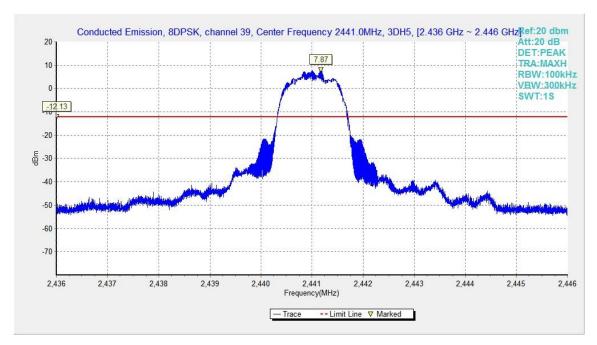


Fig.54. Conducted spurious emission: 8DPSK, Channel 39, 2441MHz

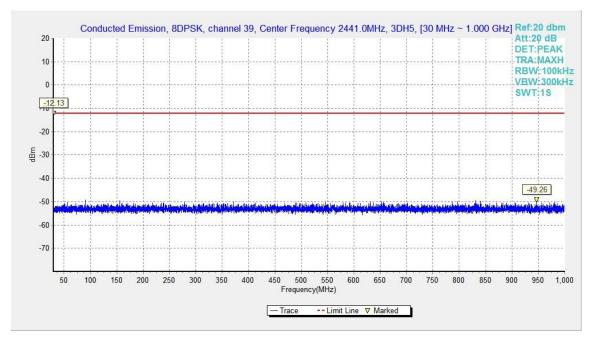


Fig.55. Conducted spurious emission: 8DPSK, Channel 39, 30MHz - 1GHz