



**FCC PART 15C
TEST REPORT
No. I16N01168-BT**

for

Yulong Computer Telecommunication Scientific (Shenzhen)

Co., Ltd

Smart Phone

Model Name: Coolpad 3622A

With

Hardware Version: P2

Software Version: 091.00.160130

FCC ID: R38YL3622A

Issued Date: Nov 14th, 2016

Test Laboratory:

FCC 2.948 Listed: No.342690

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.

Test Laboratory:

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

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

Tel:+86(0)10-62304633, Fax:+86(0)10-62304633 Email:cttl@chinattl.com, website:www.chinattl.com

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I16N01168-BT	Rev.0	1st edition	2016-11-14

CONTENTS

1. TEST LABORATORY	5
1.1. TESTING LOCATION	5
1.2. TESTING ENVIRONMENT	5
1.3. PROJECT DATA	5
1.4. SIGNATURE	5
2. CLIENT INFORMATION	6
2.1. APPLICANT INFORMATION	6
2.2. MANUFACTURER INFORMATION	6
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	7
3.1. ABOUT EUT	7
3.2. INTERNAL IDENTIFICATION OF EUT	7
3.3. INTERNAL IDENTIFICATION OF AE	7
4. REFERENCE DOCUMENTS	8
4.1. DOCUMENTS SUPPLIED BY APPLICANT	8
4.2. REFERENCE DOCUMENTS FOR TESTING	8
5. TEST RESULTS	9
5.1. SUMMARY OF TEST RESULTS	9
5.2. STATEMENTS	9
5.3. TERMS USED IN THE RESULT TABLE	9
5.4. LABORATORY ENVIRONMENT	10
6. TEST FACILITIES UTILIZED	11
7. MEASUREMENT UNCERTAINTY	12
ANNEX A: MEASUREMENT RESULTS FOR RECEIVER	13
A.0 ANTENNA REQUIREMENT	13
A.1 RADIATED EMISSION	14
A.2 AC POWER LINE CONDUCTED EMISSION	22
ANNEX B: TEST FIGURE LIST	24
FIG.1 RADIATED SPURIOUS EMISSION (GFSK, Ch0, 1 GHz-18GHz)	24
FIG.2 RADIATED SPURIOUS EMISSION (GFSK, Ch39, 9 kHz-30MHz)	24
FIG.3 RADIATED SPURIOUS EMISSION (GFSK, Ch39, 30MHz-1 GHz)	25
FIG.4 RADIATED SPURIOUS EMISSION (GFSK, Ch39, 1 GHz-18GHz)	25
FIG.5 RADIATED SPURIOUS EMISSION (GFSK, Ch39, 18 GHz-26.5GHz)	26
FIG.6 RADIATED SPURIOUS EMISSION (GFSK, Ch78, 1 GHz-18 GHz)	26
FIG.7 RADIATED EMISSION POWER (GFSK, Ch0, 2380GHz~2450GHz)	27
FIG.8 RADIATED EMISSION POWER (GFSK, Ch78, 2450GHz~2500GHz)	27
FIG.9 RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch0, 1 GHz-18GHz)	28

FIG.10	RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch39, 9kHz-30 MHz).....	28
FIG.11	RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch39, 30MHz-1 GHz).....	29
FIG.12	RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch39, 1 GHz-18GHz).....	29
FIG.13	RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch39, 18 GHz-26.5GHz).....	30
FIG.14	RADIATED SPURIOUS EMISSION ($\pi/4$ DQPSK, Ch78, 1 GHz-18 GHz).....	30
FIG.15	RADIATED EMISSION POWER ($\pi/4$ DQPSK, Ch0, 2380GHz~2450GHz).....	31
FIG.16	RADIATED EMISSION POWER ($\pi/4$ DQPSK, Ch78, 2450GHz~2500GHz).....	31
FIG.17	RADIATED SPURIOUS EMISSION (8DPSK, Ch0, 1 GHz-18GHz).....	32
FIG.18	RADIATED SPURIOUS EMISSION (8DPSK, Ch39, 9kHz-30 MHz).....	32
FIG.19	RADIATED SPURIOUS EMISSION (8DPSK, Ch39, 30MHz-1 GHz).....	33
FIG.20	RADIATED SPURIOUS EMISSION (8DPSK, Ch39, 1 GHz-18GHz).....	33
FIG.21	RADIATED SPURIOUS EMISSION (8DPSK, Ch39, 18 GHz-26.5GHz).....	34
FIG.22	RADIATED SPURIOUS EMISSION (8DPSK, Ch78, 1 GHz-18 GHz).....	34
FIG.23	RADIATED EMISSION POWER (8DPSK, Ch0, 2380GHz~2450GHz).....	35
FIG.24	RADIATED EMISSION POWER (8DPSK, Ch78, 2450GHz~2500GHz).....	35
FIG.25	AC POWER LINE CONDUCTED EMISSION (TRAFFIC, AE1).....	36
FIG.26	AC POWER LINE CONDUCTED EMISSION (IDLE, AE1).....	37
FIG.27	AC POWER LINE CONDUCTED EMISSION (TRAFFIC, AE1).....	38
FIG.28	AC POWER LINE CONDUCTED EMISSION (IDLE, AE1).....	39
ANNEX C: PERSONS INVOLVED IN THIS TESTING.....		40

1. Test Laboratory

1.1. Testing Location

Location1: CTTL(South Branch)

Address: TCL International E city No. 1001 Zhongshanyuan Road, Nanshan
District, Shenzhen, Guangdong, China 518000

1.2. Testing Environment

Normal Temperature: 15-35℃

Extreme Temperature: -15/+55℃

Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2016-10-19

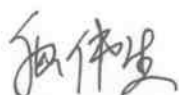
Testing End Date: 2016-11-11

1.4. Signature



An Ran

(Prepared this test report)



Tang Weisheng

(Reviewed this test report)



Zhang Bojun

(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address: Coolpad Information Harbor, 2nd Mengxi Road, Hi-Tech Industrial
Park(North), Nanshan district, Shenzhen, P.R.C
City: Shenzhen
Postal Code: /
Country: China
Telephone: +86 13410415799
Fax: /

2.2. Manufacturer Information

Company Name: Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address: Coolpad Information Harbor, 2nd Mengxi Road, Hi-Tech Industrial
Park(North), Nanshan district, Shenzhen, P.R.C
City: Shenzhen
Postal Code: /
Country: China
Telephone: +86 13410415799
Fax: /

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

3.1. About EUT

Description	Smart Phone
Model Name	Coolpad 3622A
Market Name	Coolpad Catalyst
Frequency Band	2402MHz~2480MHz
Type of Modulation	GFSK/ π /4 DQPSK/8DPSK
Number of Channels	40
FCC ID	R38YL3622A

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

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version
EUT1	/	P2	091.00.160130

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

3.3. Internal Identification of AE

AE ID*	Description	Type	SN
AE1	Charger	Charger	CYSK05-050100

*AE ID: is used to identify the test sample 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.	Nov, 2015
ANSI C63.10	American National Standard for Testing Unlicensed Wireless Devices	Jun, 2013

5. Test Results

5.1. Summary of Test Results

No	Test cases	Sub-clause of Part15C	Verdict
0	Antenna Requirement	15.203	P
1	Radiated Spurious Emission	15.247,15.205,15.209	P
2	AC Powerline Conducted Emission	15.107,15.207	P

See **ANNEX B** and **ANNEX C** for details.

5.2. Statements

CTTL has evaluated the test cases requested by the applicant/manufacture 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

5.3. 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

5.4. Laboratory Environment

Semi-anechoic chamber (23 meters×17 meters×10 meters) did not exceed following limits:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3m/10m distance, from 30 to 1000 MHz
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

Shielded room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

6. Test Facilities Utilized

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1.	Chamber	FACT5-2.0	4166	ETS-Lindgren	2018-05-13	3 years
2.	Test Receiver	ESCI	100701	Rohde & Schwarz	2017-08-09	1 year
3.	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2017-01-20	3 years
4.	Horn Antenna	3117	00066577	ETS-Lindgren	2019-03-05	3 years
5.	Spectrum Analyser	FSP40	100378	Rohde & Schwarz	2016-12-18	1 year
6.	Wireless Communication Tester	CMW270	100540	Rohde & Schwarz	2017-04-13	1 year

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren.

7. Measurement Uncertainty

Test Name	Uncertainty	
1.Radiated Spurious Emission	$9\text{k}\leq f\leq 30\text{MHz}$	$\pm 4.00\text{dB}$
	$30\text{M}\leq f\leq 1\text{GHz}$	$\pm 5.08\text{dB}$
	$1\text{GHz}\leq f\leq 18\text{GHz}$	$\pm 4.56\text{dB}$
	$18\text{GHz}\leq f\leq 26\text{GHz}$	$\pm 4.56\text{dB}$
2.AC Powerline Conducted Emission	$\pm 2.7\text{dB}$	

ANNEX A: MEASUREMENT RESULTS FOR RECEIVER

A.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 2.3 dBi.
The RF transmitter uses an integrate antenna without connector.

A.1 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	120kHz/300kHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Note: According to the performance evaluation, the radiated emission margin of EUT is over 20dB in the band from 9kHz to 30MHz. Therefore, the measurement starts from 30MHz to tenth harmonic.

The measurement results include the horizontal polarization and vertical polarization measurements.

Measurement Results:

GFSK mode

Mode	Channel	Frequency Range	Test Results	Conclusion
GFSK	0	1 GHz ~ 18 GHz	Fig.1	P
	39	9 kHz ~30 MHz	Fig.2	P
		30 MHz ~1 GHz	Fig.3	P
		1 GHz ~ 18 GHz	Fig.4	P
		18 GHz~ 26.5 GHz	Fig.5	P
	78	1 GHz ~ 18 GHz	Fig.6	P
	Power(CH0)	2.38 GHz ~ 2.45 GHz	Fig.7	P
	Power(CH78)	2.45 GHz ~ 2.5 GHz	Fig.8	P
$\pi/4$ DQPSK	0	1 GHz ~ 18 GHz	Fig.9	P
	39	9 kHz ~30 MHz	Fig.10	P
		30 MHz ~1 GHz	Fig.11	P
		1 GHz ~ 18 GHz	Fig.12	P
		18 GHz~ 26.5 GHz	Fig.13	P
	78	1 GHz ~ 18 GHz	Fig.14	P
	Power(CH0)	2.38 GHz ~ 2.45 GHz	Fig.15	P
	Power(CH78)	2.45 GHz ~ 2.5 GHz	Fig.16	P
8DPSK	0	1 GHz ~ 18 GHz	Fig.17	P
	39	9 kHz ~30 MHz	Fig.18	P
		30 MHz ~1 GHz	Fig.19	P
		1 GHz ~ 18 GHz	Fig.20	P
		18 GHz~ 26.5 GHz	Fig.21	P
	78	1 GHz ~ 18 GHz	Fig.22	P
	Power(CH0)	2.38 GHz ~ 2.45 GHz	Fig.23	P
	Power(CH78)	2.45 GHz ~ 2.5 GHz	Fig.24	P

GFSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14071.000000	56.2	V	11.0	17.8	74.0
15180.500000	57.1	H	12.2	16.9	74.0
15722.500000	58.4	H	12.7	15.6	74.0
16232.000000	59.5	V	13.1	14.5	74.0
16768.500000	58.9	H	13.9	15.1	74.0
17436.500000	58.7	V	14.0	15.3	74.0

GFSK CH0 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14533.500000	43.7	H	11.9	10.3	54.0
15133.500000	44.6	H	12.1	9.4	54.0
15761.000000	46.5	V	12.8	7.5	54.0
16214.000000	46.9	V	13.1	7.1	54.0
16801.000000	47.6	H	13.9	6.4	54.0
17286.000000	46.9	V	13.9	7.1	54.0

GFSK CH39 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14069.500000	55.6	V	11.0	18.4	74.0
14583.000000	56.7	V	11.9	17.3	74.0
15656.000000	57.8	H	12.6	16.2	74.0
16191.000000	58.3	V	13.1	15.7	74.0
16829.000000	58.6	H	13.9	15.4	74.0
17284.500000	58.6	V	13.9	15.4	74.0

GFSK CH39 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14502.500000	44.3	V	11.8	9.7	54.0
15169.500000	45.0	V	12.1	9.0	54.0
15764.500000	46.5	H	12.8	7.5	54.0
16222.000000	46.5	H	13.1	7.5	54.0
16736.000000	47.3	V	13.8	6.7	54.0
17258.500000	46.7	H	13.9	7.3	54.0

GFSK CH78 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14037.500000	56.4	V	10.9	17.6	74.0
15176.500000	56.7	V	12.1	17.3	74.0
15684.000000	57.9	V	12.6	16.1	74.0
16217.000000	57.6	H	13.1	16.4	74.0
16722.500000	58.6	H	13.8	15.4	74.0
17312.500000	57.9	V	13.9	16.1	74.0

GFSK CH78 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14539.000000	44.3	H	11.9	9.7	54.0
15126.000000	45.0	H	12.1	9.0	54.0
15754.500000	46.3	V	12.8	7.7	54.0
16214.500000	46.2	V	13.1	7.8	54.0
16743.500000	46.9	H	13.9	7.1	54.0
17349.000000	46.3	H	14.0	7.7	54.0

$\pi/4$ DQPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14353.500000	55.9	V	11.5	18.1	74.0
15155.500000	56.9	V	12.1	17.1	74.0
15757.000000	58.4	H	12.8	15.6	74.0
16219.500000	58.1	V	13.1	15.9	74.0
16763.000000	59.4	V	13.9	14.6	74.0
17307.500000	58.9	H	13.9	15.1	74.0

$\pi/4$ DQPSK CH0 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14544.500000	44.2	H	11.9	9.8	54.0
15173.000000	45.0	H	12.1	9.0	54.0
15682.500000	46.4	V	12.6	7.6	54.0
16220.000000	46.6	V	13.1	7.4	54.0
16741.000000	47.2	H	13.9	6.8	54.0
17364.500000	46.9	V	14.0	7.1	54.0

$\pi/4$ DQPSK CH39 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14516.500000	55.6	H	11.8	18.4	74.0
15181.000000	56.5	V	12.2	17.5	74.0
15724.000000	57.8	H	12.7	16.2	74.0
16243.500000	59.2	H	13.2	14.8	74.0
16727.000000	59.3	V	13.8	14.7	74.0
17296.000000	59.2	H	13.9	14.8	74.0

$\pi/4$ DQPSK CH39 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14553.000000	44.1	H	11.9	9.9	54.0
15157.500000	44.8	H	12.1	9.2	54.0
15687.000000	46.4	H	12.6	7.6	54.0
16197.500000	47.0	H	13.1	7.0	54.0
16747.000000	47.6	V	13.9	6.4	54.0
17331.500000	47.1	V	14.0	6.9	54.0

$\pi/4$ DQPSK CH78 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14464.000000	56.6	V	11.7	17.4	74.0
15175.000000	56.5	V	12.1	17.5	74.0
15775.000000	57.6	V	12.8	16.4	74.0
16281.500000	57.8	V	13.3	16.2	74.0
16841.500000	58.8	H	13.9	15.2	74.0
17306.500000	58.0	H	13.9	16.0	74.0

$\pi/4$ DQPSK CH78 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14551.000000	44.2	H	11.9	9.8	54.0
15165.500000	44.9	H	12.1	9.1	54.0
15778.000000	46.1	H	12.8	7.9	54.0
16217.000000	45.7	H	13.1	8.3	54.0
16706.500000	46.4	H	13.8	7.6	54.0
17403.000000	46.0	H	14.0	8.0	54.0

8DPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dB μ V/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
14544.000000	56.1	H	11.9	17.9	74.0
15183.000000	57.3	H	12.2	16.7	74.0
15726.000000	58.0	H	12.7	16.0	74.0
16312.500000	58.4	H	13.3	15.6	74.0
16709.500000	59.3	V	13.8	14.7	74.0
17317.500000	58.9	V	13.9	15.1	74.0

8DPSK CH0 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14552.000000	44.2	H	11.9	9.8	54.0
15152.000000	45.1	V	12.1	8.9	54.0
15687.500000	46.5	V	12.7	7.5	54.0
16204.500000	46.8	V	13.1	7.2	54.0
16743.000000	47.3	V	13.9	6.7	54.0
17282.000000	46.9	H	13.9	7.1	54.0

8DPSK CH39 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14038.500000	55.7	H	10.9	18.3	74.0
15141.500000	56.6	V	12.1	17.4	74.0
15784.000000	58.4	V	12.8	15.6	74.0
16260.000000	58.7	V	13.2	15.3	74.0
16795.500000	59.8	V	13.9	14.2	74.0
17761.500000	59.1	H	13.9	14.9	74.0

8DPSK CH39 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14170.500000	44.0	H	11.2	10.0	54.0
15178.000000	44.9	H	12.2	9.1	54.0
15745.000000	46.6	H	12.8	7.4	54.0
16220.500000	46.9	H	13.1	7.1	54.0
16778.000000	47.7	H	13.9	6.3	54.0
17325.500000	47.0	V	14.0	7.0	54.0

8DPSK CH78 (1-18GHz)

Frequency (MHz)	MaxPeak-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14552.000000	55.9	V	11.9	18.1	74.0
15144.000000	58.2	H	12.1	15.8	74.0
15766.000000	59.0	V	12.8	15.0	74.0
16212.500000	58.8	V	13.1	15.2	74.0
16755.500000	59.1	H	13.9	14.9	74.0
17302.500000	59.1	H	13.9	14.9	74.0

8DPSK CH78 (1-18GHz)

Frequency (MHz)	Average-ClearWrite (dBμV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
14170.000000	43.9	H	11.2	10.1	54.0
15162.500000	44.7	H	12.1	9.3	54.0
15687.500000	46.4	H	12.7	7.6	54.0
16224.000000	46.9	H	13.1	7.1	54.0
16793.000000	47.6	H	13.9	6.4	54.0
17276.500000	47.1	H	13.9	6.9	54.0

See ANNEX C for test graphs.

Conclusion: Pass

A.2 AC Power line Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

BT (Quasi-peak Limit)-AE1- Traffic

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	66 to 56	Fig.25	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)-AE1-Traffic

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	56 to 46	Fig.25	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.

BT (Quasi-peak Limit)-AE1-idle

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	Fig.66 to 56	Fig.26	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)-AE1-idle

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	56 to 46	Fig.26	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.

Test Condition:

Voltage (V)	Frequency (Hz)
240	60

Measurement Result and limit:

BT (Quasi-peak Limit)-AE1- Traffic

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	66 to 56	Fig.27	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)-AE1-Traffic

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	56 to 46	Fig.27	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.

BT (Quasi-peak Limit)-AE1-idle

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	Fig.67 to 56	Fig.28	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)-AE1-idle

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)	Conclusion
		Traffic	
0.15 to 0.5	56 to 46	Fig.28	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.

Note: The measurement results include the L1 and N measurements.

See ANNEX C for test graphs.

Conclusion: Pass

ANNEX B: TEST FIGURE LIST

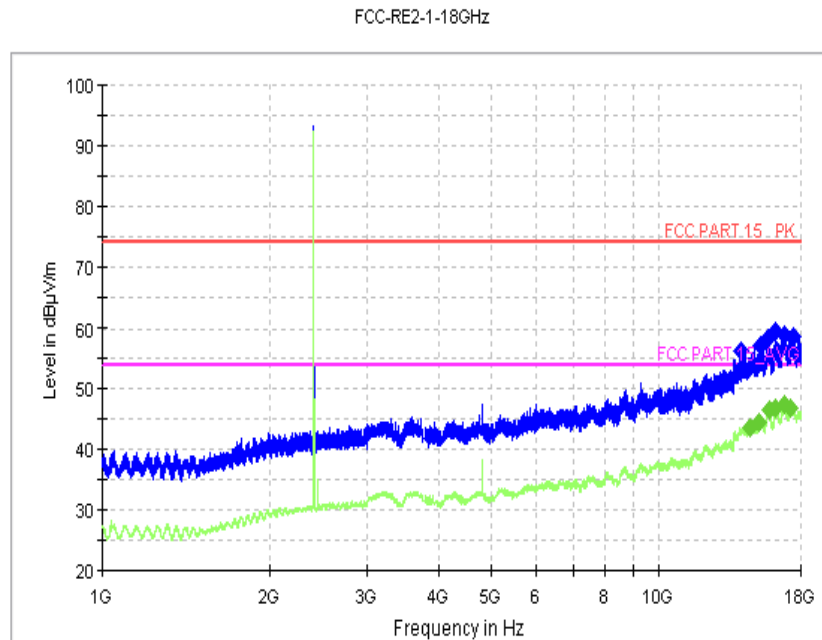


Fig.1 Radiated Spurious Emission (GFSK, Ch0, 1 GHz-18GHz)

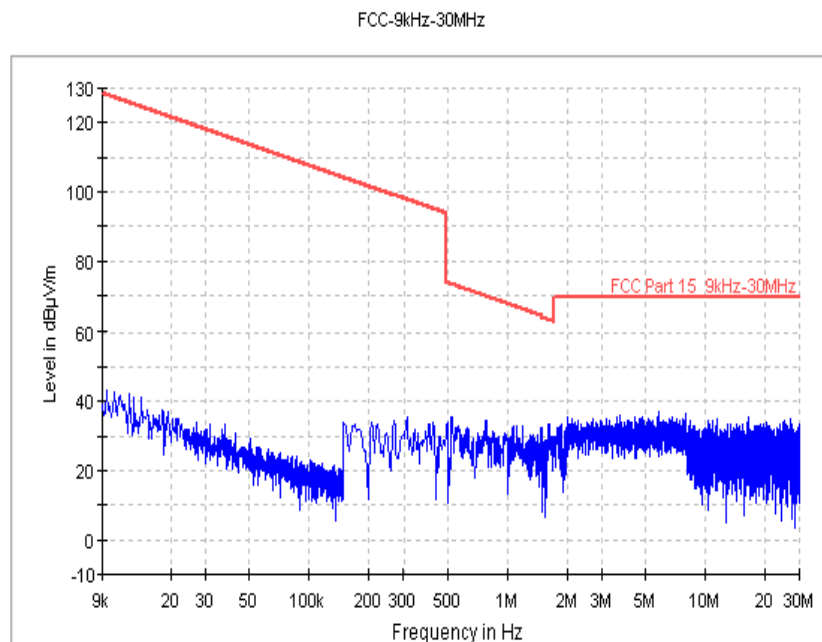


Fig.2 Radiated Spurious Emission (GFSK, Ch39, 9 kHz-30MHz)

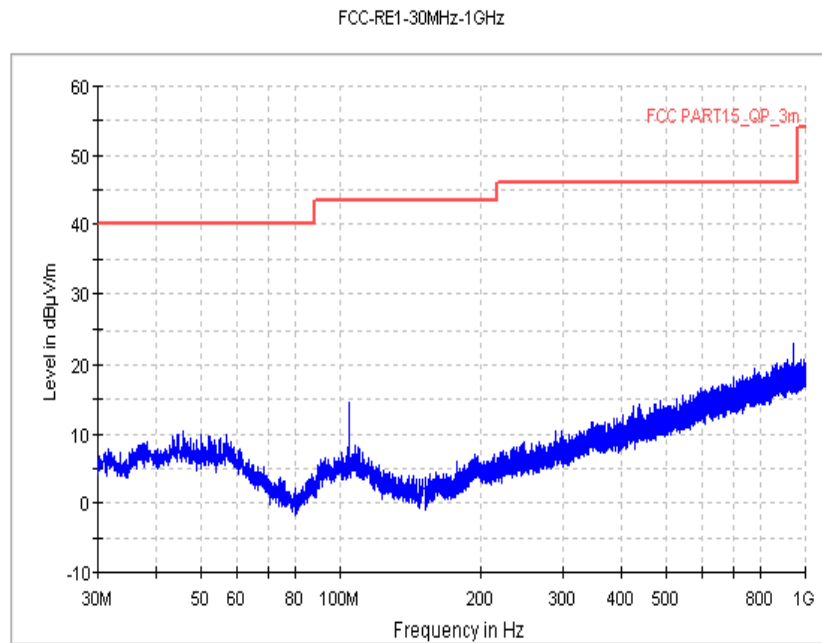


Fig.3 Radiated Spurious Emission (GFSK, Ch39, 30MHz-1 GHz)

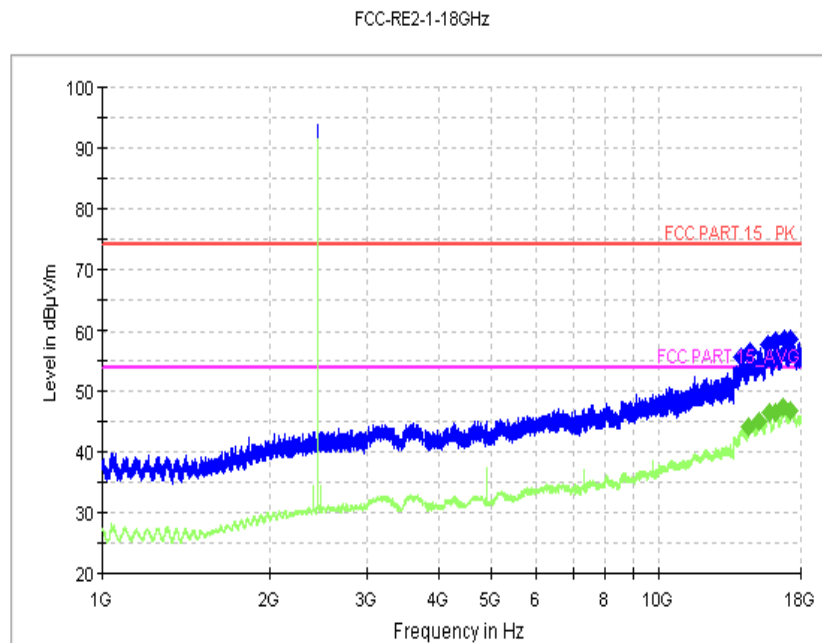


Fig.4 Radiated Spurious Emission (GFSK, Ch39, 1 GHz-18GHz)

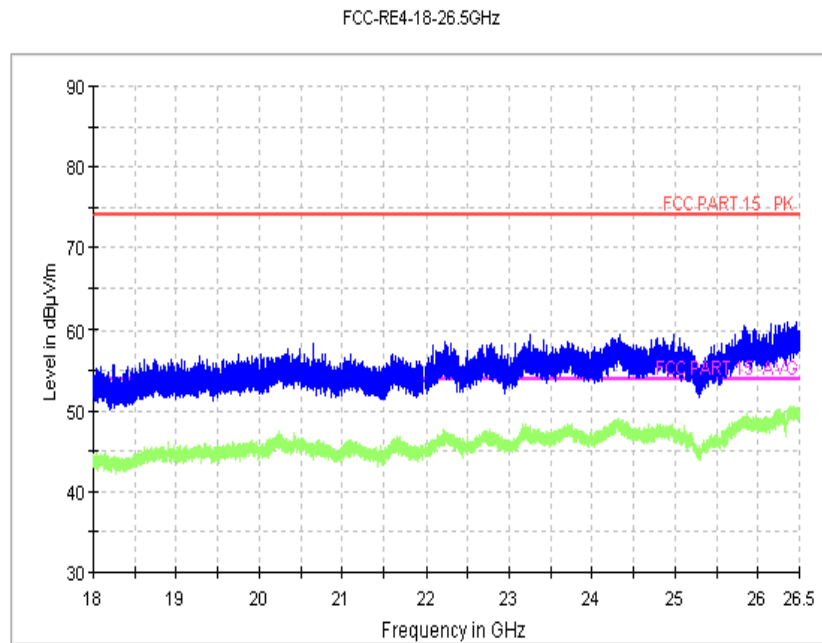


Fig.5 Radiated Spurious Emission (GFSK, Ch39, 18 GHz-26.5GHz)

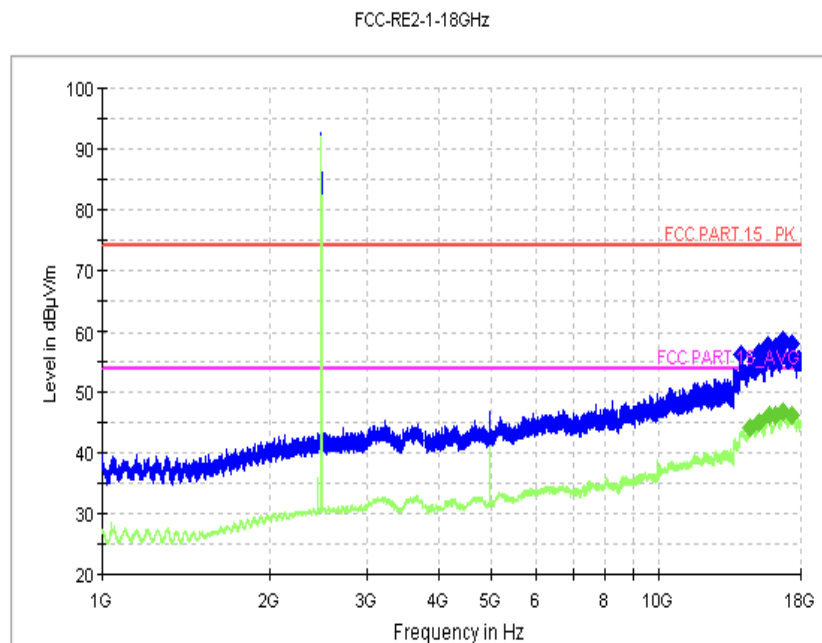


Fig.6 Radiated Spurious Emission (GFSK, Ch78, 1 GHz-18 GHz)

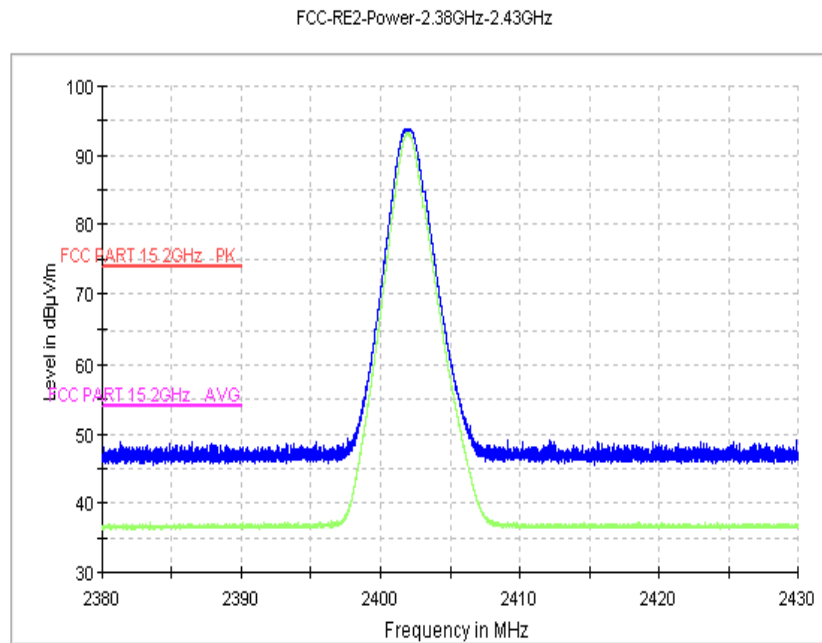


Fig.7 Radiated Emission Power (GFSK, Ch0, 2380GHz~2450GHz)

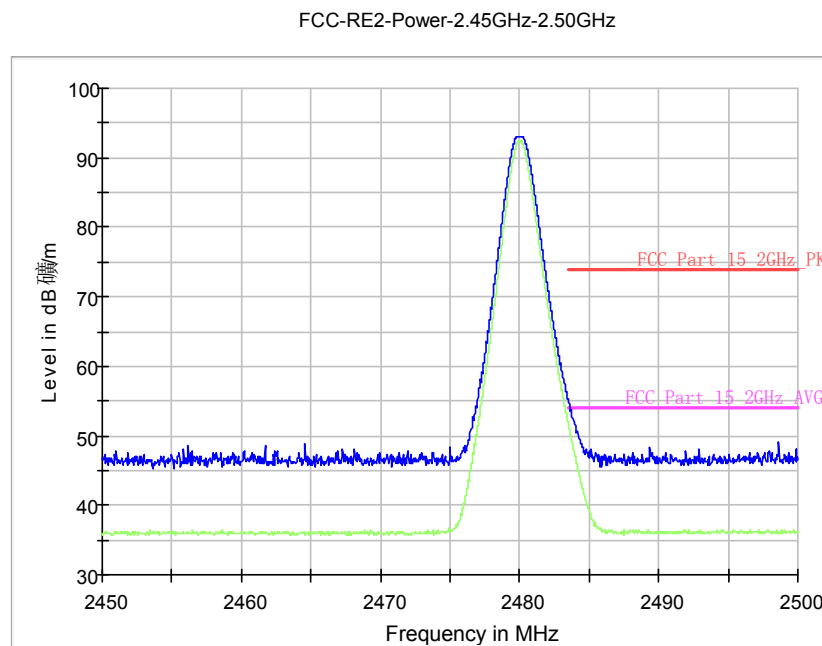


Fig.8 Radiated Emission Power (GFSK, Ch78, 2450GHz~2500GHz)

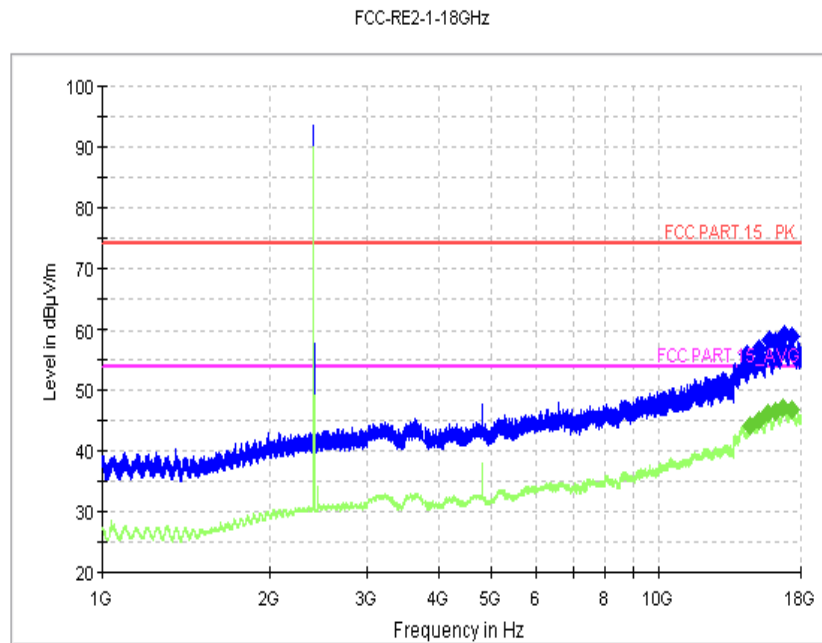


Fig.9 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch0, 1 GHz-18GHz)

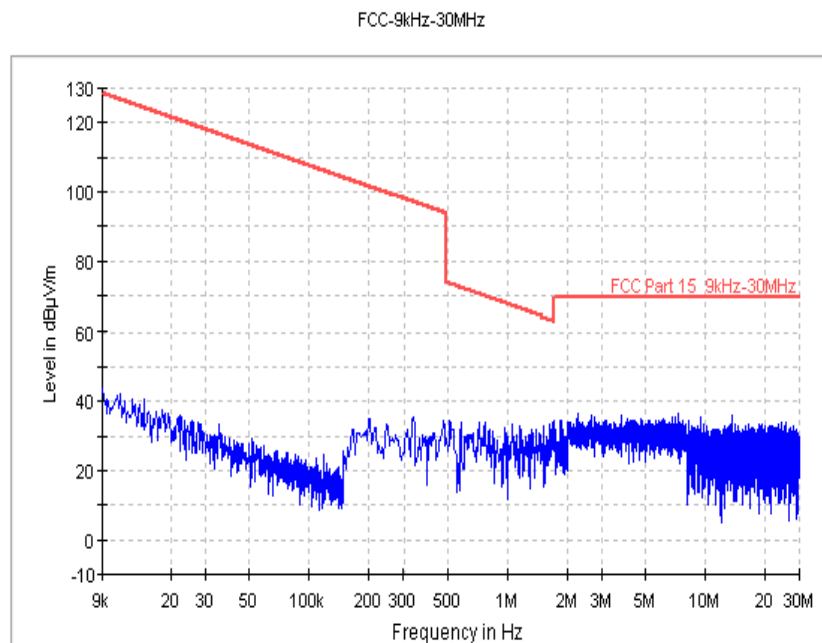


Fig.10 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch39, 9kHz-30 MHz)

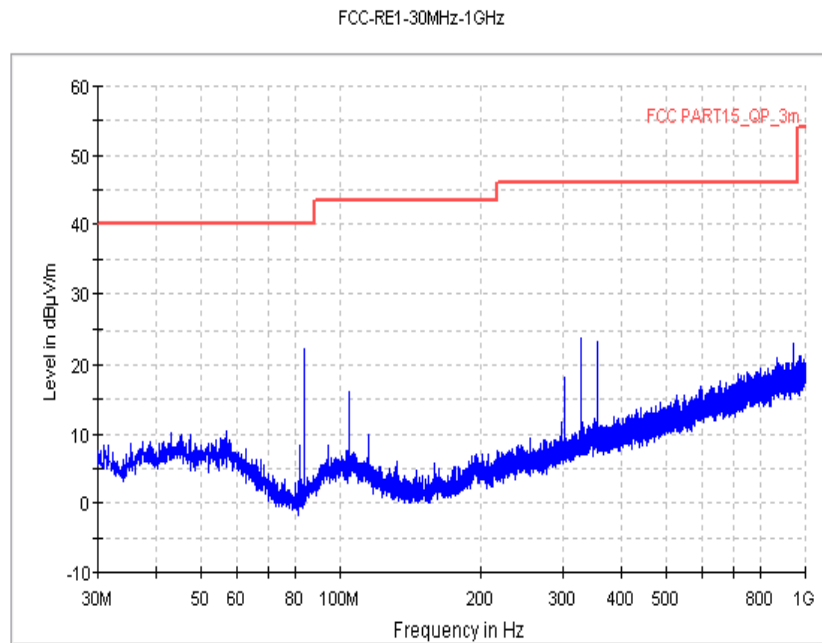


Fig.11 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch39, 30MHz-1 GHz)

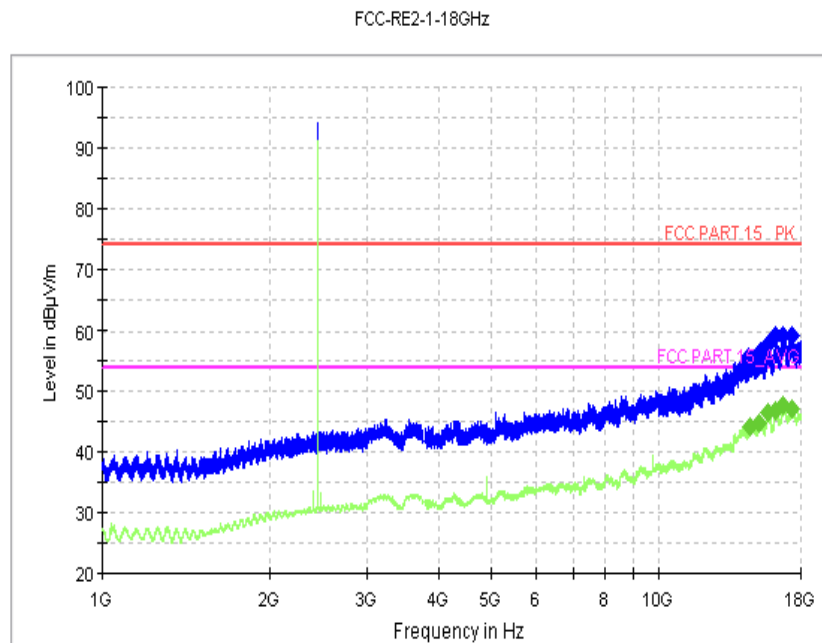


Fig.12 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch39, 1 GHz-18GHz)

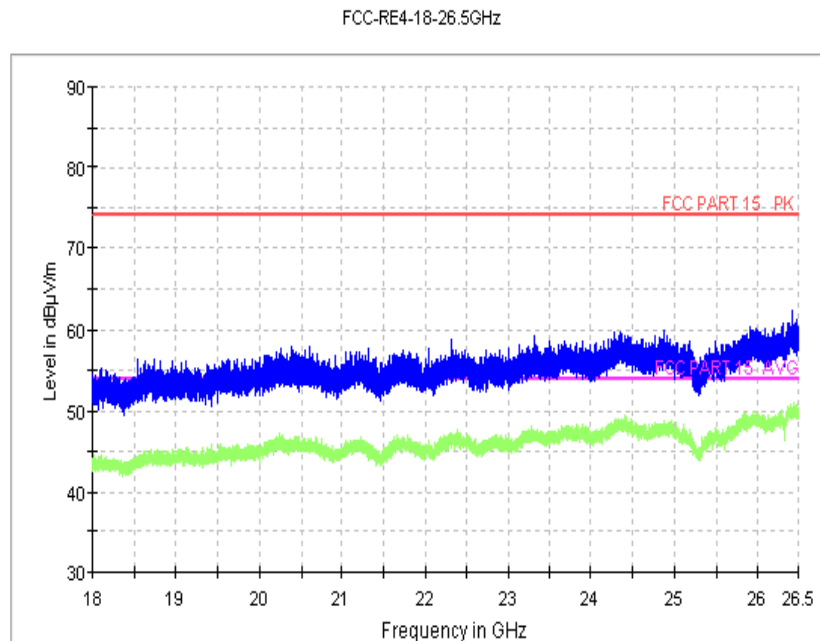


Fig.13 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch39, 18 GHz-26.5GHz)

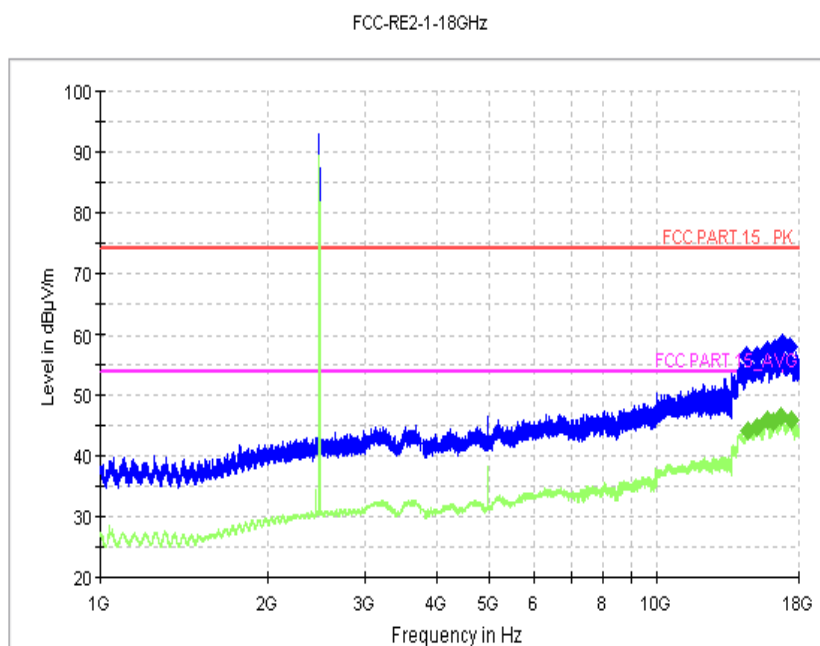


Fig.14 Radiated Spurious Emission ($\pi/4$ DQPSK, Ch78, 1 GHz-18 GHz)

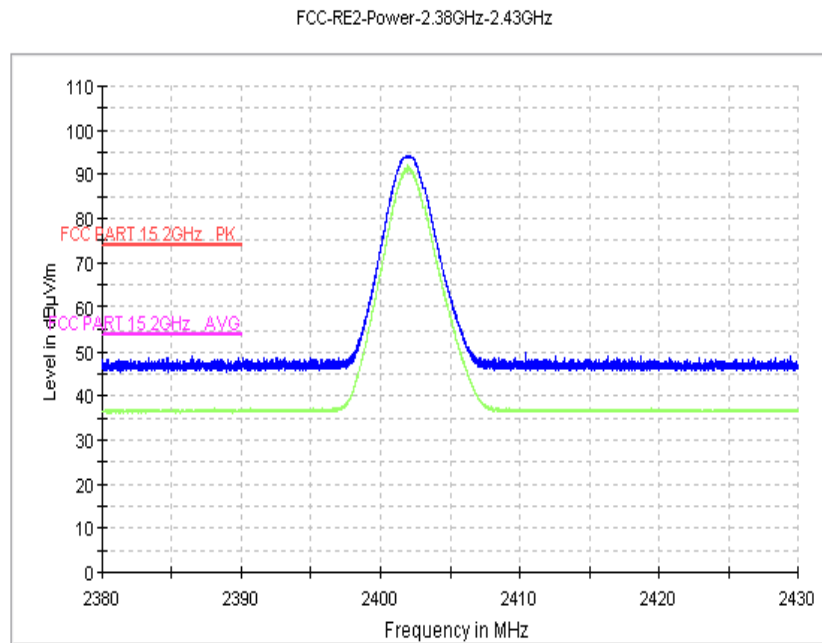


Fig.15 Radiated Emission Power ($\pi/4$ DQPSK, Ch0, 2380GHz~2450GHz)

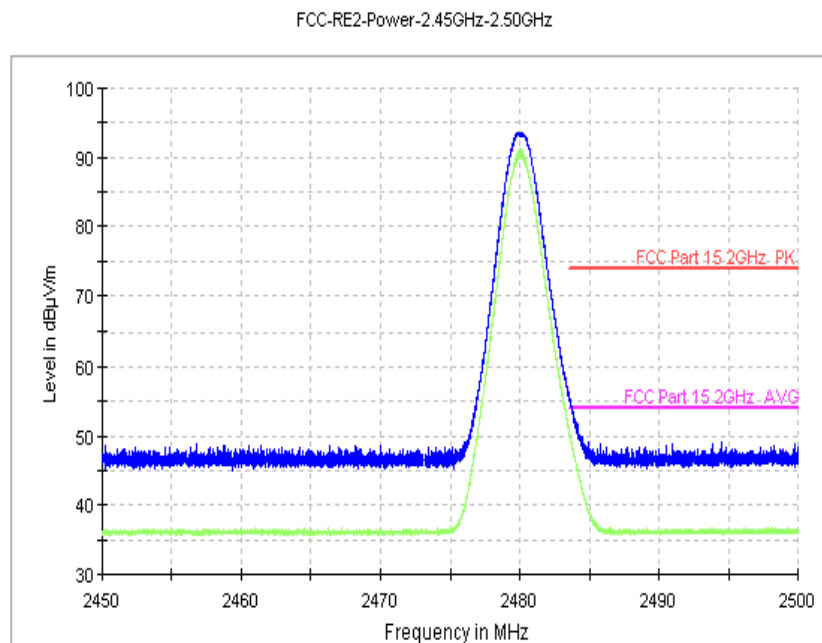


Fig.16 Radiated Emission Power ($\pi/4$ DQPSK, Ch78, 2450GHz~2500GHz)

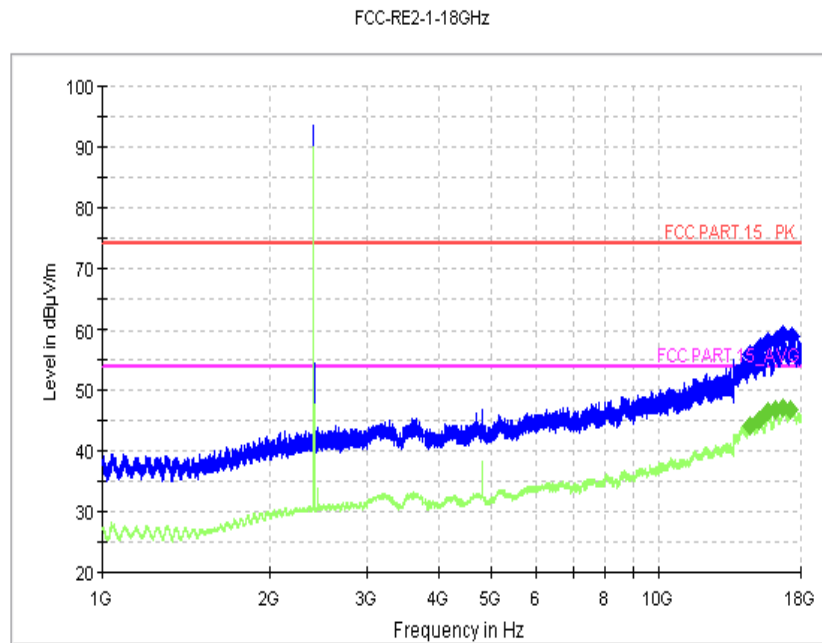


Fig.17 Radiated Spurious Emission (8DPSK, Ch0, 1 GHz-18GHz)

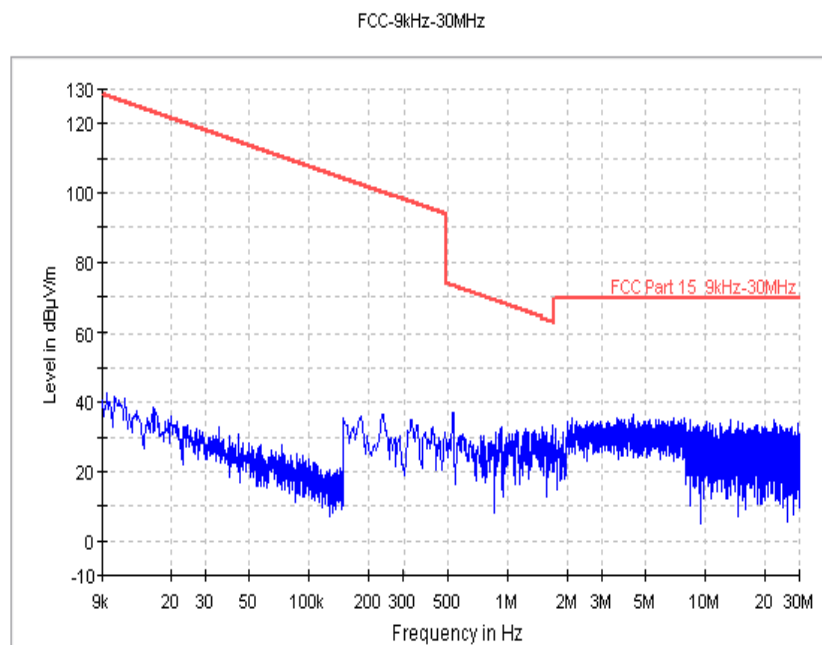


Fig.18 Radiated Spurious Emission (8DPSK, Ch39, 9kHz-30 MHz)

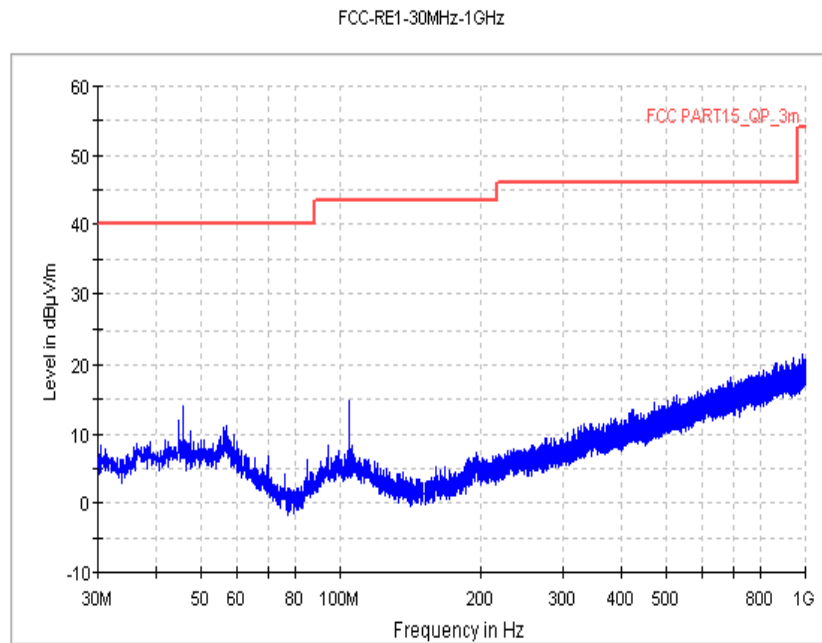


Fig.19 Radiated Spurious Emission (8DPSK, Ch39, 30MHz-1 GHz)

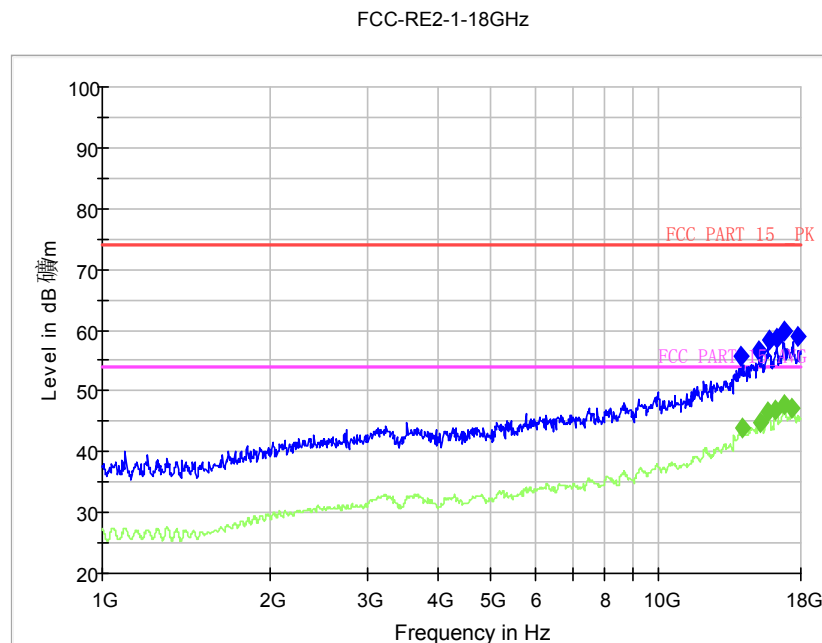


Fig.20 Radiated Spurious Emission (8DPSK, Ch39, 1 GHz-18GHz)

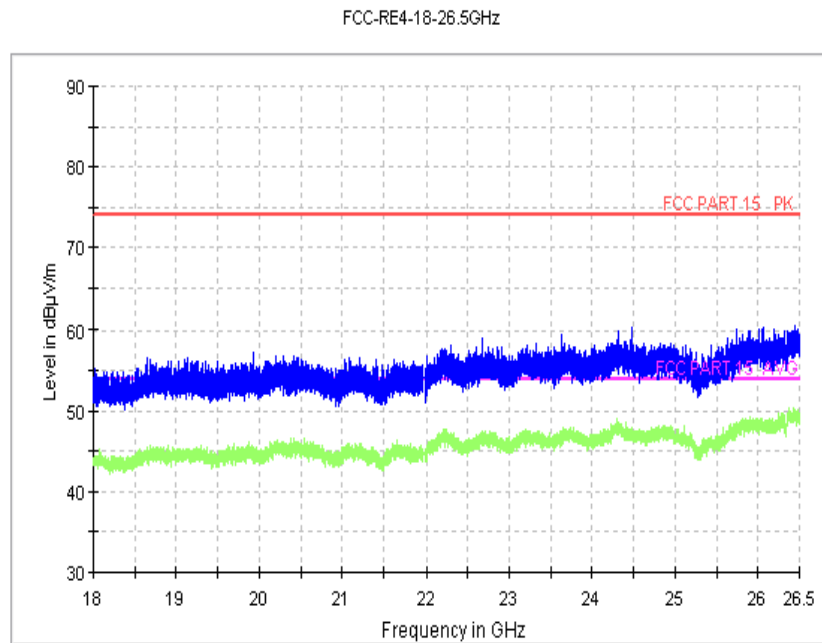


Fig.21 Radiated Spurious Emission (8DPSK, Ch39, 18 GHz-26.5GHz)

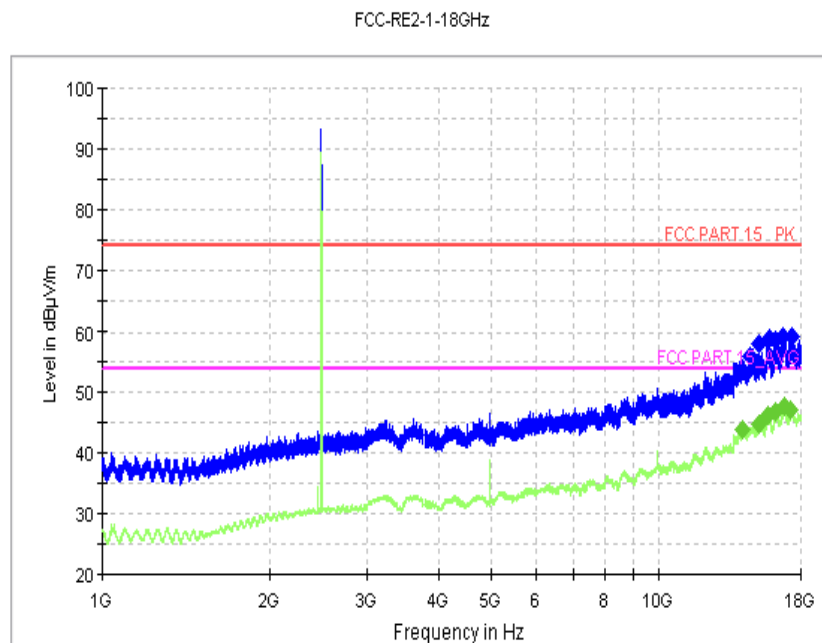


Fig.22 Radiated Spurious Emission (8DPSK, Ch78, 1 GHz-18 GHz)

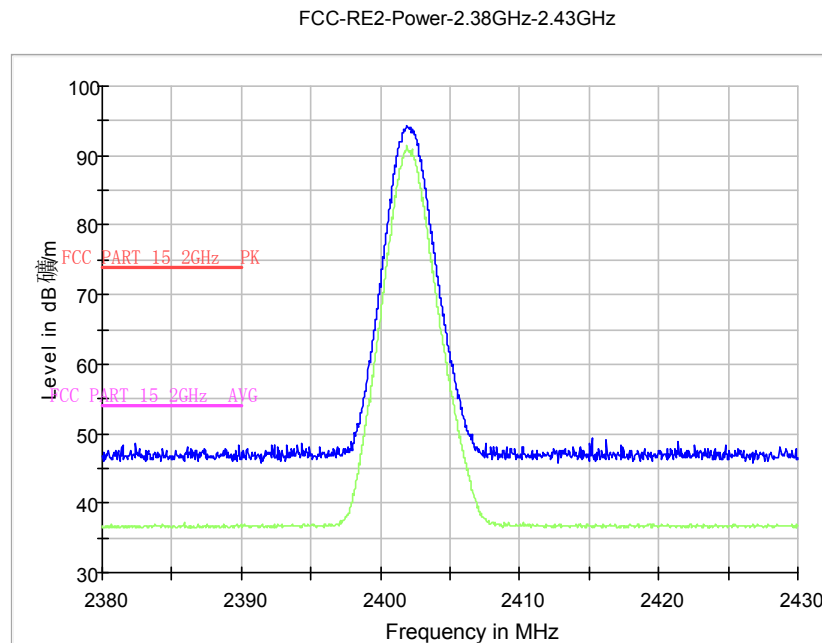


Fig.23 Radiated Emission Power (8DPSK, Ch0, 2380GHz~2450GHz)

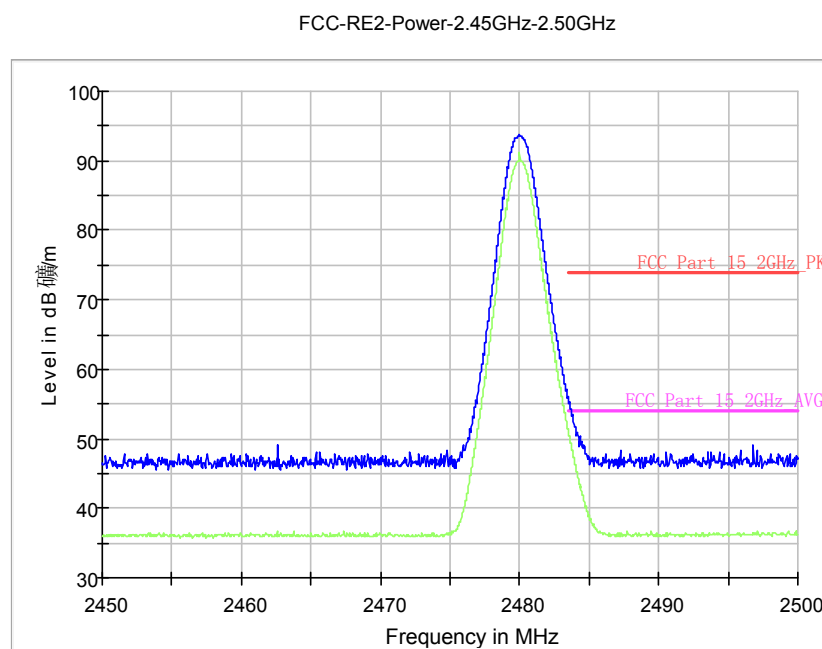


Fig.24 Radiated Emission Power (8DPSK, Ch78, 2450GHz~2500GHz)

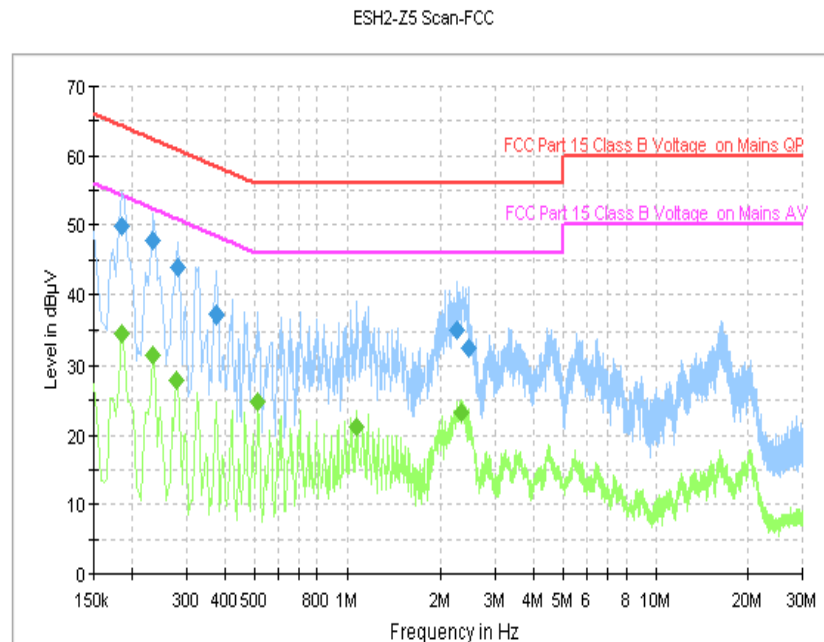


Fig.25 AC Power line Conducted Emission (Traffic, AE1)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	49.9	GND	N	9.6	14.3	64.2
0.234000	47.9	GND	N	9.6	14.4	62.3
0.282000	43.9	GND	N	9.6	16.9	60.8
0.374000	37.3	GND	N	9.6	21.2	58.4
2.266000	35.1	GND	N	9.6	20.9	56.0
2.454000	32.5	GND	N	9.6	23.5	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	34.5	GND	N	9.6	19.7	54.2
0.234000	31.4	GND	N	9.6	20.9	52.3
0.278000	27.8	GND	N	9.6	23.1	50.9
0.514000	24.7	GND	N	9.7	21.3	46.0
1.078000	21.3	GND	N	9.6	24.7	46.0
2.342000	23.2	GND	N	9.6	22.8	46.0

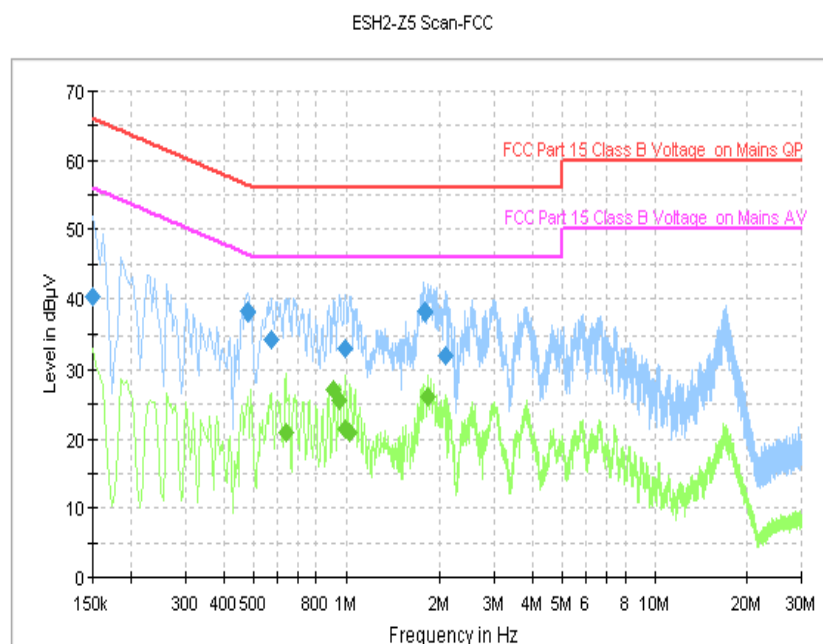


Fig.26 AC Power line Conducted Emission (Idle, AE1)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	40.2	GND	N	9.6	25.8	66.0
0.478000	38.3	GND	L1	9.8	18.0	56.4
0.574000	34.5	GND	L1	9.8	21.5	56.0
0.994000	33.1	GND	L1	9.8	22.9	56.0
1.794000	38.1	GND	L1	9.8	17.9	56.0
2.082000	32.0	GND	L1	9.8	24.0	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.638000	20.9	GND	L1	9.8	25.1	46.0
0.914000	27.1	GND	L1	9.8	18.9	46.0
0.954000	25.7	GND	L1	9.8	20.3	46.0
0.994000	21.5	GND	L1	9.8	24.5	46.0
1.030000	21.0	GND	L1	9.8	25.0	46.0
1.834000	26.0	GND	L1	9.8	20.0	46.0

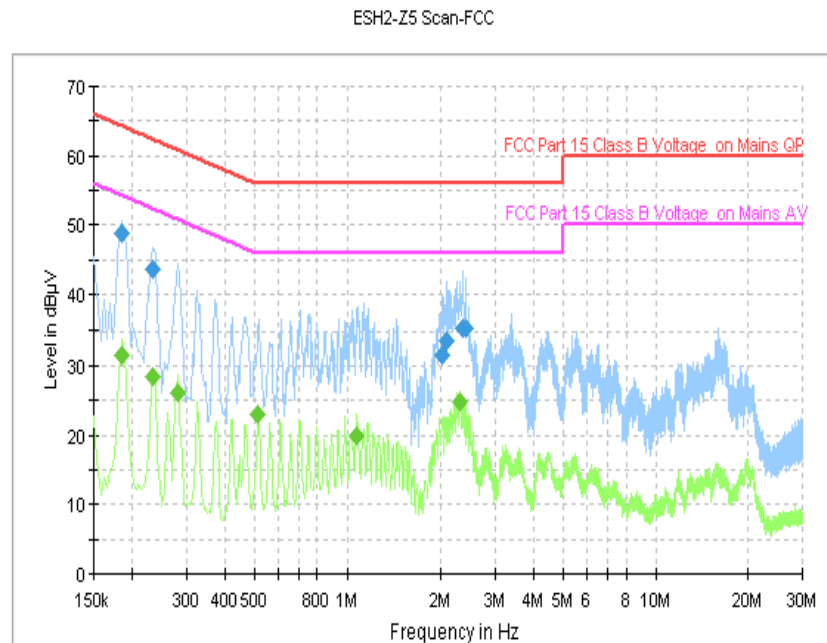


Fig.27 AC Power line Conducted Emission (Traffic, AE1)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	48.7	GND	N	9.6	15.5	64.2
0.234000	43.7	GND	L1	9.8	18.6	62.3
2.010000	31.6	GND	L1	9.8	24.4	56.0
2.082000	33.5	GND	N	9.6	22.5	56.0
2.346000	35.4	GND	L1	9.8	20.6	56.0
2.406000	35.4	GND	L1	9.8	20.6	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	31.6	GND	N	9.6	22.6	54.2
0.234000	28.5	GND	N	9.6	23.8	52.3
0.282000	26.2	GND	L1	9.8	24.5	50.8
0.514000	23.0	GND	N	9.7	23.0	46.0
1.074000	19.9	GND	L1	9.8	26.1	46.0
2.302000	24.7	GND	L1	9.8	21.3	46.0

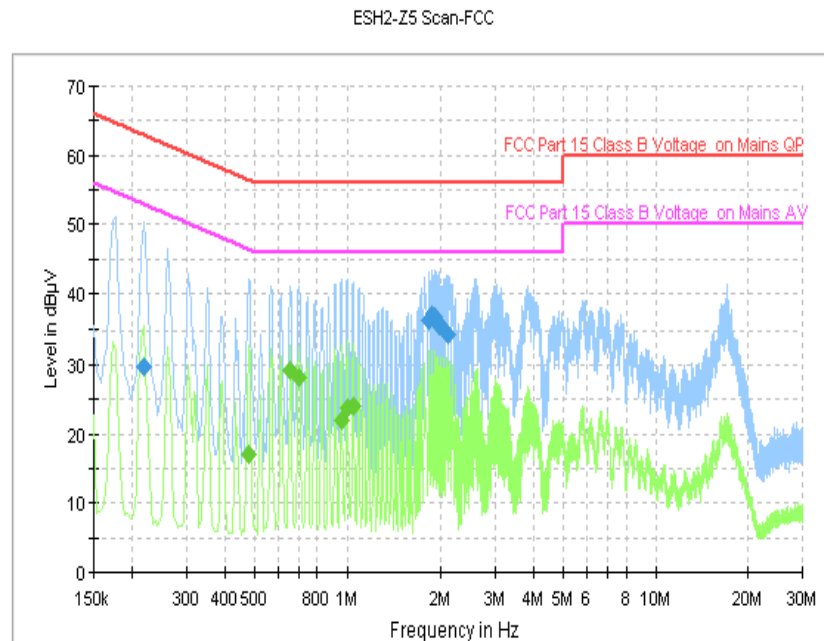


Fig.28 AC Power line Conducted Emission (Idle, AE1)

MEASUREMENT RESULT: " QuasiPeak "

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.218000	29.7	GND	L1	9.8	33.2	62.9
1.830000	36.4	GND	L1	9.8	19.6	56.0
1.874000	37.0	GND	L1	9.8	19.0	56.0
1.918000	36.8	GND	L1	9.8	19.2	56.0
1.966000	35.7	GND	L1	9.8	20.3	56.0
2.098000	34.4	GND	L1	9.8	21.6	56.0

MEASUREMENT RESULT: " Average "

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.478000	17.0	GND	L1	9.8	29.3	46.4
0.654000	29.1	GND	L1	9.8	16.9	46.0
0.698000	28.2	GND	L1	9.8	17.8	46.0
0.958000	22.1	GND	L1	9.8	23.9	46.0
1.002000	23.9	GND	L1	9.8	22.1	46.0
1.046000	24.0	GND	L1	9.8	22.0	46.0

ANNEX C: Persons involved in this testing

Test Name	Tester
Transmitter Spurious Emission - Radiated	An Ran, Tang Weisheng
AC Powerline Conducted Emission	An Ran, Tang Weisheng

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