

FCC PART 15C TEST REPORT No. I19N00406-BLE

for

DAIMLER AG

CTPDIN

CTP2019

with

Hardware Version: A 000 446 5960

Software Version: 126.200.800

FCC ID: 2AMIOCTP4465960

Issued Date: 2019-04-01

Designation Number: CN1210

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 SAICT.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19N00406-BLE	Rev.0	1st edition	2019-04-01



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1. Test Laboratory

1.1. Testing Location

Location: Shenzhen Academy of Information and Communications Technology
Address: Building G, Shenzhen International Innovation Center, No.1006

Shennan Road, Futian District, Shenzhen, Guangdong Province, China

Postal Code: 518026

Telephone: +86(0)755-33322000 Fax: +86(0)755-33322001

1.2. Testing Environment

Normal Temperature: $15-30^{\circ}$ C Relative Humidity: 35-60%

1.3. Project data

Testing Start Date: 2019-03-22 Testing End Date: 2019-03-29

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

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Telephone: +49-711-17-40099 Fax: +49-711-3052-148458

2.2. Manufacturer Information

Company Name: BOSCH CAR MULTIMEDIA PORTUGAL, S.A.

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

3.1. About EUT

Description CTPDIN
Model Name CTP2019

Market Name

Frequency Range 2400MHz~2483.5MHz

Type of Modulation GFSK Number of Channels 40

Antenna Type External
Antenna Gain 0 dBi
Power Supply 24V DC

FCC ID 2AMIOCTP4465960

Condition of EUT as received No abnormality in appearance

Note: Temperature values in extreme condition test are given by manufacturer.

- 1) Temperature range for full operation: -40°C +60°C ambient (up to +75°C internal),
- 2) Temperature range for limited operation: +60°C +75°C ambient (+75°C +85°C internal). And the following tests are performed under the full operating temperature range.

Note: Components list, please refer to documents of the manufacturer.

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	/	A 000 446 5960	126.200.800	2019-03-20

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	GNSS antenna	A005 820 3075
AE2	CN antenna	A002 827 2201
AE3	Wifi antenna	A177 905 2902

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

3.4. General Description

The Equipment Under Test (EUT) is a model of Vehicle Equipment with external antenna.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.



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;	2017
	15.247 Operation within the bands 902-928MHz,	
	2400-2483.5 MHz, and 5725-5850 MHz	
ANSI C63.10	American National Standard of Procedures for Compliance	2013
	Testing of Unlicensed Wireless Devices	



5. Test Results

5.1. Summary of Test Results

No	Test cases	Sub-clause of Part 15C	Verdict
0	Antenna Requirement	15.203	Р
1	Maximum Peak Output Power	15.247 (b)	Р
2	Peak Power Spectral Density	15.247 (e)	Р
3	Occupied 6dB Bandwidth	15.247 (a)	Р
4	Band Edges Compliance	15.247 (d)	Р
5 Transmitter Spurious Emission - Conducted		15.247 (d)	Р
6	Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.209	Р

See **ANNEX A** for details. And data corresponding to the frequency of each test item as the following form.

5.2. Statements

SAICT 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.

5.3. Terms used in the result table

Terms used in Verdict column

Р	Pass
NA	Not Available
F	Fail

Abbreviations

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



5.4. Laboratory Environment

Semi-anechoic chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C		
Relative humidity	Min. = 15 %, Max. = 75 %		
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB		
Electrical insulation	> 2MΩ		
Ground system resistance	< 4 Ω		
Normalised site attenuation (NSA)	< ±4 dB, 3 m distance, from 30 to 1000 MHz		

Fully-anechoic chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C	
Relative humidity	Min. = 15 %, Max. = 75 %	
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB	
Electrical insulation	> 2MΩ	
Ground system resistance	< 4 Ω	
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18 GHz, 3 m distance	
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz	

Conducted shielded room did not exceed following limits along the EMC testing:

	3 9 9
Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. =20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-10000MHz>90 dB
Electrical insulation	> 2M
Ground system resistance	< 4



6. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2020-01-16	1 year

Radiated emission test system

	Natiated emission test system						
NO.	Equipment	Model	Serial	Manufacturer	Calibration	Calibration	
110.	Equipment	Model	Number	Mariaraotaro	Due date	Period	
1	Loop Antenna	HLA6120	35779	TESEQ	2019-05-02	3 years	
2	BiLog Antenna	3142E	00224831	ETS-Lindgren	2021-05-17	3 years	
3	Horn Antenna	3117	00066577	ETS-Lindgren	2019-04-05	3 years	
4	Test Receiver	ESR7	101676	Rohde & Schwarz	2019-11-28	1 year	
5	Spectrum	FSV40	101192	Rohde & Schwarz	2019-05-21	1 year	
5	Analyser	F3V40	101192 Ronde & Scriwarz	2019-05-21	i yeai		
6	Chamber	FACT3-2.0	1285	ETS-Lindgren	2020-07-20	3 years	
7	Antenna	QSH-SL-18-	17013	Oper	2020-01-15	2 1/0 0 70	
/		26-S-20		Q-par	2020-01-15	3 years	
8	Antonna	QSH-SL-26-	17014	Q-par	2020-01-11	3 voors	
ŏ	Antenna	40-K-20	17014		2020-01-11	3 years	

Test software

No.	Equipment	Manufacturer	Version
1	TechMgr Software	CAICT	2.1.1
2	EMC32	Rohde & Schwarz	8.53.0
3	EMC32	Rohde & Schwarz	10.01.00

EUT is engineering software provided by the customer to control the transmitting signal. The EUT was programmed to be in continuously transmitting mode.

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren



7. Measurement Uncertainty

Test Name	Uncert	ainty	
RF Output Power - Conducted	±1.32dB		
2.Power Spectral Density - Conducted	±2.32	2dB	
3.Occupied channel bandwidth - Conducted	±66	Hz	
	30MHz≶f≶1GHz	±1.41dB	
4 Transmitter Spurious Emission - Conducted	1GHz≶f≶7GHz	±1.92dB	
4 Transmitter Spunous Emission - Conducted	7GHz≤f≤13GHz	±2.31dB	
	13GHz≤f≤26GHz	±2.61dB	
	9kHz≤f≤30MHz	±1.94dB	
5 Transmitter Courieus Emission Dedicted	30MHz≤f≤1GHz	±5.12dB	
5. Transmitter Spurious Emission - Radiated	1GHz≤f≤18GHz	±5.05dB	
	18GHz≤f≤40GHz	±4.68dB	



ANNEX A: Detailed Test Results

A.0 Antenna requirement

Measurement Limit:

Standard	Requirement			
	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			
FCC CRF Part	connector is prohibited. This requirement does not apply to carrier current devices			
15.203	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 0 dBi.

The RF transmitter uses an external antenna with connector.



A.1 Maximum Peak Output Power

Method of Measurement: See ANSI C63.10-clause 11.9.1.1

Use the following spectrum analyzer settings:

- a) Set the RBW = 1 MHz.
- b) Set VBW = 3 MHz.
- c) Set span = 3 MHz.
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

Measurement Limit:

Standard	Limit (dBm)	
FCC 47 CRF Part 15.247(b)	< 30	

Measurement Results:

Mode	Frequency (MHz)	Peak Conducted Output Power (dBm)	Test Results	Conclusion
	2402(CH0)	-2.44	Fig.1	Р
GFSK	2440(CH19)	-2.15	Fig.2	Р
	2480(CH39)	-1.95	Fig.3	Р

Conclusion: Pass



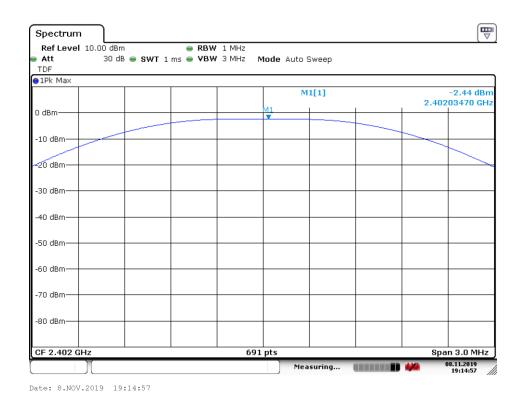


Fig.1 Maximum Peak Output Power (Ch 0)

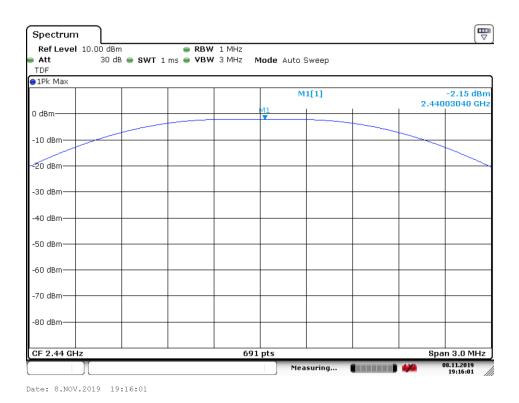


Fig.2 Maximum Peak Output Power (Ch 19)



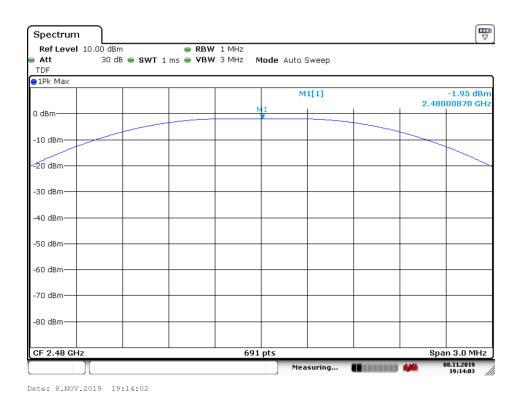


Fig.3 Maximum Peak Output Power (Ch 39)



A.2 Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-clause 11.10.2

Measurement Limit:

Standard	Limit
FCC 47 CRF Part 15.247(e)	< 8 dBm/3 kHz

Measurement Results:

Mode	Frequency (MHz)	Peak Power Spectral Density (dBm)		Conclusion
	2402(CH0)	Fig.4	-17.75	Р
GFSK	2440(CH19)	Fig.5	-17.32	Р
	2480(CH39)	Fig.6	-17.38	Р

See below for test graphs.

Conclusion: PASS

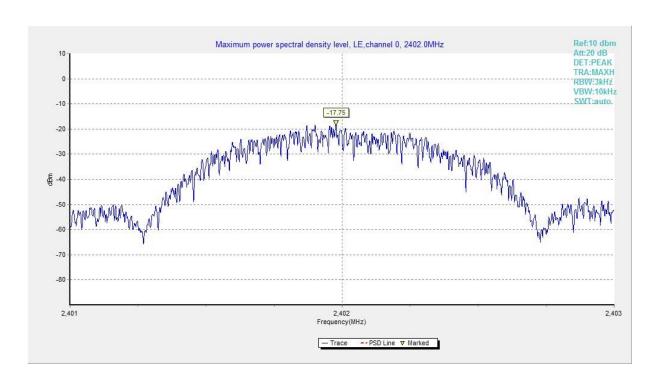


Fig.4 Power Spectral Density (Ch 0)



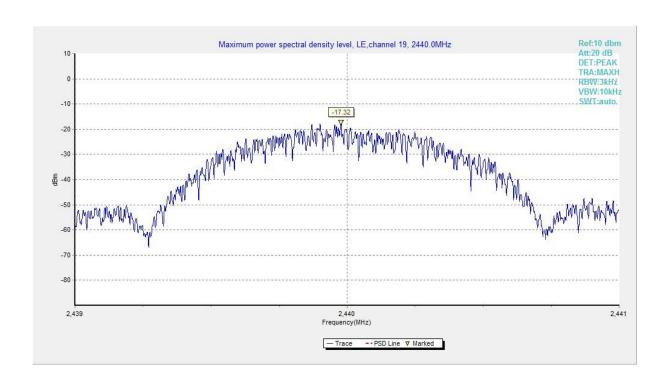


Fig.5 Power Spectral Density (Ch 19)

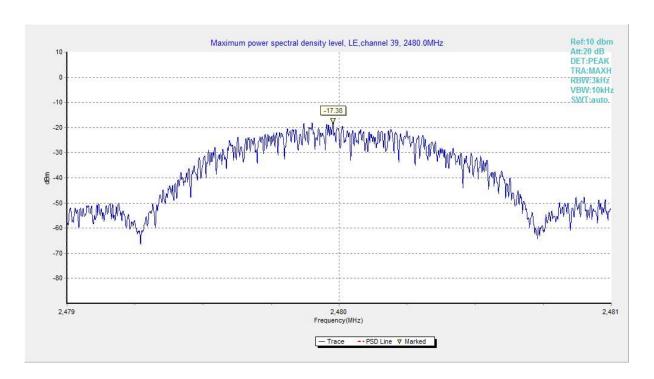


Fig.6 Power Spectral Density (Ch 39)



A.3 6dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

Measurement Result:

Mode	Frequency (MHz)	Test Results (kHz)		Conclusion
	2402(CH0)	Fig.7	714.50	Р
GFSK	2440(CH19)	Fig.8	707.00	Р
	2480(CH39)	Fig.9	705.50	Р

See below for test graphs.

Conclusion: PASS

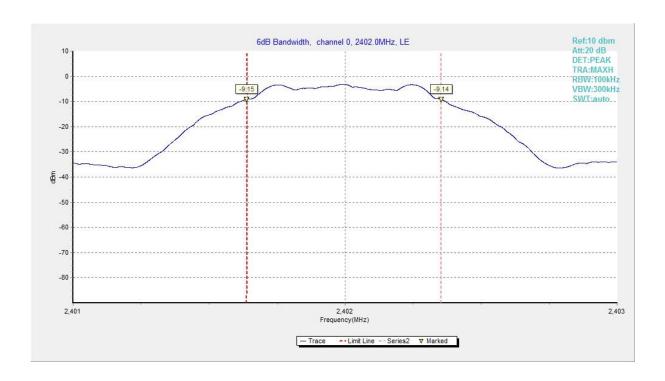


Fig.7 6dB Bandwidth (Ch 0)



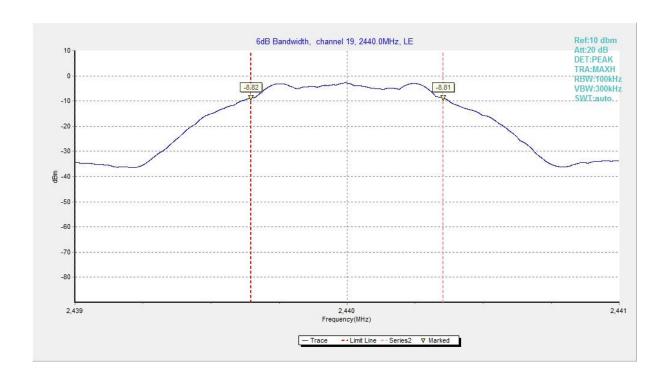


Fig.8 6dB Bandwidth (Ch 19)

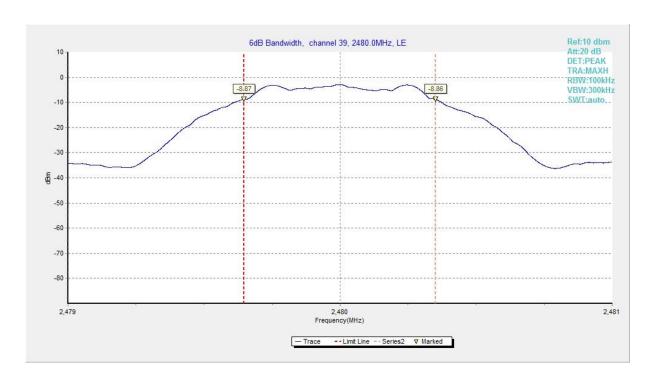


Fig.9 6dB Bandwidth (Ch 39)



A.4 Band Edges Compliance

Measurement Limit:

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

Measurement Result:

Mode	Mode Frequency (MHz)		esults	Conclusion
GFSK	2402(CH0)	Fig.10	-48.80	Р
GFSK	2480(CH39)	Fig.11	-52.81	Р

See below for test graphs.

Conclusion: Pass



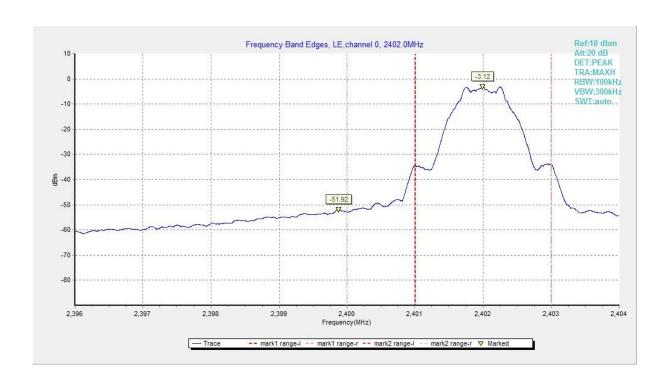


Fig.10 Band Edges (Ch 0)



Fig.11 Band Edges (Ch 39)



A.5 Transmitter Spurious Emission - Conducted

Measurement Limit:

Standard	Limit
ECC 47 CED Dort 15 247 (d)	20dB below peak output power in 100 kHz
FCC 47 CFR Part 15.247 (d)	bandwidth

Measurement Results:

Mode	Channel	Frequency Range	Test Results	Conclusion
		2.402 GHz	Fig.12	Р
	0	1GHz -3GHz	Fig.13	Р
		3GHz-10GHz	Fig.14	Р
		2.440 GHz	Fig.15	Р
	19	1GHz -3GHz	Fig.16	Р
GFSK		3GHz-10GHz	Fig.17	Р
		2.480 GHz	Fig.18	Р
	39	1GHz -3GHz	Fig.19	Р
		3GHz-10GHz	Fig.20	Р
	All channels	30MHz-1GHz	Fig.21	Р
	All channels	10GHz-26GHz	Fig.22	Р

See below for test graphs.

Conclusion: Pass



Fig.12 Conducted Spurious Emission (Ch0, Center Frequency)



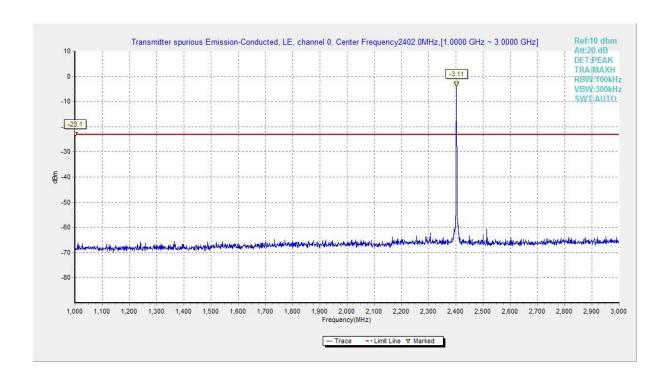


Fig.13 Conducted Spurious Emission (Ch0, 1 GHz-3 GHz)

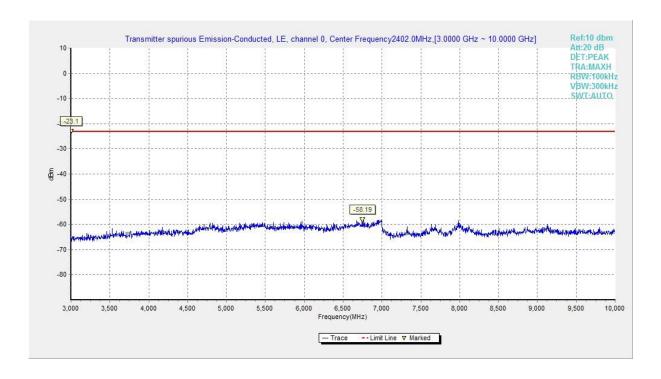


Fig.14 Conducted Spurious Emission (Ch0, 3 GHz-10 GHz)





Fig.15 Conducted Spurious Emission (Ch19, Center Frequency)

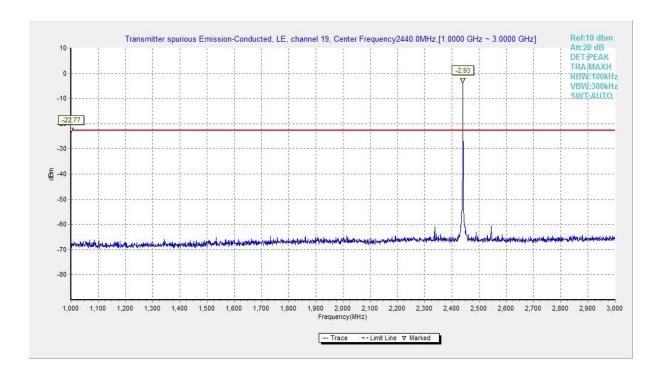


Fig.16 Conducted Spurious Emission (Ch19, 1 GHz-3 GHz)



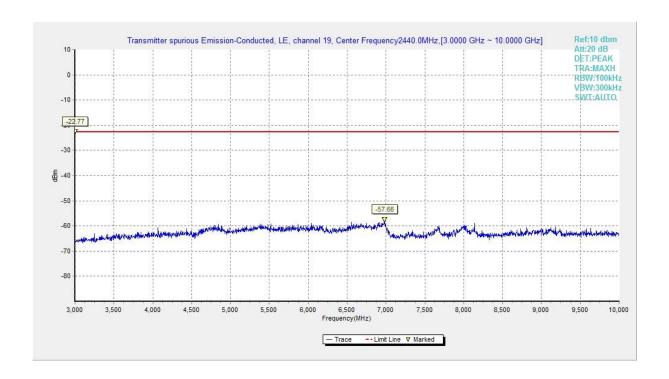


Fig.17 Conducted Spurious Emission (Ch19, 3 GHz-10 GHz)



Fig.18 Conducted Spurious Emission (Ch39, Center Frequency)



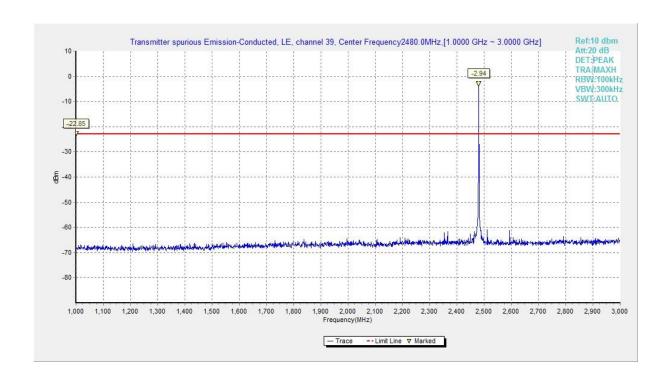


Fig.19 Conducted Spurious Emission (Ch39, 1 GHz-3 GHz)

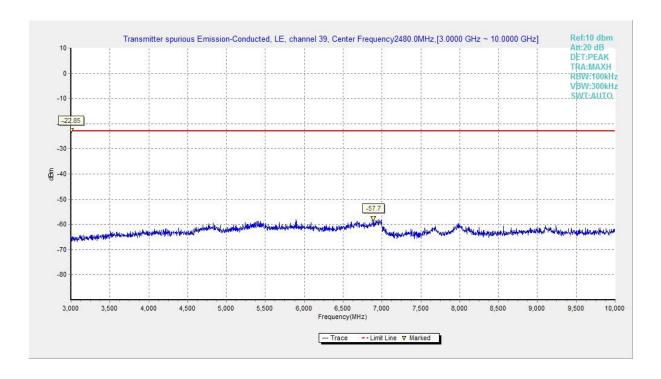


Fig.20 Conducted Spurious Emission (Ch39, 3 GHz-10 GHz)



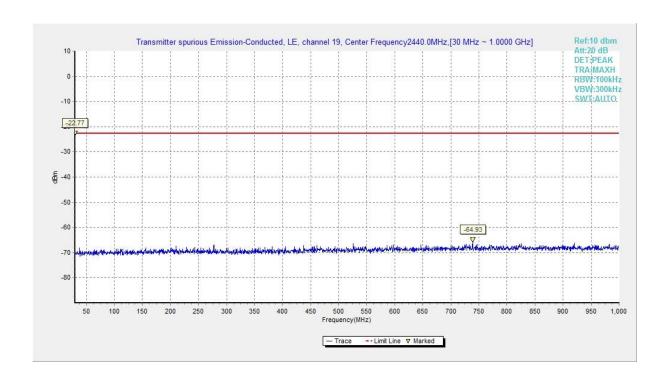


Fig.21 Conducted Spurious Emission (All channels, 30 MHz-1 GHz)

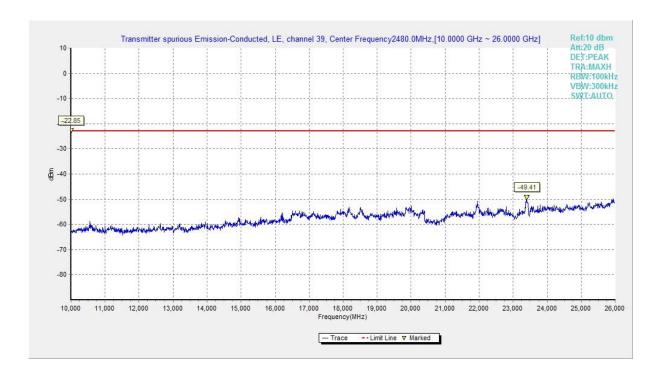


Fig.22 Conducted Spurious Emission (All channels, 10 GHz-26 GHz)



A.6 Transmitter Spurious Emission - Radiated

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(µV/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	uency of emission RBW/VBW	
(MHz)		
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 two states of EUT: horizontal polarization and vertical polarization measurements.

ALL Channels: The data presented in report is the worst case.



Measurement Results:

Mode	Direction	Channel	Frequency Range	Test Results	Conclusion
		0	1 GHz ~3 GHz	Fig.23	Р
		U	3 GHz ~18 GHz	Fig.24	Р
		19	1 GHz ~3 GHz	Fig.25	Р
	Horizontal	19	3 GHz ~18 GHz	Fig.26	Р
	Попиона	39	1 GHz ~3GHz	Fig.27	Р
		39	3 GHz ~18 GHz	Fig.28	Р
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.29	Р
		Restricted Band(CH39)	2.45 GHz ~ 2.5 GHz	Fig.30	Р
	Vertical	0	1 GHz ~3 GHz	Fig.31	Р
GFSK		U	3 GHz ~18 GHz	Fig.32	Р
		19	1 GHz ~3 GHz	Fig.33	Р
		19	3 GHz ~18 GHz	Fig.34	Р
		vertical 39	1 GHz ~3GHz	Fig.35	Р
		39	3 GHz ~18 GHz	Fig.36	Р
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.37	Р
		Restricted Band(CH39)	2.45 GHz ~ 2.5 GHz	Fig.38	Р
			9 kHz ~30 MHz	Fig.39	Р
	/	All channels	30 MHz ~1 GHz	Fig.40	Р
			18 GHz ~26.5 GHz	Fig.41	Р

Horizontal Direction:

GFSK CH0 (1-18GHz)

Frequency	MaxPeak	Average	Limit	Margin	Pol	Corr.
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	1 01	(dB)
5759.500000	44.32		74.00	29.68	V	1.7
5759.500000		28.89	54.00	25.11	V	1.7
8988.500000	44.79		74.00	29.21	V	5.0
9309.500000		30.66	54.00	23.34	V	5.2
10876.000000	44.89		74.00	29.11	V	7.4
11269.500000		32.34	54.00	21.66	Н	7.3
12574.500000		33.55	54.00	20.45	V	9.7
12590.000000	46.51		74.00	27.49	Н	9.8
14443.500000	47.94		74.00	26.06	Н	12.6
14826.000000		35.28	54.00	18.72	V	12.5
16729.000000		37.57	54.00	16.43	Н	16.1
17128.500000	51.25		74.00	22.75	V	16.3



GFSK CH19 (1-18GHz)

Frequency	MaxPeak	Average	Limit	Margin	Pol	Corr.
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		(dB)
5760.000000		34.97	54.00	19.03	V	1.7
8985.500000	46.54		74.00	27.46	V	5.0
11792.000000		33.03	54.00	20.97	Н	8.9
12493.000000	45.88		74.00	28.12	Н	9.6
12978.500000		33.54	54.00	20.46	V	10.1
14188.500000	47.62		74.00	26.38	Н	12.4
14460.500000		35.56	54.00	18.44	V	12.7
15007.000000	47.53		74.00	26.47	Н	13.0
15935.500000		36.58	54.00	17.42	Н	14.9
16256.000000	49.48		74.00	24.52	V	15.3
17103.500000		37.45	54.00	16.55	Н	16.0
17544.000000	50.44		74.00	23.56	V	16.5

GFSK CH39 (1-18GHz)

GF3K CH39 (1-16GH2)						
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
4803.500000		33.00	54.00	21.00	V	0.2
5760.000000		35.69	54.00	18.31	V	1.7
8987.000000	43.82		74.00	30.18	V	5.0
8999.000000		32.13	54.00	21.87	V	5.2
9815.000000	45.26		74.00	28.74	Н	6.4
14420.500000		35.48	54.00	18.52	Н	12.7
14512.500000	47.74		74.00	26.26	Н	12.7
16063.000000	48.68		74.00	25.32	Н	15.3
16704.000000		37.84	54.00	16.16	Н	16.3
17103.000000	50.17		74.00	23.83	Н	16.0
17575.500000	51.49		74.00	22.51	Н	16.9
17651.500000		37.90	54.00	16.10	V	17.0



Vertical Direction:

GFSK CH0 (1-18GHz)

Frequency	MaxPeak	Average	Limit	Margin	Pol	Corr.
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	FOI	(dB)
5760.000000		34.87	54.00	19.13	Н	1.6
6185.500000	42.56		74.00	31.44	V	2.2
8616.500000	43.06		74.00	30.94	V	4.5
8731.500000		30.93	54.00	23.07	Н	5.4
9833.000000	44.33		74.00	29.67	V	6.5
11746.000000		33.02	54.00	20.98	Н	8.8
13999.000000	47.37		74.00	26.63	V	11.4
14837.000000		35.36	54.00	18.64	V	12.5
16431.000000	50.22		74.00	23.78	V	15.6
16570.500000		37.28	54.00	16.72	V	15.9
17927.000000	51.23		74.00	22.77	V	17.5
17936.500000		38.75	54.00	15.25	V	17.6

GFSK CH19 (1-18GHz)

1) 51115 115 15	,	1			1	
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
5760.000000		32.61	54.00	21.39	Н	1.6
6775.500000	41.80		74.00	32.20	V	2.9
9862.000000		31.92	54.00	22.08	V	6.5
10859.500000	44.47		74.00	29.53	V	7.4
11981.000000		33.27	54.00	20.73	Н	9.2
12125.000000	46.60		74.00	27.40	Н	9.5
14464.000000		35.49	54.00	18.51	V	12.7
14497.500000	48.03		74.00	25.98	Н	12.7
16294.000000		36.70	54.00	17.30	Н	15.3
16310.000000	49.71		74.00	24.29	V	15.2
17866.000000	51.33		74.00	22.67	V	17.6
17871.500000		38.38	54.00	15.62	Н	17.7



GFSK CH39 (1-18GHz)

Frequency	MaxPeak	Average	Limit	Margin	Pol	Corr.
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	. 0.	(dB)
5760.000000		33.16	54.00	20.84	Н	1.6
6348.000000	41.96		74.00	32.04	V	2.5
8078.500000		30.47	54.00	23.53	Н	4.0
8105.500000	43.19		74.00	30.81	Н	4.0
9898.500000		31.66	54.00	22.34	Н	6.5
9940.500000	44.40		74.00	29.60	V	6.7
11948.500000		33.57	54.00	20.43	V	9.1
14009.500000	46.69		74.00	27.31	Н	11.5
14471.500000		35.45	54.00	18.55	Н	12.7
16688.500000		37.59	54.00	16.41	Н	16.1
16836.500000	50.80		74.00	23.20	Н	16.3
17938.500000	51.32		74.00	22.68	V	17.6

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and Antenna Factor, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result= P_{Mea} +Cable Loss +Antenna Factor-Gain of the preamplifier.

See below for test graphs.

Conclusion: Pass



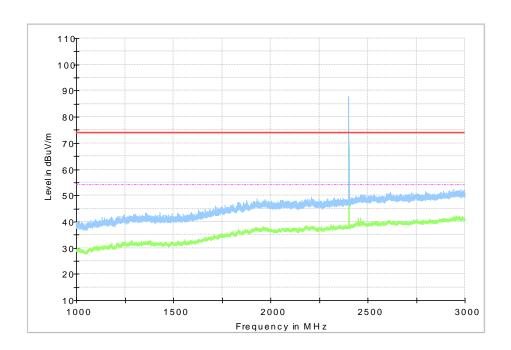


Fig.23 Radiated Spurious Emission (GFSK, Ch0, 1 GHz ~3 GHz, Horizontal Direction)

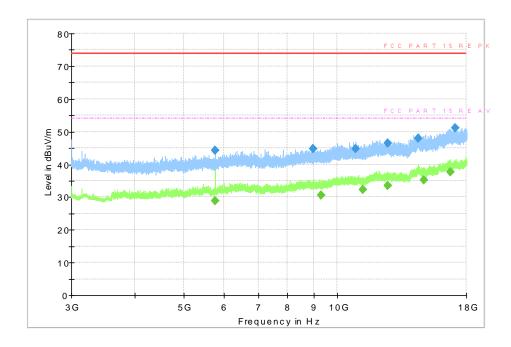


Fig.24 Radiated Spurious Emission (GFSK, Ch0, 3GHz ~18 GHz, Horizontal Direction)



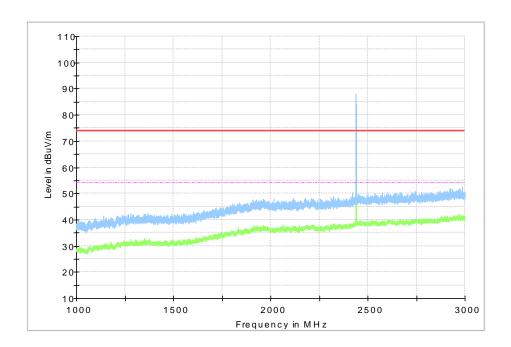


Fig.25 Radiated Spurious Emission (GFSK, Ch19, 1GHz ~3 GHz, Horizontal Direction)

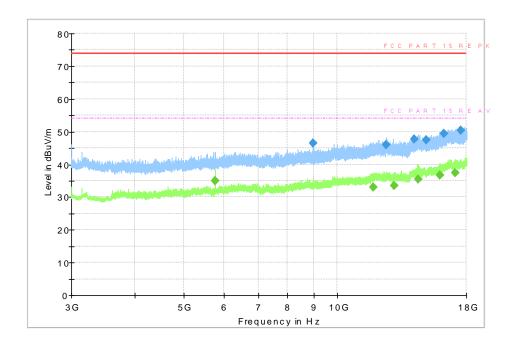


Fig.26 Radiated Spurious Emission (GFSK, Ch19, 3GHz ~18 GHz, Horizontal Direction)



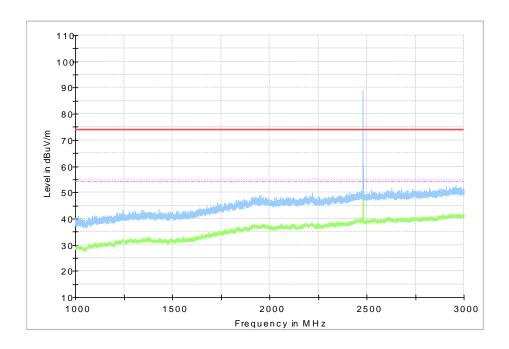


Fig.27 Radiated Spurious Emission (GFSK, Ch39, 1GHz ~3 GHz, Horizontal Direction)

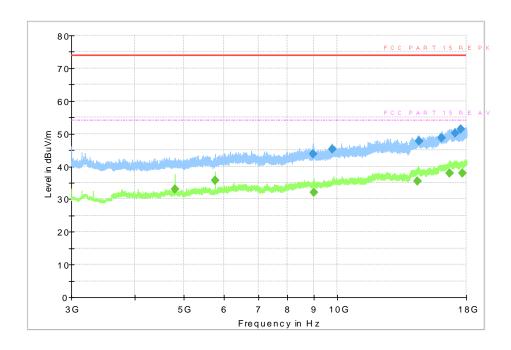


Fig.28 Radiated Spurious Emission (GFSK, Ch39, 3GHz ~18GHz, Horizontal Direction)



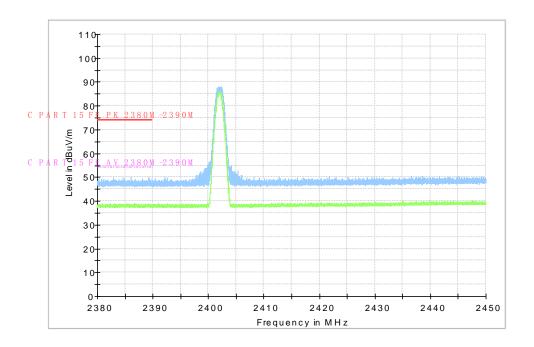


Fig.29 Radiated Band Edges (GFSK, Ch0, 2380GHz~2450GHz, Horizontal Direction)

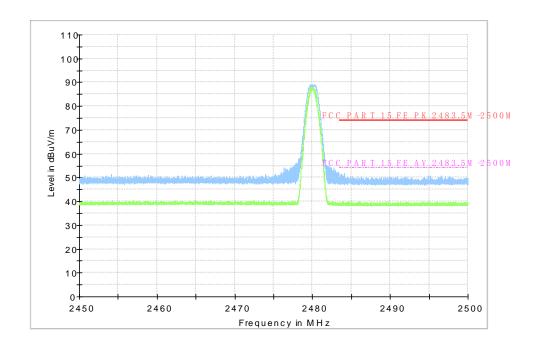


Fig.30 Radiated Band Edges (GFSK, Ch39, 2450GHz~2500GHz, Horizontal Direction)



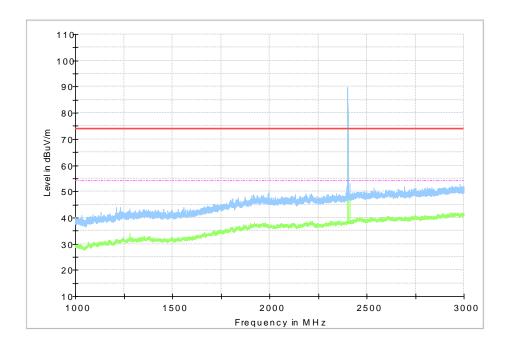


Fig.31 Radiated Spurious Emission (GFSK, Ch0, 1GHz ~3GHz, Vertical Direction)

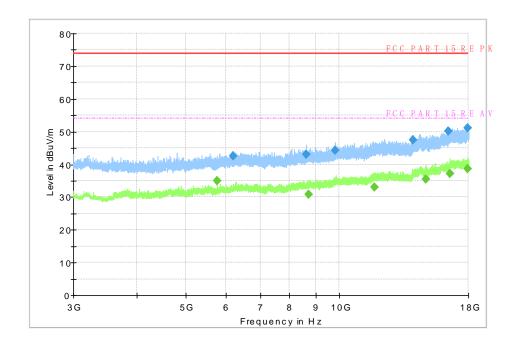


Fig.32 Radiated Spurious Emission (GFSK, Ch0, 3GHz ~18GHz, Vertical Direction)



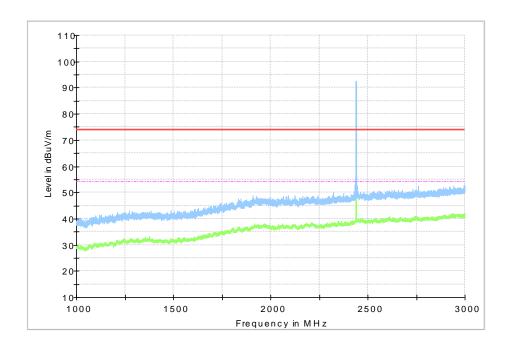


Fig.33 Radiated Spurious Emission (GFSK, Ch19, 1GHz ~3GHz, Vertical Direction)

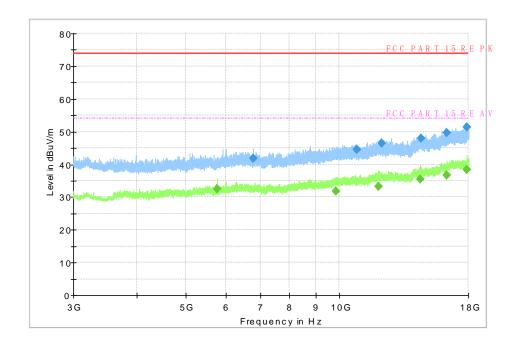


Fig.34 Radiated Spurious Emission (GFSK, Ch19, 3GHz ~18GHz, Vertical Direction)



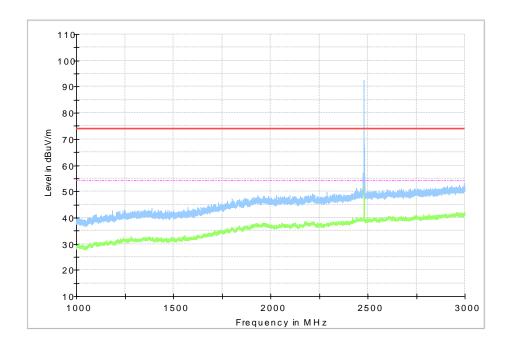


Fig.35 Radiated Spurious Emission (GFSK, Ch39, 1GHz ~3GHz, Vertical Direction)

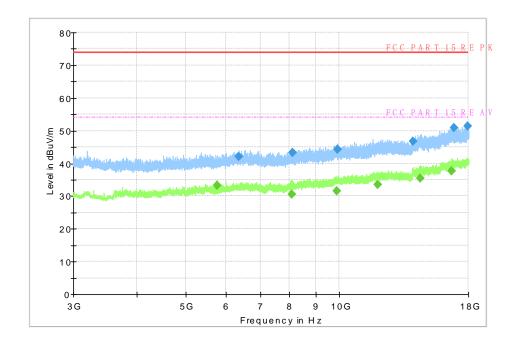


Fig.36 Radiated Spurious Emission (GFSK, Ch39, 3GHz ~18GHz, Vertical Direction)



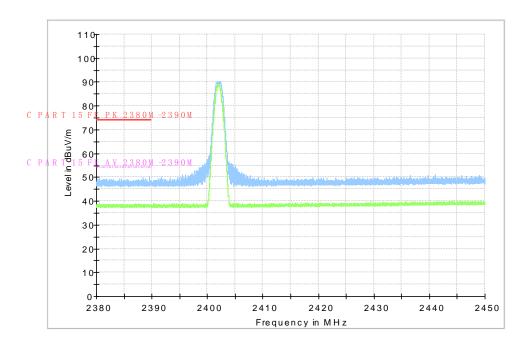


Fig.37 Radiated Band Edges (GFSK, Ch0, 2380GHz~2450GHz, Vertical Direction)

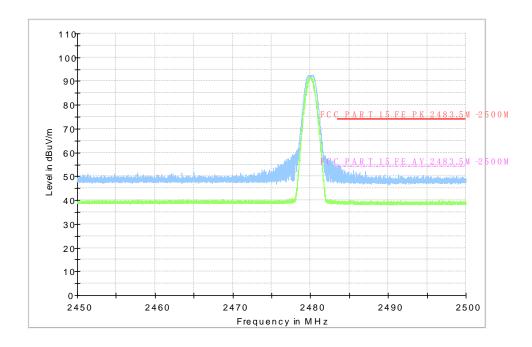


Fig.38 Radiated Band Edges (GFSK, Ch39, 2450GHz~2500GHz, Vertical Direction)



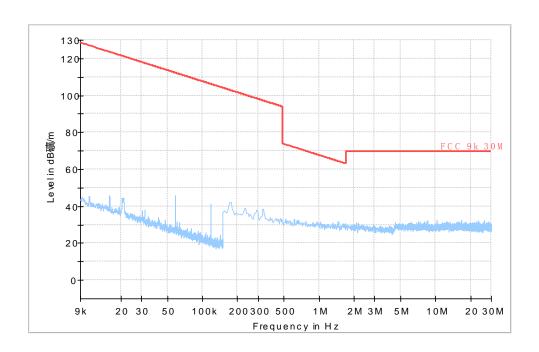


Fig.39 Radiated Spurious Emission (GFSK, All Channels, 9 kHz-30 MHz)

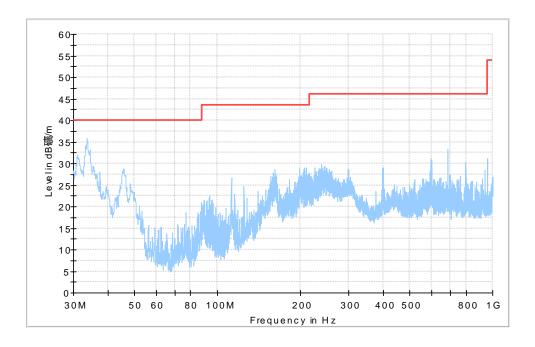


Fig.40 Radiated Spurious Emission (GFSK, All Channels, 30 MHz ~1 GHz)



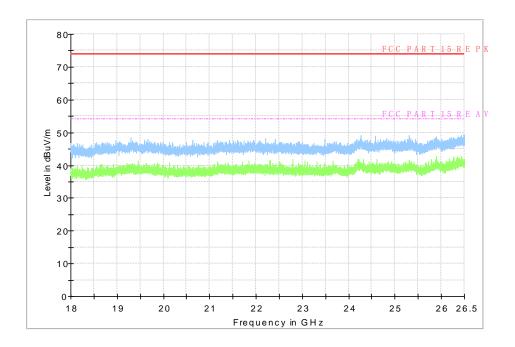


Fig.41 Radiated Spurious Emission (GFSK, All Channels, 18 GHz~ 26.5 GHz)

END OF REPORT