



FCC PART 15C TEST REPORT No. 2013TAR890

for

TCT Mobile Limited

HSUPA/HSDPA/UMTS dualband/GSM quadband mobile phone

Model Name: Yaris-4.5 US 1SIM ATV

Marketing Name: ONE TOUCH 5036F

FCC ID: RAD459

with

Hardware Version: PIO

Software Version: vF0N

Issued Date: 2014-01-17



DAR accreditation (DIN EN ISO/IEC 17025): No. D-PL-12123-01-01

FCC 2.948 Listed: No.733176

IC O.A.T.S listed: No.6629B-1

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology

Shouxiang Science Building, No 51, Xueyuan Road, Haidian District, Beijing, P.R.China 100191

Tel:+86(0)10-62304633-2678, Fax:+86(0)10-62304633 Email:welc@emcite.com

CONTENTS

CONTENTS	2
1. TEST LABORATORY	3
1.1. TESTING LOCATION	3
1.2. TESTING ENVIRONMENT.....	3
1.3. PROJECT DATA	3
1.4. SIGNATURE	3
2. CLIENT INFORMATION.....	4
2.1. APPLICANT INFORMATION	4
2.2. MANUFACTURER INFORMATION	4
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	5
3.1. ABOUT EUT	5
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	5
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	5
3.4. NORMAL ACCESSORY SETTING	6
3.5. GENERAL DESCRIPTION.....	6
4. REFERENCE DOCUMENTS	7
4.1. DOCUMENTS SUPPLIED BY APPLICANT	7
4.2. REFERENCE DOCUMENTS FOR TESTING.....	7
5. LABORATORY ENVIRONMENT	8
6. SUMMARY OF TEST RESULTS	9
6.1. SUMMARY OF TEST RESULTS	9
6.2. STATEMENTS.....	9
7. TEST EQUIPMENTS UTILIZED	10
ANNEX A: MEASUREMENT RESULTS.....	11
A.1. MEASUREMENT METHOD	11
A.2. 6dB BANDWIDTH.....	12
A.3. PEAK OUTPUT POWER - CONDUCTED	15
A.4. MAXIMUM POWER SPECTRAL DENSITY LEVEL	16
A.5. CONDUCTED EMISSION	18
A.6. RADIATED EMISSION.....	27
A.7. FREQUENCY BAND EDGES - CONDUCTED.....	37
A.8. AC POWERLINE CONDUCTED EMISSION	39

1. Test Laboratory

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: Shouxiang Science Building, No 51, Xueyuan Road, Haidian District,
Beijing, P.R.China
Postal Code: 100191
Telephone: 00861062304633
Fax: 00861062304633

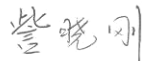
1.2. Testing Environment

Normal Temperature: 15-35 °C
Extreme Temperature: -20/+55 °C
Relative Humidity: 20-75%

1.3. Project data

Project Leader: Zi Xiaogang
Testing Start Date: 2014-01-08
Testing End Date: 2014-01-15

1.4. Signature



Zi Xiaogang
(Prepared this test report)



Sun Xiangqian
(Reviewed this test report)



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

2. Client Information

2.1. Applicant Information

Company Name: TCT Mobile Limited
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China.
City: Shanghai
Postal Code: 201203
Country: China
Contact Person: Gong Zhizhou
Contact Email zhizhou.gong@jrdcom.com
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

2.2. Manufacturer Information

Company Name: TCT Mobile Limited
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China.
City: Shanghai
Postal Code: 201203
Country: China
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

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

3.1. About EUT

Description	HSUPA/HSDPA/UMTS dualband/GSM quadband mobile phone
Model Name	Yaris-4.5 US 1SIM ATV
Marketing Name	ONE TOUCH 5036F
FCC ID	RAD459
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation(LE mode)	GFSK
Number of Channels(LE mode)	40
Power Supply	3.8V DC by Battery

Note: The EUT is a variant model of ONE TOUCH 5036A. All the result is coming from the ONE TOUCH 5036A.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N15	014026000000041	PIO	vF0N
N16	014026000000058	PIO	vF0N

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

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery /
AE2	Battery /
AE3	Travel charger /
AE4	Travel charger /

AE1

Model	TLiB5AF
Manufacturer	BYD
Capacitance	1800 mAh
Nominal voltage	3.7V

AE2

Model	TLiB32E
Manufacturer	SCUD
Capacitance	1800 mAh
Nominal voltage	3.7V

AE3

Model	CBA3007AG0C1
Manufacturer	BYD

Length of cable	/
AE4	
Model	CBA3007AG0C2
Manufacturer	Tenpao
Length of cable	/

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

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 HSUPA/HSDPA/UMTS dualband/GSM quadband mobile phone with integrated antenna. It consists of normal options: lithium battery, charger. 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.

	FCC CFR 47, Part 15, Subpart C:	
	15.205 Restricted bands of operation;	
FCC Part15	15.209 Radiated emission limits, general requirements;	10-1-12
	15.247 Operation within the bands 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz.	
KDB 558074	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247	v03r01

5. LABORATORY ENVIRONMENT

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

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

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

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

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

6. SUMMARY OF TEST RESULTS

6.1. 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 TMC

SUMMARY OF MEASUREMENT RESULTS	Sub-clause	Verdict
6dB Bandwidth	15.247 (a)(2)	P
Peak Output Power - Conducted	15.247 (b)(1)	P
Maximum Power Spectral Density Level	15.247(e)	P
Conducted Emission	15.247 (d)	P
Radiated Emission	15.247, 15.205, 15.209	P
Frequency Band Edges	15.247 (d)	P
AC Powerline Conducted Emission	15.107, 15.207	P

Please refer to **ANNEX A** for detail.

The measurement is made according to KDB 558074.

6.2. Statements

TMC has evaluated the test cases requested by the applicant /manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.2

7. Test Equipments Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Vector Signal Analyzer	FSU26	200030	Rohde & Schwarz	2014-06-12

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	2014-11-05
2	EMI Antenna	VULB 9163	9163482	Schwarzbeck	2014-02-17
3	EMI Antenna	3117	00119024	EMCO	2014-02-03
4	Dual-Ridge Waveguide Horn Antenna	3116	2663	ETS-Lindgren	2014-06-30
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	2014-06-30
6	Bluetooth Tester	CBT	100153	Rohde & Schwarz	2014-09-15
7	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2014-03-17
8	Pre-amplifier(18GHz)	SCU18	1005277	Rohde & Schwarz	/
9	Pre-amplifier(26.5GHz)	SCU26	1006788	Rohde & Schwarz	/

Anechoic chamber

Fully anechoic chamber by Frankonia German.

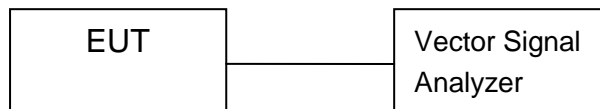
ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

A.1.1. Conducted Measurements

The measurement is made according to KDB 558074.

- 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.



A.1.2. Radiated Emission Measurements

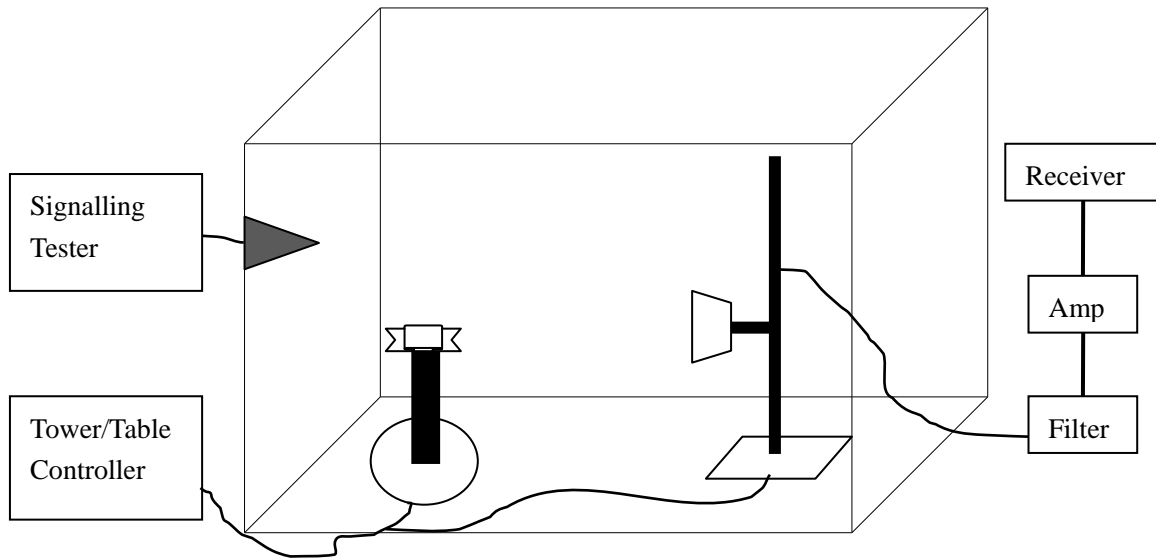
The measurement is made according to KDB 558074 and C63.4.

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.

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 = 1MHz;



A.2. 6dB Bandwidth

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a)(2)	$\geq 500\text{KHz}$

The measurement is made according to KDB 558074.

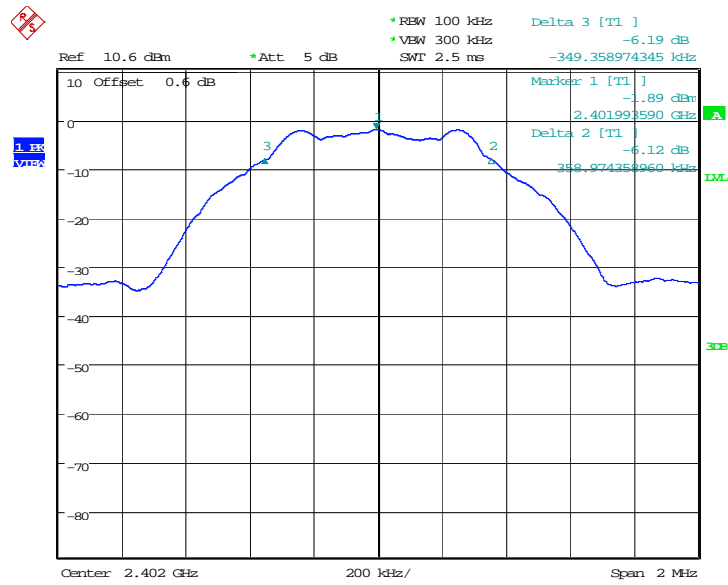
Measurement Results:

For GFSK

Frequency	6dB Bandwidth (kHz)		Conclusion
2402MHz	Fig.1	708.33	P
2440MHz	Fig.2	708.33	P
2480MHz	Fig.3	711.54	P

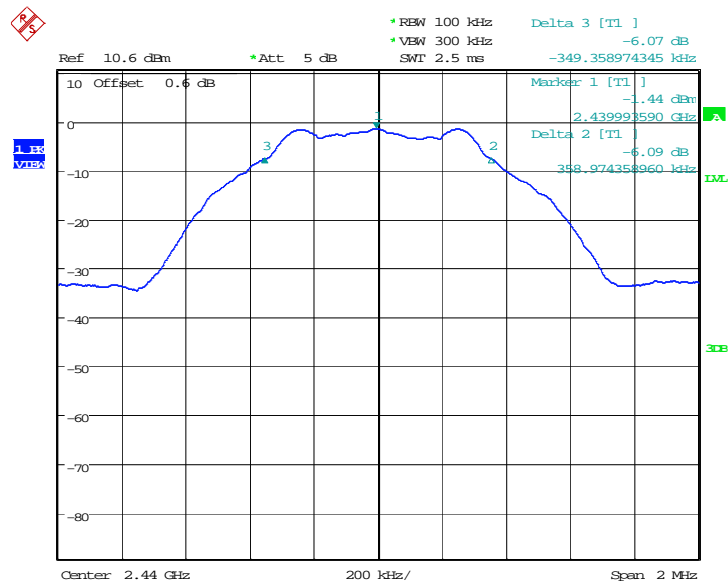
Conclusion: PASS

Test graphs as below:



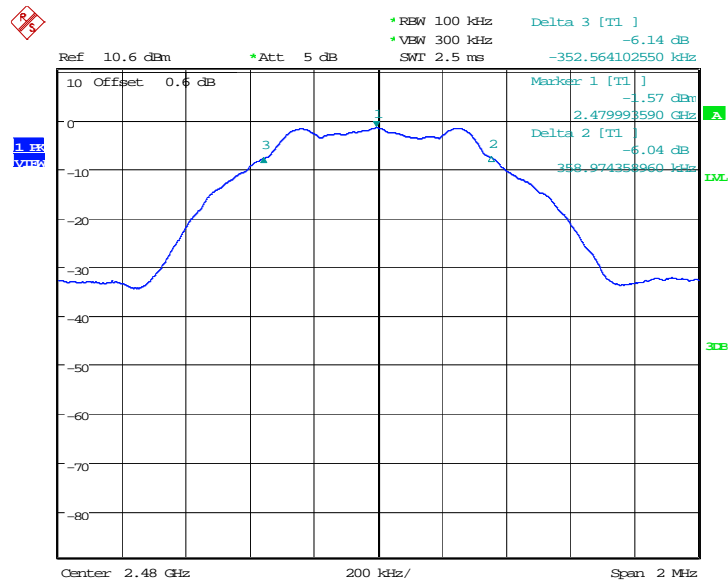
Date: 27.AUG.2013 13:24:54

Fig.1. 6dB Bandwidth: GFSK, 2402 MHz



Date: 27.AUG.2013 13:30:14

Fig.2. 6dB Bandwidth: GFSK, 2440 MHz



Date: 27.AUG.2013 13:34:50

Fig.3. 6dB Bandwidth: GFSK, 2480 MHz

A.3. Peak Output Power - Conducted

Measurement Limit:

Standard	Limit (dBm)
FCC Part 15.247(b)(1)	< 30

The measurement is made according to KDB 558074.

Measurement Results:

For GFSK

Frequency	2402 MHz	2440 MHz	2480 MHz	Conclusion
Peak Conducted Output Power (dBm)	-0.71	-0.20	-0.33	P

Conclusion: PASS

A.4. Maximum Power Spectral Density Level

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(e)	$\leq 8.0\text{dBm}$

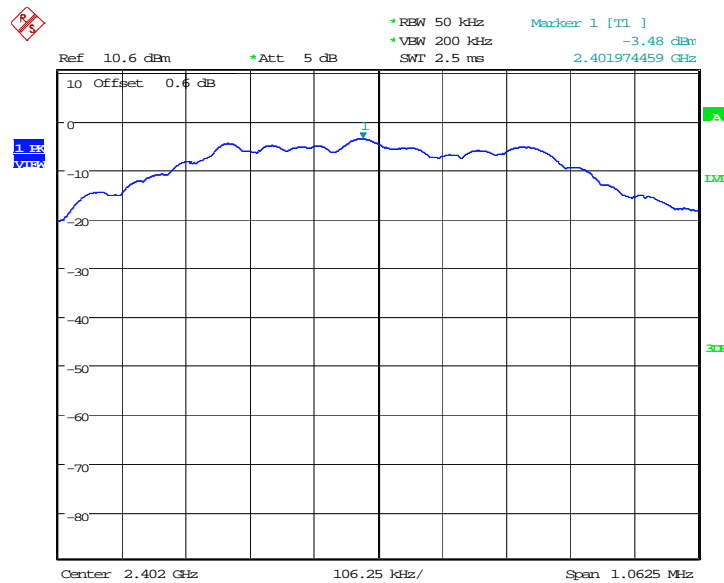
The measurement is made according to KDB 558074 in which the RBW of spectrum analyzer is required to be set between 3 KHz to 100 KHz. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat. The RBW is set to 50KHz in measurement which corresponds to the KDB 558074.

Measurement Results:

For GFSK

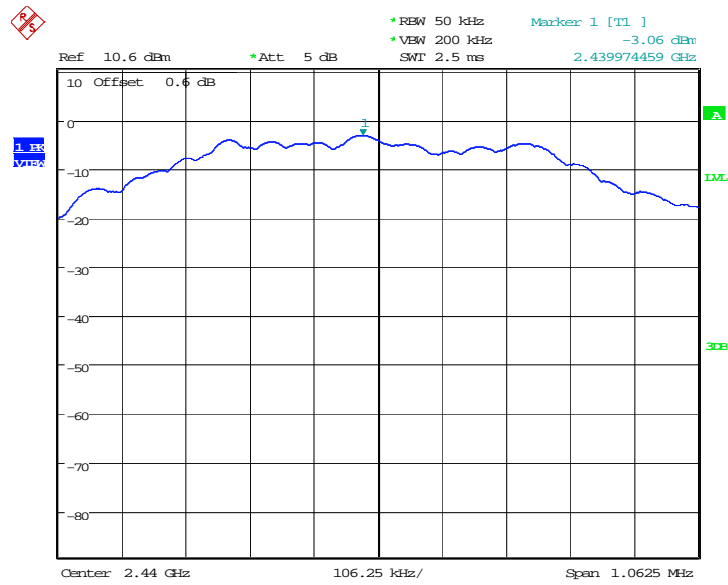
Frequency	Maximum Power Spectral Density Level(dBm)	Conclusion
2402MHz	Fig.4	P
2440MHz	Fig.5	P
2480MHz	Fig.6	P

Test graphs as below:



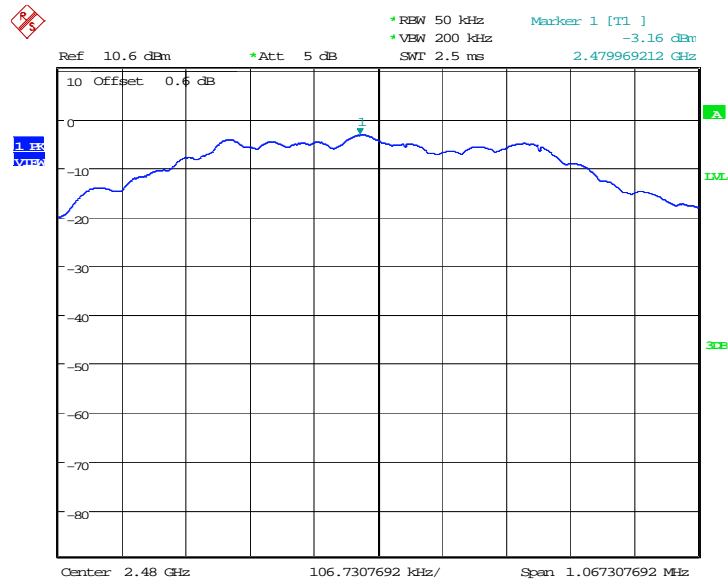
Date: 27.AUG.2013 13:25:20

Fig.4. Maximum Power Spectral Density Level Function: GFSK, 2402 MHz



Date: 27.AUG.2013 13:30:41

Fig.5. Maximum Power Spectral Density Level Function: GFSK, 2440 MHz



Date: 27.AUG.2013 13:35:17

Fig.6. Maximum Power Spectral Density Level Function: GFSK, 2480 MHz

A.5. Conducted Emission

Measurement Limit:

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

The measurement is made according to KDB 558074.

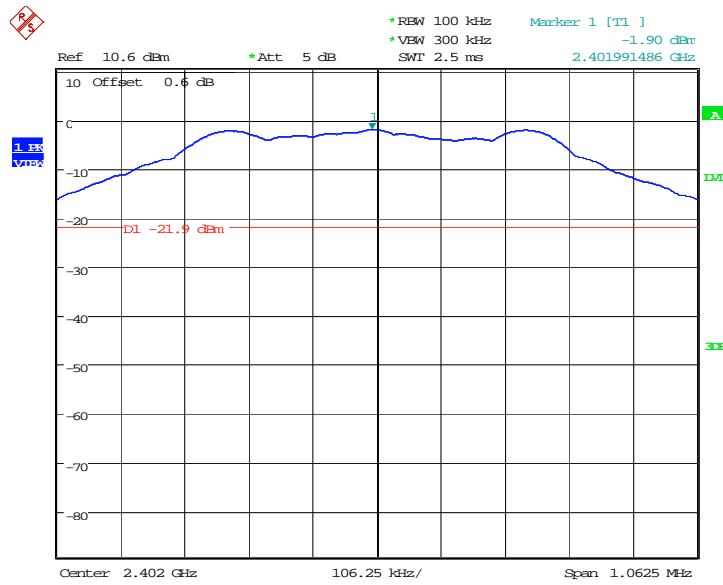
Measurement Results:

For GFSK

Frequency	Frequency Range	Test Results	Conclusion
2402 MHz	Center Frequency	Fig.7	P
	30 MHz ~ 1 GHz	Fig.8	P
	1 GHz ~ 3 GHz	Fig.9	P
	3 GHz ~ 10 GHz	Fig.10	P
	10GHz ~ 26 GHz	Fig.11	P
2440 MHz	Center Frequency	Fig.12	P
	30 MHz ~ 1 GHz	Fig.13	P
	1 GHz ~ 3 GHz	Fig.14	P
	3 GHz ~ 10 GHz	Fig.15	P
	10GHz ~ 26 GHz	Fig.16	P
2480 MHz	Center Frequency	Fig.17	P
	30 MHz ~ 1 GHz	Fig.18	P
	1 GHz ~ 3GHz	Fig.19	P
	3 GHz ~ 10 GHz	Fig.20	P
	10 GHz ~ 26 GHz	Fig.21	P

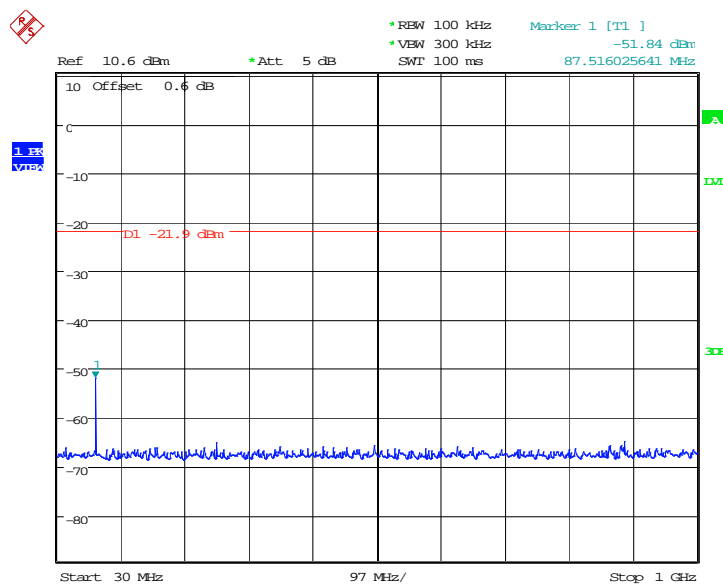
Conclusion: PASS

Test graphs as below



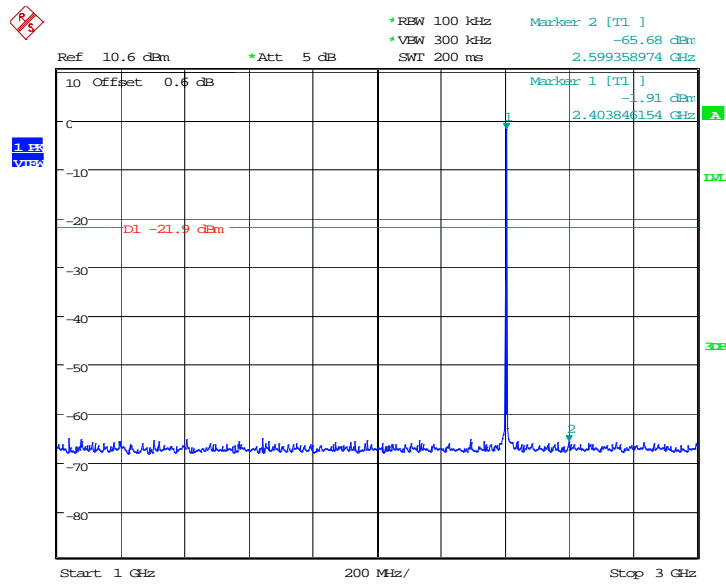
Date: 27.AUG.2013 13:25:39

Fig.7. Conducted spurious emission: GFSK,2402MHz



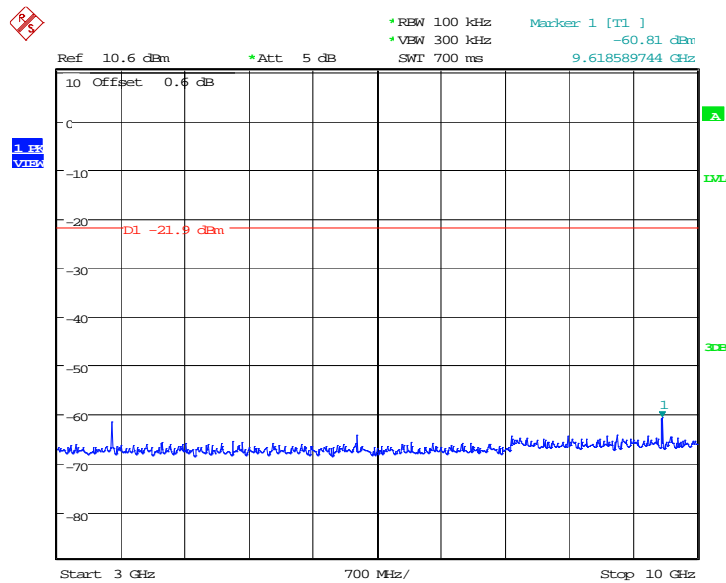
Date: 27.AUG.2013 13:25:56

Fig.8. Conducted spurious emission: GFSK, 2402 MHz, 30MHz - 1GHz



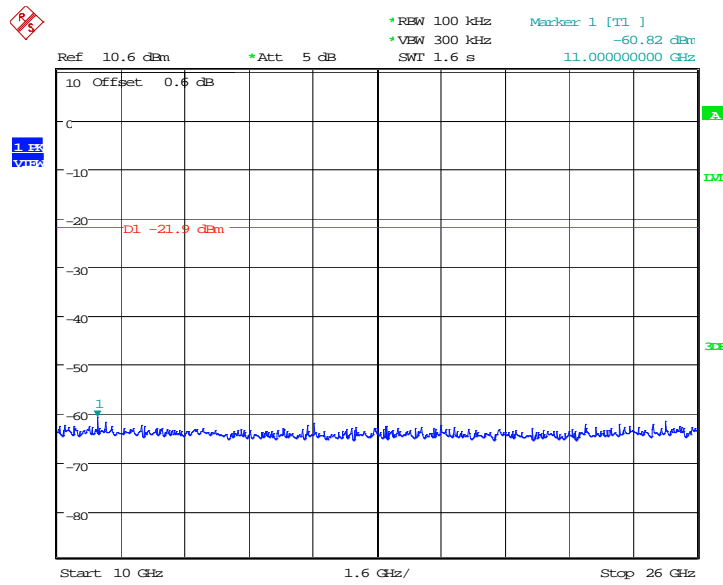
Date: 27.AUG.2013 13:26:27

Fig.9. Conducted spurious emission: GFSK, 2402 MHz,1GHz - 3GHz



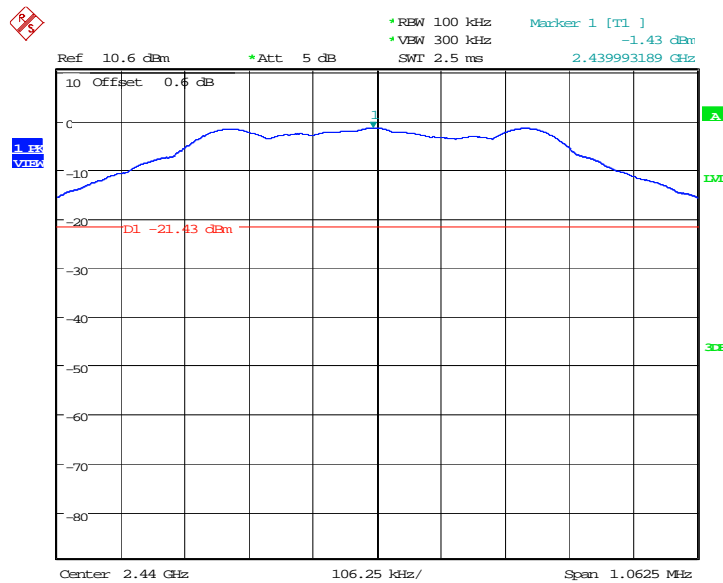
Date: 27.AUG.2013 13:26:44

Fig.10. Conducted spurious emission: GFSK, 2402 MHz,3GHz - 10GHz



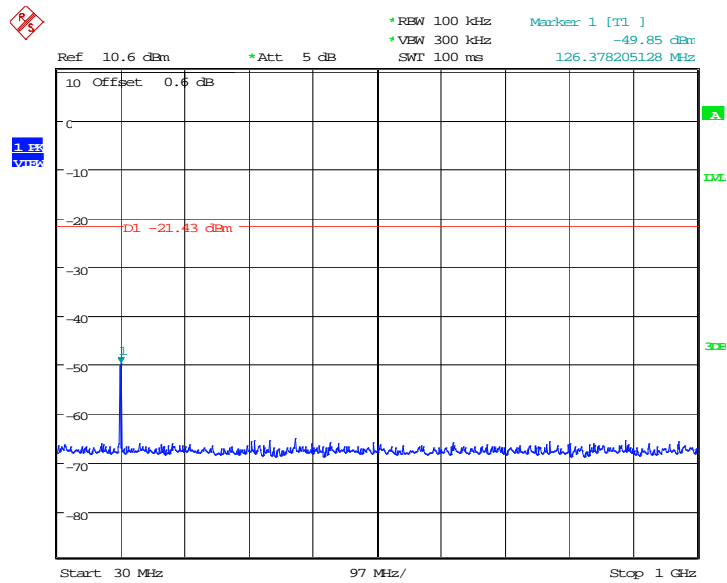
Date: 27.AUG.2013 13:27:00

Fig.11. Conducted spurious emission: GFSK, 2402 MHz,10GHz - 26GHz



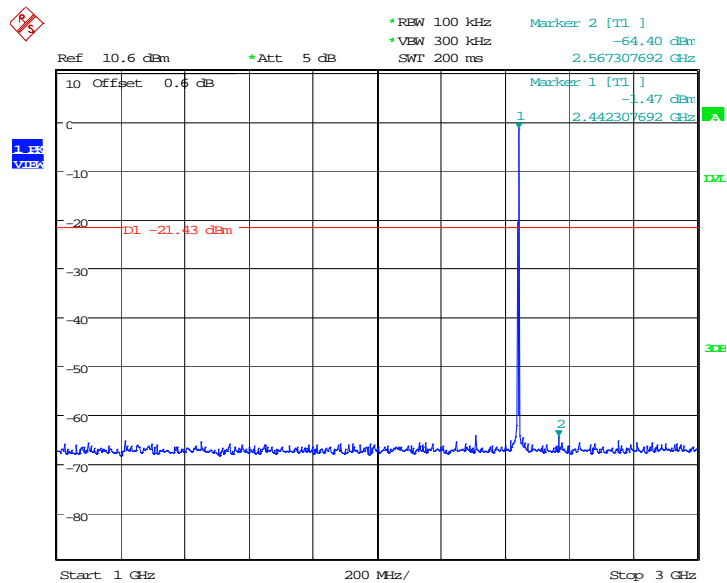
Date: 27.AUG.2013 13:30:59

Fig.12. Conducted spurious emission: GFSK, 2440MHz



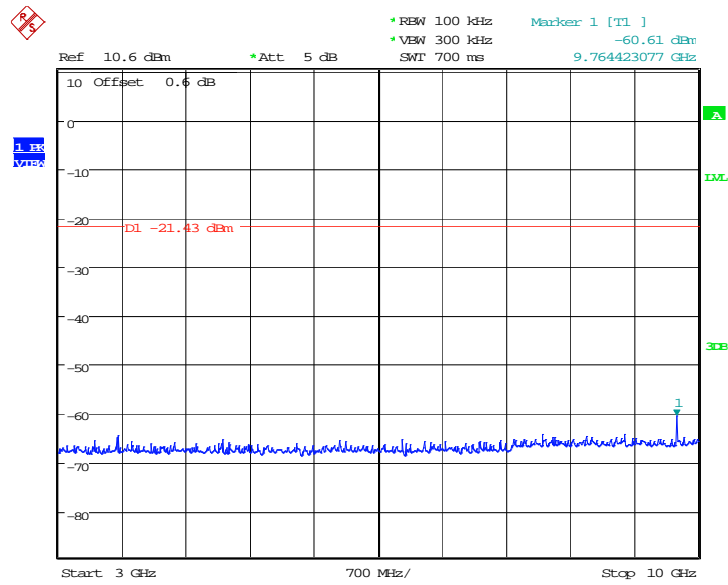
Date: 27.AUG.2013 13:31:16

Fig.13. Conducted spurious emission: GFSK, 2440 MHz, 30MHz - 1GHz



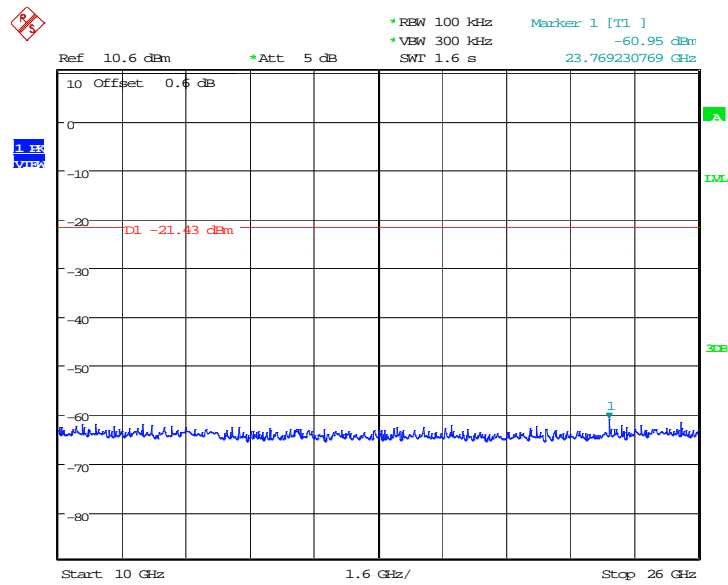
Date: 27.AUG.2013 13:31:47

Fig.14. Conducted spurious emission: GFSK, 2440 MHz, 1GHz - 3GHz



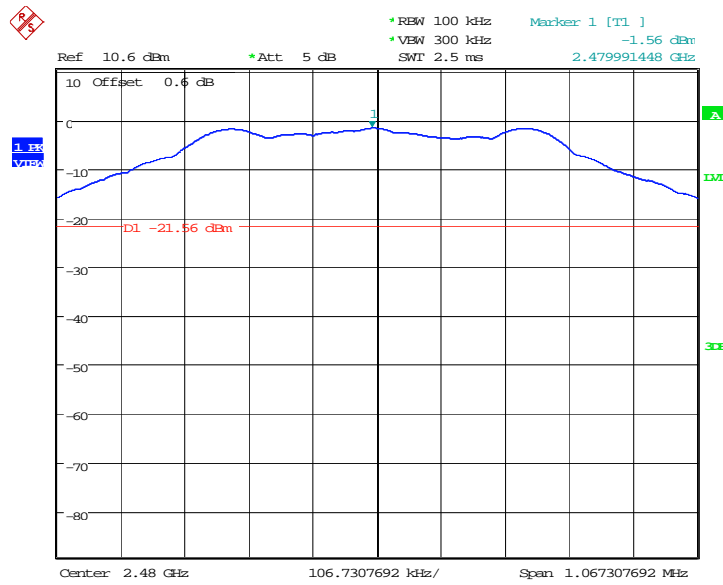
Date: 27.AUG.2013 13:32:04

Fig.15. Conducted spurious emission: GFSK, 2440 MHz, 3GHz – 10GHz



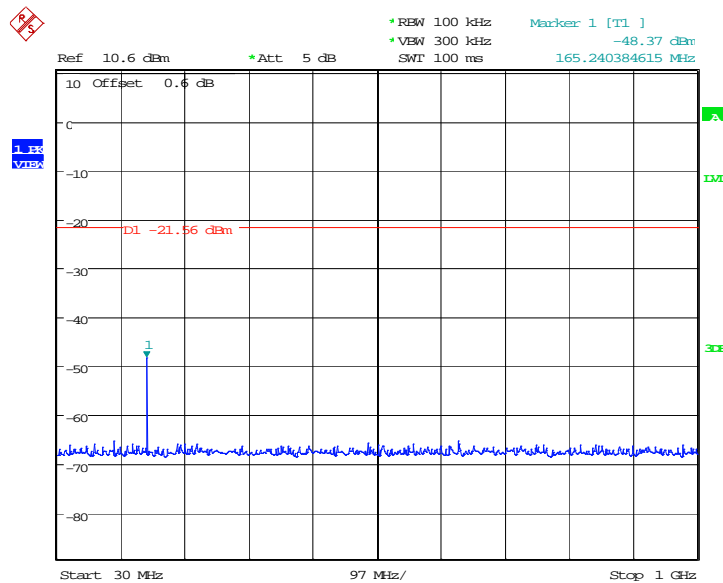
Date: 27.AUG.2013 13:32:21

Fig.16. Conducted spurious emission: GFSK, 2440 MHz, 10GHz – 26GHz



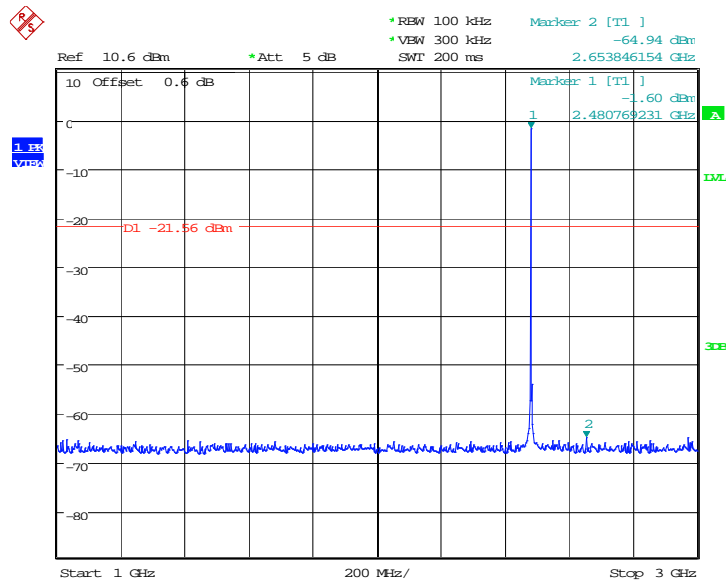
Date: 27.AUG.2013 13:35:35

Fig.17. Conducted spurious emission: GFSK, 2480 MHz



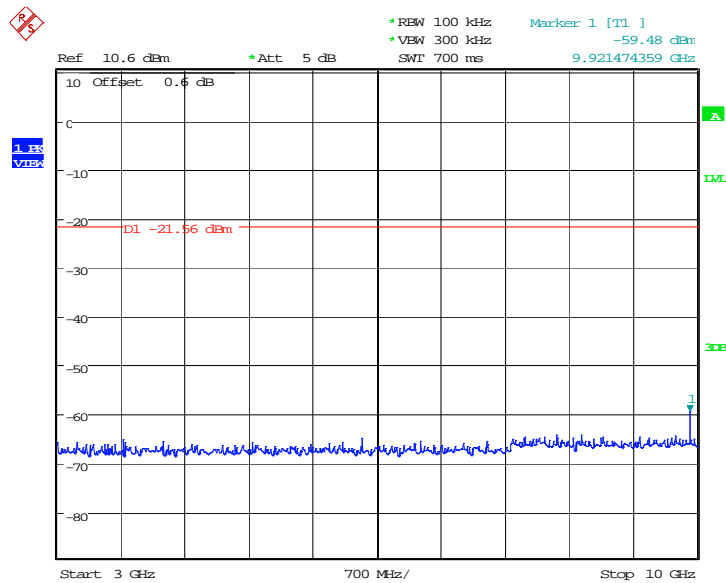
Date: 27.AUG.2013 13:35:52

Fig.18. Conducted spurious emission: GFSK, 2480 MHz, 30MHz - 1GHz



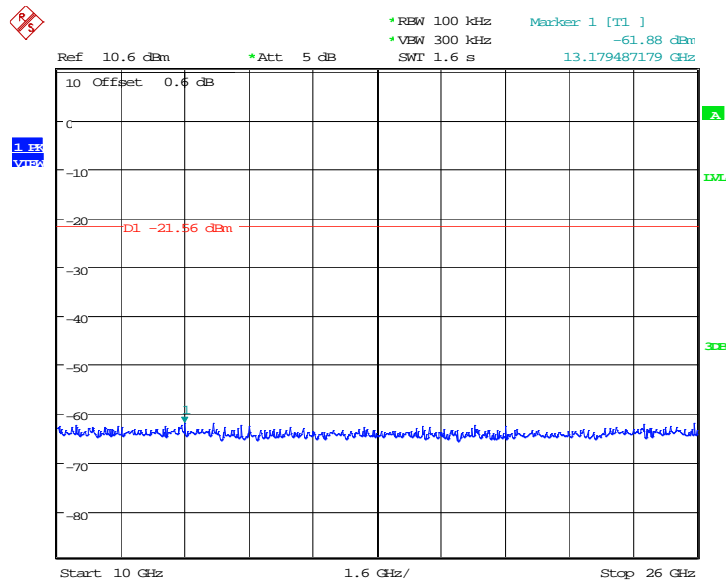
Date: 27.AUG.2013 13:36:24

Fig.19. Conducted spurious emission: GFSK, 2480 MHz, 1GHz - 3GHz



Date: 27.AUG.2013 13:36:40

Fig.20. Conducted spurious emission: GFSK, 2480 MHz, 3GHz - 10GHz



Date: 27.AUG.2013 13:36:57

Fig.21. Conducted spurious emission: GFSK, 2480 MHz, 10GHz - 26GHz

A.6. Radiated Emission

Measurement Limit:

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

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

The measurement is made according to KDB 558074 and C63.4.

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

Measurement Results:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable los.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{Mea}} + A_{\text{Rpl}}$$

For GFSK

Frequency	Frequency Range	Test Results	Conclusion
2402 MHz	30 MHz ~ 1 GHz	Fig.22	P
	1 GHz ~ 3 GHz	Fig.23	P
	3 GHz ~ 18 GHz	Fig.24	P
2441 MHz	30 MHz ~ 1 GHz	Fig.25	P
	1 GHz ~ 3 GHz	Fig.26	P
	3 GHz ~ 18 GHz	Fig.27	P

2480 MHz	30 MHz ~ 1 GHz	Fig.28	P
	1 GHz ~ 3 GHz	Fig.29	P
	3 GHz ~ 18 GHz	Fig.30	P
Power	2.38GHz~2.4GHz---10Hz	Fig.31	P
Power	2.38GHz~2.4GHz---1MHz	Fig.32	P
Power	2.45GHz~2.5GHz---10Hz	Fig.33	P
Power	2.38GHz~2.4GHz---1MHz	Fig.34	P
For all channels	18 GHz ~ 26 GHz	Fig.35	P

GFSK 2402MHz-10Hz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17500.00	44.60	20.02	24.61	H
17500.50	44.60	20.02	24.61	H
17500.60	44.60	20.02	24.61	H
17500.40	44.60	20.02	24.61	H
17500.80	44.60	20.02	24.61	H
17500.10	44.60	20.02	24.61	H

GFSK 2402MHz-1MHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17456.25	58.00	18.88	39.12	V
17497.50	57.90	20.22	37.64	H
17862.75	57.80	19.82	37.95	V
17968.50	57.70	19.82	37.88	V
17503.50	57.70	20.02	37.71	H
17490.75	57.60	20.22	37.34	V

GFSK 2440MHz-10Hz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17500.00	44.60	20.02	24.61	V
17500.10	44.60	20.02	24.61	H
17503.30	44.60	20.02	24.61	V
17501.10	44.60	20.02	24.61	V
17501.20	44.60	20.02	24.61	H
17500.30	44.60	20.02	24.61	V

GFSK 2440MHz-1MHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17501.25	57.80	20.02	37.81	V
17803.50	57.70	20.06	37.60	H
16947.75	57.50	19.43	38.03	V
17769.75	57.50	19.36	38.17	V
17882.25	57.30	19.62	37.69	H

17980.50	57.30	19.42	37.92	V
----------	-------	-------	-------	---

GFSK 2480MHz-10Hz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17501.00	44.60	20.02	24.61	H
17501.10	44.60	20.02	24.61	H
17500.90	44.60	20.02	24.61	H
17501.20	44.60	20.02	24.61	V
17501.30	44.60	20.02	24.61	V
17500.30	44.60	20.02	24.61	H

GFSK 2480MHz-1MHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
17763.75	58.50	19.36	39.17	V
17910.75	58.40	19.82	38.63	H
17952.00	57.70	19.82	37.88	H
17411.25	57.60	18.98	38.61	V
17525.25	57.50	20.12	37.35	V
17959.50	57.50	19.82	37.68	H

Conclusion: PASS

Test graphs as below:

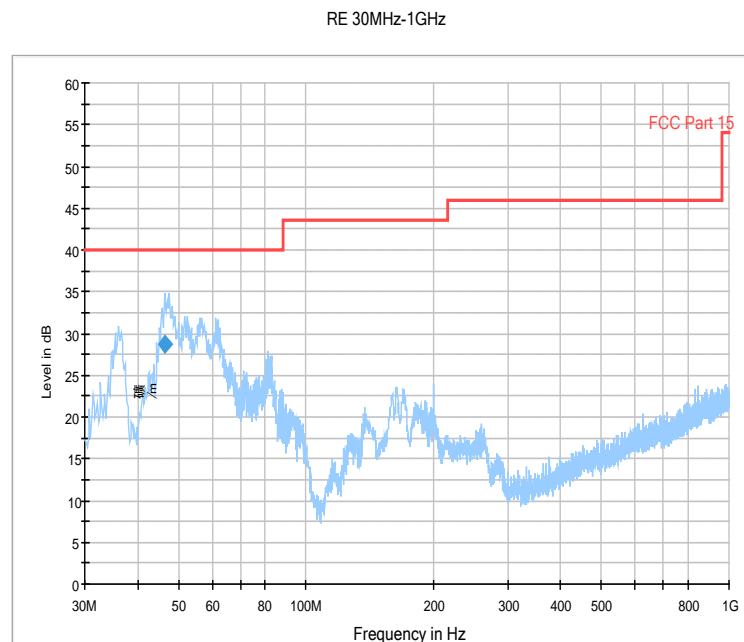


Fig.22. Radiated emission: GFSK, 2402MHz, 30 MHz - 1 GHz

RE - 1GHz-3GHz

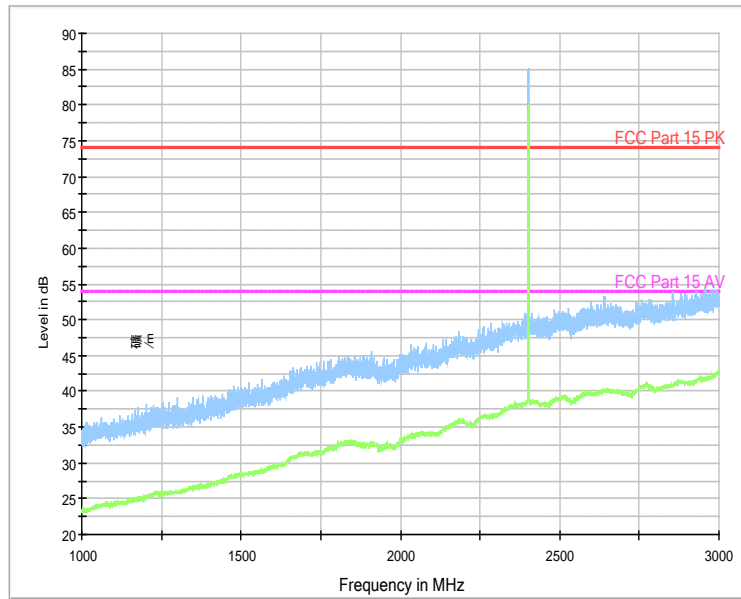


Fig.23. Radiated emission: GFSK, 2402MHz, 1 GHz - 3GHz

RE - 3GHz-18GHz

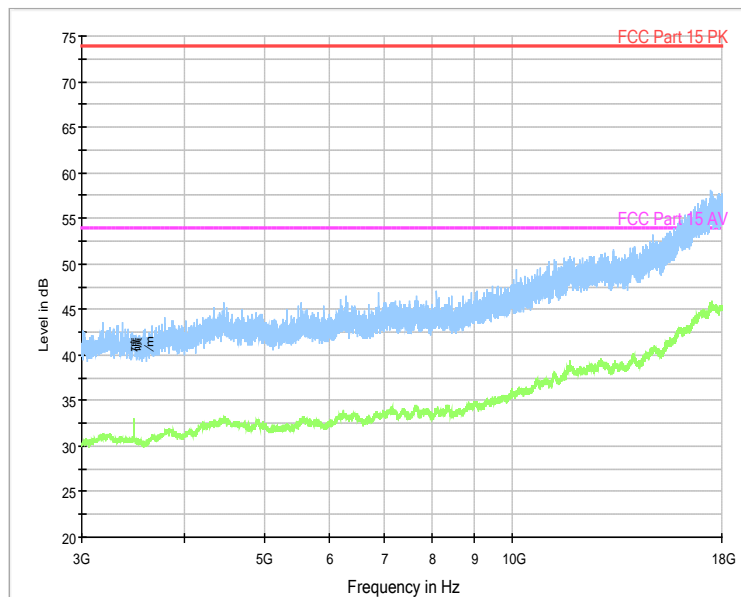


Fig.24. Radiated emission: GFSK, 2402MHz, 3 GHz - 18 GHz

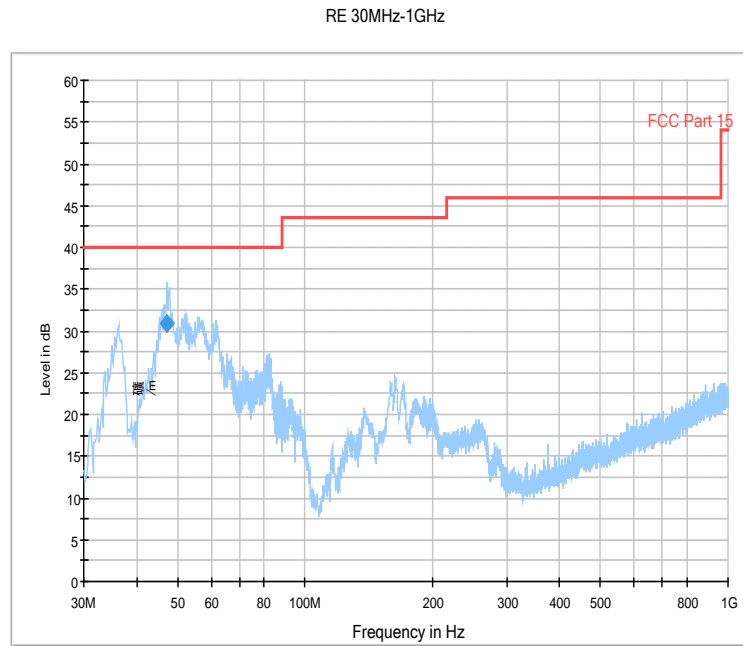


Fig.25. Radiated emission: GFSK, 2440MHz, 30 MHz - 1 GHz

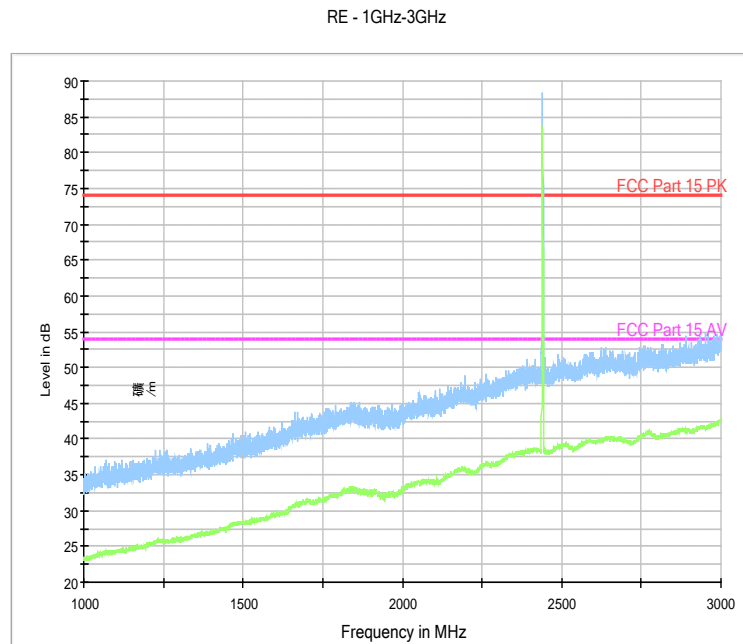


Fig.26. Radiated emission: GFSK, 2440MHz, 1 GHz - 3 GHz

RE - 3GHz-18GHz

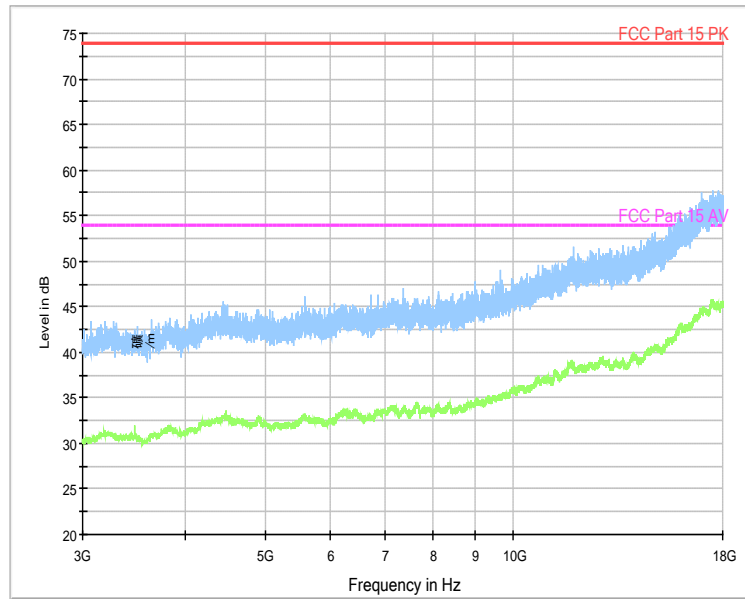


Fig.27. Radiated emission: GFSK, 2440MHz, 3 GHz - 18 GHz

RE 30MHz-1GHz

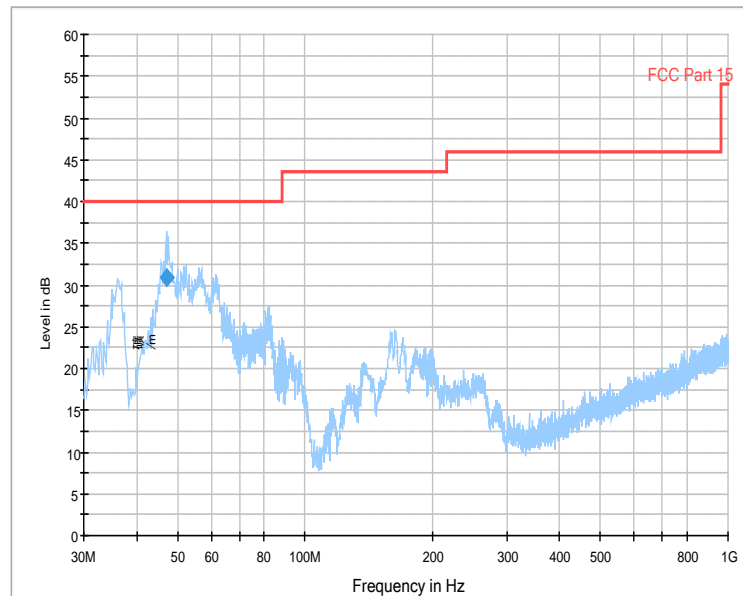


Fig.28. Radiated emission: GFSK, 2480MHz, 30 MHz - 1 GHz

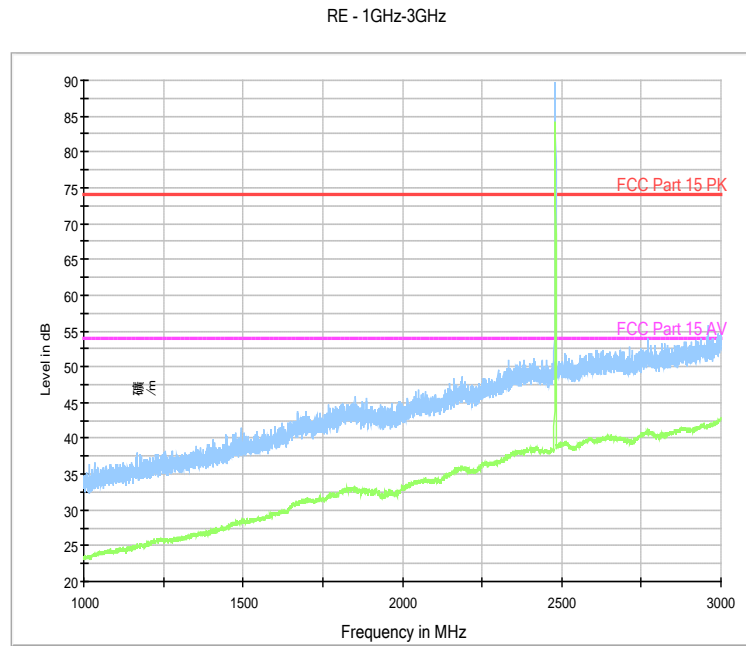


Fig.29. Radiated emission: GFSK, 2480MHz, 1 GHz - 3 GHz

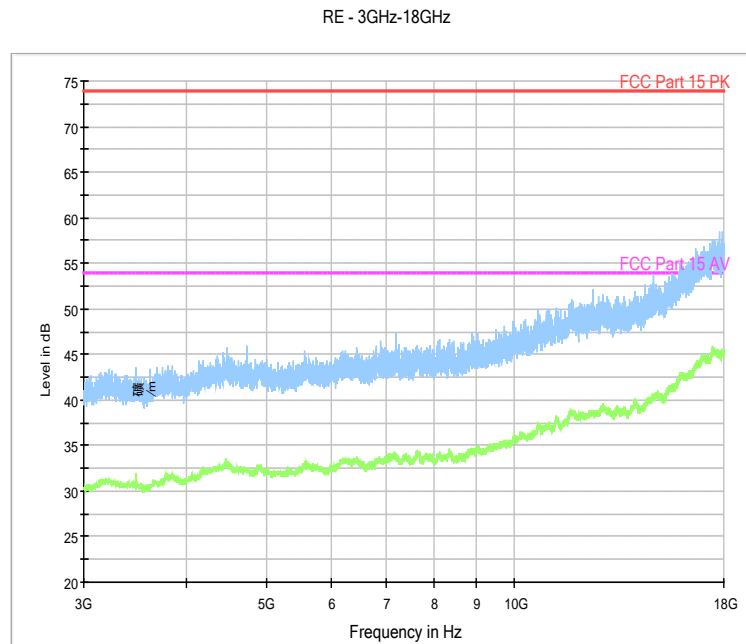


Fig.30. Radiated emission: GFSK, 2480MHz, 3 GHz - 18 GHz

RE - Power-2.38GHz-2.45GHz-BT 10Hz

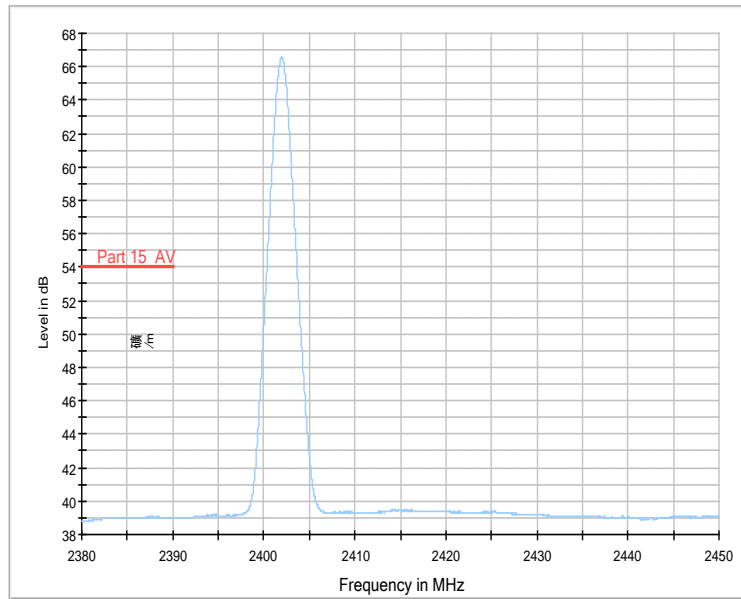


Fig.31. Radiated emission (Power): GFSK low channel (VBW=10Hz)

RE - Power-2.38GHz-2.45GHz-BT 1M

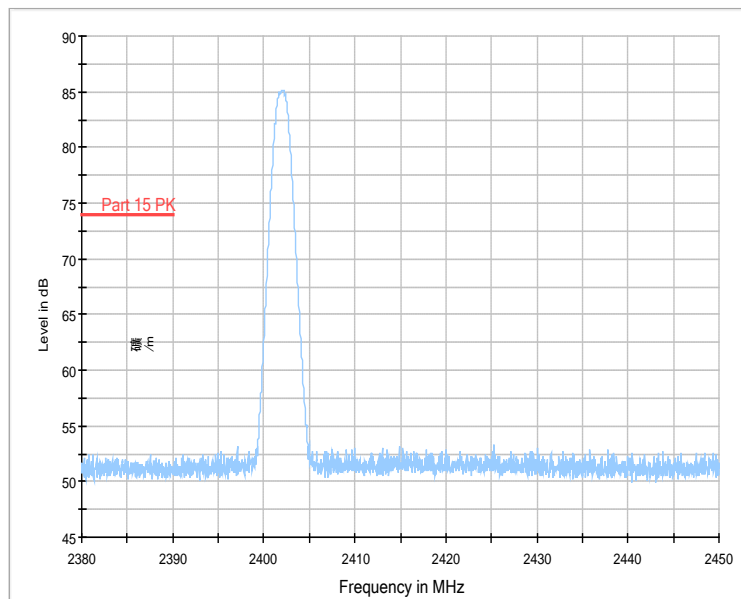


Fig.32. Radiated emission (Power): GFSK low channel (VBW=1MHz)

RE - Power-2.45GHz-2.5GHz-BT 10Hz

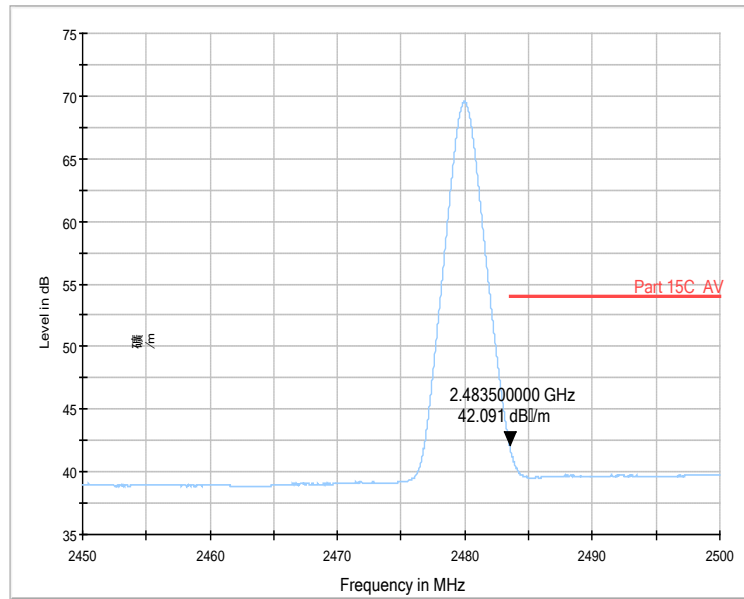


Fig.33. Radiated emission (Power): GFSK high channel (VBW=10Hz)

RE - Power-2.45GHz-2.5GHz- BT 1M

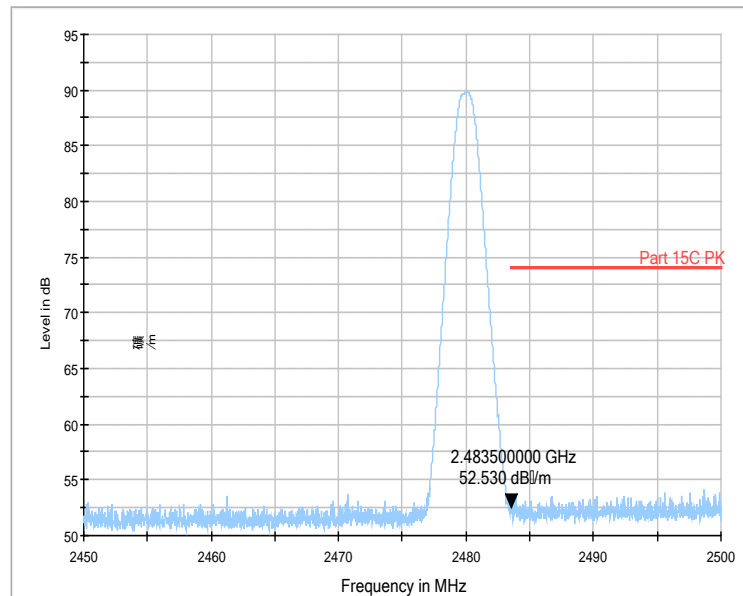


Fig.34. Radiated emission (Power): GFSK high channel (VBW=1MHz)

18G-26.5G RE

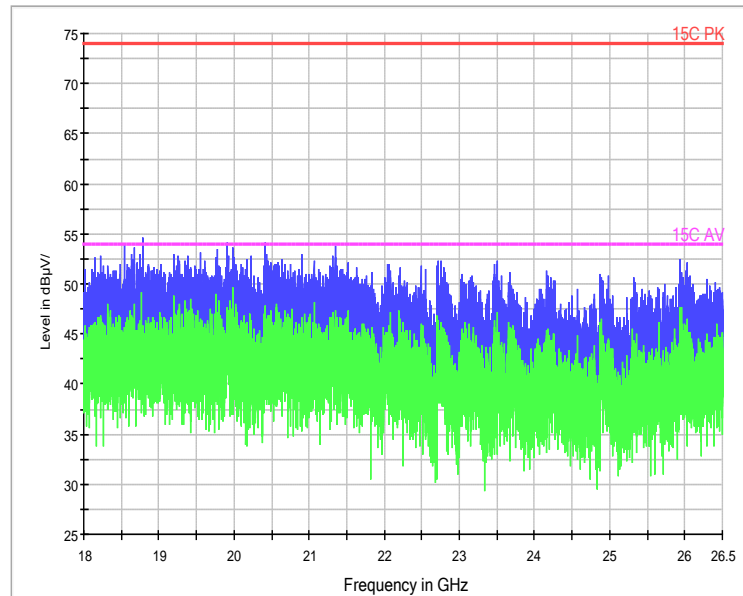


Fig.35. Radiated emission: GFSK, 18 GHz - 26 GHz

A.7. Frequency Band Edges - Conducted

Measurement Limit:

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

The measurement is made according to KDB 558074. Compute the power by integrating the spectrum over 1 MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency (f_{emission}) \pm 0.5MHz. If the instrument does not have a band power measurement function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{\text{emission}} \pm 0.5\text{MHz}$.

The results below are yielded by the result in Fig.34/Fig.35 minus the result in Fig.7/Fig.17.

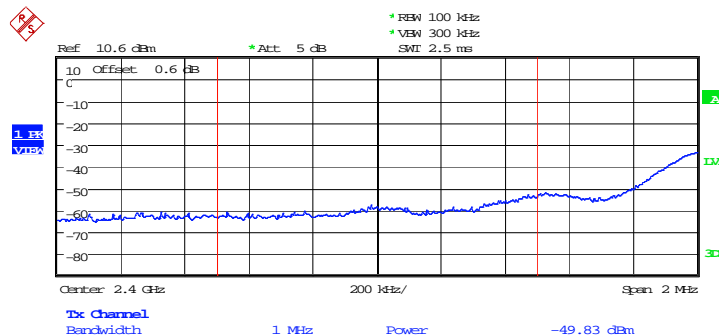
Measurement Result:

For GFSK

Frequency	Hopping	Band Edge Power (dBc)		Conclusion
2402MHz	Hopping OFF	Fig.36	-47.94	P
2480MHz	Hopping OFF	Fig.37	-51.95	P

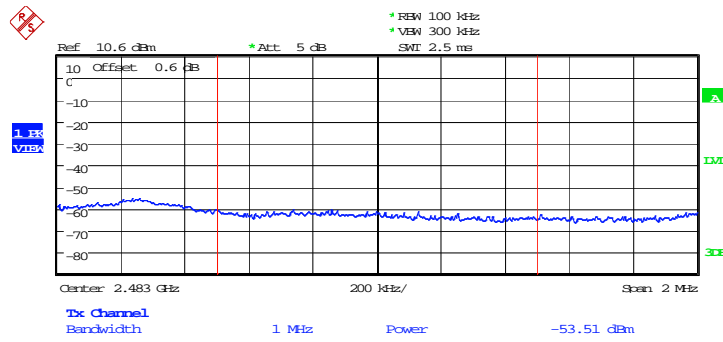
Conclusion: PASS

Test graphs as below



Date: 27.AUG.2013 13:27:24

Fig.36. Frequency Band Edges: GFSK, 2402 MHz, Hopping Off



Date: 27.AUG.2013 13:37:21

Fig.37. Frequency Band Edges: GFSK, 2480 MHz, Hopping Off

A.8. AC Powerline Conducted Emission

Test Condition

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

Bluetooth (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Conclusion
0.15 to 0.5	66 to 56	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.

Bluetooth (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	

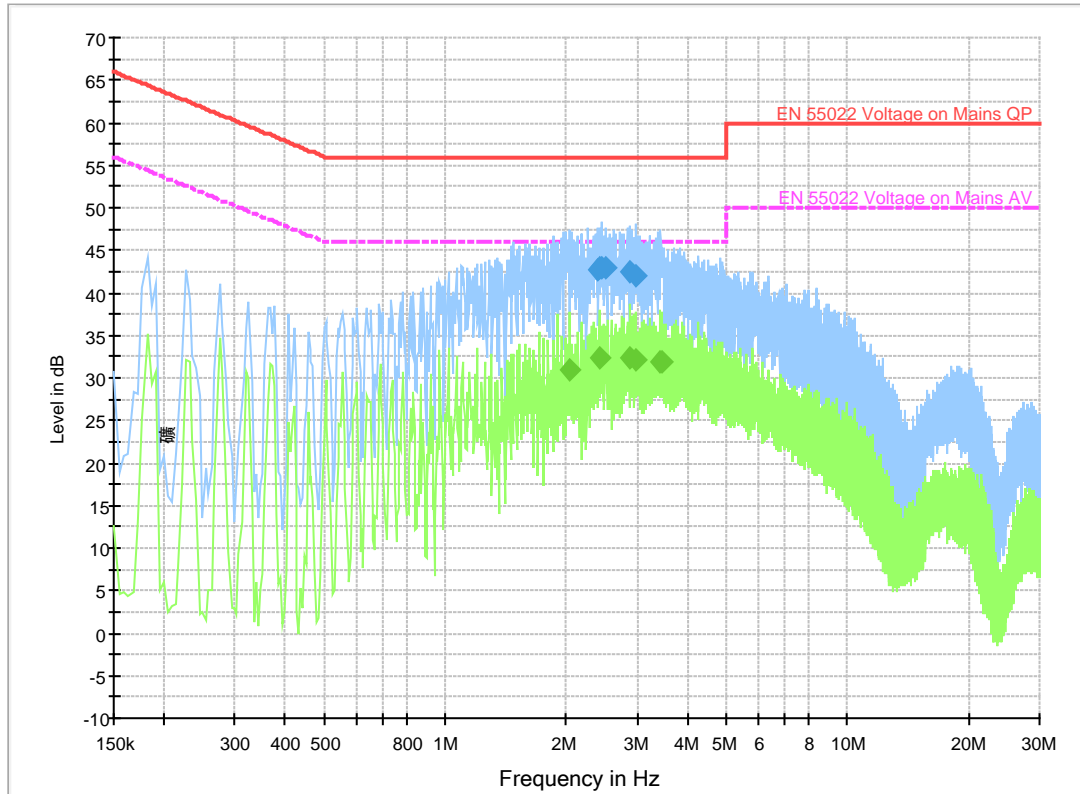
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

The measurement is made according to KDB 558074 and C63.4.

Conclusion: PASS

Test graphs as below:

Traffic:



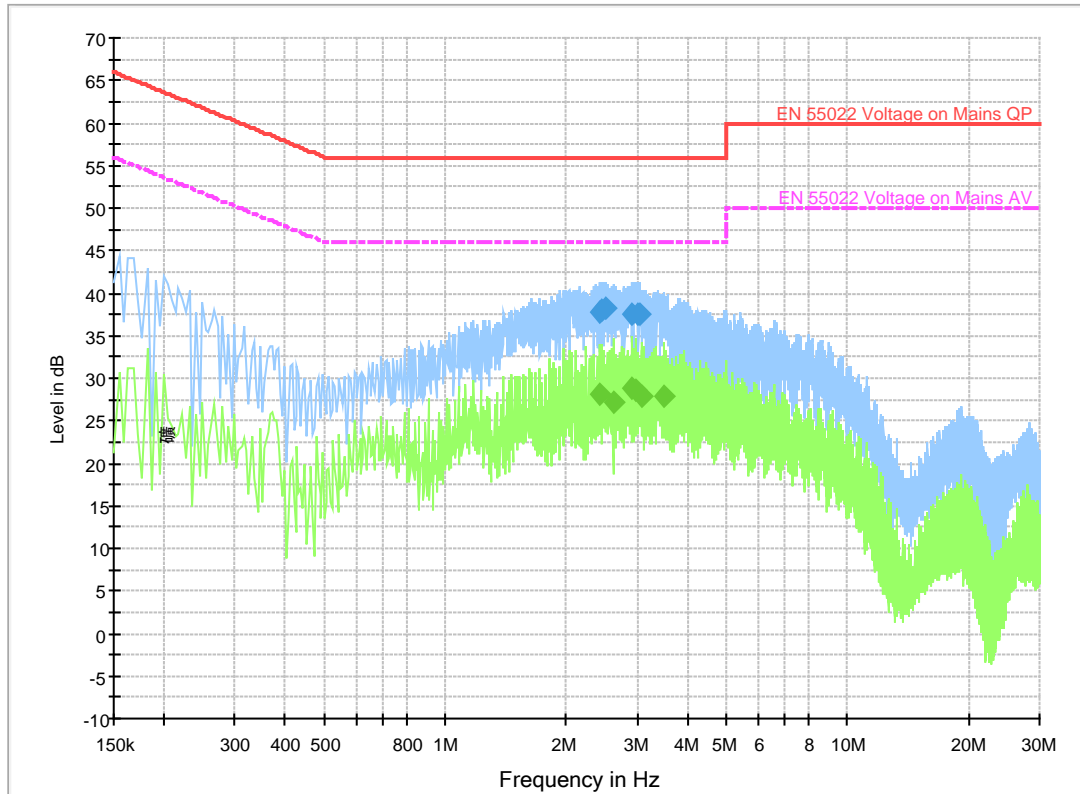
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.391001	42.7	GND	N	9.9	13.3	56.0
2.422501	43.0	GND	N	9.9	13.0	56.0
2.454001	42.9	GND	N	9.9	13.1	56.0
2.503501	43.0	GND	N	9.9	13.0	56.0
2.890501	42.5	GND	N	9.9	13.5	56.0
2.985001	42.0	GND	N	9.9	14.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.035501	30.9	GND	N	9.9	15.1	46.0
2.409001	32.3	GND	N	9.9	13.7	46.0
2.890501	32.4	GND	N	9.9	13.6	46.0
2.985001	32.0	GND	N	9.9	14.0	46.0
3.435001	31.9	GND	N	9.9	14.1	46.0
3.466501	31.8	GND	N	9.9	14.2	46.0

Idle:



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.413501	37.7	GND	N	9.9	18.3	56.0
2.458501	37.9	GND	N	9.9	18.1	56.0
2.508001	38.3	GND	N	9.9	17.7	56.0
2.926501	37.6	GND	N	9.9	18.4	56.0
3.021001	37.5	GND	N	9.9	18.5	56.0
3.034501	37.6	GND	N	9.9	18.4	56.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.413501	28.0	GND	N	9.9	18.0	46.0
2.616001	27.2	GND	N	9.9	18.8	46.0
2.926501	28.7	GND	N	9.9	17.3	46.0
2.989501	28.5	GND	N	9.9	17.5	46.0
3.066001	27.9	GND	N	9.9	18.1	46.0
3.502501	27.9	GND	N	9.9	18.1	46.0

*** END OF REPORT BODY ***