

Test report no.: 162018-3

Item tested: RC2412CT

Type of equipment: IEEE 802.15.4,

2.4 GHz Evaluation Module

FCC ID: Y2NRC24XX

Client: Radiocrafts AS

FCC Part 15.247

Digital Transmission System

RSS-210 Issue 8 & RSS Gen Issue 3

Low Power Licence-Exempt Radio communication Devices

21 March 2011

Authorized by:

Frode Sveinsen Technical Verificator



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1 GENERAL INFORMATION

1.1 Testhouse Info

Name: Nemko AS
Address: Nemko Kjeller

Instituttveien 6, Box 96 NO-2027 Kjeller, NORWAY

Telephone: +47 64 84 57 00
Fax: +47 64 84 57 05
Email: comlab@nemko.no

FCC test firm : 994405
IC OATS : 2040D-1

Total Number of Pages: 64

1.2 Client Information

Name: Radiocrafts AS

Address: Sandakerveien 64,

0484 Oslo, Norway

Telephone: +47 40 00 51 95

Fax: --

Contact:

Name: Ørjan Nottveit
Telephone: +47 40 00 51 95

E-mail: radiocrafts@radiocrafts.com

1.3 Manufacturer

Same as client



2 Test Information

2.1 Test Item

Name :	Radiocrafts
Model/version :	RC2412CT
Serial number :	-
Hardware identity and/or version:	-
Software identity and/or version :	-
Frequency Range :	2405 – 2480 MHz
Number of Channels :	16
Operating Modes :	TX & RX
Type of Modulation :	Digital (DSSS and O-QPSK)
Emissions Designator :	G1D
User Frequency Adjustment :	None, Software controlled
Rated Output Power :	4 dBm (2.5mW)
Type of Power Supply :	3.6 V DC
Antenna Connector :	Reversed SMA
Antenna type:	-
Antenna Diversity Supported :	None

Theory of Operation

The RC24xx RF-transceiver module for the 2.4 GHz ISM band. It is based on a system on-chip device. The physical layer of the radio is according to IEEE 802.15.4 with Direct Sequence Spread Spectrum(DSSS) and offset-QPSK modulation. The program is stored in flash and the temporary variables in the SW is stored in RAM.



2.2 Test Environment

2.2.1 Normal test condition

Temperature: 20 - 22 °C Relative humidity: 20 - 40 % Normal test voltage: 3.6Vdc

The values are the limit registered during the test period.

2.3 Test Period

Item received date: 2010-12-09

Test period: from 2010-12-09 to 2010-12-10 & 2011-03-16



TEST REPORT FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX

3 TEST REPORT SUMMARY

3.1 General	
Manufacturer:	Radiocrafts AS
Model No.:	RC2412CT
Serial No.:	-
All measurements are tra	ceable to national standards.
The tests were conducted	d for the purpose of demonstrating compliance with FCC CFR 47 Part 15.247.
	lucted in accordance with ANSI C63.4-2009 and ANSI C63.10-2009. The in a semi-anechoic chamber at measuring distances of 3 and 10 meters.
New Submission	□ Production Unit
Class II Permissive C	nange
DTS Equipment Code	☐ Family Listing

THIS TEST REPORT RELATES ONLY TO THE ITEM (S) TESTED.

Deviations from, additions to, or exclusions from the test specifications are described in "Summary of Test Data".



TEST REPORT #: 162018-3

TESTED BY: DATE: 2011-03-31

G.Suhanthakumar, Test engineer

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This test report applies only to the items and configurations tested.



3.2 **Test Summary**

Name of test	FCC Part 15 ref.	RSS-210 Issue 8 & RSS Gen Issue 3	Result
Supply voltage variations	15.31 (e)	8 (RSS-GEN)	Complies ²
Number of operating frequencies	15.31 (m)	A8.1	Complies
Power-line Conducted Emissions (Receiver)	15.107(a)	7.2.2 (RSS-GEN)	Complies
Radiated Emissions limits (receiver)	15.109(a)	6 (RSS-GEN)	ref. 15.209(a)
Antenna requirement	15.203	7.1.4 (RSS-GEN)	Complies ¹
Radiated emissions limits for restricted bands	15.205(a)		Complies
Power Line Conducted Emissions	15.207(a)	7.2.2 (RSS-GEN)	Complies
Radiated emission limits	15.209(a)	A8.5	Complies
Bandwidth	15.247(a)(2)	A8.2	Complies
Peak Power Output	15.247(b)(3)	A8.4	Complies
Power Spectral Density	15.247(d)	A8.2	Complies
Out-of-band emissions (Antenna Conducted)	15.247(c)	A8.5	Complies ¹
Out-of-band emissions (Radiated)	15.247(c)	A8.5	Complies
Lower band edge radiated emission	15.247(c)	A8.5	Complies
Upper band edge radiated emission	15.247(c)	A8.5	Complies

¹ standard SMA connector (for laboratory use).

3.3 **Description of modification for Modification Filing**

Not applicable.

3.4 **Comments**

The channels are selected with a computer connected to the EUT. The computer is only used for selection of channels. The measurements are performed at channels near top Ch 26, near middle Ch 18 and near bottom Ch 11. And the output level is set to maximum in the software. The EUT complies at these channels.

During radiated tests the selection of channels are done by manufacturer outside the test chamber..

The radiated measurements are tested on three axis.

An antenna connector is used only for making conducted RF measurements for evaluation purposes.

Power supply variation within manufacturer specified range 2.7 – 3.6V DC has no influence on measured values in this test report.

All radiated measurements are done with antenna type "Antenova Titanis". This is the high gain antenna.

3.5 **Family List Rationale**

Not Applicable.

² The power is taken from extern power supply.



4 TEST RESULTS

4.1 Power-line Conducted Emissions

Para. No.: 15.207 (a)

Test Performed By: G.Suhanthakumar Date of Test: 10-Dec-2010

Test Results: Complies.

Measurement Data: Peak detector was used.

External DC power supply used- Type Oltronix B32-10R

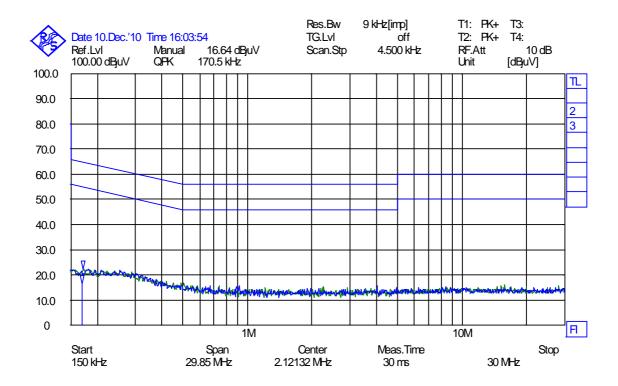
The measured peak values are below the Quasi-Peak and Average limit

Highest measured value (L1 and N):

Frequency	Detector	Measured value	Limit	Margin
MHz	QP/AV	dBμV	dBμV	dB
0,170	QP	16.64	65	48.36
0,170	AV	8.45	55	46.55

See the attached graphs for peak scan..





L1 & N polarity - power line conducted emission



4.2 Minimum 6 dB Bandwidth

Para. No.: 15.247 (a)(2)

Test Performed By: G.Suhanthakumar Date of Test: 09-Dec-2010

Test Results: Complies
Measurement Data:

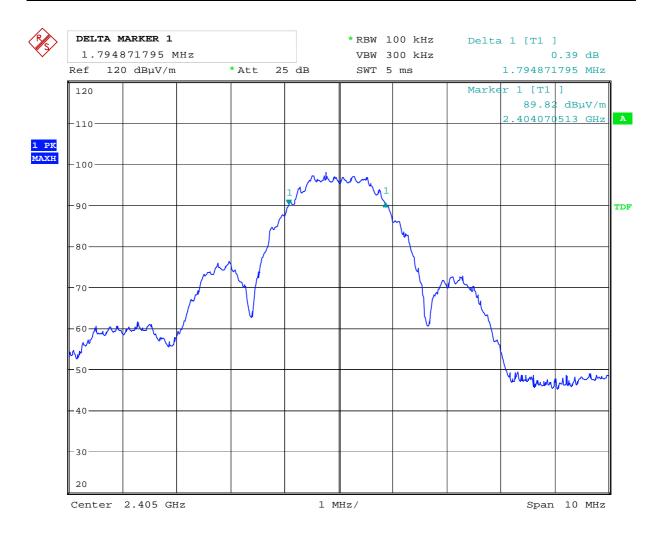
6 dB Bandwidth (MHz)					
Ch 11 Ch 18 Ch 26					
2405MHz	2440MHz	2480MHz			
1.79	1.68	1.62			

Power supply variation within manufacturer specified range 2.7 – 3.6V DC has no influence on measured value

Requirements:

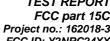
For Digital Transmission Systems in the 2400-2483.5 MHz band the minimum 6 dB bandwidth shall be at least 500 KHz.



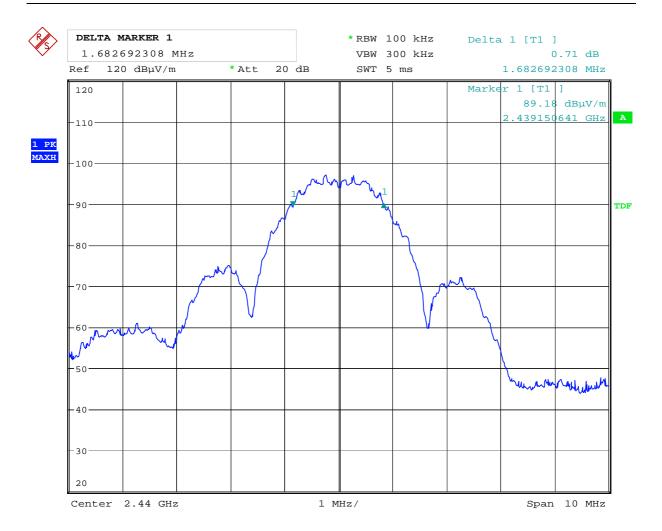


9.DEC.2010 13:24:53 Date:

Ch11 - 6 dB bandwidth - 1.79MHz



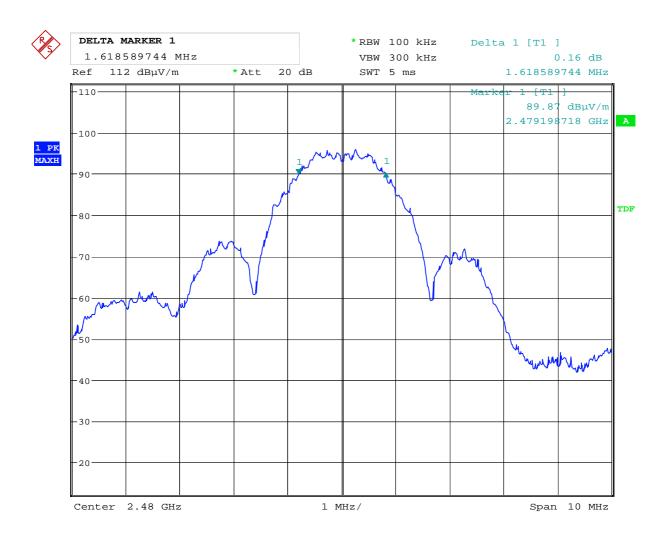




Date: 9.DEC.2010 13:54:35

Ch18 - 6 dB bandwidth - 1.68MHz





Date: 9.DEC.2010 14:08:19

CH26 - 6 dB bandwidth - 1.62MHz



FCC ID: Y2NRC24XX

4.3 20 dB Bandwidth

Para. No.: RSS-Gen

Test Performed By: G.Suhanthakumar Date of Test: 15-Mar-2011

Measurement Data:

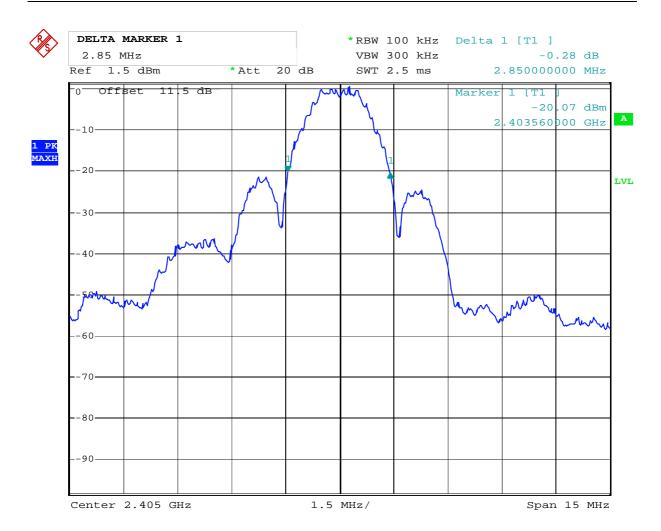
20 dB Bandwidth (MHz)				
Ch 11 Ch 18 Ch 26				
2405MHz 2440MHz 2480MHz				
2.85	2.82	2.82		

Power supply variation within manufacturer specified range 2.7-3.6 V DC has no influence on measured value

Requirements:

For information only.



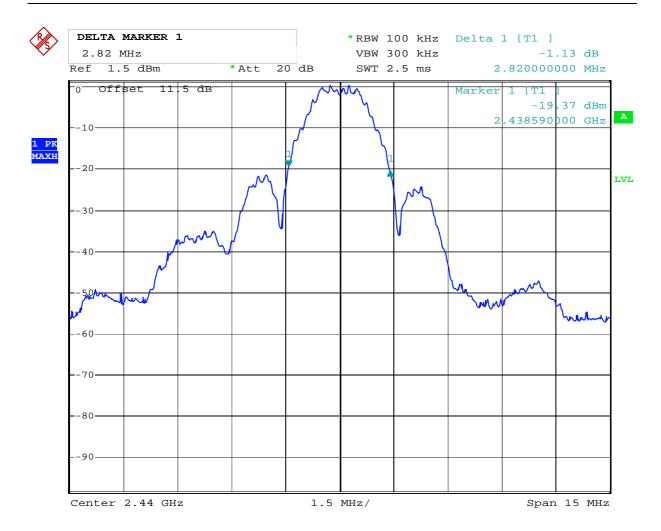


Date: 15.MAR.2011 09:59:00

Ch11 - 20 dB bandwidth - 2.85MHz



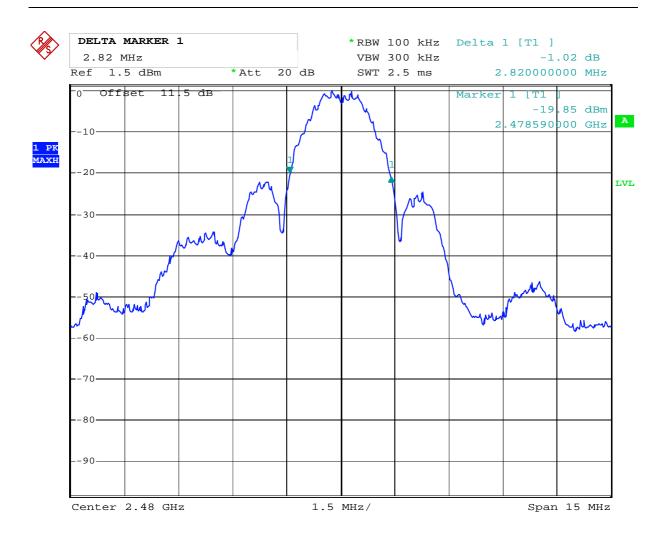
FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX



Date: 15.MAR.2011 09:46:42

Ch19 - 20 dB bandwidth - 2.82MHz





Date: 15.MAR.2011 10:00:54

Ch26 - 20 dB bandwidth - 2.82MHz



TEST REPORT FCC part 15C Project no.: 162018-3

FCC ID: Y2NRC24XX

4.4 Peak Power Output

Para. No.: 15.247 (b)

Test Performed By: G.Suhanthakumar	Date of Test: 09-Dec-2010
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Test Results: Complies

Measurement Data:

Maximum Conducted Peak Output Power

RF channel	Ch 11	Ch 18	Ch 26
Measured value (dBm)	4.82	4.70	4.31

.

Maximum Field strength

RF channel	Ch 11	Ch 18	Ch 26
VP: Measured value (dBμV/m)	101.48	100.50	99.62
HP: Measured value (dBμV/m)	94.02	93.99	93.10

Maximum EIRP

RF channel	Ch 11	Ch 18	Ch 26
Measured EIRP (dBm)	3.80	3.43	4.08
Antenna gain dBi	-1.02	-1.27	-0.23

Substitution:

Frequency MHz	Measured value dBm	Subst. Gen. dBm	Attenuator and Cable dB	Gain Subst. Antenna dB	Result dBm
2405	-38.75	9.04	-13.64	8.4	3.80
2440	-39.43	8.60	-13.80	8.6	3.40
2480	-40.46	9.04	-13.96	9.0	4.08

Result dBm = (Subst.Gen. + (Attenuator + Cable)+ Antenna Gain)

Antenna gain = (EIRP-Conducted Power) dBi

The EIRP is measured using substitution method. The maximum eirp is obtained at horizontal polarization.

Reversed SMA connector

Power supply variation within manufacturer specified range 2.7-3.6 V DC has no influence on measured values in this test report.



TEST REPORT FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX

Requirements:

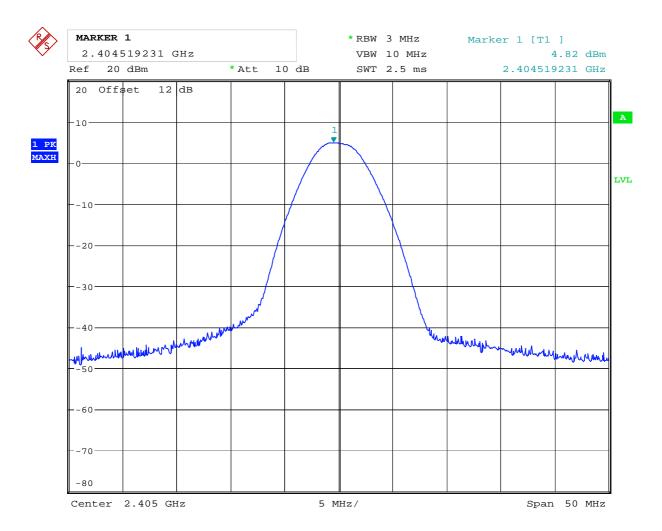
The maximum peak output power shall not exceed the following limits:

For Digital Transmission Systems in the 2400 - 2483.5 MHz band: 1 Watt

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced below the stated value above by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX

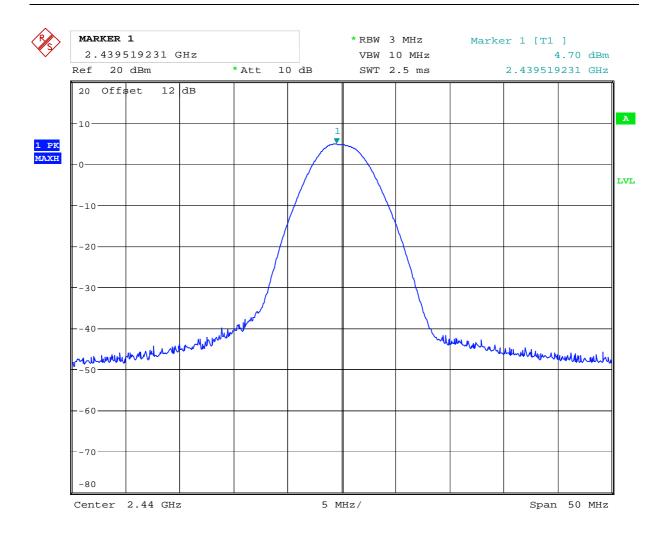


10.DEC.2010 12:56:36

Conducted power - Ch11



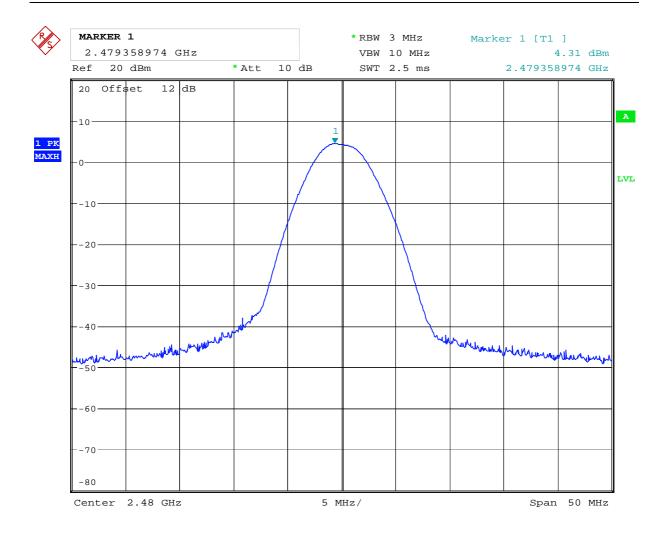
FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX



Date: 10.DEC.2010 13:13:15

Conducted power - CH 18

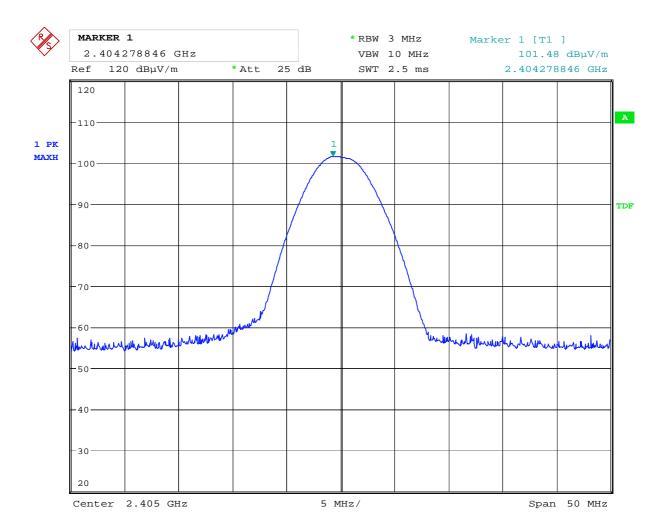




Date: 10.DEC.2010 13:29:38

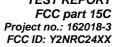
Conducted Power CH 26



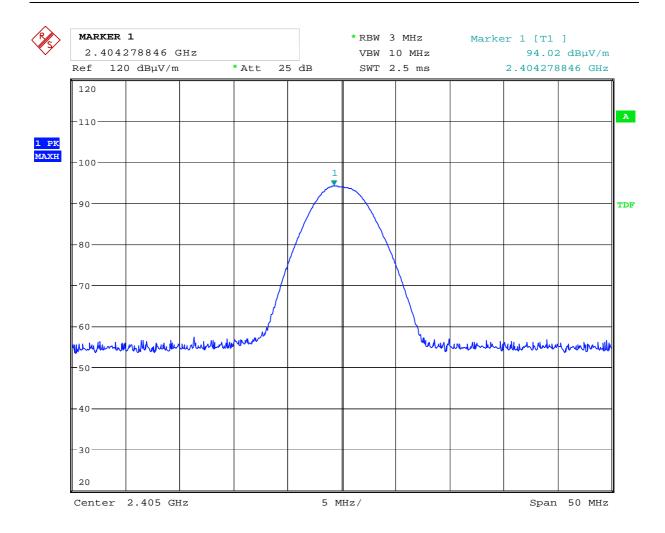


9.DEC.2010 13:19:16 Date:

VP: Ch11 - Field strength







Date: 9.DEC.2010 13:23:02

HP: Ch11 - Field strength

Span 50 MHz



MARKER 1 *RBW 3 MHz Marker 1 [T1] 2.439358974 GHz VBW 10 MHz 100.50 dBµV/m 120 dBµV/m * Att 20 dB SWT 2.5 ms 2.439358974 GHz A -110 1 PK MAXH -100 -90 TDF -80 -60 40 -30

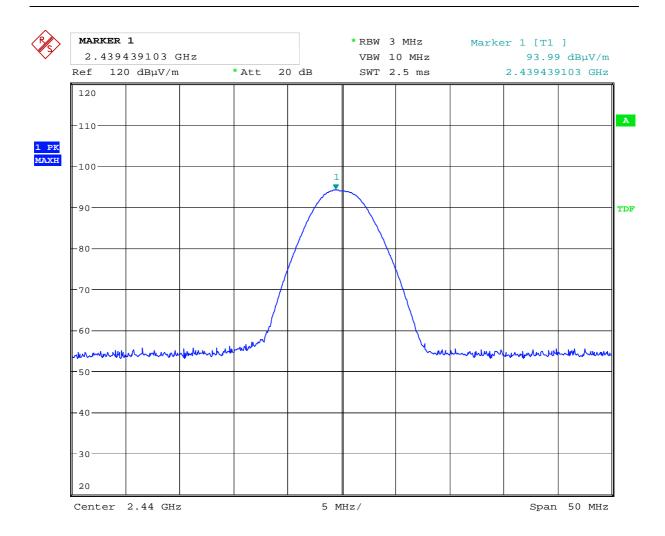
Date: 9.DEC.2010 13:51:03

Center 2.44 GHz

VP: Ch18 - Field strength

5 MHz/

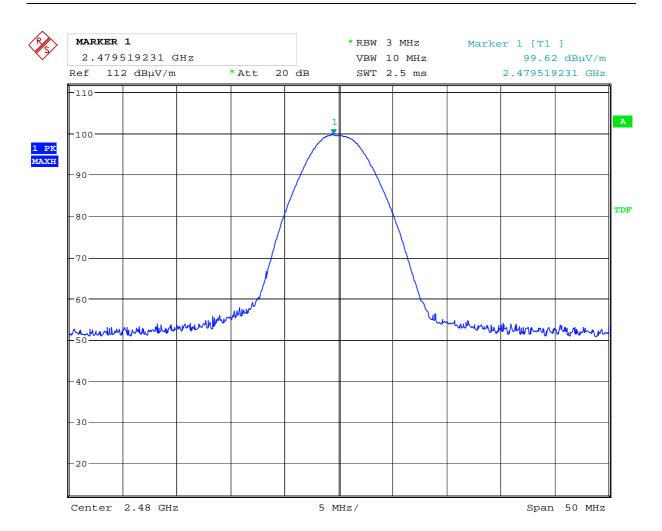




Date: 9.DEC.2010 13:53:18

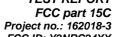
HP: Ch18 - Field strength



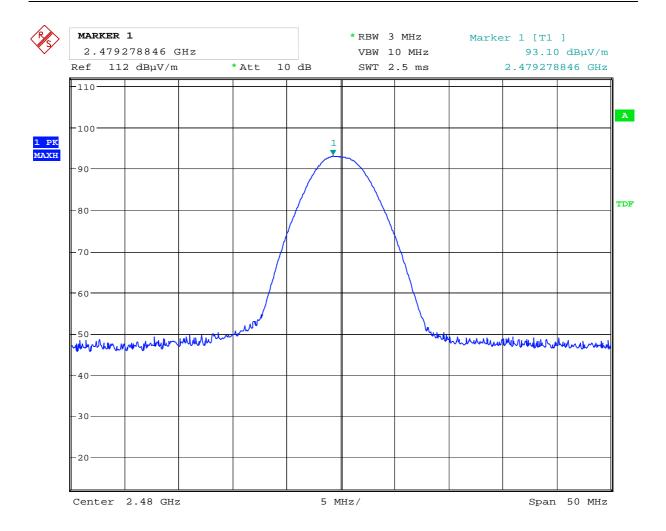


Date: 9.DEC.2010 14:07:34

VP: Ch26 - Field strength







Date: 9.DEC.2010 14:14:01

HP: Ch26 - Field strength



4.5 **Spurious Emissions (Radiated)**

Para. No.: 15.247 (c)

Date of Test: 10.12.2010 **Test Performed By: G.Suhanthakumar**

Test Results: Complies

Measurement Data:

Lower Band-edge radiated measurements

Frequency	Power below nearest channel, dB	Limit	Margin	
GHz	RF ch 11 DSS	dB	dB	
2.39	57.39	-20	37.39	

Band-edge field strength 2.4 GHz:

Marker Delta 100kHz RBW: 57.39dB

Peak Field Strength 101.41–57.39 = 44.02 dB μ V/m

Upper Band-edge radiated measurements

Frequency	Power below nearest channel, dB	Limit	Margin	
GHz	RF ch 26 DSS	dB	dB	
2.4835	46,52	-20	26.52	

Band-edge field strength 2.4835 GHz:

Marker Delta 100kHz RBW: 46.52 dB

Peak Field Strength: $99.46 - 46.52 = 52.94 \text{ dB}\mu\text{V/m}$

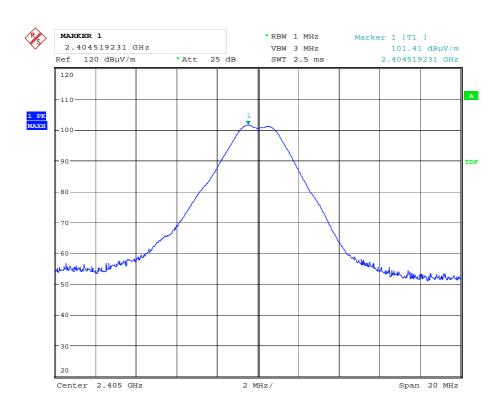
100% duty cycle

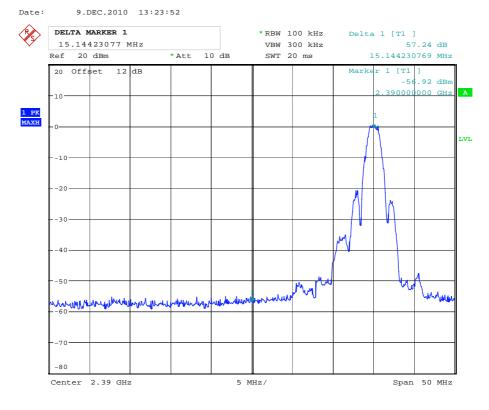
RF conducted emissions to 25 GHz

Maximum RF level outside operating band:

RF ch 11: 47.60 dBC, margin > 20 dB RF ch 18: 48.77 dBC, margin > 20 dB RF ch 26: 48.38 dBC, margin > 20 dB





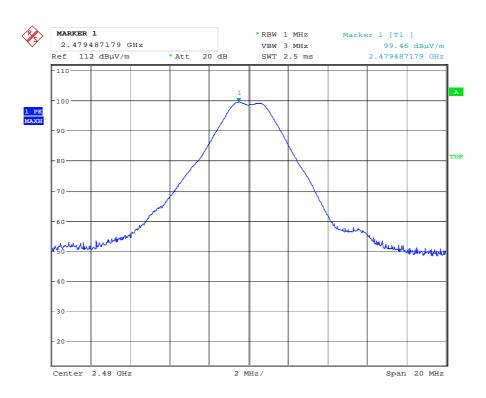


Ch11 - Lower-band-edge - Delta-marker

10.DEC.2010 13:00:31

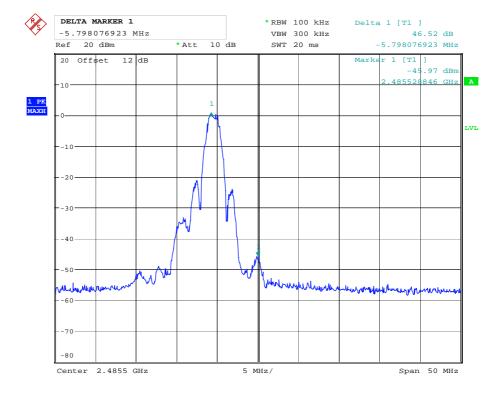
Date:





Date: 9.DEC.2010 14:07:12

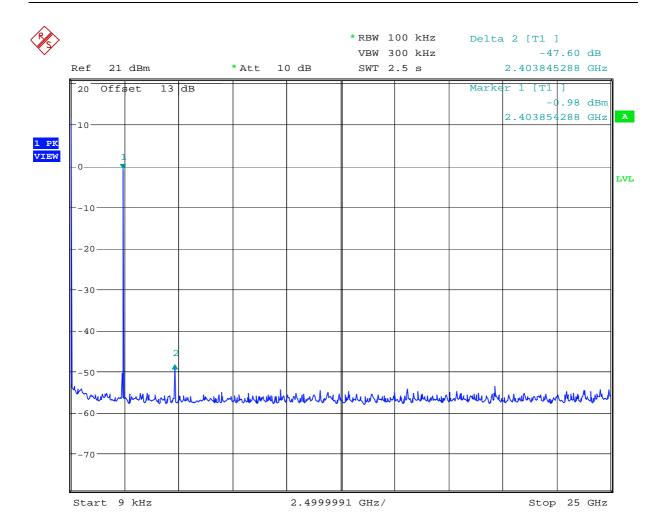
10.DEC.2010 13:32:09



Ch26 - Upper-band-edge - Delta-Marker

Date:

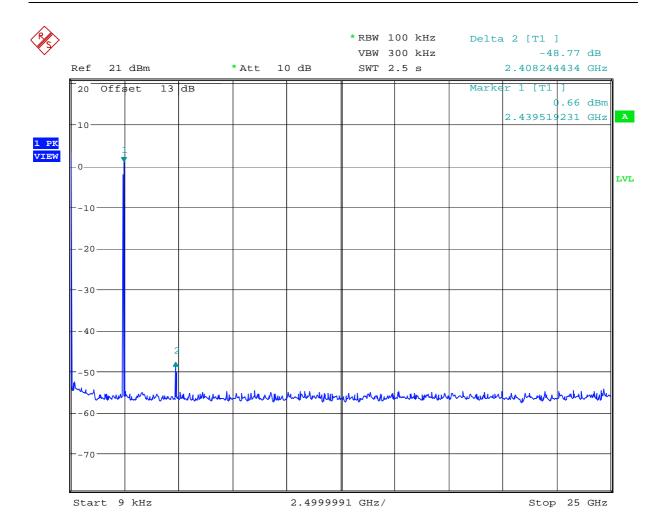




Date: 10.DEC.2010 12:59:03

Ch11 - Conducted Spurious - 9kHz - 25GHz



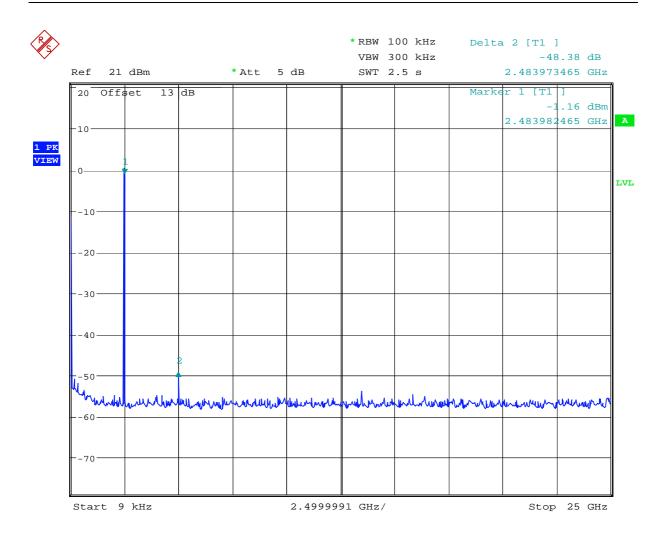


Date: 10.DEC.2010 13:14:25

Ch19 - Conducted Spurious - 9kHz - 25GHz



FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX



10.DEC.2010 13:34:06

Ch26 - Conducted Spurious - 9kHz - 25GHz



TEST REPORT FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX

Duty Cycle Calculation:

RF duty cycle: Calculation according to RF burst Para 15.35 (c)

According to manufacturer the maximum duty cycle correction is 11dB

Manufacturer statement:

IEEE 802.15.4-2003 are used for application with low power consumption and in normal operation mode the TX duty cycle

is mush less than 1 %.

However, calculation have been made to show the maximum theoretical TX on time is 27%. This is based on max length packet of 127 bytes + preamble/sync. (4,256 ms per packet) With up to 6,3 packets per 100ms this render max duty cycle of 27%.

Hence this approval is based on ZigBee or any other protocols ensuring max TX duty cycle of 27%

Maximum duty cycle according to Para 15.35 (b): 20 dB

TEST REPORT FCC part 15C Project no.: 162018-3 FCC ID: Y2NRC24XX

Radiated Emissions with antenna, 1-25 GHz, peak

1-18 GHz measured at a distance of 3m, 18-25 GHz measured at 1m.

Measured with Peak Detector

Frequency	RF channel	Dist. corr. factor	Field strength, Peak, 3m	Duty cycle corr. factor	Limit	Margin
GHz	11-26	dB	dBμV/m	dB	dBμV/m	dB
4.811	11	0	58.6	-	74	15.4
4.881	18	0	56.7	-	74	17.3
4.960	26	0	54.6	-	74	19.4
5 - 25	11,18,26	0	None detected	-	-	-

Radiated emissions with antenna,1- 25 GHz, Average

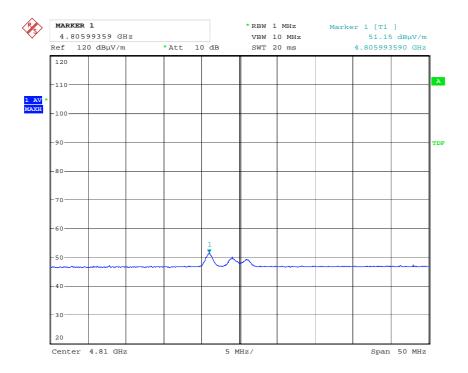
Measured with Average Detector

Frequency	RF channel	Dist. corr. factor	Field strength, Peak, 3m	Duty Cycle correction factor	Limit	Margin
GHz	11-26	dB	dBμV/m	dB	dBμV/m	dB
4.809	11	0	58.6	11	54	6.4
4.889	18	0	56.7	11	54	8.3
4.958	26	0	54.6	11	54	10.4
5 - 25	11,18,26	0	None detected	-	-	-

The maximum is observed in vertical polarization

Antenna factor, amplifier gain and cable loss are included in spectrum analyzer "Transducer factor".

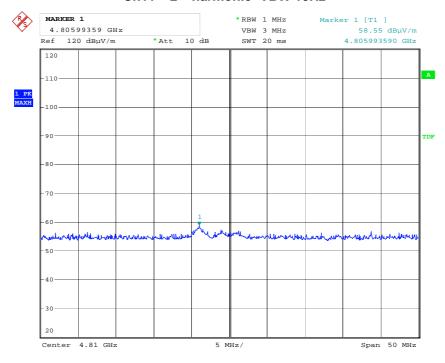




Date: 9.DEC.2010 13:30:09

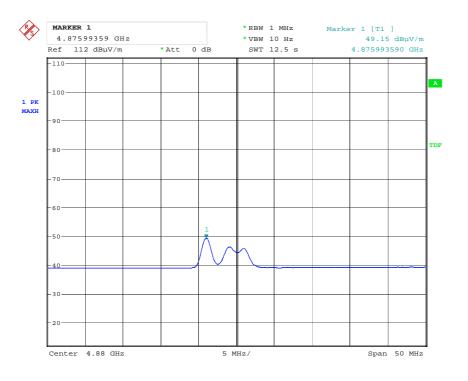
Date: 9.DEC.2010 13:30:46

Ch11 – 2nd harmonic- VBW 10Hz



Ch11 – 2nd harmonic- VBW 1MHz



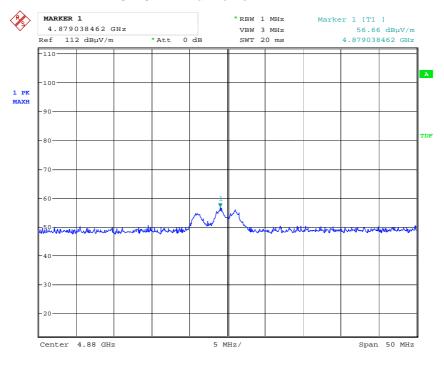


Ch18 – 2nd Harmonic- VBW 1MHz

9.DEC.2010 13:59:00

9.DEC.2010 13:58:13

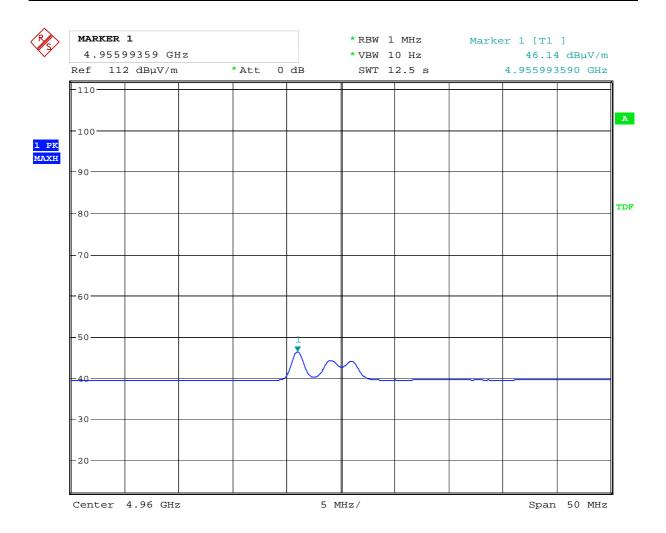
Date:



Ch18 – 2nd harmonic- VBW 1MHz



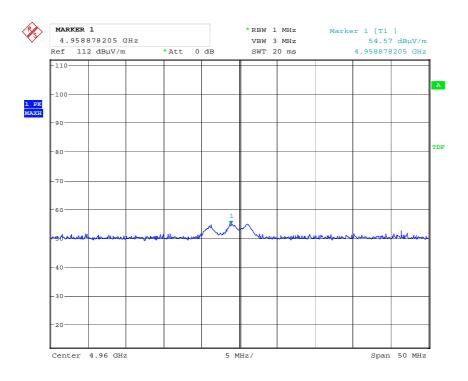
Project no.: 162018-3 FCC ID: Y2NRC24XX



9.DEC.2010 14:18:02 Date:

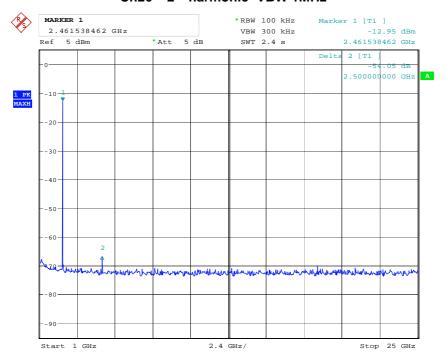
Ch26 – 2nd Harmonic – VBW 10Hz





Date: 9.DEC.2010 14:17:19

Ch26 – 2nd harmonic- VBW 1MHz

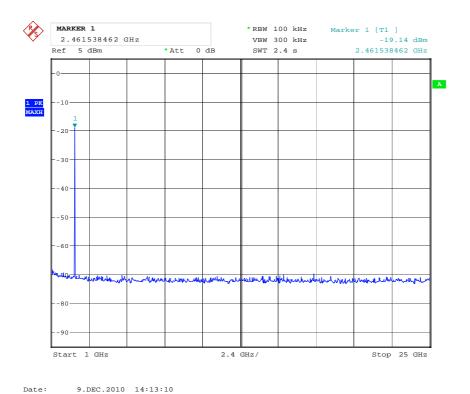


Pre-view scan VP: 1 - 25GHz

Date:

9.DEC.2010 14:11:05





Pre-view scan HP: 1 - 25GHz

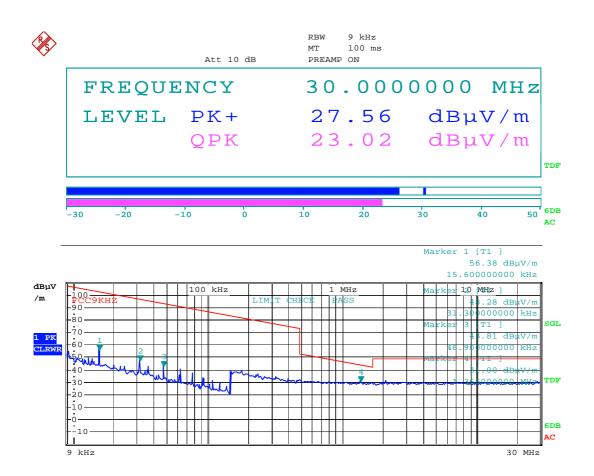


Radiated emissions 9kHz - 30 MHz.

Detector: Quasi-Peak

Measuring distance 10 m.

Frequency	Operational condition	Field strength	Measuring distance	Limit FCC15.209	Margin
MHz		dBμV/m	m	dBμV/m	dB
30	TX on	23.0	10	48.6	25.6



Date: 10.DEC.2010 08:46:42

9kHz - 30MHz



Radiated emissions 30 - 1000 MHz.

Detector: Quasi-Peak Measuring distance 3 m.

Frequency	Operational condition	Field strength	Measuring distance	Polarization	Limit FCC15.209	Margin
MHz		dBμV/m	m	-	dBμV/m	dB
33.65	TX ON	17.4	3	VP	40	22.6
98.75	TX ON	14.8	3	HP	43.5	28.7
500	TX ON	13.7	3	VP	46	32.3
980	TX on	20.3	3	HP	54	33.7

200 MHz



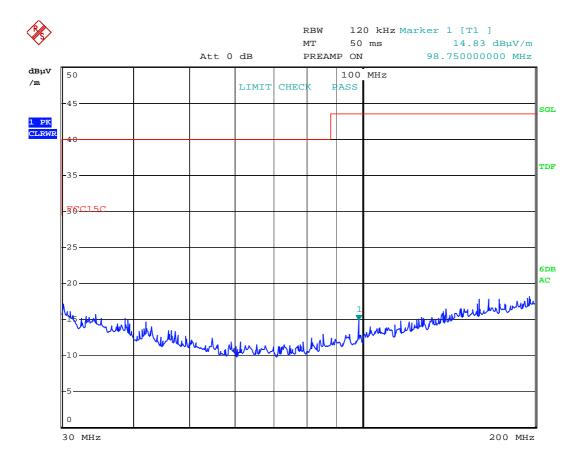
RBW 9 kHz Marker 1 [T1] 17.43 dBμV/m MТ 100 ms PREAMP ON 33.650000000 MHz Att 0 dB dΒμV 100 MHz LIMIT CHECK PASS SGL 1 PK CLRWR TDF 6DB Marie Marie

Date: 8.DEC.2010 13:33:15

30 MHz

VP - 30 - 200 MHz



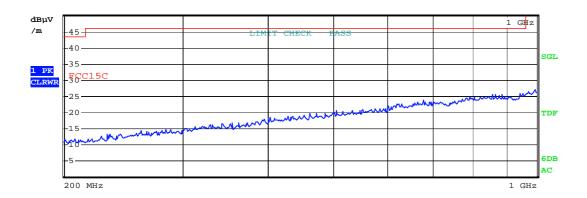


Date: 8.DEC.2010 13:39:49

HP - 30 - 200MHz



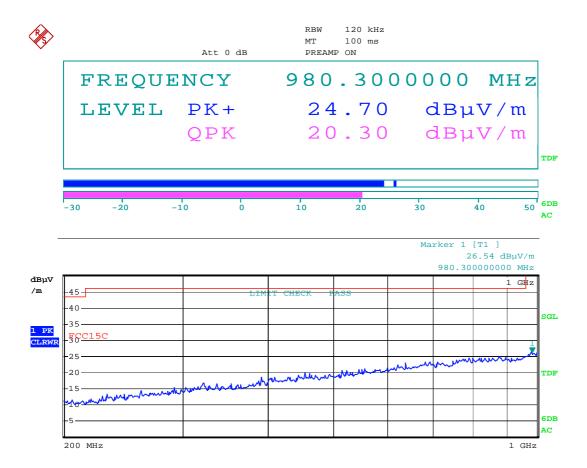
RBW 120 kHz МТ 100 ms PREAMP ON Att 0 dB FREQUENCY 500.000000 MHz 18.71 dBµV/m LEVEL PK+ 13.65 dBµV/m OPK 6DB 20 30 40 50



Date: 8.DEC.2010 14:01:39

VP - 200 - 1000GHz





Date: 8.DEC.2010 14:09:48

HP 200 - 1000MHz



Project no.: 162018-3 FCC ID: Y2NRC24XX

4.6 **Receiver Spurious Emissions (Radiated)**

Para. No.: RSS-Gen (6)

Test Performed By: G.Suhanthakumar Date of Test: 16.03.2011

Test Results: Complies

Measurement Data:

Radiated Emissions with antenna, 30MHz - 25 GHz, peak

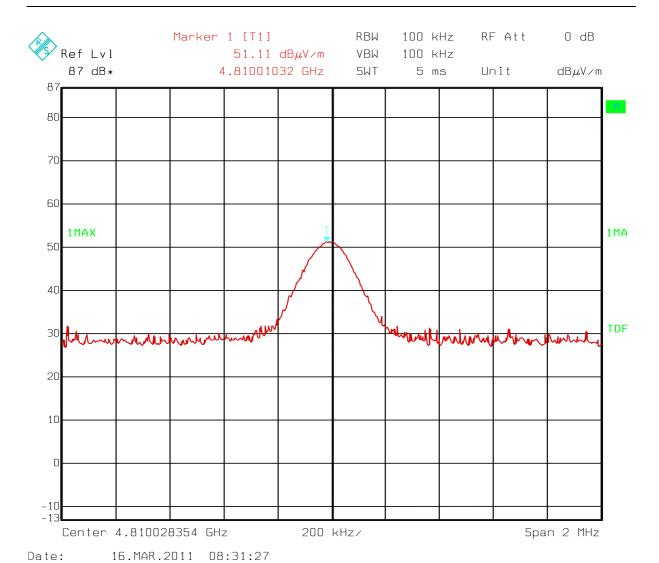
30 - 1000MHz measured at 10m,4.8 GHz measured at 3m and pre-view scan 1 - 25GHz conducted measurement.

Measured with Peak Detector

Frequency	RF channel	Dist. corr. factor	Field strength, Peak Det, @3m	Duty cycle corr. factor	Limit	Margin
GHz	11-26	dB	dBμV/m	dB	dBμV/m	dB
4.81	11	0	51.1	-	54	2.9
4.88	19	0	51.0	-	54	2.9
4.96	26	0	44.5	-	54	9.5
0.030 - 0.088	7	0	< 10	-	40	>30
0.088 - 0.216	7	0	< 10	-	43	>30
0.216 - 0.960	7	0	< 25	-	46	>20
5 – 25	7	0	None detected	-	54	-

The only detected spurious radiation is VCO leakage from the receiver.. And it is only a CW signal, therefore used 100kHz RBW.

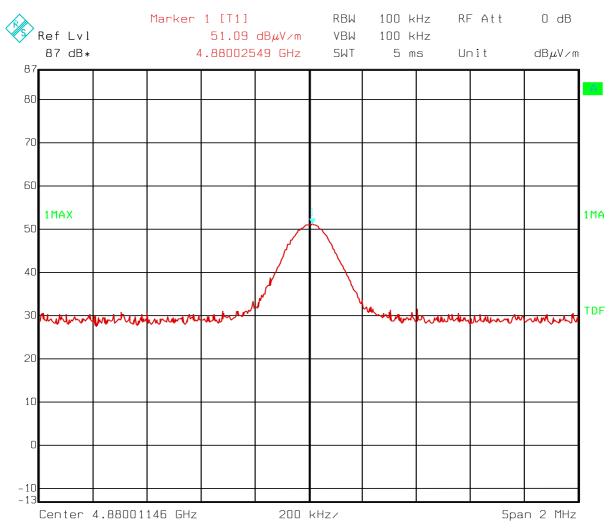




VP: VCO leakage- Ch2405MHz



Project no.: 162018-3 FCC ID: Y2NRC24XX

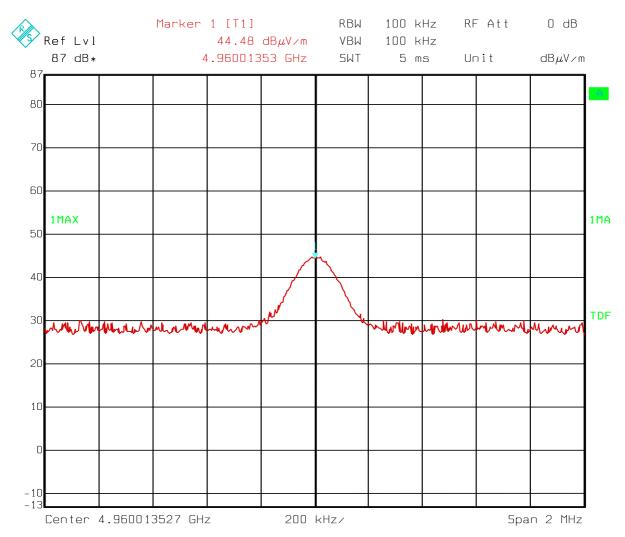


16.MAR.2011 08:34:50 Date:

VP: VCO leakage- Ch2440MHz



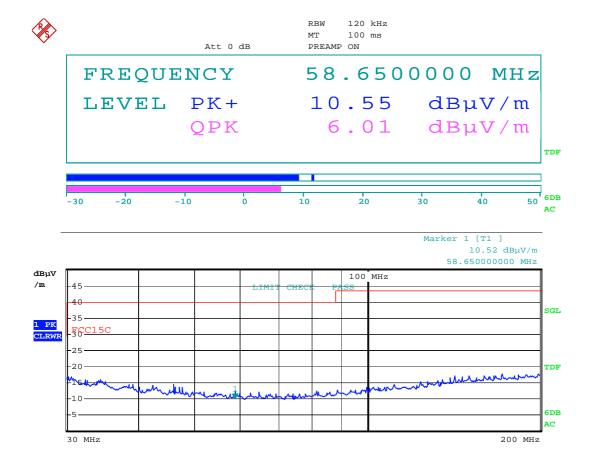
Project no.: 162018-3 FCC ID: Y2NRC24XX



Date: 16.MAR.2011 08:43:08

VP: VCO leakage- Ch2480MHz

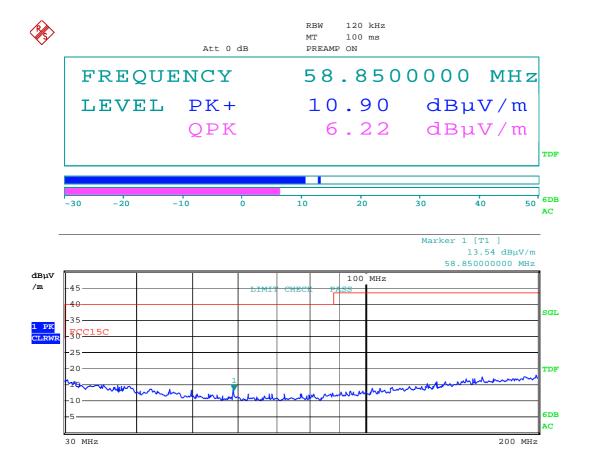




Date: 8.DEC.2010 14:42:38

RX: HP, 30 - 200MHz

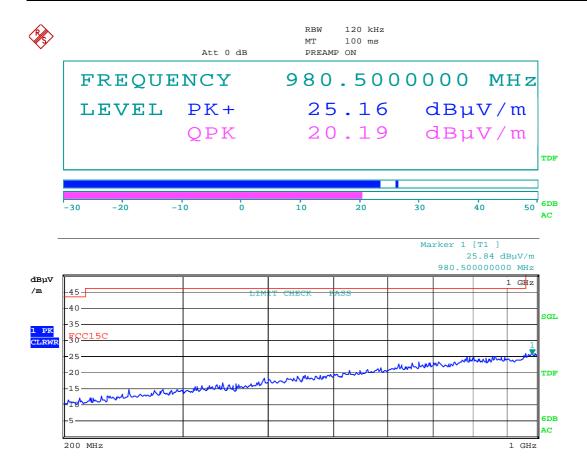




Date: 8.DEC.2010 14:34:44

RX: VP, 30 - 200MHz

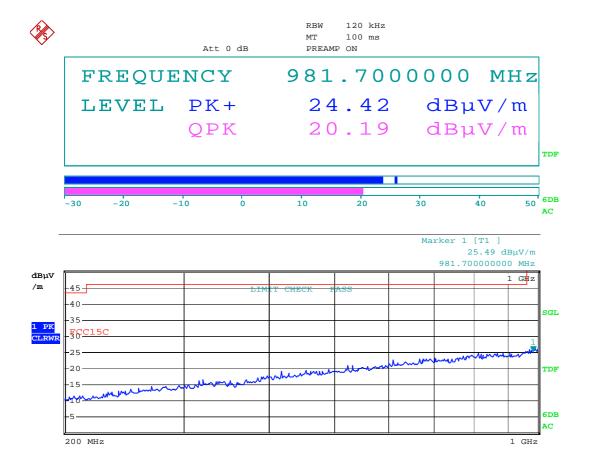




Date: 8.DEC.2010 14:18:03

RX: HP, 200 - 1000MHz

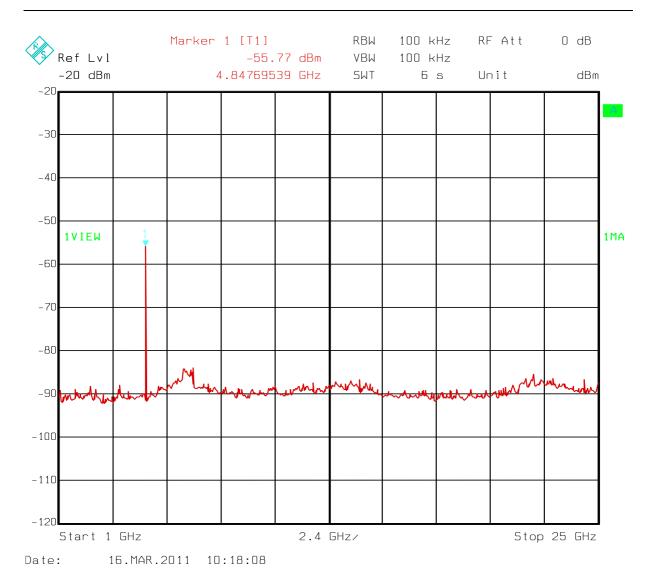




Date: 8.DEC.2010 14:25:28

RX: VP, 200 - 1000MHz





RX:Conducted measurements 1 - 25GHz (pre-scan only)

TEST REPORT FCC part 15C Project no.: 162018-3

FCC ID: Y2NRC24XX

4.7 Power Spectral Density (PSD)

Para. No.: 15.247 (d)

Test Performed By: G.Suhanthakumar Date of Test: 10-Dec-2010

Test Results: Passed

Measured and Calculated Data:

Measured Conducted Values:

Ch11 - Lower Channel:

 $PSD = 35 - 54.64 \, dBm/Hz = -19.64 \, dBm$

Ch18 - Middle Channel:

 $PSD = 35 - 54.99 \, dBm/Hz = -19.99 \, dBm$

Ch 26 - Upper Channel:

PSD = 35 - 54.72 dBm/Hz = -19.72 dBm

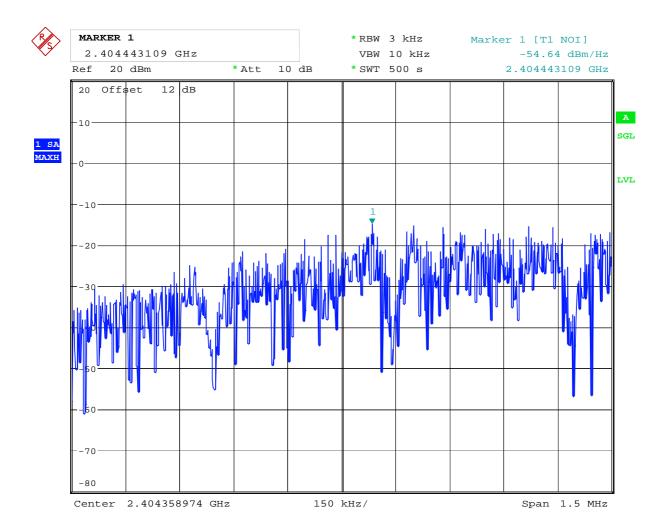
The spectrum line spacing is less than 3kHz, therefore used noise power density and corrected with 35 dB for 3kHz

Requirements:

The Power Spectral Density of a Digital Transmission System shall be no greater than +8 dBm in any 3 kHz band

No requirements for Frequency Hopping Systems.

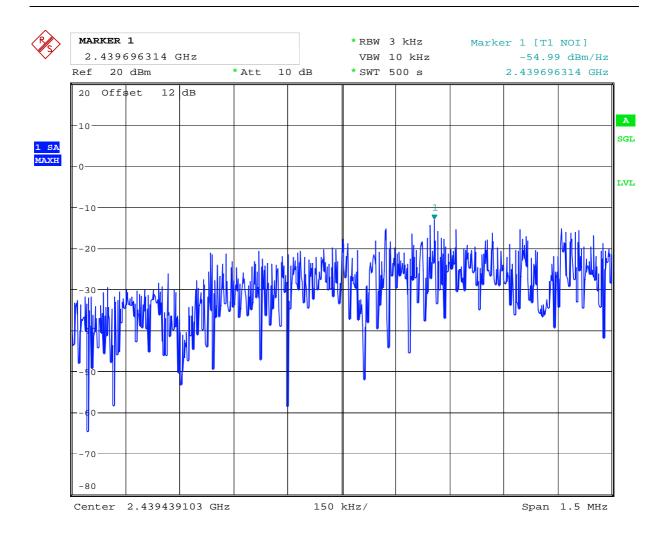




10.DEC.2010 13:10:04 Date:

Ch11 - Power Density - Conducted measurement

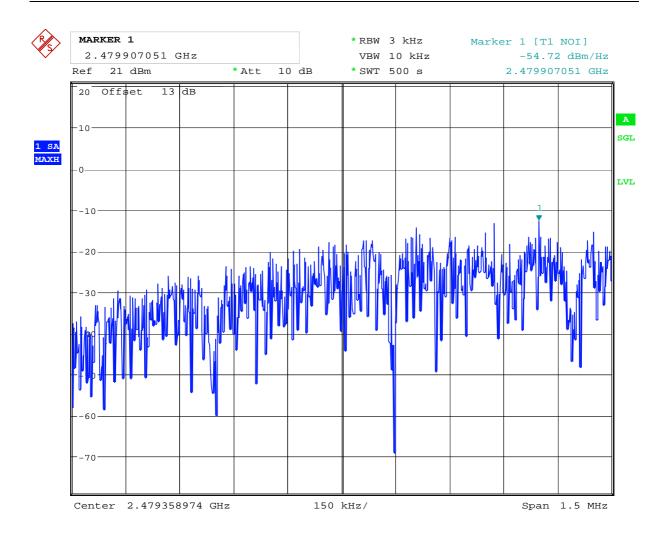




Date: 10.DEC.2010 13:26:29

Ch18 - Power Density - Conducted measurement





10.DEC.2010 13:46:33 Date:

Ch26 - Power Density - Conducted measurement



5 LIST OF TEST EQUIPMENT

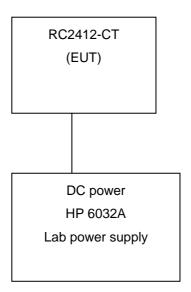
To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Test Laboratory.

No.	Model number	Description	Manufacturer	Ref. no.	Cal. date	Cal. Due
1.	FSU26	Spectrum Analyzer	Rohde & Schwarz	LR 1504	28.09.2010	28.09.2011
2.	ESCI	EMI Receiver	Rohde & Schwarz	N 4259	09.09.2010	09.09.2011
3.	FSEK 1088,3494,30	Spectrum Analyzer	R&S	1337	15.12.2010	15.12.2011
4.	U2000A	USB power meter	Agilent Technology	LR 1523	15.01.2010	15.01.2011
5.	3115	Antenna horn	EMCO	LR 1330	05.08.2010	05.08.2013
6.	643	Antenna horn	Narda	LR 093	26.01.2009	26.01.2012
7.	642	Antenna horn	Narda	LR 220	26.01.2009	26.01.2012
8.	PM7320X	Antenna horn	Sivers lab	LR 103	26.01.2009	26.01.2012
9.	DBF-520-20	Antenna horn	Systron Donner	LR 101	26.01.2009	26.01.2012
10.	638	Antenna horn	Narda	LR 098	26.01.2009	26.01.2012
11.	Sucoflex 102E	Cable microwave	Suhner	LR 1370	-	-
12.	6032A	Power supply	HP	LR 1062	-	-
13.	77	Multimeter, Digital	Fluke	LR155	03.11.2010	03.11.2011
14.	8449B	Amplifier	Hewlett Packard	LR 1322	04.08.2009	04.08.2011
15.	HFH2-Z2	Antenna loop	Rohde and Schwarz	LR 285	08.10.2010	08.10.2013
16.	10855A	Amplifier	Hewlett Packard	LR 1445	04.08.2010	04.08.2011
17.	HL223	Antenna log.per	Rohde & Schwarz	LR 1261	19.05.2010	09.05.2013
18.	HK116	Antenna biconic	Rohde & Schwarz	LR 1260	19.05.2010	09.05.2013
19.	ESN	Test Receiver	Rohde & Schwarz	LR 1237	16.09.2010	06.09.2011
20.	ESH3-Z3	LISN	Rohde & Schwarz	LR 1076	22.10.2009	22.10.2011
21.	B32-10R	Power supply	Oltronix	LR 126	-	-
22.	ESAI	EMI Receiver	Rohde & Schwarz	LR 1090/1089	04.03.2010	04.03.2011
23.	ESH3-Z2	Pulse Limiter	Rohde & Schwarz	LR 1074	03.03.2010	03.03.2012



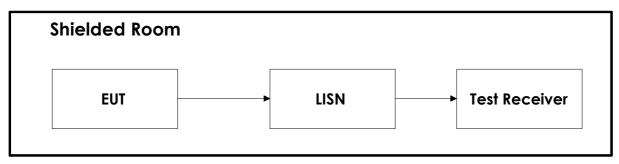
6 BLOCK DIAGRAM

6.1 System set up for radiated measurements



Test equipment: 1, 2, 3, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18

6.2 Powerline Conducted Emission



Test equipment: 20,21,22,23



6.3 Test Site Radiated Emission

