

Global United Technology Services Co., Ltd.

Report No: GTSE11100084301

FCC REPORT

Applicant: QVS Marketing Inc.

Address of Applicant: 10721 S. Hidden Ridge Lane Sandy Utah 84092

Equipment Under Test (EUT)

Product Name: 802.11n USB Module

Model No.: TS-802NRUMS VQ

FCC ID: YVK-802NRUMSVQ

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247:2010

Date of sample receipt: Oct.13, 2011

Date of Test: Oct.17-18, 2011

Date of report issued: Oct.19, 2011

Test Result: PASS *

Authorized Signature:



Stephen Guo Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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^{*} In the configuration tested, the EUT complied with the standards specified above.



2 Version

Version No.	Date	Description
00	Oct.19, 2011	Original

Prepared By:	Collan. He	Date:	Oct.19, 2011	
	Project Engineer			
Check By:	Hans. Hu	Date:	Oct.19, 2011	
	Reviewer			



3 Contents

		Page
1	COVER PAGE	1
2	VERSION	2
3	CONTENTS	3
4	TEST SUMMARY	4
5	GENERAL INFORMATION	5
	5.1 CLIENT INFORMATION	5 7 7 7
6	TEST RESULTS AND MEASUREMENT DATA	9
	6.1 ANTENNA REQUIREMENT: 6.2 CONDUCTED EMISSIONS. 6.3 CONDUCTED PEAK OUTPUT POWER. 6.4 6DB OCCUPY BANDWIDTH. 6.5 POWER SPECTRAL DENSITY. 6.6 BAND EDGE. 6.6.1 Conducted Emission Method. 6.6.2 Radiated Emission Method. 6.7 SPURIOUS EMISSION 6.7.1 Conducted Emission Method. 6.7.2 Radiated Emission Method.	
7	TEST SETUP PHOTO	53
R	FUT CONSTRUCTIONAL DETAILS	55

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4 Test Summary

Test Item	Section in CFR 47	Result	
Antenna requirement	15.203/15.247 (c)	Pass	
AC Power Line Conducted Emission	15.207	Pass	
Conducted Peak Output Power	15.247 (b)(3)	Pass	
6dB Occupied Bandwidth	15.247 (a)(2)	Pass	
Power Spectral Density	15.247 (e)	Pass	
Band Edge	15.247(d)	Pass	
Spurious Emission	15.205/15.209	Pass	

Pass: The EUT complies with the essential requirements in the standard.

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5 General Information

5.1 Client Information

Applicant:	QVS Marketing Inc.		
Address of Applicant:	10721 S. Hidden Ridge Lane Sandy Utah 84092		
Manufacturer/ Factory:	QVS Manufacturing Services.		
Address of Manufacturer/ Factory:	10721 S. Hidden Ridge Lane Sandy Utah 84092		

5.2 General Description of E.U.T.

Product Name:	802.11n USB Module		
Model No.:	TS-802NRUMS VQ		
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20))		
	2422MHz~2452MHz (802.11n(H40))		
Channel numbers:	11 for 802.11b/802.11g/802.11(H20)		
	7 for 802.11(H40)		
Channel separation:	5MHz		
Modulation technology:	Direct Sequence Spread Spectrum (DSSS)		
(IEEE 802.11b)			
Modulation technology:	Orthogonal Frequency Division Multiplexing(OFDM)		
(IEEE 802.11g/802.11n)			
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps		
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps		
Data speed (IEEE 802.11n):	Up to 150Mbps		
Antenna Type:	Integral		
Antenna gain:	2dBi (declare by manufacturer)		
Power supply:	DC 3.3V		

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Operation Frequency each of channel								
Channel Frequency Channel Frequency Channel Frequency Channel Frequency								
1	2412MHz	4	2427MHz 7		2442MHz	10	2457MHz	
2	2417MHz	17MHz 5 2432MHz		8	2447MHz	11	2462MHz	
3	2422MHz	6	2437MHz	9	2452MHz			

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

802.11b/802.11g/802.11n(H20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n(H40)

Channel	Frequency		
The lowest channel	2422MHz		
The middle channel	2437MHz		
The Highest channel	2452MHz		

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5.3 Test environment and mode

Operating Environment:			
Temperature:	24.0 °C		
Humidity:	54 % RH		
Atmospheric Pressure:	1010 mbar		
Test mode:			
Transmitting mode	Keep the EUT in Transmitting mode		

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate		
802.11b	1Mbps		
802.11g	6Mbps		
802.11n(H20)	6.5Mbps		
802.11n(H40)	13.0Mbps		

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b, 6Mbps for 802.11n(H20), 13Mbps for 802.11n(H40)

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● FCC —Registration No.: 600491

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 600491, July 20, 2010.

● Industry Canada (IC)

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen,

China

Tel: 0755-27798480 Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

Global United Technology Services Co., Ltd. 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China 518102

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5.7 Test Instruments list

Radia	Radiated Emission:							
Item	m Test Equipment Manufact		Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2012		
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A		
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 04 2011	Jul. 03 2012		
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 26 2011	Feb. 25 2012		
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 30 2011	June 29 2012		
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2011	Mar. 29 2012		
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		
8	Coaxial Cable	GTS	N/A	GTS213	Apr. 01 2011	Mar. 31 2012		
9	Coaxial Cable	GTS	N/A	GTS211	Apr. 01 2011	Mar. 31 2012		
9	Coaxial cable	GTS	N/A	GTS210	Apr. 01 2011	Mar. 31 2012		
11	Coaxial Cable	GTS	N/A	GTS212	Apr. 01 2011	Mar. 31 2012		
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 04 2011	Jul. 03 2012		
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 04 2011	Jul. 03 2012		
14	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 30 2011	June 29 2012		
15	Band filter	Amindeon	82346	GTS219	June 30 2011	June 29 2012		

Conducted Emission:								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS252	Jul. 04 2011	Jul. 03 2012		
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 04 2011	Jul. 03 2012		
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 04 2011	Jul. 03 2012		
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 04 2011	Jul. 03 2012		
5	Coaxial Cable	GTS	N/A	GTS227	Apr. 01 2011	Mar. 31 2012		
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		

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6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement: FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

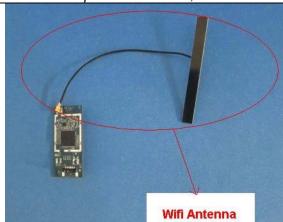
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The antenna port is an inverted, unconventional port; the best case gain of the antenna is 2.0dBi.



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Page 9 of 56



6.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.4: 2009					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz					
Limit:	Frequency range (MHz)	Limit (c	lBuV)			
		Quasi-peak	Average			
	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	5-30	60	50			
Test procedure	 Decreases with the logarithm of the frequency. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2009 on conducted measurement. 					
Test setup:	LISN 40cm		er — AC power			
Test Instruments:	Refer to section 5.7 for details					
Test mode:	Refer to section 5.3 for details	3				
Test results:	Passed					

Measurement Data

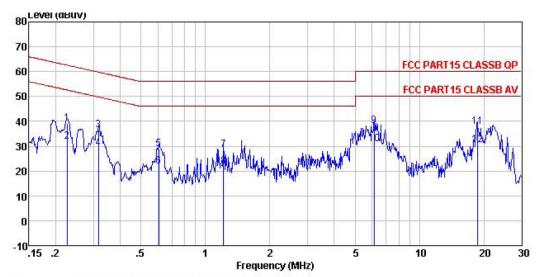
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Project No.: GTSE111000843RF

Page 10 of 56



Live Line:



Condition : FCC PART15 CLASSB QP LISN(2011) LINE

: 843RF

Job No Test mode : Transmitting mode

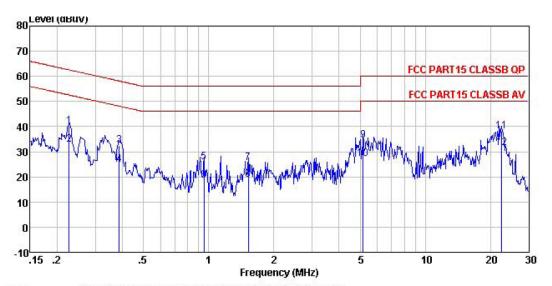
Test engineer: Aarons

1050	Freq	Read	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	d.
1	0.226	38.51	0.64	0.10	39. 25	62.61	-23.36	QP
2	0.226	31.24	0.64	0.10	31.98	52.61	-20.63	Average
3	0.317	35.63	0.60	0.10	36.33	59.80	-23.47	QP
1 2 3 4 5 6 7 8 9	0.317	28.35	0.60	0.10	29.05	49.80	-20.75	Average
5	0.604	28.20	0.53	0.10	28.83	56.00	-27.17	QP
6	0.604	21.37	0.53	0.10	22.00	46.00	-24.00	Average
7	1.216	28.01	0.46	0.10	28.57	56.00	-27.43	QP
8	1.216	21.35	0.46	0.10	21.91	46.00	-24.09	Average
9	6.153	37.68	0.28	0.12	38.08	60.00	-21.92	QP
10	6.153	30.58	0.28	0.12	30.98	50.00	-19.02	Average
11	18.622	37.30	0.15	0.21	37.66	60.00	-22.34	QP
12	18.622	30.27	0.15	0.21	30.63	50.00	-19.37	Average

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Neutral Line:



Condition : FCC PART15 CLASSB QP LISN(2011) NEUTRAL

Job No : 843RF

Test mode : Transmitting mode

Test engineer: Aarons

	Freq	Read Level	111.3	Cable Loss	Level	Limit Line		Remark
	MHz	dBuV	dB	dB	dBuV	-dBuV	dB	
1	0.227	39.51	0.64	0.10	40.25	62.57	-22.32	QP
2	0.227	32.18	0.64	0.10	32.92	52.57	-19.65	Average
1 2 3 4 5 6 7 8 9	0.387	31.79	0.58	0.10	32.47	58.12	-25.65	QP
4	0.387	24.25	0.58	0.10	24.93	48.12	-23.19	Average
5	0.953	25.37	0.48	0.10	25.95	56.00	-30.05	QP
6	0.953	17.96	0.48	0.10	18.54	46.00	-27.46	Average
7	1.527	25.09	0.43	0.10	25.62	56.00	-30.38	QP
8	1.527	18.24	0.43	0.10	18.77	46.00	-27.23	Average
9	5.166	34.02	0.30	0.10	34.42	60.00	-25.58	QP
10	5.166	26.89	0.30	0.10	27.29	50.00	-22.71	Average
11	22.535	37.89	0.13	0.21	38.23	60.00	-21.77	QP
12	22, 535	31.28	0.13	0.21	31.62	50.00	-18.38	Average

Notes:

- 1. An initial pre-scan was performed on the live and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level = Receiver Read level + LISN Factor + Cable Loss

Page 12 of 56



Project No.: GTSE111000843RF

6.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)			
Test Method:	ANSI C63.4:2009 and KDB558074			
Limit:	30dBm			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 5.7 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

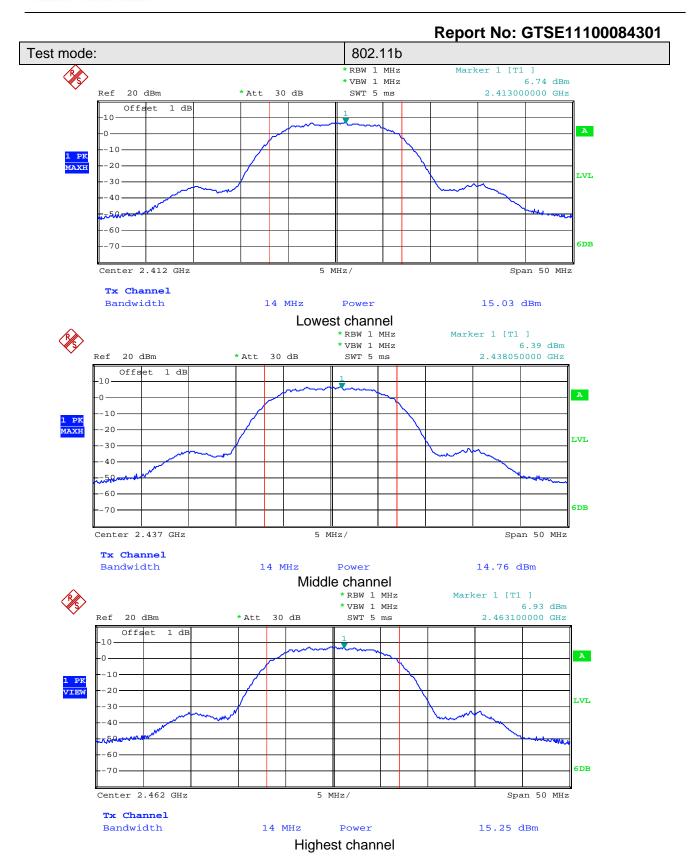
Measurement Data

T O		Peak Output		.			
Test CH	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(dBm)	Result	
Lowest	15.03	15.27	15.31	15.29			
Middle	14.76	15.23	15.09	15.22	30.00	Pass	
Highest	15.25	14.99	15.15	15.08			

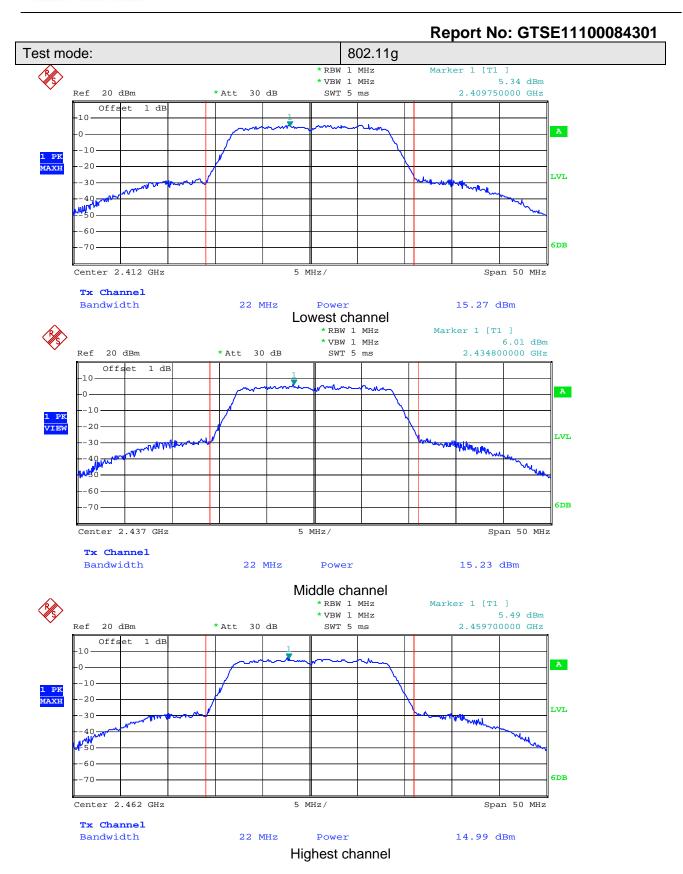
Test plot as follows:

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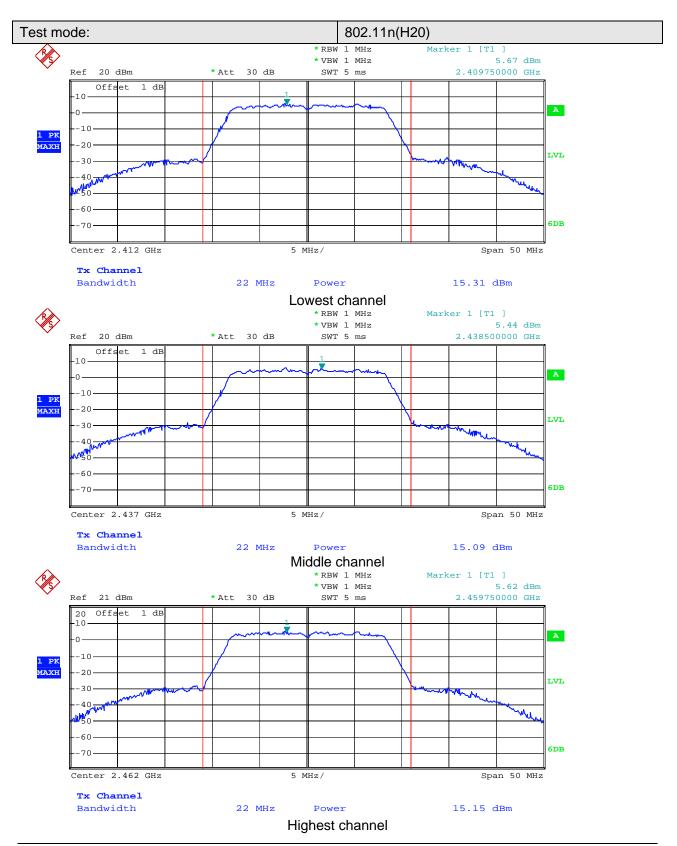




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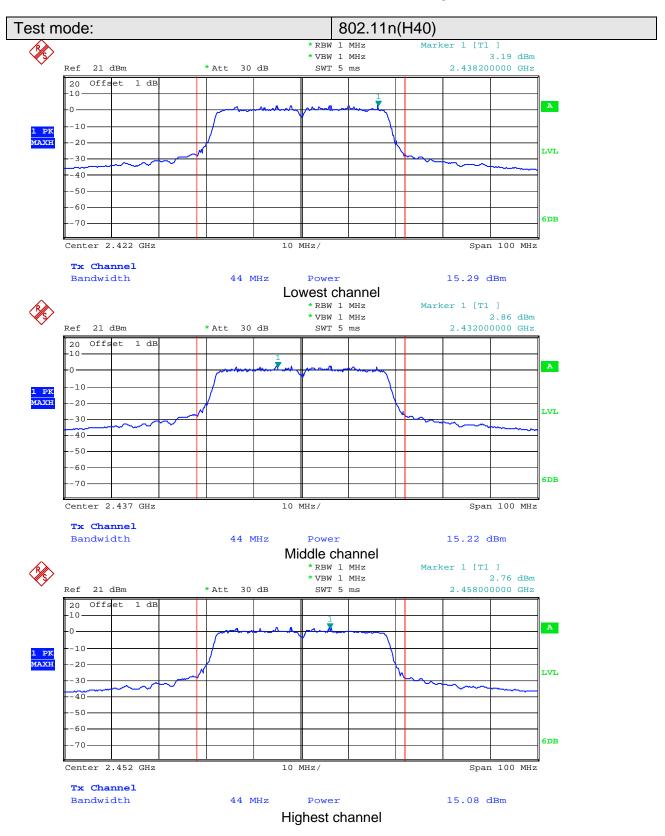
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Project No.: GTSE111000843RF

6.4 6dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)		
Test Method:	ANSI C63.4:2009 and KDB558074		
Limit:	>500KHz		
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane		
Test Instruments:	Refer to section 5.7 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Data

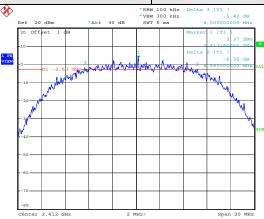
T O		6dB Occupy B	1	5			
Test CH	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(KHz)	Result	
Lowest	9.48	16.32	16.36	35.70			
Middle	9.04	16.36	16.32	35.70	>500	Pass	
Highest	10.12	16.44	16.44	35.90			

Test plot as follows:

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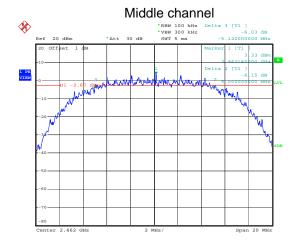


Test mode: 802.11b



Date: 17.OCT.2010 08:14:04

Date: 17.OCT.2010 08:26:50



Date: 17.OCT.2010 08:36:20

Highest channel

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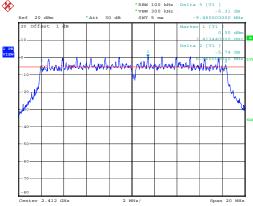
Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960

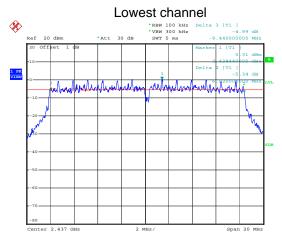
Project No.: GTSE111000843RF

Page 19 of 56

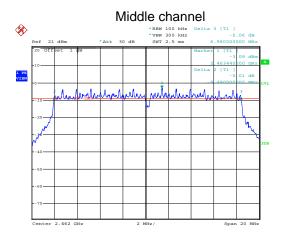








Date: 17.0CT.2010 10:26:31



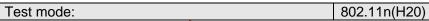
Date: 17.0CT.2011 11:45:19

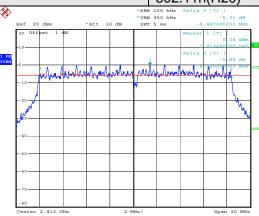
Highest channel

Project No.: GTSE111000843RF

Page 20 of 56

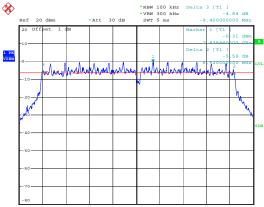






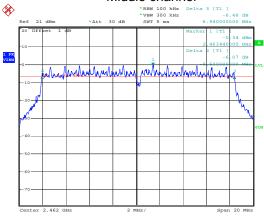
Date: 17.0CT.2010 10:37:38

Lowest channel



Date: 17.0CT.2010 10:43:54

Middle channel



Date: 17.0CT.2010 12:08:43

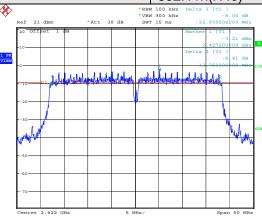
Highest channel

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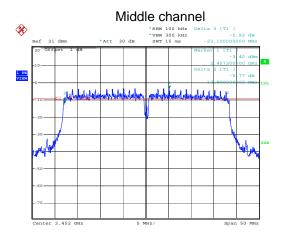




Date: 17.0CT.2010 12:15:57

#EMW 100 kHz Delta 3 [T1] **PRW 300 kHz Delta 3 [T1] **P

Date: 17.OCT.2010 12:24:55



Date: 17.0CT.2010 12:39:13

Highest channel

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Project No.: GTSE111000843RF

6.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2009 and KDB558074
Limit:	8dBm
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

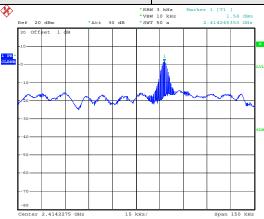
T . O.I.		Power Spectra		D "			
Test CH	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(dBm)	Result	
Lowest	1.58	-16.45	-16.76	-22.77			
Middle	1.94	-17.28	-18.34	-23.10	8.00	Pass	
Highest	0.48	-16.87	-19.21	-23.28			

Test plot as follows:

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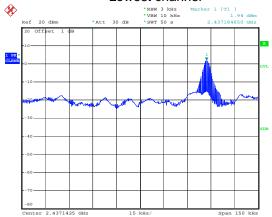


Test mode: 802.11b



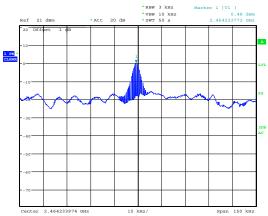
Date: 17.OCT.2010 08:24:01

Lowest channel



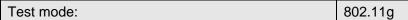
Date: 17.0CT.2010 08:32:58

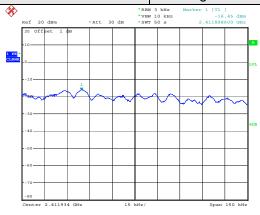
Middle channel



Highest channel

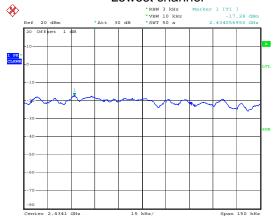






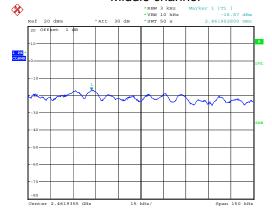
Date: 17.0CT.2010 10:23:26

Lowest channel



Date: 17.0CT.2010 10:28:16

Middle channel



Date: 17.0CT.2010 10:35:39

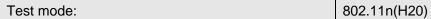
Highest channel

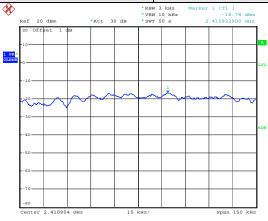
Global United Technology Services Co., Ltd. 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China 518102

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960 Page 25 of 56



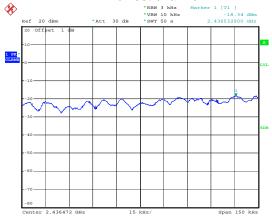
Project No.: GTSE111000843RF



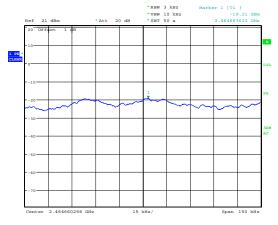


Date: 17 OCT 2010 10:41:2

Lowest channel

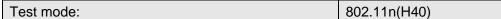


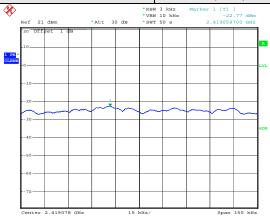
Middle channel



Highest channel

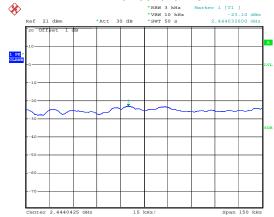




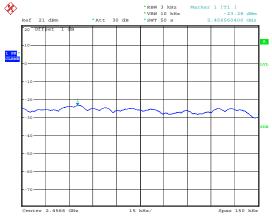


Date: 17 OCT 2010 12:21:13

Lowest channel



Middle channel



Highest channel



6.6 Band Edge

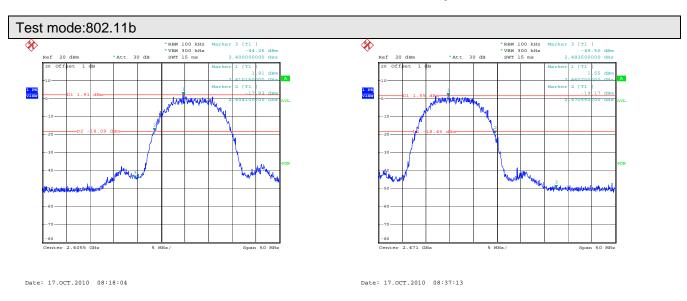
6.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)				
Test Method:	ANSI C63.4:2009 and KDB558074				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane				
Test Instruments:	Refer to section 5.7 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

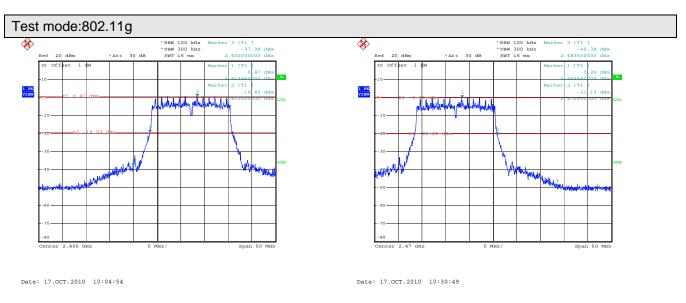
Test plot as follows:

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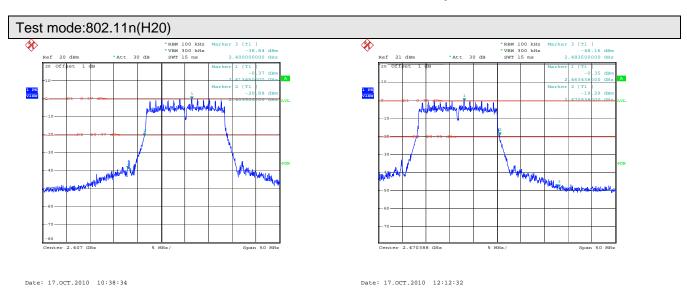


Lowest channel Highest channel

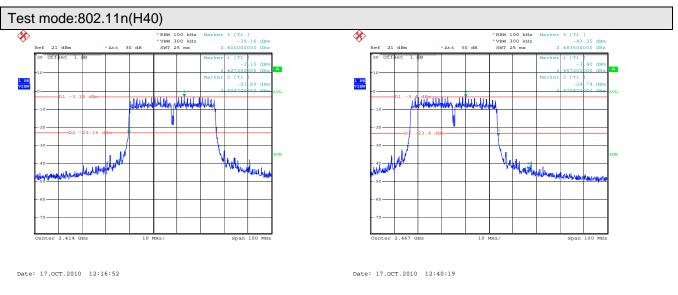


Lowest channel Highest channel





Lowest channel Highest channel



Lowest channel Highest channel

Page 30 of 56



Project No.: GTSE111000843RF

6.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205							
Test Method:	ANSI C63.4: 20	ANSI C63.4: 2009						
Test Frequency Range:	2.3GHz to 2.5G	2.3GHz to 2.5GHz						
Test site:	Measurement D	istance: 3m						
Receiver setup:			_					
·	Frequency	Detector	RBW	VBW	Remark			
	Above 1GHz	Peak	1MHz	3MHz	Peak Value			
I imple		Average	1MHz	10Hz	Average Value			
Limit:	Freque	encv	Limit (dBuV/	/m @3m)	Remark			
					Average Value			
					Peak Value			
Test setup:	Above 1GHz 54.00 Average Value							
Test Instruments:	Refer to section 5.7 for details							
Test mode:	Refer to section	5.3 for details	; 					
Test results:	Passed							



Test channe	el: 802.11b		Lowest			Level:		Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)	r	Level (dBuV/m)	Limit Line (dBuV/m)	Limit	Polarization	
2390.00	48.97	27.59	3.33	30.10)	49.79	74.00	-24.21	Horizontal	
2400.00	53.16	27.58	3.37	30.10)	54.01	74.00	-19.99	Horizontal	
2390.00	48.14	27.59	3.33	30.10)	48.96	74.00	-25.04	Vertical	
2400.00	52.27	27.58	3.37	30.10)	53.12	74.00	-20.88	Vertical	

Test channe	el: 802.11b		Lowest			Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2390.00	32.61	27.59	3.33	30.1	0	33.43	54.00	-20.57	Horizontal	
2400.00	36.15	27.58	3.37	30.1	0	37.00	54.00	-17.00	Horizontal	
2390.00	31.78	27.59	3.33	30.1	0	32.60	54.00	-21.40	Vertical	
2400.00	35.26	27.58	3.37	30.1	0	36.11	54.00	-17.89	Vertical	

Test channe	el: 802.11b		Highest			Level:		Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2483.50	53.54	27.53	3.49	29.9	3	54.63	74.00	-19.37	Horizontal	
2500.00	49.56	27.55	3.52	30.7	0	49.93	74.00	-24.07	Horizontal	
2483.50	52.55	27.53	3.49	9 29.93		53.64	74.00	-20.36	Vertical	
2500.00	48.68	27.55	3.52	30.7	0	49.05	74.00	-24.95	Vertical	

Test channe	el: 802.11b		Highes	t		Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2483.50	36.42	27.53	3.49	29.9	3	37.51	54.00	-16.49	Horizontal	
2500.00	31.93	27.55	3.52	30.7)	32.30	54.00	-21.70	Horizontal	
2483.50	35.54	27.53	3.49	29.9	3	36.63	54.00	-17.37	Vertical	
2500.00	30.94	27.55	3.52	30.7)	31.31	54.00	-22.69	Vertical	

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test channe	el: 802.11g		Lowest			Level:		Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)		Level (dBuV/m)	Limit Line	I I imit	Polarization	
2390.00	47.61	27.59	3.33	30.10)	48.43	74.00	-25.57	Horizontal	
2400.00	51.76	27.58	3.37	30.10)	52.61	74.00	-21.39	Horizontal	
2390.00	46.59	27.59	3.33	30.10)	47.41	74.00	-26.59	Vertical	
2400.00	50.65	27.58	3.37	30.10)	51.50	74.00	-22.50	Vertical	

Test channe	el: 802.11g		Lowest			Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)	r	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2390.00	33.31	27.59	3.33	30.10		34.13	54.00	-19.87	Horizontal	
2400.00	37.38	27.58	3.37	30.10	0	38.23	54.00	-15.77	Horizontal	
2390.00	31.85	27.59	3.33	30.10		32.67	54.00	-21.33	Vertical	
2400.00	35.74	27.58	3.37	30.10)	36.59	54.00	-17.41	Vertical	

Test channe	el: 802.11g		Highest			Level:		Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2483.50	52.43	27.53	3.49	29.93	3	53.52	74.00	-20.48	Horizontal	
2500.00	48.50	27.55	3.52	30.70)	48.87	74.00	-25.13	Horizontal	
2483.50	51.34	27.53	3.49	29.93	3	52.43	74.00	-21.57	Vertical	
2500.00	47.42	27.55	3.52	30.70)	47.79	74.00	-26.21	Vertical	

Test chann	el: 802.11g		Highes	t		Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2483.50	36.75	27.53	3.49	29.93	}	37.84	54.00	-16.16	Horizontal	
2500.00	32.64	27.55	3.52	30.70)	33.01	54.00	-20.99	Horizontal	
2483.50	36.96	27.53	3.49	29.93	}	38.05	54.00	-15.95	Vertical	
2500.00	32.67	27.55	3.52	30.70)	33.04	54.00	-20.96	Vertical	

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test channe	el: 802.11n(H	l20)	Lowest		Level:			Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Loss Facto		Level (dBuV/m)	Limit Line (dBuV/m)	Limit	Polarization	
2390.00	47.77	27.59	3.33	30.1	0	48.59	74.00	-25.41	Horizontal	
2400.00	52.30	27.58	3.37	30.1	0	53.15	74.00	-20.85	Horizontal	
2390.00	44.27	27.59	3.33	30.1	0	45.09	74.00	-28.91	Vertical	
2400.00	46.23	27.58	3.37	30.1	0	47.08	74.00	-26.92	Vertical	

Test channe	el: 802.11n(F	H20)	Lowest			Level	Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Facto (dB)	r	Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization
2390.00	33.10	27.59	3.33	30.1	0	33.92	54.00	-20.08	Horizontal
2400.00	33.25	27.58	3.37	30.1	0	34.10	54.00	-19.90	Horizontal
2390.00	34.06	27.59	3.33	30.1	0	34.88	54.00	-19.12	Vertical
2400.00	37.97	27.58	3.37	30.1	0	38.82	54.00	-15.18	Vertical

Test channe	el: 802.11n(H	l20)	Highest		Level:			Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	oss Facto		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2483.50	52.49	27.53	3.49	29.93		53.58	74.00	-20.42	Horizontal	
2500.00	48.53	27.55	3.52	30.7	0	48.90	74.00	-25.10	Horizontal	
2483.50	46.83	27.53	3.49	29.9	3	47.92	74.00	-26.08	Vertical	
2500.00	44.05	27.55	3.52	30.7	0	44.42	74.00	-29.58	Vertical	

Test chann	el: 802.11n(ŀ	H20)	Highes	t		Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prean Facto (dB)	r	Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization	
2483.50	35.77	27.53	3.49	29.9	3	36.86	54.00	-17.14	Horizontal	
2500.00	31.54	27.55	3.52	30.7)	31.91	54.00	-22.09	Horizontal	
2483.50	38.14	27.53	3.49	29.93	3	39.23	54.00	-14.77	Vertical	
2500.00	36.63	27.55	3.52	30.7)	37.00	54.00	-17.00	Vertical	

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test channe	140)	Lowest		Level	:	Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Pream Factor (dB)	' 600	Limit Line (dBuV/m)	I I imit	Polarization
2390.00	48.76	27.59	3.33	30.10	49.58	74.00	-24.42	Horizontal
2400.00	51.73	27.58	3.37	30.10	52.58	74.00	-21.42	Horizontal
2390.00	47.74	27.59	3.33	30.10	48.56	74.00	-25.44	Vertical
2400.00	50.62	27.58	3.37	30.10	51.47	74.00	-22.53	Vertical

Test chann	H40)	Lowest			Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization
2390.00	31.37	27.59	3.33	30.10		32.19	54.00	-21.81	Horizontal
2400.00	36.64	27.58	3.37	30.10		37.49	54.00	-16.51	Horizontal
2390.00	31.01	27.59	3.33	30.10		31.83	54.00	-22.17	Vertical
2400.00	36.20	27.58	3.37	30.1	0	37.05	54.00	-16.95	Vertical

Test channel: 802.11n(H40)			Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	oss Factor		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization
2483.50	50.83	27.53	3.49	29.93		51.92	74.00	-22.08	Horizontal
2500.00	47.40	27.55	3.52	30.70		47.77	74.00	-26.23	Horizontal
2483.50	49.75	27.53	3.49	29.93		50.84	74.00	-23.16	Vertical
2500.00	46.31	27.55	3.52	30.7	0	46.68	74.00	-27.32	Vertical

Test chann	H40)	Highest			Level		Average		
Frequenc y (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)		Level (dBuV/m)	Limit Line (dBuV/m)	I I imit	Polarization
2483.50	39.08	27.53	3.49	29.93		40.17	54.00	-13.83	Horizontal
2500.00	37.60	27.55	3.52	30.70		37.97	54.00	-16.03	Horizontal
2483.50	40.29	27.53	3.49	29.93		41.38	54.00	-12.62	Vertical
2500.00	38.63	27.55	3.52	30.7	0	39.00	54.00	-15.00	Vertical

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Project No.: GTSE111000843RF

6.7 Spurious Emission

6.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)					
Test Method:	ANSI C63.4:2009 and KDB558074					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 5.7 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					

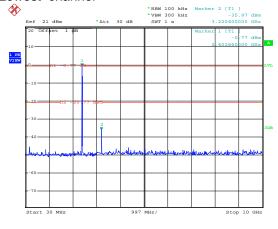
Test plot as follows:

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Test mode:802.11b

Lowest channel



*RRW 100 kHz Marker 1 [T1]
*VBW 300 kHz 30.46 dBm
-39.46 dBm
-30 offfeet 1 dB
-10 offeet 1 dB
-10 offfeet 1

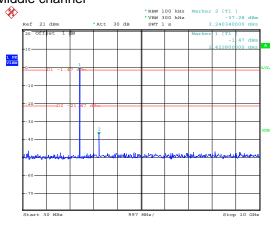
Date: 17.OCT.2011 11:47:12

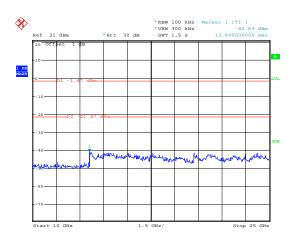
Date: 17.OCT.2011 11:47:51

30MHz~10GHz

10GHz~25GHz

Middle channel





Date: 17.0CT.2011 11:49:34

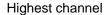
Date: 17.0CT.2011 11:49:51

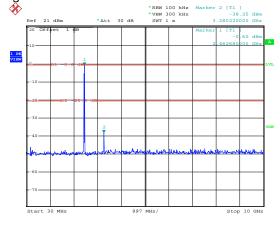
30MHz~10GHz

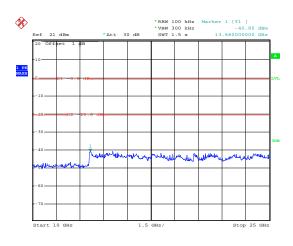
10GHz~25GHz

Project No.: GTSE111000843RF









Date: 17.0CT.2011 11:55:08

30MHz~10GHz

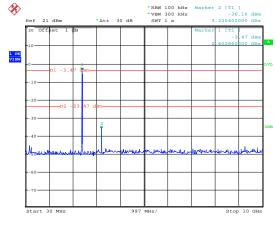
10GHz~25GHz

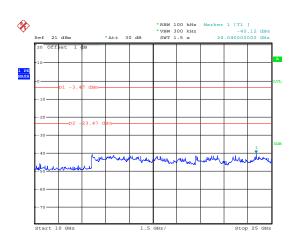
Date: 17.0CT.2011 11:55:29

Date: 17.0CT.2011 11:58:47

Test mode:802.11g

Lowest channel





Date: 17.0CT.2011 11:58:28

30MHz~10GHz

10GHz~25GHz

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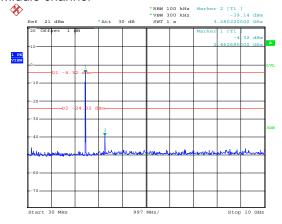
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Project No.: GTSE111000843RF

Page 38 of 56



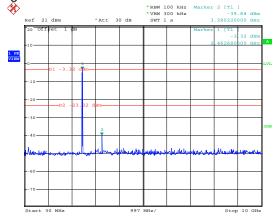
Middle channel



Date: 17.0CT.2011 12:01:40

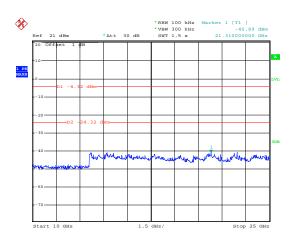
30MHz~10GHz

Highest channel



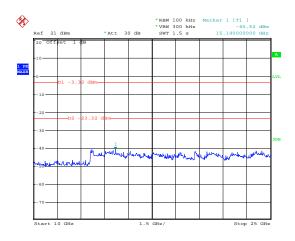
Date: 17.0CT.2011 12:22:52

30MHz~10GHz



Date: 17.0CT.2011 12:02:00

10GHz~25GHz



Date: 17.0CT.2011 12:23:15

10GHz~25GHz

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Project No.: GTSE111000843RF

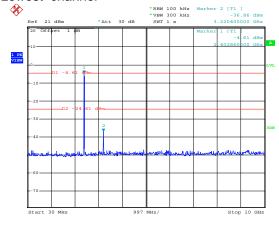
Page 39 of 56



*RBW 100 kHz *VBW 300 kHz SWT 1.5 s

Test mode:802.11n(H20)

Lowest channel



Date: 17.OCT.2011 12:04:14

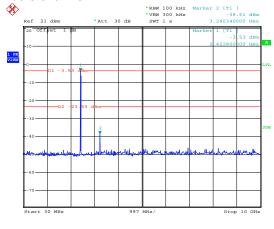
Date: 17.0CT.2011 12:04:34

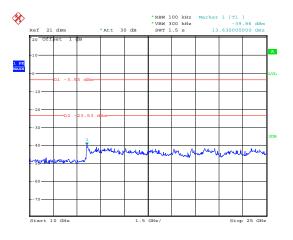
%

30MHz~10GHz

10GHz~25GHz

Middle channel





Date: 17.0CT.2011 12:05:49

Date: 17.0CT.2011 12:06:13

30MHz~10GHz

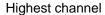
10GHz~25GHz

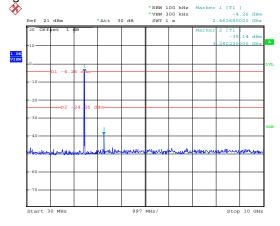
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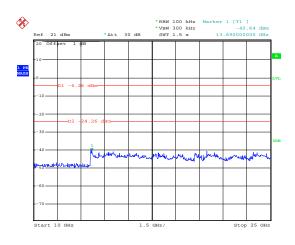
Project No.: GTSE111000843RF

Page 40 of 56









Date: 17.0CT.2011 12:07:40

30MHz~10GHz

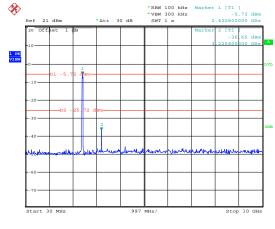
10GHz~25GHz

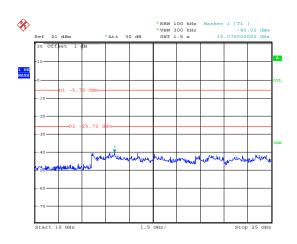
Date: 17.0CT.2011 12:08:03

Date: 17.0CT.2011 12:10:35

Test mode:802.11n(H40)

Lowest channel





Date: 17.0CT.2011 12:10:14

30MHz~10GHz

10GHz~25GHz

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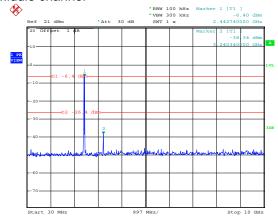
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Project No.: GTSE111000843RF

Page 41 of 56



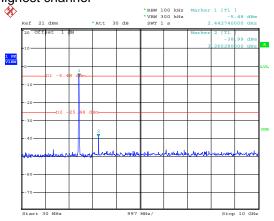
Middle channel



Date: 17.0CT.2011 12:12:06

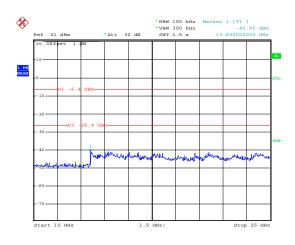
30MHz~10GHz

Highest channel



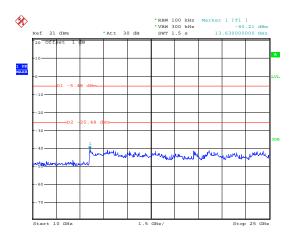
Date: 17.0CT.2011 12:14:09

30MHz~10GHz



Date: 17.0CT.2011 12:12:26

10GHz~25GHz



Date: 17.0CT.2011 12:14:29

10GHz~25GHz

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Project No.: GTSE111000843RF

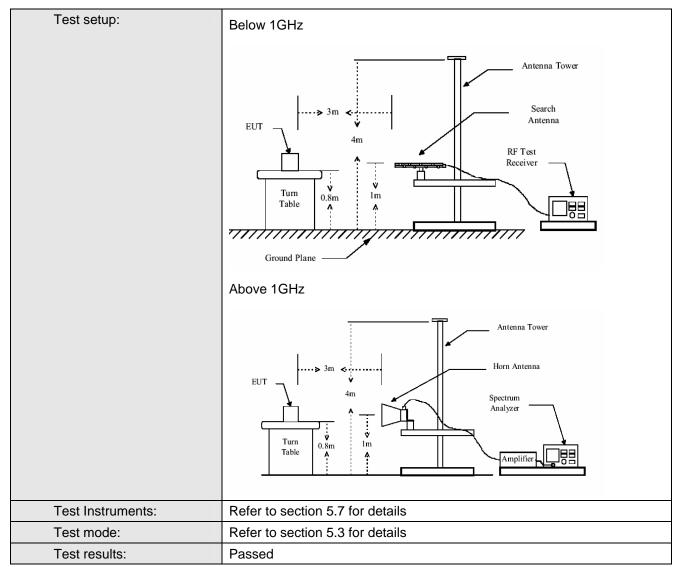
Page 42 of 56



6.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205									
Test Method:	ANSI C63.4:200)9								
Test Frequency Range:	30MHz to 25GH	lz								
Test site:	Measurement D	istance: 3m								
Receiver setup:										
·	Frequency	Detector	RBW	VBW	Remark					
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value					
	Above 1GHz Peak 1MHz 3MHz Peak Valu									
	Above 1GHz Average 1MHz 10Hz Average \									
Limit:										
	Frequency Limit (dBuV/m @3m) Remark									
	30MHz-8		40.0		Quasi-peak Value					
	88MHz-21		43.5		Quasi-peak Value					
	216MHz-960MHz 46.0 Quasi-peak Value									
	960MHz-1GHz 54.0 Quasi-peak Value									
	Above 1	GHz	54.0		Average Value					
Test Procedure:	1. The EUT w	voo placed on t	74.0		Peak Value e 0.8 meters above					
	the ground to determin 2. The EUT wantenna, wantenna, wantenna and the ground Both horizon make the numbers and to find the number state of the limit specified Europe of the did not have	at a 3 meter of the position was set 3 meter which was mount to determine to the and vertice measurement. Uspected emisted the rota table maximum reaction level of the ecified, then the EUT would be 10dB margiri-peak or aversition.	amber. The toof the highests away from the on the too the maximum all polarizations was turned to the maximum and the maximum and the maximum Here EUT in peasiting could be reported. In would be reported.	table was rost radiation. The interfer op of a variation are meter to for a value of the ons of the are to heights from 0 degreeak Detect old Mode. The was arranged by the old Mode of the old was a stopped of the rwise are sted one of the one of the old was a stopped of the rwise are sted one of the rwise are sted one of the rwise of the rwi	rence-receiving able-height antenna our meters above he field strength. Intenna are set to higher to 4 rees to 360 degrees. Function and his 10dB lower than					





Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
360.45	49.09	14.43	1.18	26.87	37.83	46.00	-8.17	Vertical
480.53	50.79	16.07	1.42	27.61	40.67	46.00	-5.33	Vertical
601.43	45.08	18.46	1.68	27.80	37.42	46.00	-8.58	Vertical
721.73	43.88	19.10	1.95	27.65	37.28	46.00	-8.72	Vertical
842.13	47.50	20.51	2.09	27.46	42.64	46.00	-3.36	Vertical
962.16	47.69	21.49	2.23	27.21	44.20	54.00	-9.80	Vertical
238.89	47.61	12.09	0.87	26.47	34.10	46.00	-11.90	Horizontal
350.49	52.59	14.43	1.18	26.87	41.33	46.00	-4.67	Horizontal
478.56	52.90	16.07	1.42	27.61	42.78	46.00	-3.22	Horizontal
720.24	43.05	19.10	1.95	27.65	36.45	46.00	-9.55	Horizontal
841.83	41.92	20.51	2.09	27.46	37.06	46.00	-8.94	Horizontal
961.57	44.51	21.49	2.23	27.21	41.02	54.00	-12.98	Horizontal

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Above 1GHz

Test mode:	802.1	1b	Test chann	iel:	Lowest		Remark:		Peal	<
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Fac (d		Level (dBuV/m)	Limit Line (dBuV/m)	Ov Lin (dl	nit	polarization
4824.00	51.64	31.54	5.87	34.	.55	54.50	74.00	-19	.50	Vertical
7236.00	41.27	36.50	7.10	36.	.11	48.76	74.00	-25	.24	Vertical
9648.00	40.40	38.25	9.03	35.	97	51.71	74.00	-22	.29	Vertical
12060.00	*						74.00			Vertical
14472.00	*						74.00			Vertical
4824.00	52.60	31.54	5.87	34.	55	55.46	74.00	-18	.54	Horizontal
7236.00	49.55	36.49	7.10	36.	12	57.02	74.00	-16	.98	Horizontal
9648.00	49.49	38.12	9.01	35.	88	60.74	74.00	-13	.26	Horizontal
12060.00	*						74.00		•	Horizontal
14472.00	*						74.00		•	Horizontal

Test mode	:	80)2.11b	Test chan	nel:		Lowest	Ren	nark:	:		Average
Frequency (MHz)	L	lead evel BuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Fac (d	ctor	Level (dBuV/m)	Limit L (dBuV		Over Limit (dB)		polarization
4824.00	3	4.66	31.54	5.87	34.	55	37.52	54.0	00	-16.48	3	Vertical
7236.00	3	4.32	36.50	7.10	36.	.11	41.81	54.0	0	-12.19	9	Vertical
9648.00	3	3.52	38.25	9.03	35.	.97	44.83	54.0	0	-9.17	'	Vertical
12060.00		*						54.0	0			Vertical
14472.00		*						54.0	0			Vertical
4824.00	3	5.84	31.54	5.87	34.	55	38.70	54.0	0	-15.30)	Horizontal
7236.00	3	2.53	36.49	7.10	36.	12	40.00	54.0	0	-14.00)	Horizontal
9648.00	3	3.47	38.12	9.01	35.	.88	44.72	54.0	0	-9.28	,	Horizontal
12060.00		*						54.0	0			Horizontal
14472.00		*						54.0	0			Horizontal

Test mode:	802.1	1b	Test chann	nel:	Middle		Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Fac	amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Liı	ver mit IB)	polarization
4874.00	48.59	31.57	5.91	34	.65	51.42	74.00	-22	2.58	Vertical
7311.00	40.11	36.48	7.14	36	.14	47.59	74.00	-26	5.41	Vertical
9748.00	39.78	38.64	9.08	36	.35	51.15	74.00	-22	2.85	Vertical
12185.00	*						74.00			Vertical
14622.00	*						74.00			Vertical
4874.00	51.28	31.57	5.91	34	.65	54.11	74.00	-19	.89	Horizontal
7311.00	38.70	36.47	7.14	36	.14	46.17	74.00	-27	'.83	Horizontal
9748.00	39.21	38.45	9.06	36	.24	50.48	74.00	-23	3.52	Horizontal
12185.00	*						74.00		·	Horizontal
14622.00	*						74.00		·	Horizontal

Remark

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*", means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test mode:	802.1	1b	Test chann	iel:	l: Middle		Remark:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Fac (d	ctor	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver mit IB)	polarization
4874.00	32.02	31.57	5.91	34.	65	34.85	54.00	-19	9.15	Vertical
7311.00	32.89	36.48	7.14	36.	14	40.37	54.00	-13	3.63	Vertical
9748.00	34.04	38.64	9.08	36.	35	45.41	54.00	-8	.59	Vertical
12185.00	*						54.00			Vertical
14622.00	*						54.00			Vertical
4874.00	34.60	31.57	5.91	34.	65	37.43	54.00	-16	3.57	Horizontal
7311.00	31.75	36.47	7.14	36.	14	39.22	54.00	-14	1.78	Horizontal
9748.00	32.52	38.45	9.06	36.	24	43.79	54.00	-10).21	Horizontal
12185.00	*						54.00			Horizontal
14622.00	*						54.00			Horizontal

Test mode:	802.1	1b	Test chann	el:	Highest		Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Fac	amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver mit IB)	polarization
4924.00	49.37	31.64	5.95	34	.79	52.17	74.00	-21	.83	Vertical
7386.00	39.41	36.49	7.16	36	.16	46.90	74.00	-27	7 .10	Vertical
9848.00	40.28	38.69	9.11	36	.53	51.55	74.00	-22	2.45	Vertical
12310.00	*						74.00			Vertical
14772.00	*						74.00			Vertical
4924.00	50.71	31.74	5.97	34	.86	53.56	74.00	-20).44	Horizontal
7386.00	39.12	36.50	7.10	36	.11	46.61	74.00	-27	7.39	Horizontal
9848.00	39.60	38.67	9.08	36	.47	50.88	74.00	-23	3.12	Horizontal
12310.00	*	_					74.00			Horizontal
14772.00	*						74.00			Horizontal

Test mode:	802.1	1b	Test chann	nel: Highest		est	Remark:		Aver	age
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prear Factor		Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4924.00	33.79	31.64	5.95	34.7	9	36.59	54.00	-17	7.41	Vertical
7386.00	32.90	36.49	7.16	36.1	6	40.39	54.00	-13	3.61	Vertical
9848.00	35.03	38.69	9.11	36.5	3	46.30	54.00	-7	.70	Vertical
12310.00	*						54.00			Vertical
14772.00	*						54.00			Vertical
4924.00	33.71	31.74	5.97	34.8	86	36.56	54.00	-17	7.44	Horizontal
7386.00	33.51	36.50	7.10	36.1	1	41.00	54.00	-13	3.00	Horizontal
9848.00	32.57	38.67	9.08	36.4	7	43.85	54.00	-10	0.15	Horizontal
12310.00	*						54.00	,		Horizontal
14772.00	*						54.00			Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test mode:	802.1	1g	Test chann	hannel: Lowest		Remark:	Remark: Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	48.82	31.55	5.89	34.58	51.68	74.00	-22.32	Vertical
7236.00	38.99	36.50	7.10	36.11	46.48	74.00	-27.52	Vertical
9648.00	39.34	38.12	9.01	35.90	50.57	74.00	-23.43	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
4824.00	43.24	31.55	5.89	34.58	46.10	74.00	-27.90	Horizontal
7236.00	39.13	36.47	7.10	36.11	46.59	74.00	-27.41	Horizontal
9648.00	38.48	38.25	9.03	35.97	49.79	74.00	-24.21	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal

Test mode:	802.1	1g	Test chann	nel: Lowest		Remark:		Aver	age	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Factor		Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4824.00	31.62	31.55	5.89	34.	58	34.48	54.00	-19	9.52	Vertical
7236.00	31.82	36.50	7.10	36.	11	39.31	54.00	-14	4.69	Vertical
9648.00	32.83	38.12	9.01	35.	90	44.06	54.00	-9	.94	Vertical
12060.00	*						54.00			Vertical
14472.00	*						54.00			Vertical
4824.00	32.94	31.55	5.89	34.	58	35.80	54.00	-18	3.20	Horizontal
7236.00	32.91	36.47	7.10	36.	11	40.37	54.00	-13	3.63	Horizontal
9648.00	31.84	38.25	9.03	35.	97	43.15	54.00	-10	0.85	Horizontal
12060.00	*						54.00			Horizontal
14472.00	*						54.00			Horizontal

Test mode:	802.1	1g	Test chann	nel:	Middle		Remark:	P	eak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)		amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	
4874.00	48.01	31.56	5.89	34.	.58	50.88	74.00	-23.1	2 Vertical
7311.00	38.52	36.47	7.14	36	.14	45.99	74.00	-28.0	1 Vertical
9748.00	38.61	38.45	9.06	36	.24	49.88	74.00	-24.1	2 Vertical
12185.00	*						74.00		Vertical
14622.00	*						74.00		Vertical
4874.00	47.84	31.56	5.89	34.	.58	50.71	74.00	-23.2	9 Horizontal
7311.00	38.66	36.48	7.14	36	.14	46.14	74.00	-27.8	6 Horizontal
9748.00	39.42	38.45	9.06	36	.18	50.75	74.00	-23.2	5 Horizontal
12185.00	*				•		74.00		Horizontal
14622.00	*	-					74.00		Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Page 47 of 56



Test mode:	802.1	1g	Test chann	nel: Middle		Remark:	Aver	rage
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.67	31.56	5.89	34.58	34.54	54.00	-19.46	Vertical
7311.00	32.23	36.47	7.14	36.14	39.70	54.00	-14.30	Vertical
9748.00	32.94	38.45	9.06	36.24	44.21	54.00	-9.79	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
4874.00	31.01	31.56	5.89	34.58	33.88	54.00	-20.12	Horizontal
7311.00	32.34	36.48	7.14	36.14	39.82	54.00	-14.18	Horizontal
9748.00	32.95	38.45	9.06	36.18	44.28	54.00	-9.72	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal

Test mode:	802.1	1g	Test chann	el:	Highest		Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Fac	amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver mit IB)	polarization
4924.00	47.84	31.61	5.93	34	.76	50.62	74.00	-23	3.38	Vertical
7386.00	38.39	36.52	7.16	36	.16	45.91	74.00	-28	3.09	Vertical
9848.00	38.55	38.67	9.08	36	.47	49.83	74.00	-24	1.17	Vertical
12310.00	*						74.00			Vertical
14772.00	*						74.00			Vertical
4924.00	48.05	31.64	5.95	34	.79	50.85	74.00	-23	3.15	Horizontal
7386.00	38.69	36.54	7.16	36	.16	46.23	74.00	-27	7.77	Horizontal
9848.00	38.29	38.69	9.11	36	.53	49.56	74.00	-24	1.44	Horizontal
12310.00	*						74.00			Horizontal
14772.00	*						74.00			Horizontal

Test mode:	802.1	1g	Test chann	st channel: Highest		est	Remark:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Factor		Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4924.00	30.96	31.61	5.93	34.	76	33.74	54.00	-20	0.26	Vertical
7386.00	31.79	36.52	7.16	36.	16	39.31	54.00	-14	4.69	Vertical
9848.00	31.23	38.67	9.08	36.4	47	42.51	54.00	-1 ⁻	1.49	Vertical
12310.00	*						54.00			Vertical
14772.00	*						54.00			Vertical
4924.00	32.02	31.64	5.95	34.	79	34.82	54.00	-19	9.18	Horizontal
7386.00	32.35	36.54	7.16	36.	16	39.89	54.00	-14	4.11	Horizontal
9848.00	31.01	38.69	9.11	36.	53	42.28	54.00	-1	1.72	Horizontal
12310.00	*						54.00			Horizontal
14772.00	*						54.00			Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test mode:	802.1	1n(H20)	Test chann	el:	Lowe	est	Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Fa	amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver mit IB)	polarization
4824.00	49.03	31.85	6.00	34	.92	51.96	74.00	-22	2.04	Vertical
7236.00	39.87	36.50	7.10	36	.11	47.36	74.00	-26	6.64	Vertical
9648.00	39.07	38.12	9.01	35	.88	50.32	74.00	-23	3.68	Vertical
12060.00	*						74.00			Vertical
14472.00	*						74.00			Vertical
4824.00	48.46	31.55	5.89	34	.58	51.32	74.00	-22	2.68	Horizontal
7236.00	39.68	36.50	7.10	36	.11	47.17	74.00	-26	6.83	Horizontal
9648.00	39.73	38.12	9.01	35	.90	50.96	74.00	-23	3.04	Horizontal
12060.00	*						74.00			Horizontal
14472.00	*						74.00			Horizontal

Test mode:	802.1	1n(H20)	Test chann	nnel: Lowest		Remark:		Aver	age	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Facto	•	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4824.00	32.91	31.85	6.00	34.	.92	35.84	54.00	-18	8.16	Vertical
7236.00	33.28	36.50	7.10	36.	.11	40.77	54.00	-13	3.23	Vertical
9648.00	32.06	38.12	9.01	35.	.88	43.31	54.00	-10	0.69	Vertical
12060.00	*						54.00			Vertical
14472.00	*						54.00			Vertical
4824.00	31.32	31.55	5.89	34.	.58	34.18	54.00	-19	9.82	Horizontal
7236.00	33.35	36.50	7.10	36.	.11	40.84	54.00	-13	3.16	Horizontal
9648.00	33.69	38.12	9.01	35.	.90	44.92	54.00	-9	.08	Horizontal
12060.00	*						54.00			Horizontal
14472.00	*						54.00			Horizontal

Test mode:	802.1	1n(H20)	Test chann	nel:	Midd	le	Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Fac (d	ctor	Level (dBuV/m)	Limit Line (dBuV/m)	Ove Lim (dE	nit	polarization
4874.00	47.83	31.57	5.91	34.	.65	50.66	74.00	-23.	34	Vertical
7311.00	38.09	36.47	7.14	36.	.14	45.56	74.00	-28.	44	Vertical
9748.00	38.31	38.30	9.03	36.	.00	49.64	74.00	-24.	36	Vertical
12185.00	*						74.00			Vertical
14622.00	*						74.00			Vertical
4874.00	42.22	31.79	5.97	34.	.90	45.61	74.00	-28.	39	Horizontal
7311.00	38.51	36.48	7.14	36.	.14	46.56	74.00	-27.	44	Horizontal
9748.00	39.58	38.45	9.06	36.	.24	51.46	74.00	-22.	54	Horizontal
12185.00	*				•		74.00			Horizontal
14622.00	*	-					74.00			Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Test mode:	802.1	1n(H20)	Test chann	el: Mid	ddle	Remark:	Avei	rage
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (de		Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.47	31.57	5.91	34.65	34.30	54.00	-19.70	Vertical
7311.00	30.98	36.47	7.14	36.14	38.45	54.00	-15.55	Vertical
9748.00	32.02	38.30	9.03	36.00	43.35	54.00	-10.65	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
4874.00	35.22	31.79	5.97	34.90	38.59	54.00	-15.41	Horizontal
7311.00	31.88	36.48	7.14	36.14	39.91	54.00	-14.09	Horizontal
9748.00	32.20	38.45	9.06	36.24	44.06	54.00	-9.94	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal

Test mode:	802.1	1n(H20)	Test chann	el:	High	est	Remark:		Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Fa	amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver mit IB)	polarization
4924.00	48.92	31.61	5.93	34	.76	51.70	74.00	-22	2.30	Vertical
7386.00	39.52	36.52	7.16	36	.16	47.04	74.00	-26	3.96	Vertical
9848.00	38.77	38.69	9.11	36	.53	50.04	74.00	-23	3.96	Vertical
12310.00	*						74.00			Vertical
14772.00	*						74.00			Vertical
4924.00	47.66	31.61	5.93	34	.76	50.44	74.00	-23	3.56	Horizontal
7386.00	38.55	36.52	7.16	36	.16	46.07	74.00	-27	7.93	Horizontal
9848.00	38.09	38.67	9.08	36	.47	49.37	74.00	-24	1.63	Horizontal
12310.00	*						74.00			Horizontal
14772.00	*						74.00			Horizontal

Test mode:	802.1	1n(H20)	Test chann	st channel: Highest		est	Remark:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Factor		Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4924.00	32.09	31.61	5.93	34.	76	34.87	54.00	-19	9.13	Vertical
7386.00	32.82	36.52	7.16	36.	16	40.34	54.00	-13	3.66	Vertical
9848.00	33.18	38.69	9.11	36.	53	44.45	54.00	ဝှ	.55	Vertical
12310.00	*						54.00			Vertical
14772.00	*						54.00			Vertical
4924.00	31.10	31.61	5.93	34.	76	33.88	54.00	-20	0.12	Horizontal
7386.00	32.16	36.52	7.16	36.	16	39.68	54.00	-14	4.32	Horizontal
9848.00	30.22	38.67	9.08	36.	47	41.50	54.00	-12	2.50	Horizontal
12310.00	*						54.00			Horizontal
14772.00	*						54.00			Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
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Test mode:	802.1	1n(H40)	Test chann	el: Lowe	est	Remark:	Peal	K
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	47.93	31.56	5.89	34.58	50.80	74.00	-23.20	Vertical
7266.00	38.31	36.49	7.10	36.12	45.78	74.00	-28.22	Vertical
9688.00	38.21	38.25	9.03	35.97	49.52	74.00	-24.48	Vertical
12110.00	*					74.00		Vertical
14532.00	*					74.00		Vertical
4844.00	48.47	31.56	5.89	34.58	51.34	74.00	-22.66	Horizontal
7266.00	38.69	36.49	7.12	36.12	46.18	74.00	-27.82	Horizontal
9688.00	38.56	38.25	9.03	35.97	49.87	74.00	-24.13	Horizontal
12110.00	*					74.00		Horizontal
14532.00	*					74.00		Horizontal

Test mode:	802.1	1n(H40)	Test chann	nnel: Lowest		st	Remark:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Facto	•	Level (dBuV/m)	Limit Line (dBuV/m)	Li	ver imit dB)	polarization
4844.00	31.01	31.56	5.89	34.	.58	33.88	54.00	-20	0.12	Vertical
7266.00	31.09	36.49	7.10	36.	.12	38.56	54.00	-1	5.44	Vertical
9688.00	29.91	38.25	9.03	35.	.97	41.22	54.00	-12	2.78	Vertical
12110.00	*						54.00			Vertical
14532.00	*						54.00			Vertical
4844.00	32.44	31.56	5.89	34.	.58	35.31	54.00	-18	8.69	Horizontal
7266.00	32.38	36.49	7.12	36.	.12	39.87	54.00	-14	4.13	Horizontal
9688.00	32.09	38.25	9.03	35.	.97	43.40	54.00	-10	0.60	Horizontal
12110.00	*						54.00			Horizontal
14532.00	*						54.00			Horizontal

Test mode:	802.1	1n(H40)	Test chann	nel:	Midd	le	Remark:	Р	eak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)		amp ctor B)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	
4874.00	47.90	31.57	5.91	34.	.65	50.73	74.00	-23.2	7 Vertical
7311.00	38.09	36.48	7.14	36	.14	45.57	74.00	-28.4	3 Vertical
9784.00	38.36	38.40	9.06	36	.12	49.70	74.00	-24.3	0 Vertical
12233.00	*						74.00		Vertical
14688.00	*						74.00		Vertical
4874.00	48.25	31.57	5.91	34.	.65	51.08	74.00	-22.9	2 Horizontal
7311.00	37.96	36.48	7.14	36	.14	45.44	74.00	-28.5	6 Horizontal
9784.00	37.63	38.45	9.06	36	.18	48.96	74.00	-25.0	4 Horizontal
12233.00	*						74.00		Horizontal
14688.00	*						74.00		Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Page 51 of 56



Test mode:	802.1	1n(H40)	Test chann	el: Mic	ldle	Remark:	Aver	age
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.98	31.57	5.91	34.65	34.81	54.00	-19.19	Vertical
7311.00	31.17	36.48	7.14	36.14	38.65	54.00	-15.35	Vertical
9784.00	31.08	38.40	9.06	36.12	42.42	54.00	-11.58	Vertical
12233.00	*					54.00		Vertical
14688.00	*					54.00		Vertical
4874.00	31.10	31.57	5.91	34.65	33.93	54.00	-20.07	Horizontal
7311.00	31.36	36.48	7.14	36.14	38.84	54.00	-15.16	Horizontal
9784.00	30.07	38.45	9.06	36.18	41.40	54.00	-12.60	Horizontal
12233.00	*					54.00		Horizontal
14688.00	*					54.00		Horizontal

Test mode:	802.1	1n(H40)	Test channel: Highest		est	Remark:	Peak		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Prea Fact (dE	tor	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	47.42	31.61	5.93	34.76		50.20	74.00	-23.80	Vertical
7356.00	39.09	36.54	7.16	36.16		46.63	74.00	-27.37	Vertical
9808.00	37.82	38.67	9.08	36.4	41	49.16	74.00	-24.84	Vertical
12233.00	*						74.00		Vertical
14688.00	*						74.00		Vertical
4904.00	48.09	31.59	5.93	34.7	72	50.89	74.00	-23.11	Horizontal
7356.00	38.67	36.49	7.16	36.	16	46.16	74.00	-27.84	Horizontal
9808.00	38.66	38.64	9.08	36.3	35	50.03	74.00	-23.97	Horizontal
12233.00	*						74.00		Horizontal
14688.00	*						74.00		Horizontal

Test mode:	802.11n(H40) T		Test chann	el: High	est	Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	30.33	31.61	5.93	34.76	33.11	54.00	-20.89	Vertical
7356.00	32.29	36.54	7.16	36.16	39.83	54.00	-14.17	Vertical
9808.00	30.35	38.67	9.08	36.41	41.69	54.00	-12.31	Vertical
12260.00	*					54.00		Vertical
14712.00	*					54.00		Vertical
4904.00	30.35	31.59	5.93	34.72	33.15	54.00	-20.85	Horizontal
7356.00	32.21	36.49	7.16	36.16	39.70	54.00	-14.30	Horizontal
9808.00	31.22	38.64	9.08	36.35	42.59	54.00	-11.41	Horizontal
12260.00	*					54.00		Horizontal
14712.00	*					54.00		Horizontal

Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means this data is the too weak instrument of signal is unable to test.
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Project No.: GTSE111000843RF

Page 52 of 56