



EMC TEST REPORT

No. SH09020124-001

Applicant : Freescale Semiconductor, Inc.
6501 William Cannon Dr, Austin, Texas, 78735,
United States

Manufacturer : Freescale Semiconductor, Inc.
6501 William Cannon Dr, Austin, Texas, 78735,
United States

Equipment : Wireless Router

Type/Model : MPC8377EWLAN

SUMMARY

The equipment complies with the requirements according to the following standard(s):

47CFR Part 15 (2007): Radio Frequency Devices

ANSIC63.4 (2003): American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

RSS-210 Issue 7 (June 2007): Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

RSS-Gen Issue 2 (June 2007): General Requirements and Information for the Certification of Radiocommunication Equipment

Date of issue: March 31, 2009

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FCC ID: RUNMPC8377EWLAN
IC: 6744A-MPC8377

Description of Test Facility

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1. General Information

1.1 Applicant Information

Applicant: Freescale Semiconductor, Inc.
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Manufacturer: Freescale Semiconductor, Inc.
6501 William Cannon Dr, Austin, Texas, 78735,
United States

Sample received date : Feb 1, 2009

Date of test : Feb 1, 2009 ~ March 29, 2009

1.2 Identification of the EUT

Equipment: Wireless Router

Type/model: MPC8377EWLAN

FCC ID: RUNMPC8377EWLAN

IC: 6744A-MPC8377



1.3 Technical specification

Operation Frequency Band:	2412-2462 MHz, 5745-5825 MHz
Modulation:	OFDM, CCK, QPSK, BPSK
Antenna Designation:	External replaceable AP antenna, reverse SMA-K connector to be connected to the EUT.
Gain of Antenna:	2.50dBi max.
Rating:	DC 48V by Adapter: AC 100-240V, 47-63Hz, 1.35A
Description of EUT:	Here is one model only. The EUT is a reference design based on the MPC8377E PowerQUIC II Pro processor. It supports applications of Wi-Fi Router, DMS (Digital Media Server), NAS with RAID, or Office in BOX, etc. In this report, only Wi-Fi router was assessed. The Wi-Fi router contains two Wi-Fi cards that support 802.11a, 802.11b, 802.11g and 802.11n(2*3) each. The two cards are same in all hardware & software aspects. As a result, for 802.11a/b/g, card 1 was chosen to perform test as representative. Card 1 corresponds to chain A (TX/RX), chain B (TX/RX) and chain E (RX only). Card 2 corresponds to chain C (TX/RX), chain D (TX/RX) and chain F (RX only).
Power Cable:	Unshielded, detachable, 2.0m
I/O port:	USB, SD, WAN, LAN, ESATA
Data cable:	None
Channel Description:	<i>(Note: The cells marked gray are for 802.11n HT40)</i>



1.4 Mode of operation during the test / Test peripherals used

Within this test report, EUT was tested under 120V/60Hz. The Wireless Router has transmitting as well as receiving condition, so both were observed.

In software, power level can be set from 0 to 31 in 2.4GHz band; from -7 to 15 in 5GHz band. All power levels for 802.11a/b/g/n were set as 0 indicated in software.

The lowest, middle and highest channel were tested as representatives.

For 802.11a----- lowest, 5745MHz; middle, 5785MHz; highest, 5825MHz.

For 802.11b----- lowest, 2412MHz; middle, 2437MHz; highest, 2462MHz.

For 802.11g----- lowest, 2412MHz; middle, 2437MHz; highest, 2462MHz.

For 802.11n HT20, 2.4GHz ----- lowest, 2412MHz; middle, 2437MHz; highest, 2462MHz.

For 802.11n HT40, 2.4GHz ----- lowest, 2422MHz; middle, 2437MHz; highest, 2452MHz.

For 802.11n HT20, 5.8GHz ----- lowest, 5745MHz; middle, 5785MHz; highest, 5825MHz.

For 802.11n HT40, 5.8GHz ----- lowest, 5755MHz; highest, 5795MHz.

All data rate were assessed and that leading to maximum output power was set to perform test.

802.11 a & g	Data rate (Mbps)	802.11b	Data rate (Mbps)	802.11n 1X	Data rate (Mbps)	802.11n 2X	Data rate (Mbps)
0	6	0	1	0	6.5	0	13
1	9	1	2	1	13	1	26
2	12	2	5.5	2	19.5	2	39
3	18	3	11	3	26	3	52
4	24	-	-	4	39	4	78
5	36	-	-	5	52	5	104
6	48	-	-	6	58.5	6	117
7	54	-	-	7	65	7	130



2. Test Specification

2.1 Instrument list

Equipment	Type	Manu.	Internal no.	Cal. Date	Due date
Test Receiver	ESIB 26	R&S	EC 3045	2008-6-1	2009-5-31
A.M.N.	ESH2-Z5	R&S	EC 3119	2009-1-23	2010-1-22
Test Receiver	ESCS 30	R&S	EC 2107	2009-1-23	2010-1-22
Power meter	PM2002	AR	EC3043-7	2009-1-23	2010-1-22
Power sensor	PH2000	AR	EC3043-8	2009-1-23	2010-1-22
Signal generator	SMR 20	R&S	EC 3044-1	2008-8-21	2009-8-20
EMI Test Receiver	ESCI	R&S	100573	2008-5-23	2009-5-22
Spectrum Analyzer	E4408B	Agilent	MY45102679	2008.06.28	2009.06.28
EMI Test Receiver	ESCI	R&S	100573	2008.05.10	2009.05.10
Preamplifier	AP-025C	Quietek	QT-AP003	2008.11.24	2009.11.24
Bilog Type Antenna	CBL6112B	Schaffner	CBL6112B	2008.11.21	2009.11.21
50ohm Coaxial Switch	MP59B	Anritsu	MP59B	2008.11.24	2009.11.24
Temperature/Humidity Meter	ZC1-2	Zhicheng	ZC1-2	2008.03.31	2009.03.31
Spectrum Analyzer	E4446A	Agilent	E4446A	2008.06.11	2009.06.11
Broad-Band Horn Antenna	BBHA9120D	Schwarzbeck	496	2008.06.28	2009.06.28
Preamplifier	NSP1800-25	MITEQ	1364185	2008.04.20	2009.04.20
High-Pass Filter	WHKX2.8/18 G-12SS	Wainwright	SN1	2009.03.03	2010.03.03
High-Pass Filter	WHKX7.0/18 G-8SS	Wainwright	SN16	2009.03.03	2010.03.03
Lowpass Filter	WLKS4500- 9SS	Wainwright	SN2	2009.03.03	2010.03.03
Semi anechoic chamber	/	QuieTek	AC2 9m*6m*6m	2008.12.18	2009.12.18

2.2 Test Standard

47CFR Part 15 (2007)
ANSI C63.4: 2003
RSS-210 Issue 7 (June 2007)
RSS-Gen Issue 2 (June 2007)



2.3 Test Summary

This report applies to tested sample only. This report shall not be reproduced in part without written approval of Intertek Testing Service Shanghai Limited.

TEST ITEM	FCC REFERENCE	IC REFERENCE	RESULT
Minimum 6dB Bandwidth	15.247(a)(2)	RSS-210 Issue 7 Annex 8	Pass
Maximum peak output power	15.247(b)(1)	RSS-210 Issue 7 Annex 8	Pass
Power spectrum density	15.247(e)	RSS-210 Issue 7 Annex 8	Pass
Radiated emission	15.205 & 15.209	RSS-210 Issue 7 Clause 2	Pass
Emission outside the frequency band	15.247(d)	RSS-210 Issue 7 Annex 8	Pass
Power line conducted emission	15.207	RSS-Gen Issue 2 Clause 7.2.2	Pass
Channel number of hopping system	15.247(a)(1)(iii)	RSS-210 Issue 7 Annex 8	NA
Average time of occupancy in any channel	15.247(a)(1)(iii)	RSS-210 Issue 7 Annex 8	NA
Occupied bandwidth	-	RSS-Gen Issue 2 Clause 4.6.1	Tested
Spurious emission for receiver	-	RSS-210 Issue 7 Clause 2.3	Pass

2.4 Data rate VS power

Mode	Data Rate (Mbps)	CH	Level at certain a chain (dBm)
11a	0	M	22.29
	1	M	21.28
	2	M	20.05
	3	M	19.40
	4	M	17.71
	5	M	17.84
	6	M	15.96
	7	M	16.47
11b	0	M	9.39
	1	M	9.54
	2	M	10.59
	3	M	11.64
11g	0	M	15.68
	1	M	14.22
	2	M	12.26
	3	M	12.03
	4	M	10.34
	5	M	10.35
	6	M	8.43
	7	M	9.93
11n HT20 2.4GHz	0	M	18.06
	1	M	16.80
	2	M	14.99
	3	M	15.72
	4	M	13.79
	5	M	13.59
	6	M	11.75

	7	M	11.44
11n HT40 2.4GHz	0	M	17.60
	1	M	16.68
	2	M	14.62
	3	M	14.67
	4	M	13.12
	5	M	12.91
	6	M	11.10
	7	M	11.14
11n HT20 5.8GHz	0	M	22.41
	1	M	20.56
	2	M	18.84
	3	M	19.36
	4	M	17.08
	5	M	17.10
	6	M	15.05
	7	M	15.12
11n HT40 5.8GHz	0	L or H	22.26
	1	L or H	20.63
	2	L or H	18.71
	3	L or H	19.05
	4	L or H	17.57
	5	L or H	17.40
	6	L or H	15.45
	7	L or H	15.36

Conclusion: During test, for 11a/g/n, the rate 0 should be set; for 11b, the rate 3 should be set.

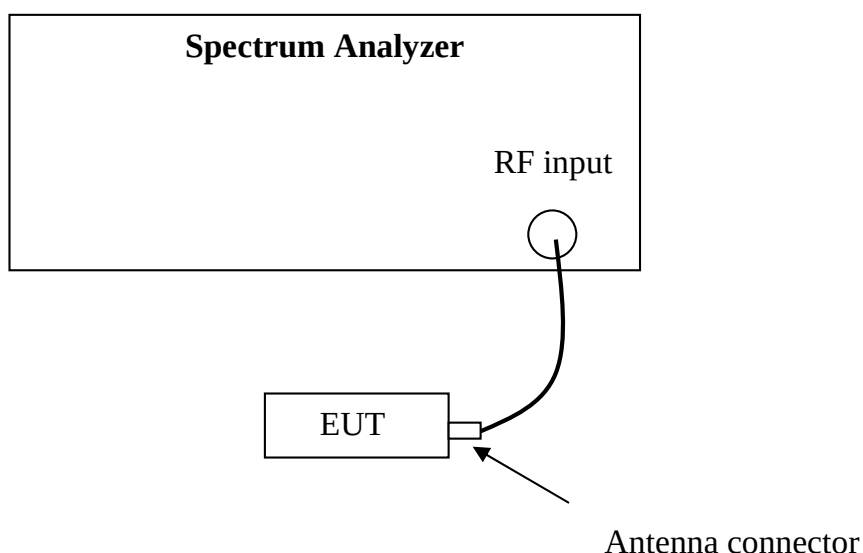
3. Minimum 6dB Bandwidth

Test result: PASS

3.1 Limit

For systems using digital modulation techniques that may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz bands, the minimum 6 dB bandwidth shall be at least 500 kHz.

3.2 Test Configuration



3.3 Test Procedure and test setup

The minimum 6dB bandwidth per FCC §15.247(a)(2) is measured using the Spectrum Analyzer with the resolutions bandwidth set at 100kHz, the video bandwidth set at 300kHz, and the SPAN>>RBW. The test was performed at 3 channels (lowest, middle and highest channel).

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.4 Test Protocol

Temperature : 22°C
 Relative Humidity : 43%

Mode	CH	Chain A (MHz)	Chain B (MHz)	Chain C (MHz)	Chain D (MHz)	Limit (MHz)
11a	L	16.53	16.59	-	-	≥0.5
	M	16.63	16.59	-	-	≥0.5
	H	16.53	16.53	-	-	≥0.5
11b	L	12.08	11.92	-	-	≥0.5
	M	12.08	12.27	-	-	≥0.5
	H	12.08	12.22	-	-	≥0.5
11g	L	16.53	16.53	-	-	≥0.5
	M	16.48	16.58	-	-	≥0.5
	H	16.53	16.53	-	-	≥0.5
11n HT20 2.4GHz	L	17.64	17.64	-	-	≥0.5
	M	17.59	17.64	-	-	≥0.5
	H	17.64	17.64	-	-	≥0.5
11n HT40 2.4GHz	L	36.39	36.37	-	-	≥0.5
	M	36.39	36.39	-	-	≥0.5
	H	36.41	36.09	-	-	≥0.5
11n HT20 5.8GHz	L	17.64	17.74	-	-	≥0.5
	M	17.64	17.64	-	-	≥0.5
	H	17.64	17.64	-	-	≥0.5
11n HT40 5.8GHz	L	36.31	36.31	-	-	≥0.5
	H	36.33	36.39	-	-	≥0.5

3.5 Measurement uncertainty

The measurement uncertainty is ±100Hz.

4. Maximum peak output power

Test result: Pass

4.1 Test limit

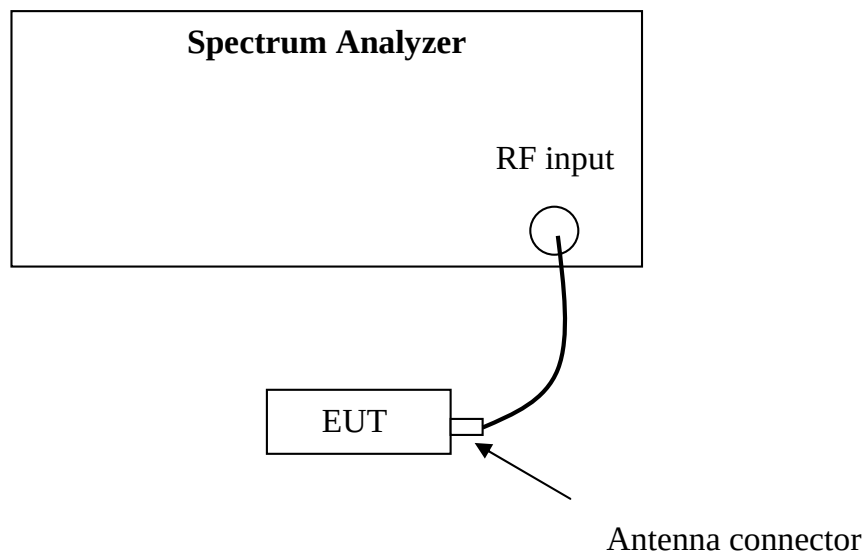
For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt

For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts

If the transmitting antenna of directional gain greater than 6dBi is used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

4.2 Test Configuration



4.3 Test procedure and test setup

The power output per FCC § 15.247(b)(1) is measured using the Spectrum Analyzer with the resolutions bandwidth set at 1MHz, the video bandwidth set at 3MHz, and the SPAN>>RBW. The test was performed at 3 channels (lowest, middle and highest channel). The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

4.4 Test protocol

Temperature : 22 °C
 Relative Humidity : 43 %

Single Chain

Mode	CH	Chain A (dBm)	Chain B (dBm)	Chain C (dBm)	Chain D (dBm)	Limit (dBm)
11a	L	21.18	25.21	-	-	≤30
	M	22.49	26.38	-	-	≤30
	H	20.49	25.12	-	-	≤30
11b	L	11.28	11.77	-	-	≤30
	M	9.74	11.84	-	-	≤30
	H	10.08	11.85	-	-	≤30
11g	L	14.67	15.78	-	-	≤30
	M	15.88	15.88	-	-	≤30
	H	14.25	16.43	-	-	≤30
11n HT20 2.4GHz	L	17.74	18.84	-	-	≤30
	M	18.26	18.81	-	-	≤30
	H	17.34	18.52	-	-	≤30
11n HT40 2.4GHz	L	17.07	17.78	-	-	≤30
	M	17.80	17.67	-	-	≤30
	H	17.67	17.28	-	-	≤30
11n HT20 5.8GHz	L	21.68	25.98	-	-	≤30
	M	22.61	26.37	-	-	≤30
	H	20.79	25.53	-	-	≤30
11n HT40 5.8GHz	L	22.46	24.49	-	-	≤30
	H	20.88	24.22	-	-	≤30

Note: 1. the data above are the corrected reading.

2. Corrected reading = original reading + cable loss (here the cable loss is 0.20dB). For example, if original reading is 20.98dBm, then Corrected reading = 20.98dBm + 0.20dB = 21.18dBm.

3. Please refer to test data for the original reading.



Dual chain

Mode	CH	Chain A (dBm)	Chain B (dBm)	Chain A +B (dBm)	Limit (dBm)
11n HT20 2.4GHz	L	16.31	18.13	20.32	≤30
	M	14.43	16.93	18.87	≤30
	H	13.68	16.44	18.29	≤30
11n HT40 2.4GHz	L	14.88	16.98	19.07	≤30
	M	14.72	16.03	18.43	≤30
	H	14.00	15.53	17.84	≤30
11n HT20 5.8GHz	L	22.26	24.60	26.60	≤30
	M	20.39	25.35	26.55	≤30
	H	19.55	24.64	25.81	≤30
11n HT40 5.8GHz	L	20.59	25.09	26.41	≤30
	H	20.57	25.72	26.88	≤30

Note: 1. the data above are the corrected reading.

2. Corrected reading = original reading + cable loss (here the cable loss is 0.20dB). For example, if original reading is 20.98dBm, then Corrected reading = 20.98dBm + 0.20dB = 21.18dBm.

3. Please refer to test data for the original reading.

Ternary chain

Mode	CH	A (dBm)	B (dBm)	C (dBm)	A +B+C (dBm)	Limit (dBm)
11n HT20 2.4GHz	L	16.31	18.13	18.57	22.55	≤30
	M	14.46	16.93	16.48	20.85	≤30
	H	13.68	16.44	15.83	20.24	≤30
11n HT40 2.4GHz	L	14.88	16.98	17.01	21.17	≤30
	M	14.72	16.03	15.75	20.31	≤30
	H	14.00	15.53	15.63	19.89	≤30
11n HT20 5.8GHz	L	22.26	24.60	23.16	28.22	≤30
	M	20.39	25.35	21.92	27.84	≤30
	H	19.55	24.64	20.58	26.95	≤30
11n HT40 5.8GHz	L	20.59	25.09	22.37	27.85	≤30
	H	20.57	25.72	20.90	27.86	≤30

Mode	CH	A (dBm)	B (dBm)	D (dBm)	A +B+D (dBm)	Limit (dBm)
11n HT20 2.4GHz	L	16.31	18.13	15.36	21.53	≤30
	M	14.46	16.93	14.52	20.23	≤30
	H	13.68	16.44	14.93	19.93	≤30
11n HT40 2.4GHz	L	14.88	16.98	15.28	20.58	≤30
	M	14.72	16.03	14.46	19.90	≤30
	H	14.00	15.53	14.22	19.41	≤30
11n HT20 5.8GHz	L	22.26	24.6	24.27	28.60	≤30
	M	20.39	25.35	24.08	28.50	≤30
	H	19.55	24.64	23.49	27.81	≤30
11n HT40 5.8GHz	L	20.59	25.09	24.54	28.58	≤30
	H	20.57	25.72	23.81	28.62	≤30

Note: 1. the data above are the corrected reading.

2. Corrected reading = original reading + cable loss (here the cable loss is 0.20dB). For example, if original reading is 20.98dBm, then Corrected reading = 20.98dBm + 0.20dB = 21.18dBm.

3. Please refer to test data for the original reading.



Fourfold Chain

Mode	CH	A (dBm)	B (dBm)	C (dBm)	D (dBm)	A +B+C+D (dBm)	Limit (dBm)
11n HT20 2.4GHz	L	16.31	18.13	17.39	16.03	23.07	≤30
	M	14.46	16.93	15.8	14.78	21.62	≤30
	H	13.68	16.44	15.46	15.06	21.29	≤30
11n HT40 2.4GHz	L	14.88	16.98	16.93	15.28	22.14	≤30
	M	14.72	16.03	15.44	14.45	21.23	≤30
	H	14.00	15.53	15.33	14.55	20.92	≤30
11n HT20 5.8GHz	L	22.26	24.60	22.50	24.13	29.51	≤30
	M	20.39	25.35	20.73	23.89	29.11	≤30
	H	19.55	24.64	19.70	23.06	28.30	≤30
11n HT40 5.8GHz	L	20.59	25.09	21.20	24.53	29.31	≤30
	H	20.57	25.72	21.67	23.73	29.40	≤30

Note: 1. the data above are the corrected reading.

2. Corrected reading = original reading + cable loss (here the cable loss is 0.20dB). For example, if original reading is 20.98dBm, then Corrected reading = 20.98dBm + 0.20dB = 21.18dBm.

3. Please refer to test data for the original reading.

The maximum e.i.r.p = 29.51dBm + 2.50dBi = 32.01dBm = 1.59W (lower than the e.i.r.p limit of 4W).

4.5 Measurement uncertainty

The measurement uncertainty is ±1dB.

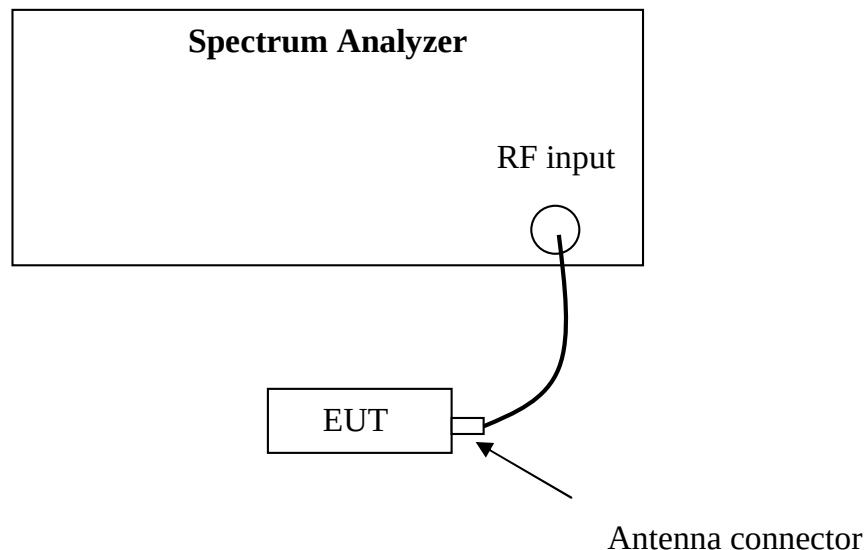
5. Power spectrum density

Test result: **Pass**

5.1 Test limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 Test Configuration



5.3 Test procedure and test setup

The power output per FCC §15.247(e) was measured using the Spectrum Analyzer with the resolutions bandwidth set at 3kHz, the video bandwidth set at 10kHz. The test was performed at 3 channels (lowest, middle and highest channel).

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

5.4 Test Protocol

Temperature : 22 °C
Relative Humidity : 43 %

Single Chain

Mode	CH	Chain A (dBm/3kHz)	Chain B (dBm/3kHz)	Chain C (dBm/3kHz)	Chain D (dBm/3kHz)	Limit (dBm/3kHz)
11a	L	-13.61	-10.10	-	-	≤8
	M	-13.90	-9.17	-	-	≤8
	H	-14.98	-9.62	-	-	≤8
11b	L	-19.50	-17.92	-	-	≤8
	M	-20.25	-17.99	-	-	≤8
	H	-20.95	-17.31	-	-	≤8
11g	L	-21.68	-19.92	-	-	≤8
	M	-22.60	-19.96	-	-	≤8
	H	-23.26	-20.34	-	-	≤8
11n HT20 2.4GHz	L	-17.72	-19.45	-	-	≤8
	M	-17.79	-19.46	-	-	≤8
	H	-18.14	-19.82	-	-	≤8
11n HT40 2.4GHz	L	-19.75	-21.60	-	-	≤8
	M	-19.91	-22.26	-	-	≤8
	H	-19.93	-21.94	-	-	≤8
11n HT20 5.8GHz	L	-12.34	-9.77	-	-	≤8
	M	-13.66	-8.99	-	-	≤8
	H	-14.29	-9.43	-	-	≤8
11n HT40 5.8GHz	L	-15.46	-13.59	-	-	≤8
	H	-16.40	-13.58	-	-	≤8



Dual chain

Mode	CH	Chain A (dBm/3kHz)	Chain B (dBm/3kHz)	Chain A +B (dBm/3kHz)	Limit (dBm/3kHz)
11n HT20 2.4GHz	L	-19.54	-18.81	-16.15	≤ 8
	M	-20.58	-18.73	-16.55	≤ 8
	H	-21.58	-19.29	-17.28	≤ 8
11n HT40 2.4GHz	L	-21.56	-21.95	-18.74	≤ 8
	M	-21.81	-22.61	-19.18	≤ 8
	H	-22.30	-22.08	-19.18	≤ 8
11n HT20 5.8GHz	L	-14.96	-11.26	-9.72	≤ 8
	M	-15.23	-10.09	-8.93	≤ 8
	H	-15.65	-10.31	-9.20	≤ 8
11n HT40 5.8GHz	L	-16.45	-12.48	-11.02	≤ 8
	H	-16.93	-12.18	-10.93	≤ 8



Ternary chain

Mode	CH	A (dBm/3kHz)	B (dBm/3kHz)	C (dBm/3kHz)	A +B+C (dBm/3kHz)	Limit (dBm/3kHz)
11n HT20 2.4GHz	L	-19.54	-18.81	-18.58	-14.19	≤8
	M	-20.58	-18.73	-18.92	-14.56	≤8
	H	-21.58	-19.29	-19.80	-15.35	≤8
11n HT40 2.4GHz	L	-21.56	-21.95	-21.51	-16.90	≤8
	M	-21.81	-22.61	-21.63	-17.23	≤8
	H	-22.30	-22.08	-20.84	-16.92	≤8
11n HT20 5.8GHz	L	-14.96	-11.26	-12.33	-7.82	≤8
	M	-15.23	-10.09	-13.00	-7.49	≤8
	H	-15.65	-10.31	-13.32	-7.78	≤8
11n HT40 5.8GHz	L	-16.45	-12.48	-16.31	-9.89	≤8
	H	-16.93	-12.18	-15.49	-9.62	≤8

Mode	CH	A (dBm/3kHz)	B (dBm/3kHz)	D (dBm/3kHz)	A +B+D (dBm/3kHz)	Limit (dBm/3kHz)
11n HT20 2.4GHz	L	-19.54	-18.81	-20.53	-14.80	≤8
	M	-20.58	-18.73	-20.12	-14.97	≤8
	H	-21.58	-19.29	-20.21	-15.49	≤8
11n HT40 2.4GHz	L	-21.56	-21.95	-22.89	-17.33	≤8
	M	-21.81	-22.61	-22.09	-17.39	≤8
	H	-22.30	-22.08	-23.05	-17.69	≤8
11n HT20 5.8GHz	L	-14.96	-11.26	-11.55	-7.53	≤8
	M	-15.23	-10.09	-12.40	-7.32	≤8
	H	-15.65	-10.31	-10.41	-6.75	≤8
11n HT40 5.8GHz	L	-16.45	-12.48	-13.53	-9.08	≤8
	H	-16.93	-12.18	-12.73	-8.72	≤8



Fourfold Chain

Mode	CH	A dBm/3kHz	B dBm/3kHz	C dBm/3kHz	D dBm/3kHz	A +B+C+D dBm/3kHz	Limit dBm/3kHz
11n HT20 2.4GHz	L	-19.54	-18.81	-18.69	-20.87	-13.37	≤ 8
	M	-20.58	-18.73	-19.10	-20.57	-13.64	≤ 8
	H	-21.58	-19.29	-19.52	-19.84	-13.95	≤ 8
11n HT40 2.4GHz	L	-21.56	-21.95	-21.58	-22.69	-15.90	≤ 8
	M	-21.81	-22.61	-21.13	-22.52	-15.95	≤ 8
	H	-22.30	-22.08	-21.88	-22.45	-16.15	≤ 8
11n HT20 5.8GHz	L	-14.96	-11.26	-14.17	-11.34	-6.61	≤ 8
	M	-15.23	-10.09	-14.76	-11.15	-6.23	≤ 8
	H	-15.65	-10.31	-15.42	-12.15	-6.78	≤ 8
11n HT40 5.8GHz	L	-16.45	-12.48	-16.16	-14.62	-8.61	≤ 8
	H	-16.93	-12.18	-16.75	-14.42	-8.60	≤ 8

5.5 Measurement uncertainty

The measurement uncertainty is ± 1 dB/3kHz.

6. Radiated emission

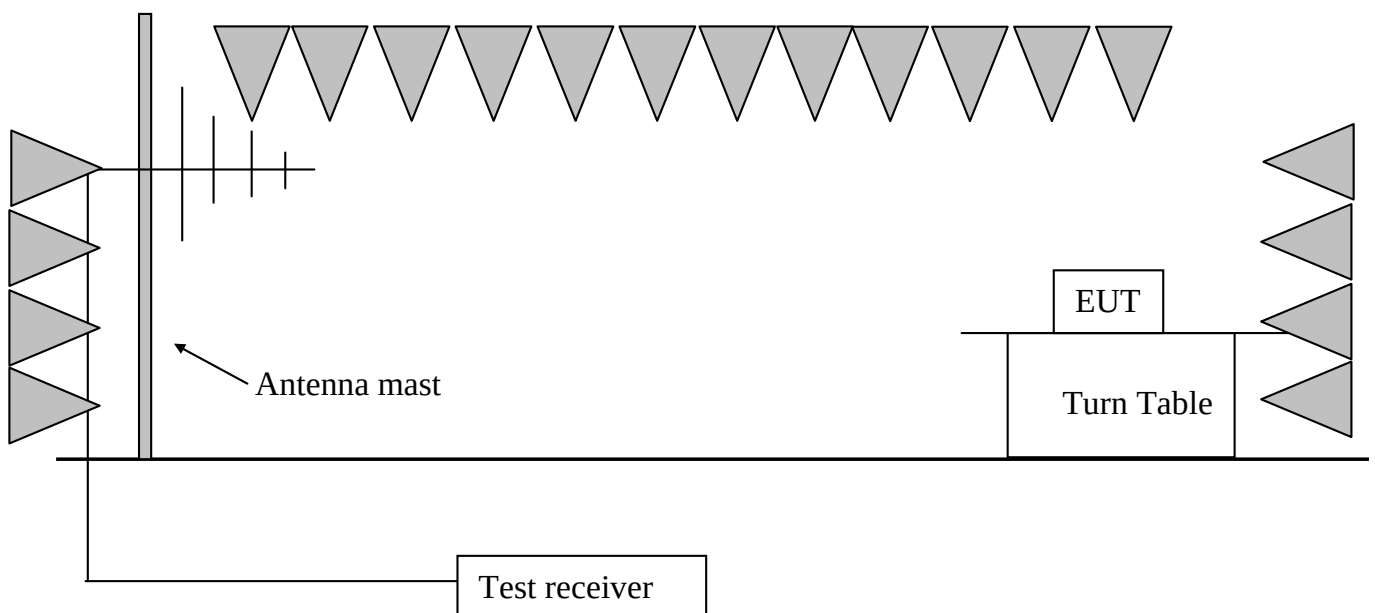
Test result: **PASS**

6.1 Test limit

The radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) showed as below:

Frequency (MHz)	Field Strength (dBuV/m)	Measurement Distance (m)
30 - 88	40.0	3
88 - 216	43.5	3
216 - 960	46.0	3
Above 960	54.0	3

6.2 Test Configuration



6.3 Test procedure and test setup

The measurement was applied in a semi-anechoic chamber. While testing for spurious emission higher than 1GHz, the pre-amplifier is equipped just at the output terminal of the antenna.

The EUT and simulators were placed on a 0.8m high wooden turntable above the horizontal metal ground plane. The turn table rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on an antenna mast. The antenna moved up and down between from 1meter to 4 meters to find out the maximum emission level.

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

6.4 Test protocol

11a

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	5746.82	32.40	101.68	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5786.48	32.40	103.98	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5826.91	32.40	101.46	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	5746.80	32.40	105.02	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK



		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5786.44	32.40	105.94	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5826.87	32.40	104.82	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11b

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	2413.20	30.70	92.25	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2388.99	30.70	62.56	74	11.44	PK
		V	2388.99	30.70	49.71	54	4.29	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2438.15	30.70	91.54	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2388.99	30.70	53.87	74	20.13	PK
		V	2388.99	30.70	40.69	54	13.31	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2463.06	30.70	91.86	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.74	30.70	59.20	74	14.8	PK
		V	2483.55	30.70	47.70	54	6.30	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	2413.20	30.70	91.73	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP



		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2389.73	30.70	62.89	74	11.11	PK
		V	2389.73	30.70	49.62	54	4.38	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2438.15	30.70	91.84	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2389.73	30.70	51.47	74	22.53	PK
		V	2389.73	30.70	38.06	54	15.94	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2463.16	30.70	92.58	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.65	30.70	58.94	74	15.06	PK
		V	2483.55	30.70	47.68	54	6.32	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11g

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	2413.69	30.70	95.61	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2389.73	30.70	63.63	74	10.37	PK
		V	2389.73	30.70	49.73	54	4.27	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2438.56	30.70	96.18	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2389.73	30.70	52.63	74	21.37	PK
		V	2389.73	30.70	39.06	54	14.94	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2468.83	30.70	94.37	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.84	30.70	59.98	74	14.02	PK
		V	2483.55	30.70	47.77	54	6.23	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	2418.82	30.70	93.78	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP

		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2384.84	30.70	63.76	74	10.24	PK
		V	2389.73	30.70	49.58	54	4.42	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2438.57	30.70	94.03	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2384.84	30.70	51.22	74	22.78	PK
		V	2389.73	30.70	38.14	54	15.86	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2468.74	30.70	94.72	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.55	30.70	61.54	74	12.46	PK
		V	2483.55	30.70	47.78	54	6.22	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 2.4GHz, Single Chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	2407.90	30.70	98.09	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	60.54	74	13.46	PK
		V	2390.00	30.70	47.25	54	6.75	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2432.29	30.70	98.23	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.18	74	21.82	PK
		V	2390.00	30.70	39.06	54	14.94	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2468.92	30.70	98.14	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	62.54	74	11.46	PK
		V	2483.50	30.70	46.08	54	7.92	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	2408.07	30.70	98.68	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP



		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	61.63	74	12.37	PK
		V	2390.00	30.70	47.81	54	6.19	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2431.80	30.70	98.17	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.09	74	21.91	PK
		V	2390.00	30.70	38.46	54	15.54	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2468.72	30.70	98.06	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	62.12	74	11.88	PK
		V	2483.50	30.70	49.06	54	4.94	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 2.4GHz, Dual chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B	L	V	2404.65	30.70	99.48	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	62.15	74	11.85	PK
		V	2390.00	30.70	49.15	54	4.85	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2434.09	30.70	99.13	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.76	74	21.24	PK
		V	2390.00	30.70	39.05	54	14.95	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2457.52	30.70	98.32	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	60.56	74	13.44	PK
		V	2483.50	30.70	50.03	54	3.97	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 2.4GHz, Ternary chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C	L	V	2408.63	30.70	99.65	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	62.59	74	11.41	PK
		V	2390.00	30.70	46.14	54	7.86	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2432.56	30.70	99.59	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.38	74	21.62	PK
		V	2390.00	30.70	38.49	54	15.51	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2457.32	30.70	100.27	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	66.16	74	7.84	PK
		V	2483.50	30.70	49.74	54	4.26	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
A+B+D	L	V	2408.47	30.70	98.52	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP

		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	62.61	74	11.39	PK
		V	2390.00	30.70	45.12	54	8.88	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2434.18	30.70	99.01	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.40	74	21.60	PK
		V	2390.00	30.70	38.54	54	15.46	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2457.69	30.70	100.16	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	66.16	74	7.84	PK
		V	2483.50	30.70	49.74	54	4.26	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 2.4GHz, Fourfold chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C+D	L	V	2417.82	30.70	99.95	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	62.13	74	11.87	PK
		V	2390.00	30.70	46.37	54	7.63	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2434.51	30.70	100.46	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	53.02	74	20.98	PK
		V	2390.00	30.70	40.14	54	13.86	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2454.24	30.70	101.94	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	69.79	74	4.21	PK
		V	2483.50	30.70	48.94	54	5.06	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 2.4GHz, Single Chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	2409.02	30.70	97.55	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	64.20	74	9.80	PK
		V	2390.00	30.70	48.07	54	5.93	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2428.27	30.70	96.91	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.29	74	21.71	PK
		V	2390.00	30.70	38.57	54	15.43	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2443.77	30.70	96.90	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	63.95	74	10.05	PK
		V	2483.50	30.70	47.79	54	6.21	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	2409.23	30.70	99.19	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP

		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	63.80	74	10.2	PK
		V	2390.00	30.70	47.65	54	6.35	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2430.71	30.70	99.55	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.09	74	21.91	PK
		V	2390.00	30.70	38.15	54	15.85	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2462.32	30.70	100.28	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	70.06	74	3.94	PK
		V	2483.50	30.70	52.57	54	1.43	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 2.4GHz, Dual chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B	L	V	2426.78	30.70	100.12	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	65.71	74	8.29	PK
		V	2390.00	30.70	48.15	54	5.85	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2441.50	30.70	100.45	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.42	74	21.58	PK
		V	2390.00	30.70	38.59	54	15.41	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2456.72	30.70	100.52	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	66.92	74	7.08	PK
		V	2483.50	30.70	50.76	54	3.24	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 2.4GHz, Ternary chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C	L	V	2426.82	30.70	101.01	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	65.74	74	8.26	PK
		V	2390.00	30.70	49.76	54	4.24	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2442.18	30.70	101.29	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.48	74	21.52	PK
		V	2390.00	30.70	38.60	54	15.4	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2445.40	30.70	102.21	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	68.38	74	5.62	PK
		V	2483.50	30.70	51.97	54	2.03	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
A+B+D	L	V	2426.77	30.70	101.04	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP

		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	65.84	74	8.16	PK
		V	2390.00	30.70	49.77	54	4.23	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2439.50	30.70	101.09	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.45	74	21.55	PK
		V	2390.00	30.70	38.57	54	15.43	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2445.64	30.70	102.18	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	68.37	74	5.63	PK
		V	2483.50	30.70	51.97	54	2.03	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 2.4GHz, Fourfold chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C+D	L	V	2427.00	30.70	101.58	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	65.97	74	8.03	PK
		V	2390.00	30.70	49.00	54	5.00	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	2444.91	30.70	101.86	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2390.00	30.70	52.27	74	21.73	PK
		V	2390.00	30.70	38.25	54	15.75	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	2445.40	30.70	102.87	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	2483.50	30.70	68.72	74	5.28	PK
		V	2483.50	30.70	52.25	54	1.75	AV
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 5.8GHz, Single Chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	5746.19	32.40	104.02	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5787.50	32.40	104.51	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5822.03	32.40	103.98	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	5746.32	32.40	107.93	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK

		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5786.11	32.40	107.99	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5829.09	32.40	107.61	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK



11n HT20 5.8GHz, Dual chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B	L	V	5743.86	32.40	108.22	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5784.11	32.40	108.05	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5826.93	32.40	108.19	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 5.8GHz, Ternary chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C	L	V	5746.08	32.40	110.41	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5784.22	32.40	110.25	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5826.91	32.40	110.46	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
A+B+D	L	V	5747.24	32.40	110.61	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK

		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5786.49	32.40	110.43	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5828.06	32.40	110.49	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT20 5.8GHz, Fourfold chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C+D	L	V	5743.81	32.40	111.34	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	M	V	5787.10	32.40	111.21	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5824.87	32.40	111.03	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 5.8GHz, Single Chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A	L	V	5759.32	32.40	104.52	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5789.57	32.40	104.11	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
B	L	V	5758.37	32.40	106.09	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5801.24	32.40	105.97	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	16000.00	0.80	45.76	54	8.24	PK



		V	24000.00	1.30	51.34	54	2.66	PK
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11n HT40 5.8GHz, Dual chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B	L	V	5757.39	32.40	108.54	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5781.43	32.40	108.47	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

11n HT40 5.8GHz, Ternary chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C	L	V	5760.12	32.40	109.89	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5811.64	32.40	109.74	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
A+B+D	L	V	5762.17	32.40	109.93	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5803.87	32.40	109.86	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	16000.00	0.80	45.76	54	8.24	PK

		V	24000.00	1.30	51.34	54	2.66	PK
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11n HT40 5.8GHz, Fourfold chain

Chain	CH	Antenna	Frequency (MHz)	Correct Factor (dB/m)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
A+B+C+D	L	V	5751.38	32.40	111.18	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK
	H	V	5818.74	32.40	111.20	Fundamental	/	PK
		H	500.00	17.90	42.65	Spurious	/	QP
		V	642.61	19.33	43.14	Spurious	/	QP
		V	14387.50	0.60	73.90	Spurious	/	PK
		V	5460.00	0.20	43.87	54	10.13	PK
		V	16000.00	0.80	45.76	54	8.24	PK
		V	24000.00	1.30	51.34	54	2.66	PK

Remark: 1. For fundamental & 2300-2390MHz & 2483.5-2500MHz restrict emission test, no amplifier is employed.

2. Correct Factor = Antenna Factor + Cable Loss (-Amplifier, is necessary)

3. Corrected Reading = Original Receiver Reading + Correct Factor

4. Margin = limit – Corrected Reading

5. If the PK reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,

Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10dBuV.

Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m; Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m

Assuming limit = 54dBuV/m, Corrected Reading = 10.20dBuV/m, then Margin = 54 - 10.20 = 43.80dBuV/m

6.5 Measurement uncertainty

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT.

Measurement uncertainty of radiated emission is: $\pm 5.31\text{dB}$

The measurement uncertainty is given with a confidence of 95%, $k=2$.

The measurement uncertainty is traceable to internal procedure TI-036.

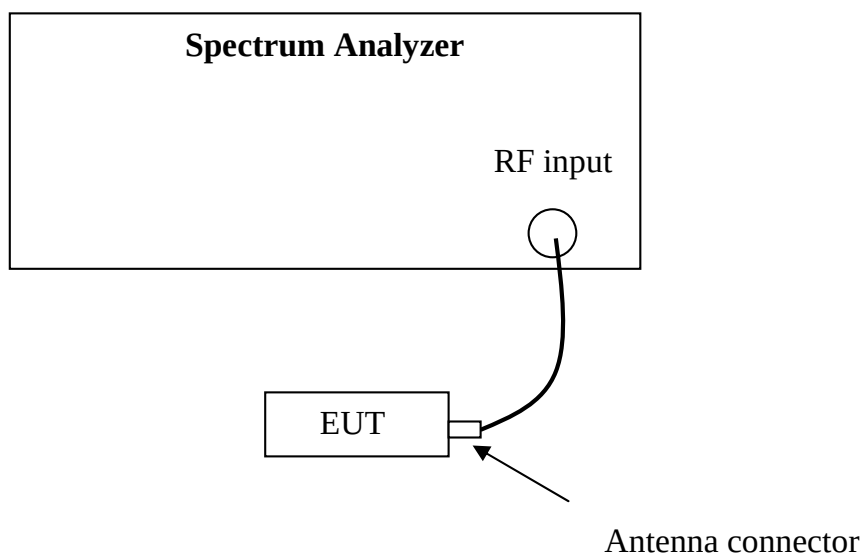
7. Emission outside the frequency Band

Test result: PASS

7.1 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.

7.2 Test Configuration



7.3 Test procedure and test setup

The Emission outside the frequency Band per FCC §15.247(d) is measured using the Spectrum Analyzer with the resolutions bandwidth set at 100kHz, the video bandwidth set at 300kHz, and the SPAN>>RBW.

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.



7.4 Test protocol

Please refer to the test data. All the emission outside the frequency band is at least 20 dB below that in the 100 kHz bandwidth within the band.

7.5 Measurement uncertainty

The measurement uncertainty is $\pm 1\text{dB}$.

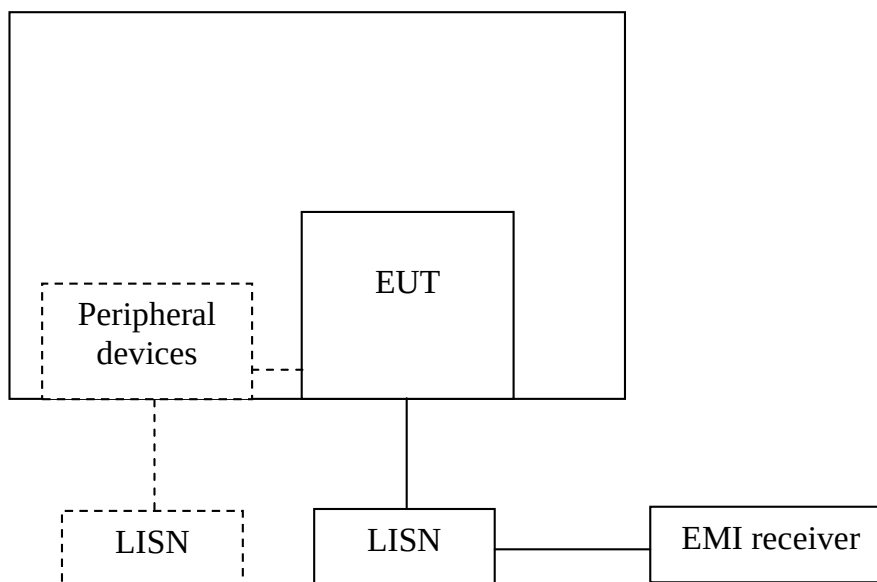
8. Power line conducted emission

Test result: Pass

8.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

8.2 Test configuration



☒ For table top equipment, wooden support is 0.8m height table

☐ For floor standing equipment, wooden support is 0.1m height rack.



8.3 Test procedure and test set up

The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a $50\Omega/50\mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50\Omega/50\mu\text{H}$ coupling impedance with 50Ω termination.

Both sides (Line and Neutral) of AC 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 on conducted measurement.

The bandwidth of the test receiver is set at 9 kHz.

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

8.4 Test protocol

Power line: L

Frequency	Correct Factor (dB)	Corrected Reading (dBuV)		Limit (dBuV)		Margin (dB)	
		QP	AV	QP	AV	QP	AV
0.15	3.00	43.73	10.96	66.00	56.00	22.27	45.04
0.18	3.00	35.27	32.97	64.71	54.71	29.44	21.74
0.23	3.00	29.90	27.34	62.29	52.29	32.39	24.95
0.35	3.00	25.12	24.84	58.90	48.90	33.78	24.06
4.78	3.00	27.26	24.43	56.00	46.00	28.74	21.57
6.95	3.00	30.14	29.93	60.00	50.00	29.86	20.07
Remark: 1. Correction Factor (dB) = LISN Factor (dB) + Cable Loss (dB). 2. Margin (dB) = Limit - Corrected Reading.							

Power line: N

Frequency	Correct Factor (dB)	Corrected Reading (dBuV)		Limit (dBuV)		Margin (dB)	
		QP	AV	QP	AV	QP	AV
0.15	3.00	38.94	10.95	66.00	56.00	27.06	45.05
0.18	3.00	33.96	33.12	64.64	54.64	30.68	21.52
0.23	3.00	29.91	28.80	62.29	52.29	32.38	23.49
0.35	3.00	29.41	28.93	58.90	48.90	29.49	19.97
2.47	3.00	28.15	28.45	56.00	46.00	27.85	17.55
7.59	3.00	32.23	29.19	60.00	50.00	27.77	20.81
Remark: 1. Correction Factor (dB) = LISN Factor (dB) + Cable Loss (dB). 2. Margin (dB) = Limit - Corrected Reading.							

8.5 Measurement Uncertainty

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT.

Measurement uncertainty at mains terminal: $\pm 1.99\text{dB}$

The measurement uncertainty is given with a confidence of 95%, $k=2$.

The measurement uncertainty is traceable to internal procedure TI-036.

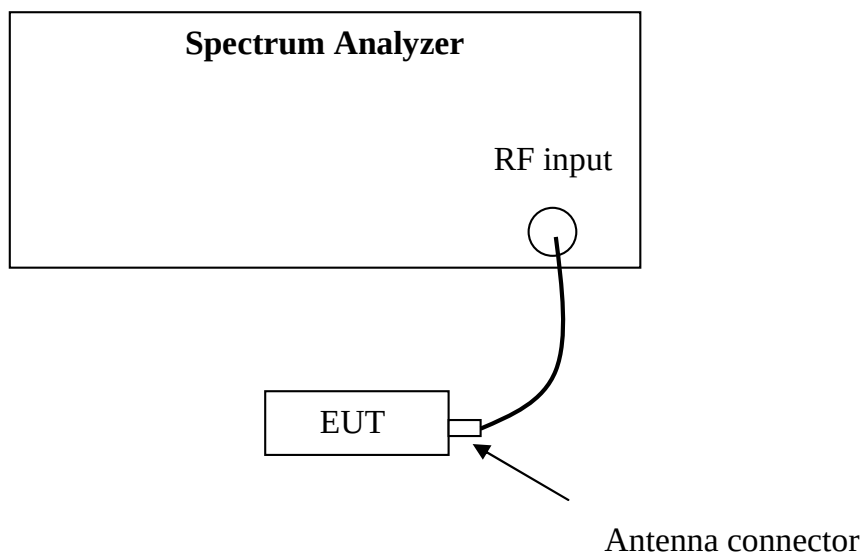
9. Channel Number of hopping system

Test result: NA

9.1 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

9.2 Test Configuration



9.3 Test procedure and test setup

The channel number per FCC §15.247(a)(1)(iii) is measured using the Spectrum Analyzer with the resolutions bandwidth set at 100kHz, the video bandwidth set at 300kHz, and the SPAN>>RBW.

The RF passband of the EUT was divided into 3 appropriate bands to test.

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.



9.4 Test protocol

Channel Number	Limit
-	≥ 15

9.5 Measurement uncertainty

The measurement uncertainty is ± 1 dB.

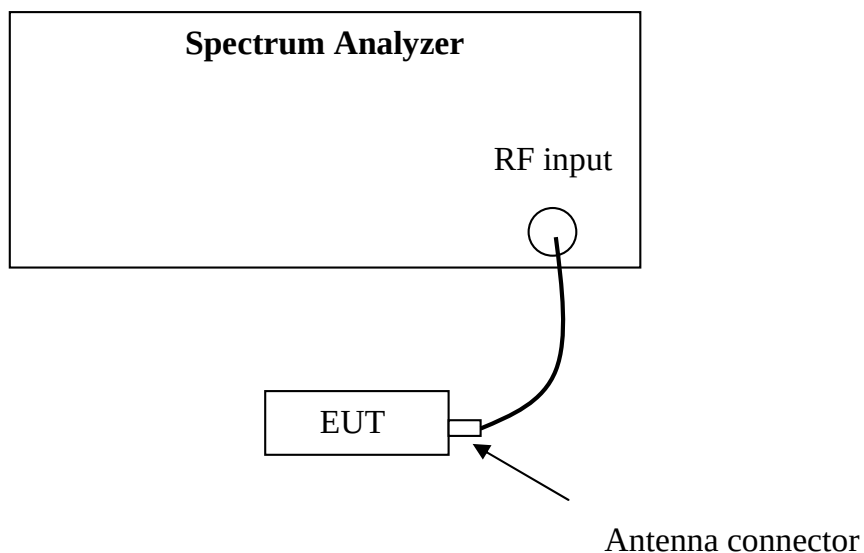
10. Average time of occupancy in any channel

Test result: NA

10.1 Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

10.2 Test Configuration



10.3 Test procedure and test setup

Average time of occupancy in any channel per FCC § 15.247(a)(1)(iii) is measured using the Spectrum Analyzer with the resolutions bandwidth set at 100kHz, the video bandwidth set at 300kHz, and the SPAN set to be 0Hz to test in time domain. The test is performed at the middle channel.

10.4 Test protocol

Packet	Observed period (s) P	Time of occupancy for single hopping (ms) O	Hops among the interval of 3.6 s I	Average time of occupancy (s) T	Limit (s)
Packet Type 4	-	-	-	-	≤0.4
Packet Type 11	-	-	-	-	≤0.4
Packet Type 15	-	-	-	-	≤0.4

Remark: 1. There are 79 channels in all. So the observed period $P = 0.4 * 79 = 31.6$ s.

2. Average time of occupancy $T = O * I * P / 3.6$

10.5 Measurement uncertainty

The measurement uncertainty is $\pm 10\mu\text{s}$.

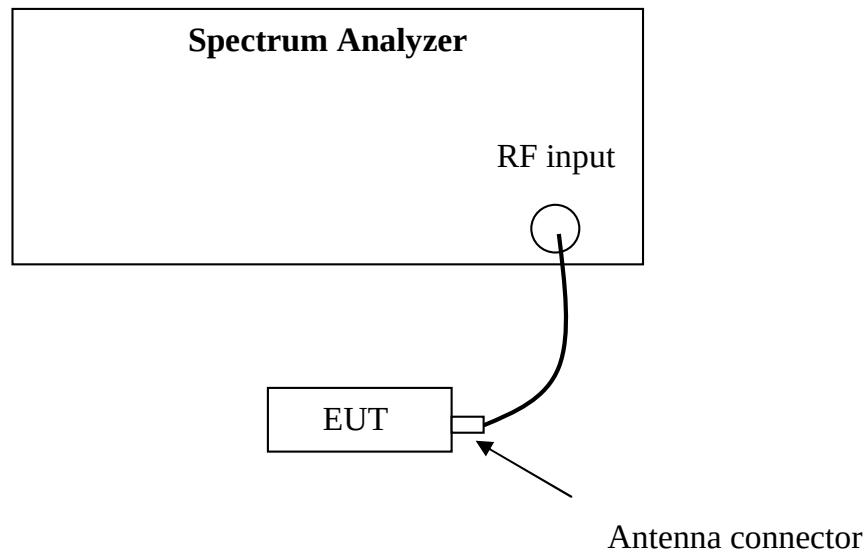
11. Occupied Bandwidth

Test Status: Tested

11.1 Test limit

None

11.2 Test Configuration



11.3 Test procedure and test setup

The occupied bandwidth per RSS-Gen Issue 2 Clause 4.6.1 was measured using the Spectrum Analyzer with the resolutions bandwidth set at 1MHz, the video bandwidth set at 3MHz.

11.4 Test protocol

Temperature : 22 °C
Relative Humidity : 43 %

Mode	Chain	Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)
11a	A	18.54	19.54 for HT20 37.03 for HT40
	B	18.34	
11b	A	15.63	
	B	15.43	
11g	A	18.54	
	B	18.44	
11n HT20 2.4GHz	A	18.44	
	B	18.44	
	A+B	18.74 / 18.54	
	A+B+C	18.74 / 18.54 / 18.44	
	A+B+D	18.74 / 18.54 / 18.44	
	A+B+C+D	18.74 / 18.54 / 18.44 / 18.44	
11n HT40 2.4GHz	A	36.71	
	B	36.71	
	A+B	36.87 / 36.55	
	A+B+C	36.87 / 36.55 / 36.71	
	A+B+D	36.87 / 36.55 / 36.71	
	A+B+C+D	36.87 / 36.55 / 36.71 / 36.71	

11n HT20 5.8GHz	A	18.64
	B	19.54
	A+B	18.54 / 18.64
	A+B+C	18.54 / 18.64 / 18.54
	A+B+D	18.54 / 18.64 / 18.74
	A+B+C+D	18.54 / 18.64 / 18.74 / 18.54
11n HT40 5.8GHz	A	36.89
	B	37.03
	A+B	36.55 / 36.71
	A+B+C	36.55 / 36.71 / 36.71
	A+B+D	36.55 / 36.71 / 36.87
	A+B+C+D	36.55 / 36.71 / 36.87 / 36.55

Remark: “Max. Value” is the maximum test result of all the measured occupied bandwidth.

11.5 Measurement uncertainty

The measurement uncertainty is $\pm 100\text{Hz}$.

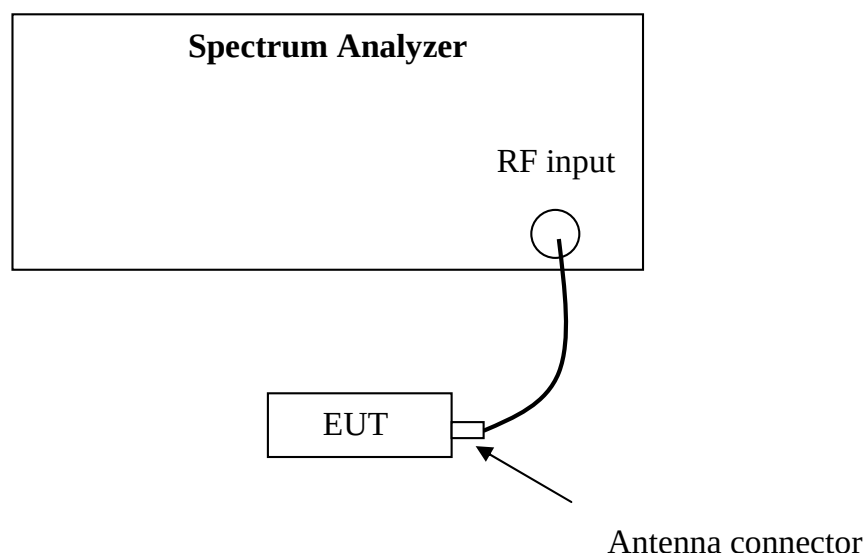
12. Spurious emission for receiver

Test result: PASS

12.1 Test limit

The spurious emission shall test through 3 times tuneable or local oscillator frequency whichever is the higher, without exceeding 40 GHz. If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2nW per any 4 kHz spurious frequency in the band 30-1000 MHz, or 5nW above 1 GHz.

12.2 Test Configuration



12.3 Test procedure and test setup

The receiver spurious emission per RSS-210 Issue 7 Clause 2.3 is measured using the Spectrum Analyzer with the resolution bandwidth / video bandwidth set at 5kHz / 20kHz.



12.4 Test protocol

Highest reading related to the limit

Chain	Detector	Frequency (MHz)	Corrected Receiver Reading (dBm)	Limit (dBm)
A	PK	14667.33	-54.64	-53.00
B	PK	14613.63	-59.77	-53.00
E	PK	14450.90	-59.96	-53.00

12.5 Measurement uncertainty

The measurement uncertainty is ± 1 dB.