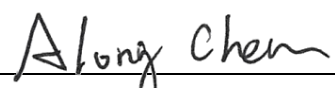


FCC C2PC Test Report

FCC ID : NKR-SY30
Equipment : WLAN/BT Module
Model No. : DHSR-SY30
Brand Name : Wistron NeWeb Corp.
Applicant : Wistron NeWeb Corp.
Address : 20 Park Avenue II, Hsinchu Science Park,
Hsinchu 308, Taiwan, R.O.C.
Standard : 47 CFR FCC Part 15.407
Received Date : Jun. 26, 2017
Tested Date : Jul. 12 ~ Jul. 14, 2017

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

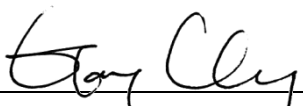

Gary Chang / Manager



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Local Support Equipment List	16
1.3	Test Setup Chart	16
1.4	The Equipment List	17
1.5	Testing Applied Standards	18
1.6	Measurement Uncertainty	18
2	TEST CONFIGURATION	19
2.1	Testing Condition	19
2.2	The Worst Test Modes and Channel Details	19
3	TRANSMITTER TEST RESULTS.....	21
3.1	Conducted Emissions.....	21
3.2	Emission Bandwidth	28
3.3	RF Output Power	31
3.4	Peak Power Spectral Density	33
3.5	Transmitter Radiated and Band Edge Emissions	35
3.6	Frequency Stability	118
4	TEST LABORATORY INFORMATION	120

Release Record

Report No.	Version	Description	Issued Date
FR5D0701-02AN	Rev. 01	Initial issue	Jul. 24, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.381MHz 27.79 (Margin -20.46dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5350.00MHz 52.78 (Margin -1.22dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5250~5350MHz: 13.85 5470~5725MHz: 13.76	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

This report is issued as a FCC Class II Permissive Change. The modifications are concerned with following items:

- ✧ Additional antenna cables are adding
- ✧ Adding 5250~5350MHz and 5470~5725 MHz band by software setting

Related test items had been performed and recorded in the following sections. Other test results were kept as same as mentioned on original report.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5250-5350 5470-5725	a	5260-5320 5500-5700	52-64 [4] 100-140 [8]	1	6-54 Mbps
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	1	MCS 0-15
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	1	MCS 0-15
5250-5350 5470-5725	ac (VHT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	1	MCS 0-9
5250-5350 5470-5725	ac (VHT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	1	MCS 0-9
5250-5350 5470-5725	ac (VHT80)	5290 5530	58 [1] 106 [1]	1	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: The device has disabled the 5600-5650MHz band by S/W setting.					

1.1.2 Antenna Details (Addition antenna cable had marked in boldface)

Ant. No.	Model	Type	Connector	Frequency band (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	Antenna 1 (Green PCB, Cable 1)	Dipole	UFL	0.21	-2.06	-0.99	-0.01	-0.95
	Antenna 1 (Green PCB, Cable 1)	Dipole	UFL	0.69	-1.33	-0.28	0.7	-0.21
2	Antenna 2 (Blue PCB, Cable 2)	Dipole	UFL	1.25	1.39	1.39	1.48	-0.3
	Antenna 2 (Blue PCB, Cable 2)	Dipole	UFL	2.33	3.1	3.14	3.14	1.84

Note:

1. Antenna 2 with highest gain was chosen for final test.
2. Antenna structure is not changed. Reason to obtain higher antenna gain is shorter cable used.

The following antenna cables are used in this EUT. The only difference is cable length.

For Antenna 1 (Green PCB, Cable 1) / original

Cable No.	Model (Cable Color: Black)	Cable No.	Model (Cable Color: Gray)	Cable Length (mm)
1	8JJEKQ1990000001H1	22	8JJEKR1990000001H1	199
2	8JJEKQ2100000001H1	23	8JJEKR2100000001H1	210
3	8JJEKQ2200000001H1	24	8JJEKR2200000001H1	220
4	8JJEKQ2300000001H1	25	8JJEKR2300000001H1	230
5	8JJEKQ2400000001H1	26	8JJEKR2400000001H1	240
6	8JJEKQ2500000001H1	27	8JJEKR2500000001H1	250
7	8JJEKQ2600000001H1	28	8JJEKR2600000001H1	260
8	8JJEKQ2700000001H1	29	8JJEKR2700000001H1	270
9	8JJEKQ2800000001H1	30	8JJEKR2800000001H1	280
10	8JJEKQ2900000001H1	31	8JJEKR2900000001H1	290
11	8JJEKQ3000000001H1	32	8JJEKR3000000001H1	300
12	8JJEKQ3100000001H1	33	8JJEKR3100000001H1	310
13	8JJEKQ3200000001H1	34	8JJEKR3200000001H1	320
14	8JJEKQ3300000001H1	35	8JJEKR3300000001H1	330
15	8JJEKQ3400000001H1	36	8JJEKR3400000001H1	340
16	8JJEKQ3500000001H1	37	8JJEKR3500000001H1	350
17	8JJEKQ3600000001H1	38	8JJEKR3600000001H1	360
18	8JJEKQ3700000001H1	39	8JJEKR3700000001H1	370
19	8JJEKQ3800000001H1	40	8JJEKR3800000001H1	380
20	8JJEKQ3900000001H1	41	8JJEKR3900000001H1	390
21	8JJEKQ4000000001H1	42	8JJEKR4000000001H1	400

For Antenna 2 (Blue PCB, Cable 2) / original

Cable No.	Model (Cable Color: Black)	Cable No.	Model (Cable Color: Gray)	Cable No.	Model (Cable Color: White)	Cable Length (mm)
1	8JJEKQ4000000001H1	52	8JJEKR4000000001H1	103	8JJEKP4000000001H1	400
2	8JJEKQ4100000001H1	53	8JJEKR4100000001H1	104	8JJEKP4100000001H1	410
3	8JJEKQ4200000001H1	54	8JJEKR4200000001H1	105	8JJEKP4200000001H1	420
4	8JJEKQ4300000001H1	55	8JJEKR4300000001H1	106	8JJEKP4300000001H1	430
5	8JJEKQ4400000001H1	56	8JJEKR4400000001H1	107	8JJEKP4400000001H1	440
6	8JJEKQ4500000001H1	57	8JJEKR4500000001H1	108	8JJEKP4500000001H1	450
7	8JJEKQ4600000001H1	58	8JJEKR4600000001H1	109	8JJEKP4600000001H1	460
8	8JJEKQ4700000001H1	59	8JJEKR4700000001H1	110	8JJEKP4700000001H1	470
9	8JJEKQ4800000001H1	60	8JJEKR4800000001H1	111	8JJEKP4800000001H1	480
10	8JJEKQ4900000001H1	61	8JJEKR4900000001H1	112	8JJEKP4900000001H1	490
11	8JJEKQ5000000001H1	62	8JJEKR5000000001H1	113	8JJEKP5000000001H1	500
12	8JJEKQ5100000001H1	63	8JJEKR5100000001H1	114	8JJEKP5100000001H1	510
13	8JJEKQ5200000001H1	64	8JJEKR5200000001H1	115	8JJEKP5200000001H1	520
14	8JJEKQ5300000001H1	65	8JJEKR5300000001H1	116	8JJEKP5300000001H1	530
15	8JJEKQ5400000001H1	66	8JJEKR5400000001H1	117	8JJEKP5400000001H1	540
16	8JJEKQ5500000001H1	67	8JJEKR5500000001H1	118	8JJEKP5500000001H1	550
17	8JJEKQ5600000001H1	68	8JJEKR5600000001H1	119	8JJEKP5600000001H1	560
18	8JJEKQ5700000001H1	69	8JJEKR5700000001H1	120	8JJEKP5700000001H1	570
19	8JJEKQ5800000001H1	70	8JJEKR5800000001H1	121	8JJEKP5800000001H1	580
20	8JJEKQ5900000001H1	71	8JJEKR5900000001H1	122	8JJEKP5900000001H1	590
21	8JJEKQ6000000001H1	72	8JJEKR6000000001H1	123	8JJEKP6000000001H1	600
22	8JJEKQ6100000001H1	73	8JJEKR6100000001H1	124	8JJEKP6100000001H1	610
23	8JJEKQ6200000001H1	74	8JJEKR6200000001H1	125	8JJEKP6200000001H1	620
24	8JJEKQ6300000001H1	75	8JJEKR6300000001H1	126	8JJEKP6300000001H1	630
25	8JJEKQ6400000001H1	76	8JJEKR6400000001H1	127	8JJEKP6400000001H1	640
26	8JJEKQ6500000001H1	77	8JJEKR6500000001H1	128	8JJEKP6500000001H1	650
27	8JJEKQ6600000001H1	78	8JJEKR6600000001H1	129	8JJEKP6600000001H1	660
28	8JJEKQ6700000001H1	79	8JJEKR6700000001H1	130	8JJEKP6700000001H1	670
29	8JJEKQ6800000001H1	80	8JJEKR6800000001H1	131	8JJEKP6800000001H1	680
30	8JJEKQ6900000001H1	81	8JJEKR6900000001H1	132	8JJEKP6900000001H1	690
31	8JJEKQ7000000001H1	82	8JJEKR7000000001H1	133	8JJEKP7000000001H1	700
32	8JJEKQ7100000001H1	83	8JJEKR7100000001H1	134	8JJEKP7100000001H1	710
33	8JJEKQ7200000001H1	84	8JJEKR7200000001H1	135	8JJEKP7200000001H1	720
34	8JJEKQ7300000001H1	85	8JJEKR7300000001H1	136	8JJEKP7300000001H1	730
35	8JJEKQ7400000001H1	86	8JJEKR7400000001H1	137	8JJEKP7400000001H1	740
36	8JJEKQ7500000001H1	87	8JJEKR7500000001H1	138	8JJEKP7500000001H1	750
37	8JJEKQ7600000001H1	88	8JJEKR7600000001H1	139	8JJEKP7600000001H1	760

38	8JJEKQ7700000001H1	89	8JJEKR7700000001H1	140	8JJEKP7700000001H1	770
39	8JJEKQ7800000001H1	90	8JJEKR7800000001H1	141	8JJEKP7800000001H1	780
40	8JJEKQ7900000001H1	91	8JJEKR7900000001H1	142	8JJEKP7900000001H1	790
41	8JJEKQ8000000001H1	92	8JJEKR8000000001H1	143	8JJEKP8000000001H1	800
42	8JJEKQ8100000001H1	93	8JJEKR8100000001H1	144	8JJEKP8100000001H1	810
43	8JJEKQ8200000001H1	94	8JJEKR8200000001H1	145	8JJEKP8200000001H1	820
44	8JJEKQ8300000001H1	95	8JJEKR8300000001H1	146	8JJEKP8300000001H1	830
45	8JJEKQ8400000001H1	96	8JJEKR8400000001H1	147	8JJEKP8400000001H1	840
46	8JJEKQ8500000001H1	97	8JJEKR8500000001H1	148	8JJEKP8500000001H1	850
47	8JJEKQ8600000001H1	98	8JJEKR8600000001H1	149	8JJEKP8600000001H1	860
48	8JJEKQ8700000001H1	99	8JJEKR8700000001H1	150	8JJEKP8700000001H1	870
49	8JJEKQ8800000001H1	100	8JJEKR8800000001H1	151	8JJEKP8800000001H1	880
50	8JJEKQ8900000001H1	101	8JJEKR8900000001H1	152	8JJEKP8900000001H1	890
51	8JJEKQ9000000001H1	102	8JJEKR9000000001H1	153	8JJEKP9000000001H1	900

For Antenna 1 (Green PCB, Cable 1) / Additional

Cable No.	Model (Cable Color: Black)	Cable No.	Model (Cable Color: Gray)	Cable No.	Model (Cable Color: White)	Cable Length (mm)
1	8JJEKQ0500000001H1	37	8JJEKR0500000001H1	73	8JJEKP0500000001H1	50
2	8JJEKQ0600000001H1	38	8JJEKR0600000001H1	74	8JJEKP0600000001H1	60
3	8JJEKQ0700000001H1	39	8JJEKR0700000001H1	75	8JJEKP0700000001H1	70
4	8JJEKQ0800000001H1	40	8JJEKR0800000001H1	76	8JJEKP0800000001H1	80
5	8JJEKQ0900000001H1	41	8JJEKR0900000001H1	77	8JJEKP0900000001H1	90
6	8JJEKQ1000000001H1	42	8JJEKR1000000001H1	78	8JJEKP1000000001H1	100
7	8JJEKQ1100000001H1	43	8JJEKR1100000001H1	79	8JJEKP1100000001H1	110
8	8JJEKQ1200000001H1	44	8JJEKR1200000001H1	80	8JJEKP1200000001H1	120
9	8JJEKQ1300000001H1	45	8JJEKR1300000001H1	81	8JJEKP1300000001H1	130
10	8JJEKQ1400000001H1	46	8JJEKR1400000001H1	82	8JJEKP1400000001H1	140
11	8JJEKQ1500000001H1	47	8JJEKR1500000001H1	83	8JJEKP1500000001H1	150
12	8JJEKQ1600000001H1	48	8JJEKR1600000001H1	84	8JJEKP1600000001H1	160
13	8JJEKQ1700000001H1	49	8JJEKR1700000001H1	85	8JJEKP1700000001H1	170
14	8JJEKQ1800000001H1	50	8JJEKR1800000001H1	86	8JJEKP1800000001H1	180
15	8JJEKQ1900000001H1	51	8JJEKR1900000001H1	87	8JJEKP1900000001H1	190
16	8JJEKQ1990000001H1	52	8JJEKR1990000001H1	88	8JJEKP1990000001H1	199
17	8JJEKQ2100000001H1	53	8JJEKR2100000001H1	89	8JJEKP2100000001H1	210
18	8JJEKQ2200000001H1	54	8JJEKR2200000001H1	90	8JJEKP2200000001H1	220
19	8JJEKQ2300000001H1	55	8JJEKR2300000001H1	91	8JJEKP2300000001H1	230
20	8JJEKQ2400000001H1	56	8JJEKR2400000001H1	92	8JJEKP2400000001H1	240
21	8JJEKQ2500000001H1	57	8JJEKR2500000001H1	93	8JJEKP2500000001H1	250
22	8JJEKQ2600000001H1	58	8JJEKR2600000001H1	94	8JJEKP2600000001H1	260
23	8JJEKQ2700000001H1	59	8JJEKR2700000001H1	95	8JJEKP2700000001H1	270
24	8JJEKQ2800000001H1	60	8JJEKR2800000001H1	96	8JJEKP2800000001H1	280
25	8JJEKQ2900000001H1	61	8JJEKR2900000001H1	97	8JJEKP2900000001H1	290
26	8JJEKQ3000000001H1	62	8JJEKR3000000001H1	98	8JJEKP3000000001H1	300
27	8JJEKQ3100000001H1	63	8JJEKR3100000001H1	99	8JJEKP3100000001H1	310
28	8JJEKQ3200000001H1	64	8JJEKR3200000001H1	100	8JJEKP3200000001H1	320
29	8JJEKQ3300000001H1	65	8JJEKR3300000001H1	101	8JJEKP3300000001H1	330
30	8JJEKQ3400000001H1	66	8JJEKR3400000001H1	102	8JJEKP3400000001H1	340
31	8JJEKQ3500000001H1	67	8JJEKR3500000001H1	103	8JJEKP3500000001H1	350
32	8JJEKQ3600000001H1	68	8JJEKR3600000001H1	104	8JJEKP3600000001H1	360
33	8JJEKQ3700000001H1	69	8JJEKR3700000001H1	105	8JJEKP3700000001H1	370
34	8JJEKQ3800000001H1	70	8JJEKR3800000001H1	106	8JJEKP3800000001H1	380
35	8JJEKQ3900000001H1	71	8JJEKR3900000001H1	107	8JJEKP3900000001H1	390
36	8JJEKQ4000000001H1	72	8JJEKR4000000001H1	108	8JJEKP4000000001H1	400

For Antenna 2 (Blue PCB, Cable 2) / Additional

Cable No.	Model (Cable Color: Black)	Cable No.	Model (Cable Color: Gray)	Cable No.	Model (Cable Color: White)	Cable Length (mm)
1	8JJEKQ0500000001H1	87	8JJEKR0500000001H1	173	8JJEKP0500000001H1	50
2	8JJEKQ0600000001H1	88	8JJEKR0600000001H1	174	8JJEKP0600000001H1	60
3	8JJEKQ0700000001H1	89	8JJEKR0700000001H1	175	8JJEKP0700000001H1	70
4	8JJEKQ0800000001H1	90	8JJEKR0800000001H1	176	8JJEKP0800000001H1	80
5	8JJEKQ0900000001H1	91	8JJEKR0900000001H1	177	8JJEKP0900000001H1	90
6	8JJEKQ1000000001H1	92	8JJEKR1000000001H1	178	8JJEKP1000000001H1	100
7	8JJEKQ1100000001H1	93	8JJEKR1100000001H1	179	8JJEKP1100000001H1	110
8	8JJEKQ1200000001H1	94	8JJEKR1200000001H1	180	8JJEKP1200000001H1	120
9	8JJEKQ1300000001H1	95	8JJEKR1300000001H1	181	8JJEKP1300000001H1	130
10	8JJEKQ1400000001H1	96	8JJEKR1400000001H1	182	8JJEKP1400000001H1	140
11	8JJEKQ1500000001H1	97	8JJEKR1500000001H1	183	8JJEKP1500000001H1	150
12	8JJEKQ1600000001H1	98	8JJEKR1600000001H1	184	8JJEKP1600000001H1	160
13	8JJEKQ1700000001H1	99	8JJEKR1700000001H1	185	8JJEKP1700000001H1	170
14	8JJEKQ1800000001H1	100	8JJEKR1800000001H1	186	8JJEKP1800000001H1	180
15	8JJEKQ1900000001H1	101	8JJEKR1900000001H1	187	8JJEKP1900000001H1	190
16	8JJEKQ1990000001H1	102	8JJEKR1990000001H1	188	8JJEKP1990000001H1	199
17	8JJEKQ2100000001H1	103	8JJEKR2100000001H1	189	8JJEKP2100000001H1	210
18	8JJEKQ2200000001H1	104	8JJEKR2200000001H1	190	8JJEKP2200000001H1	220
19	8JJEKQ2300000001H1	105	8JJEKR2300000001H1	191	8JJEKP2300000001H1	230
20	8JJEKQ2400000001H1	106	8JJEKR2400000001H1	192	8JJEKP2400000001H1	240
21	8JJEKQ2500000001H1	107	8JJEKR2500000001H1	193	8JJEKP2500000001H1	250
22	8JJEKQ2600000001H1	108	8JJEKR2600000001H1	194	8JJEKP2600000001H1	260
23	8JJEKQ2700000001H1	109	8JJEKR2700000001H1	195	8JJEKP2700000001H1	270
24	8JJEKQ2800000001H1	110	8JJEKR2800000001H1	196	8JJEKP2800000001H1	280
25	8JJEKQ2900000001H1	111	8JJEKR2900000001H1	197	8JJEKP2900000001H1	290
26	8JJEKQ3000000001H1	112	8JJEKR3000000001H1	198	8JJEKP3000000001H1	300
27	8JJEKQ3100000001H1	113	8JJEKR3100000001H1	199	8JJEKP3100000001H1	310
28	8JJEKQ3200000001H1	114	8JJEKR3200000001H1	200	8JJEKP3200000001H1	320
29	8JJEKQ3300000001H1	115	8JJEKR3300000001H1	201	8JJEKP3300000001H1	330
30	8JJEKQ3400000001H1	116	8JJEKR3400000001H1	202	8JJEKP3400000001H1	340
31	8JJEKQ3500000001H1	117	8JJEKR3500000001H1	203	8JJEKP3500000001H1	350
32	8JJEKQ3600000001H1	118	8JJEKR3600000001H1	204	8JJEKP3600000001H1	360
33	8JJEKQ3700000001H1	119	8JJEKR3700000001H1	205	8JJEKP3700000001H1	370
34	8JJEKQ3800000001H1	120	8JJEKR3800000001H1	206	8JJEKP3800000001H1	380
35	8JJEKQ3900000001H1	121	8JJEKR3900000001H1	207	8JJEKP3900000001H1	390
36	8JJEKQ4000000001H1	122	8JJEKR4000000001H1	208	8JJEKP4000000001H1	400
37	8JJEKQ4100000001H1	123	8JJEKR4100000001H1	209	8JJEKP4100000001H1	410

38	8JJEKQ4200000001H1	124	8JJEKR4200000001H1	210	8JJEKP4200000001H1	420
39	8JJEKQ4300000001H1	125	8JJEKR4300000001H1	211	8JJEKP4300000001H1	430
40	8JJEKQ4400000001H1	126	8JJEKR4400000001H1	212	8JJEKP4400000001H1	440
41	8JJEKQ4500000001H1	127	8JJEKR4500000001H1	213	8JJEKP4500000001H1	450
42	8JJEKQ4600000001H1	128	8JJEKR4600000001H1	214	8JJEKP4600000001H1	460
43	8JJEKQ4700000001H1	129	8JJEKR4700000001H1	215	8JJEKP4700000001H1	470
44	8JJEKQ4800000001H1	130	8JJEKR4800000001H1	216	8JJEKP4800000001H1	480
45	8JJEKQ4900000001H1	131	8JJEKR4900000001H1	217	8JJEKP4900000001H1	490
46	8JJEKQ5000000001H1	132	8JJEKR5000000001H1	218	8JJEKP5000000001H1	500
47	8JJEKQ5100000001H1	133	8JJEKR5100000001H1	219	8JJEKP5100000001H1	510
48	8JJEKQ5200000001H1	134	8JJEKR5200000001H1	220	8JJEKP5200000001H1	520
49	8JJEKQ5300000001H1	135	8JJEKR5300000001H1	221	8JJEKP5300000001H1	530
50	8JJEKQ5400000001H1	136	8JJEKR5400000001H1	222	8JJEKP5400000001H1	540
51	8JJEKQ5500000001H1	137	8JJEKR5500000001H1	223	8JJEKP5500000001H1	550
52	8JJEKQ5600000001H1	138	8JJEKR5600000001H1	224	8JJEKP5600000001H1	560
53	8JJEKQ5700000001H1	139	8JJEKR5700000001H1	225	8JJEKP5700000001H1	570
54	8JJEKQ5800000001H1	140	8JJEKR5800000001H1	226	8JJEKP5800000001H1	580
55	8JJEKQ5900000001H1	141	8JJEKR5900000001H1	227	8JJEKP5900000001H1	590
56	8JJEKQ6000000001H1	142	8JJEKR6000000001H1	228	8JJEKP6000000001H1	600
57	8JJEKQ6100000001H1	143	8JJEKR6100000001H1	229	8JJEKP6100000001H1	610
58	8JJEKQ6200000001H1	144	8JJEKR6200000001H1	230	8JJEKP6200000001H1	620
59	8JJEKQ6300000001H1	145	8JJEKR6300000001H1	231	8JJEKP6300000001H1	630
60	8JJEKQ6400000001H1	146	8JJEKR6400000001H1	232	8JJEKP6400000001H1	640
61	8JJEKQ6500000001H1	147	8JJEKR6500000001H1	233	8JJEKP6500000001H1	650
62	8JJEKQ6600000001H1	148	8JJEKR6600000001H1	234	8JJEKP6600000001H1	660
63	8JJEKQ6700000001H1	149	8JJEKR6700000001H1	235	8JJEKP6700000001H1	670
64	8JJEKQ6800000001H1	150	8JJEKR6800000001H1	236	8JJEKP6800000001H1	680
65	8JJEKQ6900000001H1	151	8JJEKR6900000001H1	237	8JJEKP6900000001H1	690
66	8JJEKQ7000000001H1	152	8JJEKR7000000001H1	238	8JJEKP7000000001H1	700
67	8JJEKQ7100000001H1	153	8JJEKR7100000001H1	239	8JJEKP7100000001H1	710
68	8JJEKQ7200000001H1	154	8JJEKR7200000001H1	240	8JJEKP7200000001H1	720
69	8JJEKQ7300000001H1	155	8JJEKR7300000001H1	241	8JJEKP7300000001H1	730
70	8JJEKQ7400000001H1	156	8JJEKR7400000001H1	242	8JJEKP7400000001H1	740
71	8JJEKQ7500000001H1	157	8JJEKR7500000001H1	243	8JJEKP7500000001H1	750
72	8JJEKQ7600000001H1	158	8JJEKR7600000001H1	244	8JJEKP7600000001H1	760
73	8JJEKQ7700000001H1	159	8JJEKR7700000001H1	245	8JJEKP7700000001H1	770
74	8JJEKQ7800000001H1	160	8JJEKR7800000001H1	246	8JJEKP7800000001H1	780
75	8JJEKQ7900000001H1	161	8JJEKR7900000001H1	247	8JJEKP7900000001H1	790
76	8JJEKQ8000000001H1	162	8JJEKR8000000001H1	248	8JJEKP8000000001H1	800
77	8JJEKQ8100000001H1	163	8JJEKR8100000001H1	249	8JJEKP8100000001H1	810

78	8JJEKQ8200000001H1	164	8JJEKR8200000001H1	250	8JJEKP8200000001H1	820
79	8JJEKQ8300000001H1	165	8JJEKR8300000001H1	251	8JJEKP8300000001H1	830
80	8JJEKQ8400000001H1	166	8JJEKR8400000001H1	252	8JJEKP8400000001H1	840
81	8JJEKQ8500000001H1	167	8JJEKR8500000001H1	253	8JJEKP8500000001H1	850
82	8JJEKQ8600000001H1	168	8JJEKR8600000001H1	254	8JJEKP8600000001H1	860
83	8JJEKQ8700000001H1	169	8JJEKR8700000001H1	255	8JJEKP8700000001H1	870
84	8JJEKQ8800000001H1	170	8JJEKR8800000001H1	256	8JJEKP8800000001H1	880
85	8JJEKQ8900000001H1	171	8JJEKR8900000001H1	257	8JJEKP8900000001H1	890
86	8JJEKQ9000000001H1	172	8JJEKR9000000001H1	258	8JJEKP9000000001H1	900

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	DC 4V/1A
--------------------------	----------

1.1.4 Accessories

N/A

1.1.5 Channel List

802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
52	5260	54	5270
56	5280	62	5310
60	5300	102	5510
64	5320	110	5550
100	5500	134	5670
104	5520	VHT80	
108	5540	58	5290
112	5560	106	5530
116	5580	---	---
132	5660	---	---
136	5680	---	---
140	5700	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	WCN Combo Tool, Version: W1417		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	93.75%	0.28
	VHT20	94.18%	0.26
	VHT40	86.69%	0.62
	VHT80	77.58%	1.10

1.1.7 Power Setting

For Frequency band 5250~5350 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5260	16
11a	5300	16
11a	5320	16
HT20	5260	16
HT20	5300	16
HT20	5320	16
HT40	5270	16
HT40	5310	16
VHT20	5260	16
VHT20	5300	16
VHT20	5320	16
VHT40	5270	16
VHT40	5310	16
VHT80	5290	16

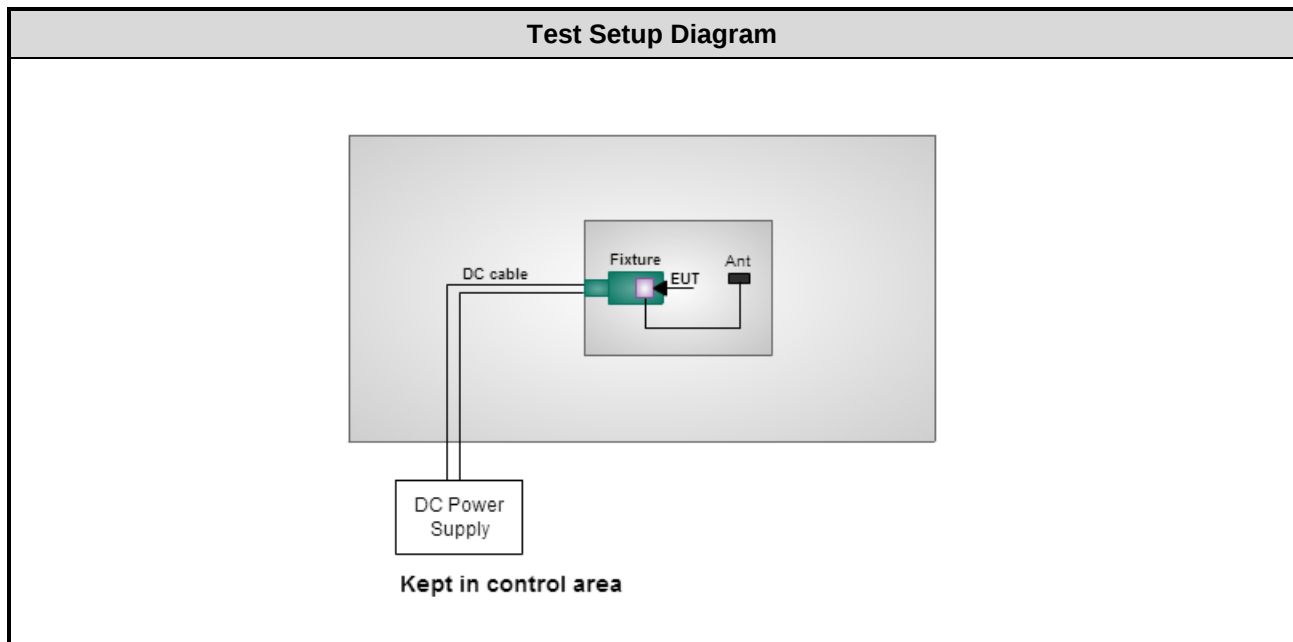
For Frequency band 5470~5725 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5500	16
11a	5580	16
11a	5700	15.5
HT20	5500	16
HT20	5580	16
HT20	5700	15.5
HT40	5510	16
HT40	5550	16
HT40	5670	16
VHT20	5500	16
VHT20	5580	16
VHT20	5700	15.5
VHT40	5510	16
VHT40	5550	16
VHT40	5670	16
VHT80	5530	16

1.2 Local Support Equipment List

Support Equipment List						
No.	Equipment	Brand	Model	S/N	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6440	2ZC4Z52	DoC	---
2	DC Power Supply	GW INSTEK	GPC-3060D	EM884797	---	---
3	Fixture	---	---	---	---	---

Note: Fixture was supplied by applicant.

1.3 Test Setup Chart



Note: The support notebook was disconnected from EUT and removed from test table when EUT is set to transmit continuously.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 20, 2016	Dec. 19, 2017
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 20, 2016	Oct. 19, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04

FCC KDB 644545 D03 Guidance for IEEE 802.11ac New Rules v01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Time	±0.1%
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	25°C / 57%	Alex Tsai
Radiated Emissions	03CH01-WS	22-24°C / 62-64%	Vincent Yeh Kevin Lee
RF Conducted	TH01-WS	24°C / 65%	Brad Wu

➤ FCC site registration No.: 181692

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz			
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate
Conducted Emissions	VHT80	5210	MCS 0
Radiated Emissions ≤1GHz	VHT80	5210	MCS 0
Radiated Emissions >1GHz	11a	5180 / 5200 / 5240	6 Mbps
	VHT20	5180 / 5200 / 5240	MCS 0
	VHT40	5190 / 5230	MCS 0
	VHT80	5210	MCS 0

NOTE: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** result was found as the worst case and was shown in this report.

For Frequency band 5250-5350 MHz, 5470-5725 MHz

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate
Conducted Emissions	VHT40	5310	MCS 0
Radiated Emissions ≤ 1 GHz	VHT40	5310	MCS 0
RF Output Power	11a	5260 / 5300 / 5320 5500 / 5580 / 5700	6 Mbps
	HT20	5260 / 5300 / 5320 5500 / 5580 / 5700	MCS 0
	HT40	5270 / 5310 5510 / 5550 / 5670	MCS 0
	VHT20	5260 / 5300 / 5320 5500 / 5580 / 5700	MCS 0
	VHT40	5270 / 5310 5510 / 5550 / 5670	MCS 0
	VHT80	5290 / 5530	MCS 0
Radiated Emissions > 1 GHz Emission Bandwidth Peak Power Spectral Density	11a	5260 / 5300 / 5320 5500 / 5580 / 5700	6 Mbps
	VHT20	5260 / 5300 / 5320 5500 / 5580 / 5700	MCS 0
	VHT40	5270 / 5310 5510 / 5550 / 5670	MCS 0
	VHT80	5290 / 5530	MCS 0
Frequency Stability	Un-modulation	5320	---

Note: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.

For Frequency band 5725-5850 MHz

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate
Conducted Emissions	VHT40	5755	MCS 0
Radiated Emissions ≤ 1 GHz	VHT40	5755	MCS 0
Radiated Emissions > 1 GHz	11a	5745 / 5785 / 5825	6 Mbps
	VHT20	5745 / 5785 / 5825	MCS 0
	VHT40	5755 / 5795	MCS 0
	VHT80	5775	MCS 0

NOTE: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** result was found as the worst case and was shown in this report.

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

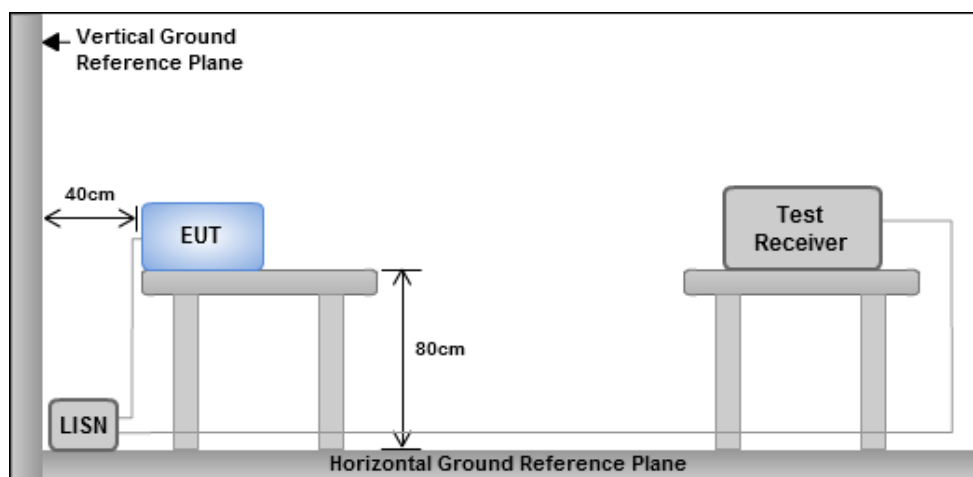
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

3.1.3 Test Setup

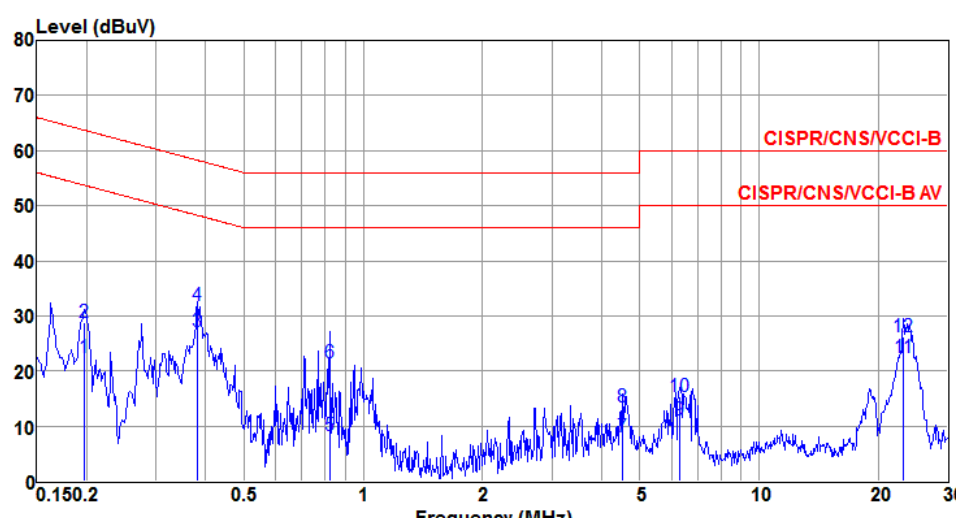


- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Modulation	VHT80	Test Freq. (MHz)	5210																																																																																																																																							
Power Phase	Line																																																																																																																																									
Level (dBuV) <table><thead><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr></thead><tbody><tr><td>1</td><td>0.189</td><td>22.55</td><td>54.06</td><td>-31.51</td><td>22.42</td><td>0.09</td><td>0.04</td><td>Average</td></tr><tr><td>2</td><td>0.189</td><td>29.63</td><td>64.06</td><td>-34.43</td><td>29.50</td><td>0.09</td><td>0.04</td><td>QP</td></tr><tr><td>3@</td><td>0.383</td><td>26.15</td><td>48.20</td><td>-22.05</td><td>26.05</td><td>0.06</td><td>0.04</td><td>Average</td></tr><tr><td>4</td><td>0.383</td><td>31.47</td><td>58.20</td><td>-26.73</td><td>31.37</td><td>0.06</td><td>0.04</td><td>QP</td></tr><tr><td>5</td><td>0.819</td><td>12.21</td><td>46.00</td><td>-33.79</td><td>12.10</td><td>0.07</td><td>0.04</td><td>Average</td></tr><tr><td>6</td><td>0.819</td><td>25.32</td><td>56.00</td><td>-30.68</td><td>25.21</td><td>0.07</td><td>0.04</td><td>QP</td></tr><tr><td>7</td><td>4.569</td><td>8.69</td><td>46.00</td><td>-37.31</td><td>8.35</td><td>0.17</td><td>0.17</td><td>Average</td></tr><tr><td>8</td><td>4.569</td><td>12.99</td><td>56.00</td><td>-43.01</td><td>12.65</td><td>0.17</td><td>0.17</td><td>QP</td></tr><tr><td>9</td><td>6.754</td><td>11.29</td><td>50.00</td><td>-38.71</td><td>10.91</td><td>0.19</td><td>0.19</td><td>Average</td></tr><tr><td>10</td><td>6.754</td><td>16.08</td><td>60.00</td><td>-43.92</td><td>15.70</td><td>0.19</td><td>0.19</td><td>QP</td></tr><tr><td>11</td><td>23.129</td><td>22.90</td><td>50.00</td><td>-27.10</td><td>22.20</td><td>0.42</td><td>0.28</td><td>Average</td></tr><tr><td>12</td><td>23.129</td><td>27.50</td><td>60.00</td><td>-32.50</td><td>26.80</td><td>0.42</td><td>0.28</td><td>QP</td></tr></tbody></table>					Freq	Level	Limit	Over	Read	LISN	cable			MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1	0.189	22.55	54.06	-31.51	22.42	0.09	0.04	Average	2	0.189	29.63	64.06	-34.43	29.50	0.09	0.04	QP	3@	0.383	26.15	48.20	-22.05	26.05	0.06	0.04	Average	4	0.383	31.47	58.20	-26.73	31.37	0.06	0.04	QP	5	0.819	12.21	46.00	-33.79	12.10	0.07	0.04	Average	6	0.819	25.32	56.00	-30.68	25.21	0.07	0.04	QP	7	4.569	8.69	46.00	-37.31	8.35	0.17	0.17	Average	8	4.569	12.99	56.00	-43.01	12.65	0.17	0.17	QP	9	6.754	11.29	50.00	-38.71	10.91	0.19	0.19	Average	10	6.754	16.08	60.00	-43.92	15.70	0.19	0.19	QP	11	23.129	22.90	50.00	-27.10	22.20	0.42	0.28	Average	12	23.129	27.50	60.00	-32.50	26.80	0.42	0.28	QP
	Freq	Level	Limit	Over	Read	LISN	cable																																																																																																																																			
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark																																																																																																																																		
			dBuV	dB	dBuV	dB	dB																																																																																																																																			
1	0.189	22.55	54.06	-31.51	22.42	0.09	0.04	Average																																																																																																																																		
2	0.189	29.63	64.06	-34.43	29.50	0.09	0.04	QP																																																																																																																																		
3@	0.383	26.15	48.20	-22.05	26.05	0.06	0.04	Average																																																																																																																																		
4	0.383	31.47	58.20	-26.73	31.37	0.06	0.04	QP																																																																																																																																		
5	0.819	12.21	46.00	-33.79	12.10	0.07	0.04	Average																																																																																																																																		
6	0.819	25.32	56.00	-30.68	25.21	0.07	0.04	QP																																																																																																																																		
7	4.569	8.69	46.00	-37.31	8.35	0.17	0.17	Average																																																																																																																																		
8	4.569	12.99	56.00	-43.01	12.65	0.17	0.17	QP																																																																																																																																		
9	6.754	11.29	50.00	-38.71	10.91	0.19	0.19	Average																																																																																																																																		
10	6.754	16.08	60.00	-43.92	15.70	0.19	0.19	QP																																																																																																																																		
11	23.129	22.90	50.00	-27.10	22.20	0.42	0.28	Average																																																																																																																																		
12	23.129	27.50	60.00	-32.50	26.80	0.42	0.28	QP																																																																																																																																		
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB). 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).																																																																																																																																										

Modulation	VHT80	Test Freq. (MHz)	5210
Power Phase	Neutral		



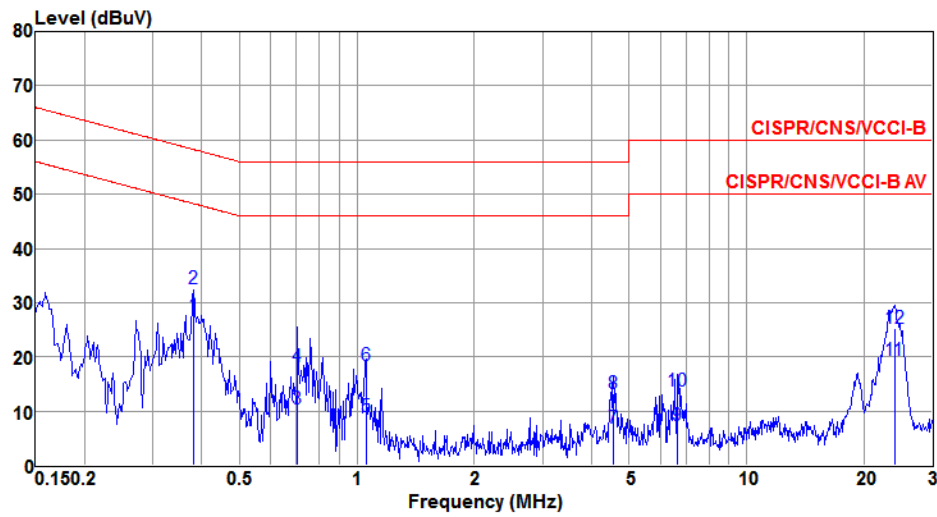
The graph displays the measured level in dBuV against frequency in MHz. Two red lines represent the CISPR/CNS/VCCI-B and CISPR/CNS/VCCI-B AV limits. The blue line shows the measured spectrum with peaks labeled 1 through 12.

Freq	Level	Limit	Over	Read	LISN	cable	Remark	
MHz	dBuV	dBuV	Limit	Level	factor	loss		
			dB	dBuV	dB	dB		
1	0.198	22.36	53.71	-31.35	22.23	0.09	0.04	Average
2	0.198	28.73	63.71	-34.98	28.60	0.09	0.04	QP
3@	0.381	27.08	48.25	-21.17	26.91	0.13	0.04	Average
4	0.381	31.95	58.25	-26.30	31.78	0.13	0.04	QP
5	0.822	8.26	46.00	-37.74	8.12	0.10	0.04	Average
6	0.822	21.47	56.00	-34.53	21.33	0.10	0.04	QP
7	4.501	8.05	46.00	-37.95	7.72	0.16	0.17	Average
8	4.501	13.51	56.00	-42.49	13.18	0.16	0.17	QP
9	6.319	11.17	50.00	-38.83	10.76	0.22	0.19	Average
10	6.319	15.39	60.00	-44.61	14.98	0.22	0.19	QP
11	23.140	22.47	50.00	-27.53	21.75	0.44	0.28	Average
12	23.140	26.21	60.00	-33.79	25.49	0.44	0.28	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	VHT40	Test Freq. (MHz)	5310
Power Phase	Line		

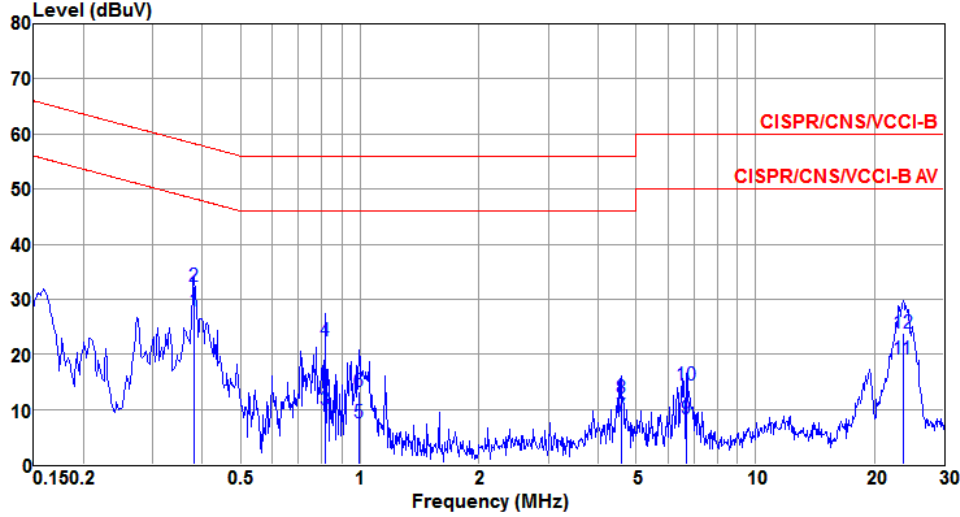


	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1@	0.381	27.52	48.25	-20.73	27.42	0.06	0.04	Average
2	0.381	32.49	58.25	-25.76	32.39	0.06	0.04	QP
3	0.705	10.37	46.00	-35.63	10.26	0.07	0.04	Average
4	0.705	18.21	56.00	-37.79	18.10	0.07	0.04	QP
5	1.054	8.90	46.00	-37.10	8.79	0.07	0.04	Average
6	1.054	18.44	56.00	-37.56	18.33	0.07	0.04	QP
7	4.549	6.78	46.00	-39.22	6.44	0.17	0.17	Average
8	4.549	13.16	56.00	-42.84	12.82	0.17	0.17	QP
9	6.662	7.28	50.00	-42.72	6.90	0.19	0.19	Average
10	6.662	13.76	60.00	-46.24	13.38	0.19	0.19	QP
11	24.015	19.28	50.00	-30.72	18.58	0.42	0.28	Average
12	24.015	25.32	60.00	-34.68	24.62	0.42	0.28	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	VHT40	Test Freq. (MHz)	5310
Power Phase	Neutral		
Level (dBuV) </			

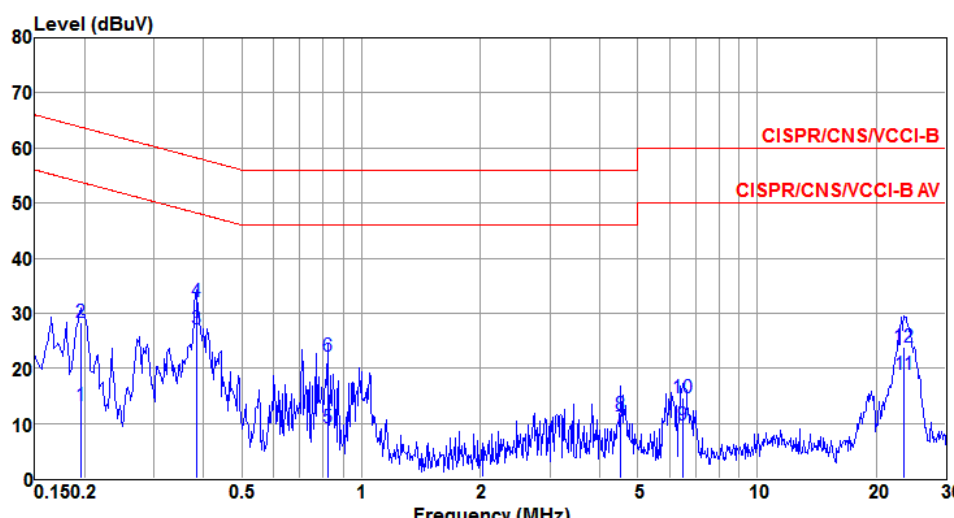
Modulation	VHT40	Test Freq. (MHz)	5755
Power Phase	Line		



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	LISN factor dB	cable loss dB	Remark
1@	0.381	27.75	48.25	-20.50	27.65	0.06	0.04	Average
2	0.381	32.41	58.25	-25.84	32.31	0.06	0.04	QP
3	0.818	9.92	46.00	-36.08	9.81	0.07	0.04	Average
4	0.818	22.35	56.00	-33.65	22.24	0.07	0.04	QP
5	0.994	7.45	46.00	-38.55	7.34	0.07	0.04	Average
6	0.994	13.20	56.00	-42.80	13.09	0.07	0.04	QP
7	4.574	8.81	46.00	-37.19	8.47	0.17	0.17	Average
8	4.574	12.07	56.00	-43.93	11.73	0.17	0.17	QP
9	6.698	8.16	50.00	-41.84	7.78	0.19	0.19	Average
10	6.698	14.38	60.00	-45.62	14.00	0.19	0.19	QP
11	23.636	19.05	50.00	-30.95	18.35	0.42	0.28	Average
12	23.636	23.88	60.00	-36.12	23.18	0.42	0.28	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

Modulation	VHT40	Test Freq. (MHz)	5755
Power Phase	Neutral		



The graph displays the measured electromagnetic interference level in dBUV across a frequency range from 0.150.2 MHz to 30 MHz. Two red lines represent the CISPR/CNS/VCCI-B and CISPR/CNS/VCCI-B AV limits. The blue line shows the measured level, which is generally below the limits, with some peaks labeled 1 through 12.

	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.195	13.32	53.80	-40.48	13.19	0.09	0.04	Average
2	0.195	28.35	63.80	-35.45	28.22	0.09	0.04	QP
3e	0.383	27.19	48.21	-21.02	27.02	0.13	0.04	Average
4	0.383	32.13	58.21	-26.08	31.96	0.13	0.04	QP
5	0.822	9.30	46.00	-36.70	9.16	0.10	0.04	Average
6	0.822	22.20	56.00	-33.80	22.06	0.10	0.04	QP
7	4.525	9.02	46.00	-36.98	8.69	0.16	0.17	Average
8	4.525	11.54	56.00	-44.46	11.21	0.16	0.17	QP
9	6.488	9.64	50.00	-40.36	9.22	0.23	0.19	Average
10	6.488	14.62	60.00	-45.38	14.20	0.23	0.19	QP
11	23.511	18.79	50.00	-31.21	18.07	0.44	0.28	Average
12	23.511	23.80	60.00	-36.20	23.08	0.44	0.28	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

3.2 Emission Bandwidth

3.2.1 Test Procedures

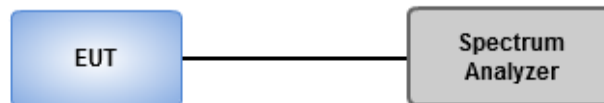
26dB Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW, Detector = Peak.
3. Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

1. Set RBW = 1 % to 5 % of the OBW
2. Set VBW $\geq$ 3 RBW
3. Sample detection and single sweep mode shall be used
4. Use the 99 % power bandwidth function of the instrument

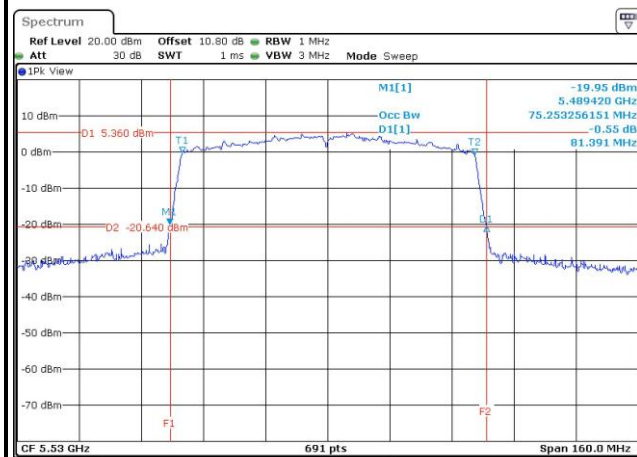
3.2.2 Test Setup



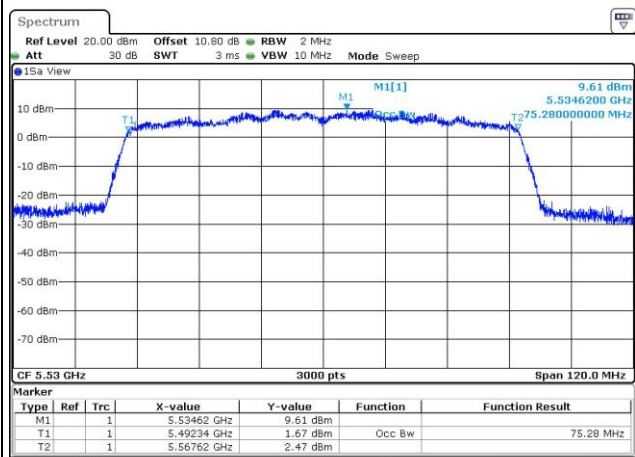
3.2.3 Test Result of Emission Bandwidth

Emission Bandwidth									
Mode	N _{TX}	Freq. (MHz)	26dB Bandwidth (MHz)			99% Bandwidth (MHz)			Power Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 0	Chain 1	Chain 2	
11a	1	5260	20.35	---	---	16.74	---	---	24.00
11a	1	5300	20.35	---	---	16.71	---	---	24.00
11a	1	5320	20.35	---	---	16.73	---	---	24.00
VHT20	1	5260	20.41	---	---	17.58	---	---	24.00
VHT20	1	5300	20.41	---	---	17.58	---	---	24.00
VHT20	1	5320	20.35	---	---	17.58	---	---	24.00
VHT40	1	5270	41.39	---	---	36.12	---	---	24.00
VHT40	1	5310	41.51	---	---	36.18	---	---	24.00
VHT80	1	5290	81.39	---	---	75.20	---	---	24.00
11a	1	5500	20.35	---	---	16.75	---	---	24.00
11a	1	5580	20.35	---	---	16.78	---	---	24.00
11a	1	5700	20.35	---	---	16.76	---	---	24.00
VHT20	1	5500	20.52	---	---	17.59	---	---	24.00
VHT20	1	5580	20.58	---	---	17.60	---	---	24.00
VHT20	1	5700	20.46	---	---	17.59	---	---	24.00
VHT40	1	5510	41.62	---	---	36.16	---	---	24.00
VHT40	1	5550	41.86	---	---	36.20	---	---	24.00
VHT40	1	5670	41.62	---	---	36.18	---	---	24.00
VHT80	1	5530	81.39	---	---	75.28	---	---	24.00

Worst Plot of 26dB Bandwidth



Worst Plot of 99% Bandwidth



3.3 RF Output Power

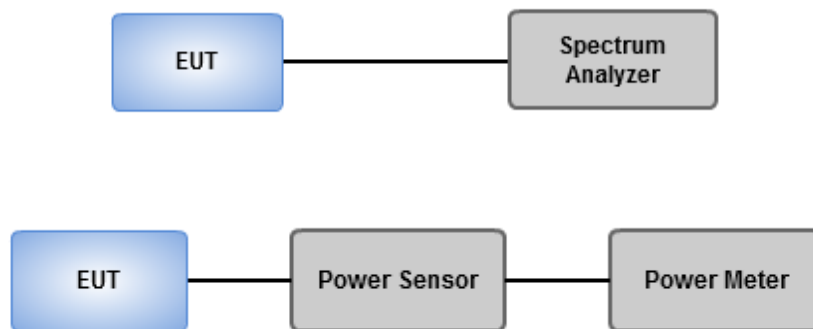
3.3.1 Limit of RF Output Power

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	250mW or 11dBm+10 log B
☒	5470 ~ 5725	250mW or 11dBm+10 log B
Note: "B" is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

- ☒ Power meter (For channel that does not extends across the 5.725 GHz boundary)
 - ☒ Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required
- ☒ Spectrum analyzer (For channel that extends across the 5.725 GHz boundary)
 1. Set RBW=1MHz, VBW=3MHz , Sweep time= Auto, Detector = RMS
 2. Trace average at least 100 traces in power averaging mode
 3. Compute power by integrating the spectrum across the 26 dB EBW

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	1	5260	13.83	---	---	---	24.155	13.83	24.00
11a	1	5300	13.81	---	---	---	24.044	13.81	24.00
11a	1	5320	13.69	---	---	---	23.388	13.69	24.00
HT20	1	5260	13.61	---	---	---	22.961	13.61	24.00
HT20	1	5300	13.54	---	---	---	22.594	13.54	24.00
HT20	1	5320	13.52	---	---	---	22.491	13.52	24.00
HT40	1	5270	13.69	---	---	---	23.388	13.69	24.00
HT40	1	5310	13.72	---	---	---	23.550	13.72	24.00
VHT20	1	5260	13.77	---	---	---	23.823	13.77	24.00
VHT20	1	5300	13.69	---	---	---	23.388	13.69	24.00
VHT20	1	5320	13.65	---	---	---	23.174	13.65	24.00
VHT40	1	5270	13.81	---	---	---	24.044	13.81	24.00
VHT40	1	5310	13.85	---	---	---	24.266	13.85	24.00
VHT80	1	5290	13.82	---	---	---	24.099	13.82	24.00
11a	1	5500	13.65	---	---	---	23.174	13.65	24.00
11a	1	5580	13.68	---	---	---	23.335	13.68	24.00
11a	1	5700	13.75	---	---	---	23.714	13.75	24.00
HT20	1	5500	13.54	---	---	---	22.594	13.54	24.00
HT20	1	5580	13.51	---	---	---	22.439	13.51	24.00
HT20	1	5700	13.56	---	---	---	22.699	13.56	24.00
HT40	1	5510	13.48	---	---	---	22.284	13.48	24.00
HT40	1	5550	13.61	---	---	---	22.961	13.61	24.00
HT40	1	5670	13.58	---	---	---	22.803	13.58	24.00
VHT20	1	5500	13.62	---	---	---	23.014	13.62	24.00
VHT20	1	5580	13.66	---	---	---	23.227	13.66	24.00
VHT20	1	5700	13.68	---	---	---	23.335	13.68	24.00
VHT40	1	5510	13.63	---	---	---	23.067	13.63	24.00
VHT40	1	5550	13.72	---	---	---	23.550	13.72	24.00
VHT40	1	5670	13.69	---	---	---	23.388	13.69	24.00
VHT80	1	5530	13.76	---	---	---	23.768	13.76	24.00

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	11 dBm / MHz
☒	5470 ~ 5725	11 dBm / MHz

3.4.2 Test Procedures

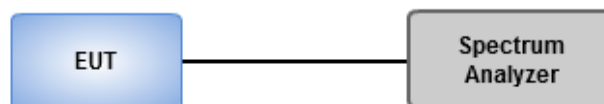
☐ Method SA-1

1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

☒ Method SA-2 Alternative

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

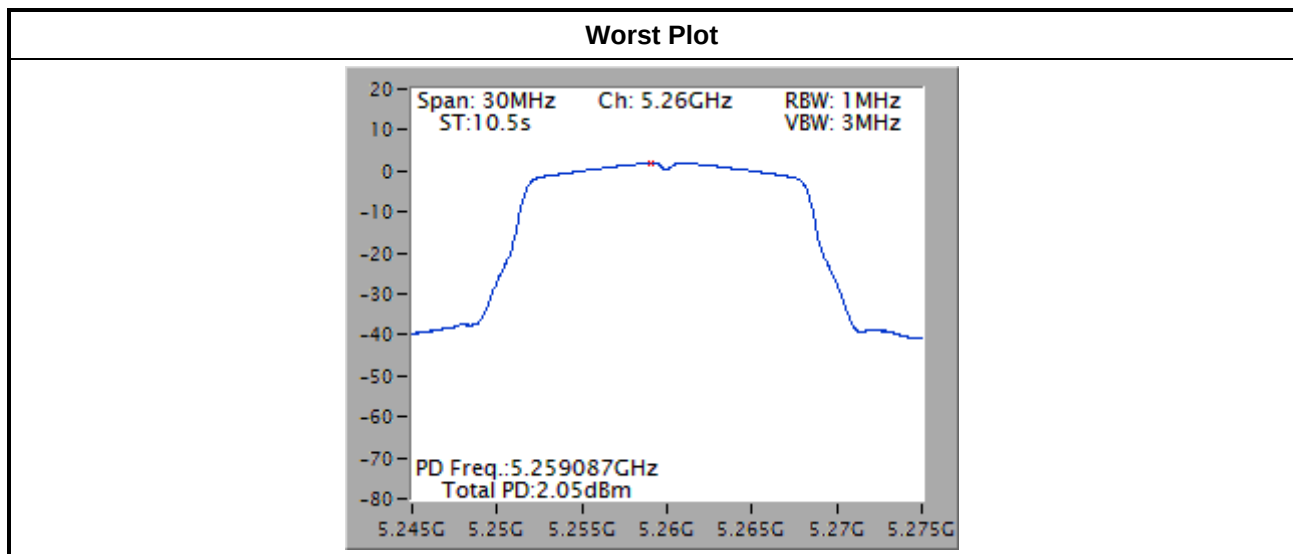
3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Condition			Peak Power Spectral Density (dBm/MHz)			
Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	1	5260	2.05	0.28	2.33	11
11a	1	5300	1.91	0.28	2.19	11
11a	1	5320	1.81	0.28	2.09	11
VHT20	1	5260	1.77	0.26	2.03	11
VHT20	1	5300	1.64	0.26	1.90	11
VHT20	1	5320	1.52	0.26	1.78	11
VHT40	1	5270	-1.37	0.62	-0.75	11
VHT40	1	5310	-1.54	0.62	-0.92	11
VHT80	1	5290	-5.14	1.10	-4.04	11
11a	1	5500	1.04	0.28	1.32	11
11a	1	5580	1.06	0.28	1.34	11
11a	1	5700	1.63	0.28	1.91	11
VHT20	1	5500	0.75	0.26	1.01	11
VHT20	1	5580	0.91	0.26	1.17	11
VHT20	1	5700	1.34	0.26	1.60	11
VHT40	1	5510	-2.21	0.62	-1.59	11
VHT40	1	5550	-2.16	0.62	-1.54	11
VHT40	1	5670	-1.43	0.62	-0.81	11
VHT80	1	5530	-6.05	1.10	-4.95	11

Note: D.F is duty factor.



Note: The worst plot w/o duty factor.

3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit		
Operating Band	Limit	
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.725 - 5.850 GHz	☒	15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
	☐	15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power,. Attenuation below the general limits specified in §15.209(a) is not required. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

3.5.2 Test Procedures

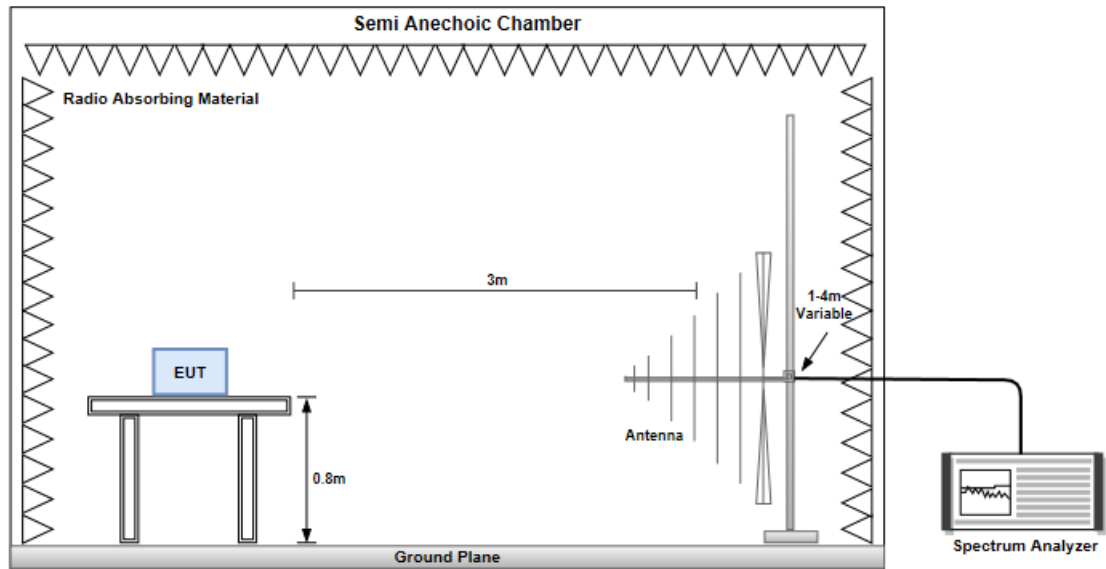
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

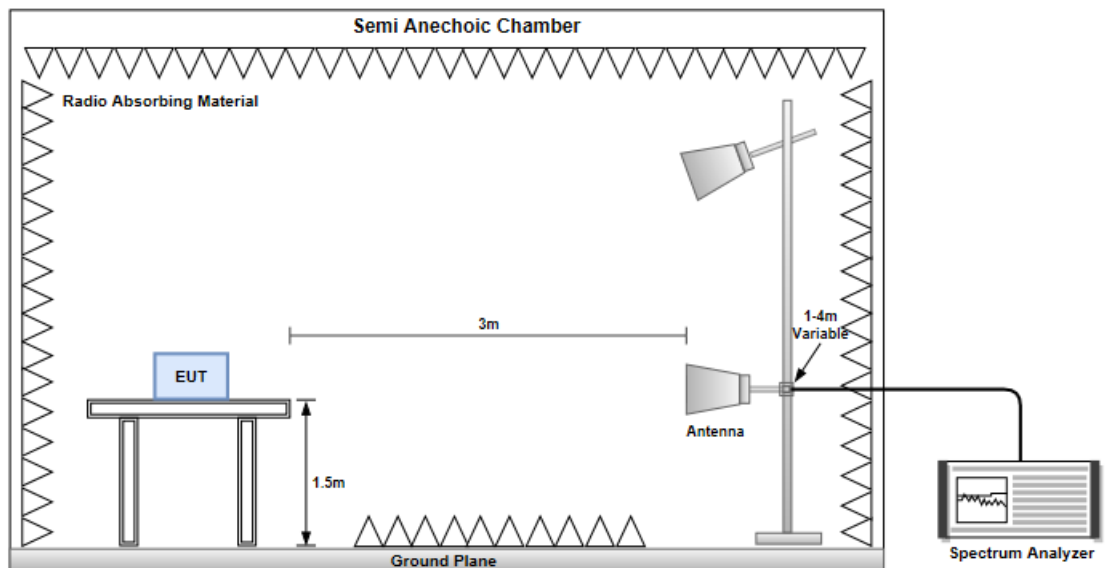
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz



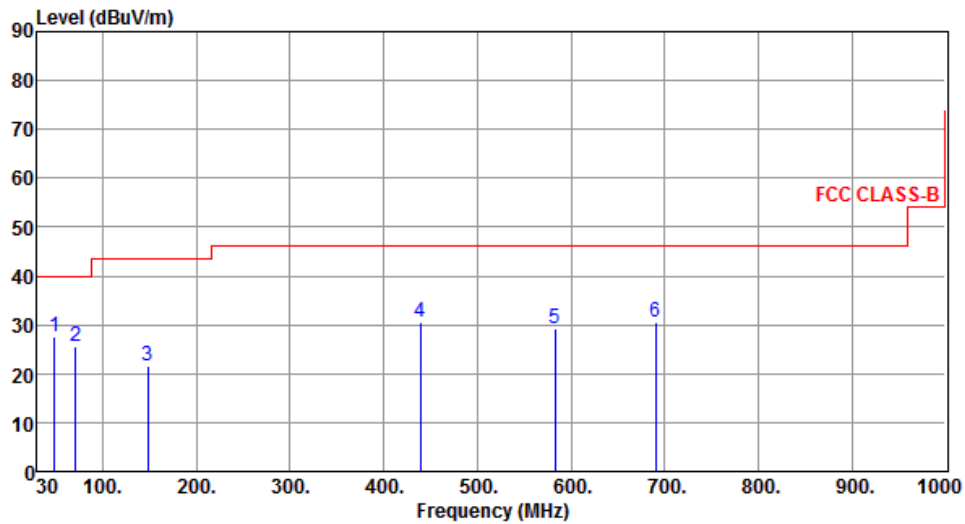
Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.42	27.53	40.00	-12.47	35.15	-7.62	QP	106	31
2	70.74	25.54	40.00	-14.46	36.37	-10.83	Peak	---	---
3	148.34	21.71	43.50	-21.79	29.92	-8.21	Peak	---	---
4	439.34	30.72	46.00	-15.28	34.73	-4.01	Peak	---	---
5	582.90	29.23	46.00	-16.77	30.30	-1.07	Peak	---	---
6	690.57	30.41	46.00	-15.59	29.77	0.64	Peak	---	---

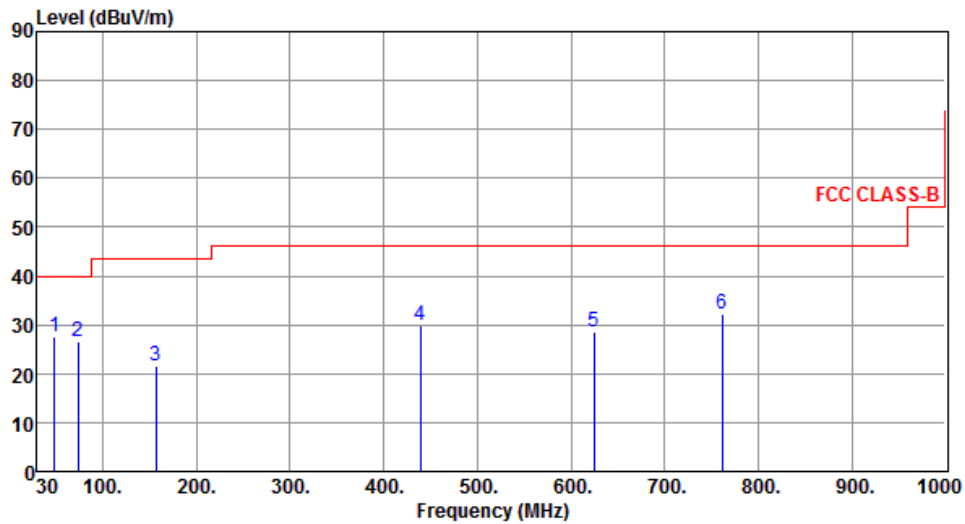
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	27.62	40.00	-12.38	35.24	-7.62	QP	100	41
2	73.65	26.60	40.00	-13.40	37.98	-11.38	Peak	---	---
3	157.07	21.52	43.50	-21.98	29.63	-8.11	Peak	---	---
4	439.34	29.98	46.00	-16.02	33.99	-4.01	Peak	---	---
5	624.61	28.61	46.00	-17.39	28.96	-0.35	Peak	---	---
6	761.38	32.10	46.00	-13.90	30.14	1.96	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

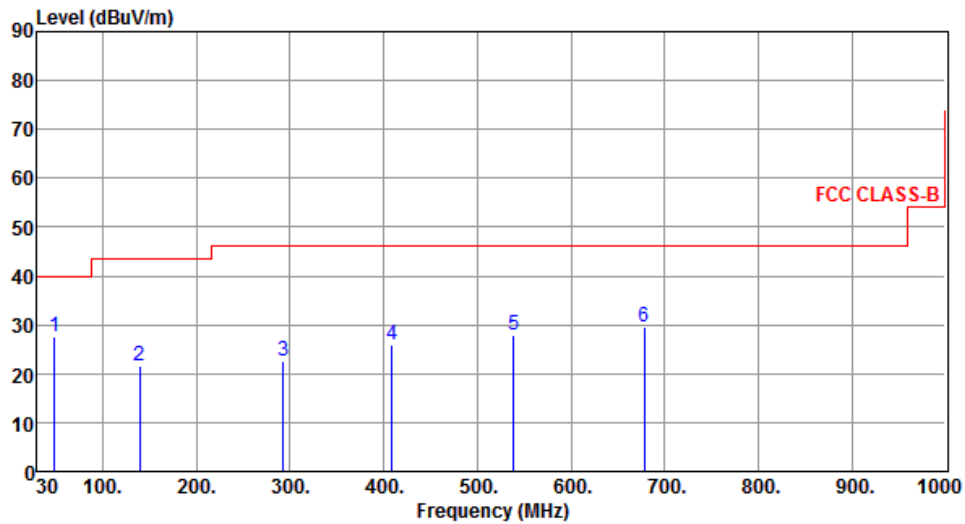
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		
 			

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	27.43	40.00	-12.57	35.05	-7.62	QP	100	38
2	139.61	21.48	43.50	-22.02	29.82	-8.34	Peak	---	---
3	292.87	22.43	46.00	-23.57	30.10	-7.67	Peak	---	---
4	409.27	25.77	46.00	-20.23	30.53	-4.76	Peak	---	---
5	539.25	27.82	46.00	-18.18	29.88	-2.06	Peak	---	---
6	677.96	29.63	46.00	-16.37	29.20	0.43	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		
 </			

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		
Level (dBuV/m) </			

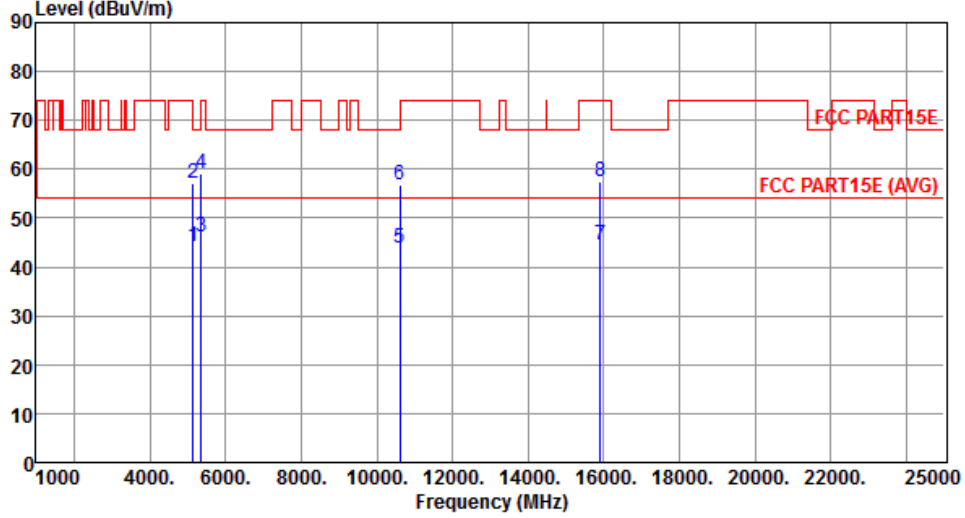
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5260
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.33	54.00	-9.67	39.85	4.48	Average	100	17
2	5150.00	57.27	74.00	-16.73	52.79	4.48	Peak	100	17
3	5350.00	46.07	54.00	-7.93	41.33	4.74	Average	100	17
4	5350.00	59.18	74.00	-14.82	54.44	4.74	Peak	100	17
5	10600.00	43.85	54.00	-10.15	29.73	14.12	Average	100	55
6	10600.00	56.63	74.00	-17.37	42.51	14.12	Peak	100	55
7	15900.00	44.47	54.00	-9.53	30.65	13.82	Average	100	267
8	15900.00	57.30	74.00	-16.70	43.48	13.82	Peak	100	267

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5320
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5320
Polarization	Vertical		
Level (dBuV/m) </			

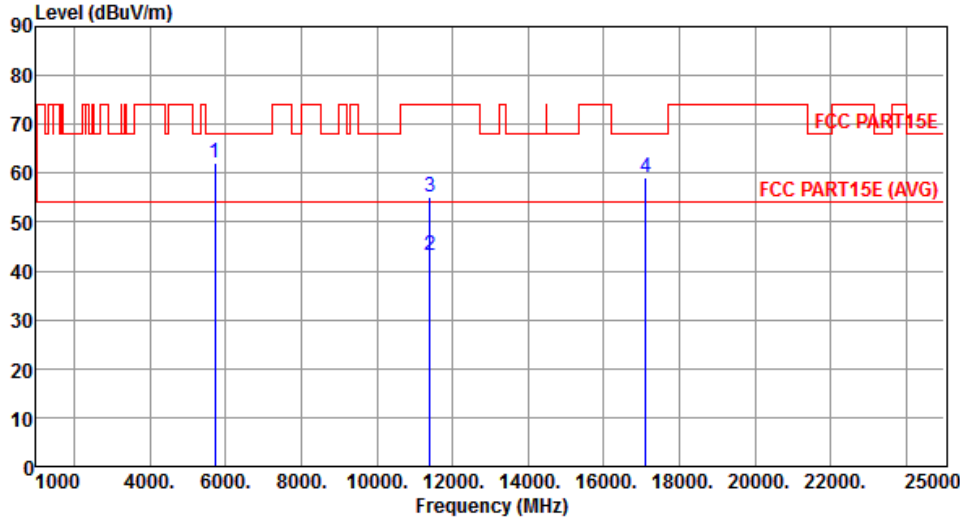
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	62.07	68.20	-6.13	56.75	5.32	Peak	100	12
2	11400.00	43.18	54.00	-10.82	28.39	14.79	Average	100	78
3	11400.00	55.01	74.00	-18.99	40.22	14.79	Peak	100	78
4	17100.00	59.10	68.20	-9.10	41.73	17.37	Peak	100	256

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		
Level (dBuV/m)			

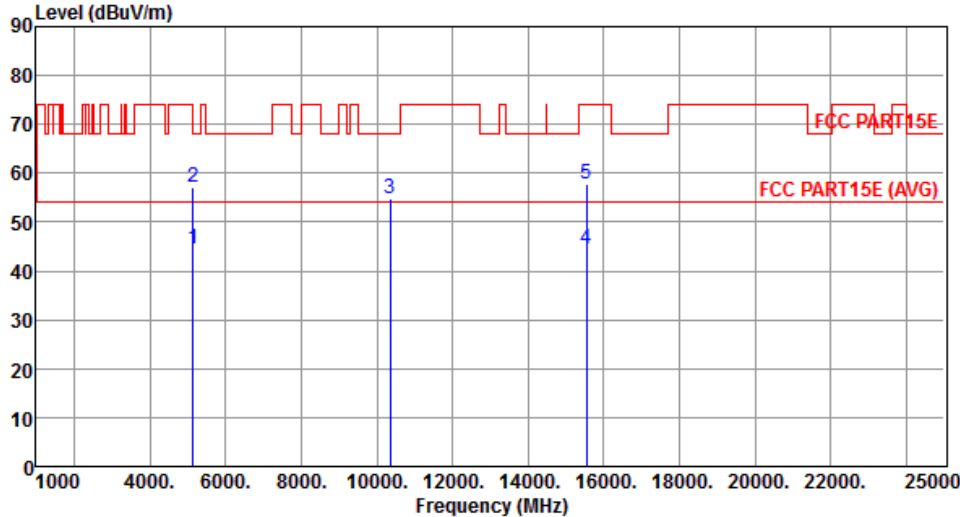
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBuV/m) <			

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

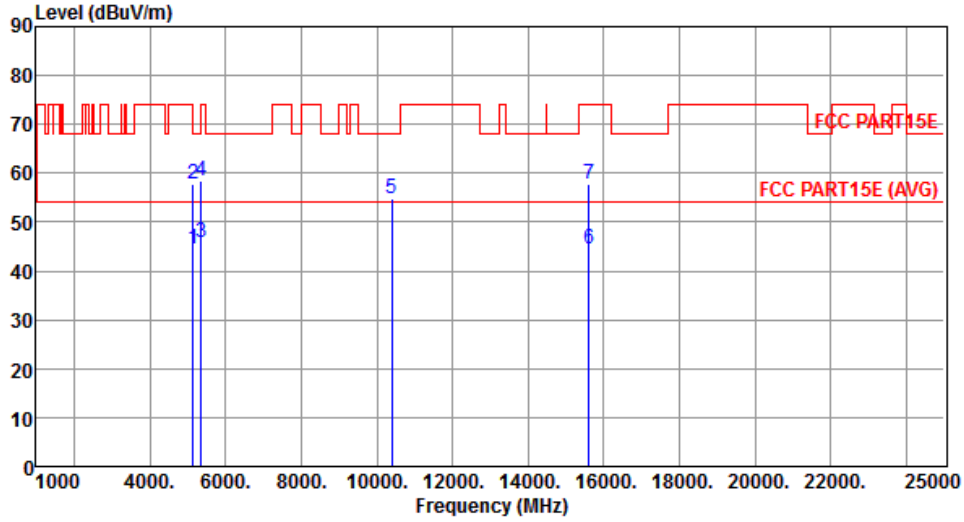


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.36	54.00	-9.64	39.88	4.48	Average	100	13
2	5150.00	57.26	74.00	-16.74	52.78	4.48	Peak	100	13
3	10360.00	54.78	68.20	-13.42	41.00	13.78	Peak	100	55
4	15540.00	44.39	54.00	-9.61	30.00	14.39	Average	100	284
5	15540.00	57.64	74.00	-16.36	43.25	14.39	Peak	100	284

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.41	54.00	-9.59	39.93	4.48	Average	100	15
2	5150.00	57.64	74.00	-16.36	53.16	4.48	Peak	100	15
3	5350.00	45.95	54.00	-8.05	41.21	4.74	Average	100	15
4	5350.00	58.46	74.00	-15.54	53.72	4.74	Peak	100	15
5	10400.00	54.82	68.20	-13.38	40.97	13.85	Peak	100	61
6	15600.00	44.58	54.00	-9.42	30.28	14.30	Average	100	275
7	15600.00	57.71	74.00	-16.29	43.41	14.30	Peak	100	275

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Vertical		
Level (dBUV/m)			

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		
Level (dBuV/m) </			

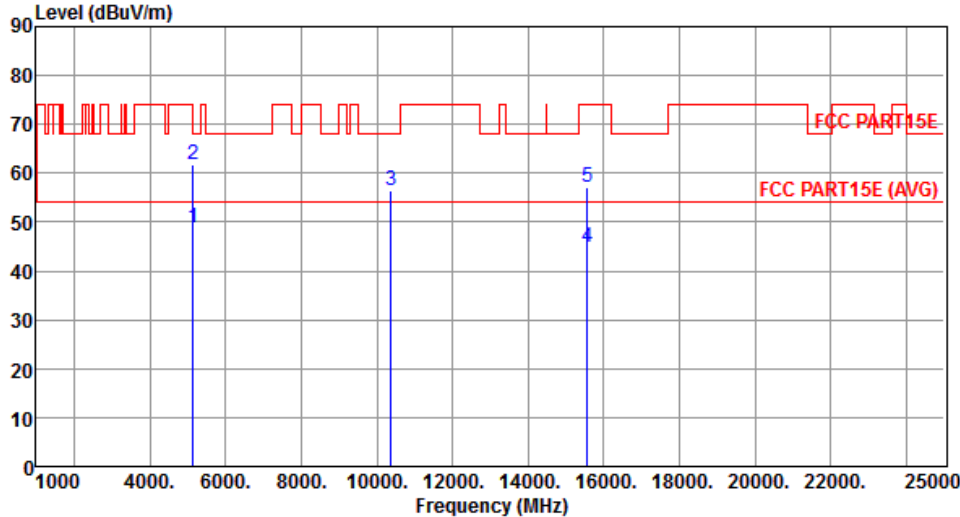
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBuV/m) </			

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.85	54.00	-5.15	44.37	4.48	Average	123	18
2	5150.00	61.85	74.00	-12.15	57.37	4.48	Peak	123	18
3	10380.00	56.46	68.20	-11.74	42.64	13.82	Peak	100	259
4	15570.00	44.70	54.00	-9.30	30.36	14.34	Average	100	147
5	15570.00	57.15	74.00	-16.85	42.81	14.34	Peak	100	147

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Horizontal		
Level (dBuV/m) <			

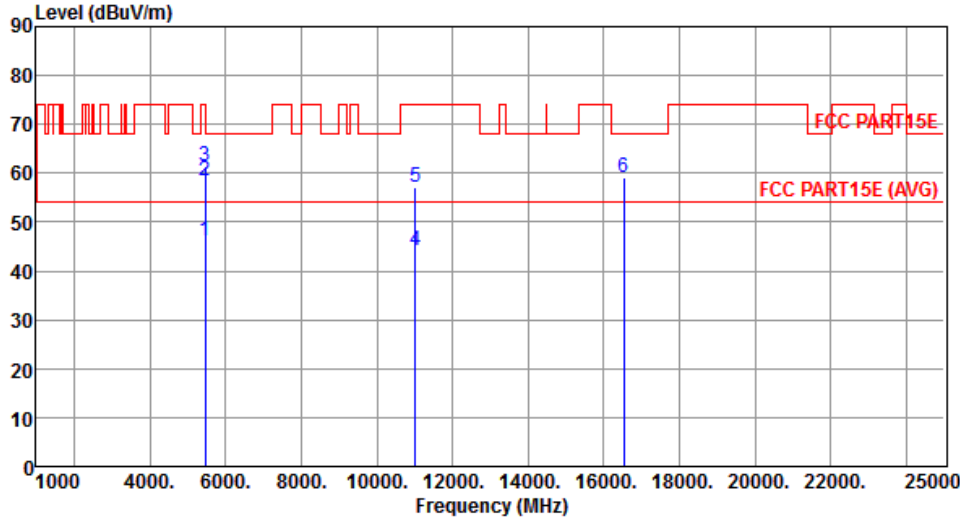
Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.13	54.00	-7.87	41.24	4.89	Average	344	245
2	5460.00	58.33	74.00	-15.67	53.44	4.89	Peak	344	245
3	5470.00	61.33	68.20	-6.87	56.42	4.91	Peak	344	245
4	11020.00	44.17	54.00	-9.83	29.48	14.69	Average	195	211
5	11020.00	57.08	74.00	-16.92	42.39	14.69	Peak	195	211
6	16530.00	59.12	68.20	-9.08	43.19	15.93	Peak	100	92

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		
Level (dBuV/m) </			

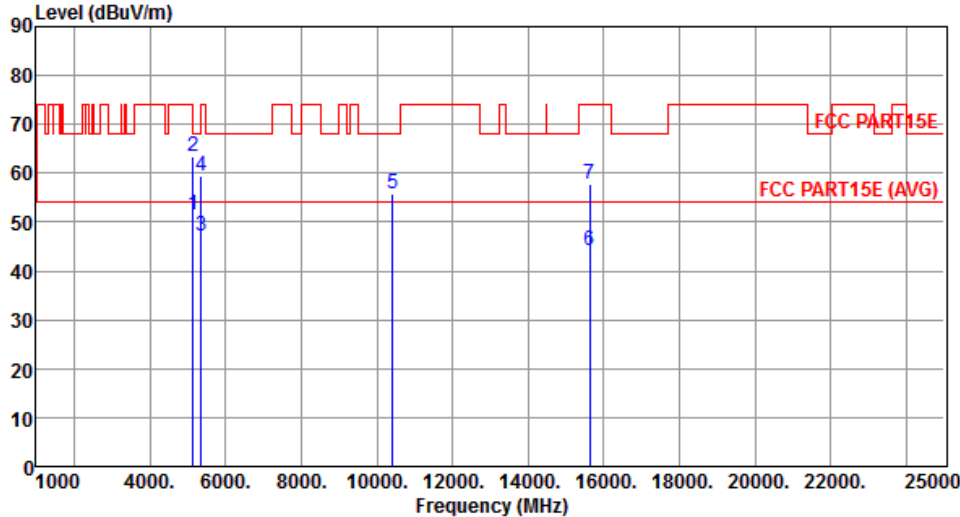
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		
Level (dBuV/m)			

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.38	54.00	-2.62	46.90	4.48	Average	108	19
2	5150.00	63.53	74.00	-10.47	59.05	4.48	Peak	108	19
3	5350.00	47.21	54.00	-6.79	42.47	4.74	Average	127	19
4	5350.00	59.57	74.00	-14.43	54.83	4.74	Peak	127	19
5	10420.00	55.81	68.20	-12.39	41.94	13.87	Peak	100	167
6	15630.00	44.18	54.00	-9.82	29.93	14.25	Average	100	251
7	15630.00	57.72	74.00	-16.28	43.47	14.25	Peak	100	251

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal		
Level (dBUV/m) </			

Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		
Level (dBuV/m)			

3.6 Frequency Stability

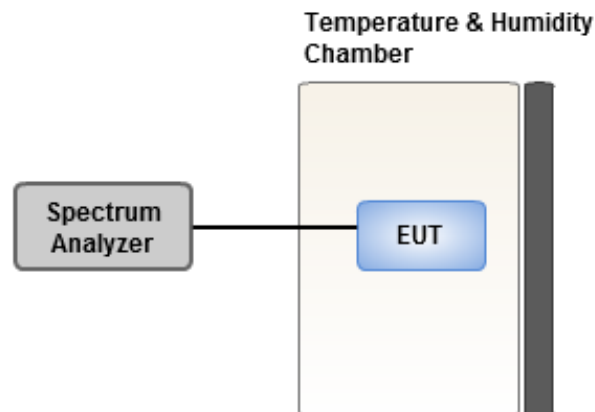
3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5320 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	9.73	9.91	9.20	10.23
T20°CVmin	9.55	10.02	9.90	9.47
T65°CVnom	9.36	10.01	10.15	9.69
T60°CVnom	8.72	8.65	8.71	8.84
T50°CVnom	9.25	9.45	9.73	9.39
T40°CVnom	9.76	9.84	9.91	9.65
T30°CVnom	8.61	8.62	8.50	9.25
T20°CVnom	7.36	7.62	7.30	8.13
T10°CVnom	7.55	8.03	8.00	8.00
T0°CVnom	5.41	5.22	6.15	5.56
T-10°CVnom	4.00	4.51	4.41	4.00
T-20°CVnom	2.76	3.59	2.71	2.55
T-30°CVnom	3.44	3.44	3.97	3.14
Vnom [Vac]: 4		Vmax [Vac]: 4.6		Vmin [Vac]: 3.4
Tnom [°C]: 20		Tmax [°C]: 65		Tmin [°C]: -30

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==