

4.7 AC POWER LINE CONDUCTED EMISSION MEASUREMENT

4.7.1 LIMITS OF AC POWER LINE CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 05, 2013	Sep. 04, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 06, 2013	June 05, 2014
RF Cable (JYEBAO)	5DFB	CONCAB-003	Mar. 07, 2014	Mar. 06, 2015
50 ohms Terminator	50	EMC-03	Sep. 24, 2013	Sep. 23, 2014
Software ADT	BV ADT_Cond_V7.3.7. 3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
- 3 The VCCI Con C Registration No. is C-3611.
- 4 Tested Date: Mar. 27, 2014

4.7.3 TEST PROCEDURES

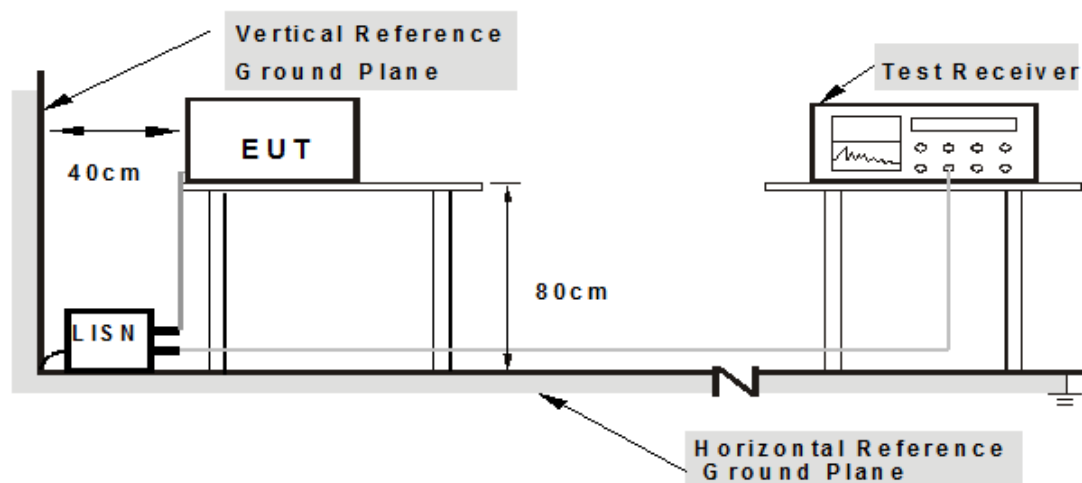
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



Note: 1. Support units were connected to second LISN.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.7.6 EUT OPERATING CONDITIONS

Same as Item 4.1.6

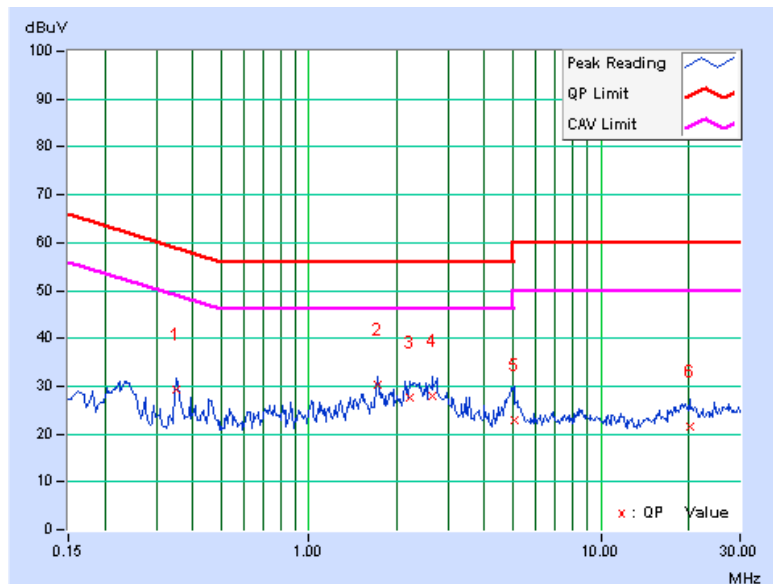
4.7.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.35332	9.98	19.37	12.90	29.35	22.88	58.88	48.88	-29.54	-26.01
2	1.72182	10.02	20.13	17.30	30.15	27.32	56.00	46.00	-25.85	-18.68
3	2.21448	10.04	17.54	8.82	27.58	18.86	56.00	46.00	-28.42	-27.14
4	2.65631	10.06	18.06	9.12	28.12	19.18	56.00	46.00	-27.88	-26.82
5	5.03750	10.14	12.87	4.57	23.01	14.71	60.00	50.00	-36.99	-35.29
6	20.26304	10.57	10.86	4.94	21.43	15.51	60.00	50.00	-38.57	-34.49

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

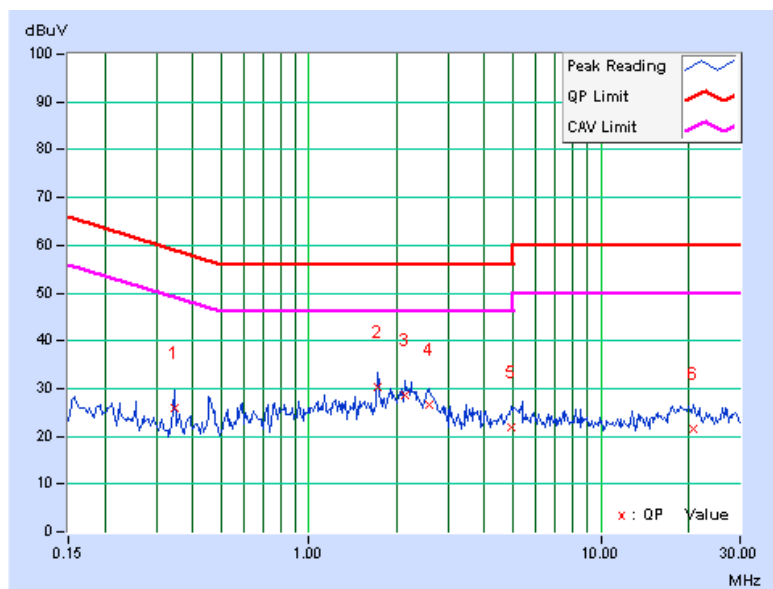


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.34550	9.97	15.82	7.27	25.79	17.24	59.07	49.07	-33.28	-31.83
2	1.72182	10.03	20.42	17.35	30.45	27.38	56.00	46.00	-25.55	-18.62
3	2.14019	10.04	18.62	13.80	28.66	23.84	56.00	46.00	-27.34	-22.16
4	2.57420	10.06	16.47	7.84	26.53	17.90	56.00	46.00	-29.47	-28.10
5	4.91629	10.14	11.83	3.99	21.97	14.13	56.00	46.00	-34.03	-31.87
6	20.63449	10.57	10.99	4.82	21.56	15.39	60.00	50.00	-38.44	-34.61

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



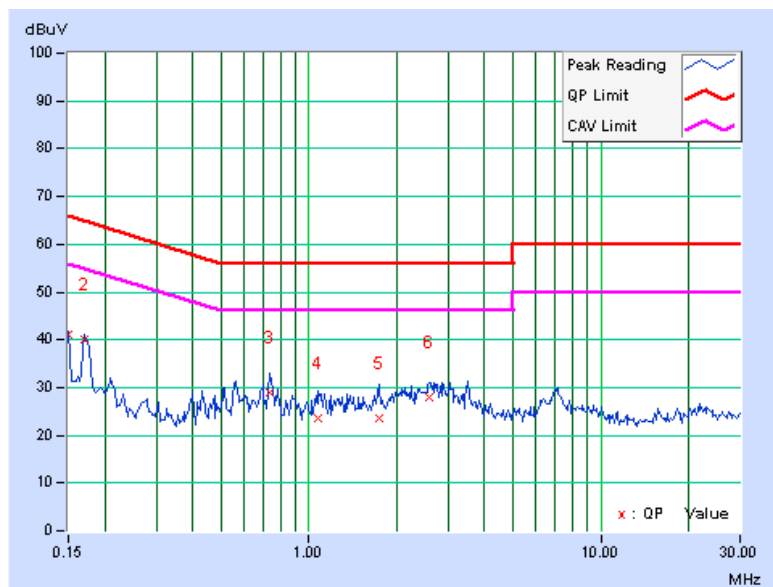
4.7.8 TEST RESULTS (MODE 2)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.95	31.11	28.68	41.06	38.63	66.00	56.00	-24.94	-17.37
2	0.16955	9.96	30.05	23.75	40.01	33.71	64.98	54.98	-24.98	-21.28
3	0.73259	9.99	18.84	8.34	28.83	18.33	56.00	46.00	-27.17	-27.67
4	1.08058	9.99	13.47	2.86	23.46	12.85	56.00	46.00	-32.54	-33.15
5	1.74137	10.02	13.63	5.16	23.65	15.18	56.00	46.00	-32.35	-30.82
6	2.59375	10.05	17.83	9.55	27.88	19.60	56.00	46.00	-28.12	-26.40

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

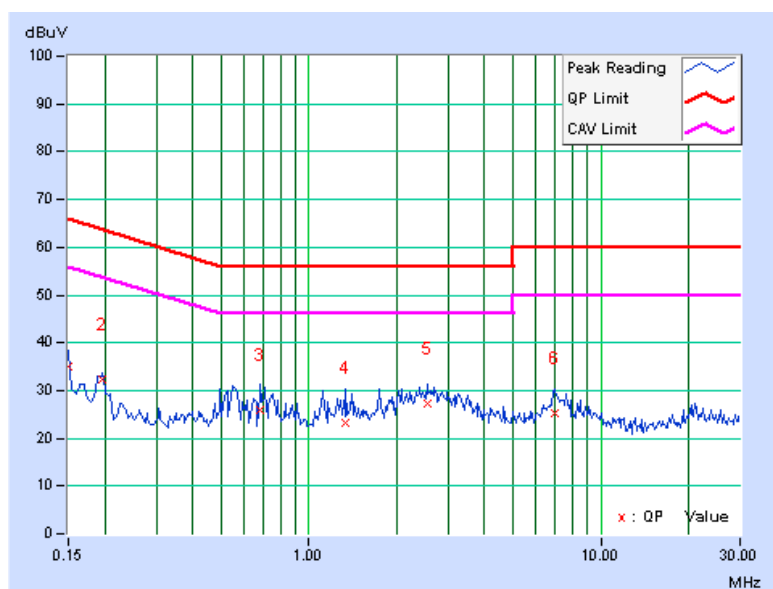


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.96	24.97	14.94	34.93	24.90	66.00	56.00	-31.07	-31.10
2	0.19692	9.96	22.29	14.36	32.25	24.32	63.74	53.74	-31.49	-29.42
3	0.68176	9.98	15.96	3.50	25.94	13.48	56.00	46.00	-30.06	-32.52
4	1.34255	10.01	13.09	2.08	23.10	12.09	56.00	46.00	-32.90	-33.91
5	2.54292	10.06	17.10	8.83	27.16	18.89	56.00	46.00	-28.84	-27.11
6	6.92212	10.20	14.90	6.25	25.10	16.45	60.00	50.00	-34.90	-33.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



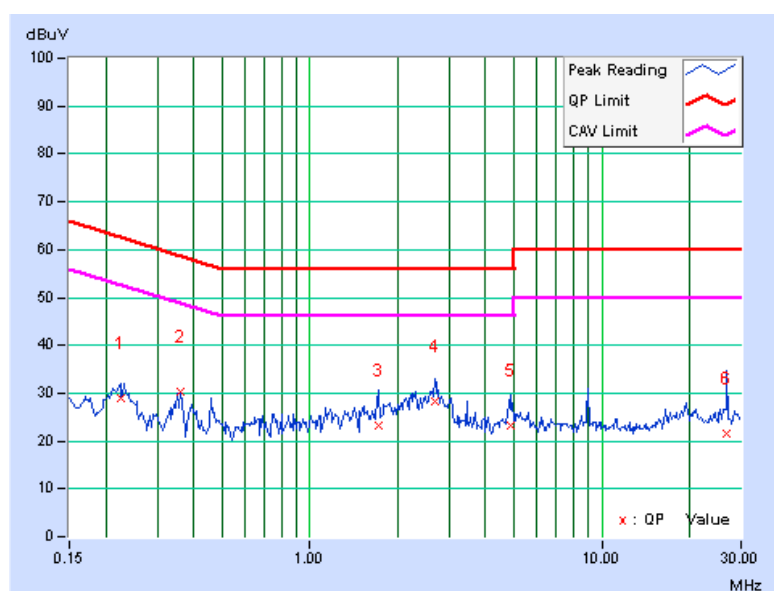
4.7.9 TEST RESULTS (MODE 3)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22419	9.96	19.05	10.85	29.01	20.81	62.66	52.66	-33.65	-31.85
2	0.36083	9.98	20.43	12.11	30.41	22.09	58.71	48.71	-28.30	-26.62
3	1.71791	10.02	13.19	8.80	23.21	18.82	56.00	46.00	-32.79	-27.18
4	2.67586	10.06	18.38	10.70	28.44	20.76	56.00	46.00	-27.56	-25.24
5	4.85764	10.14	13.05	4.23	23.19	14.37	56.00	46.00	-32.81	-31.63
6	26.76928	10.78	10.62	4.69	21.40	15.47	60.00	50.00	-38.60	-34.53

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

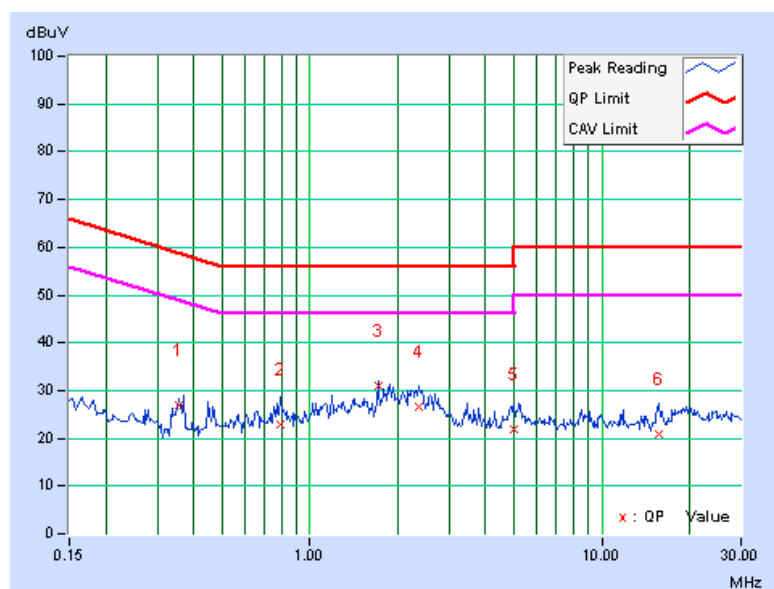


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.35703	9.98	16.97	10.53	26.95	20.51	58.80	48.80	-31.85	-28.29
2	0.79515	9.99	12.86	5.91	22.85	15.90	56.00	46.00	-33.15	-30.10
3	1.72182	10.03	20.80	17.64	30.83	27.67	56.00	46.00	-25.17	-18.33
4	2.37479	10.05	16.55	8.74	26.60	18.79	56.00	46.00	-29.40	-27.21
5	4.97103	10.14	11.92	4.03	22.06	14.17	56.00	46.00	-33.94	-31.83
6	15.69616	10.45	10.38	4.23	20.83	14.68	60.00	50.00	-39.17	-35.32

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



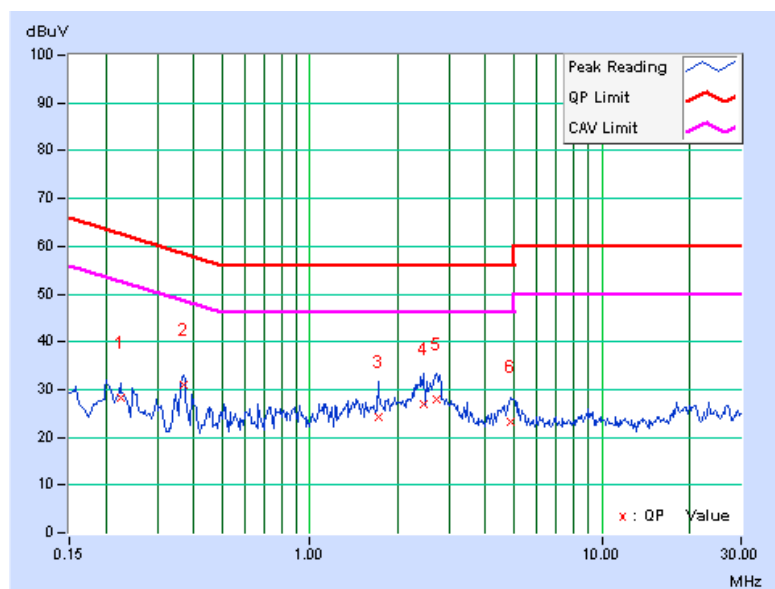
4.7.10 TEST RESULTS (MODE 4)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22419	9.96	18.23	11.27	28.19	21.23	62.66	52.66	-34.47	-31.43
2	0.36854	9.98	21.02	10.51	31.00	20.49	58.53	48.53	-27.54	-28.05
3	1.72182	10.02	14.19	12.37	24.21	22.39	56.00	46.00	-31.79	-23.61
4	2.46863	10.05	16.85	10.00	26.90	20.05	56.00	46.00	-29.10	-25.95
5	2.71105	10.06	17.96	8.85	28.02	18.91	56.00	46.00	-27.98	-27.09
6	4.86155	10.14	12.98	4.31	23.12	14.45	56.00	46.00	-32.88	-31.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

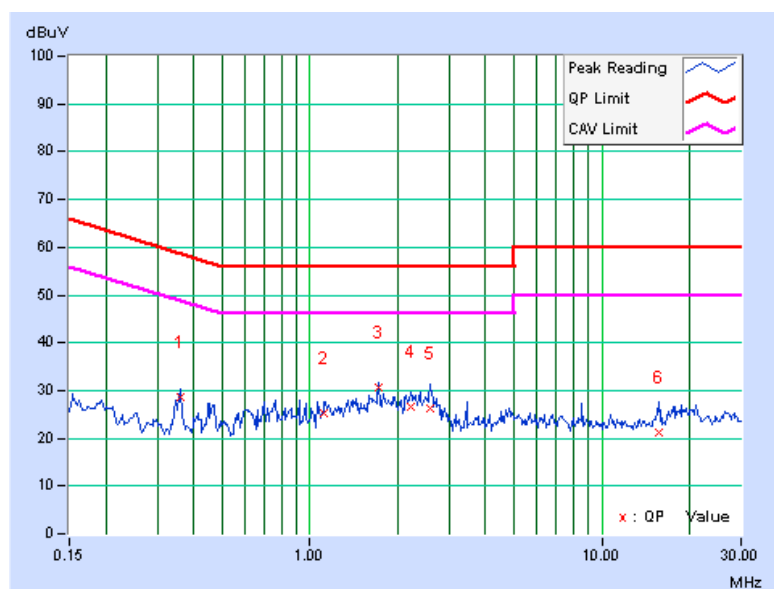


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.36114	9.98	18.49	12.59	28.47	22.57	58.70	48.70	-30.24	-26.14
2	1.12359	10.00	15.42	8.37	25.42	18.37	56.00	46.00	-30.58	-27.63
3	1.72573	10.03	20.48	16.69	30.51	26.72	56.00	46.00	-25.49	-19.28
4	2.20666	10.05	16.57	8.05	26.62	18.10	56.00	46.00	-29.38	-27.90
5	2.58984	10.06	16.27	7.32	26.33	17.38	56.00	46.00	-29.67	-28.62
6	15.59841	10.45	10.81	4.54	21.26	14.99	60.00	50.00	-38.74	-35.01

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



5. TEST TYPES AND RESULTS (FOR 5GHz, 5725~5850MHz Band)

5.1 CONDUCTED OUTPUT POWER MEASUREMENT

5.1.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz band: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = $5 \log(NANT/NSS)$ dB or 3 dB, whichever is less for 20-MHz channel widths with $NANT \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(NANT/NSS)$ dB.

5.1.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter Anritsu	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power Sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date :May 08, 2014

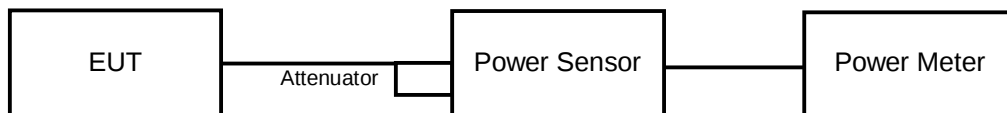
5.1.3 TEST PROCEDURES

The peak / average power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak / average power sensor. Record the peak power level.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



5.1.6 EUT OPERATING CONDITIONS

Same as Item 4.1.6

5.1.7 TEST RESULTS (MODE 1)

FOR PEAK POWER

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	126.183	21.01	30	PASS
157	5785	127.057	21.04	30	PASS
165	5825	110.408	20.43	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	130.017	21.14	30	PASS
157	5785	138.357	21.41	30	PASS
165	5825	110.408	20.43	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	100.231	20.01	30	PASS
159	5795	107.647	20.32	30	PASS



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802.11ac (VHT20)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	132.739	21.23	30	PASS
157	5785	146.218	21.65	30	PASS
165	5825	127.938	21.07	30	PASS

802.11ac (VHT40)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	83.368	19.21	30	PASS
159	5795	105.682	20.24	30	PASS

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	106.414	20.27	30	PASS

FOR AVERAGE POWER

802.11a

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
149	5745	28.973	14.62
157	5785	27.040	14.32
165	5825	26.730	14.27

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
149	5745	27.669	14.42
157	5785	28.379	14.53
165	5825	25.882	14.13

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
151	5755	20.512	13.12
159	5795	20.606	13.14

802.11ac (VHT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
149	5745	28.249	14.51
157	5785	28.642	14.57
165	5825	26.546	14.24

802.11ac (VHT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
151	5755	20.606	13.14
159	5795	21.429	13.31

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
155	5775	18.239	12.61

5.1.8 TEST RESULTS (MODE 2)

FOR PEAK POWER

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	21.01	21.41	264.540	24.22	28.23	PASS
157	5785	21.04	20.71	244.818	23.89	28.23	PASS
165	5825	20.43	20.46	221.581	23.46	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	21.14	21.84	282.774	24.51	28.23	PASS
157	5785	21.41	21.72	286.951	24.58	28.23	PASS
165	5825	20.43	21.01	236.591	23.74	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
151	5755	20.01	20.22	205.427	23.13	28.23	PASS
159	5795	20.32	20.26	213.817	23.30	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	21.23	21.62	277.950	24.44	28.23	PASS
157	5785	21.65	21.83	298.623	24.75	28.23	PASS
165	5825	21.07	21.16	258.555	24.13	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
151	5755	19.21	20.13	186.407	22.70	28.23	PASS
159	5795	20.24	20.14	208.958	23.20	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
155	5775	20.27	20.10	208.743	23.20	28.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , therefore the limit needs to reduce, so the power limit shall be reduced to 30-(7.77-6) = 28.23dBm.

FOR AVERAGE POWER

802.11a :

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	14.62	15.03	60.815	17.84
157	5785	14.32	14.51	55.289	17.43
165	5825	14.27	14.32	53.770	17.31

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	14.42	14.93	58.786	17.69
157	5785	14.53	14.63	57.419	17.59
165	5825	14.13	14.32	52.922	17.24

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
151	5755	13.12	13.24	41.598	16.19
159	5795	13.14	13.41	42.534	16.29

802.11ac (VHT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	14.51	15.01	59.945	17.78
157	5785	14.57	14.67	57.951	17.63
165	5825	14.24	14.36	53.836	17.31

802.11ac (VHT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
151	5755	13.14	13.42	42.585	16.29
159	5795	13.31	13.42	43.408	16.38

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
155	5775	12.61	12.83	37.426	15.73

5.2 POWER SPECTRAL DENSITY MEASUREMENT

5.2.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date :May 08, 2014

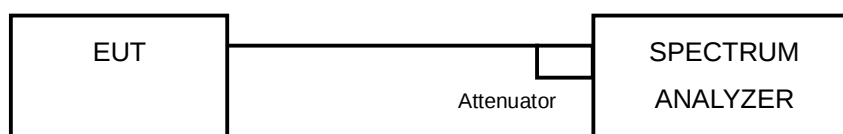
5.2.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum amplitude level.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



5.2.6 EUT OPERATING CONDITION

Same as Item 4.1.6

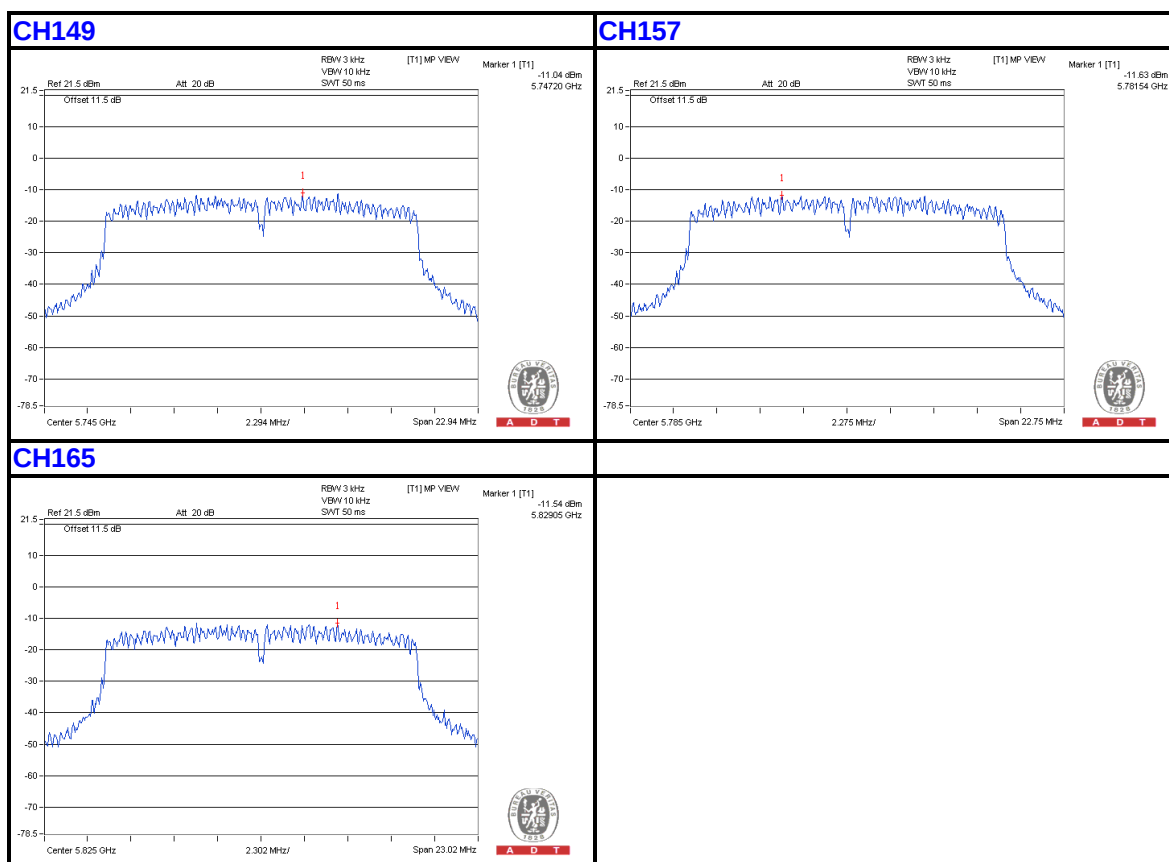


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5.2.7 TEST RESULTS(MODE 1)

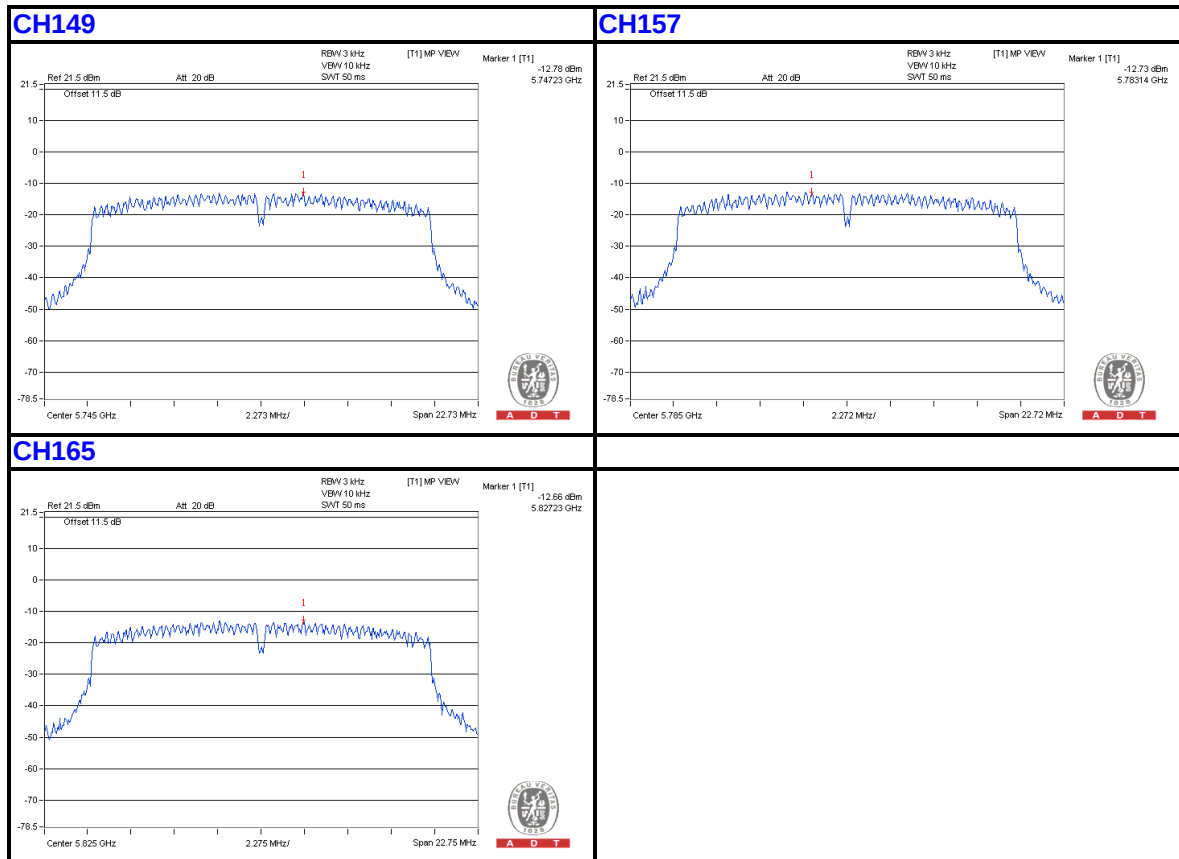
802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-11.04	8	PASS
157	5785	-11.63	8	PASS
165	5825	-11.54	8	PASS



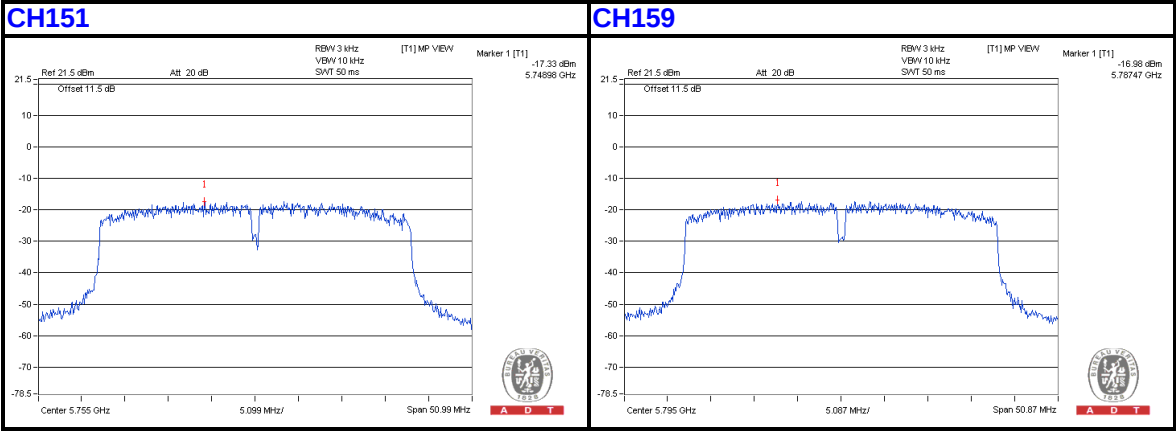
802.11ac (VHT20):

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-12.78	8	PASS
157	5785	-12.73	8	PASS
165	5825	-12.66	8	PASS



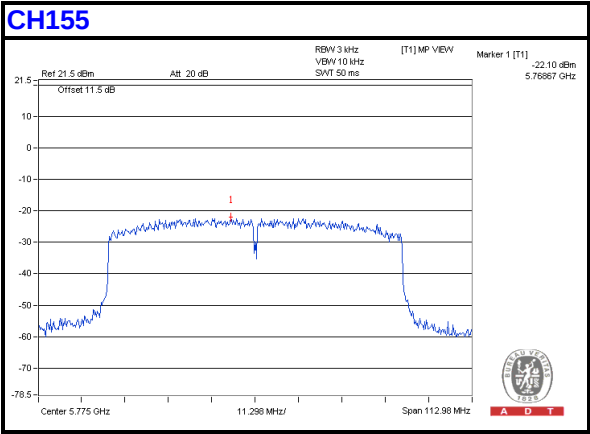
802.11ac (VHT40):

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
149	5745	-17.33	8	PASS
157	5785	-16.98	8	PASS



802.11ac (VHT80):

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
155	5775	-22.10	8	PASS



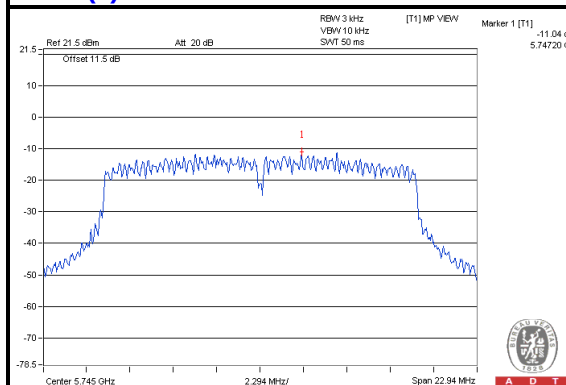
5.2.8 TEST RESULTS(MODE 2)

802.11a

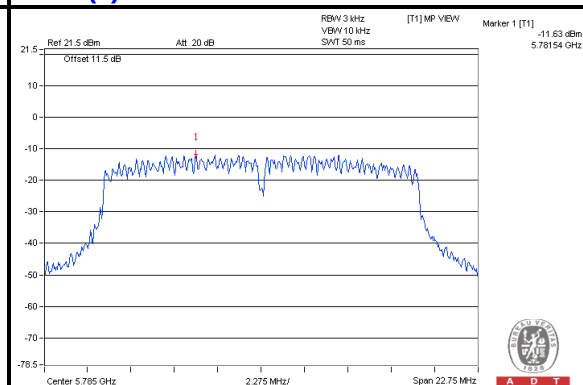
TX chain	Channel	FREQ. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	149	5745	-11.04	3.01	-8.03	6.23	PASS
	157	5785	-11.63	3.01	-8.62	6.23	PASS
	165	5825	-11.54	3.01	-8.53	6.23	PASS
1	149	5745	-11.06	3.01	-8.05	6.23	PASS
	157	5785	-11.34	3.01	-8.33	6.23	PASS
	165	5825	-11.67	3.01	-8.66	6.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , so the power density limit shall be reduced to 8-(7.77-6) = 6.23dBm.

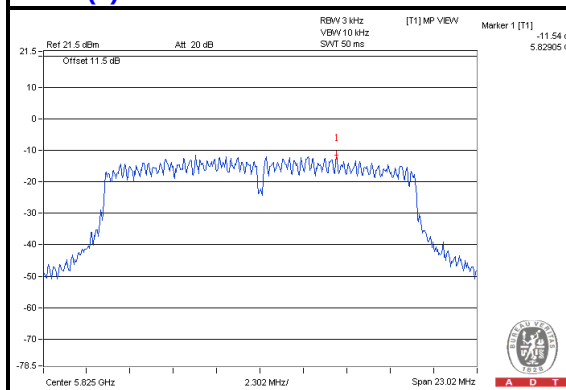
Chain(0) : CH149



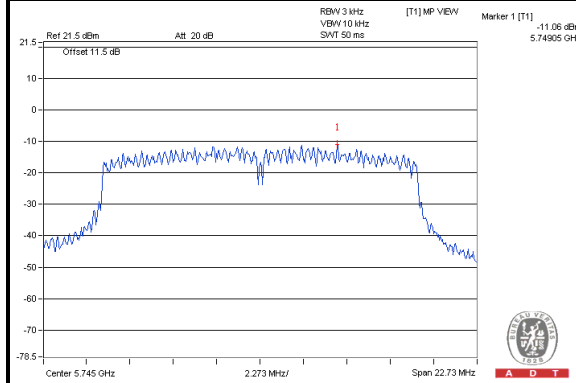
Chain(0) : CH157



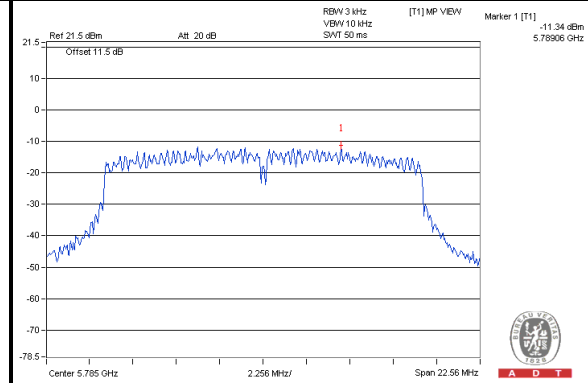
Chain(0) : CH165



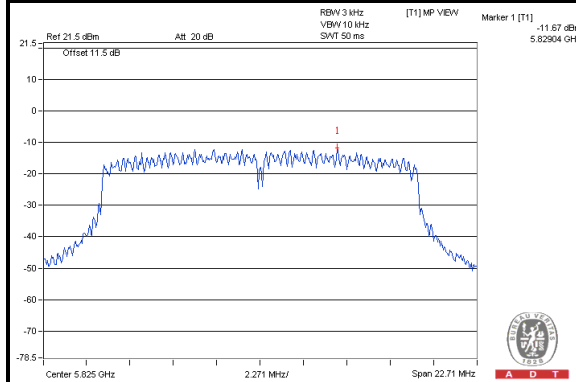
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165

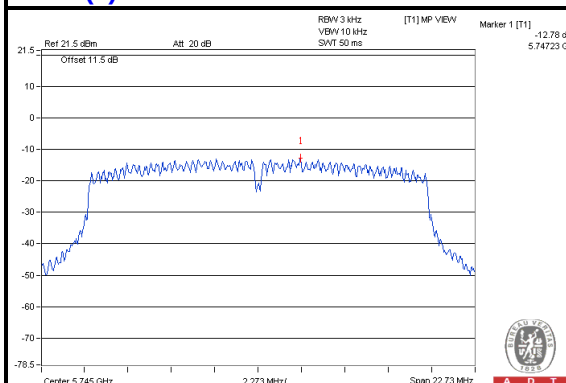


802.11ac (VHT20):

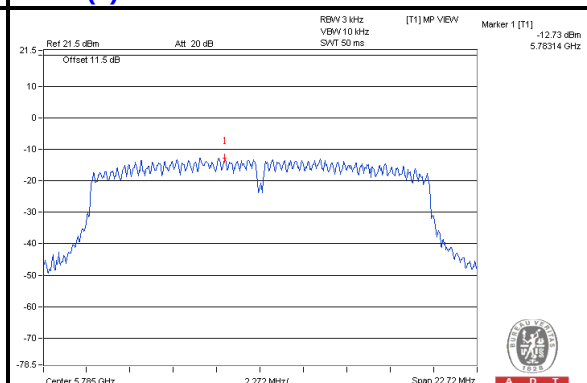
TX chain	Channel	FREQ. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	149	5745	-12.78	3.01	-9.77	6.23	PASS
	157	5785	-12.73	3.01	-9.72	6.23	PASS
	165	5825	-12.66	3.01	-9.65	6.23	PASS
1	149	5745	-13.29	3.01	-10.28	6.23	PASS
	157	5785	-13.09	3.01	-10.08	6.23	PASS
	165	5825	-13.27	3.01	-10.26	6.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , so the power density limit shall be reduced to 8-(7.77-6) = 6.23dBm.

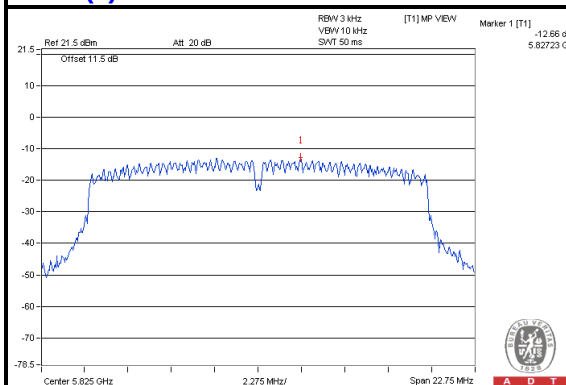
Chain(0) : CH149



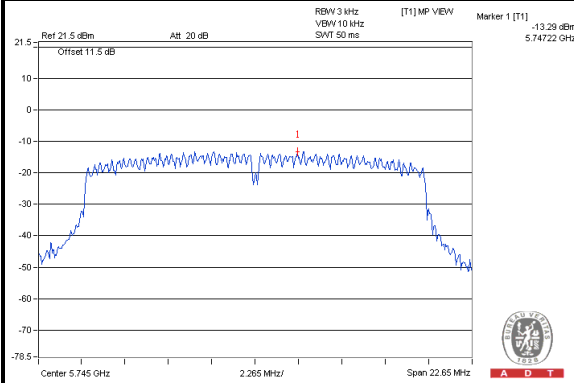
Chain(0) : CH157



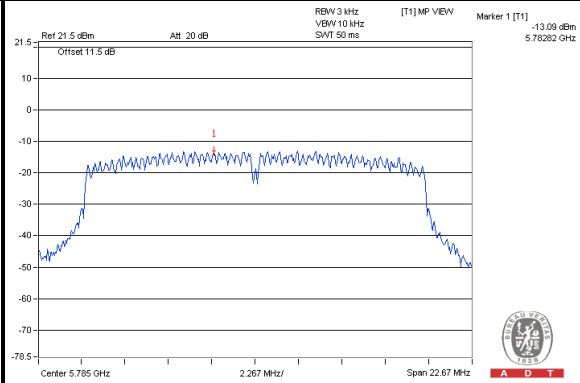
Chain(0) : CH165



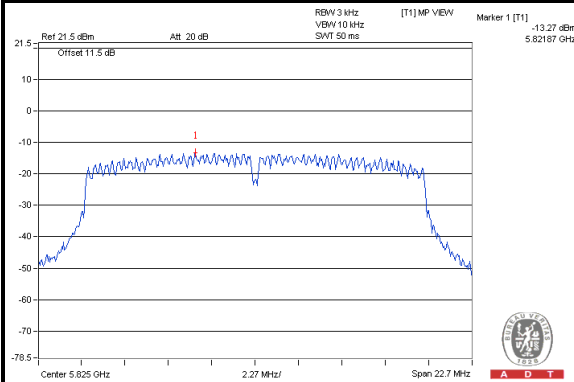
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165





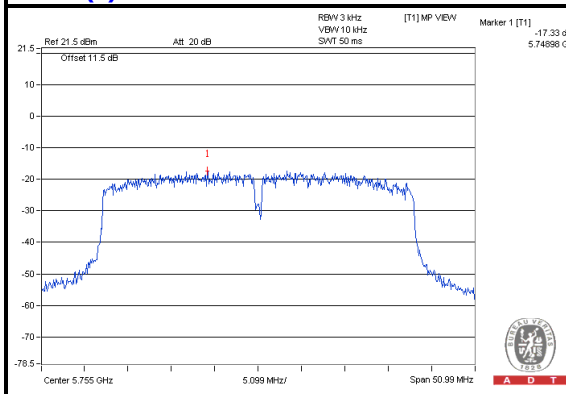
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802.11ac (VHT40):

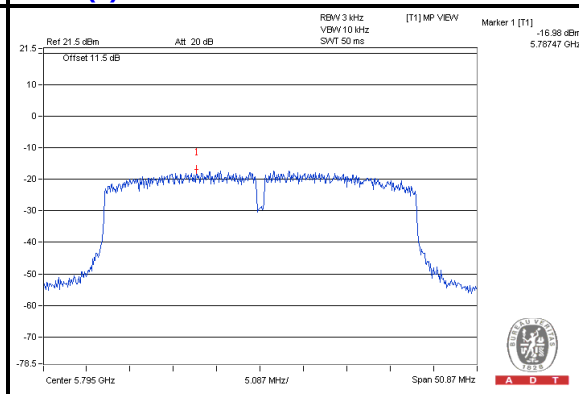
TX chain	Channel	FREQ. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	149	5745	-17.33	3.01	-14.32	6.23	PASS
	157	5785	-16.98	3.01	-13.97	6.23	PASS
1	149	5745	-17.38	3.01	-14.37	6.23	PASS
	157	5785	-16.70	3.01	-13.69	6.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , so the power density limit shall be reduced to 8-(7.77-6) = 6.23dBm.

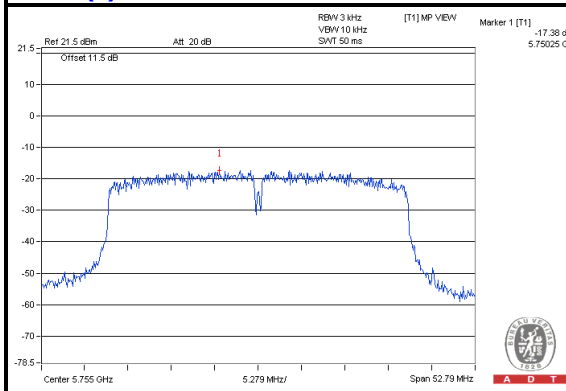
Chain(0) : CH151



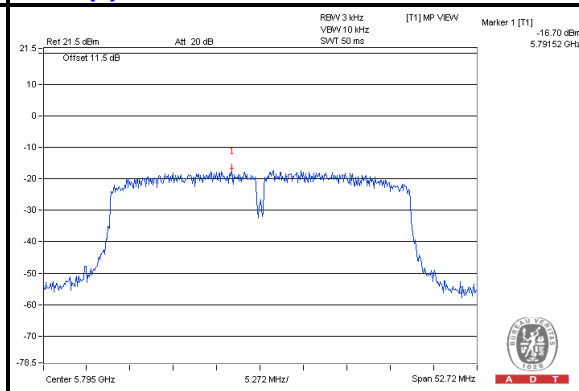
Chain(0) : CH159



Chain(1) : CH151



Chain(1) : CH159

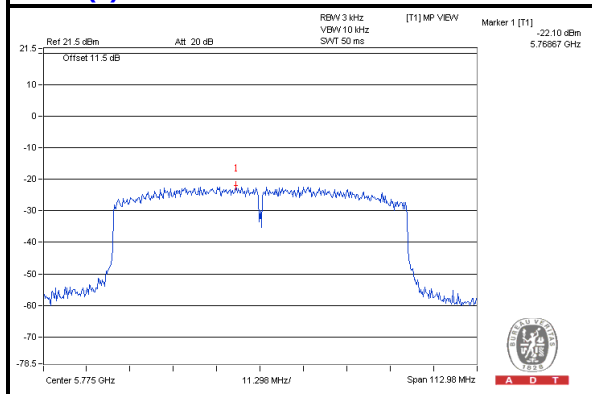


802.11ac (VHT80):

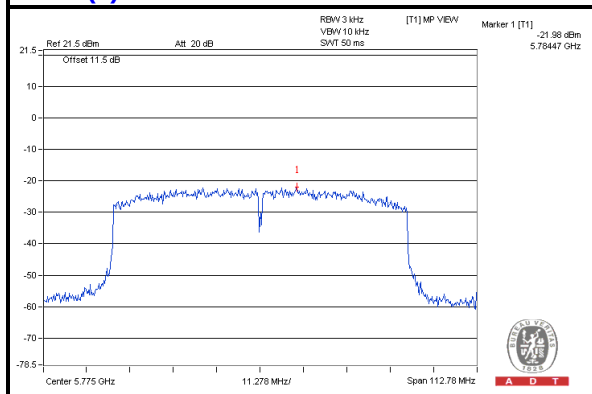
TX chain	Channel	FREQ. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	155	5775	-22.10	3.01	-19.09	6.23	PASS
1	155	5775	-21.98	3.01	-18.97	6.23	PASS

NOTE: Directional gain = 4.76dBi + 10log(2) = 7.77dBi > 6dBi , so the power density limit shall be reduced to 8-(7.77-6) = 6.23dBm.

Chain(0) : CH155



Chain(1) : CH155



5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date :May 08, 2014

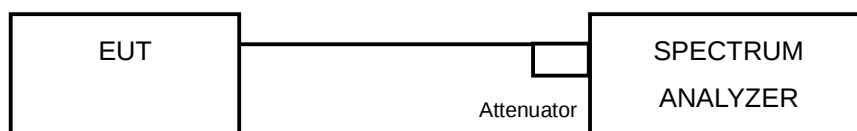
5.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

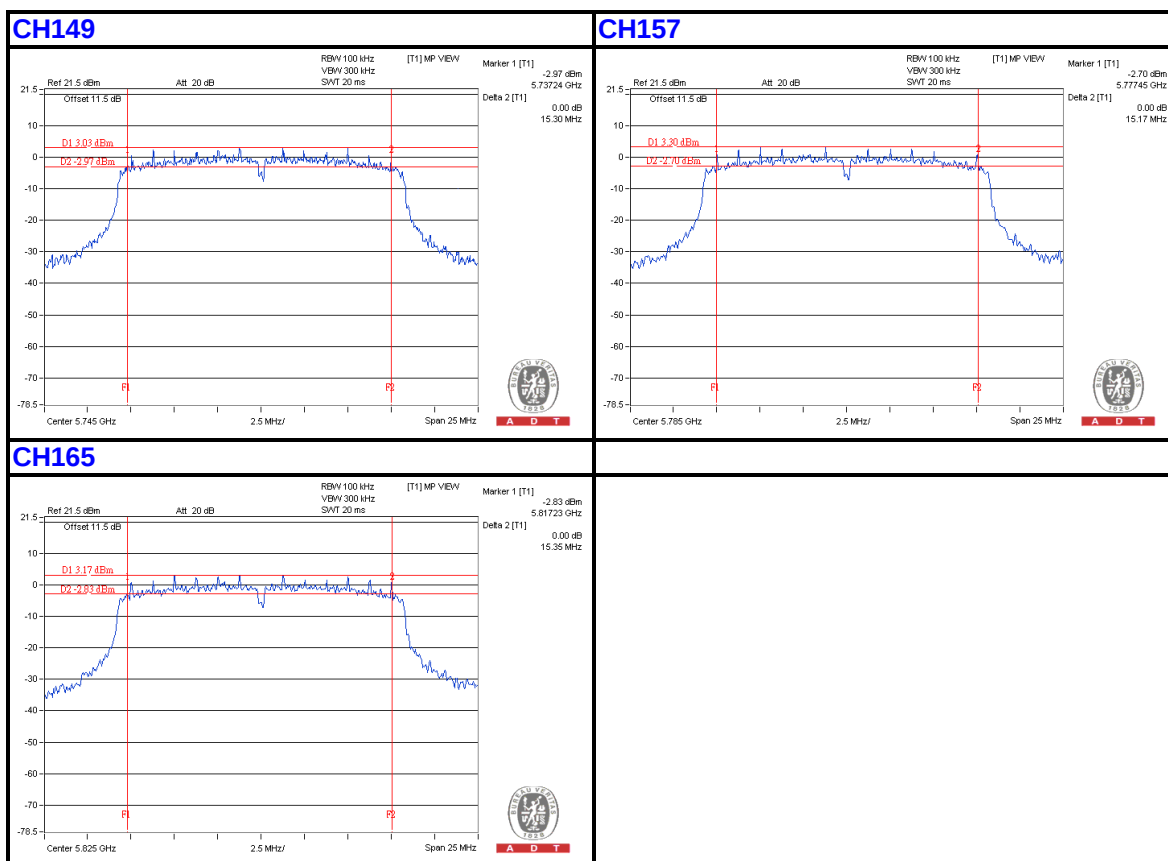


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5.3.7 TEST RESULTS (MODE 1)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.30	0.5	PASS
157	5785	15.17	0.5	PASS
165	5825	15.35	0.5	PASS

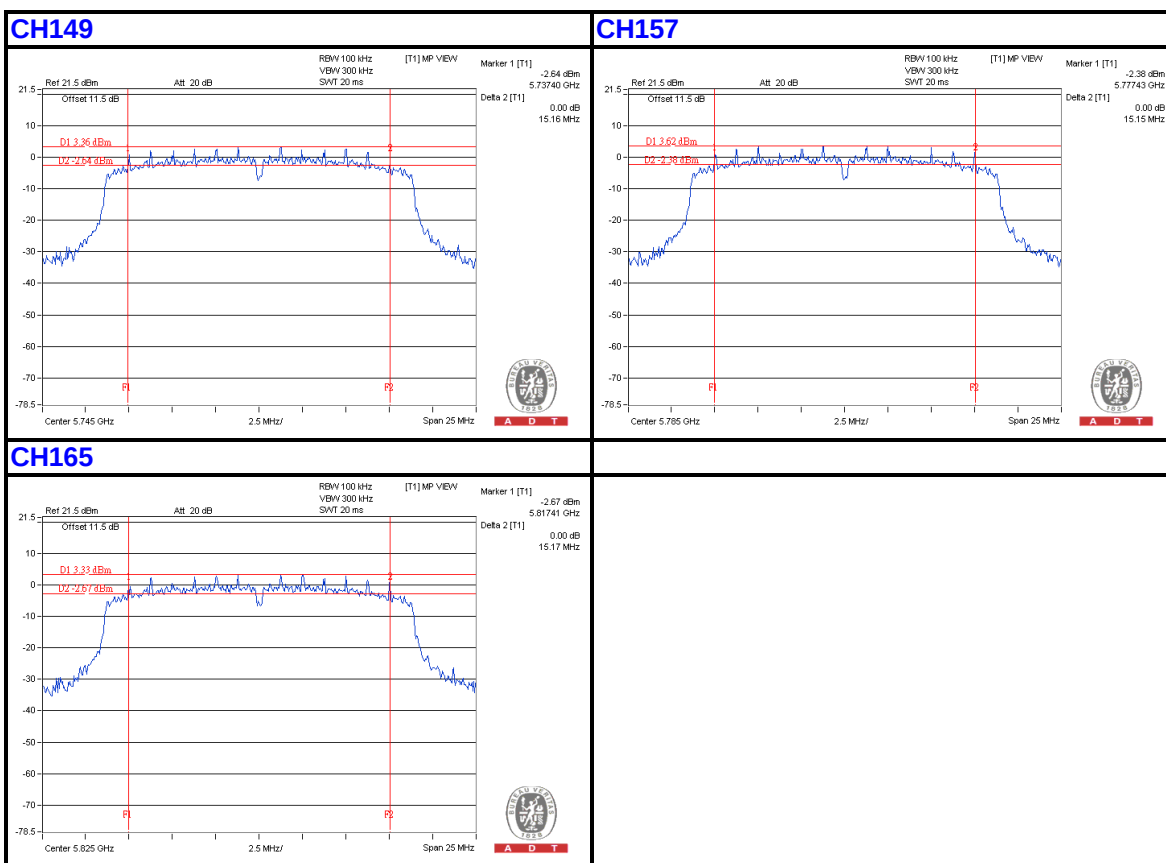




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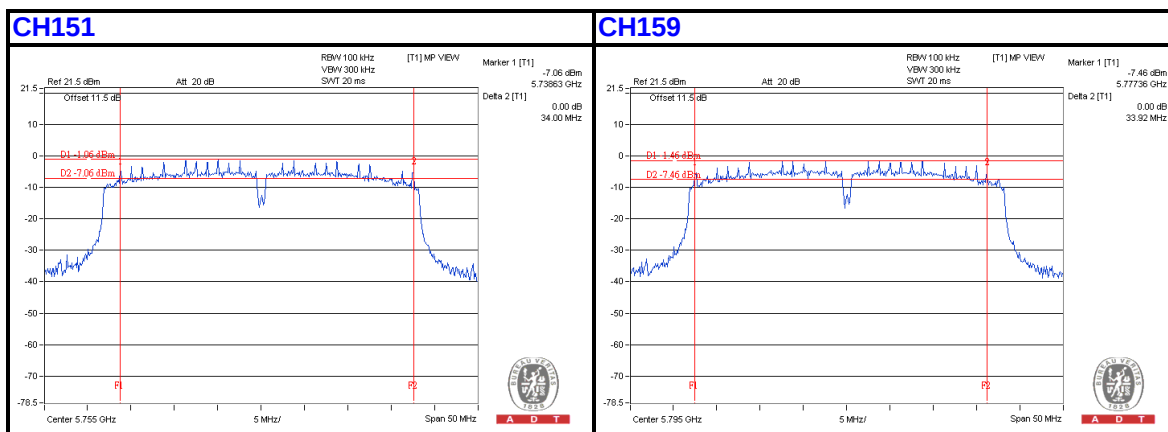
802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.16	0.5	PASS
157	5785	15.15	0.5	PASS
165	5825	15.17	0.5	PASS



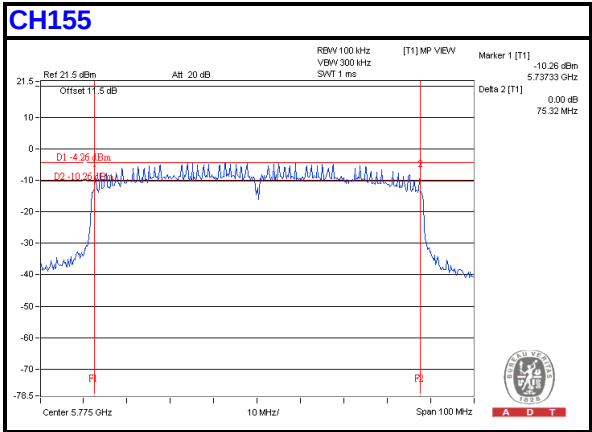
802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	34.00	0.5	PASS
159	5795	33.92	0.5	PASS



802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	75.32	0.5	PASS

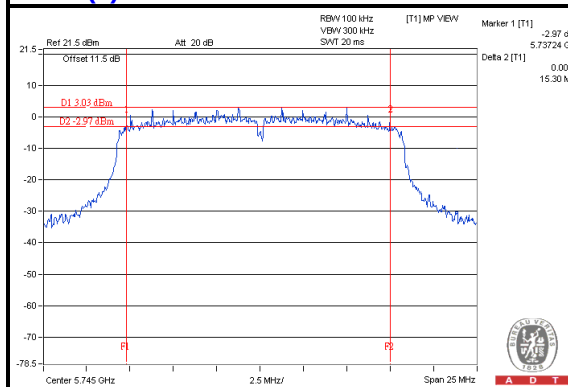


5.3.8 TEST RESULTS (MODE 2)

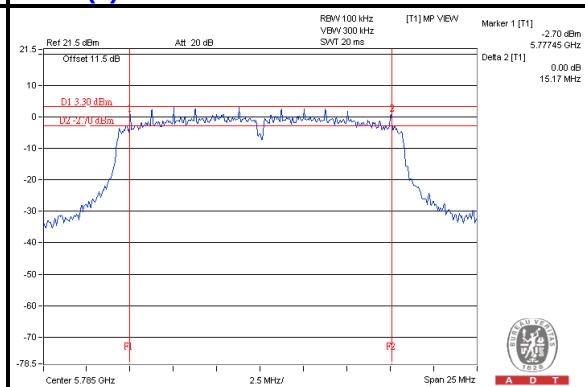
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
149	5745	15.30	15.16	0.5	PASS
157	5785	15.17	15.05	0.5	PASS
165	5825	15.35	15.15	0.5	PASS

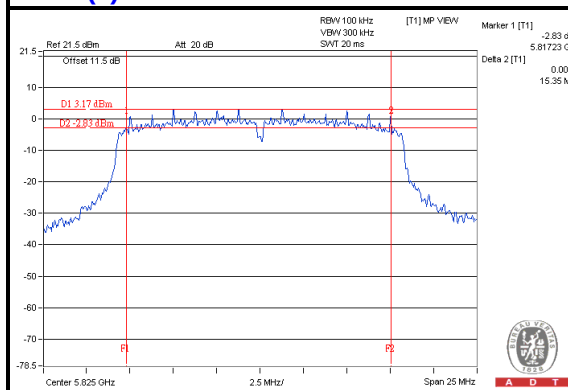
Chain(0) : CH149



Chain(0) : CH157



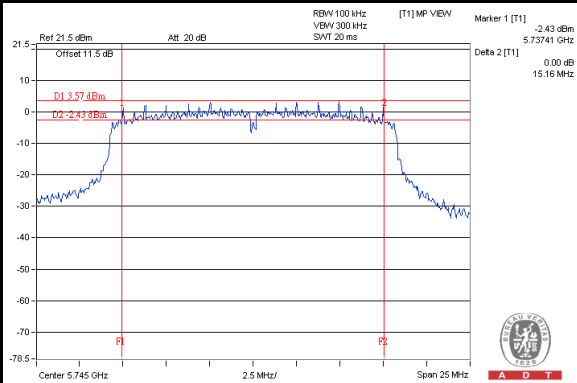
Chain(0) : CH165



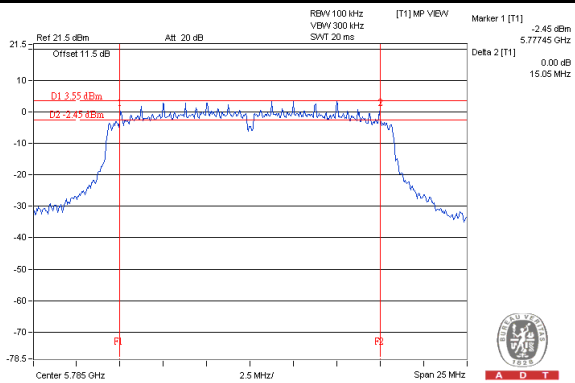


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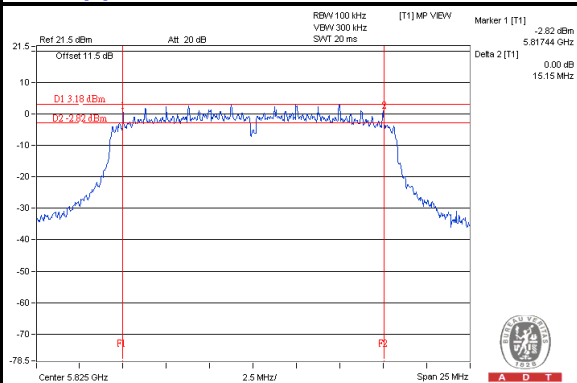
Chain(1) : CH149



Chain(1) : CH157



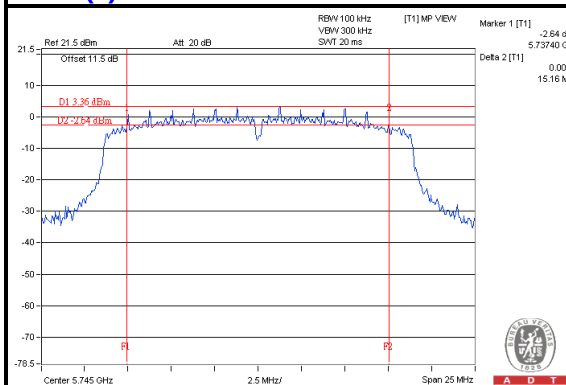
Chain(1) : CH165



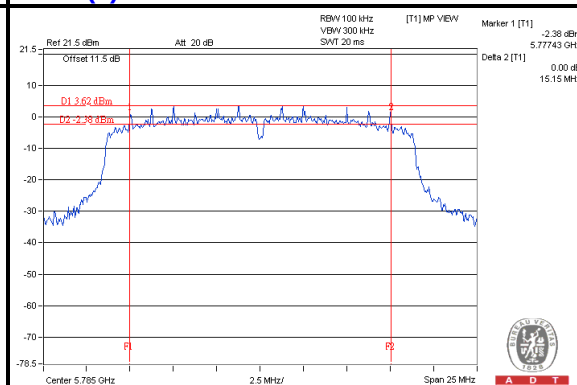
802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
149	5745	15.16	15.11	0.5	PASS
157	5785	15.15	15.11	0.5	PASS
165	5825	15.17	15.14	0.5	PASS

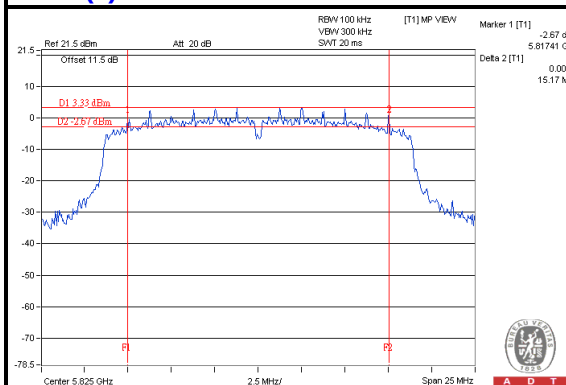
Chain(0) : CH149



Chain(0) : CH157



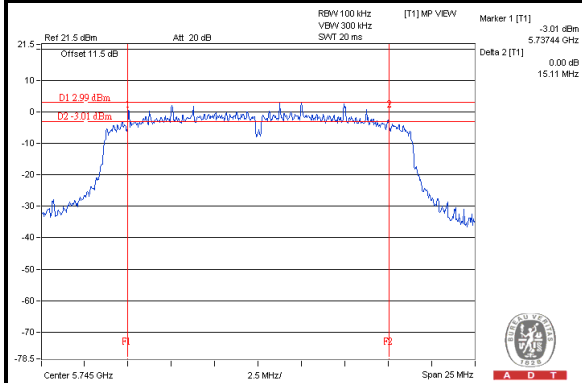
Chain(0) : CH165



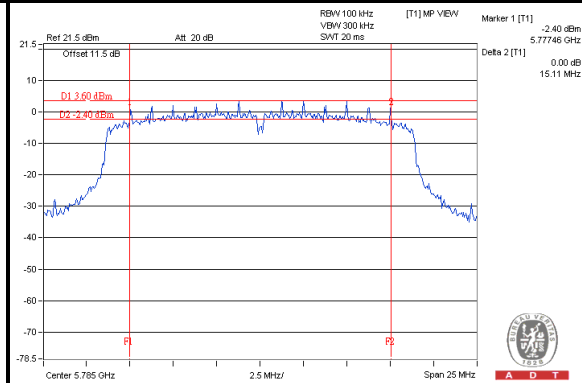


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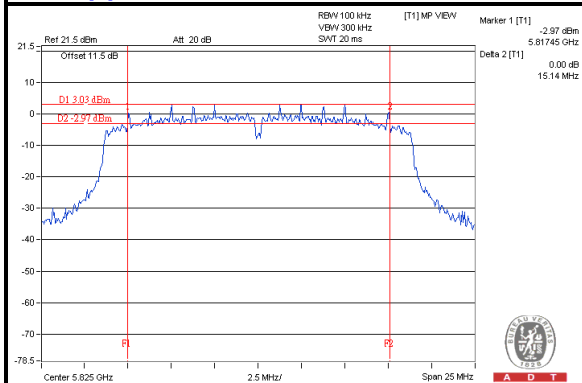
Chain(1) : CH149



Chain(1) : CH157



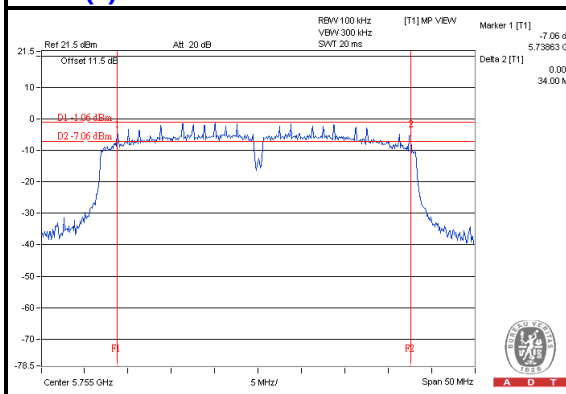
Chain(1) : CH165



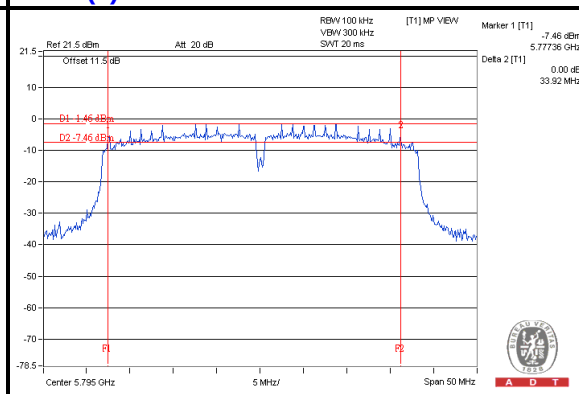
802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
151	5755	34.00	35.20	0.5	PASS
159	5795	33.92	35.15	0.5	PASS

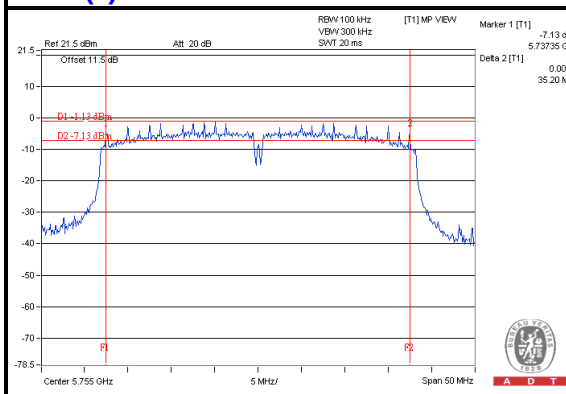
Chain(0) : CH151



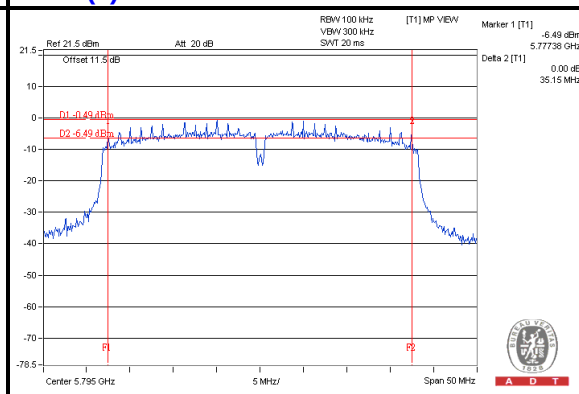
Chain(0) : CH159



Chain(1) : CH151



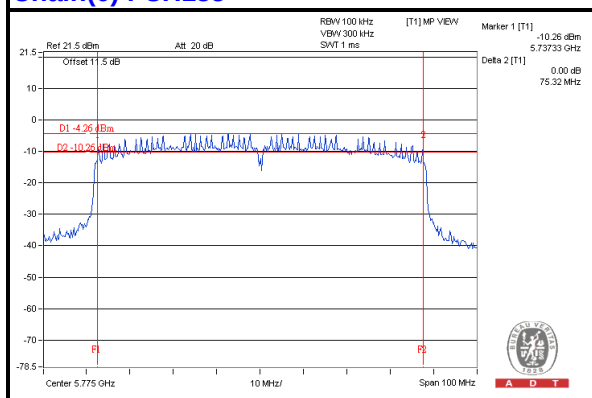
Chain(1) : CH159



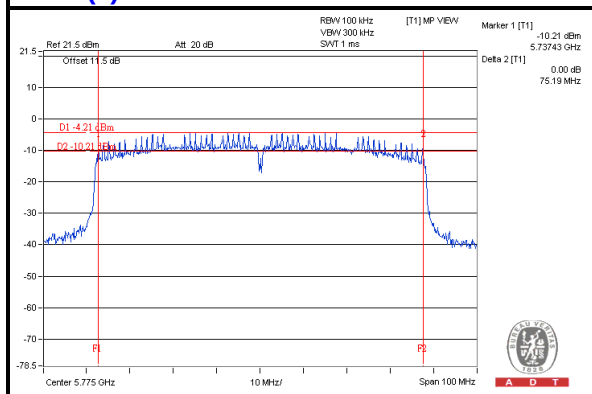
802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
155	5775	75.32	75.19	0.5	PASS

Chain(0) : CH155



Chain(1) : CH155



5.4 OCCUPIED BANDWIDTH MEASUREMENT

5.4.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date :May 08, 2014

5.4.2 TEST PROCEDURE

1. Set RBW $\geq 1\%$ of the emission bandwidth.
2. Set the VBW $> 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Record the 99% emission bandwidth.

5.4.3 TEST SETUP



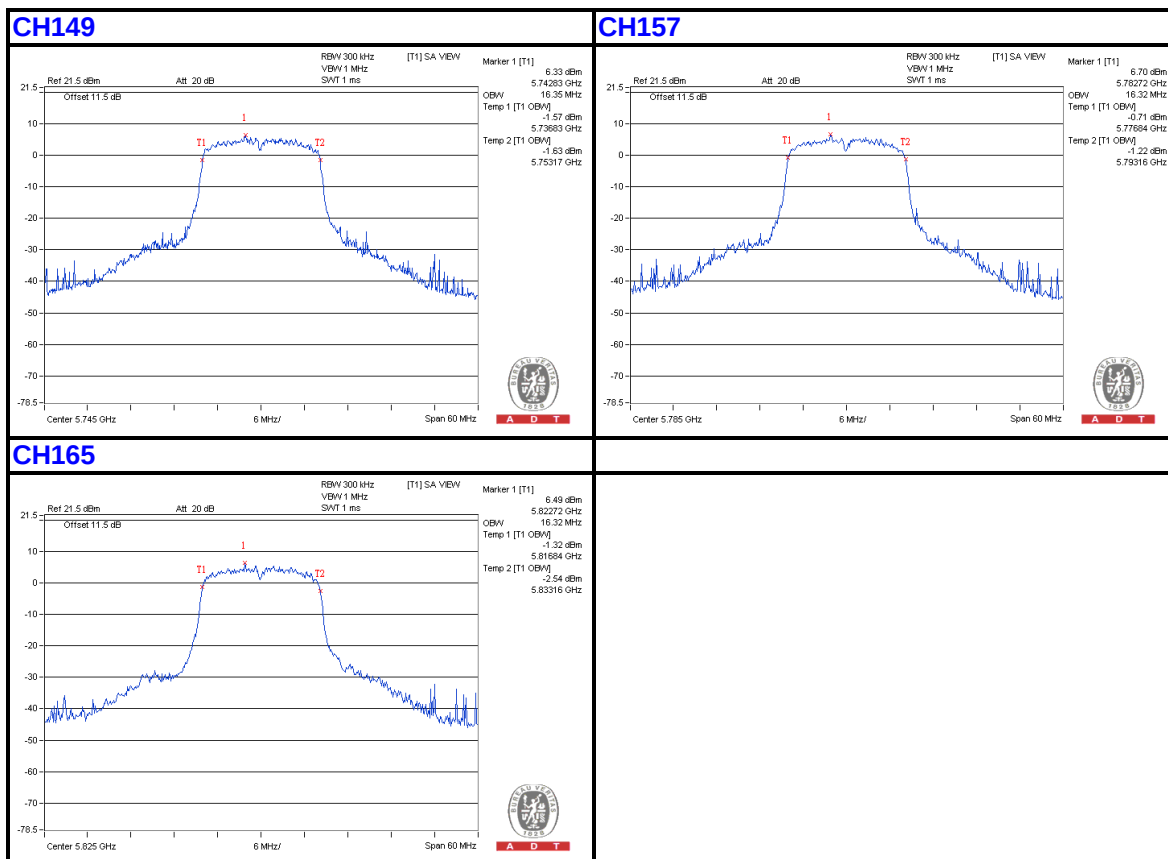
5.4.4 EUT OPERATING CONDITIONS

Same as the 4.1.6

5.4.5 TEST RESULTS(MODE 1)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)
149	5745	16.35
157	5785	16.32
165	5825	16.32

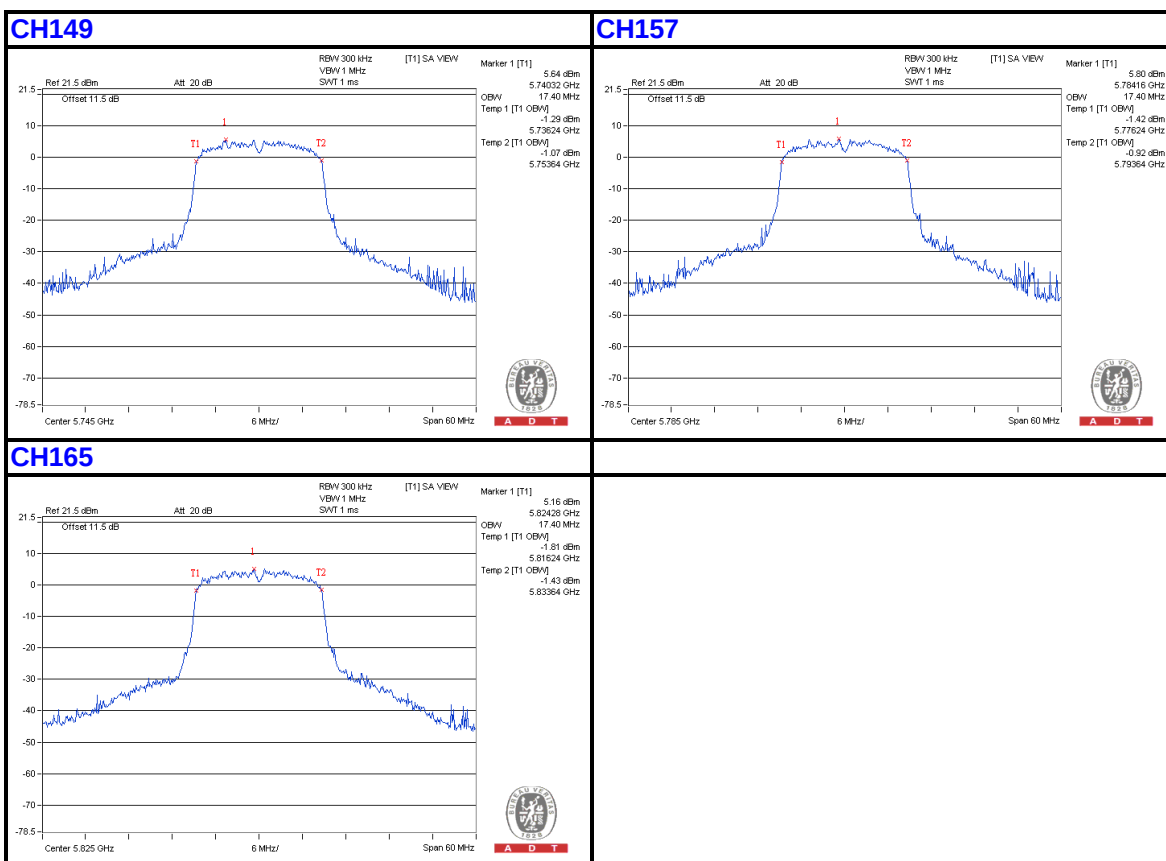




A D T

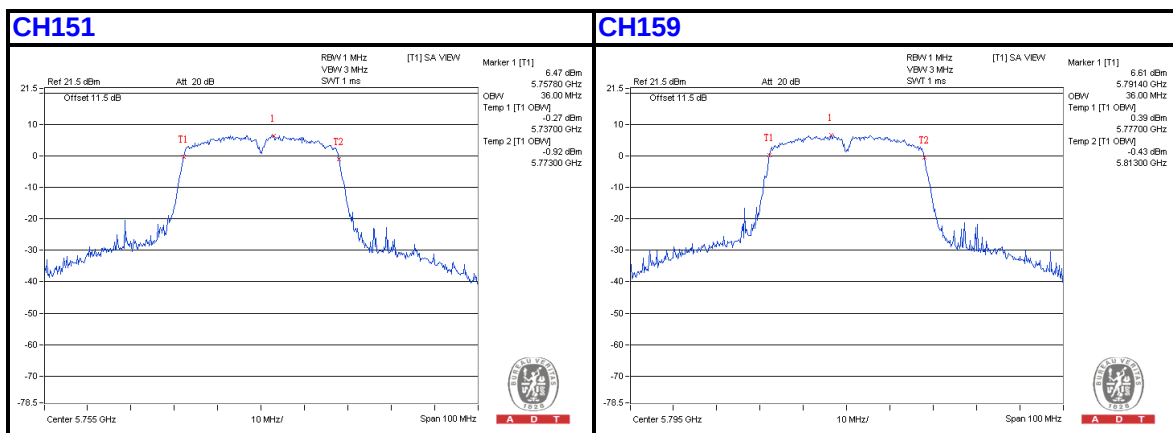
802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)
149	5745	17.40
157	5785	17.40
165	5825	17.40



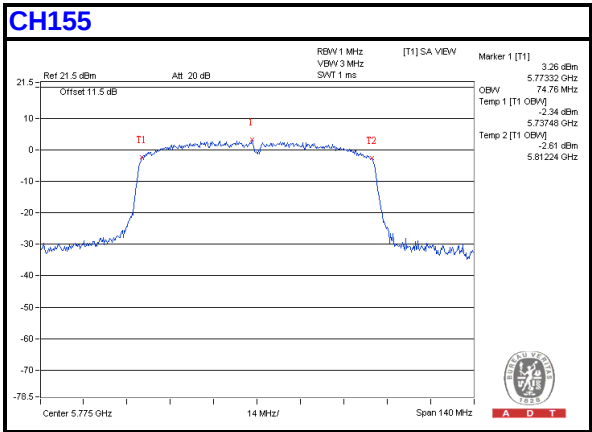
802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)
151	5755	36.00
159	5795	36.00



802.11ac (VHT80)

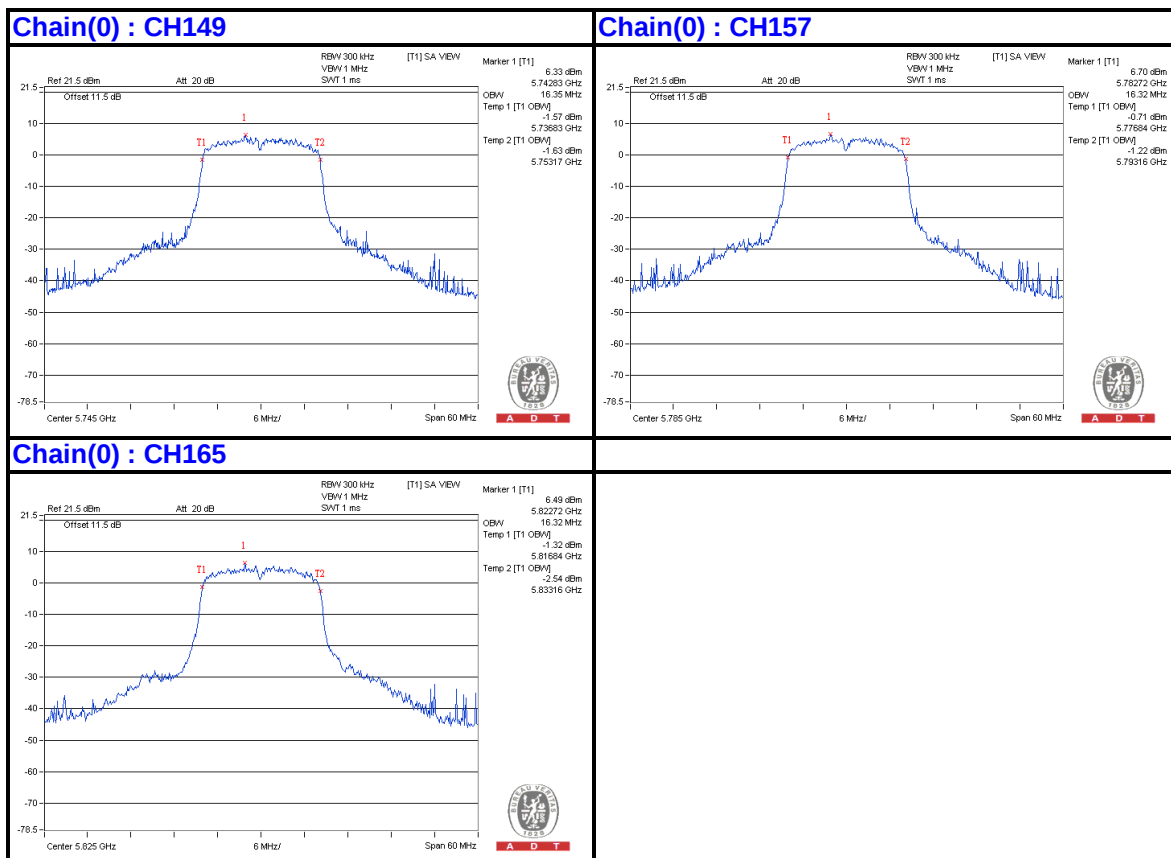
CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)
155	5775	74.76



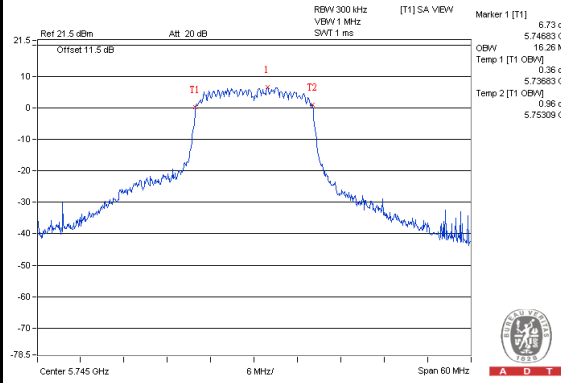
5.4.6 TEST RESULTS(MODE 2)

802.11a

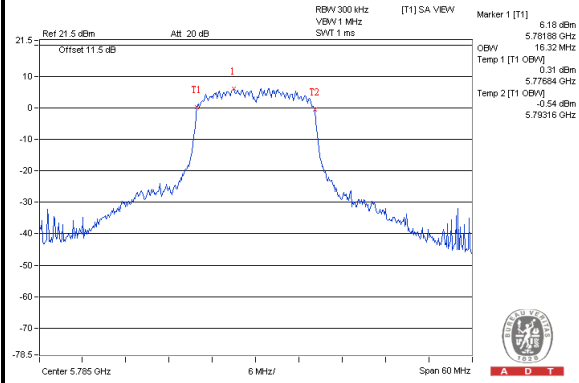
CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
149	5745	16.35	16.26
157	5785	16.32	16.32
165	5825	16.32	16.35



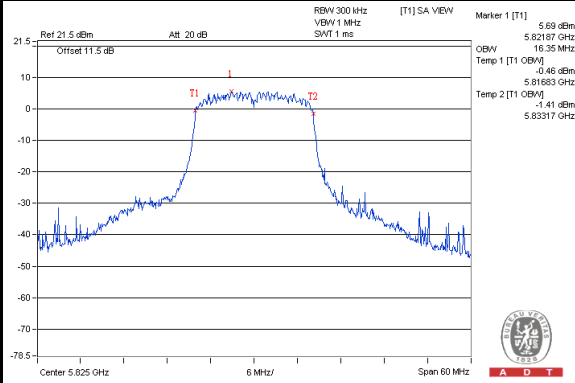
Chain(1) : CH149



Chain(1) : CH157



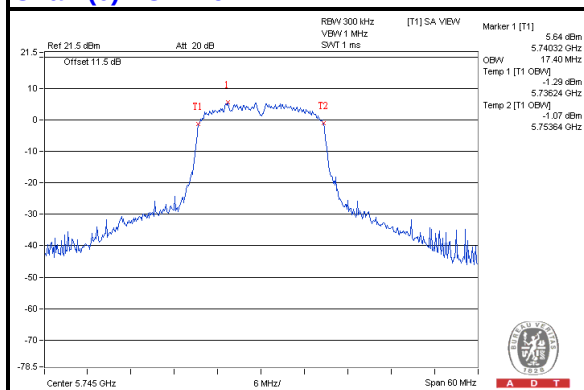
Chain(1) : CH165



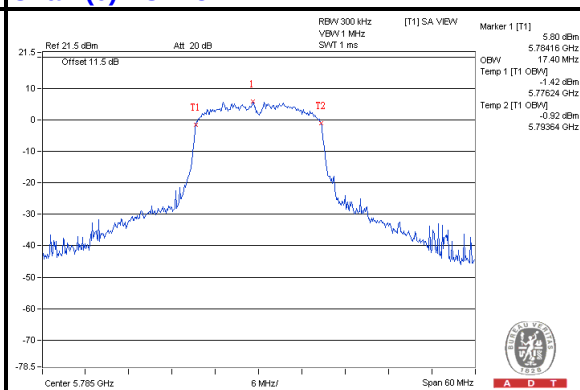
802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
149	5745	17.40	17.48
157	5785	17.40	17.40
165	5825	17.40	17.40

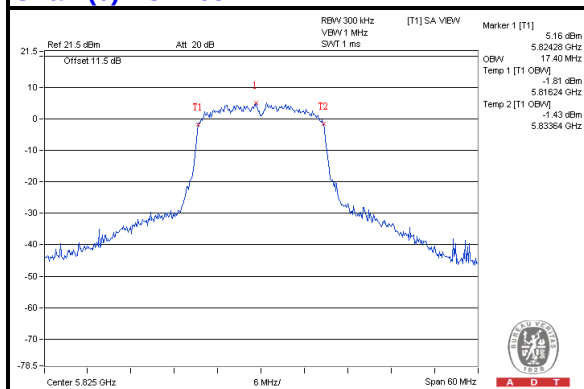
Chain(0) : CH149



Chain(0) : CH157



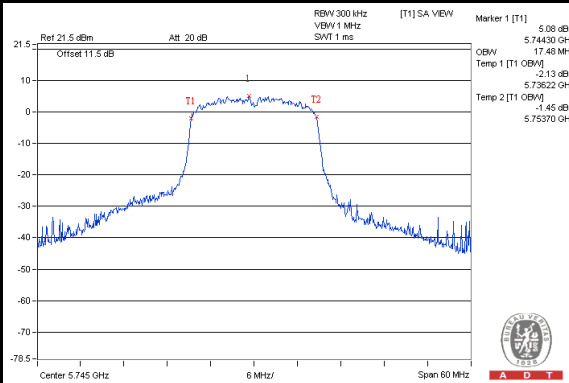
Chain(0) : CH165



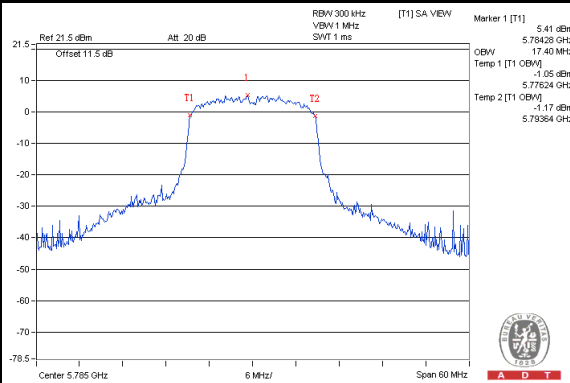


A D T

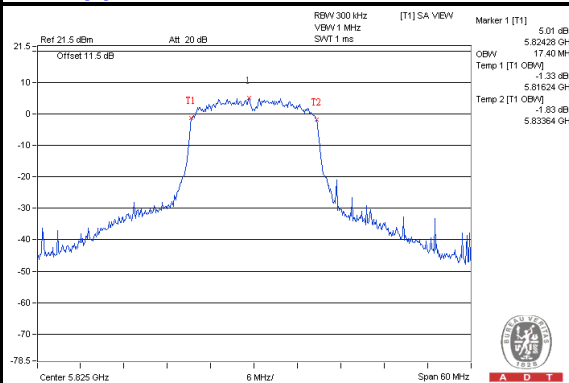
Chain(1) : CH149



Chain(1) : CH157



Chain(1) : CH165



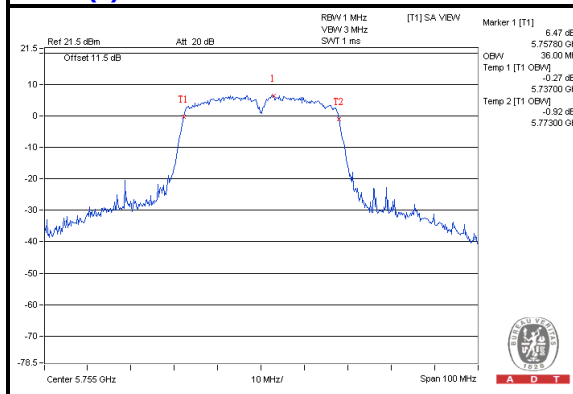


A D T

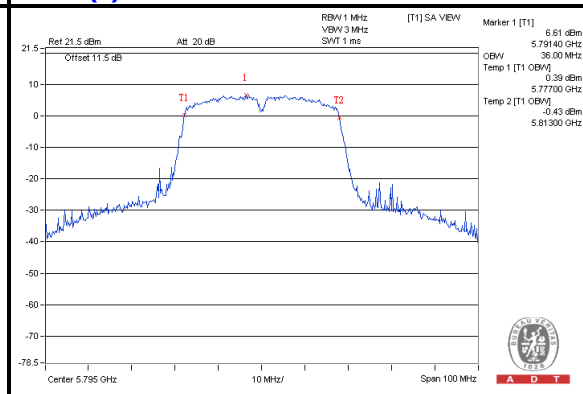
802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
151	5755	36.00	36.00
159	5795	36.00	36.00

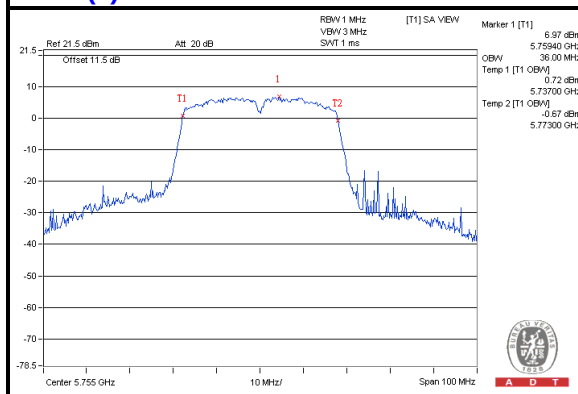
Chain(0) : CH151



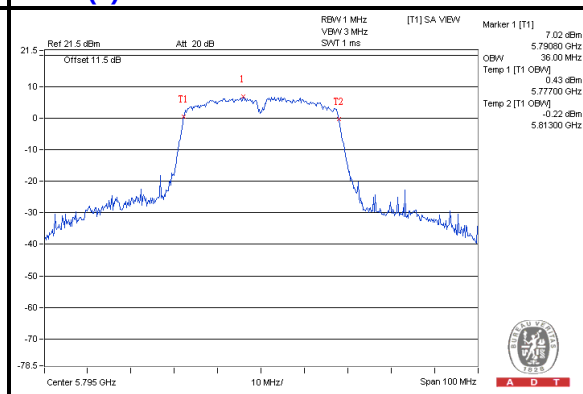
Chain(0) : CH159



Chain(1) : CH151



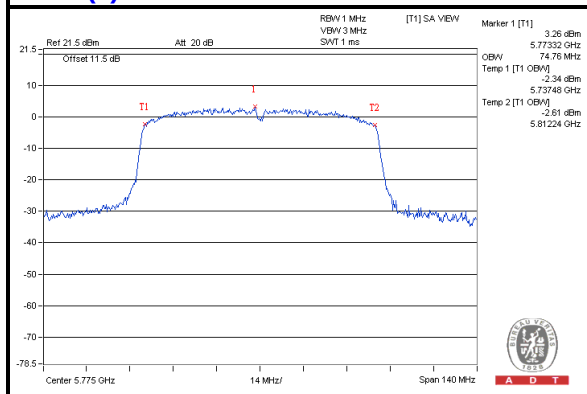
Chain(1) : CH159



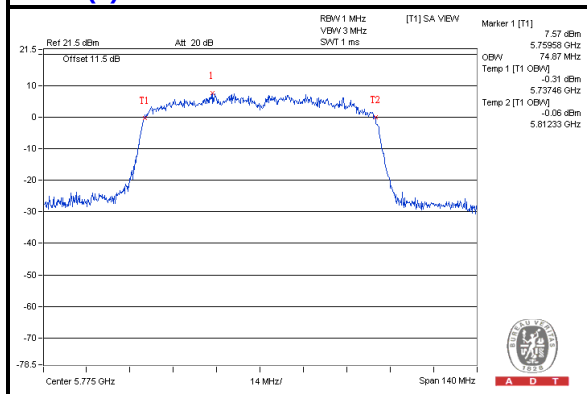
802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
155	5775	74.76	74.87

Chain(0) : CH155



Chain(1) : CH155





A D T

5.5 CONDUCTED OUT-BAND EMISSION MEASUREMENT

5.5.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 15, 2013	July 14, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date :May 09, 2014

5.5.3 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 EUT OPERATING CONDITION



5.5.6 TEST RESULTS(MODE 1)

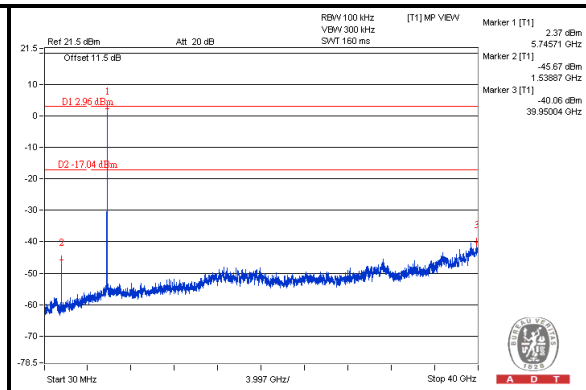
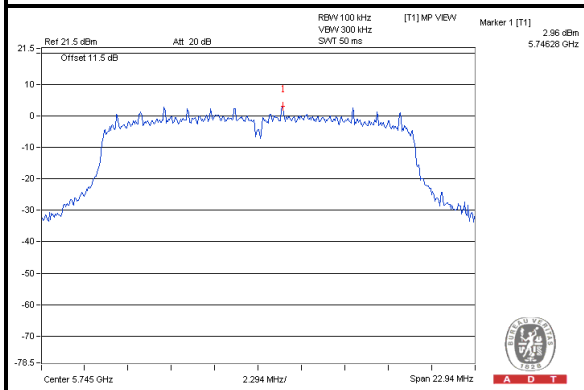
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



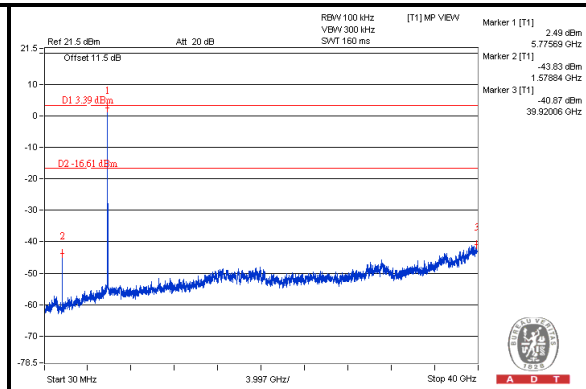
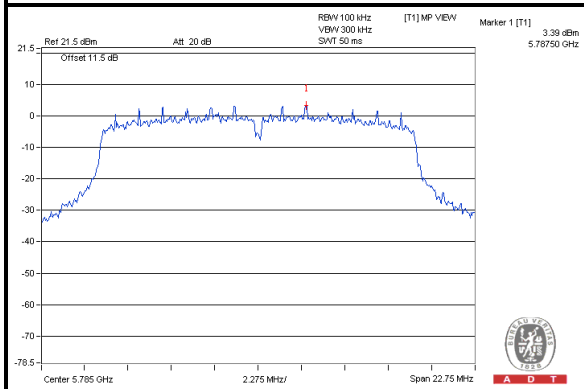
A D T

802.11a

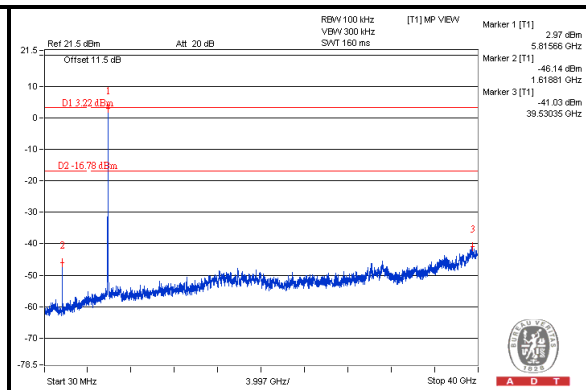
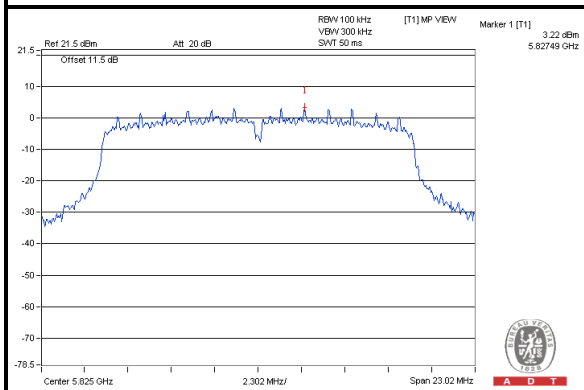
CH149



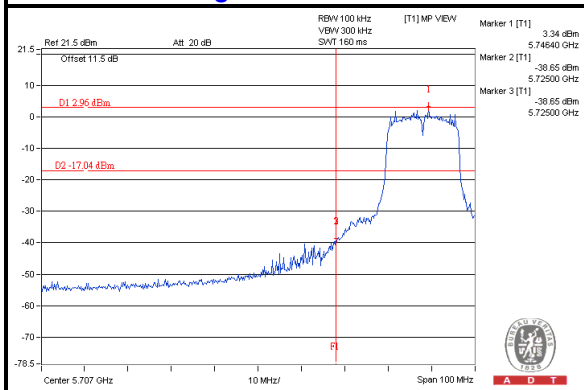
CH 157



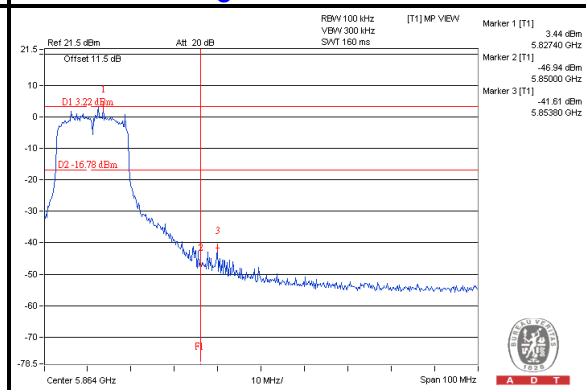
CH 165



CH 149 Band edge



CH 165 Band edge

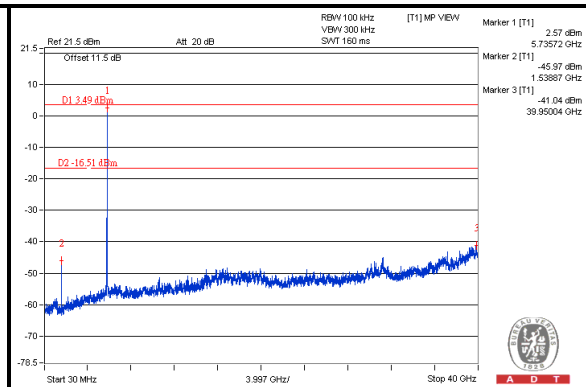
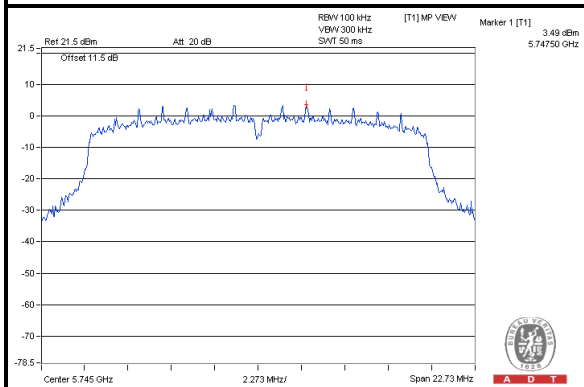




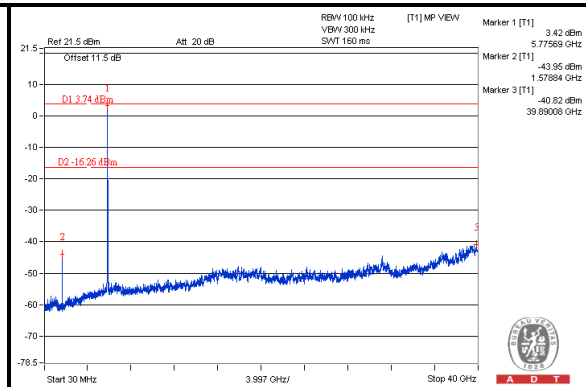
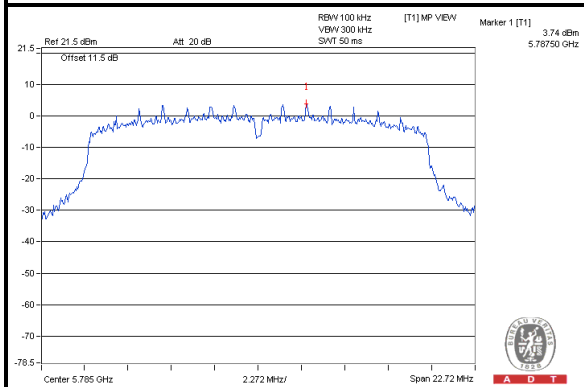
A D T

802.11ac(VHT20)

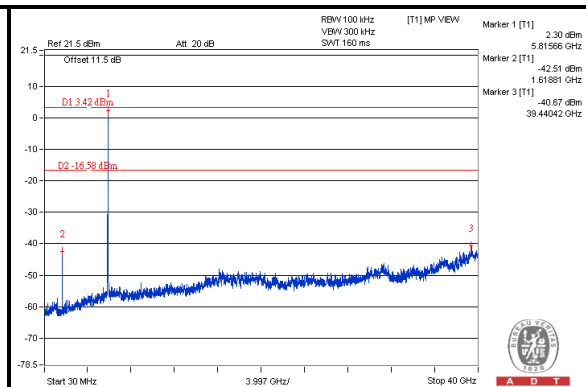
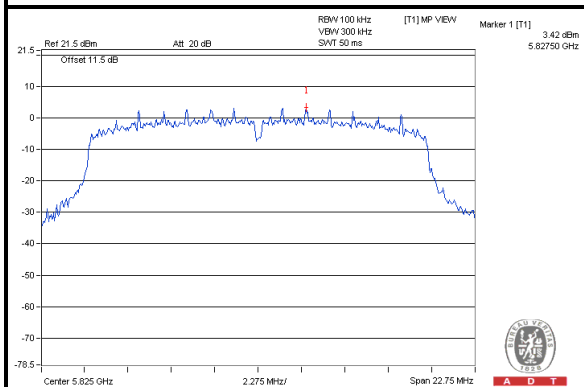
CH149



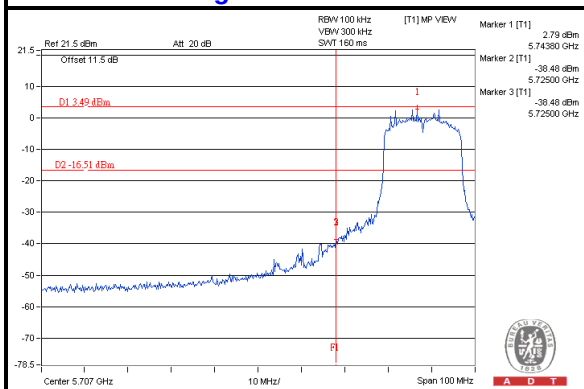
CH 157



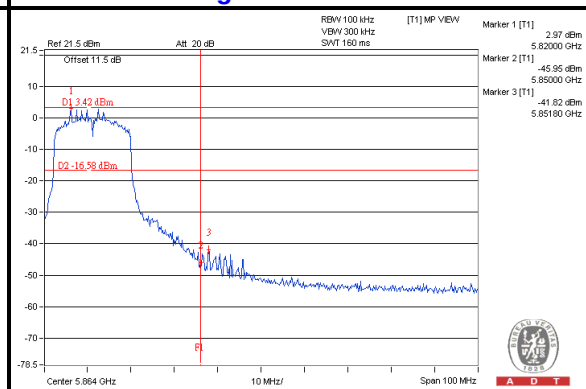
CH 165



CH 149 Band edge

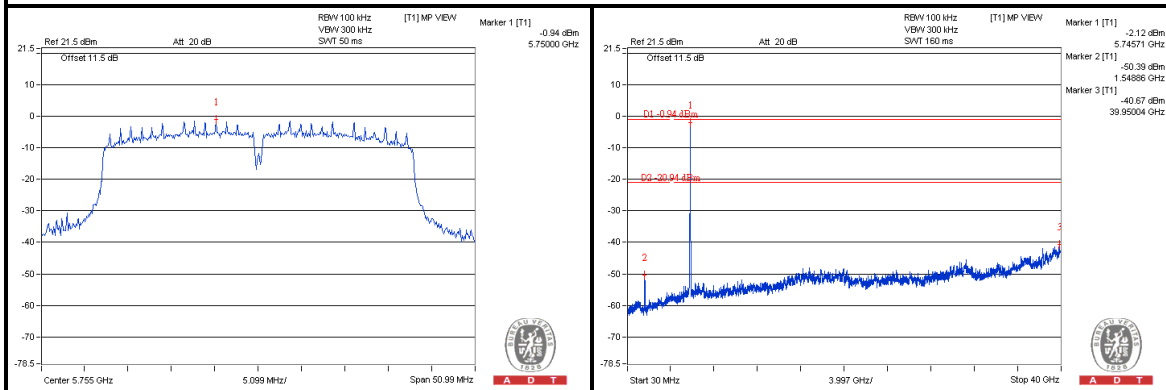


CH 165 Band edge

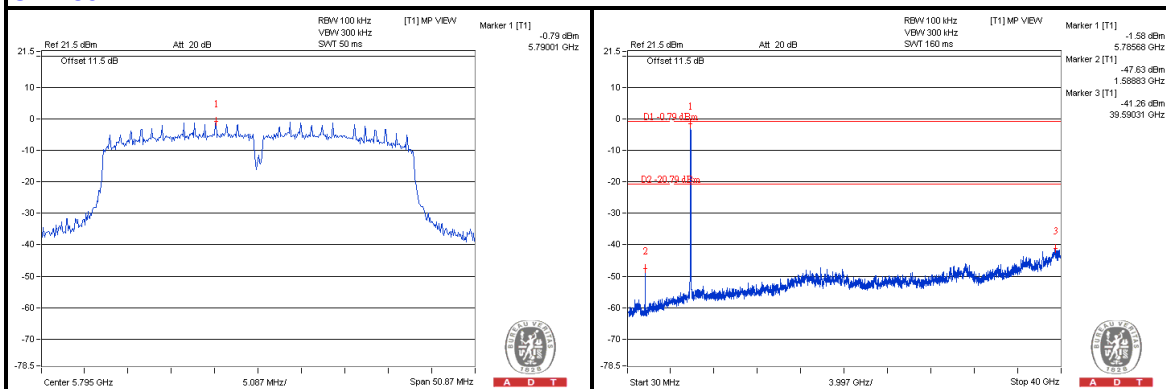


802.11ac (VHT40)

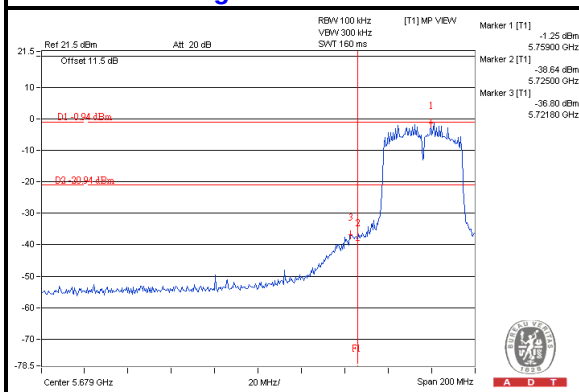
CH 151



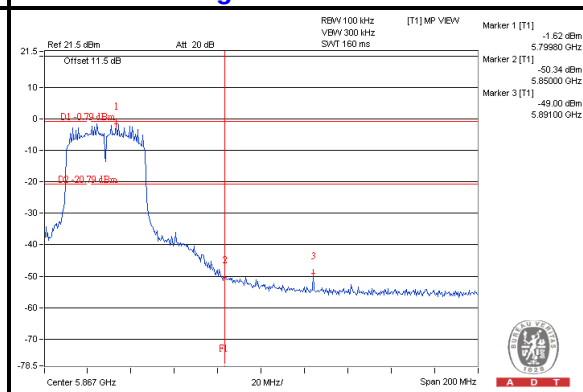
CH 159



CH 151 Band edge

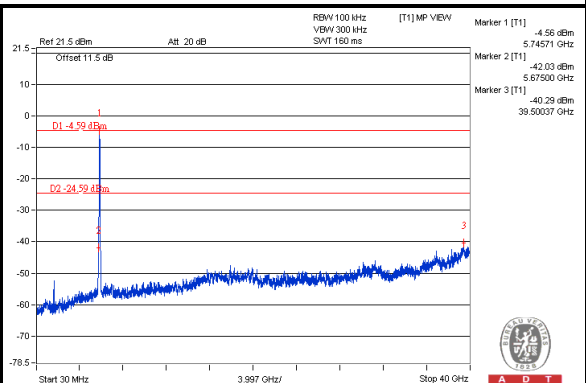
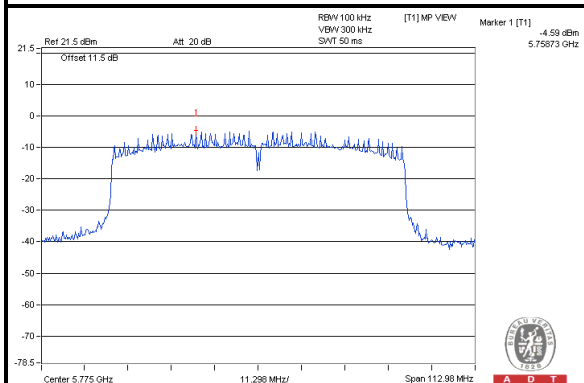


CH 159 Band edge

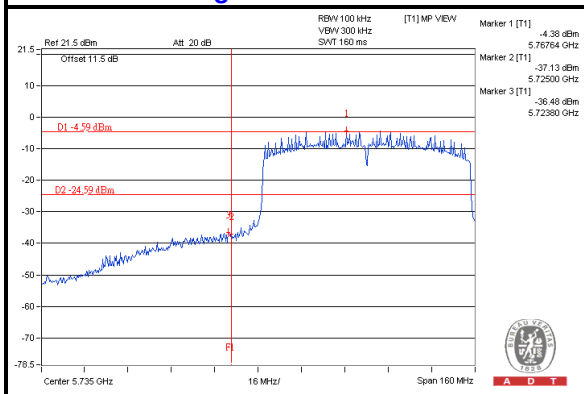


802.11ac (VHT80)

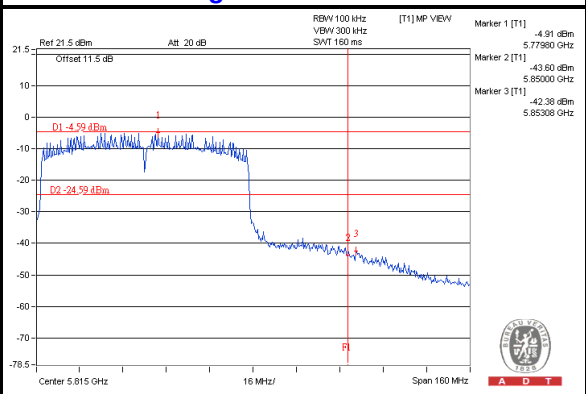
CH 155



CH 155 Band edge



CH 155 Band edge



5.5.7 TEST RESULTS(MODE 2)

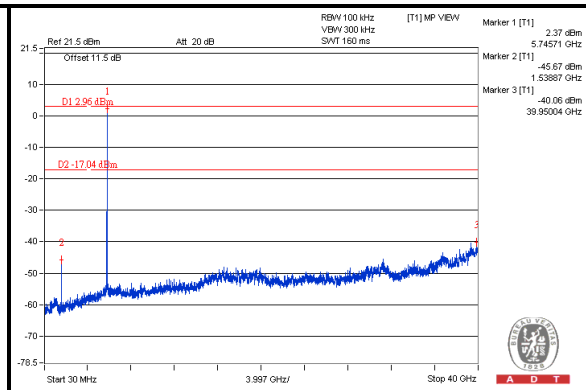
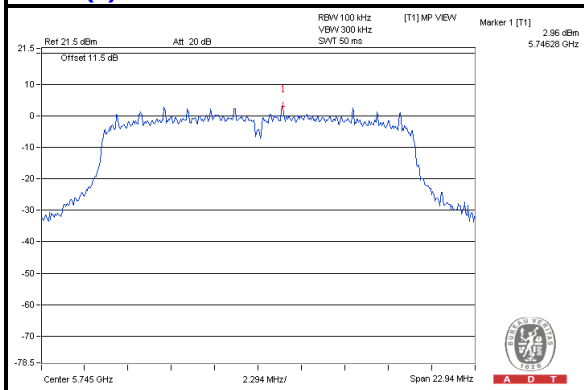
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



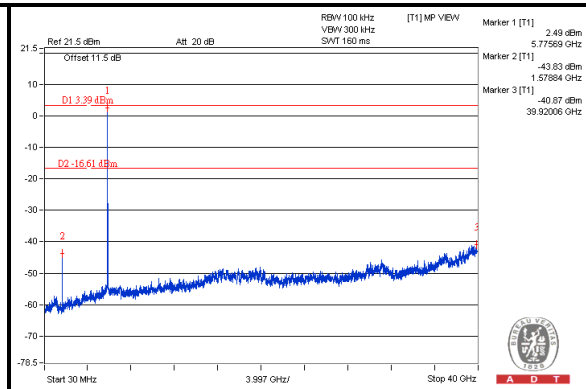
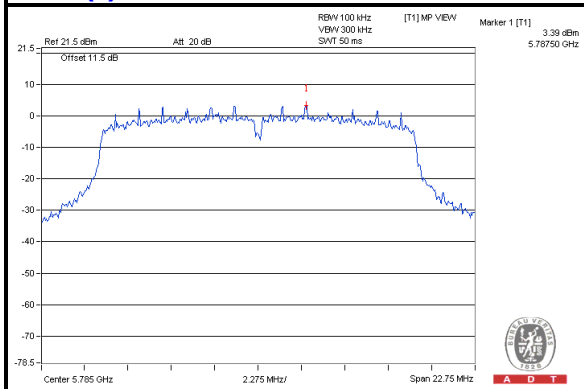
A D T

802.11a

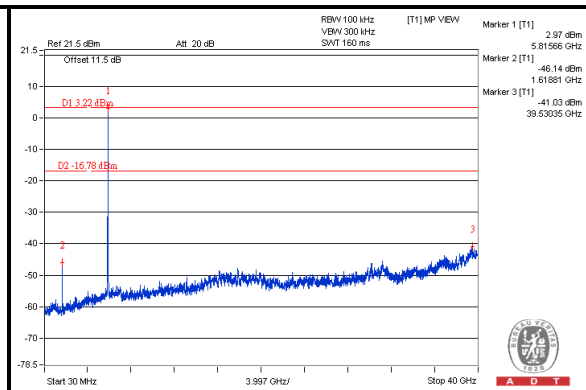
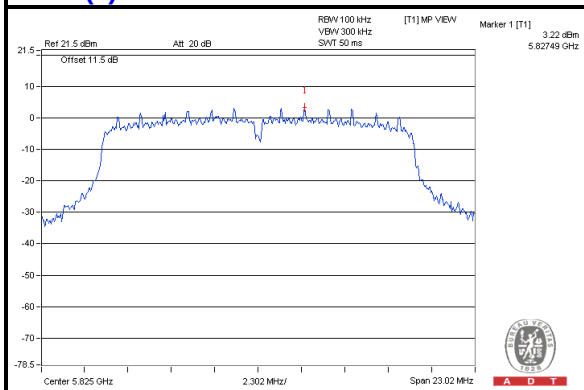
Chain(0) : CH149



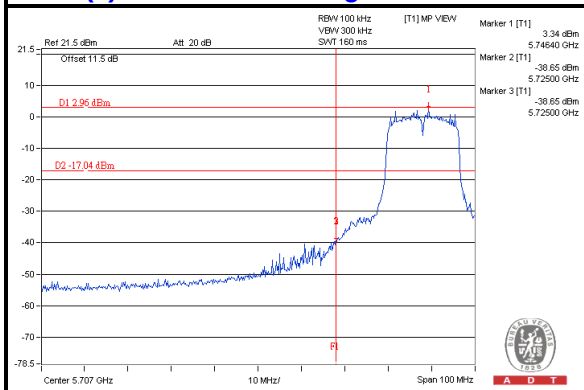
Chain(0) : CH157



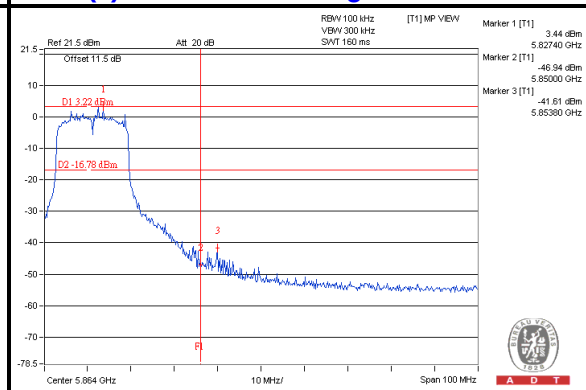
Chain(0) : CH165



Chain(0) : CH 149 Band edge



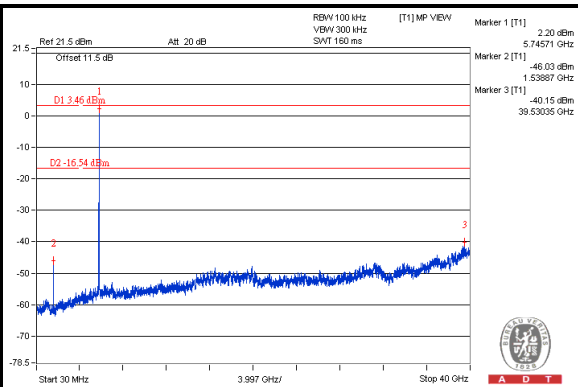
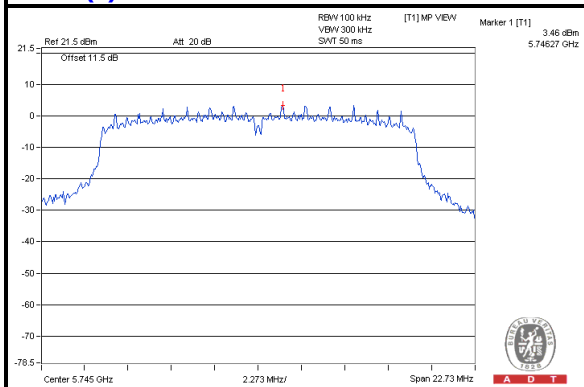
Chain(0) : CH 165 Band edge



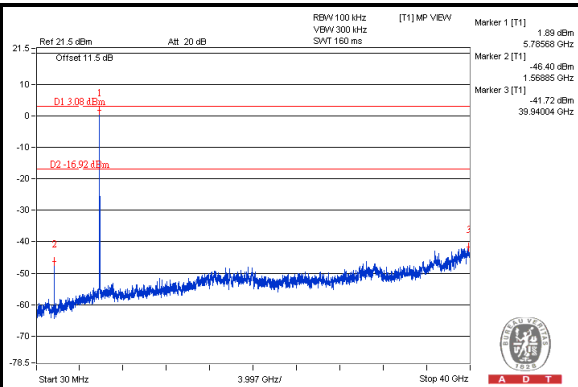
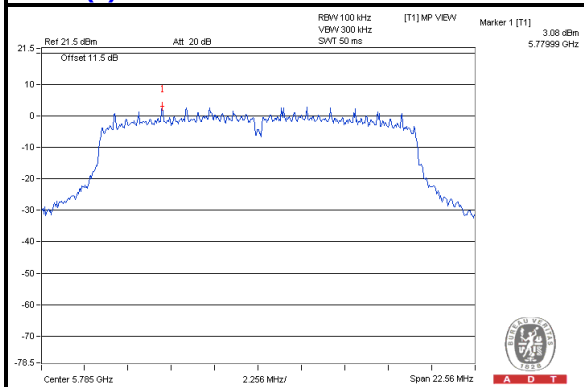


A D T

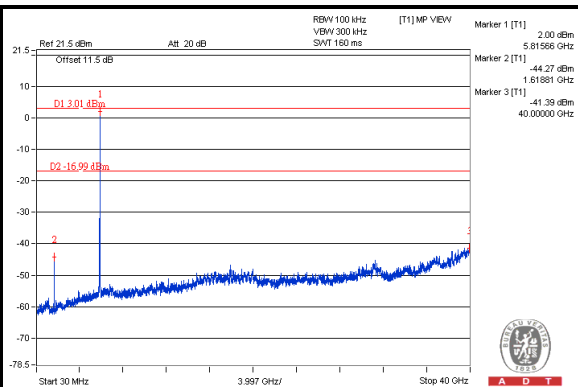
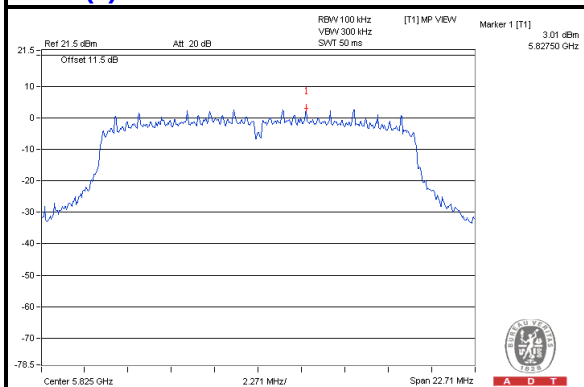
Chain(1) : CH149



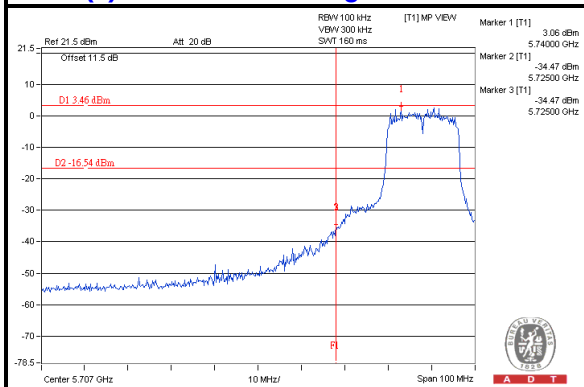
Chain(1) : CH157



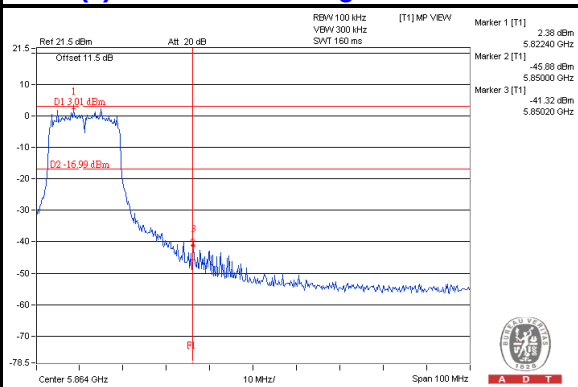
Chain(1) : CH165



Chain(1) : CH 149 Band edge



Chain(0) : CH 165 Band edge

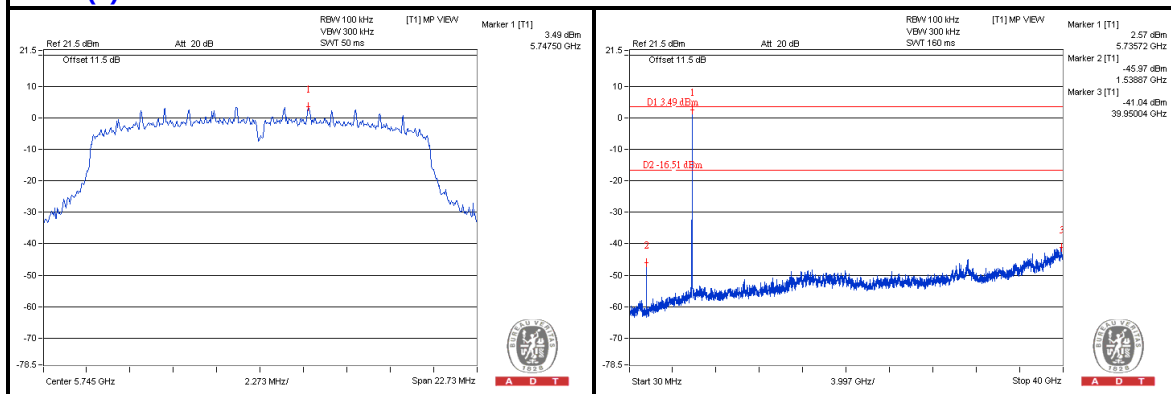




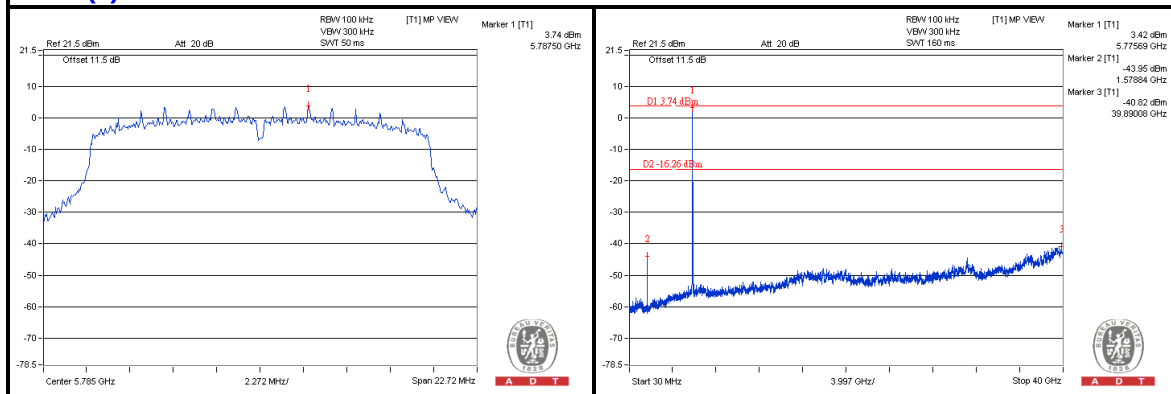
A D T

802.11ac(VHT20)

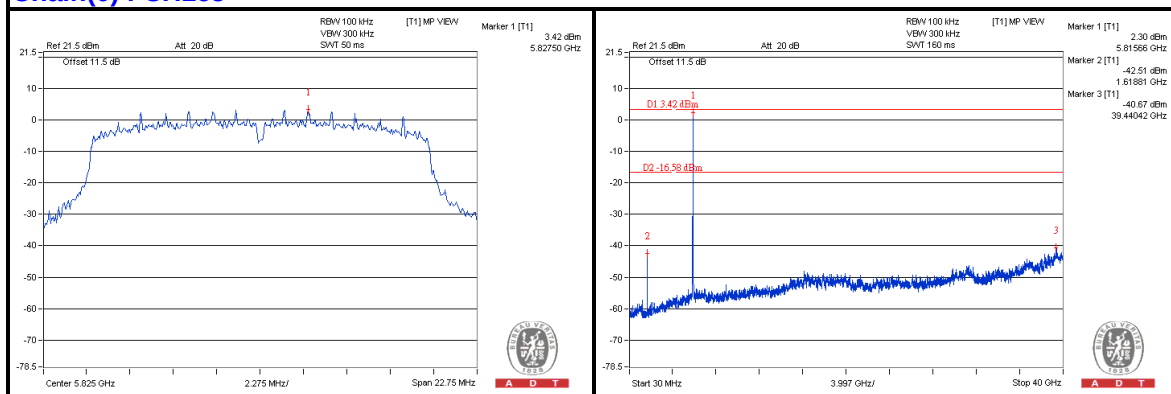
Chain(0) : CH149



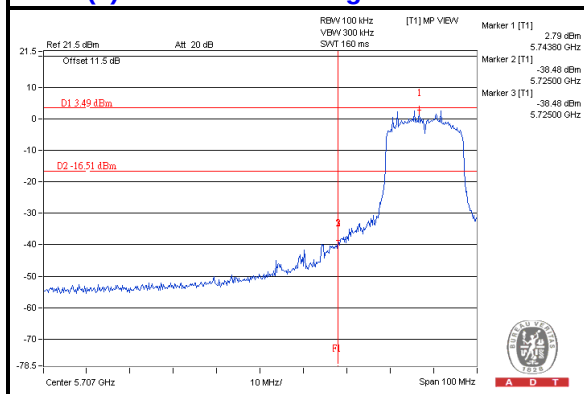
Chain(0) : CH157



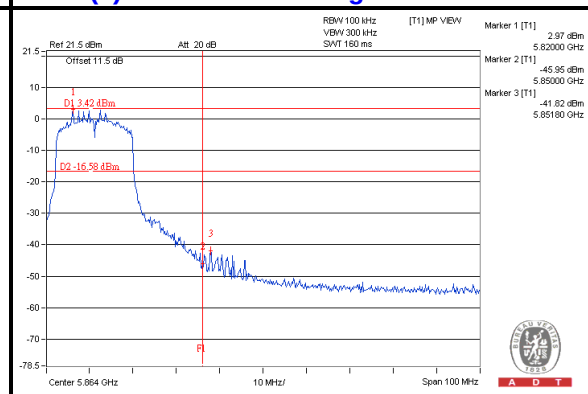
Chain(0) : CH165



Chain(0) : CH 149 Band edge



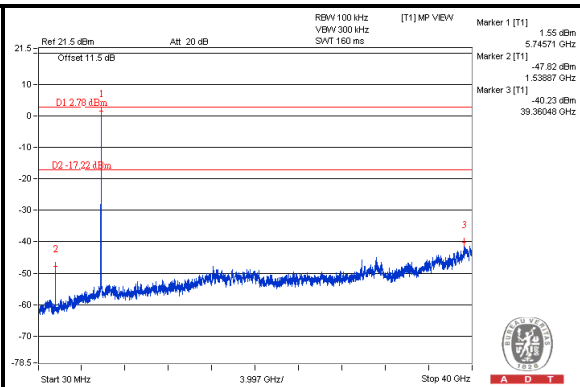
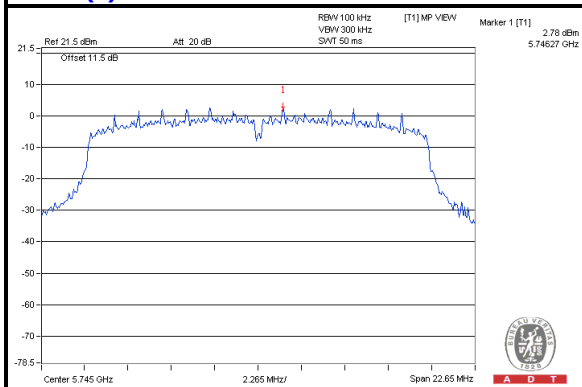
Chain(0) : CH 165 Band edge



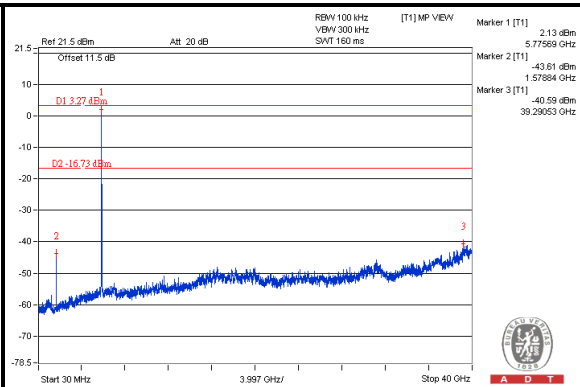
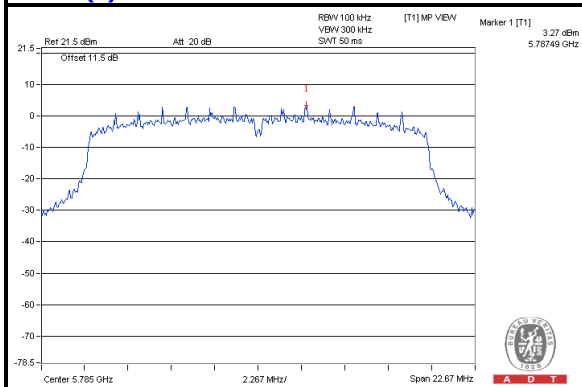


A D T

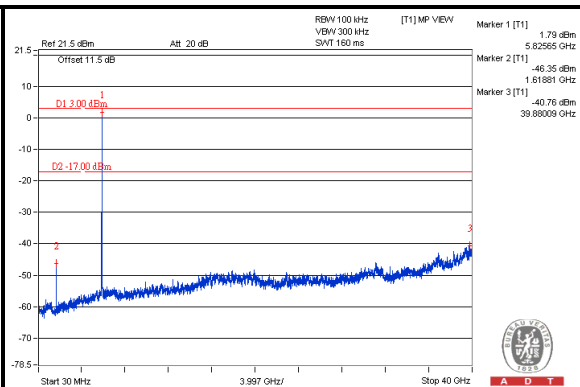
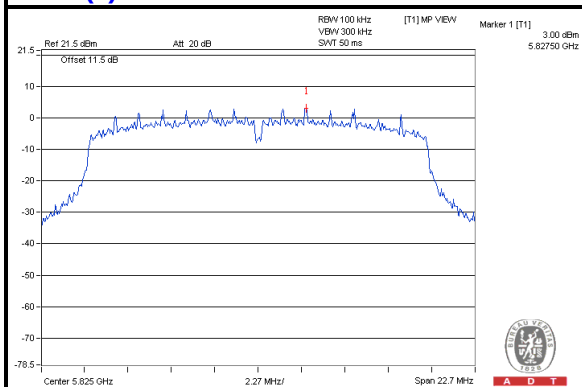
Chain(1) : CH149



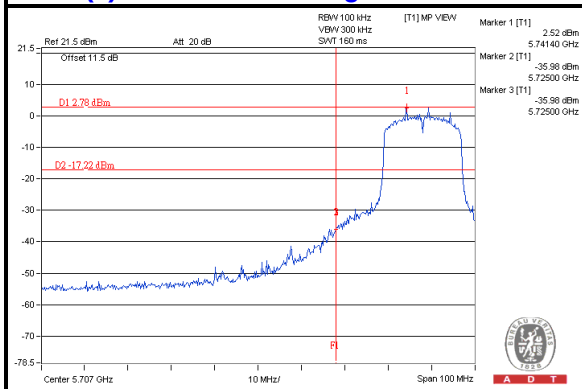
Chain(1) : CH157



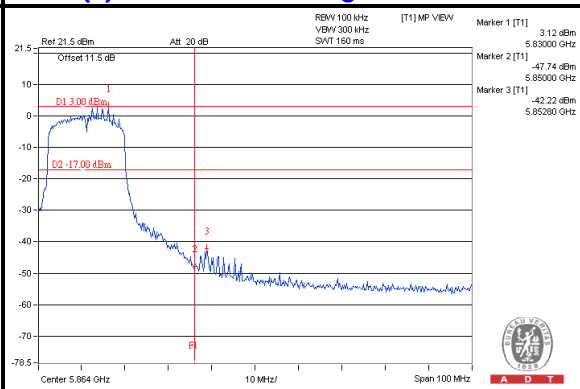
Chain(1) : CH165



Chain(1) : CH 149 Band edge



Chain(1) : CH 165 Band edge

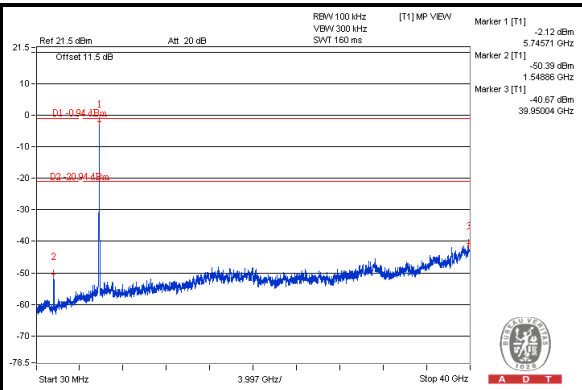
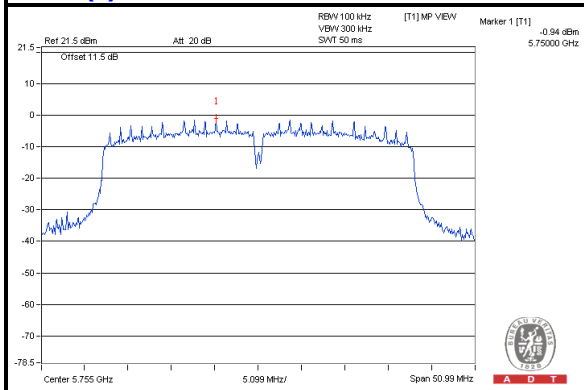




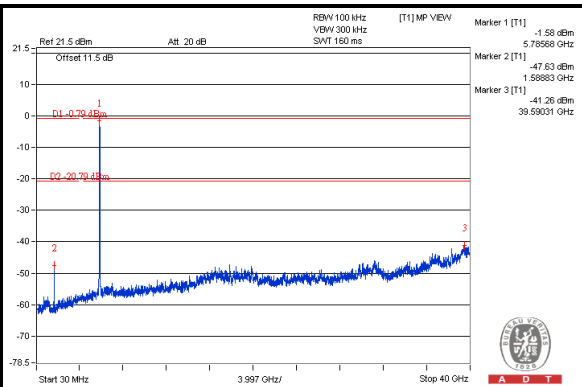
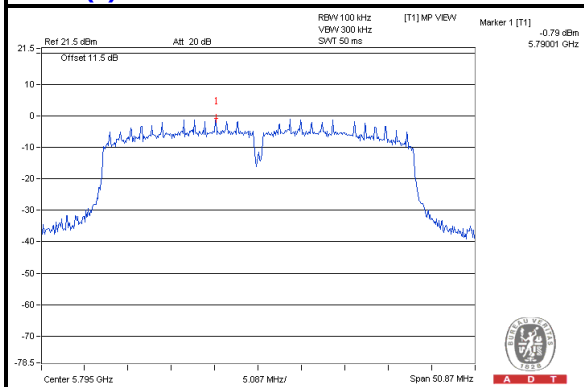
A D T

802.11ac (VHT40)

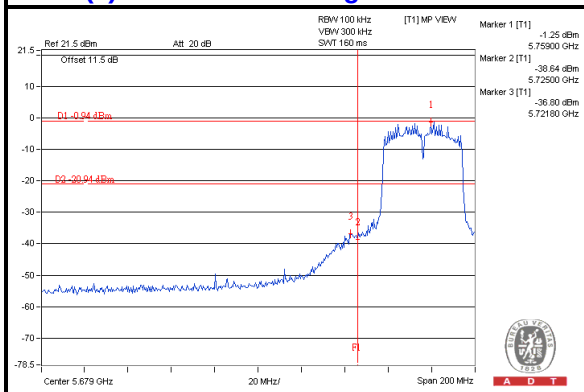
Chain(0) : CH 151



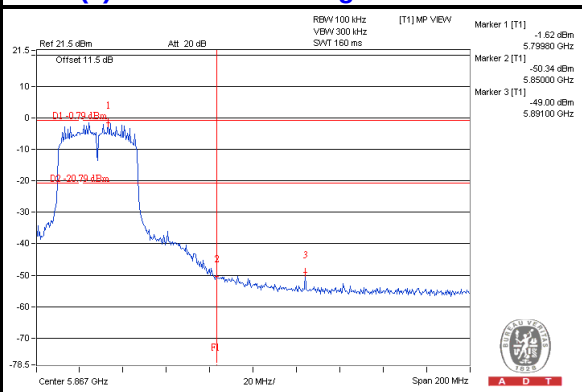
Chain(0) : CH 159



Chain(0) : CH 151 Band edge



Chain(0) : CH 159 Band edge

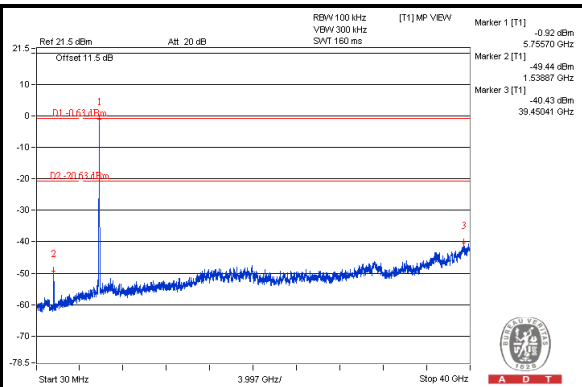
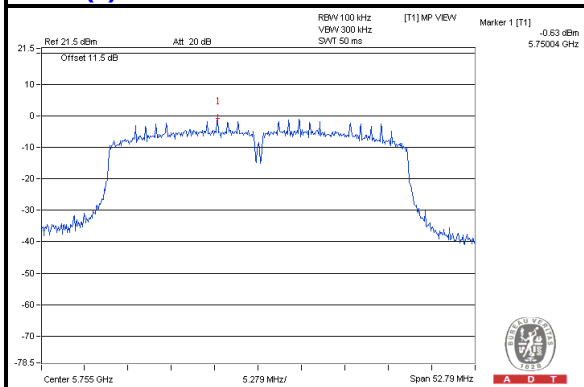




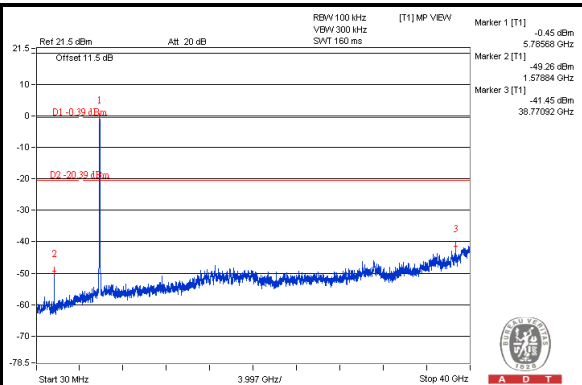
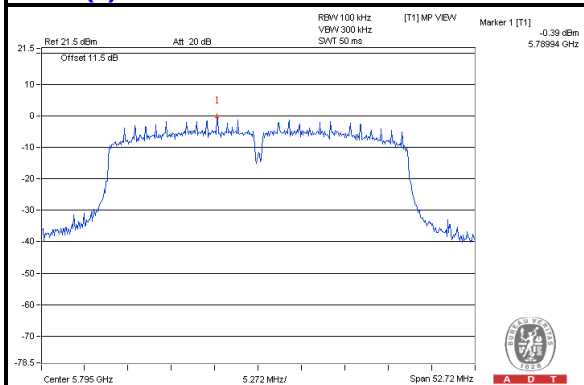
A D T

802.11ac (VHT40)

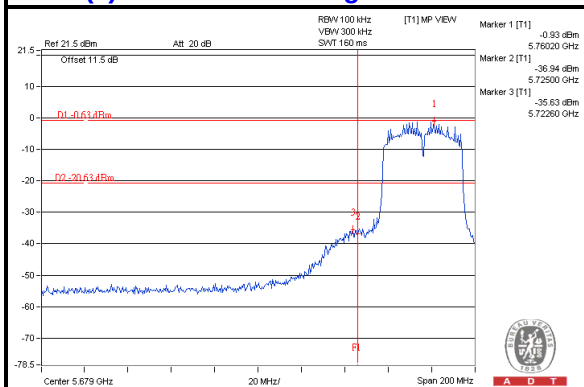
Chain(1) : CH 151



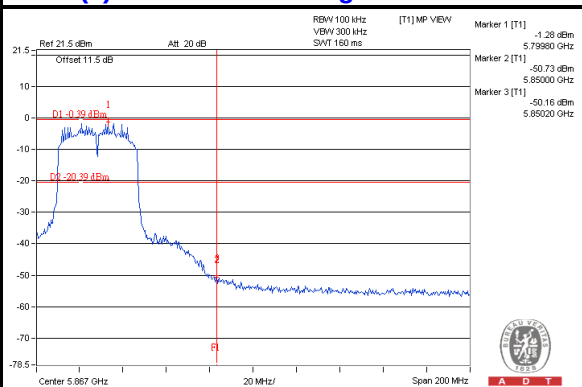
Chain(1) : CH 159



Chain(1) : CH 151 Band edge



Chain(1) : CH 159 Band edge

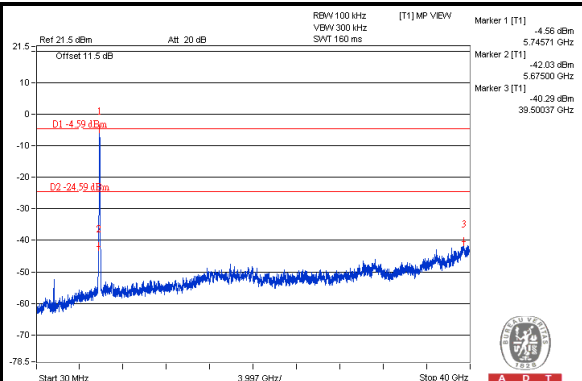
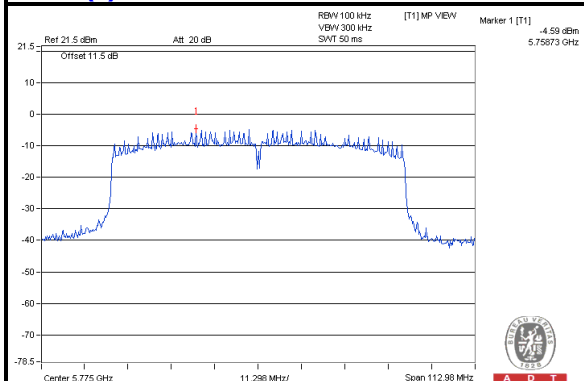




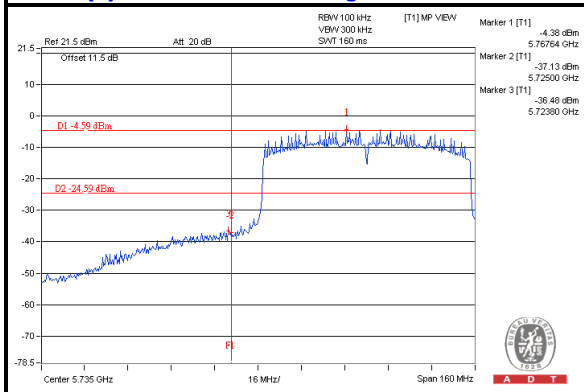
A D T

802.11ac (VHT80)

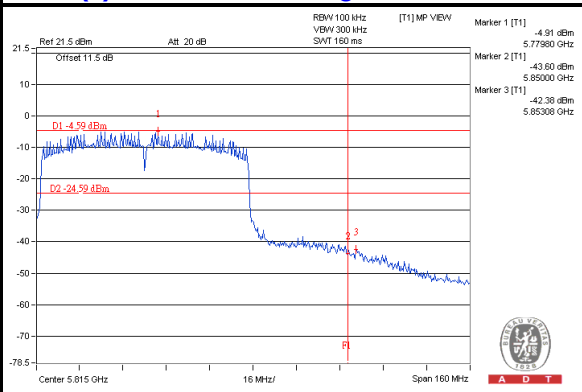
Chain(0) : CH 155



Chain(0) : CH 155 Band edge

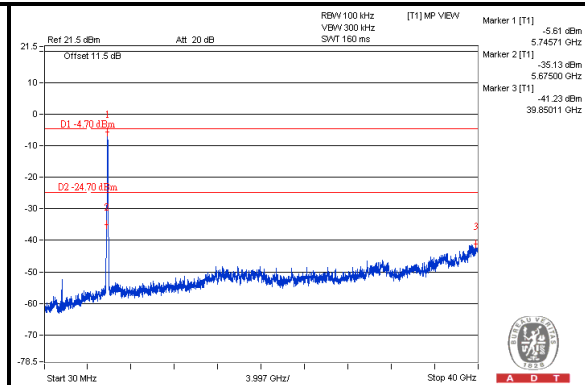
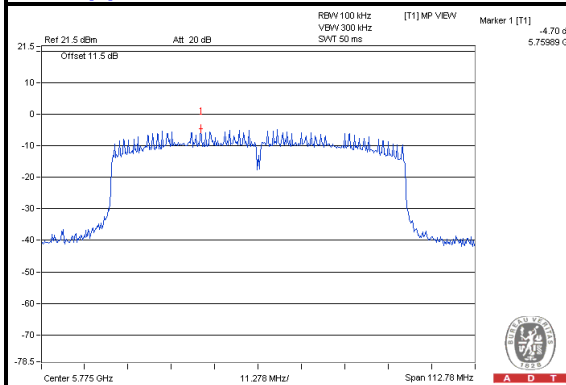


Chain(0) : CH 155 Band edge

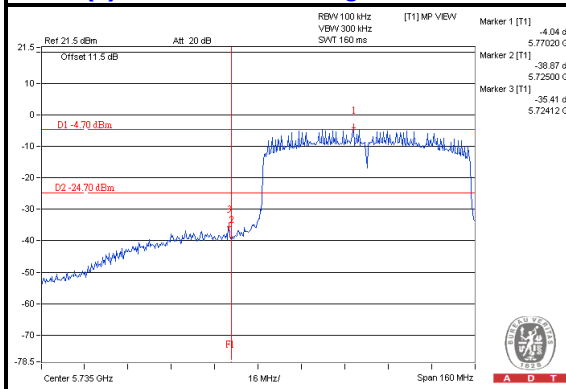


802.11ac (VHT80)

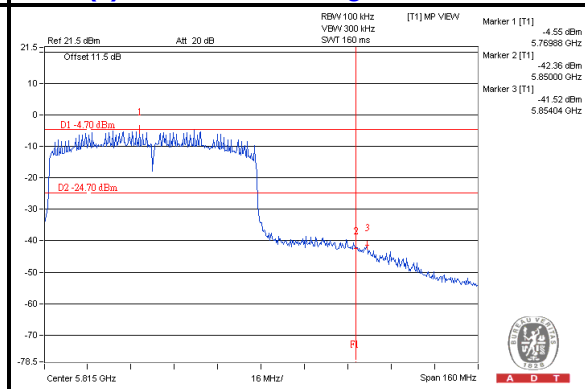
Chain(1) : CH 155



Chain(1) : CH 155 Band edge



Chain(1) : CH 155 Band edge



5.6 UNWANTED EMISSION MEASUREMENT (RADIATED VERSUS CONDUCTED)

5.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	$2400/F(\text{kHz})$	300
0.490-1.705	$24000/F(\text{kHz})$	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = $20 \log$ Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21, 2014	Jan. 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: Apr. 02 to May 08, 2014

5.6.3 TEST PROCEDURES

Following FCC KDB 558074 D01 DTS Meas. Guidance :
Radiated versus Conducted Measurements.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test
 - e-1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
 - e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - e-3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
 - e-4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
 - e-5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
 - e-6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

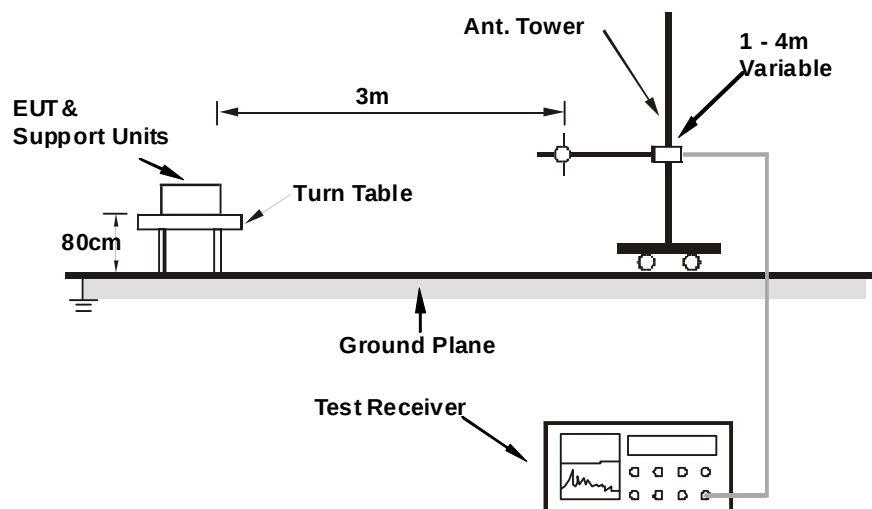
5.6.4 DEVIATION FROM TEST STANDARD

No deviation

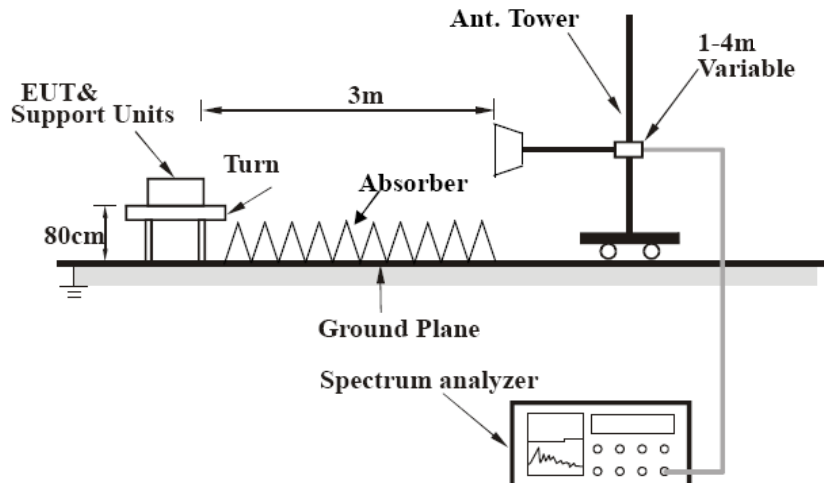
5.6.5 TEST SETUP

For radiated configuration:

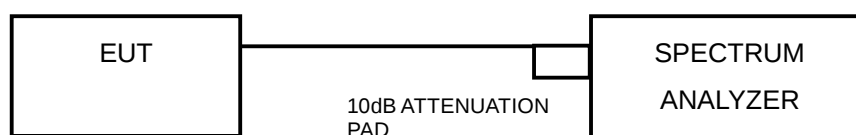
<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For conducted configuration:



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.6.6 EUT OPERATING CONDITIONS

Same as the 4.7.6

5.6.7 TEST RESULTS (MODE 1, RADIATED MEASUREMENT)

Radiated versus Conducted Measurement	
☐ Conducted measurement	☒ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) <u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Radiated test was done with 50ohm terminator on antenna port

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	56.7 PK	74.0	-17.3	1.45 H	121	40.12	16.58
2	11490.00	45.1 AV	54.0	-8.9	1.45 H	121	28.52	16.58
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	57.0 PK	74.0	-17.0	1.21 V	214	40.42	16.58
2	11490.00	45.6 AV	54.0	-8.4	1.21 V	214	29.02	16.58

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	57.2 PK	74.0	-16.8	1.49 H	119	40.56	16.64
2	11570.00	45.4 AV	54.0	-8.6	1.49 H	119	28.76	16.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	57.2 PK	74.0	-16.8	1.11 V	228	40.56	16.64
2	11570.00	45.9 AV	54.0	-8.1	1.11 V	228	29.26	16.64

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	57.1 PK	74.0	-16.9	1.49 H	126	40.25	16.85
2	11650.00	45.6 AV	54.0	-8.4	1.49 H	126	28.75	16.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	57.1 PK	74.0	-16.9	1.20 V	210	40.25	16.85
2	11650.00	45.7 AV	54.0	-8.3	1.20 V	210	28.85	16.85

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	56.9 PK	74.0	-17.1	1.54 H	120	40.32	16.58
2	11490.00	45.5 AV	54.0	-8.5	1.54 H	120	28.92	16.58
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	57.0 PK	74.0	-17.0	1.27 V	217	40.42	16.58
2	11490.00	45.6 AV	54.0	-8.4	1.27 V	217	29.02	16.58

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	56.6 PK	74.0	-17.4	1.53 H	84	39.96	16.64
2	11570.00	45.2 AV	54.0	-8.8	1.53 H	84	28.56	16.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	56.7 PK	74.0	-17.3	1.09 V	226	40.06	16.64
2	11570.00	45.5 AV	54.0	-8.5	1.09 V	226	28.86	16.64

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	56.4 PK	74.0	-17.6	1.55 H	116	39.55	16.85
2	11650.00	45.2 AV	54.0	-8.8	1.55 H	116	28.35	16.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	56.7 PK	74.0	-17.3	1.24 V	222	39.85	16.85
2	11650.00	45.4 AV	54.0	-8.6	1.24 V	222	28.55	16.85

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT40)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	56.9 PK	74.0	-17.1	1.44 H	136	40.34	16.56
2	11510.00	45.2 AV	54.0	-8.8	1.44 H	136	28.64	16.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	57.5 PK	74.0	-16.5	1.27 V	210	40.94	16.56
2	11510.00	45.9 AV	54.0	-8.1	1.27 V	210	29.34	16.56

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	56.6 PK	74.0	-17.4	1.58 H	107	39.93	16.67
2	11590.00	45.1 AV	54.0	-8.9	1.58 H	107	28.43	16.67
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	57.4 PK	74.0	-16.6	1.25 V	211	40.73	16.67
2	11590.00	46.0 AV	54.0	-8.0	1.25 V	211	29.33	16.67

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT80)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11550.00	56.3 PK	74.0	-17.7	1.57 H	106	39.68	16.62
2	11550.00	45.0 AV	54.0	-9.0	1.57 H	106	28.38	16.62
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11550.00	56.9 PK	74.0	-17.1	1.28 V	208	40.28	16.62
2	11550.00	45.5 AV	54.0	-8.5	1.28 V	208	28.88	16.62

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

5.6.8 TEST RESULTS (MODE 2, RADIATED MEASUREMENT)

Radiated versus Conducted Measurement	
☐ Conducted measurement	☒ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) <u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Radiated test was done with 50ohm terminator on antenna port

BELOW 1GHz WORST-CASE DATA

802.11ac(VHT20)

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	54.11	25.2 QP	40.0	-14.8	2.00 H	93	38.76	-13.55
2	166.04	35.1 QP	43.5	-8.4	2.00 H	118	48.63	-13.49
3	233.22	38.2 QP	46.0	-7.8	1.00 H	11	53.63	-15.46
4	428.38	33.3 QP	46.0	-12.7	2.00 H	66	42.07	-8.75
5	666.47	31.5 QP	46.0	-14.5	1.00 H	42	35.50	-3.99
6	770.69	33.2 QP	46.0	-12.8	2.00 H	107	34.80	-1.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.40	22.9 QP	40.0	-17.2	1.00 V	32	36.37	-13.52
2	166.58	24.6 QP	43.5	-18.9	2.00 V	202	38.14	-13.52
3	311.74	26.2 QP	46.0	-19.8	1.50 V	181	38.17	-11.98
4	428.33	26.5 QP	46.0	-19.5	2.00 V	133	35.24	-8.75
5	663.85	32.2 QP	46.0	-13.8	1.50 V	130	36.25	-4.03
6	906.64	40.5 QP	46.0	-5.5	1.50 V	116	40.29	0.23

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	56.7 PK	74.0	-17.3	1.53 H	114	40.12	16.58
2	11490.00	45.3 AV	54.0	-8.7	1.53 H	114	28.72	16.58
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	57.1 PK	74.0	-16.9	1.38 V	231	40.52	16.58
2	11490.00	45.8 AV	54.0	-8.2	1.38 V	231	29.22	16.58

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	57.0 PK	74.0	-17.0	1.54 H	121	40.36	16.64
2	11570.00	45.5 AV	54.0	-8.5	1.54 H	121	28.86	16.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	57.1 PK	74.0	-16.9	1.25 V	223	40.46	16.64
2	11570.00	45.7 AV	54.0	-8.3	1.25 V	223	29.06	16.64

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	56.5 PK	74.0	-17.5	1.47 H	103	39.65	16.85
2	11650.00	45.5 AV	54.0	-8.5	1.47 H	103	28.65	16.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	57.1 PK	74.0	-16.9	1.33 V	232	40.25	16.85
2	11650.00	45.8 AV	54.0	-8.2	1.33 V	232	28.95	16.85

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	55.8 PK	74.0	-18.2	1.37 H	103	39.22	16.58
2	11490.00	44.8 AV	54.0	-9.2	1.37 H	103	28.22	16.58
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11490.00	55.3 PK	74.0	-18.7	1.15 V	216	38.72	16.58
2	11490.00	44.1 AV	54.0	-9.9	1.15 V	216	27.52	16.58

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	54.7 PK	74.0	-19.3	1.32 H	105	38.06	16.64
2	11570.00	44.1 AV	54.0	-9.9	1.32 H	105	27.46	16.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11570.00	55.1 PK	74.0	-18.9	1.26 V	215	38.46	16.64
2	11570.00	43.9 AV	54.0	-10.1	1.26 V	215	27.26	16.64

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	55.4 PK	74.0	-18.6	1.30 H	108	38.55	16.85
2	11650.00	44.3 AV	54.0	-9.7	1.30 H	108	27.45	16.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11650.00	54.8 PK	74.0	-19.2	1.23 V	251	37.95	16.85
2	11650.00	43.5 AV	54.0	-10.5	1.23 V	251	26.65	16.85

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT40)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	55.8 PK	74.0	-18.2	1.46 H	118	39.24	16.56
2	11510.00	44.1 AV	54.0	-9.9	1.46 H	118	27.54	16.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11510.00	55.3 PK	74.0	-18.7	1.26 V	236	38.74	16.56
2	11510.00	44.2 AV	54.0	-9.8	1.26 V	236	27.64	16.56

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	55.8 PK	74.0	-18.2	1.46 H	118	39.13	16.67
2	11590.00	44.1 AV	54.0	-9.9	1.46 H	118	27.43	16.67
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11590.00	55.3 PK	74.0	-18.7	1.26 V	236	38.63	16.67
2	11590.00	44.2 AV	54.0	-9.8	1.26 V	236	27.53	16.67

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

802.11ac(VHT80)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11550.00	55.4 PK	74.0	-18.6	1.31 H	124	38.78	16.62
2	11550.00	44.6 AV	54.0	-9.4	1.31 H	124	27.98	16.62
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	11550.00	54.9 PK	74.0	-19.1	1.28 V	245	38.28	16.62
2	11550.00	44.0 AV	54.0	-10.0	1.28 V	245	27.38	16.62

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. The limit value is defined as per 15.247.

5.6.9 TEST RESULTS (MODE 1, CONDUCTED MEASUREMENT)

Radiated versus Conducted Measurement	
☒ Conducted measurement	☐ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) <u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Conducted Measurement Factor
a. The antenna gain will be used. (antenna gain = 4.76dBi) b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands. c. For the band edge the gain for the specific band may have been used. d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For $f = 30 - 1000$ MHz, add 4.7 dB. Note: The conducted emission test was considered some factor to compute test result.



A D T

ABOVE 1GHz DATA

802.11a - Channel 149

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3837.5 PK	52.84	74	-21.16	-47.18	4.76	-42.42
2	3828.125 AV	36.9	54	-17.1	-63.12	4.76	-58.36
3	7662.5 PK	52.97	74	-21.03	-47.05	4.76	-42.29
4	7653.125 AV	31.49	54	-22.51	-68.53	4.76	-63.77
5	11490.625 PK	56.38	74	-17.62	-43.64	4.76	-38.88
6	11490.625 AV	35.56	54	-18.44	-64.46	4.76	-59.7

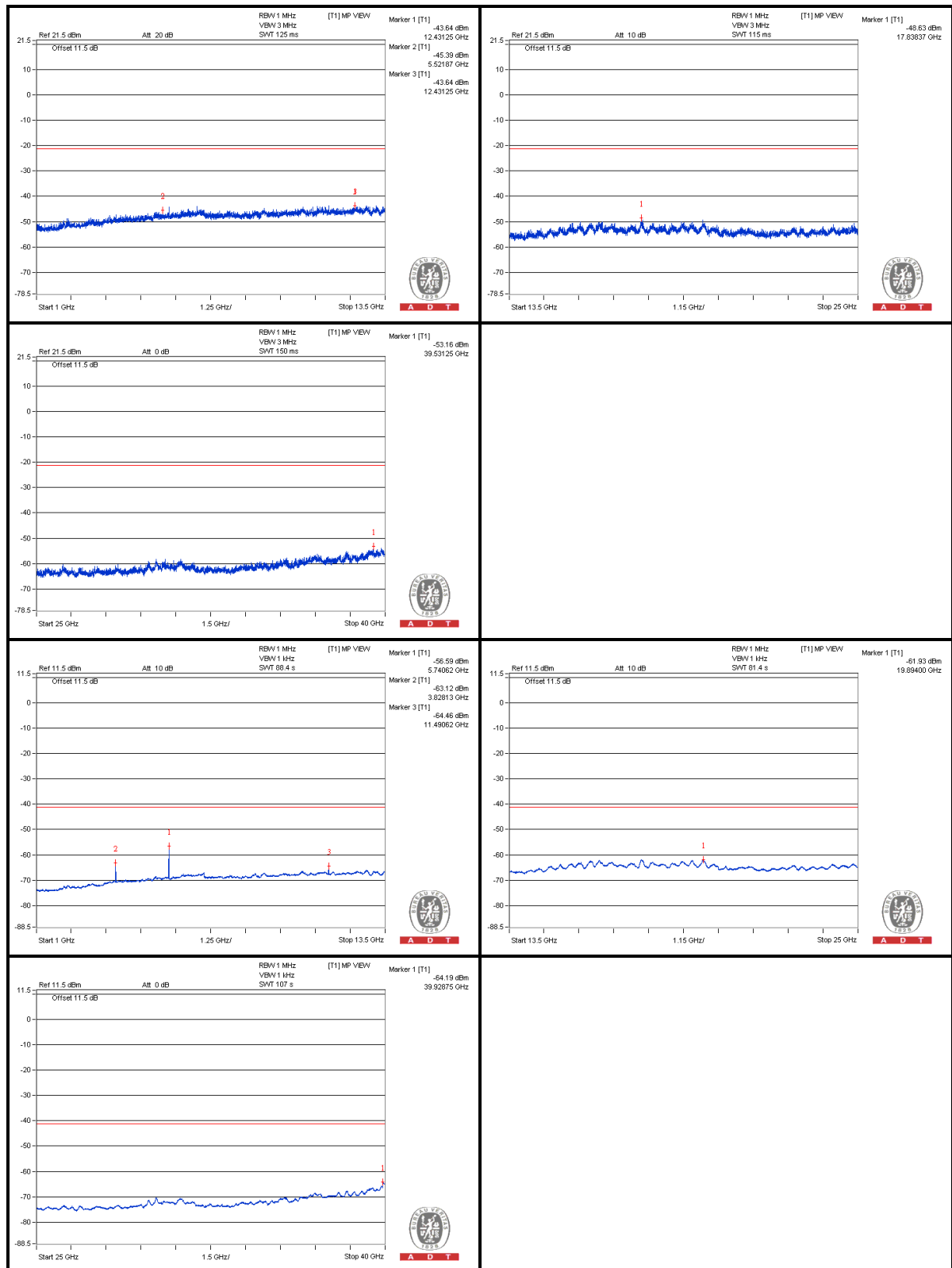
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



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802.11a- Channel 157

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3853.125 PK	51.05	74	-22.95	-48.97	4.76	-44.21
2	3856.25 AV	37.99	54	-16.01	-62.03	4.76	-57.27
3	7721.875 PK	53.24	74	-20.76	-46.78	4.76	-42.02
4	7712.5 AV	30.93	54	-23.07	-69.09	4.76	-64.33
5	11565.625 PK	55.23	74	-18.77	-44.79	4.76	-40.03
6	11571.875 AV	37.47	54	-16.53	-62.55	4.76	-57.79

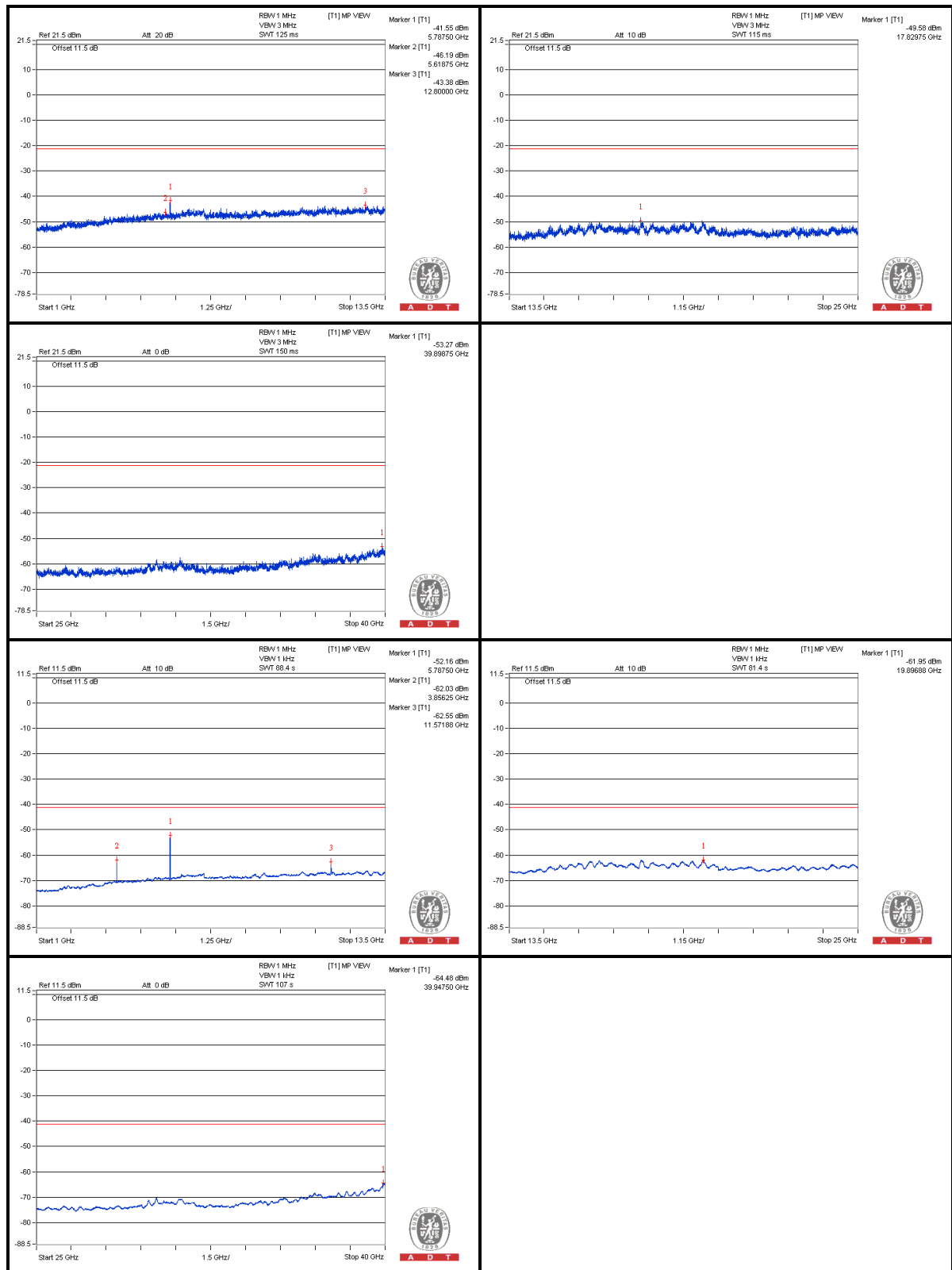
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



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802.11a- Channel 165

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3881.25 PK	51.37	74	-22.63	-48.65	4.76	-43.89
2	3881.25 AV	39.91	54	-14.09	-60.11	4.76	-55.35
3	11653.125 PK	56.33	74	-17.67	-43.69	4.76	-38.93
4	11653.125 AV	40.57	54	-13.43	-59.45	4.76	-54.69

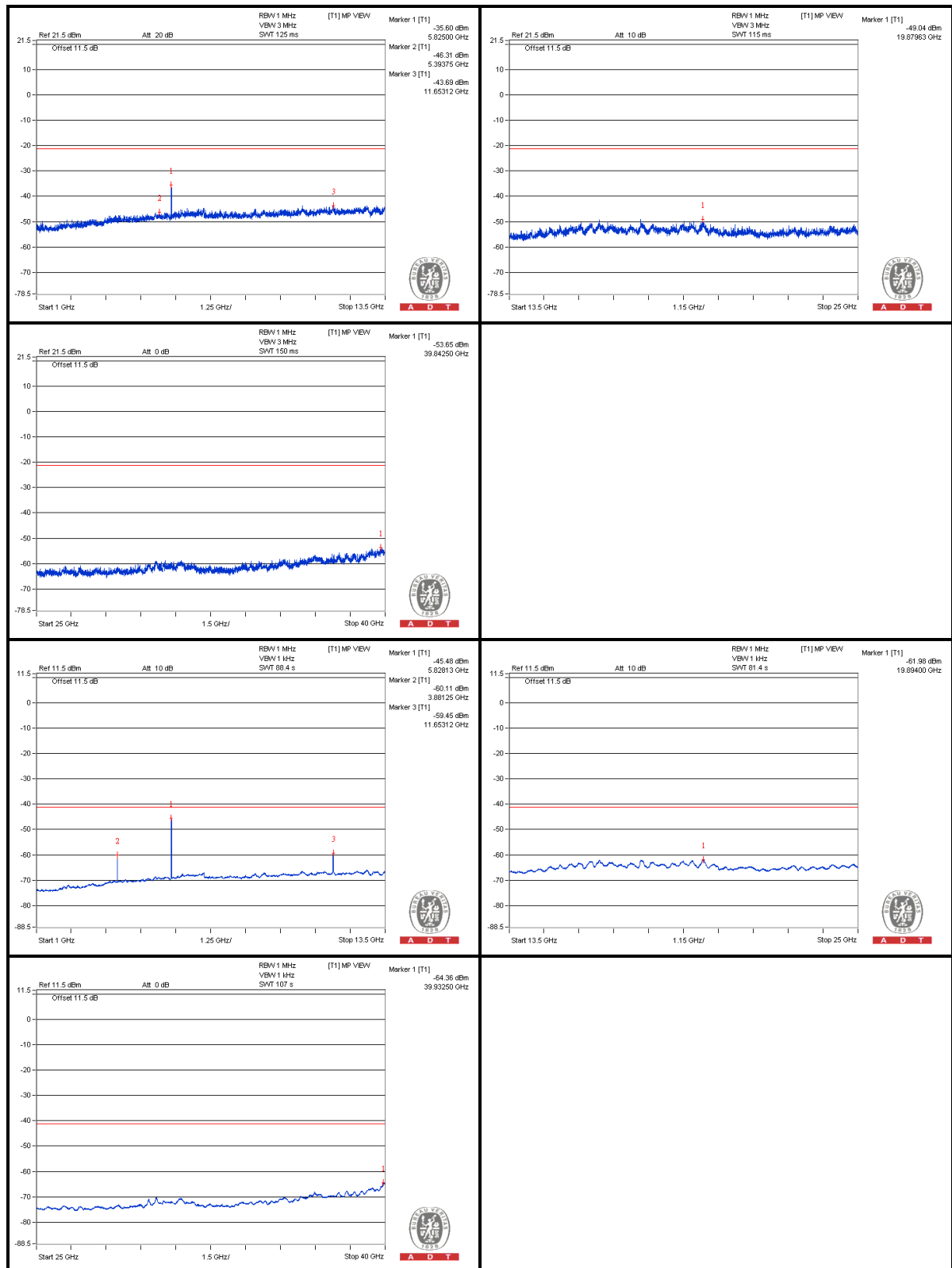
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



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802.11ac(VHT20) - Channel 149

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3837.5 PK	51.86	74	-22.14	-48.16	4.76	-43.4
2	3828.125 AV	38.35	54	-15.65	-61.67	4.76	-56.91
3	7665.625 PK	53.29	74	-20.71	-46.73	4.76	-41.97
4	7650 AV	31.83	54	-22.17	-68.19	4.76	-63.43
5	11493.75 PK	56.58	74	-17.42	-43.44	4.76	-38.68
6	11490.625 AV	40.85	54	-13.15	-59.17	4.76	-54.41

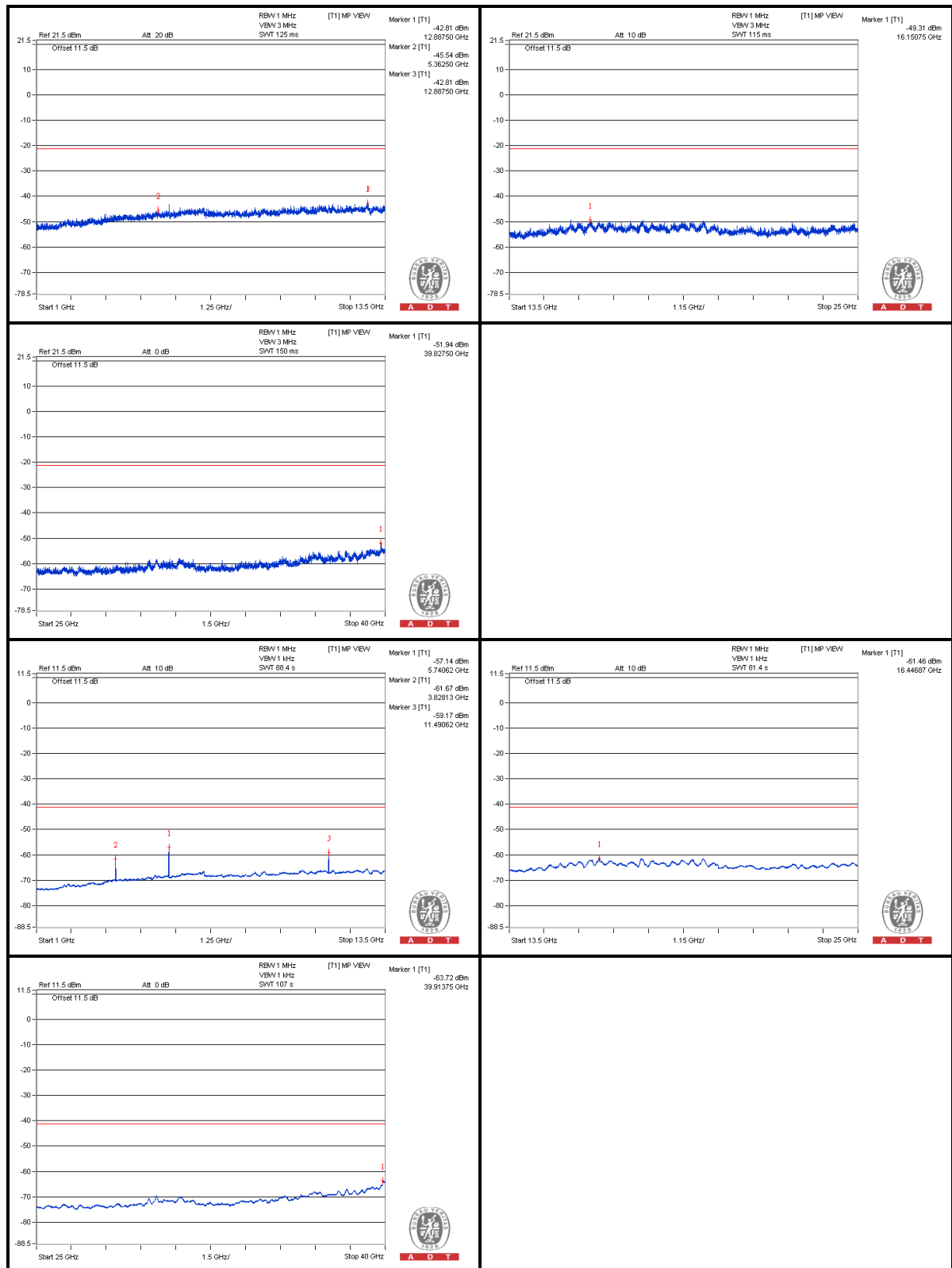
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



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802.11ac(VHT20)- Channel 157

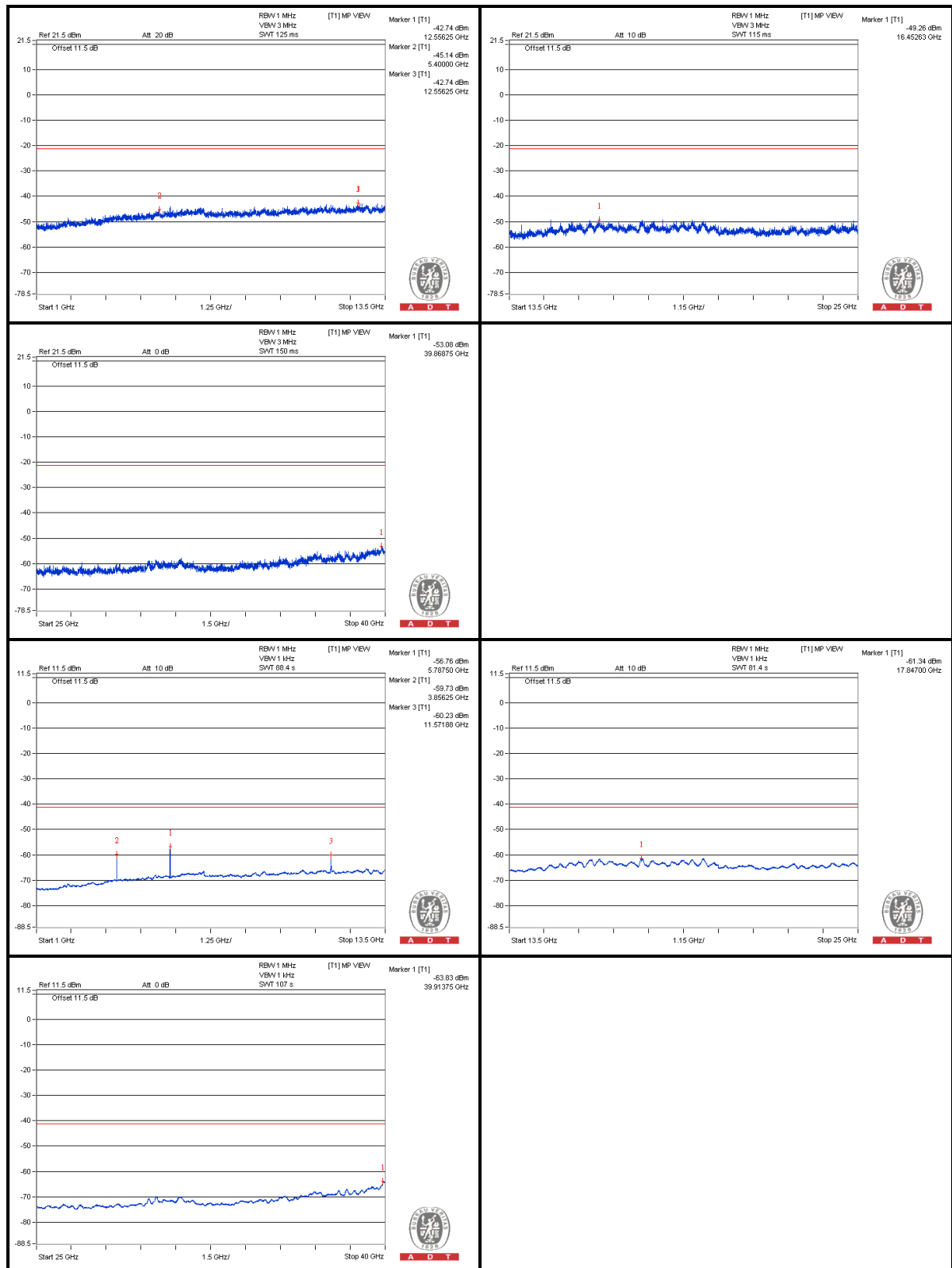
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3856.25 PK	52.79	74	-21.21	-47.23	4.76	-42.47
2	3856.25 AV	40.29	54	-13.71	-59.73	4.76	-54.97
3	7712.5 PK	53.85	74	-20.15	-46.17	4.76	-41.41
4	7712.5 AV	31.4	54	-22.6	-68.62	4.76	-63.86
5	11571.875 PK	56.52	74	-17.48	-43.5	4.76	-38.74
6	11571.875 AV	39.79	54	-14.21	-60.23	4.76	-55.47

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.





A D T

802.11ac(VHT20)- Channel 165

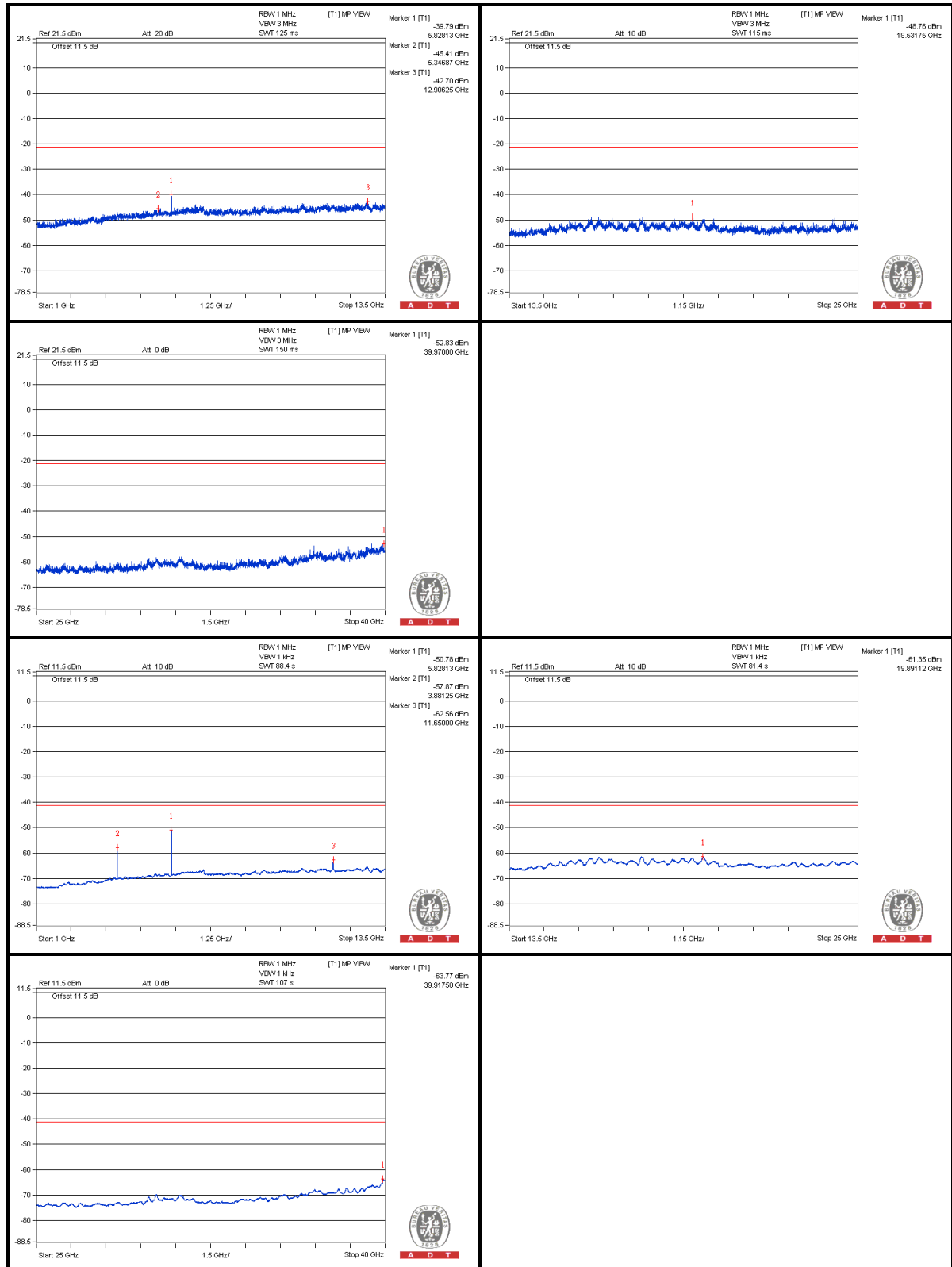
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3884.375 PK	52.86	74	-21.14	-47.16	4.76	-42.4
2	3881.25 AV	42.15	54	-11.85	-57.87	4.76	-53.11
3	11656.25 PK	55.72	74	-18.28	-44.3	4.76	-39.54
4	11650 AV	37.46	54	-16.54	-62.56	4.76	-57.8

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11ac(VHT40) - Channel 151

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3834.375 PK	51.96	74	-22.04	-48.06	4.76	-43.3
2	3834.375 AV	38.83	54	-15.17	-61.19	4.76	-56.43
3	7675 PK	53.41	74	-20.59	-46.61	4.76	-41.85
4	7665.625 AV	31.67	54	-22.33	-68.35	4.76	-63.59
5	11515.625 PK	55.34	74	-18.66	-44.68	4.76	-39.92
6	11512.5 AV	38.12	54	-15.88	-61.9	4.76	-57.14

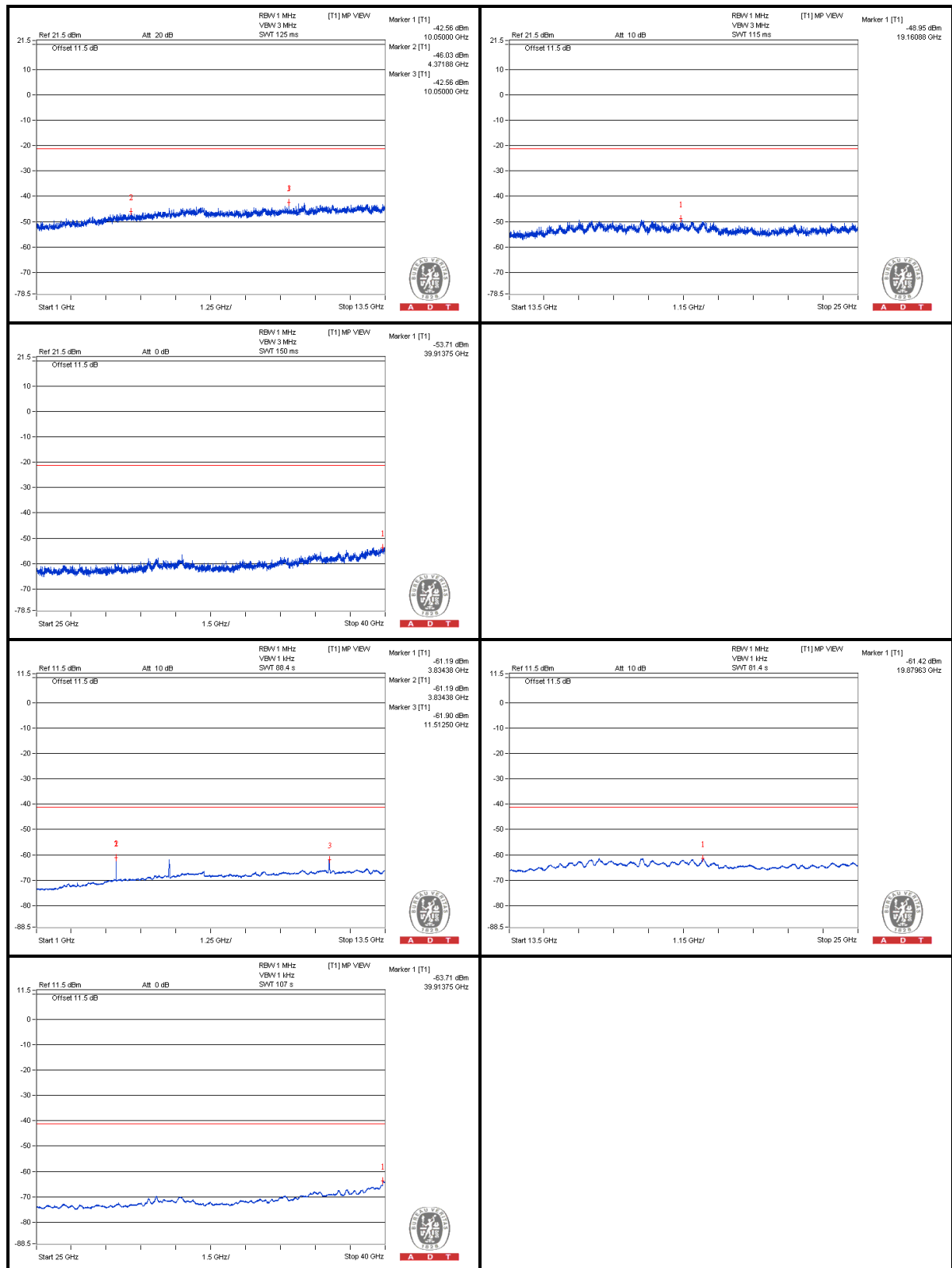
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



A D T



802.11ac(VHT40)- Channel 159

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	3862.5 PK	52.48	74	-21.52	-47.54	4.76	-42.78
2	3862.5 AV	40.67	54	-13.33	-59.35	4.76	-54.59
3	7731.25 PK	53.83	74	-20.17	-46.19	4.76	-41.43
4	7725 AV	31.6	54	-22.4	-68.42	4.76	-63.66
5	11593.75 PK	56.1	74	-17.9	-43.92	4.76	-39.16
6	11590.625 AV	37.19	54	-16.81	-62.83	4.76	-58.07

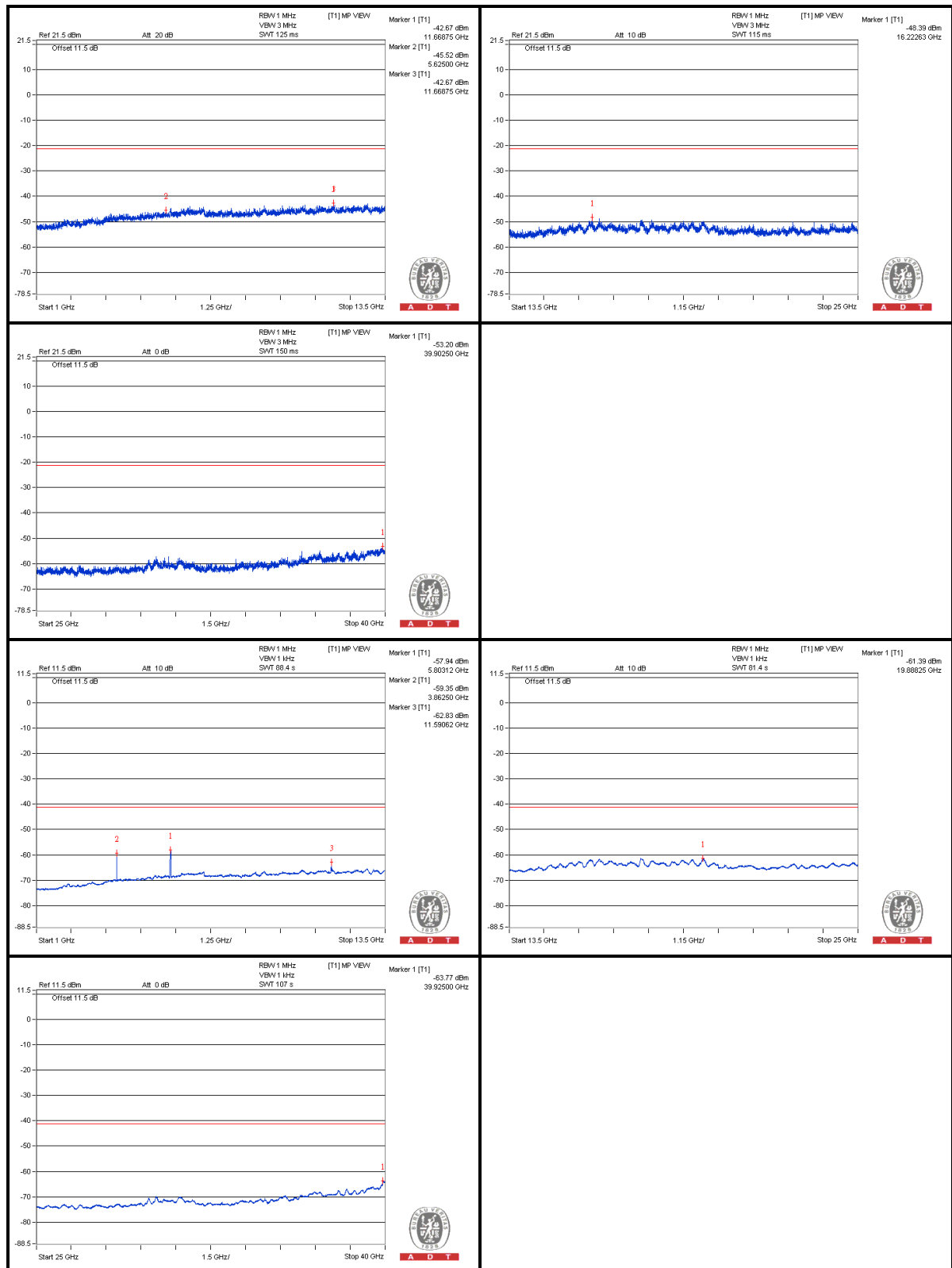
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



A D T



5.6.10 TEST RESULTS (MODE 2, CONDUCTED MEASUREMENT)

Radiated versus Conducted Measurement	
☒ Conducted measurement	☐ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) <u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Conducted Measurement Factor
a. The composite gain will be used when signal support the correlated signal. (Composite gain = $4.76\text{dBi} + 10\log(2) = 7.77\text{dBi}$) b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands. c. For the band edge the gain for the specific band may have been used. d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For $f = 30 - 1000$ MHz, add 4.7 dB. Note: The conducted emission test was considered some factor to compute test result.

BELOW 1GHz WORST-CASE DATA

802.11ac(VHT20) – Channel 157

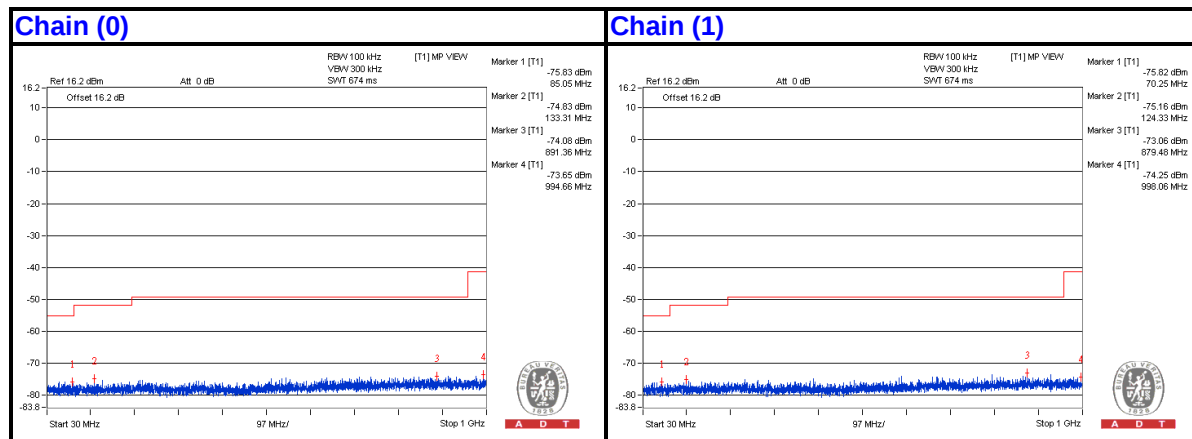
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	53.28	29.75	40	-10.25	-76.41	-76.18	7.77	-65.51
2	124.3325	30.05	43.5	-13.45	-77.01	-75.16	7.77	-65.21
3	283.4125	29.77	46	-16.23	-77.32	-75.43	7.77	-65.49
4	595.2675	30.21	46	-15.79	-77.47	-74.64	7.77	-65.05
5	714.0925	31.09	46	-14.91	-74.74	-75.17	7.77	-64.17
6	879.4775	31.46	46	-14.54	-76.93	-73.06	7.77	-63.8

Note :

Emission Level (dBUV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.





A D T

ABOVE 1GHz DATA

802.11a - Channel 149

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3837.5 PK	57.69	74	-16.31	-47.18	-49.97	7.77	-37.57
2	3828.125 AV	43.64	54	-10.36	-63.12	-61.78	7.77	-51.62
3	7659.375 PK	58.73	74	-15.27	-47.81	-46.86	7.77	-36.53
4	7653.125 AV	37.35	54	-16.65	-68.53	-68.86	7.77	-57.91
5	11490.625 PK	61.62	74	-12.38	-43.64	-45.37	7.77	-33.64
6	11490.625 AV	42.27	54	-11.73	-64.46	-63.18	7.77	-52.99

Note :

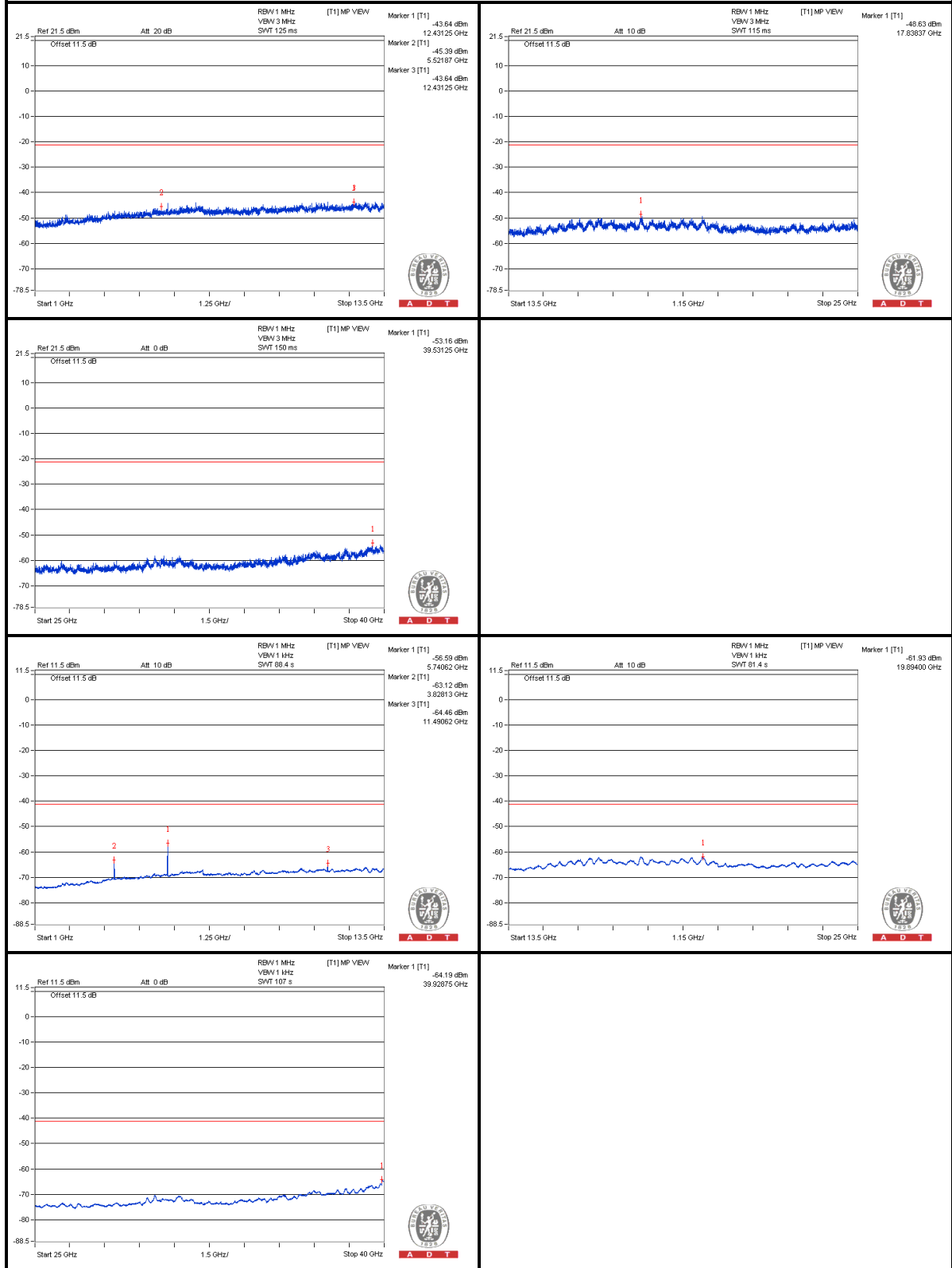
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

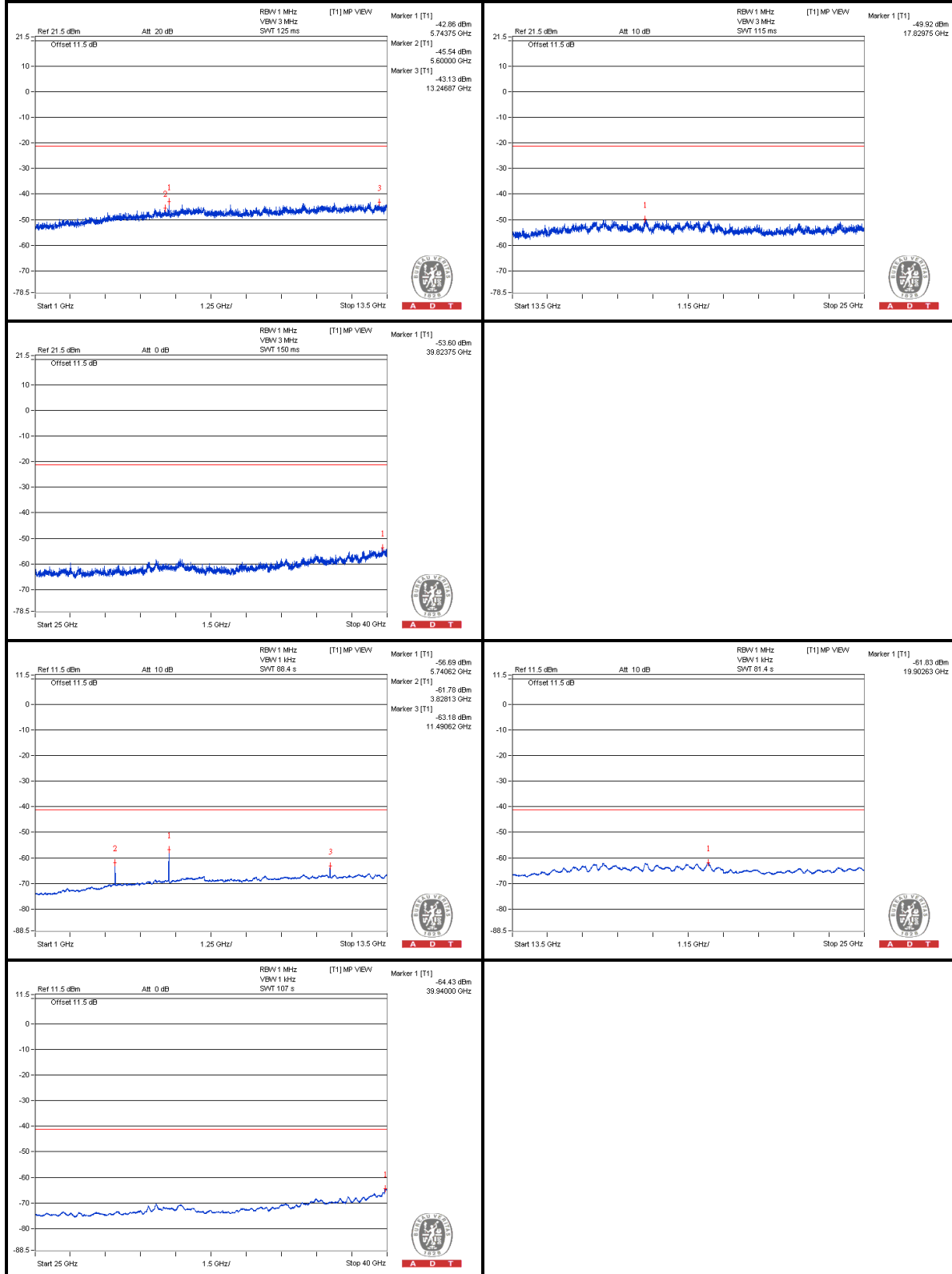


A D T

Chain (0)



Chain (1)



802.11a- Channel 157

Conducted spurious emission table

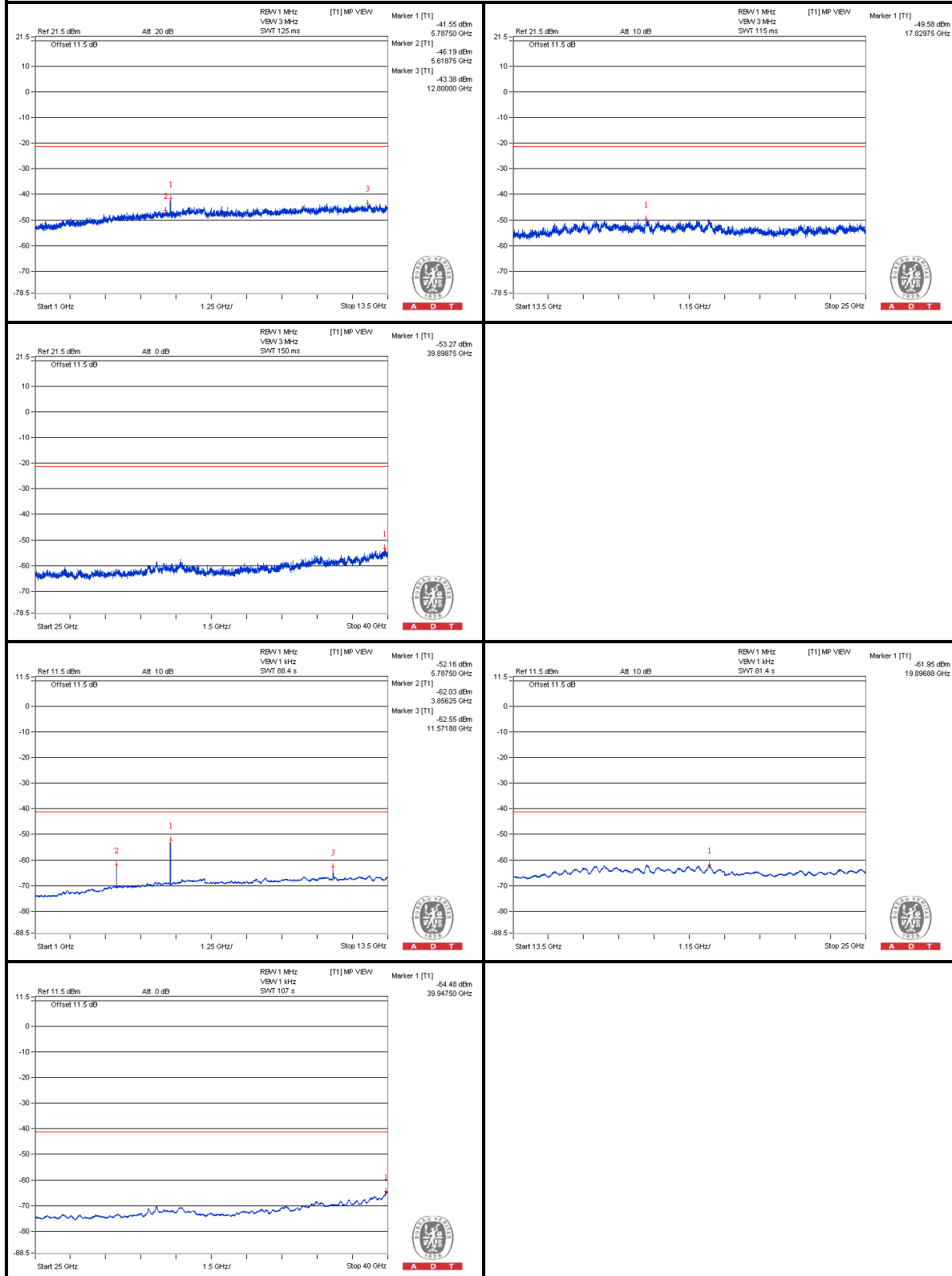
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3856.25 PK	57.63	74	-16.37	-49.38	-47.62	7.77	-37.63
2	3856.25 AV	44.75	54	-9.25	-62.03	-60.66	7.77	-50.51
3	7721.875 PK	58.79	74	-15.21	-46.78	-47.77	7.77	-36.47
4	7712.5 AV	36.9	54	-17.1	-69.09	-69.19	7.77	-58.36
5	11565.625 PK	60.63	74	-13.37	-44.79	-46.14	7.77	-34.63
6	11571.875 AV	42.37	54	-11.63	-62.55	-65.19	7.77	-52.89

Note :

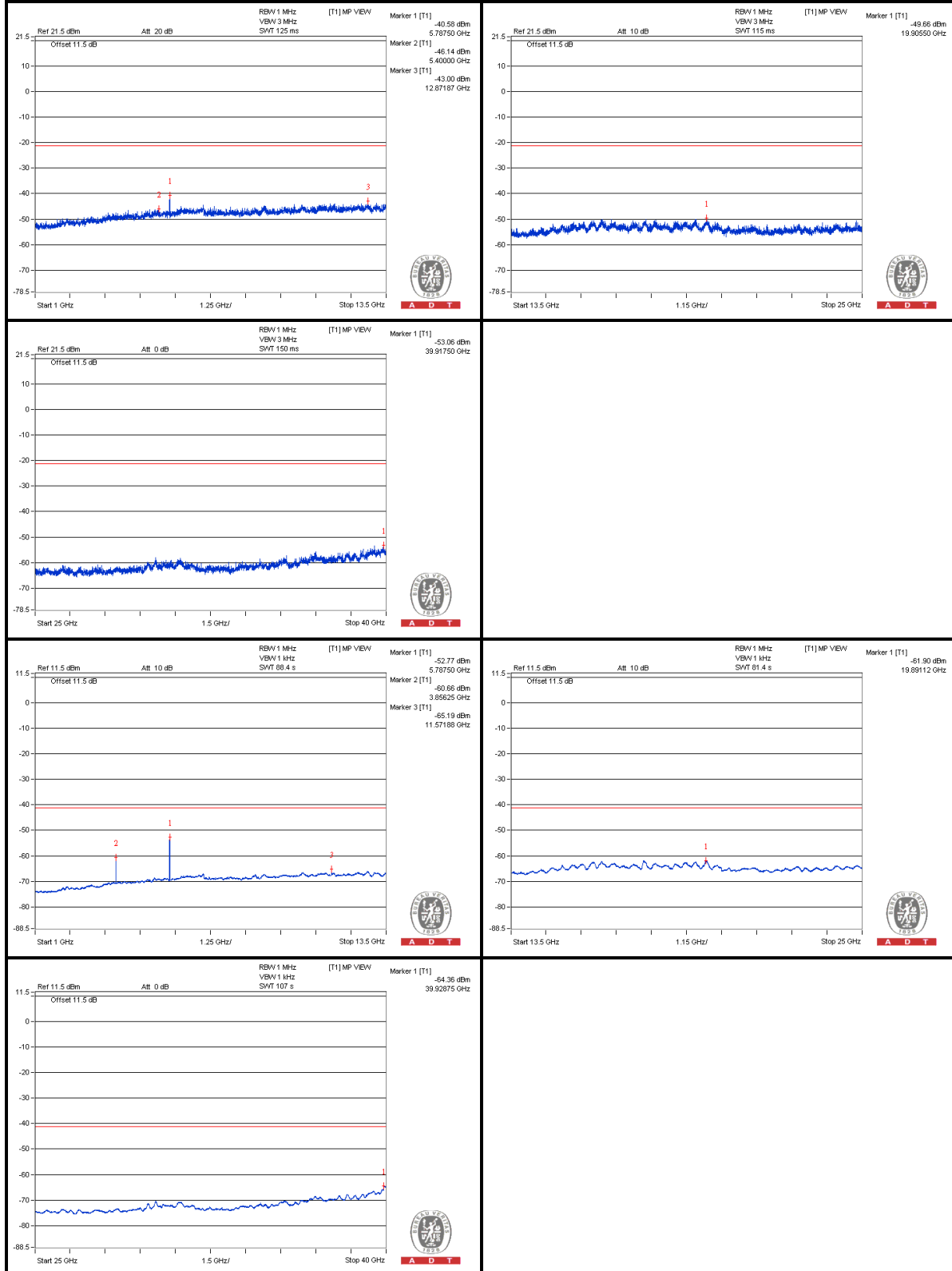
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain (0)



Chain (1)





A D T

802.11a- Channel 165

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3884.375 PK	57.54	74	-16.46	-49.55	-47.65	7.77	-37.72
2	3881.25 AV	46.12	54	-7.88	-60.11	-59.74	7.77	-49.14
3	11646.875 PK	62.04	74	-11.96	-44.62	-43.46	7.77	-33.22
4	11653.125 AV	45.86	54	-8.14	-59.45	-61.05	7.77	-49.4

Note :

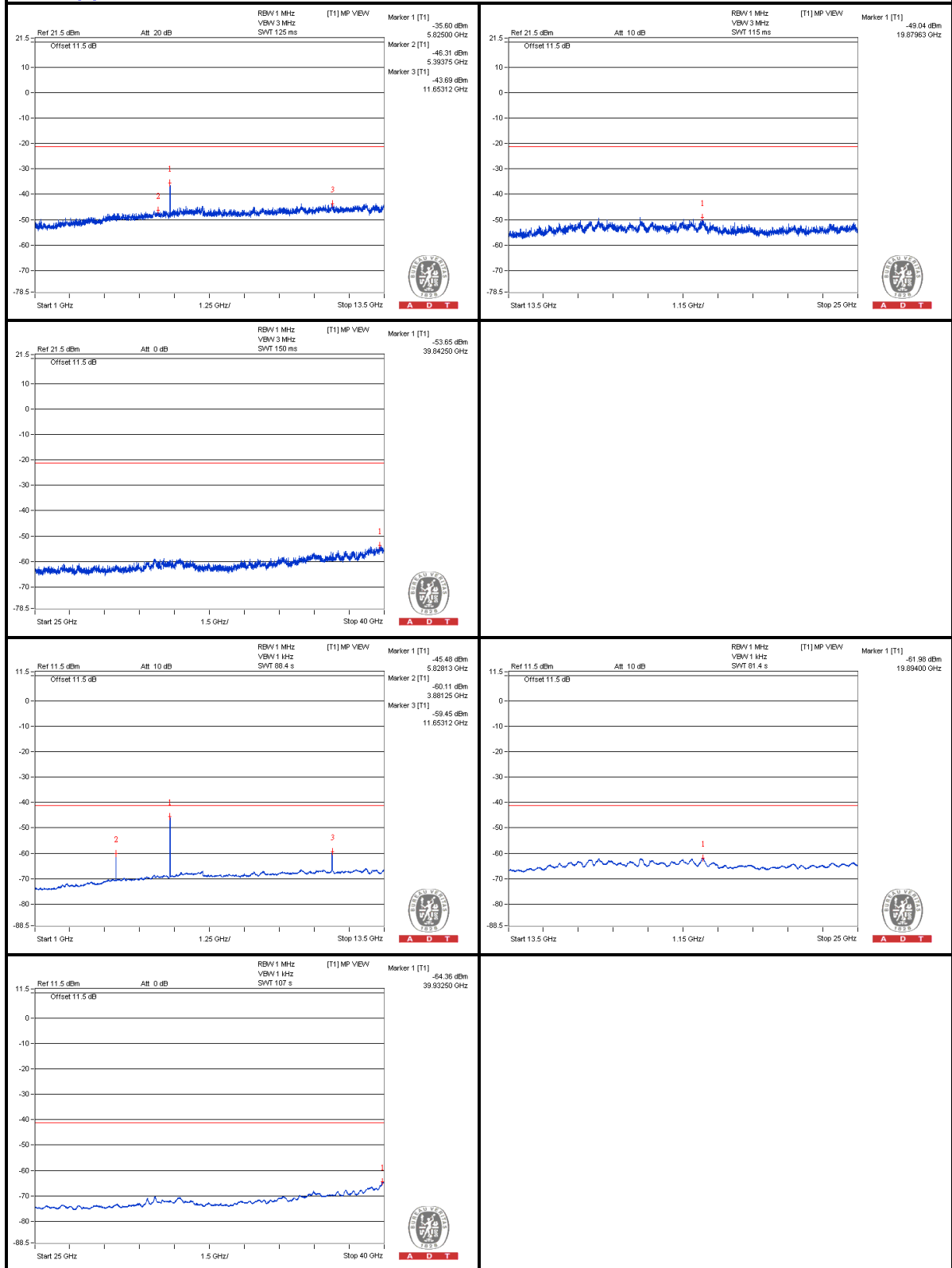
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



A D T

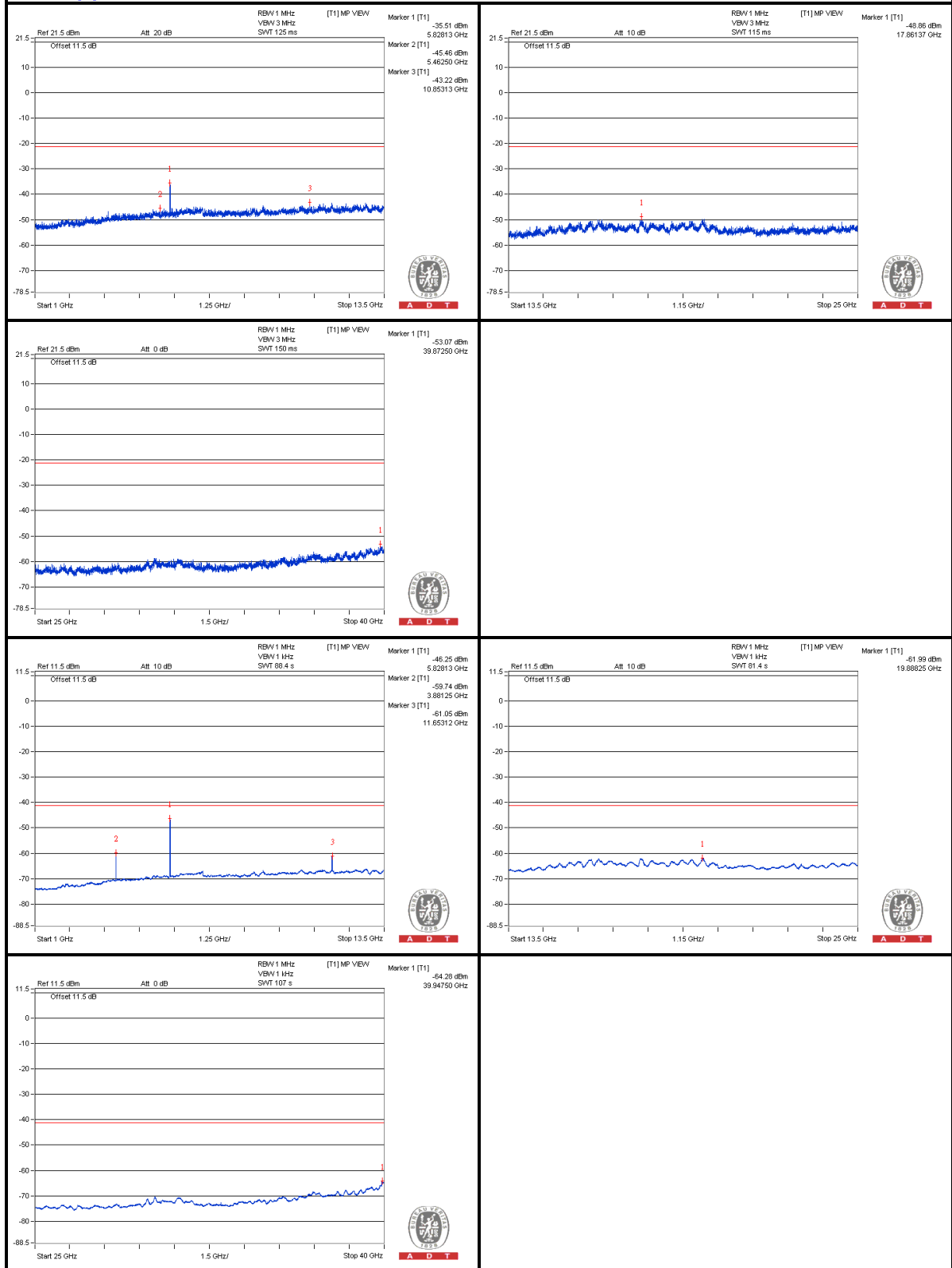
Chain (0)





A D T

Chain (1)





A D T

802.11ac(VHT20) - Channel 149

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3828.125 PK	58.28	74	-15.72	-48.46	-47.16	7.77	-36.98
2	3828.125 AV	43.55	54	-10.45	-61.67	-63.49	7.77	-51.71
3	7662.5 PK	59.18	74	-14.82	-46.79	-46.93	7.77	-36.08
4	7650 AV	37.89	54	-16.11	-68.19	-68.11	7.77	-57.37
5	11484.375 PK	62.8	74	-11.2	-44.73	-42.13	7.77	-32.46
6	11490.625 AV	48.07	54	-5.93	-59.17	-57.03	7.77	-47.19

Note :

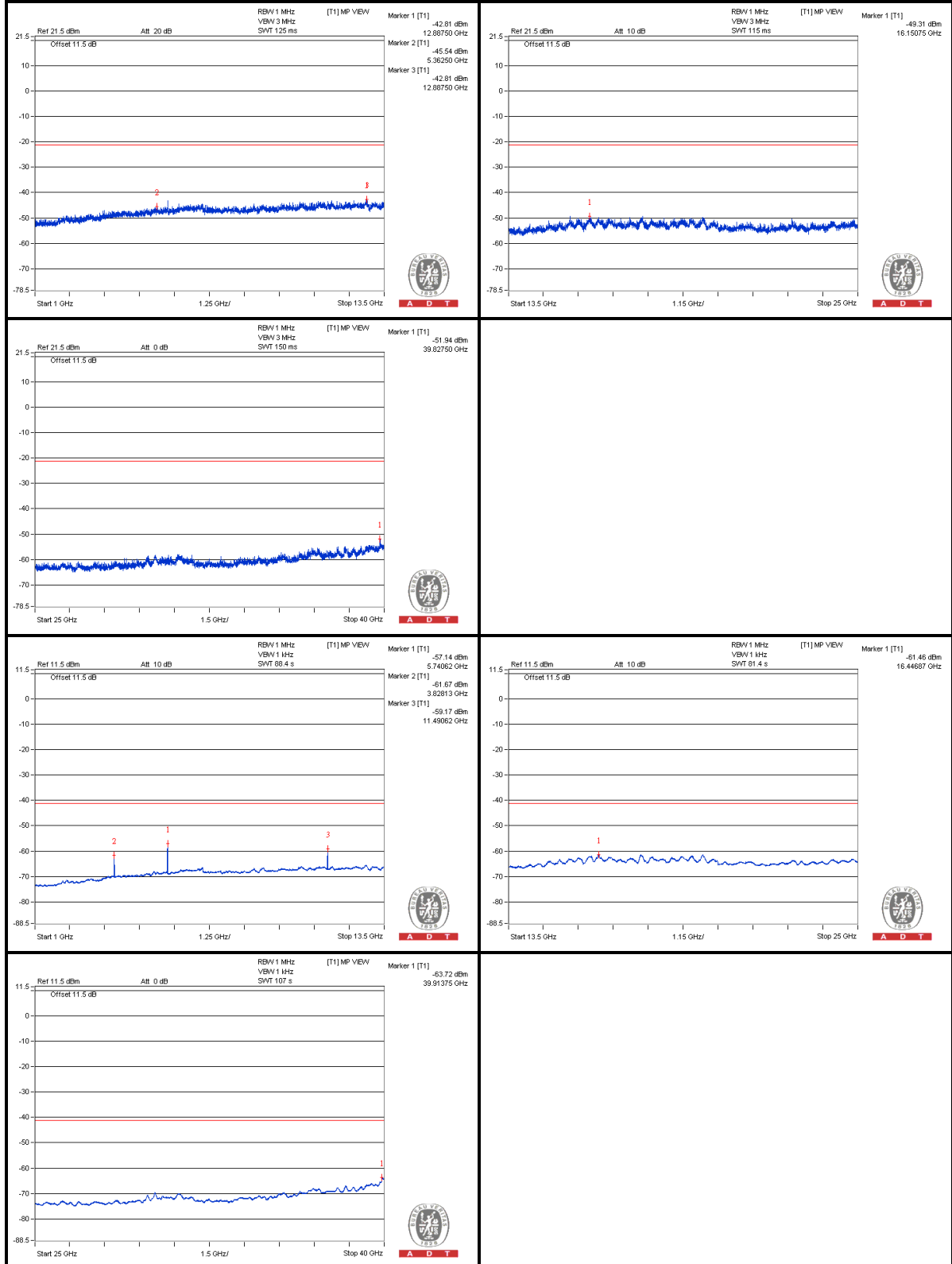
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

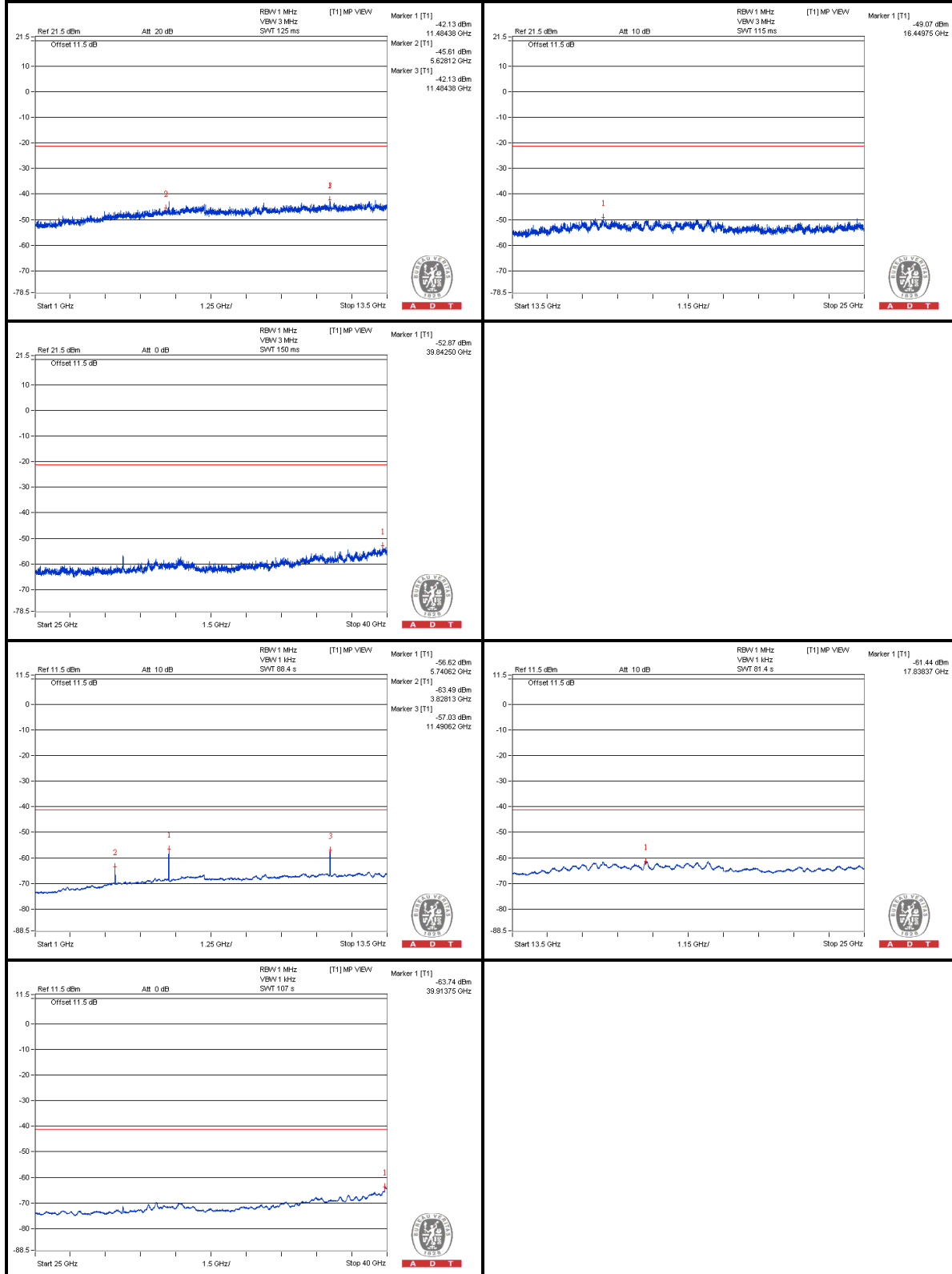


A D T

Chain (0)



Chain (1)



802.11ac(VHT20)- Channel 157

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3856.25 PK	58.08	74	-15.92	-47.23	-48.85	7.77	-37.18
2	3856.25 AV	46.06	54	-7.94	-59.73	-60.24	7.77	-49.2
3	7712.5 PK	59.15	74	-14.85	-46.17	-47.75	7.77	-36.11
4	7721.875 AV	37.43	54	-16.57	-68.76	-68.47	7.77	-57.83
5	11571.875 PK	63.29	74	-10.71	-43.5	-42.11	7.77	-31.97
6	11571.875 AV	46.75	54	-7.25	-60.23	-58.52	7.77	-48.51

Note :

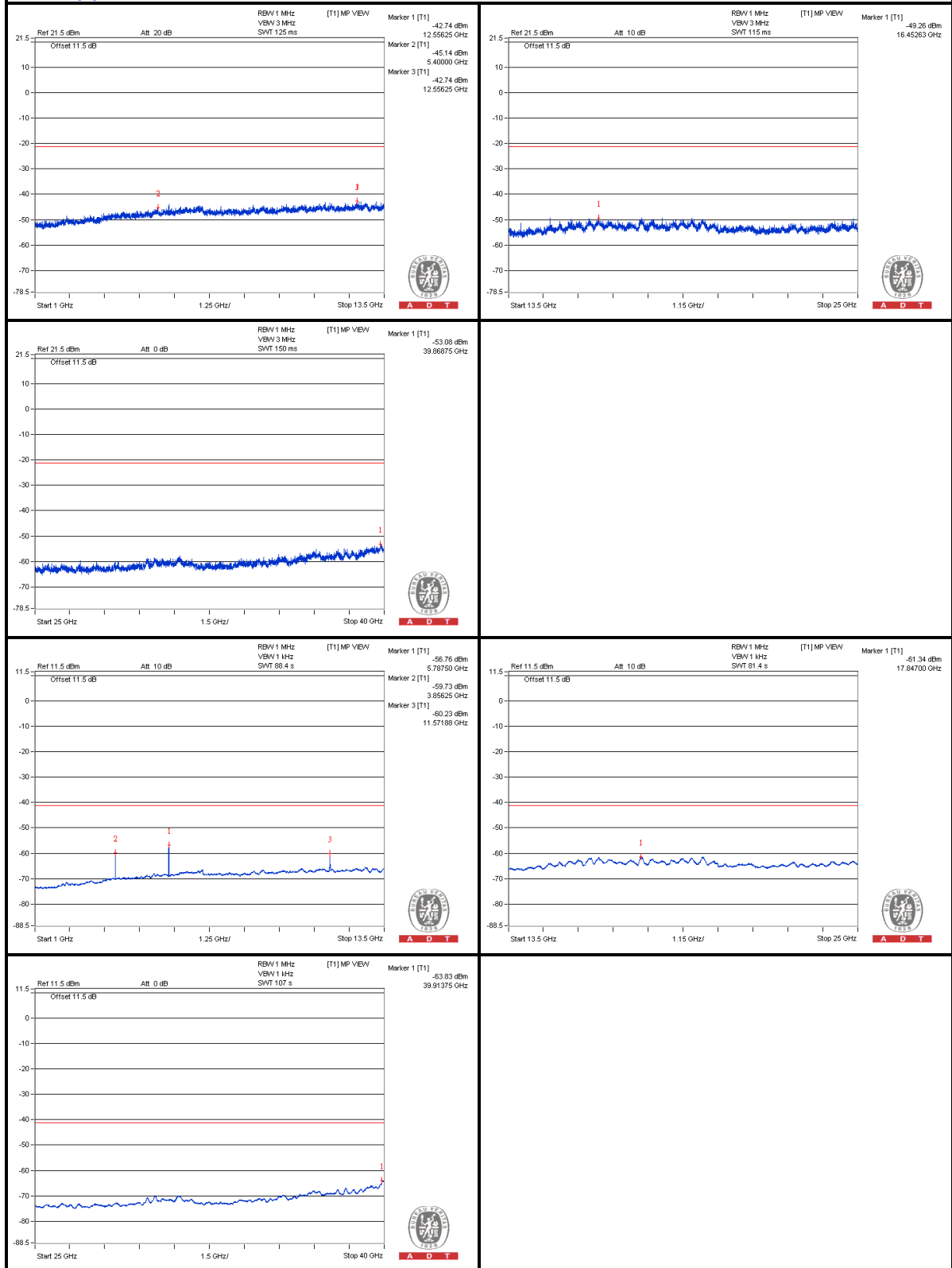
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

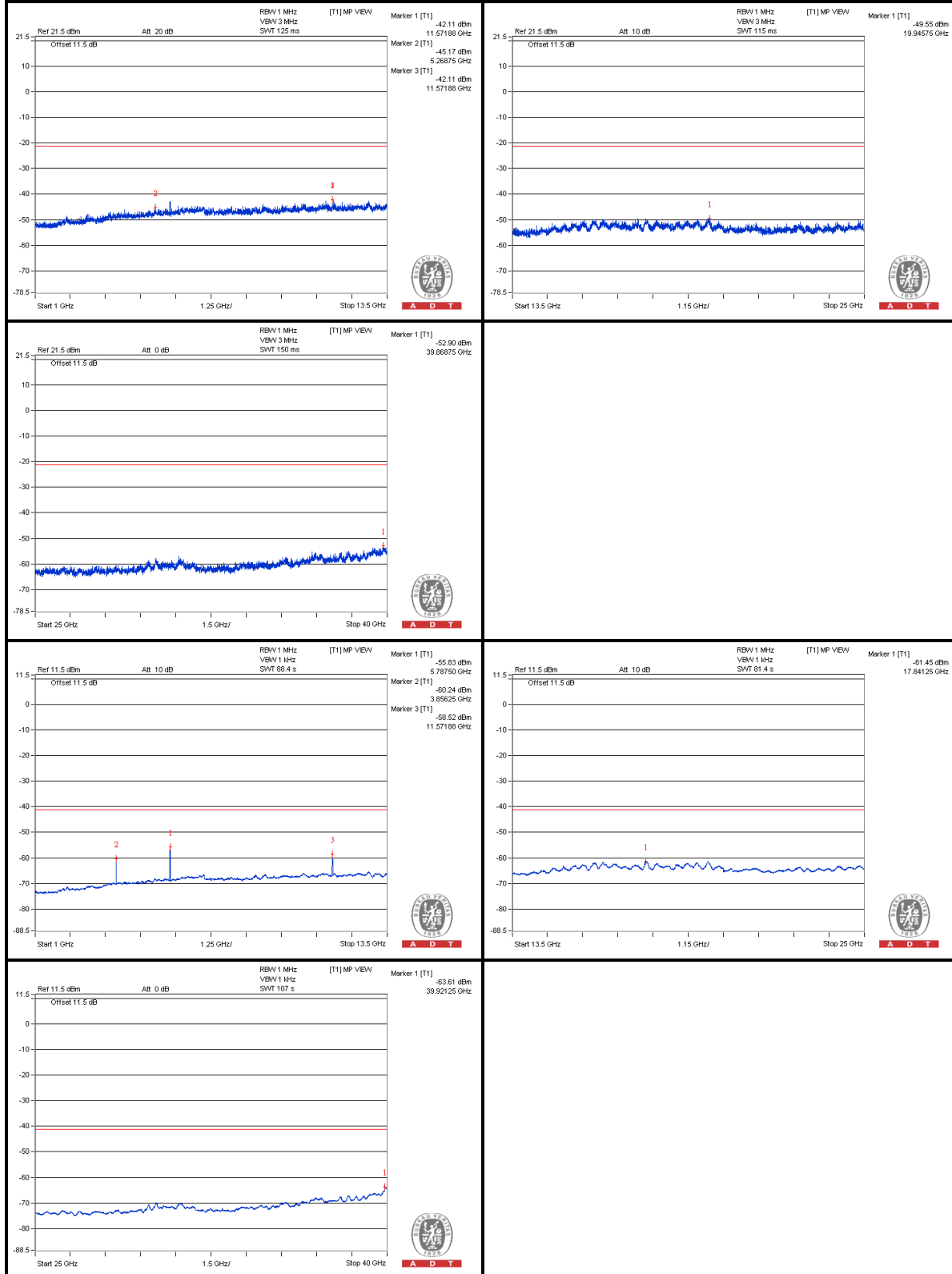


A D T

Chain (0)



Chain (1)





A D T

802.11ac(VHT20)- Channel 165

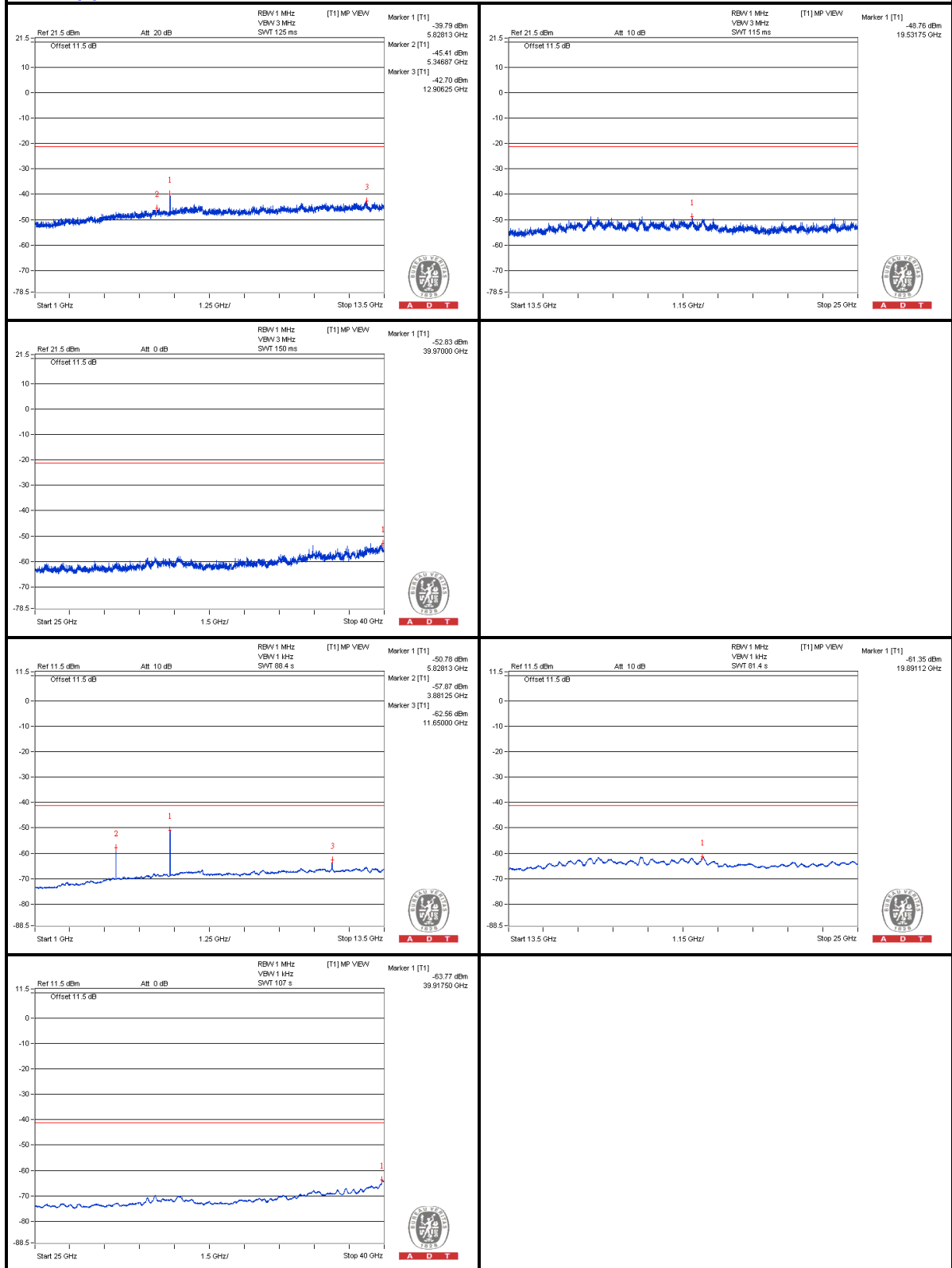
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3884.375 PK	58.27	74	-15.73	-47.16	-48.48	7.77	-36.99
2	3881.25 AV	47.94	54	-6.06	-57.87	-58.34	7.77	-47.32
3	11650 PK	62.54	74	-11.46	-44.83	-42.49	7.77	-32.72
4	11650 AV	44.73	54	-9.27	-62.56	-60.34	7.77	-50.53

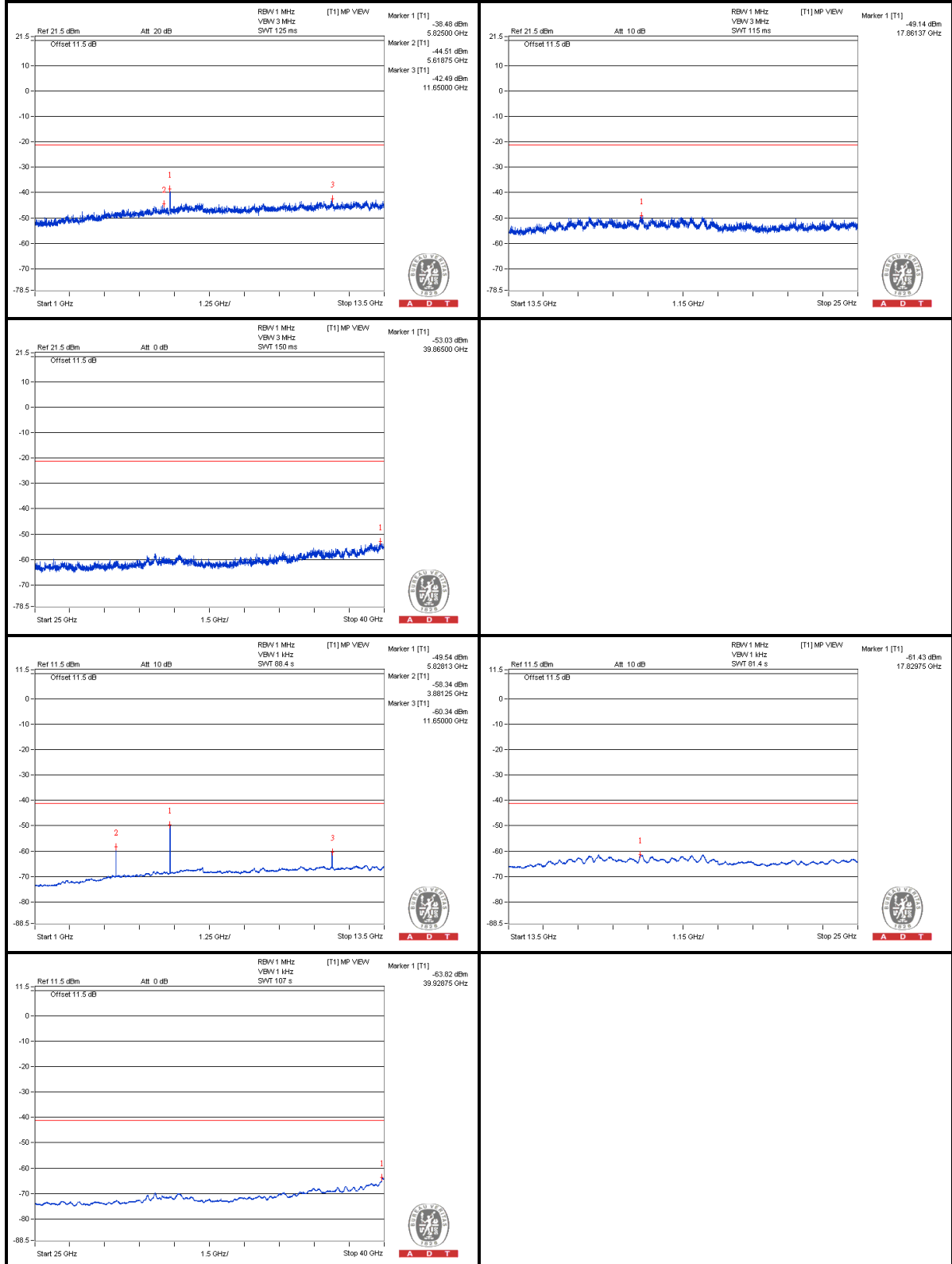
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



Chain (1)





A D T

802.11ac(VHT40) - Channel 151

Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3834.375 PK	58.48	74	-15.52	-48.06	-47.11	7.77	-36.78
2	3834.375 AV	44.94	54	-9.06	-61.19	-61.01	7.77	-50.32
3	7675 PK	59.52	74	-14.48	-46.61	-46.43	7.77	-35.74
4	7675 AV	37.6	54	-16.4	-68.49	-68.4	7.77	-57.66
5	11503.125 PK	61.39	74	-12.61	-45.91	-43.67	7.77	-33.87
6	11512.5 AV	44.66	54	-9.34	-61.9	-60.91	7.77	-50.6

Note :

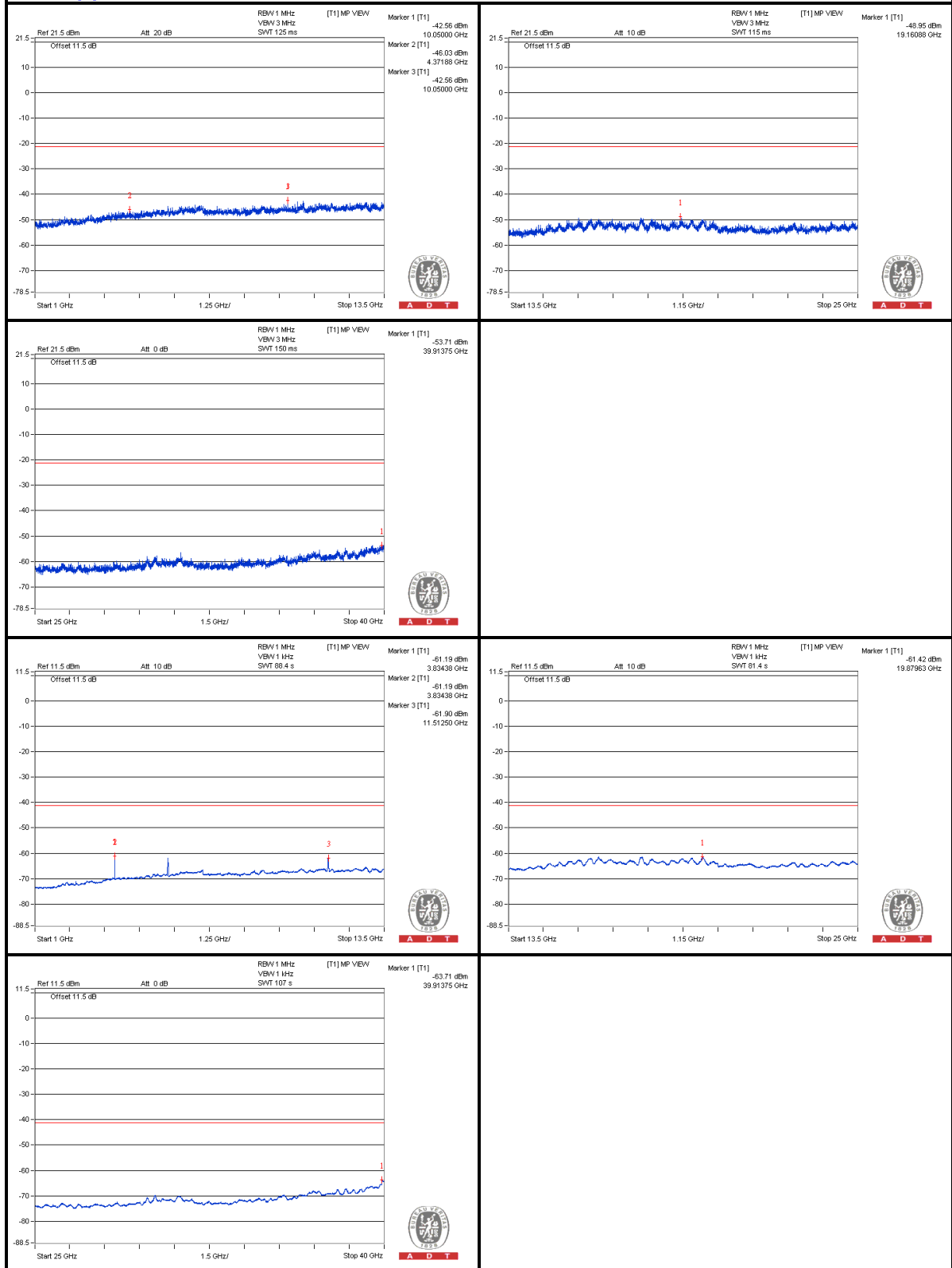
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

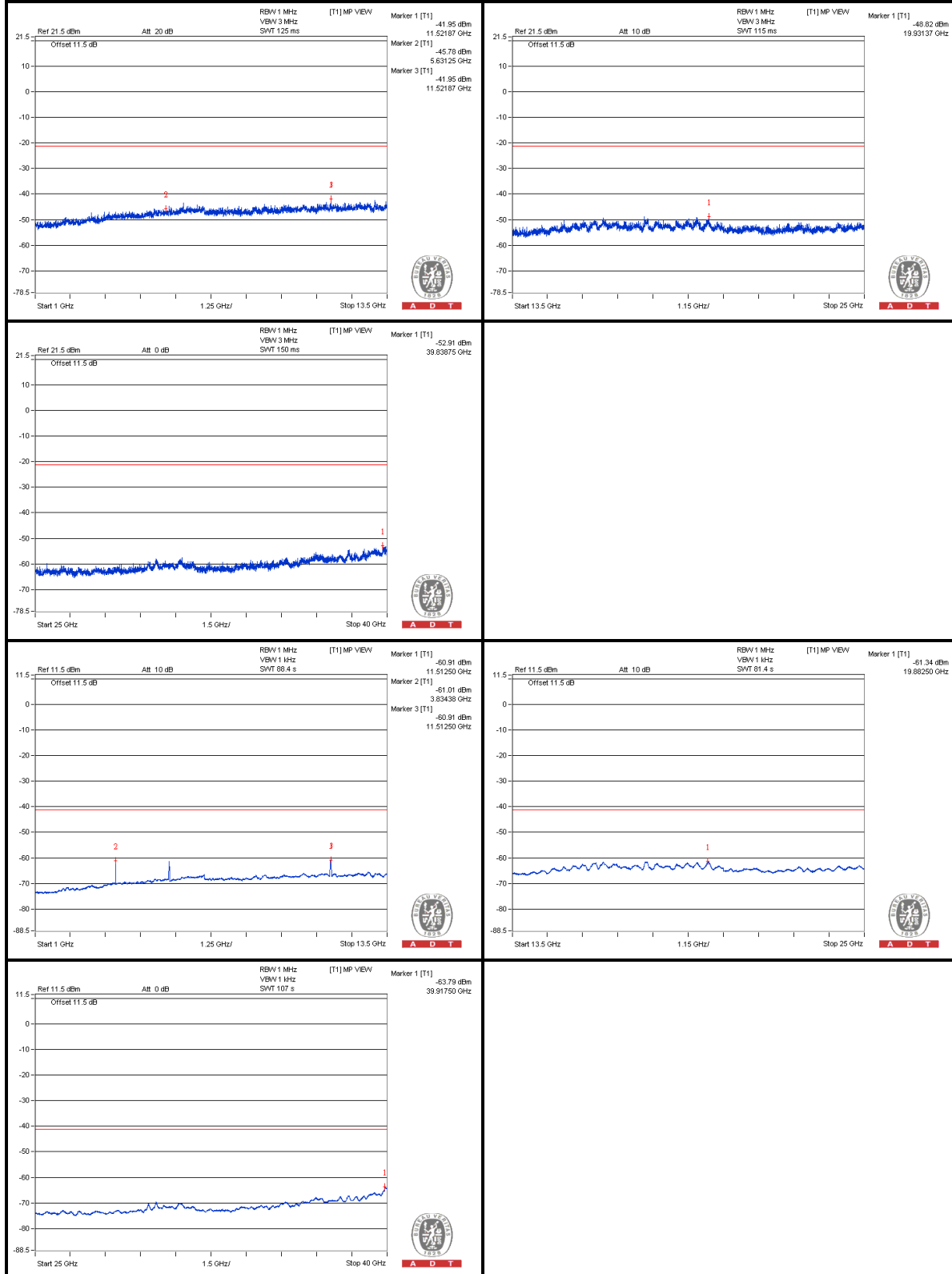


A D T

Chain (0)



Chain (1)



802.11ac(VHT40)- Channel 159

Conducted spurious emission table

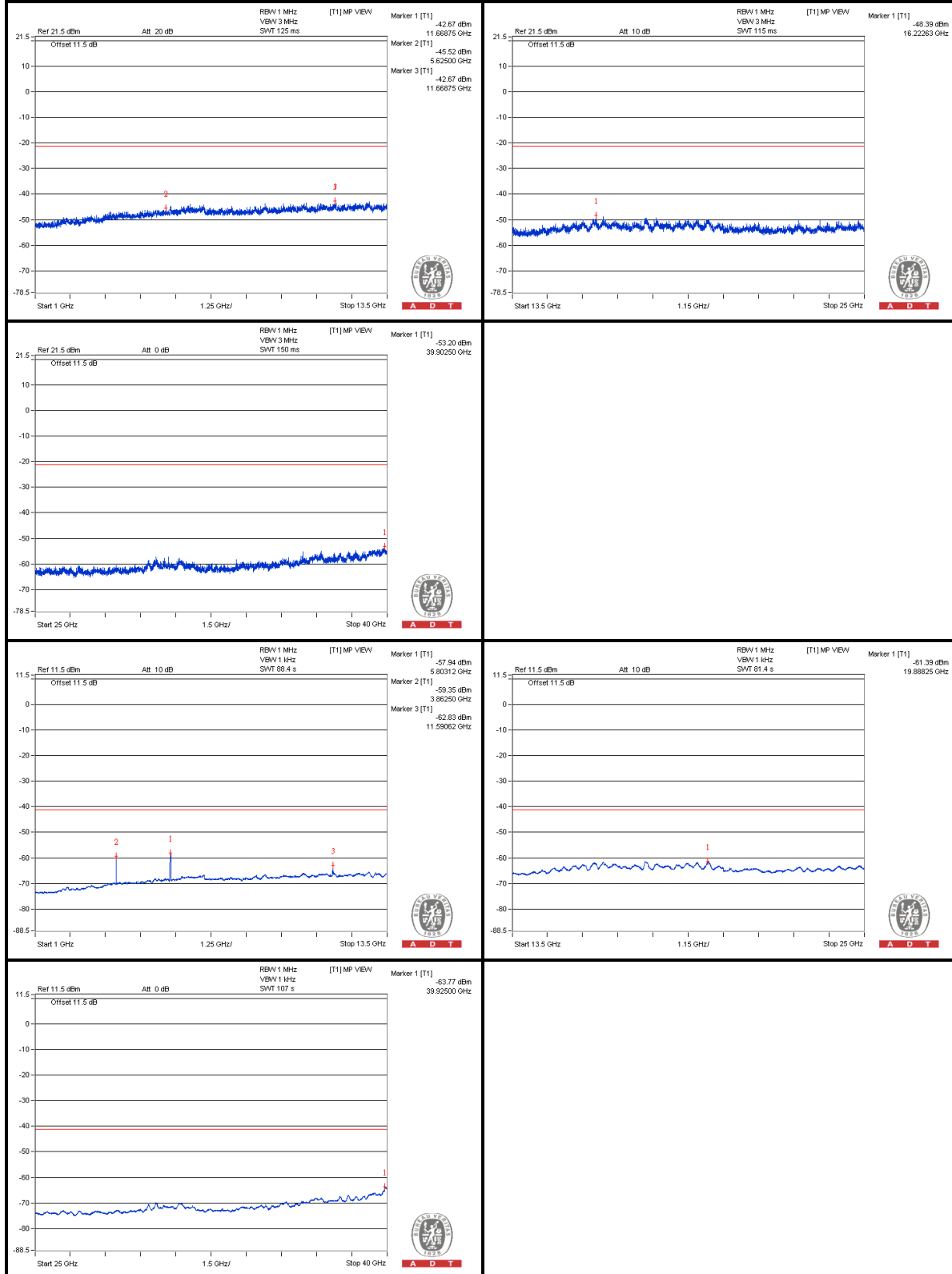
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3862.5 PK	58.06	74	-15.94	-47.54	-48.47	7.77	-37.2
2	3862.5 AV	46.74	54	-7.26	-59.35	-59.25	7.77	-48.52
3	7731.25 PK	59.13	74	-14.87	-46.19	-47.77	7.77	-36.13
4	7725 AV	37.49	54	-16.51	-68.42	-68.69	7.77	-57.77
5	11593.75 PK	61.51	74	-12.49	-43.92	-45.25	7.77	-33.75
6	11590.625 AV	43.89	54	-10.11	-62.83	-61.56	7.77	-51.37

Note :

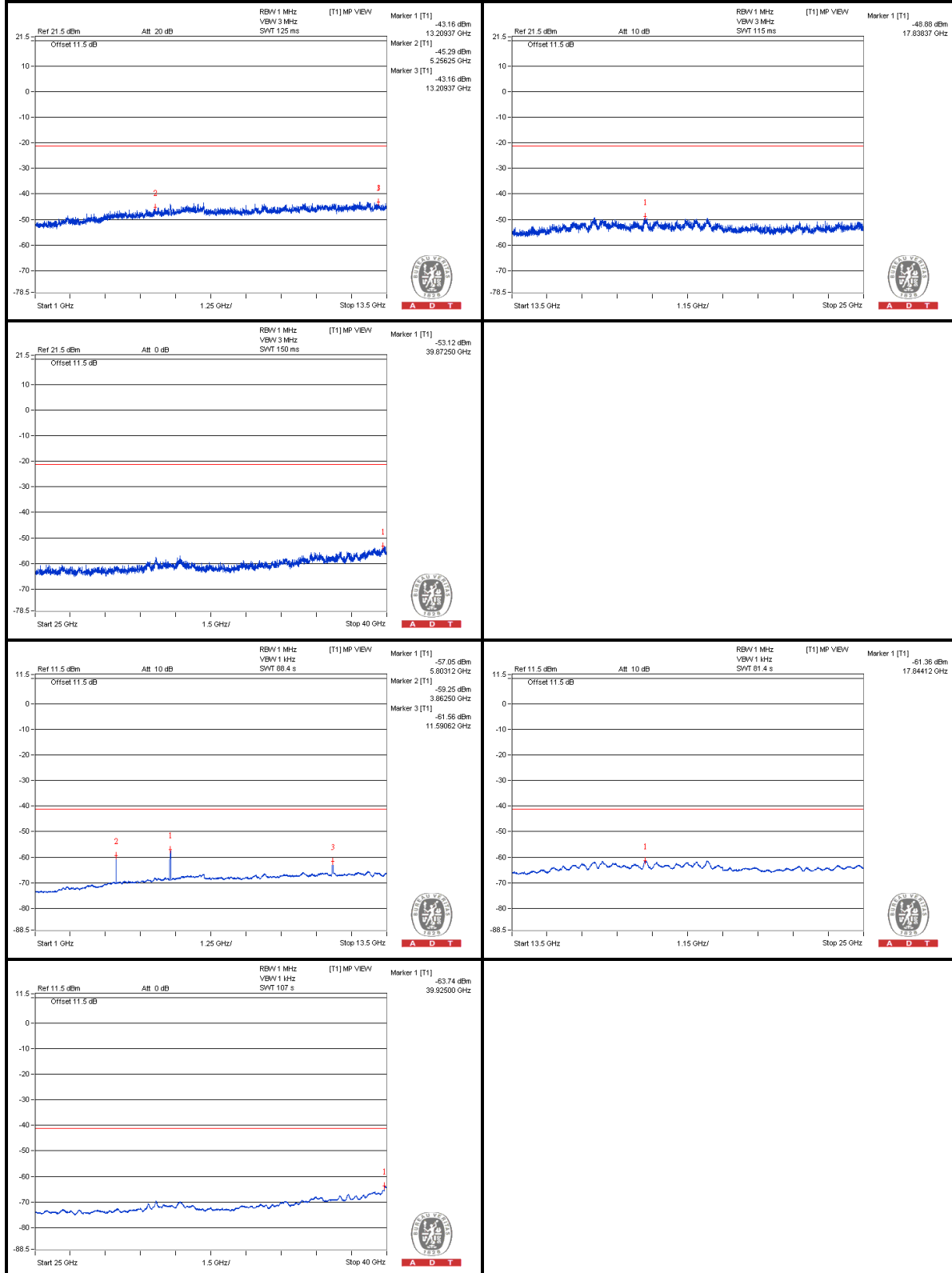
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain (0)



Chain (1)



802.11ac (VHT80)- Channel 155

Conducted spurious emission table

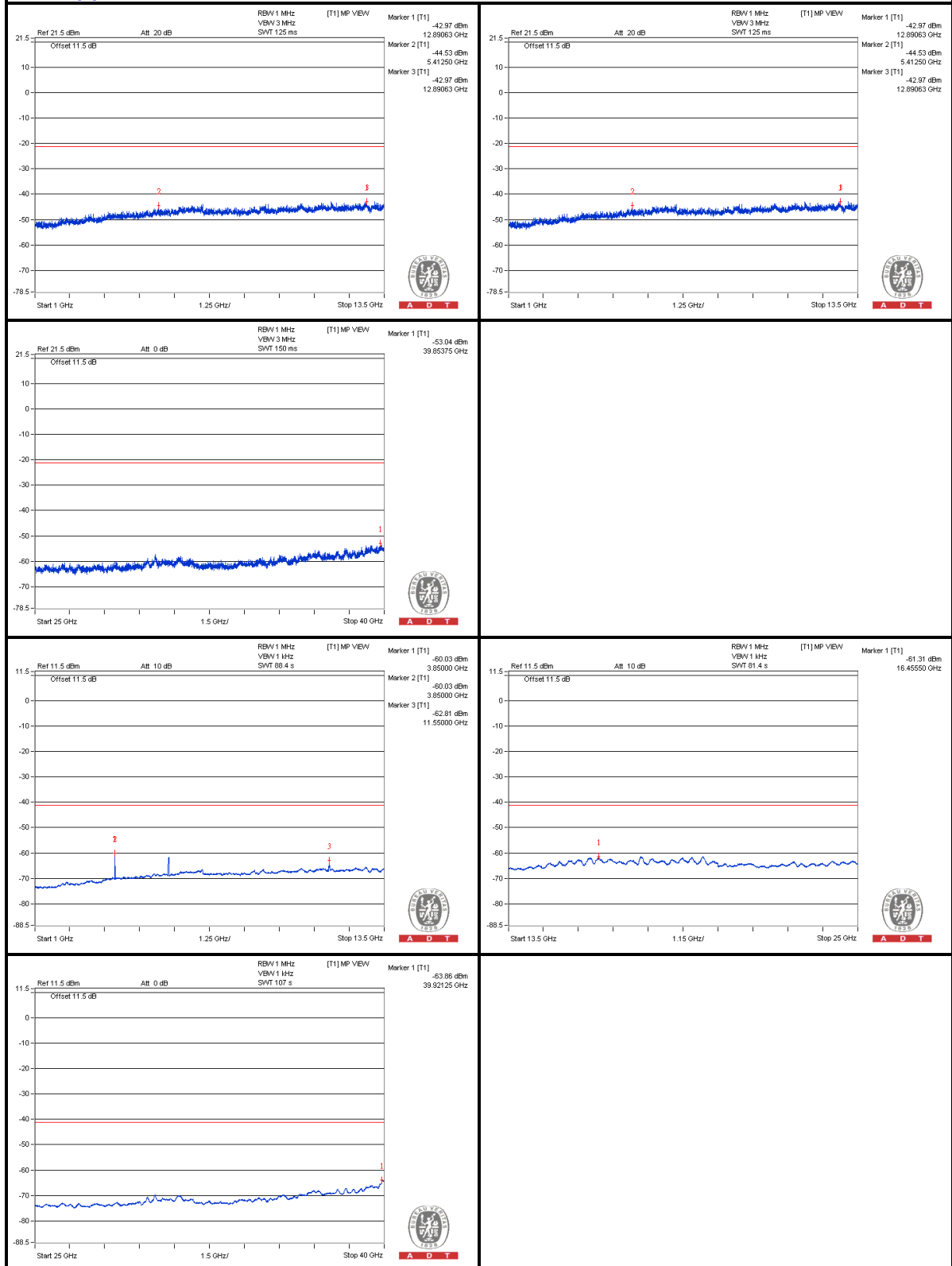
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)		Correction Factor (dB)	EIRP Level (dBm)
					Chain0	Chain1		
1	3859.375 PK	57.88	74	-16.12	-47.24	-49.32	7.77	-37.38
2	3850 AV	45.93	54	-8.07	-60.03	-60.19	7.77	-49.33
3	7706.25 PK	59.16	74	-14.84	-45.93	-48.09	7.77	-36.1
4	7700 AV	37.52	54	-16.48	-68.54	-68.5	7.77	-57.74
5	11546.875 PK	60.62	74	-13.38	-45.77	-45.1	7.77	-34.64
6	11550 AV	42.82	54	-11.18	-62.81	-63.67	7.77	-52.44

Note :

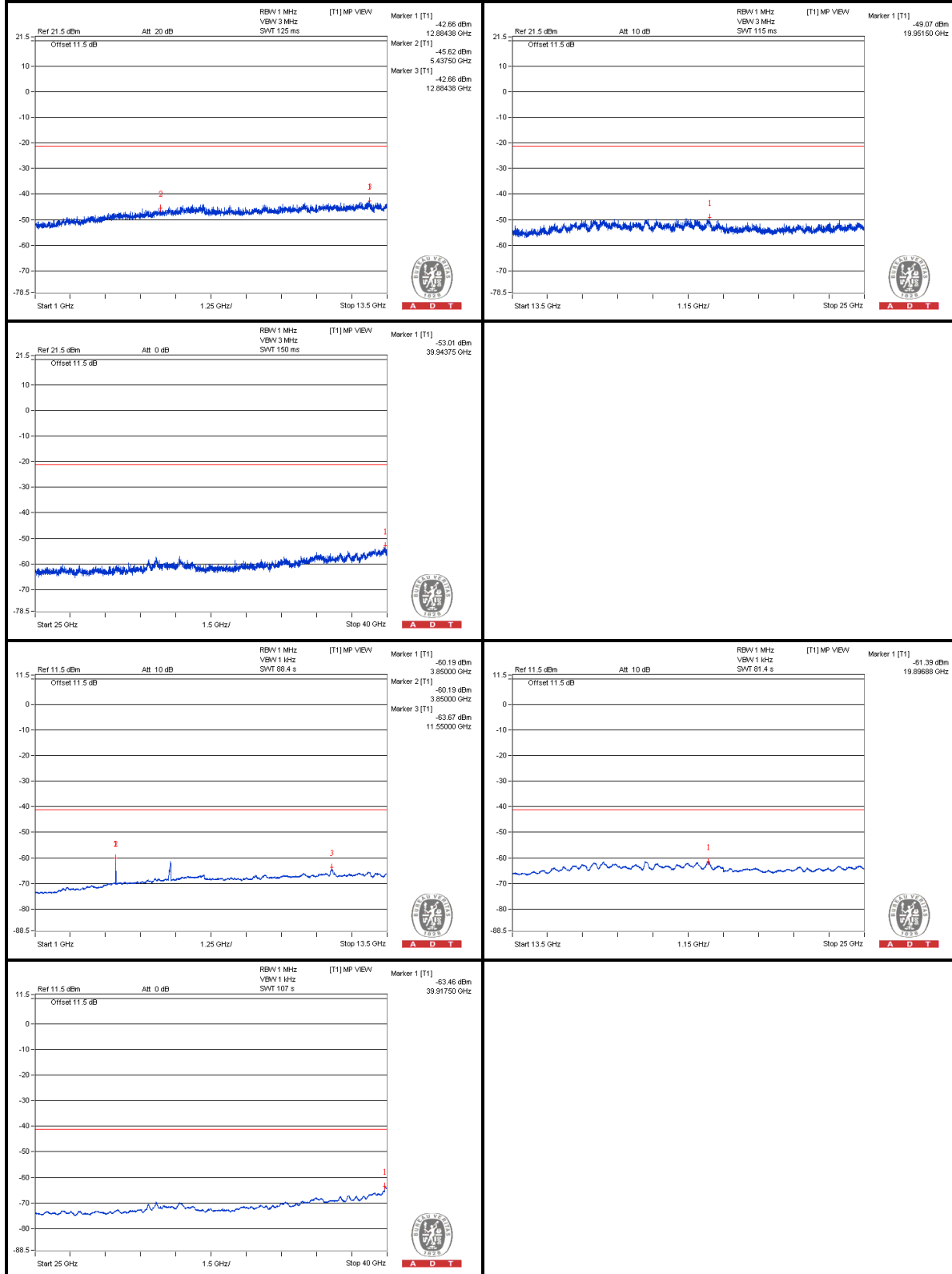
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Chain (0)



Chain (1)



5.7 AC POWER LINE AC POWER LINE CONDUCTED EMISSION MEASUREMENT

5.7.1 LIMITS OF AC POWER LINE CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 05, 2013	Sep. 04, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 06, 2013	June 05, 2014
RF Cable (JYEBAO)	5DFB	CONCAB-003	Mar. 07, 2014	Mar. 06, 2015
50 ohms Terminator	50	EMC-03	Sep. 24, 2013	Sep. 23, 2014
Software ADT	BV ADT_Cond_V7.3.7. 3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
- 3 The VCCI Con C Registration No. is C-3611.
- 4 Tested Date: Mar. 27, 2014

5.7.3 TEST PROCEDURES

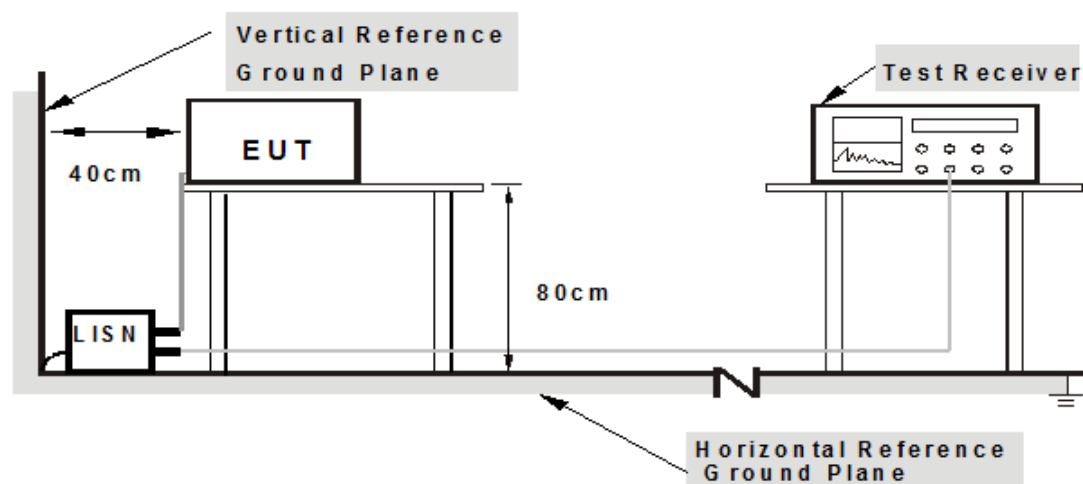
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit – 20dB) were not recorded.

NOTE: The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

5.7.4 DEVIATION FROM TEST STANDARD

No deviation

5.7.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.7.6 EUT OPERATING CONDITIONS

Same as the 4.7.6

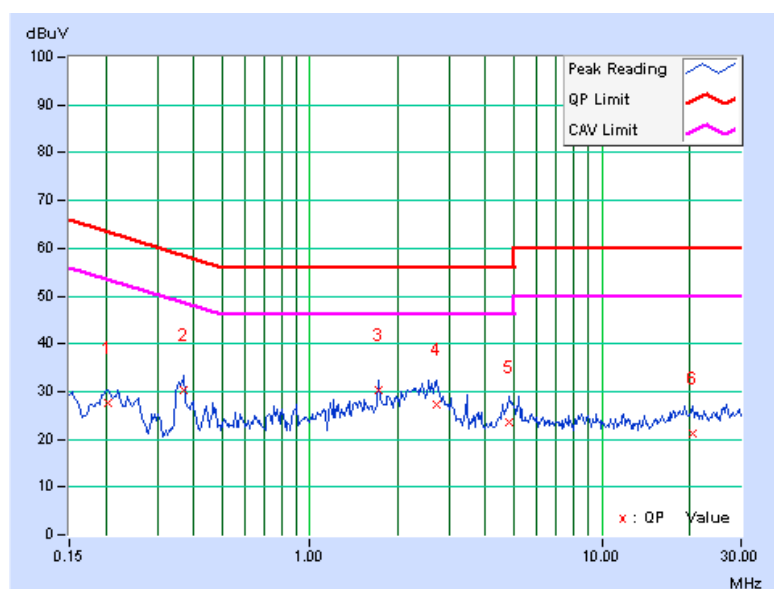
5.7.7 TEST RESULTS(MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20384	9.96	17.58	11.29	27.54	21.25	63.45	53.45	-35.91	-32.20
2	0.36896	9.98	20.17	9.59	30.15	19.57	58.52	48.52	-28.38	-28.96
3	1.72182	10.02	20.31	17.37	30.33	27.39	56.00	46.00	-25.67	-18.61
4	2.71105	10.06	17.14	9.03	27.20	19.09	56.00	46.00	-28.80	-26.91
5	4.83418	10.14	13.31	4.57	23.45	14.71	56.00	46.00	-32.55	-31.29
6	20.57193	10.58	10.78	4.64	21.36	15.22	60.00	50.00	-38.64	-34.78

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

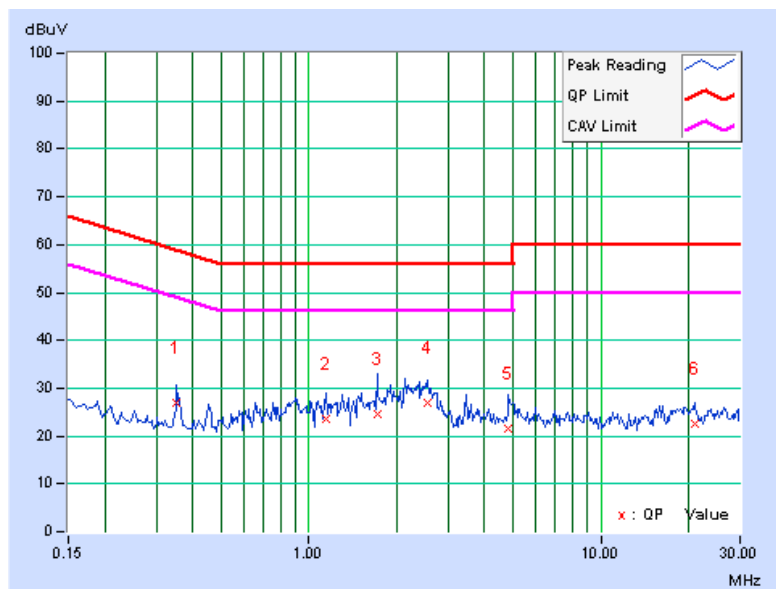


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.35327	9.98	17.03	10.00	27.01	19.98	58.89	48.89	-31.88	-28.91
2	1.14314	10.00	13.64	5.10	23.64	15.10	56.00	46.00	-32.36	-30.90
3	1.72182	10.03	14.54	14.39	24.57	24.42	56.00	46.00	-31.43	-21.58
4	2.56638	10.06	16.86	8.26	26.92	18.32	56.00	46.00	-29.08	-27.68
5	4.83027	10.13	11.29	3.94	21.42	14.07	56.00	46.00	-34.58	-31.93
6	20.88864	10.58	12.04	5.80	22.62	16.38	60.00	50.00	-37.38	-33.62

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



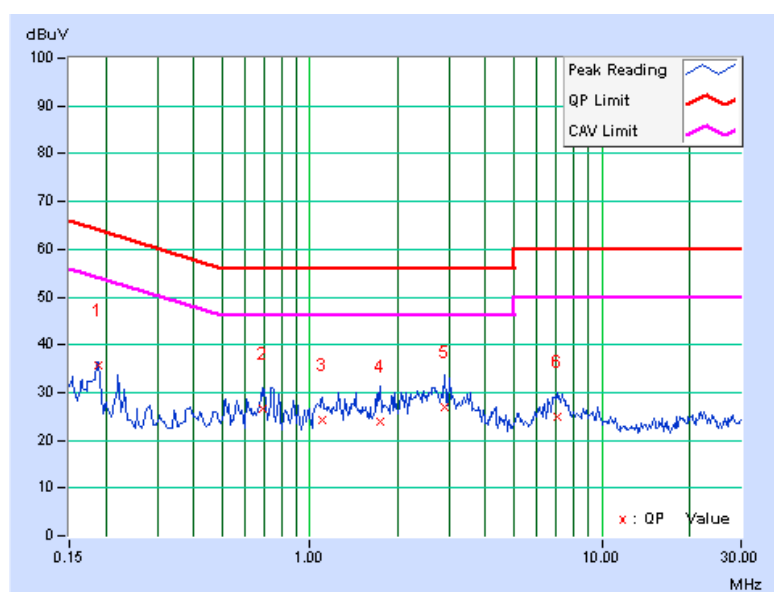
5.7.8 TEST RESULTS(MODE 2)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18910	9.96	25.61	15.03	35.57	24.99	64.08	54.08	-28.51	-29.09
2	0.68567	9.98	16.69	6.07	26.67	16.05	56.00	46.00	-29.33	-29.95
3	1.10013	9.99	14.22	2.28	24.21	12.27	56.00	46.00	-31.79	-33.73
4	1.74528	10.02	13.85	8.74	23.87	18.76	56.00	46.00	-32.13	-27.24
5	2.91046	10.07	16.72	8.90	26.79	18.97	56.00	46.00	-29.21	-27.03
6	7.03160	10.20	14.56	6.58	24.76	16.78	60.00	50.00	-35.24	-33.22

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

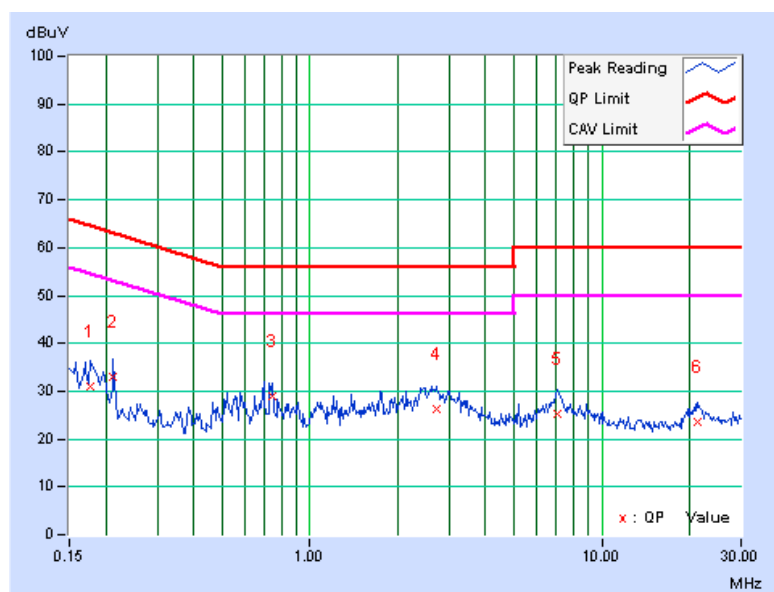


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor [dB]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB]	[dB]
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17737	9.96	20.97	14.30	30.93	24.26	64.61	54.61	-33.68	-30.35
2	0.21256	9.96	22.97	19.43	32.93	29.39	63.10	53.10	-30.17	-23.71
3	0.74432	9.99	18.87	10.10	28.86	20.09	56.00	46.00	-27.14	-25.91
4	2.71105	10.06	16.31	7.97	26.37	18.03	56.00	46.00	-29.63	-27.97
5	7.09025	10.20	14.95	6.48	25.15	16.68	60.00	50.00	-34.85	-33.32
6	21.39303	10.59	13.08	5.86	23.67	16.45	60.00	50.00	-36.33	-33.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



6. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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7. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

8.APPENDIX A - RADIATED EMISSION MEASUREMENT(FOR 2.4GHz, 2400 ~ 2483.5MHZ BAND)

8.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

8.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21, 2014	Jan. 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: May 09, 2014

8.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

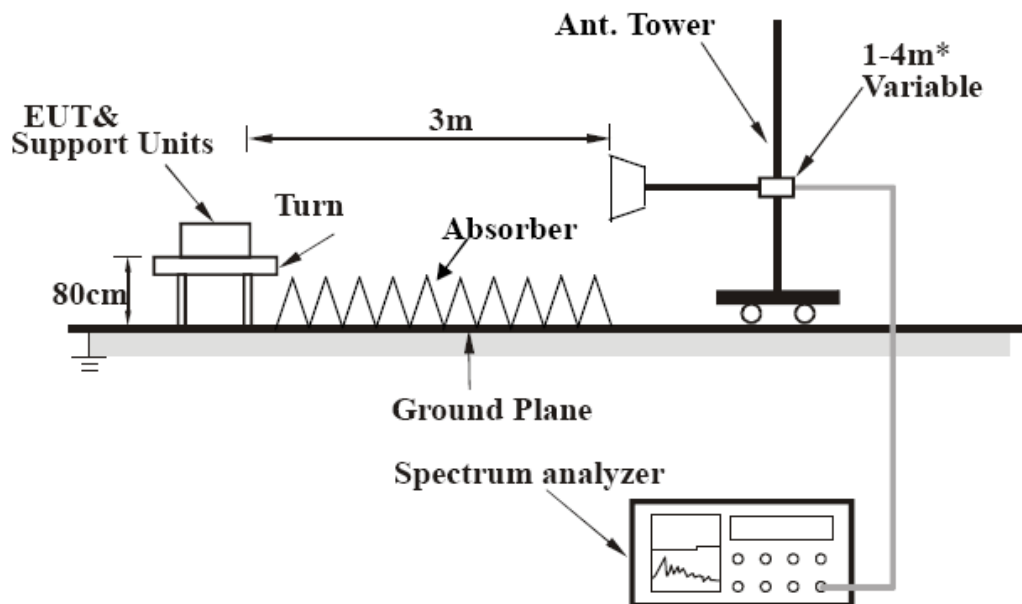
NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

8.1.4 DEVIATION FROM TEST STANDARD

No deviation

8.1.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

8.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “QCRT Version3.0 22.0” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

8.1.7 TEST RESULTS(MODE 2)

802.11n_256QAM(BW40)

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.5 PK	74.0	-11.5	1.00 H	224	28.97	33.53
2	2390.00	49.1 AV	54.0	-4.9	1.00 H	224	15.57	33.53
3	2483.50	65.9 PK	74.0	-8.1	1.00 H	224	32.09	33.81
4	2483.50	50.2 AV	54.0	-3.8	1.00 H	224	16.39	33.81
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	54.3 PK	74.0	-19.7	1.00 V	153	56.00	-1.70
2	2390.00	40.4 AV	54.0	-13.6	1.00 V	153	42.10	-1.70
3	2483.50	54.7 PK	74.0	-19.3	1.00 V	153	55.98	-1.28
4	2483.50	42.6 AV	54.0	-11.4	1.00 V	153	43.88	-1.28

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value



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9.APPENDIX B - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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