FCC RADIO TEST REPORT

Applicant	:	COMTREND CORPORATION
Address	:	3F-1, 10 Lane 609, Chongxin Rd., Section 5, Sanchong Dist, New Taipei City 241405, Taiwan
Equipment	:	Home Gateway
Model No.	:	WAP-60AXd, WAP-60AX, WAP-5945s, WAP-5945
Trade Name	:	COMTREND
FCC ID	:	L9VWAP60AXD

I HEREBY CERTIFY THAT :

The sample was received on Oct. 14, 2020 and the testing was completed on Oct. 18, 2021 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

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History of this test report

Report No.	Issue Date	Description
TEFU2010059	Oct. 28, 2021	Original

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

. Description of Test	Result
. CO-LOCATION	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(TEFD2010059).

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Operation Frequency Range	802.11b/g/n/ax: 2400-2483.5MHz 802.11a/n/ac/ax: 5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
Center Frequency Range	802.11b/g/n/ax: 2412MHz~2462MHz 802.11a/n/ac/ax: 5180-5240MHz, 5260-5320MHz, 5500-5720MHz, 5745-5825MHz
Modulation Type	WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz: 802.11n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Data Rate	WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ax: MCS0 – MCS11,HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80/160 802.11ax: MCS0 – MCS11,HE20/40/80
Antenna Type	PIFA Antenna
Antenna Gain	2400-2483.5MHz: ANT B: 3.07dBi, ANT C: 3.4dBi, ANT D: 2.87dBi, ANT E: 4.02dBi 5150-5250MHz: ANT A: 2.74dBi, ANT B: 3.37dBi, ANT C: 3.37dBi, ANT D: 3.28dBi, ANT E: 3.37dBi 5250-5350MHz: ANT A: 2.59dBi, ANT B: 3.44dBi, ANT C: 3.44dBi, ANT D: 3.25dBi, ANT E: 3.44dBi 5470-5725MHz: ANT A: 3.84dBi, ANT B: 3.45dBi, ANT C: 3.45dBi, ANT D: 3.34dBi, ANT E: 3.45dBi 5725-5850MHz: ANT A: 4.25dBi, ANT B: 3.19dBi, ANT C: 3.19dBi, ANT D: 3.29dBi, ANT E: 3.19dBi
Adapter	1. Brand: Amigo, Model: AMS200-1202000FU 2. Brand: ChenZhou Frecom Electronics Co., Ltd., Model: F24L9-120200SPAU
Firmware Number	CEU-2.0.1
Serial Number	20A5945SXXF-A9100001

Note:
1. EUT support TPC Function.
2. WLAN 2.4G and WLAN 5G can simultaneously transmission.
3. EUT support Master Mode.

4. EUT support AP Mode.
5. WLAN 2.4GHz 802.11n and 802.11ax support beamforming Function.
6. WLAN 5GHz 802.11n and 802.11ac and 802.11ax support beamforming Function.
7. For more details, please refer to the User's manual of the EUT.

Difference description:

Model No.	Remark
WAP-60AX	1. 1x ETH port version.
WAP-5945	2. The difference between WAP-60AX and WAP-5945 is Market Segmentation.
WAP-60AXd	1. 2x ETH port version.
WAP-5945s	2. The difference between WAP-60AXd and WAP-5945s is Market Segmentation.

2.2 Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
b. The complete test system included Notebook and EUT for RF test.
c. An executive program, ” wl commend” under Windows OS system was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	2.4G 11ax 40 CH03 + 5G 11a CH157, (120V/60 Hz)
2	2.4G 11ax 40 CH03 + 5G 11a CH157, (240V/60 Hz)
caused “Test Mode 2” generated the worst case, it was reported as the final data.	
Radiation Emissions (9KHz ~30MHz & 30MHz ~ 1GHz)	
Test Mode	Operating Description
1	2.4G 11ax 40 CH03 + 5G 11a CH157
caused “Test Mode 1” generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	2.4G 11ax 40 CH03 + 5G 11a CH157
caused “Test Mode 1” generated the worst case, it was reported as the final data.	

There are two adapters:
Adapter 1.Brand: Amigo, Model: AMS200-1202000FU
Adapter 2.Brand: ChenZhou Frecom Electronics Co., Ltd., Model: F24L9-120200SPAU
For AC Power Line Conducted Emission, adapter 2 is worst case.
For Radiated Spurious Emission, adapter 1 is worst case.

2.3 Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	N/A	N/A	1.2m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	N/A	N/A	15m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5270	N/A	Adapter / 1.8m / NS
RJ45 Cable	N/A	N/A	1.2m / NS	N/A

2.4 General Information of Test

Test Site	**Cerpass Technology Corporation Test Laboratory** Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2021/10/18	28℃ / 48%	Nick Guan
Radiated Emissions (Above 1GHz)	3M02-NK	2021/01/07	18℃ / 50%	Leon Huang
Radiated Emissions (Below 1GHz)	3M02-NK	2021/07/28	24℃ / 45%	Nick Guan
AC Power Line Conducted Emission	CON01-NK	2021/10/06	26℃ / 55%	Dian Chen

2.5 Measurement Uncertainty

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

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.63dB
Radiated Spurious Emission(9KHz~30MHz)	±3.4dB
Radiated Spurious Emission(30MHz~1GHz)	±5.6dB
Radiated Spurious Emission(1GHz~25GHz)	±6.597dB
Conducted Spurious Emission	±1.8dB

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions (Abover 1GHz)				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	369	2020/04/10	2021/04/09
Active Loop Antenna	EMCO	6507	40855	2020/05/21	2021/05/20
Horn Antenna	EMCO	3115	31601	2020/10/16	2021/10/15
Horn Anrenna	EMCO	3116	31974	2020/09/24	2021/09/23
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2020/06/23	2021/06/22
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2020/08/03	2021/08/02
Preamplifier	EM Electronics corp.	EM330	60660	2020/03/16	2021/03/15
Preamplifier	Agilent	8449B	3008A01954	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2020/11/06	2021/11/05
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2020/04/09	2021/04/08
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2020/05/27	2021/05/26
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2020/05/27	2021/05/26
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2020/05/27	2021/05/26
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2020/04/01	2021/03/31
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2020/04/01	2021/03/31
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50 314	2020/04/09	2021/04/08
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130606	2020/03/11	2021/03/10
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	Radiated Emissions (Below 1GHz)				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	369	2021/04/26	2022/04/25
Active Loop Antenna	EMCO	6507	40855	2021/06/10	2022/06/09
Horn Antenna	EMCO	3115	31601	2020/10/16	2021/10/15
Horn Antenna	EMCO	3116	31970	2021/03/29	2022/03/28
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2021/06/30	2022/06/29
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2021/07/14	2022/07/13
Preamplifier	EM Electronics corp.	EM330	60658	2020/10/20	2021/10/19
Preamplifier	EM Electronics corp.	EM330	60660	2021/03/18	2022/03/17
Preamplifier	Agilent	8449B	3008A01954	2021/03/22	2022/03/21
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2020/11/06	2021/11/05
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2021/04/19	2022/04/18
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2021/04/12	2022/04/11
Cable-0.5m(1G-18G)	EMEC	EM104-SMSM-0.5M	CCE1354	2021/05/06	2022/05/05
Cable-3m(1G-18G)	EMEC	EM104-SMSM-3M	CCE1355	2021/05/06	2022/05/05
Cable-8m(1G-18G)	EMEC	EM104-SMSM-8M	CCE1356	2021/05/06	2022/05/05
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2021/04/03	2022/04/02
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2021/04/09	2022/04/08
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50 314	2021/04/08	2022/04/07
Cable-6m(9k~300M)	NA	CFD300-NL	NA	2021/03/15	2022/03/14
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2020/09/18	2021/09/17
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

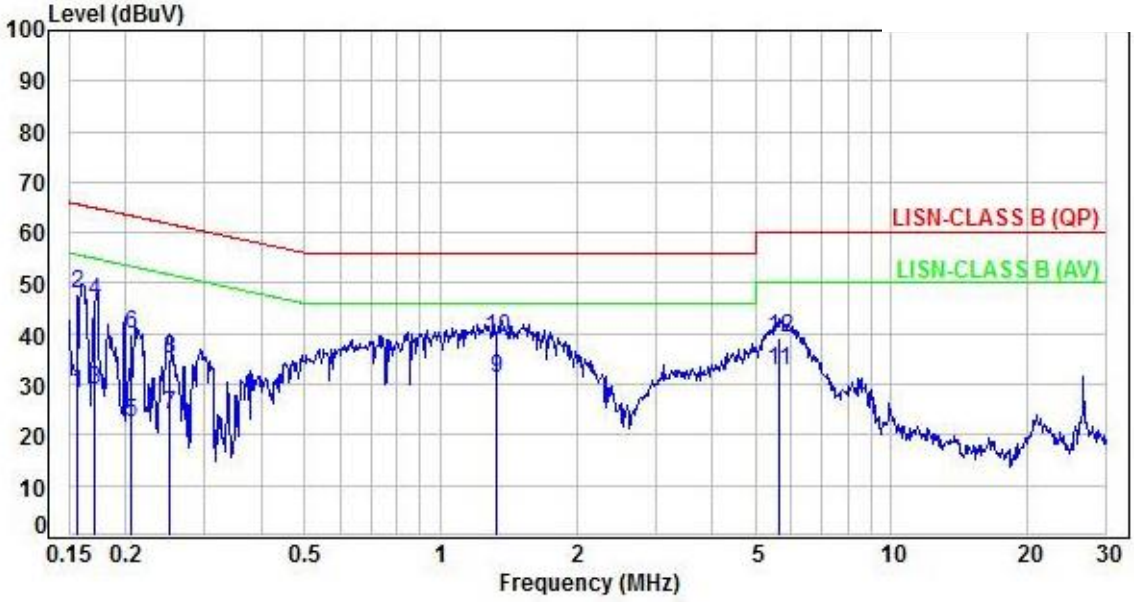
Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2021/07/14	2022/07/13
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2021/04/19	2022/04/18
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2020/12/25	2021/12/24
Attenuator	KEYSIGHT	8491B	MY39250703	2021/04/09	2022/04/08
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2021/08/27	2022/08/26
Power Meter	Anritsu	ML2495A	1224005	2021/04/14	2022/04/13
Power Sensor	Anritsu	MA2411B	1207295	2021/04/14	2022/04/13

Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
EMI Receiver	ROHDE & SCHWARZ	ESCI	101402	2021/03/12	2022/03/11
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-568	2021/06/02	2022/06/01
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2021/03/10	2022/03/09
Cable-6m(9k~300M)	NA	CFD300-NL	NA	2021/03/15	2022/03/14
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

4. Test of AC Power Line Conducted Emission

4.1 Test Result and Data

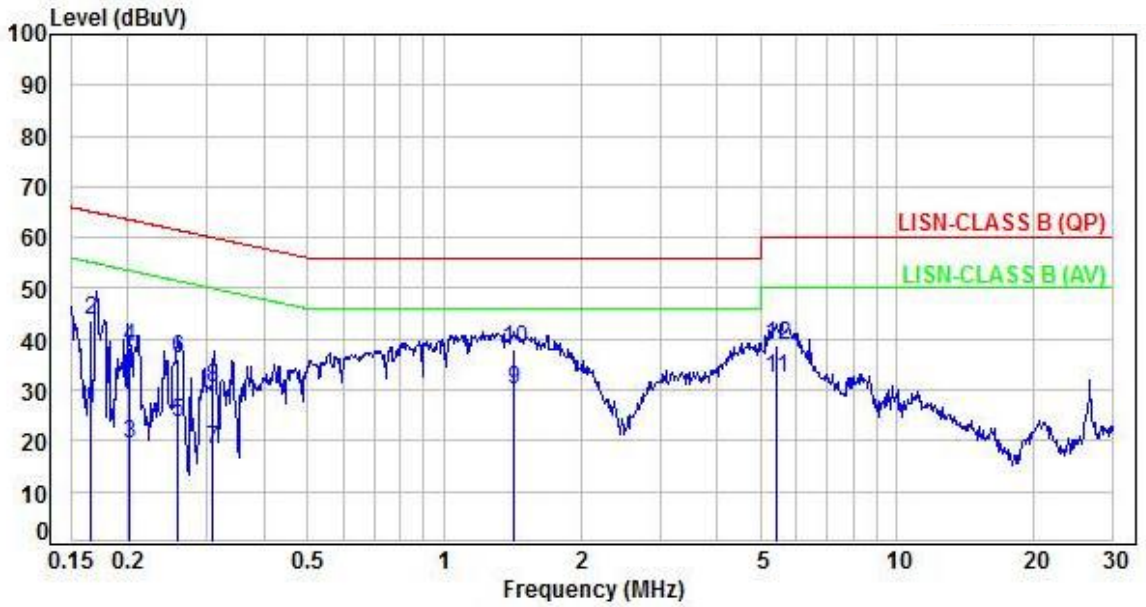
Power :	AC 240V / 60Hz	Pol/Phase :	LINE
Test Mode :	Mode 2	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.97	18.04	28.01	55.65	-27.64	Average	P
2	0.16	9.97	37.79	47.76	65.65	-17.89	QP	P
3	0.17	9.97	18.78	28.75	54.89	-26.14	Average	P
4	0.17	9.97	36.58	46.55	64.89	-18.34	QP	P
5	0.21	9.97	12.37	22.34	53.39	-31.05	Average	P
6	0.21	9.97	29.93	39.90	63.39	-23.49	QP	P
7	0.25	9.97	14.03	24.00	51.75	-27.75	Average	P
8	0.25	9.97	25.18	35.15	61.75	-26.60	QP	P
9	1.34	10.08	21.06	31.14	46.00	-14.86	Average	P
10	1.34	10.08	29.20	39.28	56.00	-16.72	QP	P
11	5.64	10.25	22.56	32.81	50.00	-17.19	Average	P
12	5.64	10.25	28.90	39.15	60.00	-20.85	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Power :	AC 240V / 60Hz	Pol/Phase :	NEUTRAL
Test Mode :	Mode 2	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.97	16.21	26.18	55.16	-28.98	Average	P
2	0.17	9.97	33.85	43.82	65.16	-21.34	QP	P
3	0.20	9.97	9.24	19.21	53.50	-34.29	Average	P
4	0.20	9.97	28.52	38.49	63.50	-25.01	QP	P
5	0.26	9.97	13.58	23.55	51.48	-27.93	Average	P
6	0.26	9.97	26.16	36.13	61.48	-25.35	QP	P
7	0.31	9.97	8.45	18.42	50.03	-31.61	Average	P
8	0.31	9.97	20.56	30.53	60.03	-29.50	QP	P
9	1.43	10.07	19.87	29.94	46.00	-16.06	Average	P
10	1.43	10.07	27.91	37.98	56.00	-18.02	QP	P
11	5.40	10.22	22.03	32.25	50.00	-17.75	Average	P
12	5.40	10.22	28.63	38.85	60.00	-21.15	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

5. Test of Spurious Emission (Radiated)

5.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/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

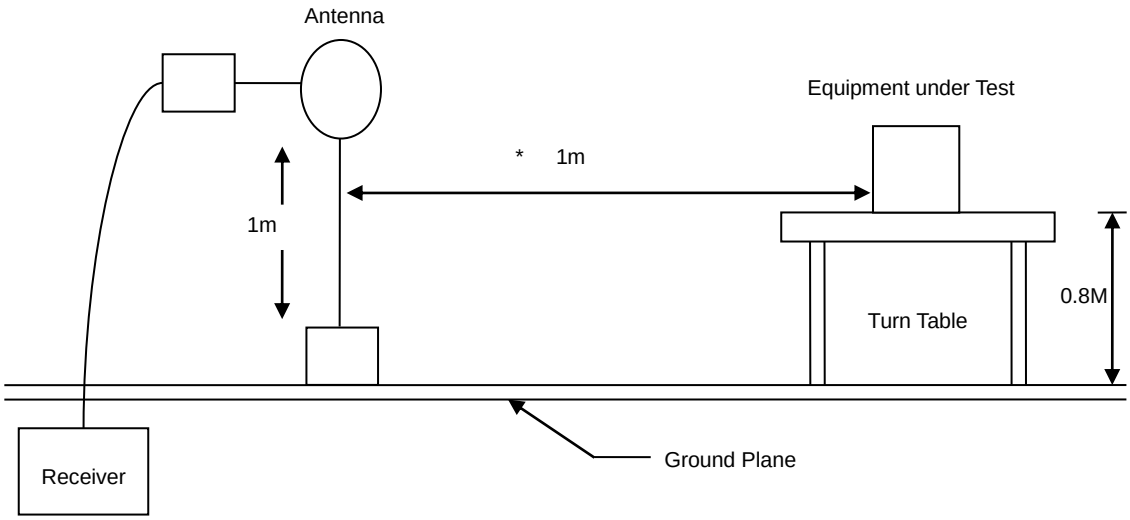
5.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

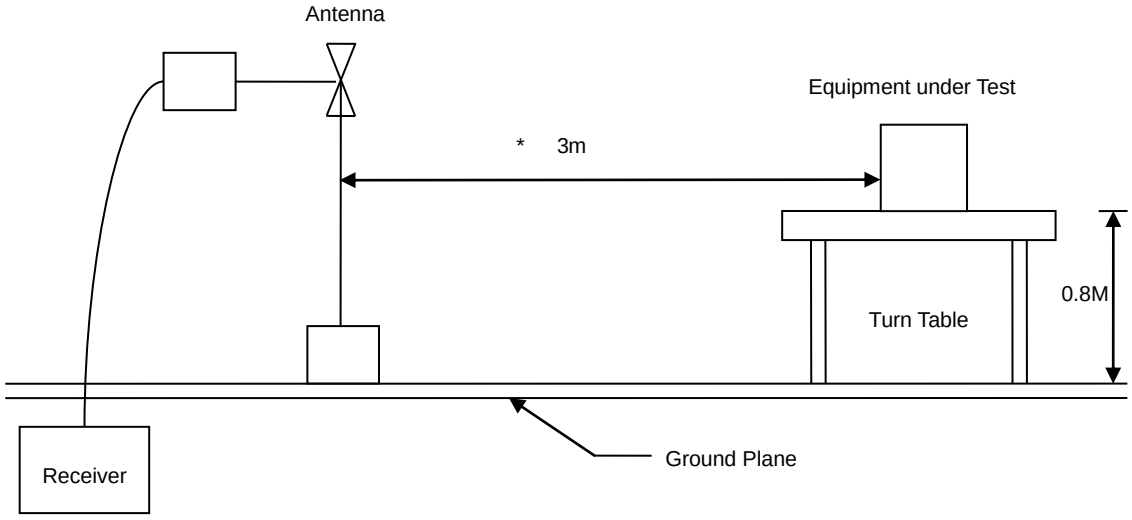
Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.

5.3 Typical Test Setup

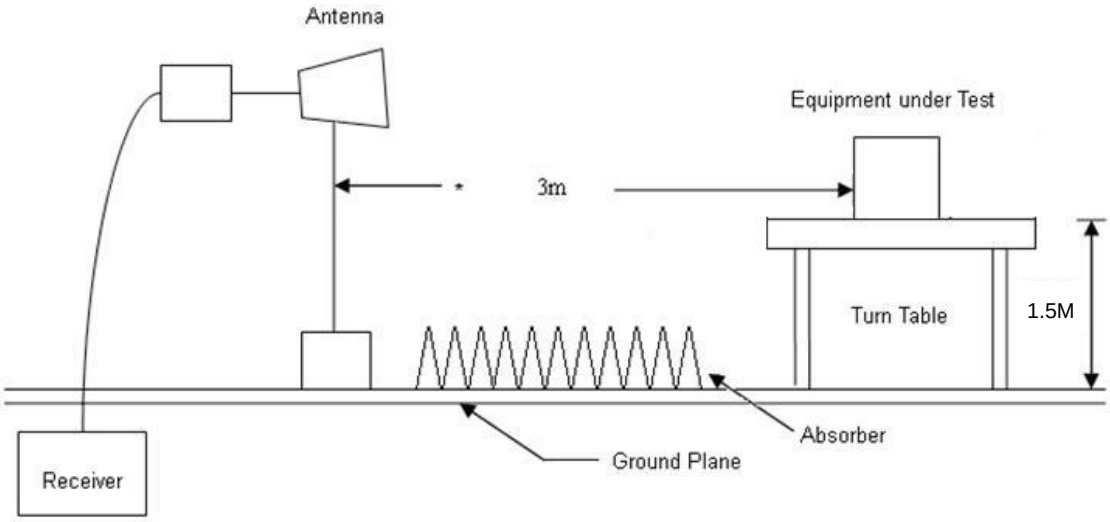
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

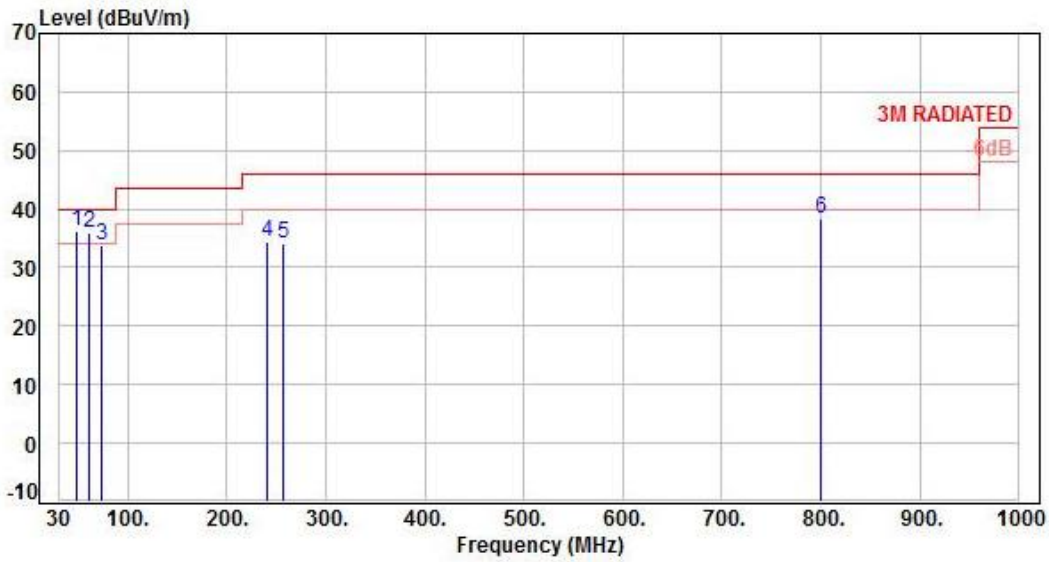


5.4 Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

5.5 Test Result and Data (30MHz ~ 1GHz)

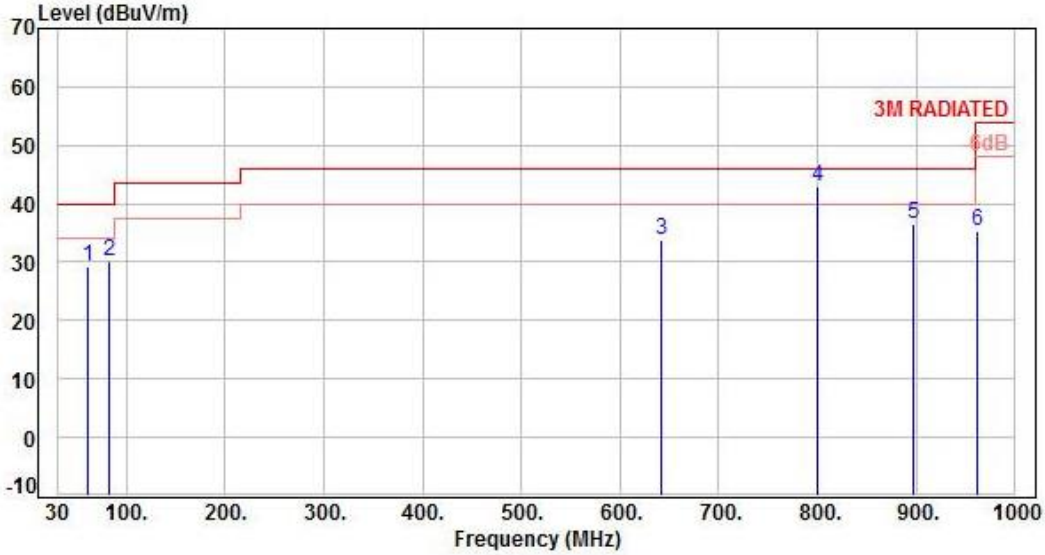
Power :	AC 120V / 60Hz	Pol/Phase :	VERTICAL
Test Mode :	Mode 1	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	47.78	-10.56	46.66	36.10	40.00	-3.90	Peak	400	0	P
2	61.48	-11.85	47.91	36.06	40.00	-3.94	Peak	400	0	P
3	72.86	-13.23	47.15	33.92	40.00	-6.08	Peak	400	0	P
4	241.66	-11.87	46.13	34.26	46.00	-11.74	Peak	400	0	P
5	256.94	-11.26	45.44	34.18	46.00	-11.82	Peak	400	0	P
6	800.48	0.62	37.66	38.28	46.00	-7.72	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power :	AC 120V / 60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	Mode 1	:	

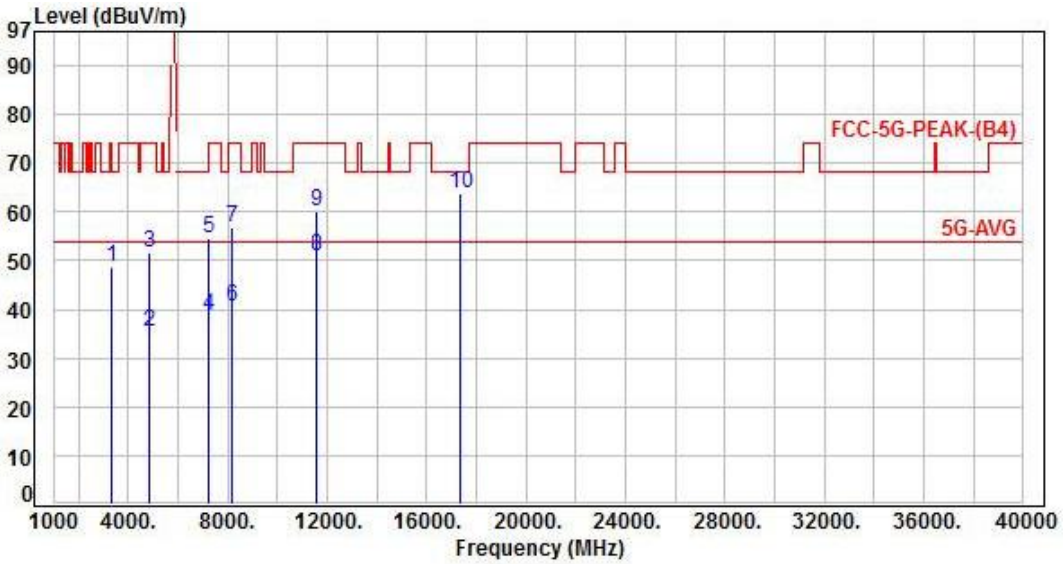


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	61.46	-11.84	41.22	29.38	40.00	-10.62	Peak	400	0	P
2	82.58	-15.28	45.35	30.07	40.00	-9.93	Peak	400	0	P
3	641.48	-1.97	35.87	33.90	46.00	-12.10	Peak	400	0	P
4	800.33	0.62	42.16	42.78	46.00	-3.22	Peak	400	0	P
5	897.44	1.86	34.68	36.54	46.00	-9.46	Peak	400	0	P
6	961.58	2.85	32.57	35.42	54.00	-18.58	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

5.6 Test Result and Data (1GHz ~ 25GHz)

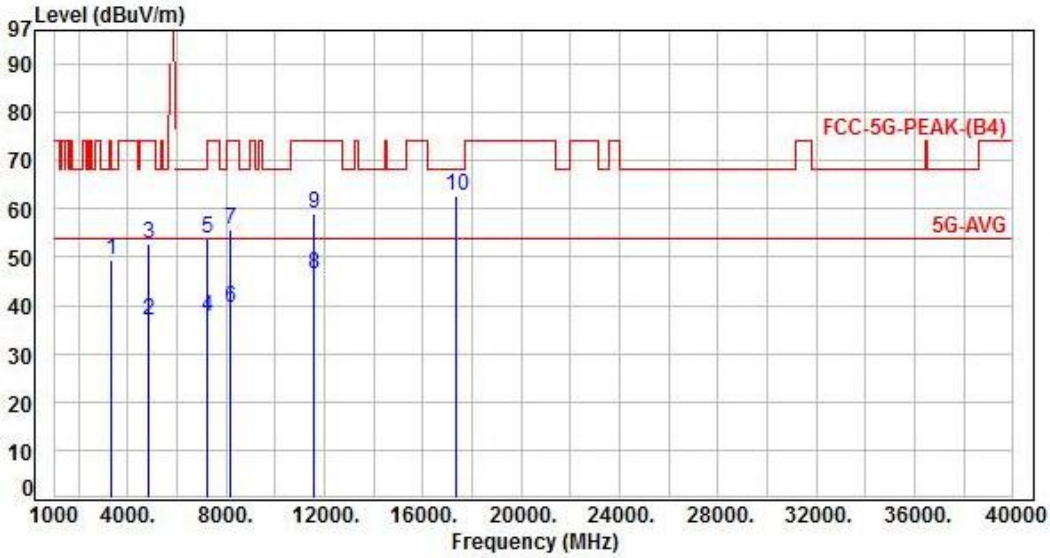
Power :	AC 120V / 60Hz	Pol/Phase :	VERTICAL
Test Mode :	Mode 1	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3363.00	0.99	47.82	48.81	68.20	-19.39	Peak	100	136	P
2	4844.00	4.80	30.56	35.36	54.00	-18.64	Average	100	128	P
3	4844.00	4.80	46.86	51.66	74.00	-22.34	Peak	100	128	P
4	7266.00	9.63	28.95	38.58	54.00	-15.42	Average	100	52	P
5	7266.00	9.63	44.79	54.42	74.00	-19.58	Peak	100	52	P
6	8207.00	10.78	29.79	40.57	54.00	-13.43	Average	100	48	P
7	8207.00	10.78	46.01	56.79	74.00	-17.21	Peak	100	48	P
8	11570.00	14.83	36.11	50.94	54.00	-3.06	Average	365	311	P
9	11570.00	14.83	45.29	60.12	74.00	-13.88	Peak	365	311	P
10	17355.00	20.84	42.96	63.80	68.20	-4.40	Peak	100	269	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power :	AC 120V / 60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	Mode 1	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	3363.00	0.99	48.43	49.42	68.20	-18.78	Peak	100	218	P
2	4844.00	4.80	32.15	36.95	54.00	-17.05	Average	100	205	P
3	4844.00	4.80	47.94	52.74	74.00	-21.26	Peak	100	205	P
4	7266.00	9.63	27.98	37.61	54.00	-16.39	Average	100	24	P
5	7266.00	9.63	44.15	53.78	74.00	-20.22	Peak	100	24	P
6	8207.00	10.78	28.64	39.42	54.00	-14.58	Average	100	33	P
7	8207.00	10.78	44.78	55.56	74.00	-18.44	Peak	100	33	P
8	11570.00	14.83	31.66	46.49	54.00	-7.51	Average	119	327	P
9	11570.00	14.83	44.25	59.08	74.00	-14.92	Peak	119	327	P
10	17355.00	20.84	41.97	62.81	68.20	-5.39	Peak	100	44	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

5.7 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

6. Test of Conducted Spurious Emission

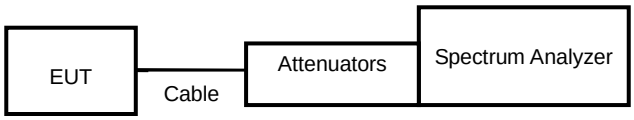
6.1 Test Limit

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

6.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20dB relative to the maximum measured in-band peak PSD level.
d. The band edges was measured and recorded.

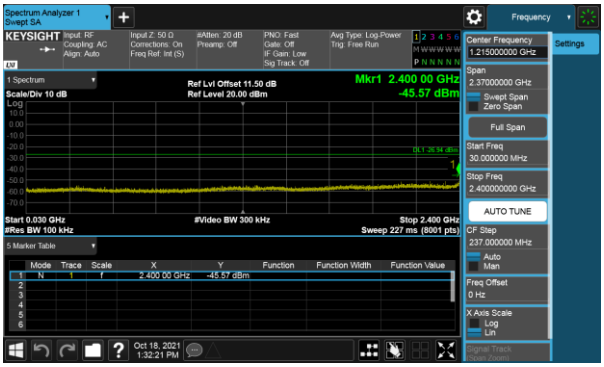
6.3 Test Setup Layout

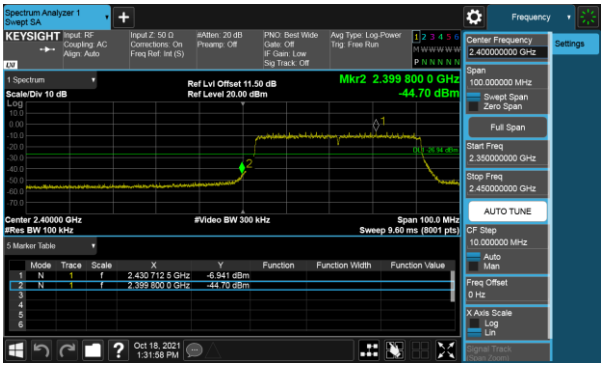


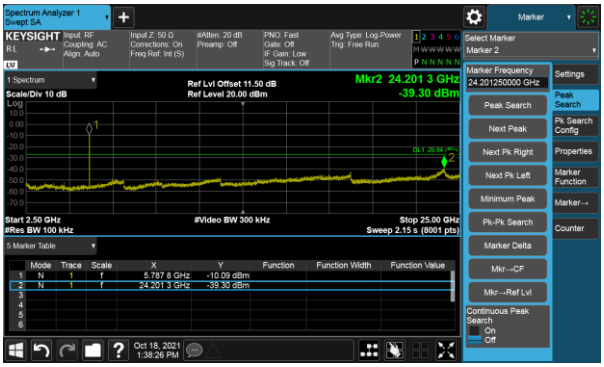
6.4 Test Result and Data

Note: Test plots refers to the following pages.

Modulation Type:
2.4G 11ax 40 CH03 + 5G 11a CH157







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