TEST REPORT

Applicant:	Technity Solutions Inc.
Address of Applicant:	500 Cochrane Dr. Unit 1 Markham ON L3R 8E2 Canada
Manufacturer:	Technity Solutions Inc.
Address of Manufacturer:	500 Cochrane Dr. Unit 1 Markham ON L3R 8E2 Canada

Equipment Under Test (EUT)

Product Name:	Intelligent Wireless Access Point
Model No.:	TS-MWI3000CPRO, 1LAN-WAP-6
Trade Mark:	Technity SOLUTIONS
FCC ID:	2ATAZ-MWI3000CPRO
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	2023.04.24
Date of Test:	2023.05.15~2023.06.17
Date of report issued:	2023.06.20
Test Result :	PASS *

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

Authorized Signature:

Robinson Luo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*2023.06.20*	*Original*

Prepared By: ***Date:*** *2023.06.20*

Project Engineer

Check By: ***Date:*** *2023.06.20*

Reviewer

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4 Test Summary

Test Item	Section	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Remark: Test according to ANSI C63.10:2013

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

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Radiated Emission	3.1dB(9kHz-30MHz)	(1)
Radiated Emission	3.8039dB(30MHz-200MHz)	(1)
Radiated Emission	3.9679dB(200MHz-1GHz)	(1)
Radiated Emission	4.29dB(1GHz-18GHz)	(1)
Radiated Emission	3.30dB(18GHz-40GHz)	(1)
AC Power Line Conducted Emission	3.44dB(0.15MHz ~ 30MHz)	(1)
Occupied Bandwidth	±3%	(1)
RF conducted power	±0.75dB	(1)
RF power density	±3dB	(1)
Conducted Spurious emissions	±2.58dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.		

5 General Information

5.1 General Description of EUT

Product Name:	Intelligent Wireless Access Point
Model No.:	TS-MWI3000CPRO, 1LAN-WAP-6
Test Model No.:	TS-MWI3000CPRO
Model difference:	Only model name is different
Test sample(s) ID:	GTSL2023060415-1
Sample(s) Status	Engineer sample
S/N:	N/A
Operation Frequency:	802.11b/802.11g/802.11n(HT20)/802.11ax20: 2412MHz~2462MHz 802.11n(HT40)/802.11ax40: 2422MHz~2452MHz
Channel numbers:	802.11b/802.11g /802.11n(HT20)/802.11ax20: 11 802.11n(HT40)/802.11ax40:7
Channel separation:	5MHz
Modulation technology:	802.11b: DSSS 802.11g/802.11n(HT20)/802.11n(HT40): OFDM 802.11ax20/802.11ax40: OFDMA
Antenna Type:	Internal Antenna
Antenna gain:	Ant1: 4.39dBi, Ant2: 2.75dBi
Power supply:	DC 57V from adapter or POE 48V

Note: For 802.11ax mode only support full RU mode.

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

Note:

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

Test channel	**Frequency (MHz)**	
	802.11b/802.11g/802.11n(HT20)/ 802.11ax20	802.11n(HT40)/802.11ax40
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode

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

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

Mode	802.11b	802.11g	802.11n	802.11ax
Data rate	1Mbps	6Mbps	MCS0	MCS0

5.3 Description of Support Units

No.	Equipment	Manufacturer	Model	Series No
1	Power adapter	Ruijie	RG-DC4805-BA	/
2	Microcomputer	TY510S-07IAB	LENOVO	YLX2QPM7
3	Notebook	L450	Think	/

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

● **FCC —Registration No.: 381383**

Designation Number: CN5029

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

● **IC —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.8 Additional Instructions

Power Setting value

No beamforming

Test Software	QDART		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	11	11	11
IEEE 802.11g	6	6	6
IEEE 802.11n (20MHz)	6	6	6
IEEE 802.11ax (20MHz)	6	6	6
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (40MHz)	5	5	5
IEEE 802.11ax (40MHz)	5	5	5

Beamforming

Test Software	QDART		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	9	9	9
IEEE 802.11g	4	4	4
IEEE 802.11n (20MHz)	4	4	4
IEEE 802.11ax (20MHz)	4	4	4
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (40MHz)	3	3	3
IEEE 802.11ax (40MHz)	3	3	3

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 23, 2021	June 22, 2024
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 14, 2023	April 13, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS213	April 21, 2023	April 20, 2024
8	Coaxial Cable	GTS	N/A	GTS211	April 21, 2023	April 20, 2024
9	Coaxial cable	GTS	N/A	GTS210	April 21, 2023	April 20, 2024
10	Coaxial Cable	GTS	N/A	GTS212	April 21, 2023	April 20, 2024
11	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 14, 2023	April 13, 2024
12	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
13	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 14, 2023	April 13, 2024
14	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 14, 2023	April 13, 2024
15	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 30, 2022	Oct. 29, 2023
16	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 30, 2022	Oct. 29, 2023
17	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 13, 2023	March 12, 2024
18	Amplifier	/	LNA-1000-30S	GTS650	April 14, 2023	April 13, 2024
19	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS668	Dec. 20, 2022	Dec.19, 2023
20	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 19, 2023	April 18, 2024

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	July 12, 2022	July 11, 2027
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	April 14, 2023	April 13, 2024
4	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Thermo meter	JINCHUANG	GSP-8A	GTS642	April 19, 2023	April 18, 2024
7	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 14, 2023	April 13, 2024
8	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 14, 2023	April 13, 2024
9	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 14, 2023	April 13, 2024
10	Antenna end assembly	Weinschel	1870A	GTS560	April 14, 2023	April 13, 2024

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 14, 2023	April 13, 2024
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 14, 2023	April 13, 2024
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 14, 2023	April 13, 2024
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 14, 2023	April 13, 2024
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 14, 2023	April 13, 2024
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 14, 2023	April 13, 2024
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 14, 2023	April 13, 2024
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 19, 2023	April 18, 2024

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	KUMAO	SF132	GTS647	April 19, 2023	April 18, 2024

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is Internal antenna, reference to the appendix II for details	

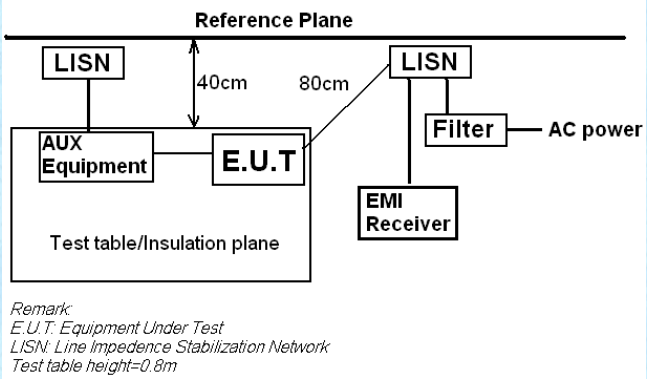
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
Limit:	

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

Test setup:



Test procedure:

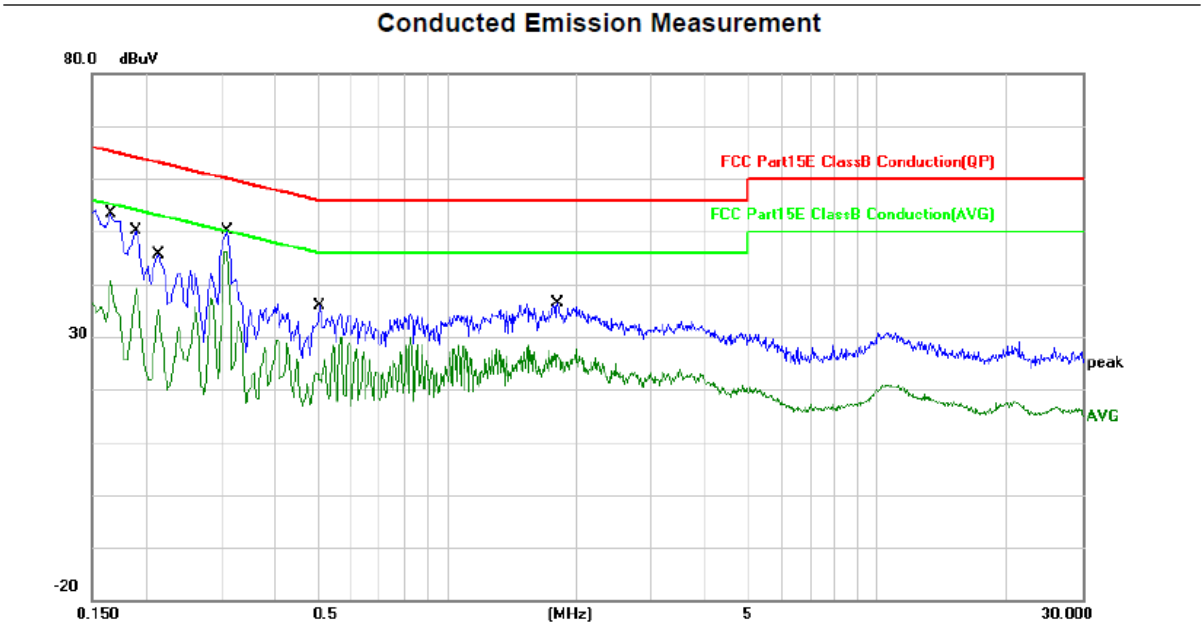
1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.

Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	23.3 °C	Humid.:	50%	Press.:	1011mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Measurement data

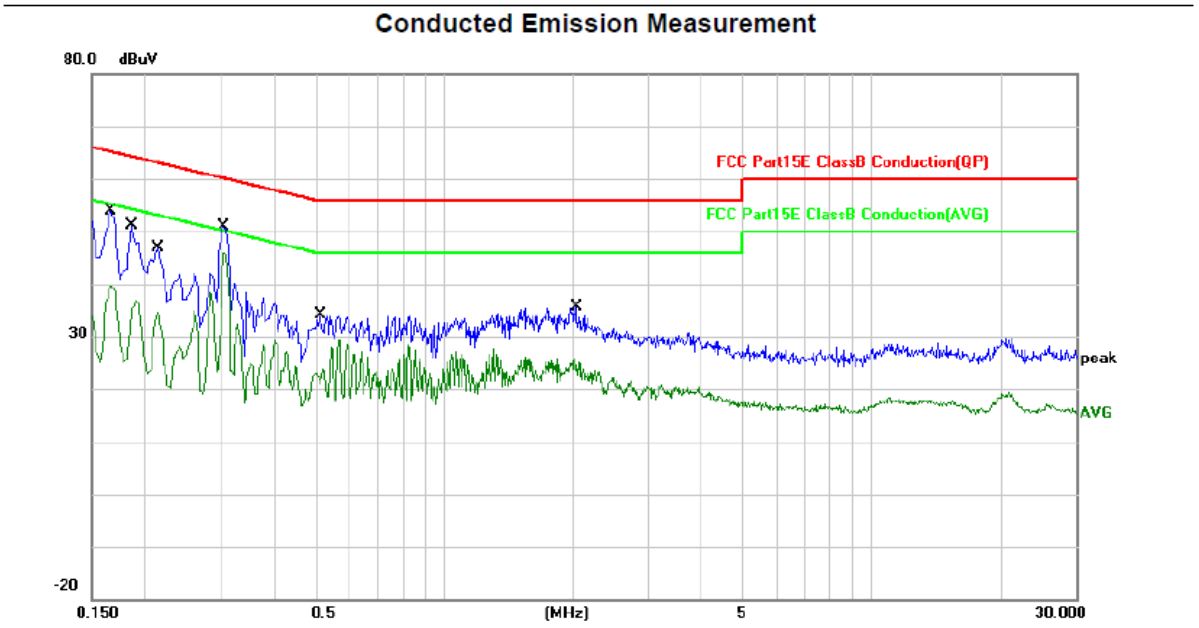
We only recorded the data of the worst mode. Please see the following:

Line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3100	28.26	19.88	48.14	59.97	-11.83	QP	
2	*	0.3100	25.57	19.88	45.45	49.97	-4.52	AVG	
3		0.1900	28.72	19.88	48.60	64.04	-15.44	QP	
4		0.1900	16.55	19.88	36.43	54.04	-17.61	AVG	
5		0.1660	32.19	19.88	52.07	65.16	-13.09	QP	
6		0.1660	18.18	19.88	38.06	55.16	-17.10	AVG	
7		0.2140	24.17	19.88	44.05	63.05	-19.00	QP	
8		0.2140	13.14	19.88	33.02	53.05	-20.03	AVG	
9		0.5100	9.42	19.88	29.30	56.00	-26.70	QP	
10		0.5100	2.02	19.88	21.90	46.00	-24.10	AVG	
11		1.8100	11.16	19.90	31.06	56.00	-24.94	QP	
12		1.8100	4.66	19.90	24.56	46.00	-21.44	AVG	

Neutral:

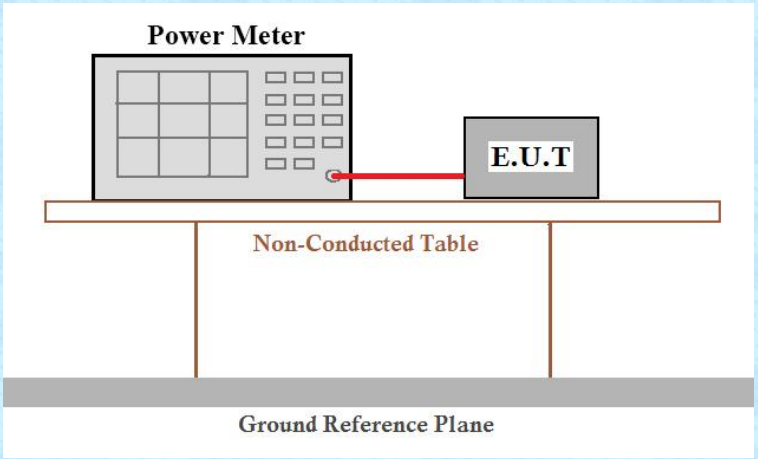


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1660	32.66	19.88	52.54	65.16	-12.62	QP	
2		0.1660	19.06	19.88	38.94	55.16	-16.22	AVG	
3		0.1860	26.42	19.88	46.30	64.21	-17.91	QP	
4		0.1860	13.98	19.88	33.86	54.21	-20.35	AVG	
5		0.2140	25.31	19.88	45.19	63.05	-17.86	QP	
6		0.2140	13.60	19.88	33.48	53.05	-19.57	AVG	
7		0.3060	28.78	19.88	48.66	60.08	-11.42	QP	
8	*	0.3060	26.56	19.88	46.44	50.08	-3.64	AVG	
9		0.5140	7.87	19.88	27.75	56.00	-28.25	QP	
10		0.5140	1.37	19.88	21.25	46.00	-24.75	AVG	
11		2.0420	10.82	19.91	30.73	56.00	-25.27	QP	
12		2.0420	5.10	19.91	25.01	46.00	-20.99	AVG	

Notes:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Measurement = Reading + Correct Factor.
3. Over = Measurement – Limit
4. Simultaneous transmitting: 2.4G Wifi transmitting + 5G Wifi transmitting
5. Worst Case Operating Mode: Simultaneous transmitting

7.3 Conducted Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02 FCC KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data:

No beamforming

Test Mode	Antenna	Frequency[MHz]	Peak power[dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	15.06	≤29.34	PASS
	Ant2	2412	15.39	≤29.34	PASS
	total	2412	18.24	≤29.34	PASS
	Ant1	2437	14.61	≤29.34	PASS
	Ant2	2437	15.60	≤29.34	PASS
	total	2437	18.14	≤29.34	PASS
	Ant1	2462	15.72	≤29.34	PASS
	Ant2	2462	16.11	≤29.34	PASS
	total	2462	18.93	≤29.34	PASS
11G-CDD	Ant1	2412	15.11	≤29.34	PASS
	Ant2	2412	15.46	≤29.34	PASS
	total	2412	18.30	≤29.34	PASS
	Ant1	2437	16.13	≤29.34	PASS
	Ant2	2437	15.82	≤29.34	PASS
	total	2437	18.99	≤29.34	PASS
	Ant1	2462	15.24	≤29.34	PASS
	Ant2	2462	14.95	≤29.34	PASS
	total	2462	18.11	≤29.34	PASS
11N20MIMO	Ant1	2412	15.65	≤29.34	PASS
	Ant2	2412	15.21	≤29.34	PASS
	total	2412	18.45	≤29.34	PASS

	Ant1	2437	15.09	≤29.34	PASS
	Ant2	2437	15.17	≤29.34	PASS
	total	2437	18.14	≤29.34	PASS
	Ant1	2462	14.63	≤29.34	PASS
	Ant2	2462	14.63	≤29.34	PASS
	total	2462	17.64	≤29.34	PASS
11N40MIMO	Ant1	2422	16.20	≤29.34	PASS
	Ant2	2422	15.97	≤29.34	PASS
	total	2422	**19.10**	≤29.34	PASS
	Ant1	2437	16.05	≤29.34	PASS
	Ant2	2437	15.94	≤29.34	PASS
	total	2437	19.01	≤29.34	PASS
	Ant1	2452	16.10	≤29.34	PASS
	Ant2	2452	15.82	≤29.34	PASS
	total	2452	18.97	≤29.34	PASS
11AX20MIMO	Ant1	2412	15.72	≤29.34	PASS
	Ant2	2412	15.06	≤29.34	PASS
	total	2412	18.41	≤29.34	PASS
	Ant1	2437	15.18	≤29.34	PASS
	Ant2	2437	15.39	≤29.34	PASS
	total	2437	18.30	≤29.34	PASS
	Ant1	2462	15.40	≤29.34	PASS
	Ant2	2462	15.42	≤29.34	PASS
	total	2462	18.42	≤29.34	PASS
11AX40MIMO	Ant1	2422	15.62	≤29.34	PASS
	Ant2	2422	15.29	≤29.34	PASS
	total	2422	18.47	≤29.34	PASS
	Ant1	2437	14.83	≤29.34	PASS
	Ant2	2437	14.64	≤29.34	PASS
	total	2437	17.75	≤29.34	PASS
	Ant1	2452	15.39	≤29.34	PASS
	Ant2	2452	15.69	≤29.34	PASS
	total	2452	18.55	≤29.34	PASS

Frequency[MHz]	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	Correlated chains directional gain (dBi)	Peak Power Limit (dBm)
2412-2462	4.39	2.75	6.66	29.34

Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, …, G_N dBi
If transmit signals are correlated, then Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi
[Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]
2412-2462: Directional gain = $10\log[(10^{4.39/20} + 10^{2.75/20})^2/N_{ANT}]$ dBi=6.66

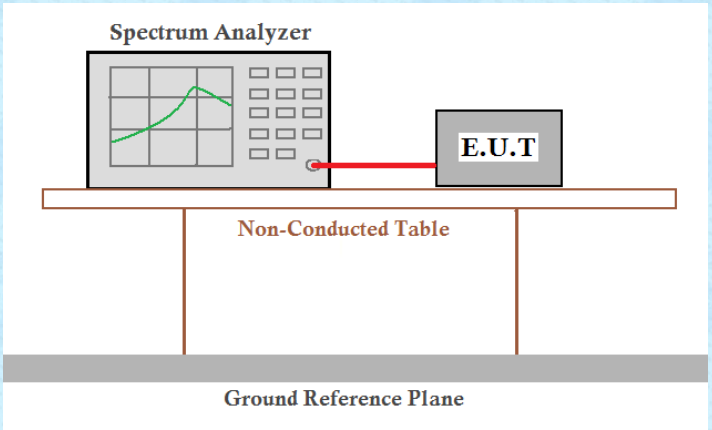
Beamforming

Test Mode	Antenna	Frequency[MHz]	Peak power[dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	12.73	≤26.84	PASS
	Ant2	2412	12.49	≤26.84	PASS
	total	2412	15.62	≤26.84	PASS
	Ant1	2437	12.79	≤26.84	PASS
	Ant2	2437	12.29	≤26.84	PASS
	total	2437	15.56	≤26.84	PASS
	Ant1	2462	13.40	≤26.84	PASS
	Ant2	2462	12.95	≤26.84	PASS
	total	2462	16.19	≤26.84	PASS
11G-CDD	Ant1	2412	12.58	≤26.84	PASS
	Ant2	2412	12.51	≤26.84	PASS
	total	2412	15.56	≤26.84	PASS
	Ant1	2437	12.93	≤26.84	PASS
	Ant2	2437	12.64	≤26.84	PASS
	total	2437	15.79	≤26.84	PASS
	Ant1	2462	12.75	≤26.84	PASS
	Ant2	2462	12.46	≤26.84	PASS
	total	2462	15.61	≤26.84	PASS
11N20MIMO	Ant1	2412	12.69	≤26.84	PASS
	Ant2	2412	12.36	≤26.84	PASS
	total	2412	15.54	≤26.84	PASS
	Ant1	2437	12.54	≤26.84	PASS
	Ant2	2437	12.42	≤26.84	PASS
	total	2437	15.49	≤26.84	PASS
	Ant1	2462	12.55	≤26.84	PASS
	Ant2	2462	12.19	≤26.84	PASS
	total	2462	15.38	≤26.84	PASS
11N40MIMO	Ant1	2422	13.68	≤26.84	PASS
	Ant2	2422	13.37	≤26.84	PASS
	total	2422	16.54	≤26.84	PASS
	Ant1	2437	13.43	≤26.84	PASS
	Ant2	2437	13.30	≤26.84	PASS
	total	2437	16.38	≤26.84	PASS
	Ant1	2452	13.42	≤26.84	PASS
	Ant2	2452	13.18	≤26.84	PASS
	total	2452	16.31	≤26.84	PASS
11AX20MIMO	Ant1	2412	12.70	≤26.84	PASS
	Ant2	2412	12.44	≤26.84	PASS
	total	2412	15.58	≤26.84	PASS
	Ant1	2437	12.77	≤26.84	PASS
	Ant2	2437	12.53	≤26.84	PASS
	total	2437	15.67	≤26.84	PASS
	Ant1	2462	12.54	≤26.84	PASS
	Ant2	2462	12.18	≤26.84	PASS
	total	2462	15.37	≤26.84	PASS
11AX40MIMO	Ant1	2422	12.73	≤26.84	PASS
	Ant2	2422	12.48	≤26.84	PASS
	total	2422	15.62	≤26.84	PASS

	Ant1	2437	12.69	≤26.84	PASS
	Ant2	2437	12.31	≤26.84	PASS
	total	2437	15.51	≤26.84	PASS
	Ant1	2452	12.69	≤26.84	PASS
	Ant2	2452	12.44	≤26.84	PASS
	total	2452	15.58	≤26.84	PASS

Frequency (MHz)	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	Beamforming gain(dB)	Correlated chains directional gain (dBi)	Power Limit (dBm)
2412-2462	4.39	2.75	2.5	9.16	26.84
Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, …, G_N dBi If transmit signals are correlated, then Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi [Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.] Directional gain = 10log[$(10^{4.67/20} + 10^{2.75/20})^2/N_{ANT}$] dBi=6.66					
Correlated chains directional gain= Directional gain+ Beamforming gain=6.66+2.5=9.16dBi					

7.4 Channel Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02 FCC KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data:

DTS Bandwidth

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant1	2412	6.520	2408.520	2415.040	0.5	PASS
	Ant2	2412	7.120	2407.960	2415.080	0.5	PASS
	Ant1	2437	6.480	2433.480	2439.960	0.5	PASS
	Ant2	2437	7.840	2432.000	2439.840	0.5	PASS
	Ant1	2462	7.040	2458.520	2465.560	0.5	PASS
	Ant2	2462	8.560	2457.480	2466.040	0.5	PASS
11G-CDD	Ant1	2412	15.640	2404.240	2419.880	0.5	PASS
	Ant2	2412	14.720	2405.080	2419.800	0.5	PASS
	Ant1	2437	15.680	2429.480	2445.160	0.5	PASS
	Ant2	2437	15.440	2429.440	2444.880	0.5	PASS
	Ant1	2462	15.280	2454.240	2469.520	0.5	PASS
	Ant2	2462	13.840	2454.480	2468.320	0.5	PASS
11N20MIMO	Ant1	2412	16.280	2404.480	2420.760	0.5	PASS
	Ant2	2412	15.600	2404.520	2420.120	0.5	PASS
	Ant1	2437	14.760	2430.720	2445.480	0.5	PASS
	Ant2	2437	15.040	2430.720	2445.760	0.5	PASS
	Ant1	2462	14.000	2455.520	2469.520	0.5	PASS
	Ant2	2462	15.120	2454.400	2469.520	0.5	PASS
11N40MIMO	Ant1	2422	33.840	2404.480	2438.320	0.5	PASS
	Ant2	2422	32.800	2404.240	2437.040	0.5	PASS
	Ant1	2437	33.200	2418.840	2452.040	0.5	PASS
	Ant2	2437	32.800	2419.240	2452.040	0.5	PASS
	Ant1	2452	30.880	2435.520	2466.400	0.5	PASS
	Ant2	2452	29.360	2435.760	2465.120	0.5	PASS
11AX20MIMO	Ant1	2412	18.120	2402.880	2421.000	0.5	PASS
	Ant2	2412	14.920	2404.600	2419.520	0.5	PASS
	Ant1	2437	15.440	2430.440	2445.880	0.5	PASS
	Ant2	2437	17.320	2428.360	2445.680	0.5	PASS
	Ant1	2462	14.240	2455.480	2469.720	0.5	PASS
	Ant2	2462	15.160	2454.400	2469.560	0.5	PASS
11AX40MIMO	Ant1	2422	30.640	2405.680	2436.320	0.5	PASS
	Ant2	2422	30.960	2406.000	2436.960	0.5	PASS
	Ant1	2437	32.000	2422.920	2454.920	0.5	PASS
	Ant2	2437	31.040	2423.400	2454.440	0.5	PASS
	Ant1	2452	30.320	2437.600	2467.920	0.5	PASS
	Ant2	2452	34.000	2435.520	2469.520	0.5	PASS

11B-CDD_Ant1_2412

11B-CDD_Ant2_2412

11B-CDD_Ant1_2437

11B-CDD_Ant2_2437

11B-CDD_Ant1_2462

11B-CDD_Ant2_2462

11G-CDD_Ant1_2412

11G-CDD_Ant2_2412

11G-CDD_Ant1_2437

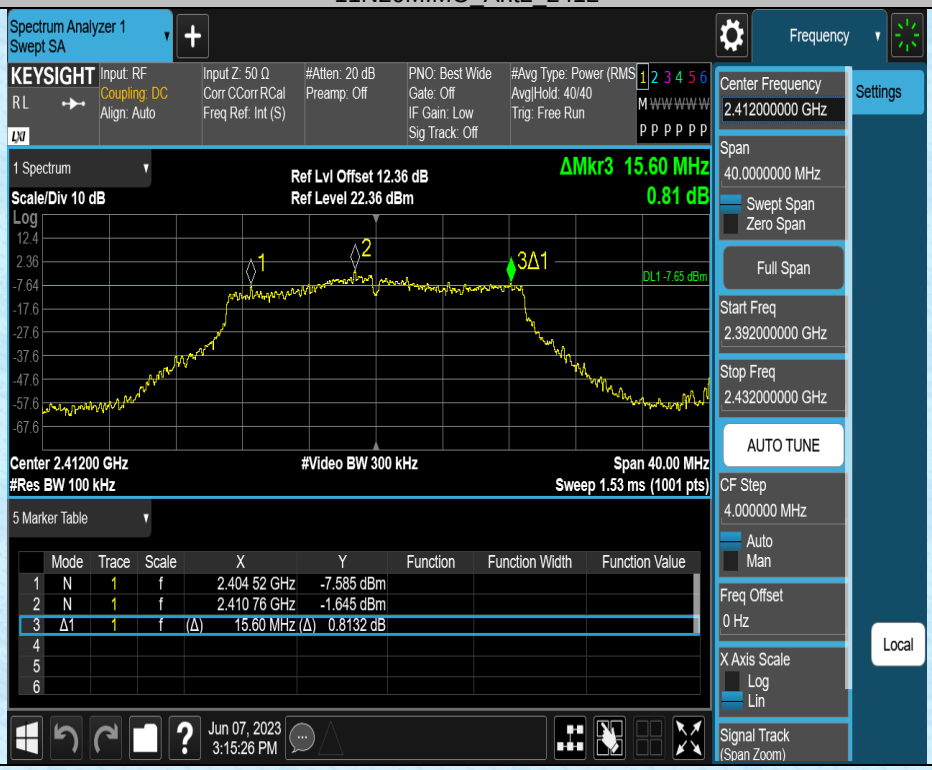
11G-CDD_Ant2_2437

11G-CDD_Ant1_2462

11G-CDD_Ant2_2462

11N20MIMO_Ant1_2412

11N20MIMO_Ant2_2412



11N20MIMO_Ant1_2437

11N20MIMO_Ant2_2437

11N20MIMO_Ant1_2462

11N20MIMO_Ant2_2462

11N40MIMO_Ant1_2422

11N40MIMO_Ant2_2422