

TEST REPORT

Product Name : CozyAir A3 humidifier

Brand Mark : CozyAir Model No. : A1320

FCC ID : 2A259-A1320

Report Number : BLA-EMC-202109-A2403

Date of Sample Receipt : 2021/9/6

Date of Test : 2021/9/6 to 2021/10/14

Date of Issue : 2021/10/14

Test Standard: 47 CFR Part 15, Subpart C 15.247

Test Result : Pass

Prepared for:

Beijing Miaoxin Technology Co., Ltd.

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REPORT REVISE RECORD

Version No. Date		Description	
00	2021/10/14	Original	





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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass



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2 GENERAL INFORMATION

Applicant	Beijing Miaoxin Technology Co., Ltd.			
Address	022, 1st floor, East Annex Building, Beipu Factory (118 Zhongguancun East Road), West Academy of Agricultural Sciences, Dazhongsi No.2 Food Factory, Haidian District, Beijing City			
Manufacturer	Beijing Miaoxin Technology Co., Ltd.			
Address	022, 1st floor, East Annex Building, Beipu Factory (118 Zhongguancun East Road), West Academy of Agricultural Sciences, Dazhongsi No.2 Food Factory, Haidian District, Beijing City			
Factory	Dongguan JingNuo Environment Science and Technology Inc.			
Address	#2 Limin Road, JinXiaoTang, ZhuTang, FengGang, DongGuan, GuangDong, China			
Product Name	CozyAir A3 humidifier			
Test Model No.	A1320			

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A
Software Version	N/A
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Antenna Type:	PCB Antenna
Antenna Gain:	3.68dBi



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4 TEST ENVIRONMENT

Environment	Temperature	Voltage	
Normal	25°C	DC3.3V	

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION				
Transmitting	Keep the EUT in continuously transmitting mode with modulation. (The duty cycle is				
mode	greater than 98%)				
Remark: 802.11b/g/n(HT20) and 802.11n(HT40) all have been tested, During the radiated spurious					
emission test, 802.11b/11g/11nH20/11nH40 modulations all have been tested, only worse case 802.11b is					
reported.					

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)		
Radiated Emission(9kHz-30MHz)	±4.34dB		
Radiated Emission(30Mz-1000MHz)	±4.24dB		
Radiated Emission(1GHz-18GHz)	±4.68dB		
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB		



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7 DESCRIPTION OF SUPPORT UNIT

Device Type Manufacturer		Model Name	Serial No.	Remark		
						
Note:						
"" means no any support device during testing.						

8 LABORATORY LOCATION

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co., Ltd.

Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

No tests were sub-contracted.



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9 TEST INSTRUMENTS LIST

Test Equipment Of Conducted Peak Output Power						
Equipment Manufacturer Model S/N Cal.Date Cal.D						
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11	
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11	
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11	
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11	

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2021/10/12	2022/10/11
LISN	R&S	ENV216	3560.6550.15	2021/10/12	2022/10/11
LISN	AT	AT166-2	AKK1806000003	2021/10/12	2022/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of Radiated Spurious Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Receiver	R&S	ESR7	101199	2021/10/12	2022/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25



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Amplifier	SKET	PA-000318G-45	N/A	2021/10/16	2022/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Receiver	R&S	ESR7	101199	2021/10/12	2022/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2021/10/16	2022/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Conducted Spurious Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11



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Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Conducted Band Edges Measurement					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11

Test Equipment Of Power Spectrum Density					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2021/10/12	2022/10/11
Spectrum	Agilent	N9020A	MY49100060	2021/10/12	2022/10/11
Signal Generator	Agilent	N5182A	MY49060650	2021/10/12	2022/10/11
Signal Generator	Agilent	E8257D	MY44320250	2021/10/12	2022/10/11



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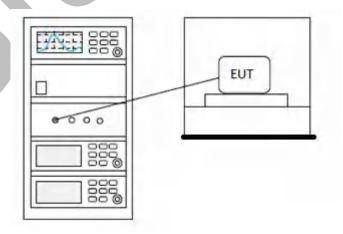
10 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247			
Test Method	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1			
Test Mode (Pre-Scan)	TX			
Test Mode (Final Test)	TX			
Tester	Jozu			
Temperature	25℃			
Humidity	60%			

10.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)			
	1 for ≥50 hopping channels			
902-928	0.25 for 25≤ hopping channels <50			
	1 for digital modulation			
	1 for ≥75 non-overlapping hopping channels			
2400-2483.5	0.125 for all other frequency hopping systems			
	1 for digital modulation			
	1 for frequency hopping systems and digital			
5725-5850	modulation			

10.2 BLOCK DIAGRAM OF TEST SETUP





10.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details





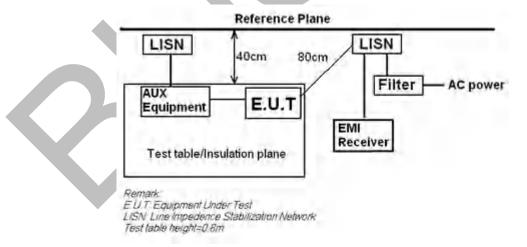
11 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

Test Standard	47 CFR Part 15, Subpart C 15.247			
Test Method	ANSI C63.10 (2013) Section 6.2			
Test Mode (Pre-Scan)	TX			
Test Mode (Final Test)	TX			
Tester	Jozu			
Temperature	25℃			
Humidity	60%			

11.1 LIMITS

Frequency of	Conducted	limit(dBµV)
emission(MHz)	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.	

11.2 BLOCK DIAGRAM OF TEST SETUP



11.3 PROCEDURE

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.



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3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) 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 on conducted measurement.

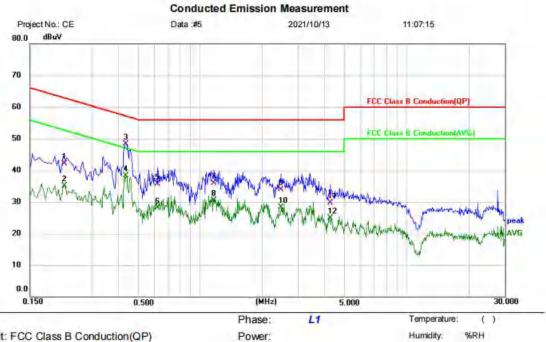
Remark: LISN=Read Level+ Cable Loss+ LISN Factor





11.4 TEST DATA

[TestMode: TX]; [Line: Line] ;[Power:AC120V/60Hz]



Limit: FCC Class B Conduction(QP)

EUT: CozyAir A3 humidifier

M/N: A1320

Mode: 2.4GWIFI mode

Note:

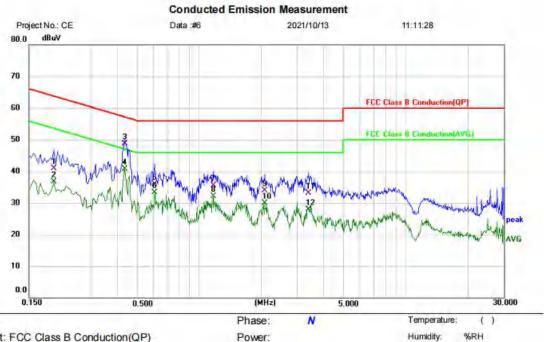
Site

	ment	Limit	Over		
dB	dBuV	dBuV	dB	Detector	Comment
10.27	42.19	62.89	-20.70	QP	
10.27	35.03	52.89	-17.86	AVG	
9.85	48.40	57.10	-8.70	QP	
9.85	38.24	47.10	-8.86	AVG	
9.87	35.77	56.00	-20.23	QP	
9.87	28.02	46.00	-17.98	AVG	
9.92	35.97	56.00	-20.03	QP	
9.92	30.52	46.00	-15.48	AVG	
9.95	33.97	56.00	-22.03	QP	
9.95	28.35	46.00	-17.65	AVG	
9.92	29.80	56.00	-26.20	QP	
9.92	24.92	46.00	-21.08	AVG	
	1997	ALC: NOTO	TAKEN BUND TUNDE	TALL BUILD TURK SALES	TALLET HOLD TUBBLE SARD 12.

x:Over limit !:over margin *:Maximum data (Reference Only



[TestMode: TX]; [Line: Nutral] ;[Power:AC120V/60Hz]



Limit: FCC Class B Conduction(QP)

EUT: CozyAir A3 humidifier

M/N: A1320

Mode: 2.4GWIFI mode

Note:

Site

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1980	30.67	10.15	40.82	63.69	-22.87	QP	
2		0.1980	26.53	10.15	36.68	53.69	-17.01	AVG	
3		0.4380	39.00	9.78	48.78	57.10	-8.32	QP	
4	*	0.4380	30.95	9.78	40.73	47.10	-6.37	AVG	
5		0.6100	26.02	9.80	35.82	56.00	-20.18	QP	
6		0.6100	23.42	9.80	33.22	46.00	-12.78	AVG	
7		1.1740	25.58	9.84	35.42	56.00	-20.58	QP	
8		1.1740	22.36	9.84	32.20	46.00	-13.80	AVG	
9		2.0780	24.05	9.86	33.91	56.00	-22.09	QP	
10		2.0780	20.01	9.86	29.87	46.00	-16.13	AVG	
11		3.4140	23.28	9.90	33.18	56.00	-22.82	QP	
12		3.4140	18.08	9.90	27.98	46.00	-18.02	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only



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12 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

12.1 CONCLUSION

Standard 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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 3.68dBi.





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13 RADIATED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

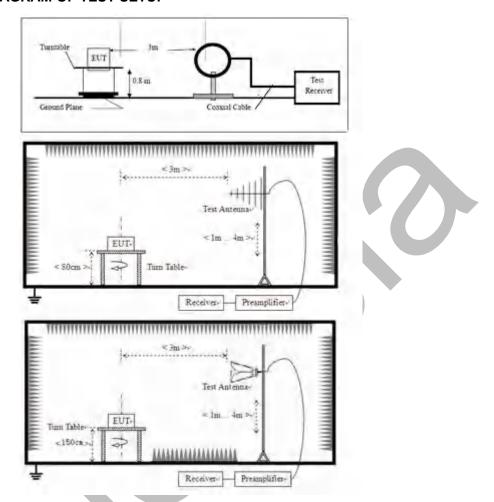
13.1 LIMITS

Frequency(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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



13.2 BLOCK DIAGRAM OF TEST SETUP



13.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height 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. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.



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- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

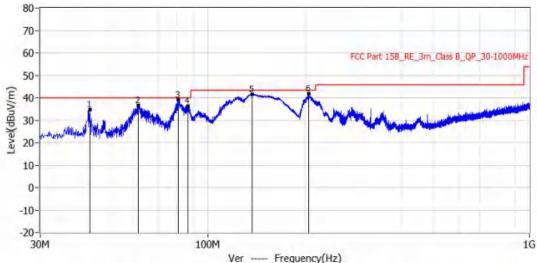




13.4 TEST DATA

[TestMode: TX mode (SE) below 1G]; [Polarity: Vertical]

Test Lab: BlueAsia EMC Lab (RE #1)	Project: BLA-EMC-202109-A24	
EUT: CozyAir A3humidifier	Test Engineer: charlie	
M/N: A1320	Temperature:	
S/N:	Humidity:	
Test Mode: 2.4GWifi TX mode	Test Voltage:	
Note:	Test Data: 2021-10-13 13:55:24	

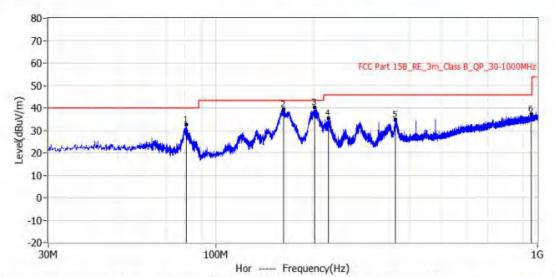


Frequency(Hz) Limit Level Delta Reading Factor Height Angle No. Frequency Detector Polar dB/m dBuV/m dBuV/m dB dBuV deg cm 1* 42.731MHz 40.0 34.9 -5.1 10.9 24.0 Ver 100.0 88.0 2* 60.434MHz 40.0 36.7 -3.3 13.3 23.4 QΡ Ver 100.0 0.0 3* 80.683MHz 40.0 39.0 -1.019.3 19.7 QP Ver 100.0 110.0 4* 86.503MHz 40.0 36.3 -3.7 16.8 19.5 QP Ver 100.0 73.0 43.5 QP 5* 136.821MHz 41.6 -1.9 18.1 23.5 Ver 100.0 168.0 205.206MHz 43.5 41.9 -1.6 21.0 20.9 Ver 100.0



[TestMode: TX mode (SE) below 1G]; [Polarity: Horizontal]

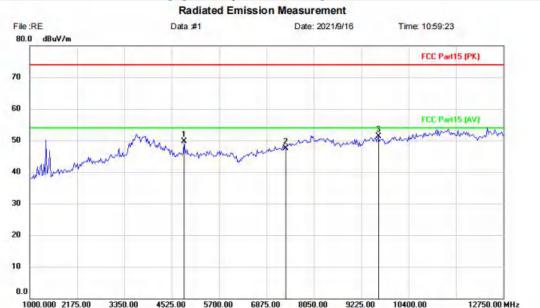
Test Lab: BlueAsia EMC Lab (RE #1)	Project: BLA-EMC-202109-A24	
EUT: CozyAir A3humidifier	Test Engineer: charlie	
M/N: A1320	Temperature:	
S/N:	Humidity:	
Test Mode: 2.4GWifi TX mode	Test Voltage:	
Note:	Test Data: 2021-10-13 13:57:54	



No.	Frequency	Limit	Level	Delta	Reading	Factor	Detector	Polar	Height	Angle
140.	requericy	dBuV/m	dBuV/m	dB	dBuV	dB/m	Detector	1 Oldi	cm	deg
1*	80.561MHz	40.0	32.6	-7.4	12.8	19.8	QP	Hor	100.0	195.0
2*	162.284MHz	43.5	39.4	-4.1	16.3	23.1	QP	Hor	100.0	169.0
3*	202.903MHz	43.5	40.2	-3.3	19.5	20.7	QP	Hor	100.0	53.0
4*	222.909MHz	46.0	35.5	-10.5	13.6	21.9	QP	Hor	100.0	230,0
5*	361.619MHz	46.0	34.8	-11.2	8.8	26.0	QP	Hor	100.0	240.0
6*	955.259MHz	46.0	37.3	-8.7	1.7	35.6	QP	Hor	100.0	13.0



[TestMode: TX 11B low channel]; [Polarity: Horizontal]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-L

Note:

Polarization:	Horizontal	Temperature:
Power:		Humidity:

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	46.06	3.62	49.68	74.00	-24.32	peak			
2		7326.000	41.04	6.44	47.48	74.00	-26.52	peak			
3	*	9648.000	41.96	9.37	51.33	74.00	-22.67	peak			

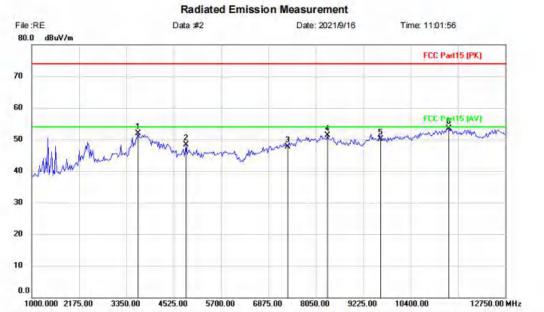
*:Maximum data x:Over limit !:over margin (Reference Only

Temperature:

Humidity:



[TestMode: TX 11B low channel]; [Polarity: Vertical]



Polarization: Vertical

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-L

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		3632.000	44.19	7.77	51.96	74.00	-22.04	peak			
2		4824.000	44.61	3.62	48.23	74.00	-25.77	peak			
3		7326.000	41.35	6.44	47.79	74.00	-26.21	peak			
4		8332.000	43.05	8.26	51.31	74.00	-22.69	peak			
5		9648.000	40.80	9.37	50.17	74.00	-23.83	peak			
6	* 1	1340.000	41.67	11.85	53.52	74.00	-20.48	peak			

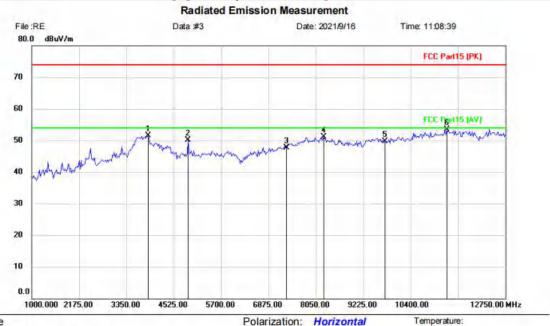
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX 11B mid channel]; [Polarity: Horizontal]



Site

Limit: FCC Part15 (PK) EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-M

Note:

Polarization: Horizontal Humidity: Power:

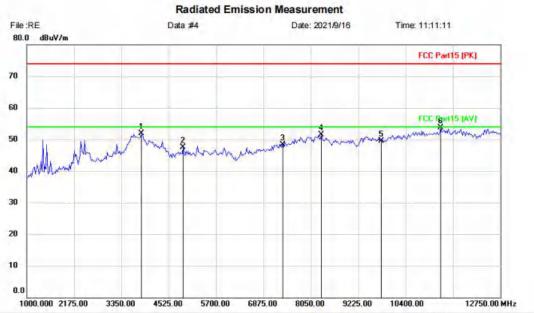
Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		3890.500	44.99	6.53	51.52	74.00	-22.48	peak			
2		4874.000	46.73	3.39	50.12	74.00	-23.88	peak			
3		7311.000	41.32	6.37	47.69	74.00	-26.31	peak			
4		8238.000	42.80	8.22	51.02	74.00	-22.98	peak			
5		9748.000	40.04	9.59	49.63	74.00	-24.37	peak			
6	* 1	1293.000	41.56	11.91	53.47	74.00	-20.53	peak			

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX 11B mid channel]; [Polarity: Vertical]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-M

Note:

Polarization:	Vertical	Temperature:
Power:		Humidity:

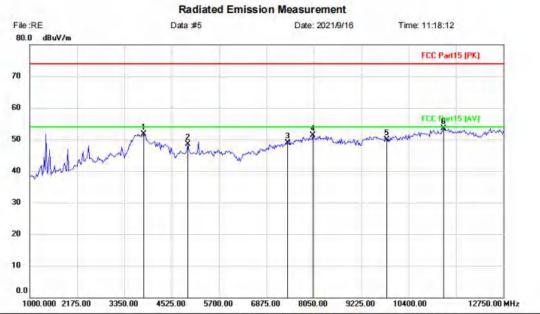
Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		3843.500	44.78	7.12	51.90	74.00	-22.10	peak			
2		4874.000	44.06	3.39	47.45	74.00	-26.55	peak			
3		7326.000	41.92	6.44	48.36	74.00	-25.64	peak			
4		8308.500	43.29	8.25	51.54	74.00	-22.46	peak			
5		9768.000	39.87	9.63	49.50	74.00	-24.50	peak			
6	* 1	1269.500	41.80	11.94	53.74	74.00	-20.26	peak			

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX 11B high channel]; [Polarity: Horizontal]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-H

Note:

Polarization: Horizontal
Power:

Temperature:

Humidity:

Distance:

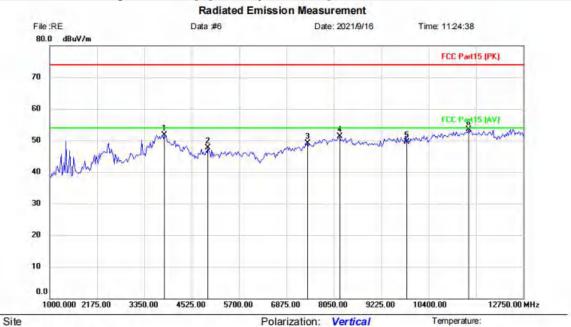
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		3820.000	44.31	7.41	51.72	74.00	-22.28	peak			
2		4924.000	45.12	3.46	48.58	74.00	-25.42	peak			
3		7386.000	42.24	6.68	48.92	74.00	-25.08	peak			
4		8026.500	43.28	7.98	51.26	74.00	-22.74	peak			
5		9848.000	39.98	9.88	49.86	74.00	-24.14	peak			
6	* 1	11269.500	41.53	11.94	53.47	74.00	-20.53	peak			

*:Maximum data x:Over limit !:over margin (Reference Only

Humidity:



[TestMode: TX 11B high channel]; [Polarity: Vertical]



Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		3843.500	44.64	7.12	51.76	74.00	-22.24	peak			
2		4924.000	44.17	3.46	47.63	74.00	-26.37	peak			
3		7386.000	42.48	6.68	49.16	74.00	-24.84	peak			
4		8191.000	43.14	8.20	51.34	74.00	-22.66	peak			
5		9848.000	39.67	9.88	49.55	74.00	-24.45	peak			
6	* 1	1387.000	41.80	11.78	53.58	74.00	-20.42	peak			

Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11B mode which it is worse case.



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14 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

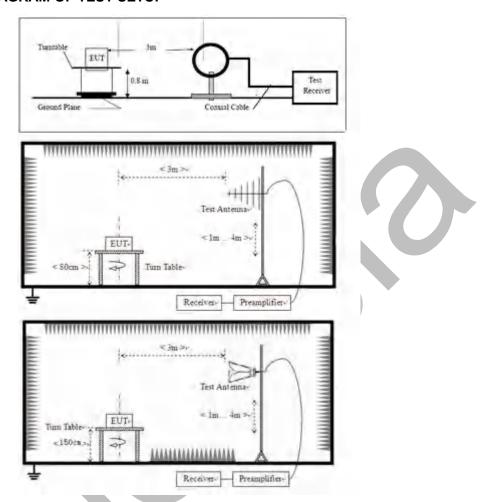
14.1 LIMITS

Frequency(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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height 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. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.



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h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



Humidity:



14.4 TEST DATA

[TestMode: TX 11B low channel]; [Polarity: Horizontal]



Limit: FCC Part15 (PK)

M/N: A1230

Mode: B TX-L

Note:

Power: EUT: CozyAir A3 humidifier Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	47.08	-4.61	42.47	74.00	-31.53	peak			
2	*	2390.000	51.60	-4.27	47.33	74.00	-26.67	peak			

*:Maximum data (Reference Only x:Over limit !:over margin

Temperature:

Humidity:



[TestMode: TX 11B low channel]; [Polarity: Vertical]



Polarization: Vertical

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-L

Note:

No. Mk	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	48.04	-4.61	43.43	74.00	-30.57	peak			
2	*	2390.000	51.08	-4.27	46.81	74.00	-27.19	peak			

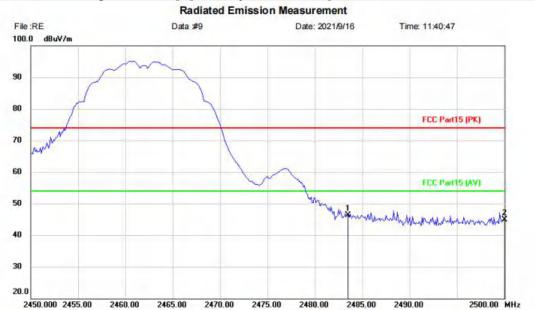
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX 11B high channel]; [Polarity: Horizontal]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-H

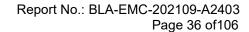
Note:

Polarization:	Horizontal	Temperature	:
Douge:		Humidity	9/

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	50.09	-3.84	46.25	74.00	-27.75	peak			
2		2500.000	48.73	-3.78	44.95	74.00	-29.05	peak			

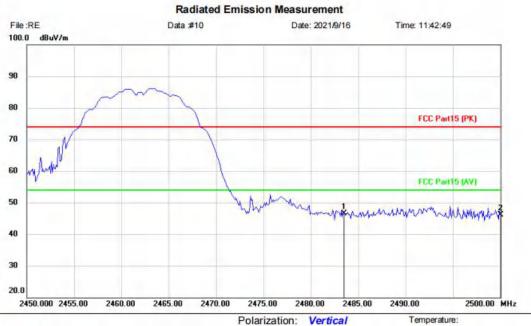
*:Maximum data x:Over limit !:over margin (Reference Only



Humidity:



[TestMode: TX 11B high channel]; [Polarity: Vertical]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: B TX-H

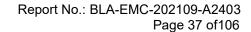
Note:

No. M	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	50.35	-3.84	46.51	74.00	-27.49	peak			
2		2500.000	49.86	-3.78	46.08	74.00	-27.92	peak			

Power:

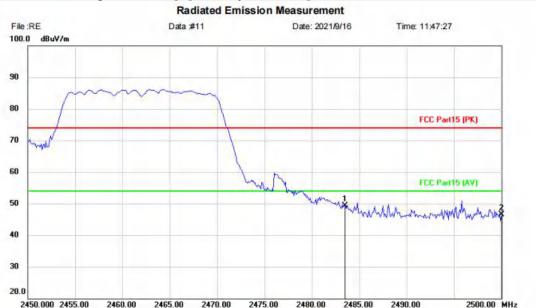
Distance:

*:Maximum data x:Over limit !:over margin (Reference Only





[TestMode: TX 11G high channel]; [Polarity: Vertical]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier M/N: A1230 Mode: G TX-H

Note:

Polarization: Vertical

Power:

Temperature: Humidity: %

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	53.19	-3.84	49.35	74.00	-24.65	peak			
2		2500.000	50.25	-3.78	46.47	74.00	-27.53	peak			

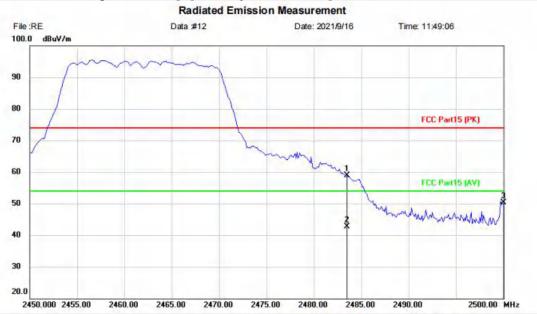
*:Maximum data x:Over limit !:over margin (Reference Only

Temperature:

Humidity:



[TestMode: TX 11G high channel]; [Polarity: Horizontal]



Polarization: Horizontal

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: G TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	62.68	-3.84	58.84	74.00	-15.16	peak			
2	*	2483.500	46.61	-3.84	42.77	54.00	-11.23	AVG			
3		2500.000	54.14	-3.78	50.36	74.00	-23.64	peak			

Power:

Distance:

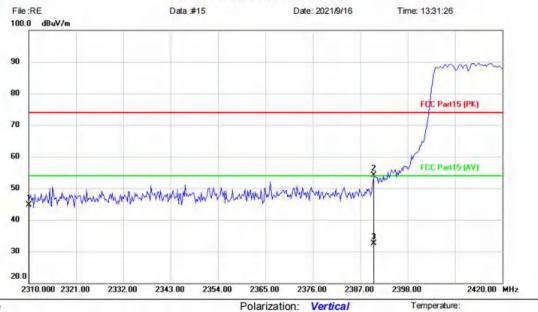
*:Maximum data x:Over limit !:over margin (Reference Only

Humidity:



[TestMode: TX 11G low channel]; [Polarity: Vertical]

Radiated Emission Measurement



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: G TX-L

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	49.33	-4.61	44.72	74.00	-29.28	peak			
2	*	2390.000	58.46	-4.27	54.19	74.00	-19.81	peak			
3		2390.000	36.70	-4.27	32.43	54.00	-21.57	AVG			

Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only

Humidity:



[TestMode: TX 11G low channel]; [Polarity: Horizontal]

Radiated Emission Measurement



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: G TX-L

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	47.88	-4.61	43.27	74.00	-30.73	peak			
2		2390.000	58.69	-4.27	54.42	74.00	-19.58	peak			
3	*	2390.000	41.44	-4.27	37.17	54.00	-16.83	AVG			

Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only

Temperature:

Humidity:



[TestMode: TX N20 low channel]; [Polarity: Horizontal]

Radiated Emission Measurement



Polarization: Horizontal

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N20 TX-L

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	47.12	-4.61	42.51	74.00	-31.49	peak			
2		2390.000	58.72	-4.27	54.45	74.00	-19.55	peak			
3	*	2390.000	42.36	-4.27	38.09	54.00	-15.91	AVG			

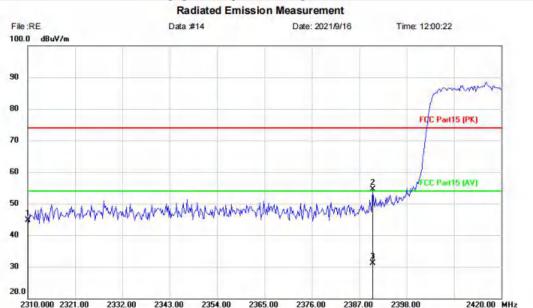
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX N20 low channel]; [Polarity: Vertical]



Site Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N20 TX-L

Note:

Polarization: Vertical Temperature:

Power: Humidity:

Distance:

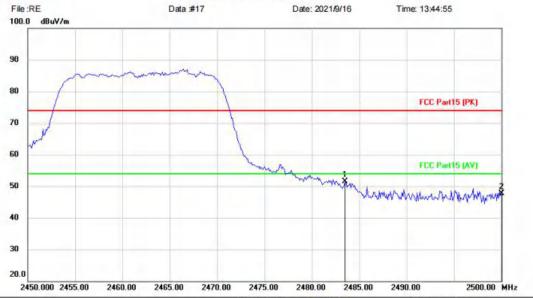
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	49.30	-4.61	44.69	74.00	-29.31	peak			
2	*	2390.000	58.87	-4.27	54.60	74.00	-19.40	peak			
3		2390.000	35.46	-4.27	31.19	54.00	-22.81	AVG			

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX N20 high channel]; [Polarity: Vertical]

Radiated Emission Measurement



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N20 TX-H

Note:

Polarization:	Vertical	Temperature	:
Power:		Humidity:	9

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	55.44	-3.84	51.60	74.00	-22.40	peak			
2		2500.000	51.58	-3.78	47.80	74.00	-26.20	peak			

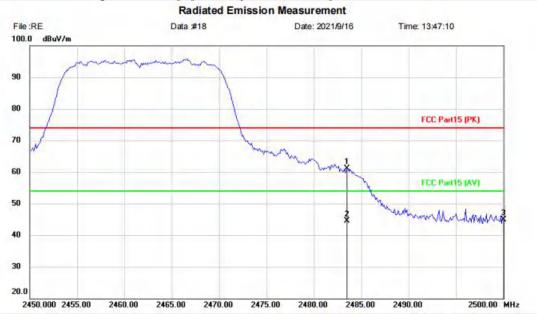
*:Maximum data x:Over limit !:over margin (Reference Only

Temperature:

Humidity:



[TestMode: TX N20 high channel]; [Polarity: Horizontal]



Polarization: Horizontal

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N20 TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	64.98	-3.84	61.14	74.00	-12.86	peak			
2	*	2483.500	48.25	-3.84	44.41	54.00	-9.59	AVG			
3		2500.000	48.76	-3.78	44.98	74.00	-29.02	peak			

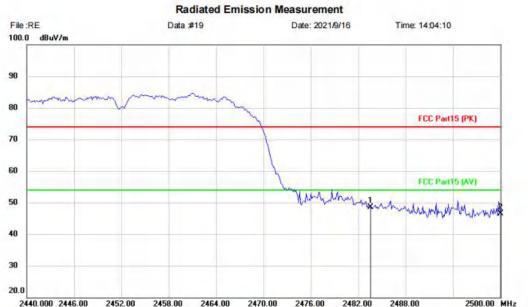
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX N40 high channel]; [Polarity: Vertical]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N40 TX-H

Note:

Polarization: Vertical Temperature:
Power: Humidity:

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	52.40	-3.84	48.56	74.00	-25.44	peak			
2		2500.000	50.20	-3.78	46.42	74.00	-27.58	peak			

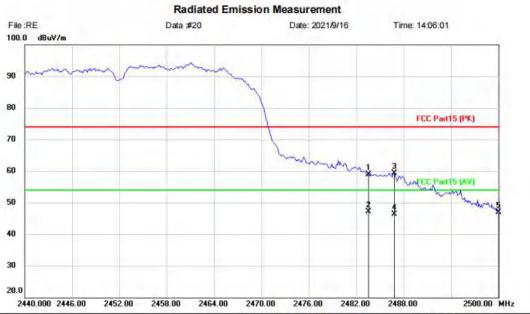
*:Maximum data x:Over limit !:over margin (Reference Only

Temperature:

Humidity:



[TestMode: TX N40 high channel]; [Polarity: Horizontal]



Polarization: Horizontal

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N40 TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	62.73	-3.84	58.89	74.00	-15.11	peak			
2	*	2483.500	50.98	-3.84	47.14	54.00	-6.86	AVG	1		
3		2486.800	63.11	-3.84	59.27	74.00	-14.73	peak			
4		2486.800	50.06	-3.84	46.22	54.00	-7.78	AVG			
5		2500.000	50.69	-3.78	46.91	74.00	-27.09	peak			

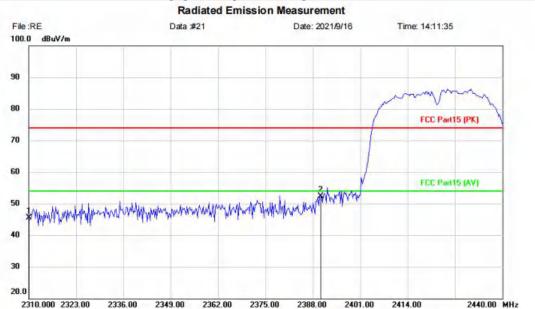
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX N40 low channel]; [Polarity: Vertical]



Polarization: Vertical

Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N40 TX-L

Note:

Temperature:

Humidity:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	50.08	-4.61	45.47	74.00	-28.53	peak			
2	*	2390.000	56.65	-4.27	52.38	74.00	-21.62	peak			

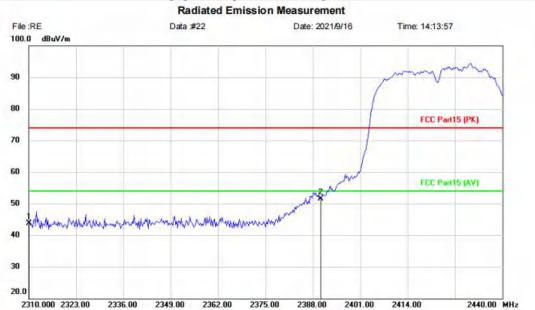
Power:

Distance:

*:Maximum data x:Over limit !:over margin (Reference Only



[TestMode: TX N40 low channel]; [Polarity: Horizontal]



Site

Limit: FCC Part15 (PK)

EUT: CozyAir A3 humidifier

M/N: A1230 Mode: N40 TX-L

Note:

Polarization:	Horizontal	Temperature
Power:		Humidity:

Distance:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	48.41	-4.61	43.80	74.00	-30.20	peak			
2	*	2390.000	55.83	-4.27	51.56	74.00	-22.44	peak			

*:Maximum data x:Over limit !:over margin (Reference Only



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15 CONDUCTED SPURIOUS EMISSIONS

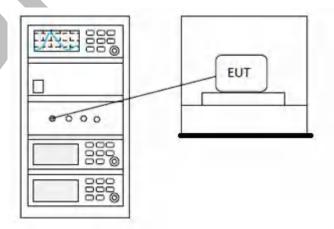
Test Standard	47 CFR Part 15, Subpart C 15.247				
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11				
Test Mode (Pre-Scan)	TX				
Test Mode (Final Test)	TX				
Tester	Jozu				
Temperature	25℃				
Humidity	60%				

15.1 LIMITS

Limit: | co

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

15.2 BLOCK DIAGRAM OF TEST SETUP





15.3 TEST DATA





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16 CONDUCTED BAND EDGES MEASUREMENT

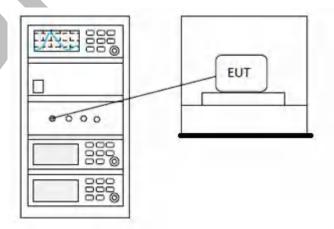
Test Standard	47 CFR Part 15, Subpart C 15.247				
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2				
Test Mode (Pre-Scan)	TX				
Test Mode (Final Test)	TX				
Tester	Jozu				
Temperature	25℃				
Humidity	60%				

16.1 LIMITS

Limit:

In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

16.2 BLOCK DIAGRAM OF TEST SETUP





16.3 TEST DATA





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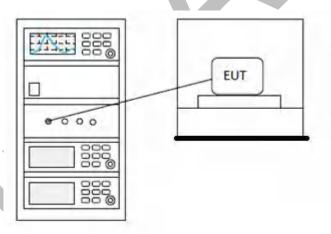
17 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 11.8.1					
Test Mode (Pre-Scan)	TX					
Test Mode (Final Test)	TX					
Tester	Jozu					
Temperature	25℃					
Humidity	60%					

17.1 LIMITS

Limit: ≥500 kHz

17.2 BLOCK DIAGRAM OF TEST SETUP



17.3 TEST DATA



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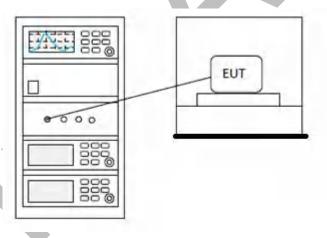
18 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247				
Test Method	ANSI C63.10 (2013) Section 11.10.2				
Test Mode (Pre-Scan)	TX				
Test Mode (Final Test)	TX				
Tester	Jozu				
Temperature	25℃				
Humidity	60%				

18.1 LIMITS

Limit: | ≤8dBm in any 3 kHz band during any time interval of continuous transmission

18.2 BLOCK DIAGRAM OF TEST SETUP



18.3 TEST DATA

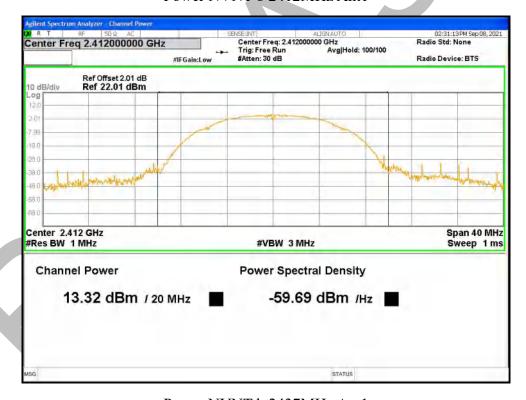


19 APPENDIX

Maximum Conducted Output Power

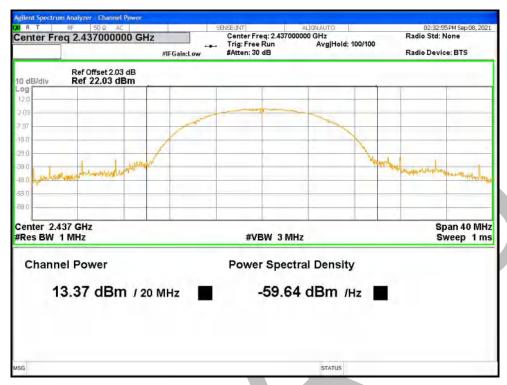
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	ь	2412	Ant1	13.321	30	Pass
NVNT	ь	2437	Ant1	13.375	30	Pass
NVNT	ь	2462	Ant1	13.636	30	Pass
NVNT	g	2412	Ant1	12.498	30	Pass
NVNT	g	2437	Ant1	12.638	30	Pass
NVNT	g	2462	Ant1	12.476	30	Pass
NVNT	n20	2412	Ant1	12.435	30	Pass
NVNT	n20	2437	Ant1	12.098	30	Pass
NVNT	n20	2462	Ant1	12.247	30	Pass
NVNT	n40	2422	Ant1	12.553	30	Pass
NVNT	n40	2437	Ant1	12.094	30	Pass
NVNT	n40	2452	Ant1	12.247	30	Pass

Power NVNT b 2412MHz Ant1

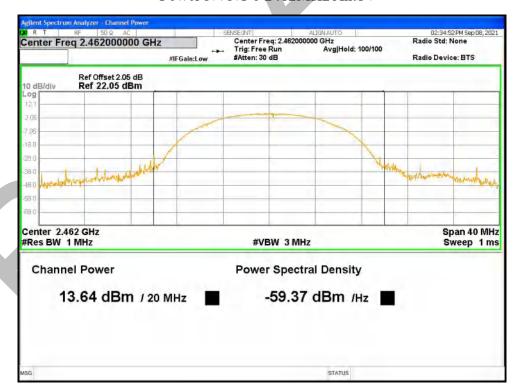


Power NVNT b 2437MHz Ant1



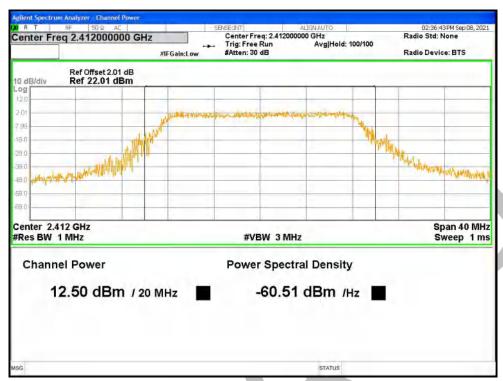


Power NVNT b 2462MHz Ant1

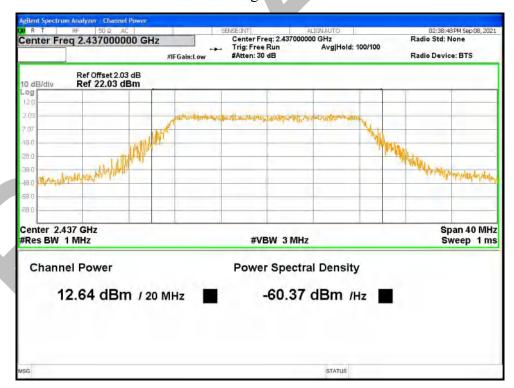


Power NVNT g 2412MHz Ant1



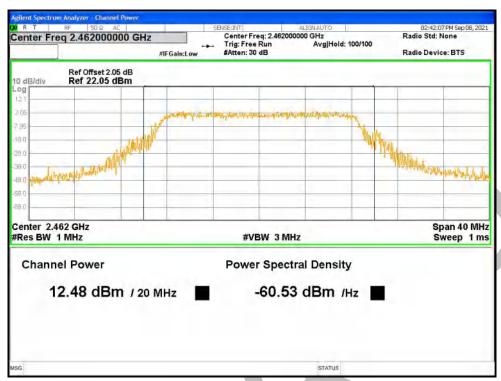


Power NVNT g 2437MHz Ant1

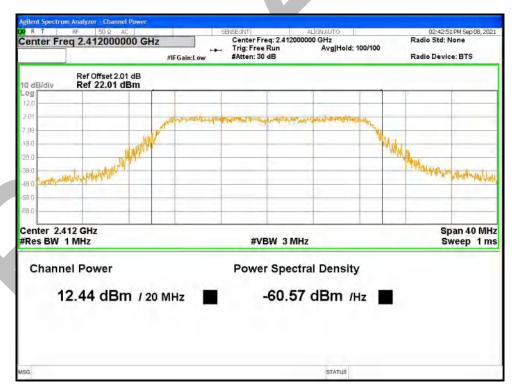


Power NVNT g 2462MHz Ant1



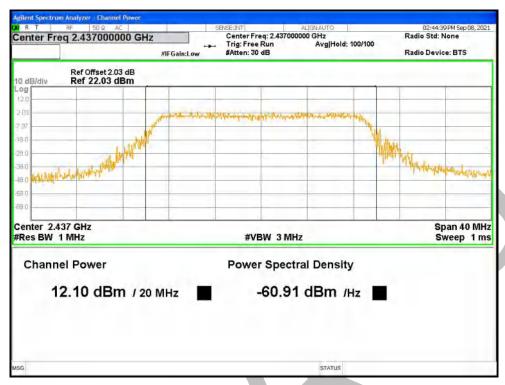


Power NVNT n20 2412MHz Ant1

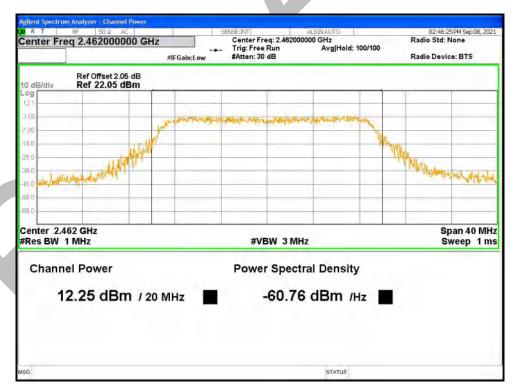


Power NVNT n20 2437MHz Ant1



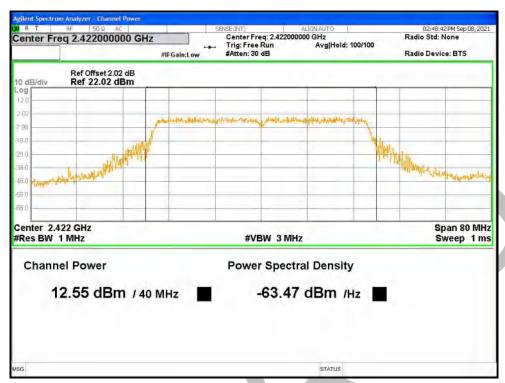


Power NVNT n20 2462MHz Ant1

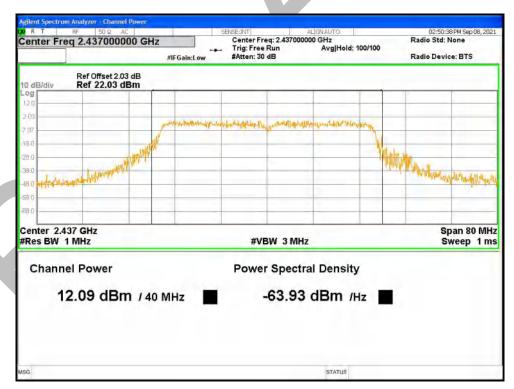


Power NVNT n40 2422MHz Ant1



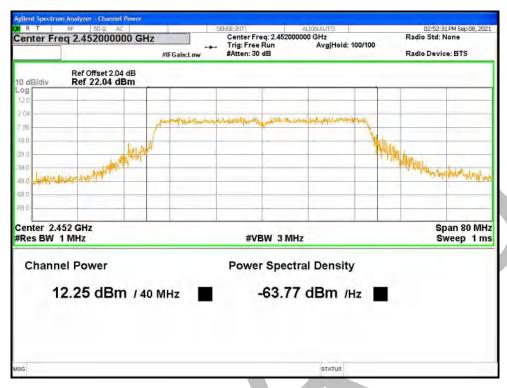


Power NVNT n40 2437MHz Ant1



Power NVNT n40 2452MHz Ant1







-6dB Bandwidth

Condition	Mode	Frequency	Antenna	-6 dB Bandwidth	Limit -6 dB	Verdict
		(MHz)		(MHz)	Bandwidth (MHz)	
NVNT	ь	2412	Ant1	8.979	0.5	Pass
NVNT	ь	2437	Ant1	8.061	0.5	Pass
NVNT	ь	2462	Ant1	8.966	0.5	Pass
NVNT	g	2412	Ant1	16.434	0.5	Pass
NVNT	g	2437	Ant1	16.463	0.5	Pass
NVNT	g	2462	Ant1	16.543	0.5	Pass
NVNT	n20	2412	Ant1	16.284	0.5	Pass
NVNT	n20	2437	Ant1	17.713	0.5	Pass
NVNT	n20	2462	Ant1	17.597	0.5	Pass
NVNT	n40	2422	Ant1	35.896	0.5	Pass
NVNT	n40	2437	Ant1	36.011	0.5	Pass
NVNT	n40	2452	Ant1	36.104	0.5	Pass

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1



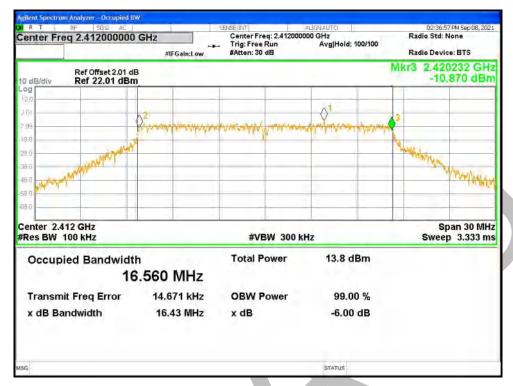


-6dB Bandwidth NVNT b 2462MHz Ant1



-6dB Bandwidth NVNT g 2412MHz Ant1



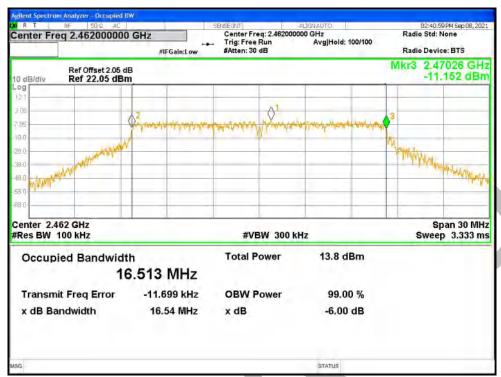


-6dB Bandwidth NVNT g 2437MHz Ant1



-6dB Bandwidth NVNT g 2462MHz Ant1





-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1





-6dB Bandwidth NVNT n20 2462MHz Ant1



-6dB Bandwidth NVNT n40 2422MHz Ant1





-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1



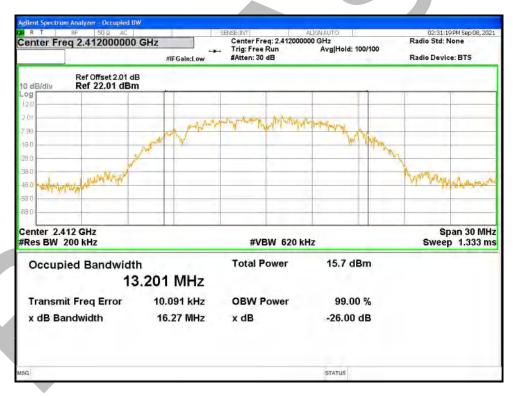




Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	ь	2412	Ant1	13.2010038
NVNT	b	2437	Ant1	13.22621503
NVNT	ь	2462	Ant1	13.4089295
NVNT	g	2412	Ant1	16.63074343
NVNT	g	2437	Ant1	16.60240167
NVNT	g	2462	Ant1	16.5909552
NVNT	n20	2412	Ant1	17.82170685
NVNT	n20	2437	Ant1	17.8387392
NVNT	n20	2462	Ant1	17.82975411
NVNT	n40	2422	Ant1	36.3717016
NVNT	n40	2437	Ant1	36.34334037
NVNT	n40	2452	Ant1	36.39351792

OBW NVNT b 2412MHz Ant1



OBW NVNT b 2437MHz Ant1





OBW NVNT b 2462MHz Ant1

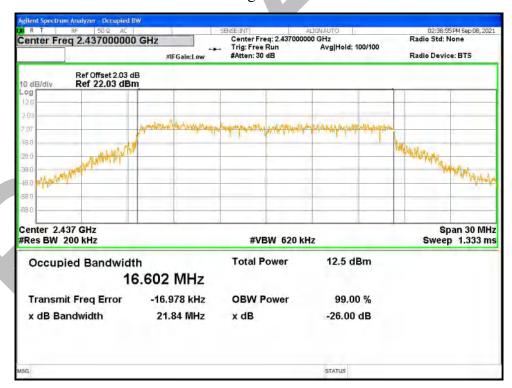


OBW NVNT g 2412MHz Ant1





OBW NVNT g 2437MHz Ant1

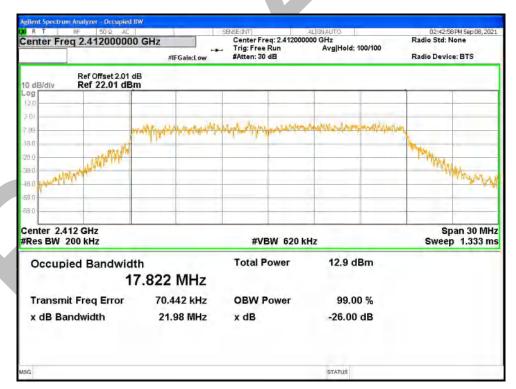


OBW NVNT g 2462MHz Ant1





OBW NVNT n20 2412MHz Ant1

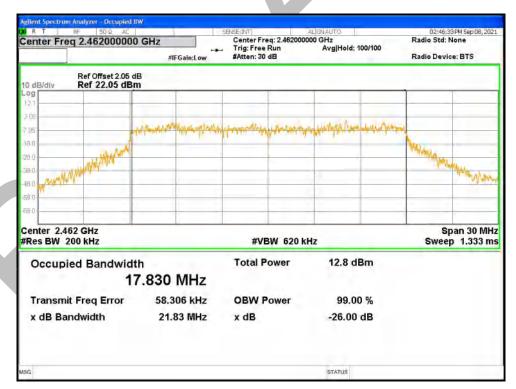


OBW NVNT n20 2437MHz Ant1



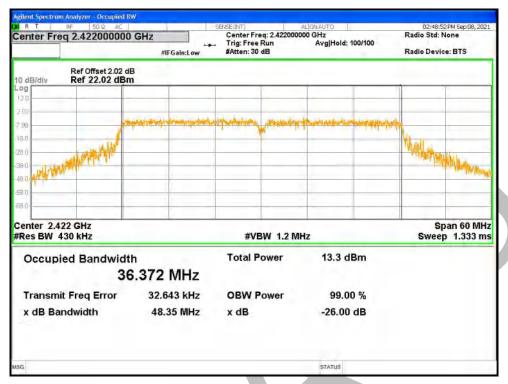


OBW NVNT n20 2462MHz Ant1



OBW NVNT n40 2422MHz Ant1



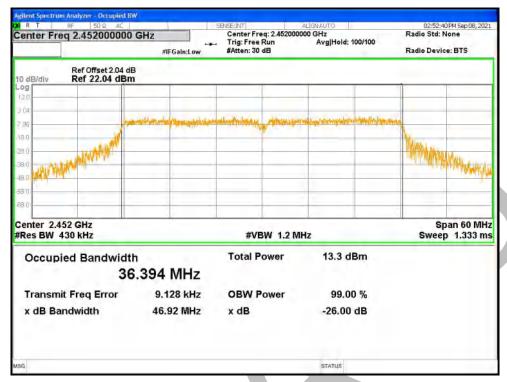


OBW NVNT n40 2437MHz Ant1



OBW NVNT n40 2452MHz Ant1







Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	ь	2412	Ant1	1.992	8	Pass
NVNT	ь	2437	Ant1	2.4	8	Pass
NVNT	b	2462	Ant1	2.23	8	Pass
NVNT	g	2412	Ant1	-2.111	8	Pass
NVNT	g	2437	Ant1	-2.556	8	Pass
NVNT	g	2462	Ant1	-2.965	8	Pass
NVNT	n20	2412	Ant1	-1.837	8	Pass
NVNT	n20	2437	Ant1	-2.054	8	Pass
NVNT	n20	2462	Ant1	-1.758	8	Pass
NVNT	n40	2422	Ant1	-4.569	8	Pass
NVNT	n40	2437	Ant1	-5.166	8	Pass
NVNT	n40	2452	Ant1	-4.774	8	Pass

PSD NVNT b 2412MHz Ant1



PSD NVNT b 2437MHz Ant1





PSD NVNT b 2462MHz Ant1

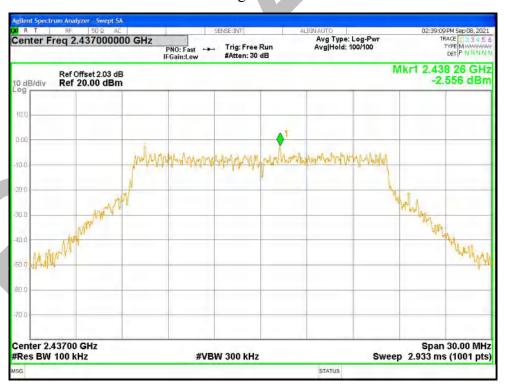


PSD NVNT g 2412MHz Ant1





PSD NVNT g 2437MHz Ant1

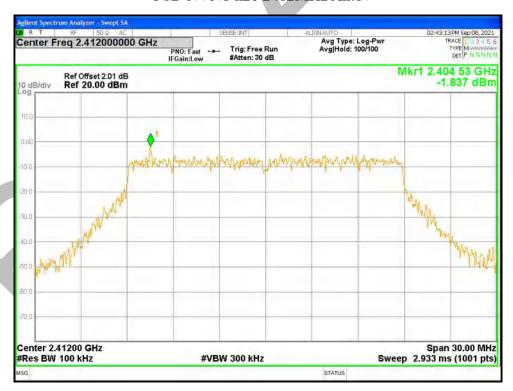


PSD NVNT g 2462MHz Ant1





PSD NVNT n20 2412MHz Ant1

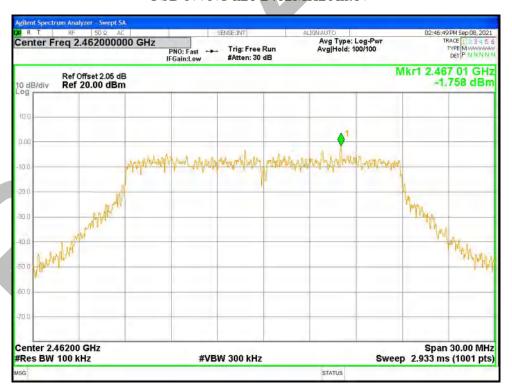


PSD NVNT n20 2437MHz Ant1



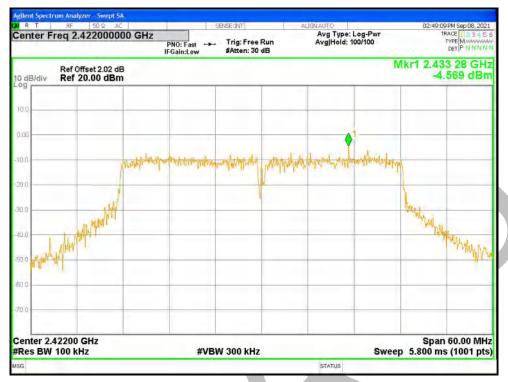


PSD NVNT n20 2462MHz Ant1



PSD NVNT n40 2422MHz Ant1



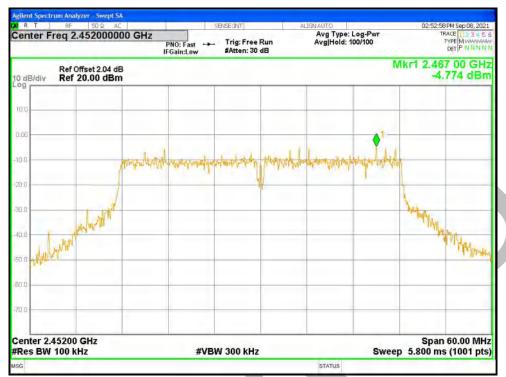


PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1







Band Edge

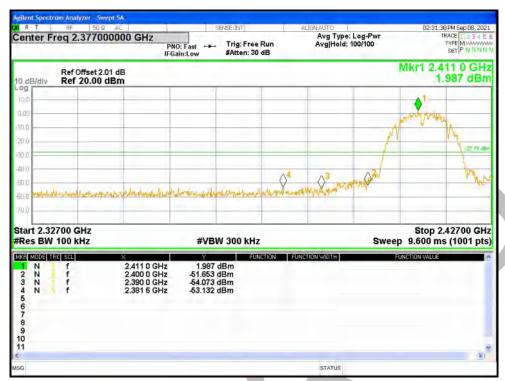
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ь	2412	Ant1	-55.37	-30	Pass
NVNT	ь	2462	Ant1	-53.03	-30	Pass
NVNT	g	2412	Ant1	-50.59	-30	Pass
NVNT	g	2462	Ant1	-47.82	-30	Pass
NVNT	n20	2412	Ant1	-48.39	-30	Pass
NVNT	n20	2462	Ant1	-49.3	-30	Pass
NVNT	n40	2422	Ant1	-53.68	-30	Pass
NVNT	n40	2452	Ant1	-40.41	-30	Pass

Band Edge NVNT b 2412MHz Ant1 Ref



Band Edge NVNT b 2412MHz Ant1 Emission



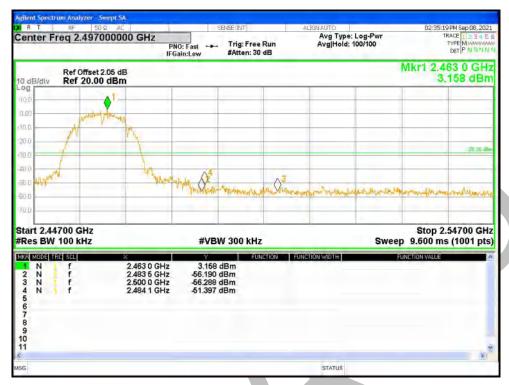


Band Edge NVNT b 2462MHz Ant1 Ref



Band Edge NVNT b 2462MHz Ant1 Emission



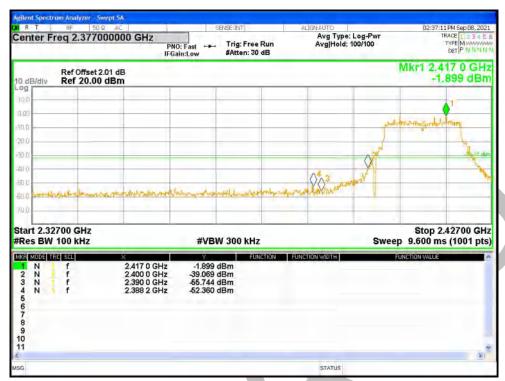


Band Edge NVNT g 2412MHz Ant1 Ref

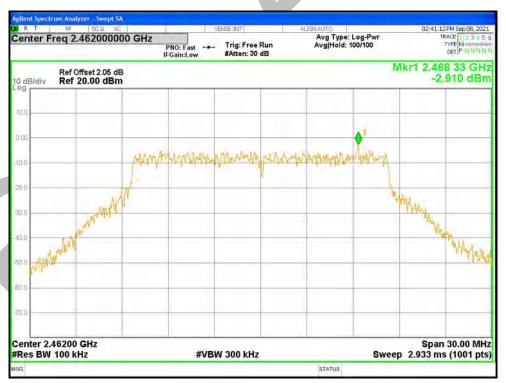


Band Edge NVNT g 2412MHz Ant1 Emission



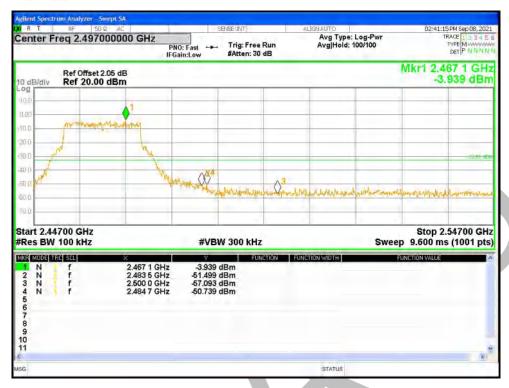


Band Edge NVNT g 2462MHz Ant1 Ref



Band Edge NVNT g 2462MHz Ant1 Emission





Band Edge NVNT n20 2412MHz Ant1 Ref



Band Edge NVNT n20 2412MHz Ant1 Emission



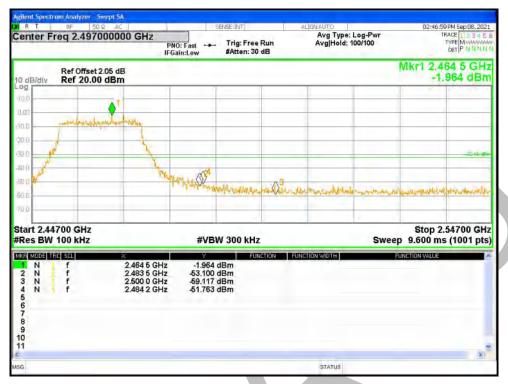


Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission



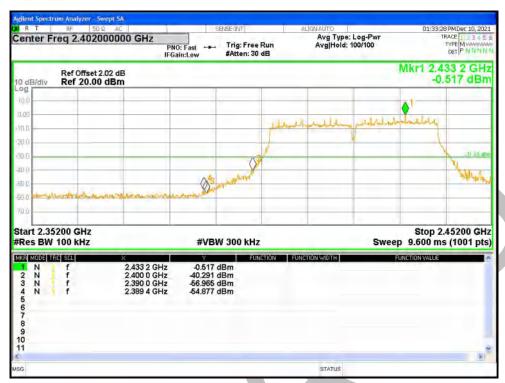


Band Edge NVNT n40 2422MHz Ant1 Ref

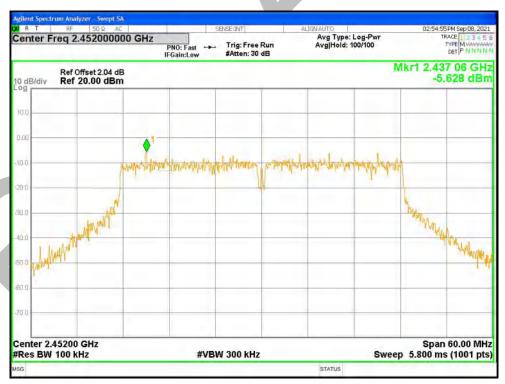


Band Edge NVNT n40 2422MHz Ant1 Emission





Band Edge NVNT n40 2452MHz Ant1 Ref



Band Edge NVNT n40 2452MHz Ant1 Emission







Conducted RF Spurious Emission

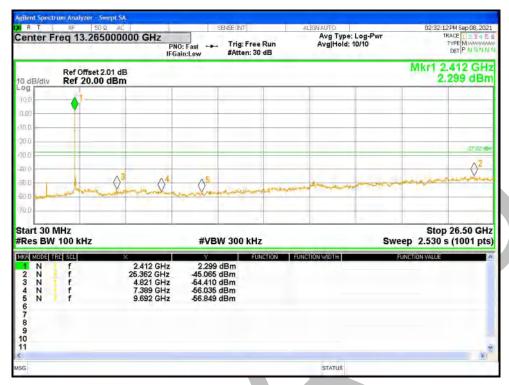
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.24	-30	Pass
NVNT	ь	2437	Ant1	-46.3	-30	Pass
NVNT	ь	2462	Ant1	-47.43	-30	Pass
NVNT	g	2412	Ant1	-43.88	-30	Pass
NVNT	g	2437	Ant1	-43.45	-30	Pass
NVNT	g	2462	Ant1	-42.19	-30	Pass
NVNT	n20	2412	Ant1	-43.74	-30	Pass
NVNT	n20	2437	Ant1	-43.6	-30	Pass
NVNT	n20	2462	Ant1	-41.52	-30	Pass
NVNT	n40	2422	Ant1	-41.14	-30	Pass
NVNT	n40	2437	Ant1	-41.65	-30	Pass
NVNT	n40	2452	Ant1	-41.46	-30	Pass

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Tx. Spurious NVNT b 2412MHz Ant1 Emission



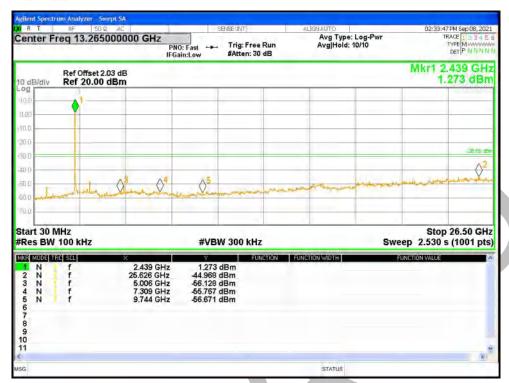


Tx. Spurious NVNT b 2437MHz Ant1 Ref



Tx. Spurious NVNT b 2437MHz Ant1 Emission



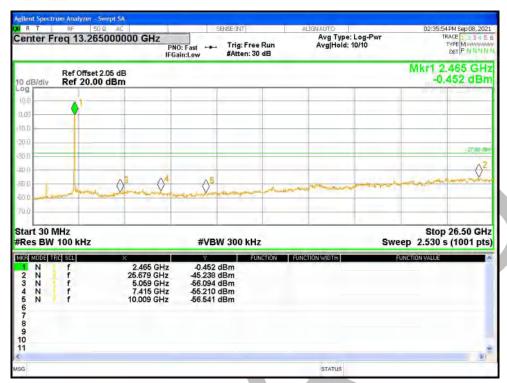


Tx. Spurious NVNT b 2462MHz Ant1 Ref



Tx. Spurious NVNT b 2462MHz Ant1 Emission



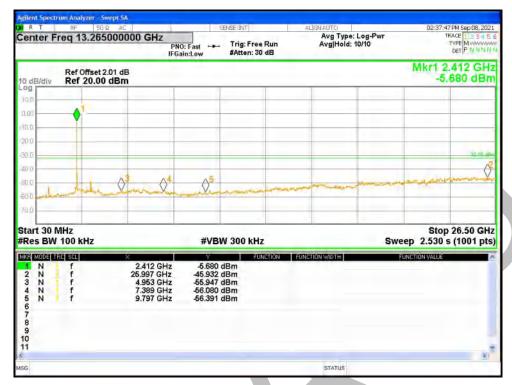


Tx. Spurious NVNT g 2412MHz Ant1 Ref



Tx. Spurious NVNT g 2412MHz Ant1 Emission



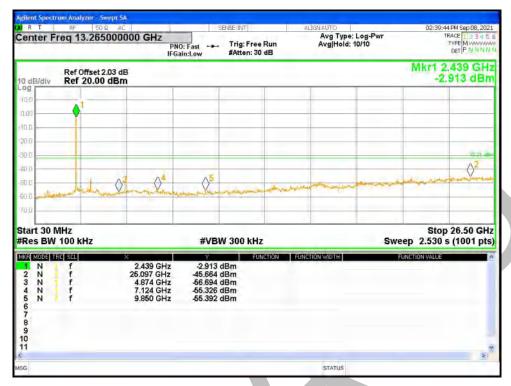


Tx. Spurious NVNT g 2437MHz Ant1 Ref



Tx. Spurious NVNT g 2437MHz Ant1 Emission



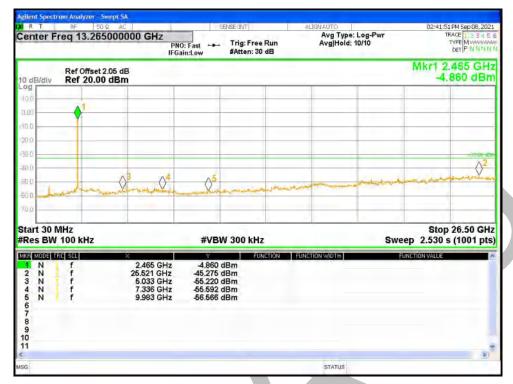


Tx. Spurious NVNT g 2462MHz Ant1 Ref



Tx. Spurious NVNT g 2462MHz Ant1 Emission



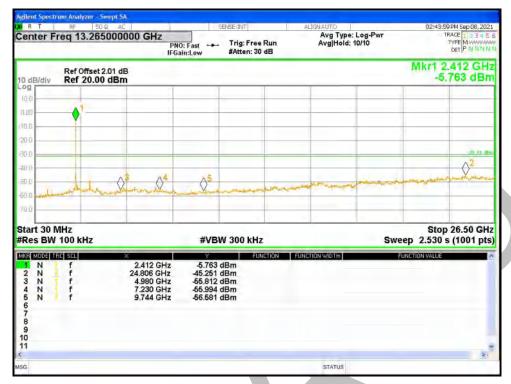


Tx. Spurious NVNT n20 2412MHz Ant1 Ref

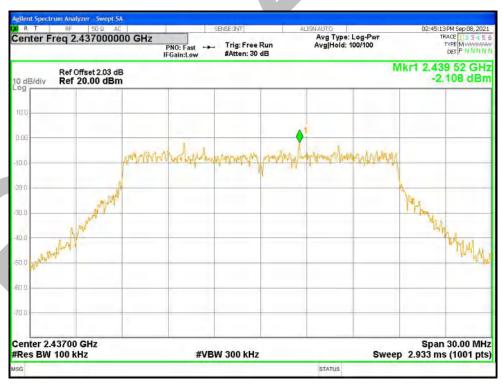


Tx. Spurious NVNT n20 2412MHz Ant1 Emission



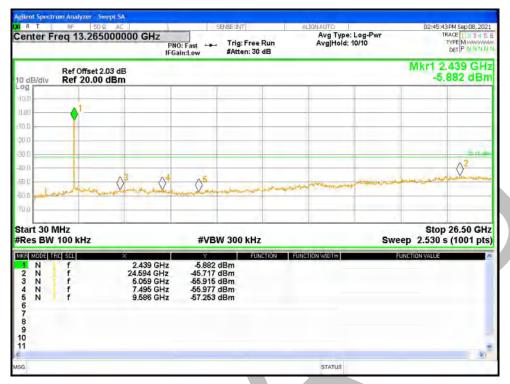


Tx. Spurious NVNT n20 2437MHz Ant1 Ref



Tx. Spurious NVNT n20 2437MHz Ant1 Emission



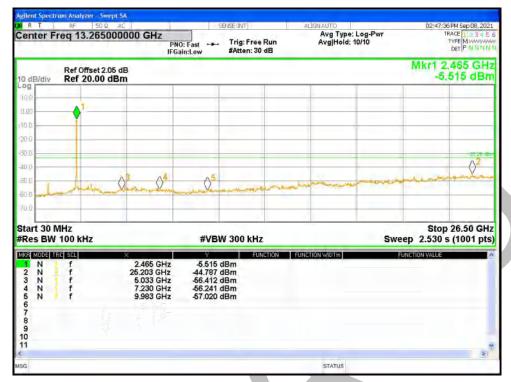


Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission



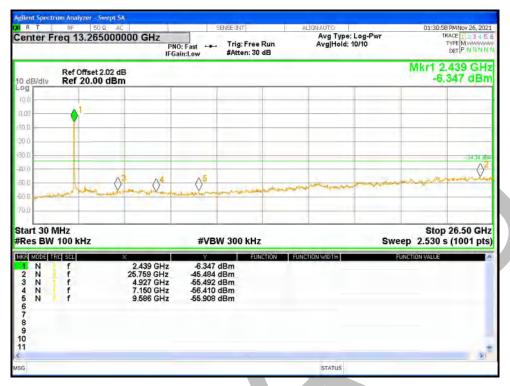


Tx. Spurious NVNT n40 2422MHz Ant1 Ref



Tx. Spurious NVNT n40 2422MHz Ant1 Emission



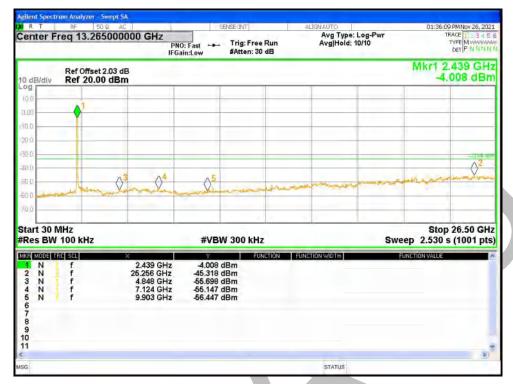


Tx. Spurious NVNT n40 2437MHz Ant1 Ref



Tx. Spurious NVNT n40 2437MHz Ant1 Emission



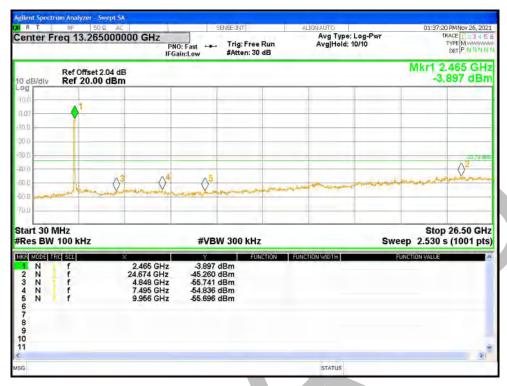


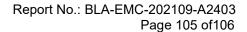
Tx. Spurious NVNT n40 2452MHz Ant1 Ref



Tx. Spurious NVNT n40 2452MHz Ant1 Emission





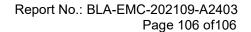




APPENDIX A: PHOTOGRAPHS OF TEST SETUP











APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202109-A2401

----END OF REPORT----

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