

FCC TEST REPORT

FCC ID: 2BMUG-WD-AX907B On Behalf of Shenzhen Longbrush Technology Co., Ltd. WiFi Bluetooth Adapter AX900 Model No.: WD-AX907B

Prepared for	: Shenzhen Longbrush Technology Co., Ltd.
Address	B2008, Building 3, Phase 3, Hongji Garden, District 4, Jixiang Community Center City, Longcheng Street, Shenzhen, China

Prepared By	: Shenzhen Alpha Product Testing Co., Ltd.
Address	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A2411260-C02-R02
Date of Receipt	:	November 25, 2024
Date of Test	:	November 25, 2024 – December 18, 2024
Date of Report	:	December 19, 2024
Version Number	:	VO
Result		Pass

TABLE OF CONTENTS

	Desc	cription	Page
1.	Sum	mary of Standards And Results	6
	1.1.	Description of Standards and Results	б
2.	Gene	eral Information	
	2.1.	Description of Device (EUT)	7
	2.2.	Accessories of Device (EUT)	
	2.3.	Tested Supporting System Details	8
	2.4.	Block Diagram of connection between EUT and simulators	8
	2.5.	Test Mode Description	8
	2.6.	Test Conditions	8
	2.7.	Test Facility	
	2.8.	Measurement Uncertainty	9
	2.9.	Test Equipment List	
3.	Spur	ious Emission	
	3.1.	Test Limits	
	3.2.	Test Procedure	
	3.3.	Test Setup	
	3.4.	Test Results	-
4.	-	er Line Conducted Emission	-
	4.1.	Test Limits	
	4.2.	Test Procedure	
	4.3.	Test Setup	
	4.4.	Test Results	-
5.		ducted Maximum Output Power	
	5.1.	Test limits	
	5.2.	Test Procedure	
	5.3.	Test Setup	
	5.4.	Test Results	
6.		Power Spectral Density	
	6.1.	Test limits	-
	6.2.	Test Procedure	-
	6.3.	Test Setup	
_	6.4.	Test Results	
7.		dwidth	
	7.1.	Test limits	
	7.2.	Test Procedure	
	7.3.	Test Setup	
_	7.4.	Test Results	
8.		d Edge Check	
	8.1.	Test limits	
	8.2.	Test Procedure	
	8.3.	Test Setup	
~	8.4.	Test Results	
9.		nna Requirement	
	9.1.	Standard Requirement	
	9.2.	Antenna Connected Construction	48

	9.3.	Results	48
10.	Test	Setup Photo	49
	10.1.	Photos of Radiated emission	49

TEST REPORT DECLARATION

Applicant	: Shenzhen Longbrush Technology Co., Ltd.	Shenzhen Longbrush Technology Co., Ltd.			
Address	. B2008, Building 3, Phase 3, Hongji Garden, District 4, Jixiang Community Cente City, Longcheng Street, Shenzhen, China	B2008, Building 3, Phase 3, Hongji Garden, District 4, Jixiang Community Center City, Longcheng Street, Shenzhen, China			
Manufacturer	: Shenzhen Century Xinyang Technology Co., Ltd.				
Address	. 3F, North Building, Bantian High Tech Industry Zone, No. 2 of Bell Road Longgang District, Shenzhen, China	3F, North Building, Bantian High Tech Industry Zone, No. 2 of Bell Road. Longgang District, Shenzhen, China			
EUT Description	: WiFi Bluetooth Adapter AX900				
	(A) Model No. : WD-AX907B				
	(B) Trademark : N/A				

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247,

ANSI C63.10:2013

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature):	Yannis Wen Project Engineer	Yannis wen
Approved by (name + signature):	Jack Xu Project Manager	Janes

Date of issue.....

December 19, 2024

Revision History

Revision	Issue Date	Revisions	Revised By
V0	December 19, 2024	Initial released Issue	Yannis Wen

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Test Item	Standards Paragraph	Result
Conducted Emission	FCC Part 15: 15.207 ANSI C63.10 :2013	N/A
6dB Bandwidth	FCC PART 15:15.247(a)(2) ANSI C63.10 :2013	Р
Output Power	FCC Part 15: 15.247(b)(3) ANSI C63.10 :2013	Р
Radiated Spurious Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2013	Р
Conducted Spurious & Band Edge Emission	FCC Part 15: 15.247(d) ANSI C63.10 :2013	Р
Power Spectral Density	FCC PART 15:15.247(e) ANSI C63.10 :2013	Р
Radiated Band Edge Emission	FCC Part 15: 15.247(d) ANSI C63.10 :2013	Р
Antenna Requirement	FCC Part 15: 15.203	Р
Note: 1. P is an abbreviation for Pass. 2. F is an abbreviation for Fail.		<u>.</u>

3. N/A is an abbreviation for Not Applicable.

4. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description/PMN Model Number/HVIN(s)	:	WiFi Bluetooth Adapter AX900 WD-AX907B
Diff.	:	N/A
Test Voltage	:	DC 5V from PC
Radio Technology	:	Bluetooth BLE
Operation frequency	:	2402-2480MHz
Channel No.	:	40 channels
Data rate	:	1Mbps/2Mbps
Channel Separation	:	2MHz
Modulation	:	GFSK
Antenna Type	:	Internal antenna, max gain -1.5dBi (Antenna information is provided by applicant.)
Software Version	:	V1.0
Hardware version/FVIN	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

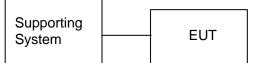
2.2. Accessories of Device (EUT)

Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
Ratings	:	N/A

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or SDOC
1.	Notebook	Thinkpad	E14	N/A	N/A

2.4. Block Diagram of connection between EUT and simulators



2.5. Test Mode Description

Tested mode, channel, and data rate information			
Mode	Channel	Frequency (MHz)	
	Low : CH0	2402	
GFSK(1Mbps/2Mbps)	Middle: CH19	2440	
	High: CH39	2480	

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode.

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35 ℃	27 ℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission Registration Number: 293961 Designation Number: CN1236

July 15, 2019 Certificated by IC Registration Number: 12135A

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber	3.74dB(Polarize: V)
(30MHz to 1GHz)	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber	3.77dB(Polarize: V)
(1GHz to 25GHz)	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber	4.31 dB(Polarize: V)
(18GHz to 40GHz)	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10 ⁻⁸ GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

Equipment	Manufacture	Model No.	Firmware version	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2022.05.18	3Year
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2024.08.08	1Year
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2024.08.08	1Year
Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03-10 2082-Wa	2024.08.08	1Year
Receiver	R&S	ESCI	4.42 SP1	101165	2024.08.08	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	/	VULB 9168#627	2023.08.28	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2023.08.19	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2023.08.19	2Year
RF Cable	Resenberger	Cable 1	/	RE1	2024.08.08	1Year
RF Cable	Resenberger	Cable 2	/	RE2	2024.08.08	1Year
RF Cable	Resenberger	Cable 3	/	CE1	2024.08.08	1Year
Pre-amplifier	HP	HP8347A	/	2834A00455	2024.08.08	1Year
Pre-amplifier	Agilent	8449B	/	3008A02664	2024.08.08	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	/	8126-466	2024.08.08	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2024.08.08	1Year
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2023.08.19	2Year
Preamplifier	SKET	LNPA_1840 -50	/	SK2018101801	2024.08.08	1 Year
Power Meter	Agilent	E9300A	/	MY41496628	2024.08.08	1 Year
Power Sensor	DARE	RPR3006W	/	15100041SNO91	2024.08.08	1 Year
Electronic Thermo-Hygrome ter	S.H.Qixiang	HTC-1	/	N/A	2024.08.11	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2024.08.08	1 Year
Adjustable attenuator	MWRFtest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A

2.9. Test Equipment List

	Software Information			
Test Item	Software Name	Manufacturer	Version	
RE	EZ-EMC	EZ	Alpha-3A1	
CE	EZ-EMC	EZ	Alpha-3A1	
RF-CE	MTS 8310	MW	V2.0.0.0	

3. SPURIOUS EMISSION

3.1. Test Limits

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205	Restricted	frequency	band
--------	------------	-----------	------

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)

15.209	Limit
--------	-------

FREQUE	NCY	DISTANCE	FIELD STRENG	GTHS LIMIT
MHz	2	Meters	μV/m	dB(µV)/m
0.009-0.49	90	300	2400/F(KHz)	/
0.490-1.70)5	30	24000/F(KHz)	/
1.705-30		30	30	29.5
30 -	~ 88	3	100	40.0
88 -	~ 216	3	150	43.5
216 -	~ 960	3	200	46.0
960 -	~ 1000	3	500	54.0
Above	1000	3	74.0 dB(μV)/	/m (Peak)
ADOVE	1000	3	54.0 dB(μV)/m	n (Average)
Note 1: The peak limit is 20 dB higher than the average limit				

Note 2: Peak limit applies (AVG limit + 20 dB) as well as RSS-247 Section 5.5

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Table 5 – General field strength limits at frequencies above 30 MHz			
Frequency (MHz)	Field strength (µV/m at 3 m)		
30 - 88	100		
88 – 216 150			
216 - 960	200		
Above 960	500		

Table 6 – General field strength limits at frequencies below 30 MHz			
Frequency	Magnetic field strength (H-Field) (μ A/m)	Measurement distance (m)	
9 - 490 kHz ^{Note 1}	6.37/F (F in kHz)	300	
490 - 1705 kHz	63.7/F (F in kHz)	30	
1.705 - 30 MHz	0.08	30	

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

3.2. Test Procedure

The measuring distance of 3m shall be used for measurements at frequency up to 1GH and above 1GHz. The EUT was placed on a rotating 0.8 m high above ground for below 1GHz and 1.5m high for above1GHz testing, The table was rotated 360 degrees to determine the position of the highest radiation.

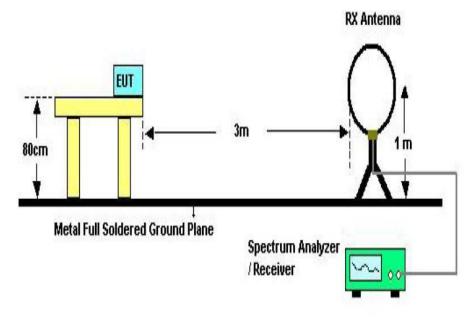
The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set of make measurement.

The initial step in collecting radiated emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Quasi Peak Detector mode premeasured.

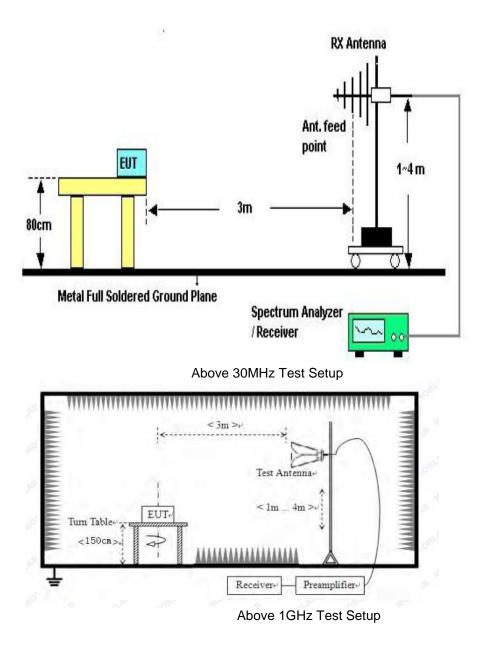
If Peak value comply with QP limit Below 1GHz, the EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.

For the actual test configuration, please see the test setup photo.

3.3. Test Setup



Below 30MHz Test Setup



3.4. Test Results

Test Condition

Continual Transmitting in maximum power.

9KHz~150KHz	RBW200Hz	VBW1KHz
150KHz~30MHz	RBW9KHz	VBW 30KHz
30MHZ~1GHz	RBW120KHz	VBW 300KHz
Above1GHz	RBW1MHz	VBW 3MHz

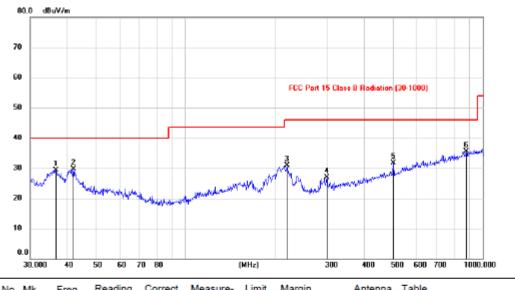
We have scanned from 9 kHz to the 10th harmonic of the EUT.

Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: Pass

Note: 1.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

2. Only show the test data of the worst Channel in this report.



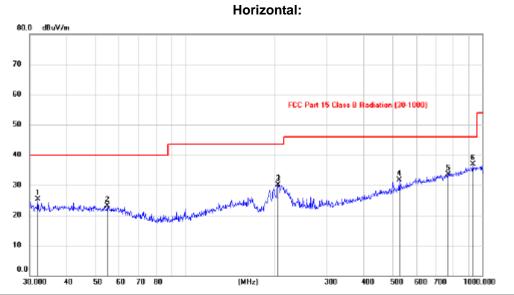
From 30MHz to 1000MHz: Conclusion: Pass

Vertical:

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		Antenna Height		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		36.6375	15.27	13.98	29.25	40.00	-10.75	peak			
2	*	41.9575	15.39	14.35	29.74	40.00	-10.26	peak			
3		219.8192	19.24	11.73	30.97	46.00	-15.03	peak			
4		298.7566	12.89	14.07	26.96	46.00	-19.04	peak			
5		500.0088	13.42	18.21	31.63	46.00	-14.37	peak			
6		880.8918	11.64	23.78	35.42	46.00	-10.58	peak			

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Note:1. *:Maximum data; x:Over limit; !:over margin.



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		Antenna Height		
		MHZ	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		31.9695	11.61	13.60	25.21	40.00	-14.79	peak			
2		54.7580	9.49	13.61	23.10	40.00	-16.90	peak			
3		204.9791	19.12	10.98	30.10	43.50	-13.40	peak			
4		525.0449	13.02	18.73	31.75	46.00	-14.25	peak			
5		770.3673	10.76	22.70	33.46	46.00	-12.54	peak			
6	×	930.4209	12.50	24.41	36.91	46.00	-9.09	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin. 2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Notes: Above is below 1GHz test data. This report only shall the worst case mode for TX 2440MHz.(1Mbps)

From 1G-25GHz(1Mbps):

				Test M	ode: TX Lov	v			
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	45.90	V	33.95	10.18	34.26	55.77	74	-18.23	PK
4804	38.50	V	33.95	10.18	34.26	48.37	54	-5.63	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	44.85	Н	33.95	10.18	34.26	54.72	74	-19.28	PK
4804	37.39	Н	33.95	10.18	34.26	47.26	54	-6.74	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
				Test M	ode: TX Mic	ł			
4880	43.80	V	33.93	10.2	34.29	53.64	74	-20.36	PK
4880	34.24	V	33.93	10.2	34.29	44.08	54	-9.92	AV
7320	/	/	/	/	/	/	/	/	/
9760	/	/	/	/	/	/	/	/	/
4880	46.55	Н	33.93	10.2	34.29	56.39	74	-17.61	PK
4880	34.02	Н	33.93	10.2	34.29	43.86	54	-10.14	AV
7320	/	/	/	/	/	/	/	/	/
9760	/	/	/	/	/	/	/	/	/
				Test Mo	ode: TX Hig	h			
4960	44.07	V	33.98	10.22	34.25	54.02	74	-19.98	PK
4960	33.90	V	33.98	10.22	34.25	43.85	54	-10.15	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	44.95	Н	33.98	10.22	34.25	54.90	74	-19.10	PK
4960	33.70	Н	33.98	10.22	34.25	43.65	54	-10.35	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/

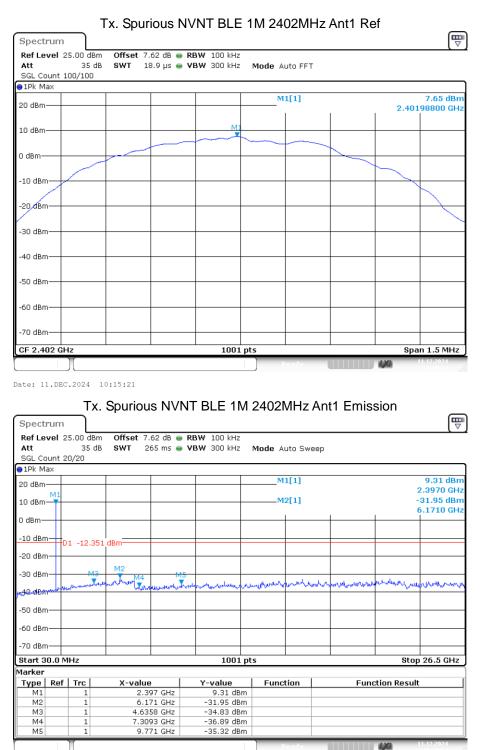
1, Result = Read level + Antenna factor + cable loss-Amp factor 2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

From 1G-25GHz(2Mbps):

				Test M	ode: TX Lov	v			
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4804	44.91	V	33.95	10.18	34.26	54.78	74	-19.22	PK
4804	38.19	V	33.95	10.18	34.26	48.06	54	-5.94	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
4804	46.45	Н	33.95	10.18	34.26	56.32	74	-17.68	PK
4804	36.70	Н	33.95	10.18	34.26	46.57	54	-7.43	AV
7206	/	/	/	/	/	/	/	/	/
9608	/	/	/	/	/	/	/	/	/
				Test M	ode: TX Mic	ł			
4880	43.53	V	33.93	10.2	34.29	53.37	74	-20.63	PK
4880	33.68	V	33.93	10.2	34.29	43.52	54	-10.48	AV
7320	/	/	/	/	/	/	/	/	/
9760	/	/	/	/	/	/	/	/	/
4880	44.66	Н	33.93	10.2	34.29	54.50	74	-19.50	PK
4880	35.57	Н	33.93	10.2	34.29	45.41	54	-8.59	AV
7320	/	/	/	/	/	/	/	/	/
9760	/	/	/	/	/	/	/	/	/
				Test Mo	ode: TX Hig	h			
4960	44.12	V	33.98	10.22	34.25	54.07	74	-19.93	PK
4960	35.91	V	33.98	10.22	34.25	45.86	54	-8.14	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/
4960	44.94	Н	33.98	10.22	34.25	54.89	74	-19.11	PK
4960	34.66	Н	33.98	10.22	34.25	44.61	54	-9.39	AV
7440	/	/	/	/	/	/	/	/	/
9920	/	/	/	/	/	/	/	/	/

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

Conducted RF Spurious Emission



Date: 11.DEC.2024 10:15:54

Spectrum			
Ref Level 25.00 dBm Att 35 dB SGL Count 100/100	Offset 7.78 dB ● RBW 100 kH SWT 18.9 µs ● VBW 300 kH		
●1Pk Max			
20 dBm		M1[1]	8.49 dBm 2.43998650 GHz
10 dBm			
0 dBm			<u> </u>
-10 dBm			
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm			
-60 dBm			
-70 dBm			
CF 2.44 GHz	100)1 pts	Span 1.5 MHz
		Ready	11.12.2024

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref

Date: 11.DEC.2024 10:17:57



Spectrum							
Ref Level 2				RBW 100 kHz			
Att SGL Count 1	35 0/10	dB SWT 26	5 ms 🖷	VBW 300 kHz	Mode Auto Sw	/eep	
1Pk Max	-,						
20 dBm					M1[1]		8.33 dBm
10 dBm 1					M2[1]		2.4500 GHz -33.11 dBm 25.3883 GHz
0 dBm							23.3003 GH2
-10.dBmD	1 -11.5	512_dBm					
-20 dBm							
-30 dBm		40	N	15			M2
, THANK BERHAMMAN	Landshould	at a set the set of th	www.webperter	Tul Mar March Marcher	all works where	www.hardware	M2
-50 dBm							
-60 dBm							
-70 dBm							
Start 30.0 M	Hz	· · ·		1001 pt	s		Stop 26.5 GHz
Marker							
Type Ref		X-value		Y-value	Function	Fur	nction Result
M1	1		5 GHz	8.33 dBm			
M2 M3	1	25.388	6 GHZ	-33.11 dBm -34.98 dBm			
M4	1		7 GHz	-34.98 uBm			
M5	1		i3 GHz	-36.61 dBm			
					Ready		11.12.2024

Date: 11.DEC.2024 10:18:15

Spectrum			
Ref Level 25.00 dBm	Offset 7.60 dB 😑 RBW 100 kHz		
Att 35 dB	SWT 18.9 µs 👄 VBW 300 kHz	Mode Auto FFT	
SGL Count 100/100			
⊖1Pk Max			
20 dBm		M1[1]	8.33 dBm 2.47999700 GHz
	ML		
10 dBm			
0 dBm			
o doni			
-10 dBm			
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm			
-60 dBm			
-70 dBm			
CF 2.48 GHz	1001 pt	ts	Span 1.5 MHz
			11.12.2024

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref

Date: 11.DEC.2024 10:20:43



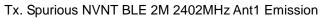
Spectrum)							
Ref Level 2	25.00 d	Bm Offset 7.	60 dB 😑	RBW 100 kHz				
Att	35	dB SWT 2	65 ms 😑	VBW 300 kHz	Mode Auto Sw	veep		
SGL Count 1	10/10							
⊖1Pk Max								
20 dBm					M1[1]			7.08 dBm
								2.4760 GHz
10 dBm 1					M2[1]			33.28 dBm
0 dBm					1	1	1 23	2.1060 GHz I
U UBIII								
-10 dBm-		see dem						
	1 -11.	DOB UBIII						
-20 dBm								
-30 dBm		43		_			M2	
-30 0811		Turnellurung M4	M8	- Jerrenderanderanderander		فلالحا وروارين ساويه والارتجار	automas	a huna diang
-30 dBm	MARCHAR R.	-two willing with	where were	Serend and a series of the ser	Mark Chr. at a large of a	Ann on a discontration de a	Les a anna	Carl Carl Carl Carl Carl Carl Carl Carl
-50 dBm								
-60 dBm								
-oo abiii								
-70 dBm								
Start 30.0 M	1Hz			1001 pt	ts		Stor	26.5 GHz
Marker								
Type Ref	Trc	X-value	. 1	Y-value	Function	l Fu	nction Result	
M1	1		76 GHz	7.08 dBm				
M2	1	22.10	06 GHz	-33.28 dBm				
MЗ	1		31 GHz	-34.82 dBm				
M4	1		39 GHz	-37.33 dBm				
M5	1	9.876	58 GHz	-35.80 dBm				
					Deady		4.36	11.12.2024

Date: 11.DEC.2024 10:21:01

Spectrum				[
Ref Level 20.00 dBm	Offset 9.62 dB 👄 R			
Att 30 dB	SWT 18.9 µs 👄 V	BW 300 kHz Mode	Auto FFT	
SGL Count 100/100 1Pk Max				
JPK Max			M1[1]	7.85 dE
		MI	WILI	2.40199700 G
10 dBm				
) dBm	-			
	\sim 1			
-10 dBm				
-20 dBm				
-30 dBm				
-40 dBm				
-50 dBm				
-60 dBm				
-70 dBm				
CF 2.402 GHz		1001 pts		Span 3.0 MH

Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref

Date: 11.DEC.2024 10:24:05



Ref Level Att SGL Count	20.00 di							(~
				RBW 100 kHz				
SGL Count	30	dB SWT 2	265 ms 👄	VBW 300 kHz	Mode Auto S	Sweep		
	10/10							
1Pk Max								
					M1[1]			5.66 dBn
10 dBm- <u>M1</u>								2.3970 GH
Y					M2[1]			-35.51 dBn
0 dBm 🕂								16.8914 GH
-10 dBm	D1 -12.	149 dBm						
-20 dBm								
-30 dBm					M			
So abiii	P	43 M4	M			7		
-40 dBm	Lub nicholas	The grade on The	Marken Jack	hall a stranger of the second second	my and warder	monor	halled by an way the	4 when you a preserve the theory
ALVERT ARRIVER	Warden Davis				·			
-50 dBm								
-60 dBm								
-70 dBm								
.70 uBill								
Start 30.0	MHz			1001 pt	s			Stop 26.5 GHz
larker								
Type Ref	f Trc	X-valu	e	Y-value	Function		Functio	n Result
M1	1		97 GHz	5.66 dBm				
M2	1		14 GHz	-35.51 dBm				
M3	1		81 GHz	-38.84 dBm				
M4	1		57 GHz	-39.37 dBm				
M5	1	9.79	74 GHz	-38.93 dBm				

Date: 11.DEC.2024 10:24:23

Spectrum	-							E
Ref Level 20.00 dBm	Offset 9	78 dB 👄 RE	3W 100 kHz					
Att 30 dB	SWT 1	8.9 µs 👄 ۷	BW 300 kHz	Mode A	uto FFT			
SGL Count 100/100								
●1Pk Max								
				м	1[1]		2.439	6.10 dBm 95500 GHz
10 dBm			MI					
0 dBm	$\vdash \frown$	\sim	~	\sim \sim	\sim \sim	<u> </u>		
	\sim					~~		
-10 dBm								
-20 dBm								\sim
-30 dBm								
-30 dBm								
-40 dBm								
-50 dBm								
-60 dBm								
-70 dBm								
CF 2.44 GHz			1001	pts			Spa	n 3.0 MHz
Y					Ready		100	11.12.2024

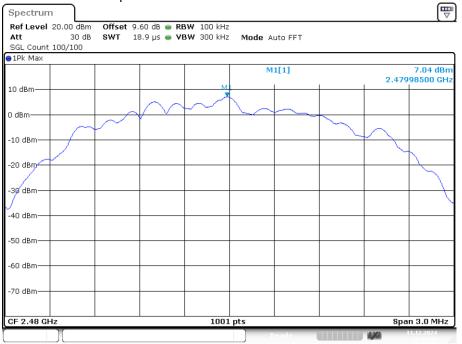
Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref

Date: 11.DEC.2024 10:26:24



Spectrum							
Ref Level				RBW 100 kHz			
Att		dB SWT 2	265 ms 😑	VBW 300 kHz	Mode Auto Sw	reep	
SGL Count	10/10						
1Pk Max							
					M1[1]		8.05 dBn
10 dBm 🕂							2.4500 GH
I					M2[1]		-35.29 dBn
) dBm			-			1	22.0795 GH
-10 dBm							
-10 uBm	D1 -13.	896 dBm					
-20 dBm							
-30 dBm		МЗ ма	MS				M2
40 - 40		M3 M4 ▼Jatanadah▼		March March March Ml	معالمتعليه مبالم المحياطلع بالمحاري	where the where we derender	and man all men
40 dBm	with the particular	M. A. C. Market Market Street	-				
-50 dBm							
-60 dBm			+				
-70 dBm							
Start 30.0	MHz			1001 pt	s		Stop 26.5 GHz
larker							
	Trc	X-valu		Y-value	Function	Fun	ction Result
M1	1		45 GHz	8.05 dBm			
M2	1		95 GHz	-35.29 dBm			
M3	1		81 GHz	-38.99 dBm -40.15 dBm			
M4 M5	1		16 GHz	-40.15 dBm -38.30 dBm			
619	1	9.09	10 GHZ	-36.30 UBIII		1	

Date: 11.DEC.2024 10:26:41



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref

Date: 11.DEC.2024 10:28:55



Spectrum						l∰
Ref Level 🔅	20.00 dE	3m Offset 9.60 dB	👄 RBW 100 kHz			
Att	30	dB SWT 265 ms	👄 VBW 300 kHz	Mode Auto Sw	/eep	
SGL Count :	10/10					
1Pk Max						
MI				M1[1]		9.12 dBn
10 dBm 🕂						2.4760 GH
				M2[1]		-35.34 dBn
) dBm 🕂						15.5414 GH
10 10-						
-10 dBm	01 -12.9	962.dBm				
20 dBm						
-30 dBm		M3 M4	M5	M2		
40 d0m		·	and a first star and all the	un abort when	we work and high with my have	muchus recommendation
40 dBm	www	of the state of th				
-50 dBm						
-60 dBm						
-70 dBm						
, o abiii						
Start 30.0 M	/IHz		1001 p	ts		Stop 26.5 GHz
larker						
Type Ref	Trc	X-value	Y-value	Function	Functio	n Result
M1	1	2.476 GH	z 9.12 dBm			
M2	1	15.5414 GH				
MЗ	1	5.0328 GH				
M4	1	7.6004 GH				
M5	1	9.9033 GH:	z -37.15 dBm		1	

Date: 11.DEC.2024 10:29:13

4. POWER LINE CONDUCTED EMISSION

4.1. Test Limits

Frequency	Limits dB(µV)				
MHz	Quasi-peak Level	Average Level			
0.15 -0.50	66 -56*	56 - 46*			
0.50 -5.00	56	46			
5.00 -30.00	60	50			

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

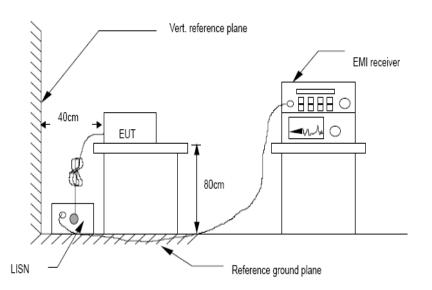
3. The limit decreases in line with the logarithm of the frequency in rang of 0.15 to 0.50 MHz.

4.2. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI ANSI C63.10:2013 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9 kHz.

4.3. Test Setup



4.4. Test Results

Not applicable for equipment operated with PC.

5. CONDUCTED MAXIMUM OUTPUT POWER

5.1. Test limits

Please refer section 15.247.

5.2. Test Procedure

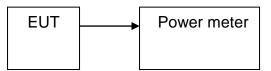
Details see the KDB558074 D01 Meas Guidance v05r02

5.2.1 Place the EUT on the table and set it in transmitting mode.

5.2.2 Measure out each mode and each bands peak output power of EUT.

Note: The cable loss and attenuator loss were offset into measure device as amplitude offset.

5.3. Test Setup



5.4. Test Results

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
BLE 1M	2402	Ant1	8.681	30	Pass
BLE 1M	2440	Ant1	8.674	30	Pass
BLE 1M	2480	Ant1	8.619	30	Pass

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
BLE 2M	2402	Ant1	8.271	30	Pass
BLE 2M	2440	Ant1	8.64	30	Pass
BLE 2M	2480	Ant1	8.287	30	Pass

6. PEAK POWER SPECTRAL DENSITY

6.1. Test limits

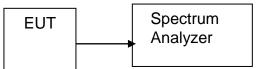
- 6.1.1 Please refer section 15.247.
- 6.1.2 For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
- 6.1.3 The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

6.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

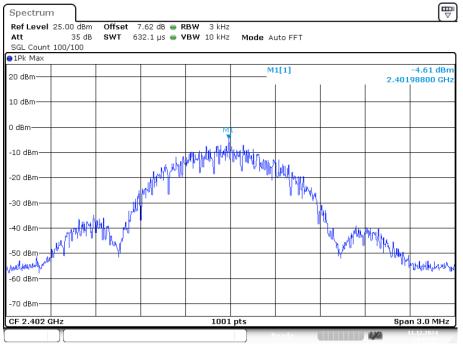
- 6.2.1 Place the EUT on the table and set it in transmitting mode.
- 6.2.2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 6.2.3 Set the spectrum analyzer as RBW = 3kHz(Set the RBW to: 3 kHz≤RBW≤100 kHz.), VBW = 10kHz(Set the VBW≥3×RBW), span≥1.5×DTS bandwidth., detail see the test plot.
- 6.2.4 Record the max reading.
- 6.2.5 Repeat the above procedure until the measurements for all frequencies are completed.

6.3. Test Setup



6.4. Test Results

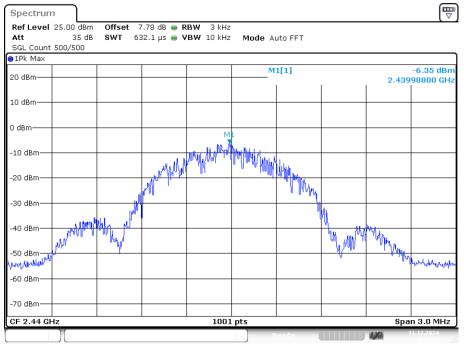
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	1M	2402	Ant1	-4.607	8	Pass
NVNT	1M	2440	Ant1	-6.345	8	Pass
NVNT	1M	2480	Ant1	-6.06	8	Pass



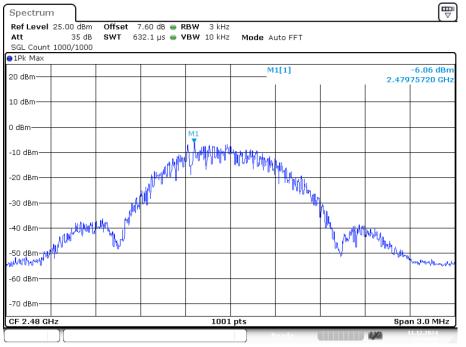
PSD NVNT BLE 1M 2402MHz Ant1

Date: 11.DEC.2024 10:15:05

PSD NVNT BLE 1M 2440MHz Ant1



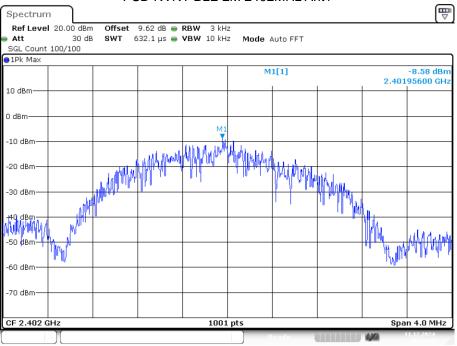
Date: 11.DEC.2024 10:17:51



PSD NVNT BLE 1M 2480MHz Ant1

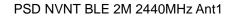
Date: 11.DEC.2024 10:20:28

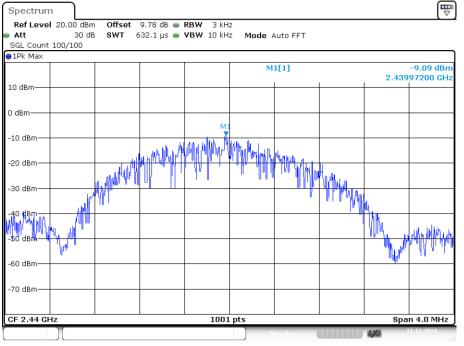
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 2M	2402	Ant1	-8.584	8	Pass
NVNT	BLE 2M	2440	Ant1	-9.09	8	Pass
NVNT	BLE 2M	2480	Ant1	-6.915	8	Pass



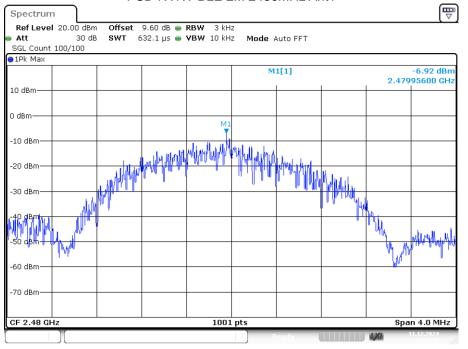
PSD NVNT BLE 2M 2402MHz Ant1

Date: 11.DEC.2024 10:23:47





Date: 11.DEC.2024 10:26:17



PSD NVNT BLE 2M 2480MHz Ant1

Date: 11.DEC.2024 10:28:37

7. BANDWIDTH

7.1. Test limits

Please refer section 15.247

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

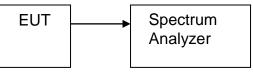
7.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

a) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

- b) The test receiver set RBW =1-5%BW, VBW≥3*RBW, Sweep time set auto, detail see the test plot for 99% Bandwidth.
- c) The test receiver set RBW = 100kHz, VBW≥3*RBW =300kHz, Sweep time set auto, detail see the test plot for 6dB Bandwidth.

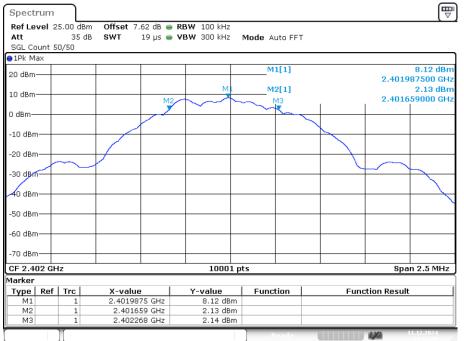
7.3. Test Setup



7.4. Test Results

-6dB Bandwidth

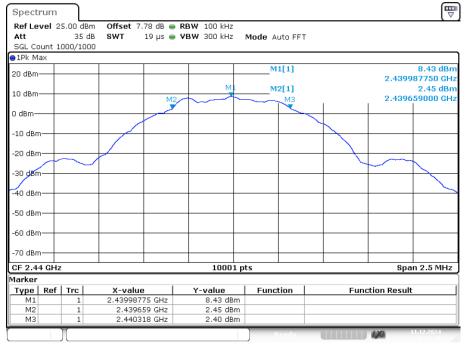
Condition	Mode	Frequency	Antenna	-6 dB Bandwidth	Limit -6 dB Bandwidth	Verdict
		(MHz)		(MHz)	(MHz)	
NVNT	1M	2402	Ant1	0.61	0.5	Pass
NVNT	1M	2440	Ant1	0.659	0.5	Pass
NVNT	1M	2480	Ant1	0.665	0.5	Pass



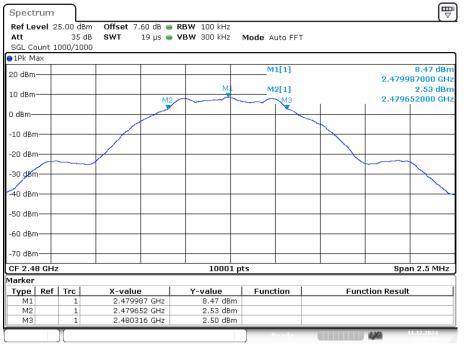
-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1

Date: 11.DEC.2024 10:14:58





Date: 11.DEC.2024 10:17:41



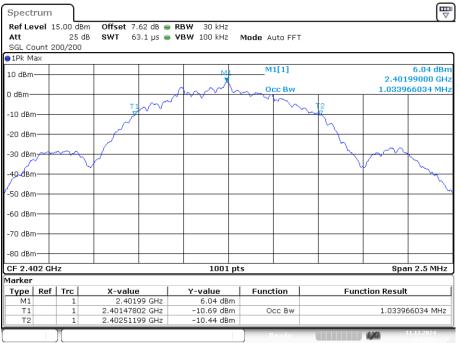
-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1

Date: 11.DEC.2024 10:20:14

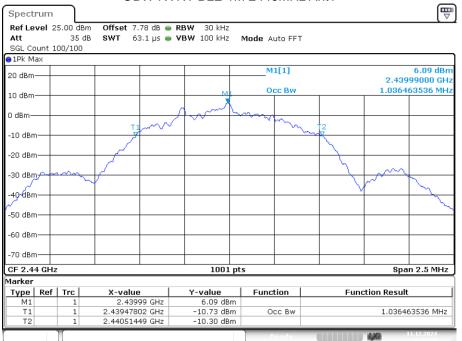
Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.034
NVNT	BLE 1M	2440	Ant1	1.036
NVNT	BLE 1M	2480	Ant1	1.019

OBW NVNT BLE 1M 2402MHz Ant1



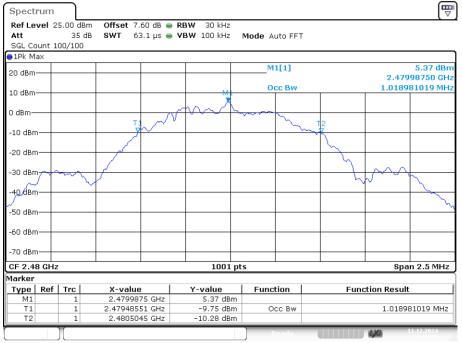
Date: 11.DEC.2024 10:14:49



OBW NVNT BLE 1M 2440MHz Ant1

Date: 11.DEC.2024 10:17:25

OBW NVNT BLE 1M 2480MHz Ant1



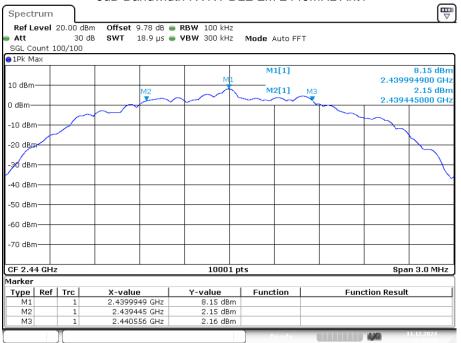
Date: 11.DEC.2024 10:19:58

-6dB Bandwidth

Condition	Mode	Frequency	Antenna	-6 dB Bandwidth	Limit -6 dB Bandwidth	Verdict
		(MHz)		(MHz)	(MHz)	
NVNT	BLE 2M	2402	Ant1	0.811	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.111	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.094	0.5	Pass

Ref Level 20.00 dBm Offset 9.62 dB RBW 100 kHz Att 30 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 100/100 Image: Count 100/100 M1[1] 7.80 dBy 7.80 dBy Image: Count 100/100 M2 M1[1] 7.80 dBy 2.401994900 GF Image: Count 100/100 M2 M2 M2[1] 2.401450000 GF Image: Count 100/100 M2 M2 M2[1] 2.401450000 GF Image: Count 100/100 M2 M2 M2[1] 2.401450000 GF Image: Count 100/100 M2 Image: Count 100/100 M2 Image: Count 100/100 M2 Image: Count 100/100			-6dB Bandwi	dth NVNT BL	_E 2M 2402	2MHz Ant1	
Att 30 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 100/100 IPk Max M1[1] 7.80 dBa 10 dBm M2 M32[1] 2.401994900 GF 0 dBm M2 M32[1] 1.79 dBa -10 dBm M2 M32[1] 2.40145000 GF -20 dBm -40 dBm -40 dBm -40 dBm -40 dBm -50 dBm -60 dBm -60 dBm -60 dBm -60 dBm -70 dBm -70 dBm -70 dBm -7.80 dBm -7.80 dBm -7.80 dBm -80 dBm -11 1 2.401949 dHz 7.80 dBm -80 dBm -80 dBm -80 dBm	Spectru	m					
SGL Count 100/100 Interview M1 T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T T <tht< th=""> <tht< th=""></tht<></tht<>	Ref Leve	el 20.00	dBm Offset 9.62 dB	🔵 RBW 100 kHz			
ID dBm M1[1] 7.80 dBy 10 dBm M2 M1[1] 2.401994900 GH 0 dBm M2 M2[1] 1.79 dBy -10 dBm 2.401450000 GH 2.401450000 GH -10 dBm -20 dBm -38 dBm -40 dBm -38 dBm -38 dBm -50 dBm -50 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm 1 2.4019949 GHz 7.80 dBm -70 dBm 1 2.401949 GHz 7.80 dBm				🔵 VBW 300 kHz	Mode Auto FFT		
M1[1] 7.80 dB 10 dBm M1 2.401994900 GL 0 dBm M2 M32[1] 1.79 dB 0 dBm 2.401450000 GL 1.79 dB 2.401450000 GL -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -38 dBm -40 dBm -40 dBm -40 dBm -40 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -7.80 dBm -7.80 dBm -7.80 dBm -10 1 2.40145 GH2 1.79 dBm -7.80 dBm		t 100/100)				,
10 dBm M1 2.401994900 GF 1.79 dBn 2.401450000 GF 0 dBm 2.401450000 GF -10 dBm 2.401450000 GF -20 dBm -20 dBm -20 dBm -20 dBm -38 dBm -20 dBm -40 dBm -20 dBm -50 dBm -20 dBm -70 dBm -20 dBm	⊖1Pk Max						
10 dBm M2 M32[1] 1.79 dBr 0 dBm 2.401450000 GH 2.401450000 GH 2.401450000 GH -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -30 dBm -20 dBm -20 dBm -20 dBm -40 dBm -20 dBm -20 dBm -20 dBm -50 dBm -20 dBm -20 dBm -20 dBm -70 dBm -20 dBm -20 dBm -20 dBm					M1[1]		
0 dBm 2.401450000 GF -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -20 dBm -40 dBm -20 dBm -50 dBm -20 dBm -60 dBm -20 dBm -70 dBm -20 dBm -70 dBm -20 dBm -10 dBm -20 dBm -20 dBm	10 dBm				. 42[1]		
-10 dBm -20 dBm -20 dBm -38 dBm -40 dBm -40 dBm -50 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm -10			M2		Marin		2.401450000 GHz
-20 dBm -30 dBm -40 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -10001 pts Span 3.0 MHz Span 3.0 MHz Marker Type Ref Trc X-value M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	0 dBm						
-20 dBm -30 dBm -40 dBm -40 dBm -50 dBm -50 dBm -70	10 dBm		~~~				
-38 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70	-10 ubiii—						
-40 dBm -40 dBm -40 dBm -40 dBm -40 dBm -40 dBm -50 dBm <t< td=""><td>-20 dBm</td><td>·</td><td></td><td></td><td></td><td></td><td></td></t<>	-20 dBm	·					
-40 dBm -40 dBm -40 dBm -40 dBm -40 dBm -40 dBm -50 dBm <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
-50 dBm -60 dBm -70	-30 dBm—						
-50 dBm -60 dBm -70							
-60 dBm -70 dBm 10001 pts Span 3.0 MHz -70 dBm 10001 pts Span 3.0 MHz Marker 10001 pts Span 3.0 MHz Marker 10001 pts Span 3.0 MHz M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	-40 dBm—						
-60 dBm -70	E0 d0m						
-70 dBm Image: CF 2.402 GHz 10001 pts Span 3.0 MHz Marker You be function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	-50 uBm—						
-70 dBm Image: CF 2.402 GHz 10001 pts Span 3.0 MHz Marker Yupe Ref Trc X-value Y-value Function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	-60 dBm-						
CF 2.402 GHz 10001 pts Span 3.0 MHz Marker	00 00						
Marker Yupe Ref Trc X-value Y-value Function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	-70 dBm—						
Marker Yupe Ref Trc X-value Y-value Function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm							
Marker Yupe Ref Trc X-value Y-value Function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm	CF 2.402	GHz		10001 nt	ts		Span 3.0 MHz
Type Ref Trc X-value Y-value Function Function Result M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm							
M1 1 2.4019949 GHz 7.80 dBm M2 1 2.40145 GHz 1.79 dBm		ef Trc	X-value	Y-value	Function	Function	Result
M2 1 0.400061 CUp 1.00 dBm	=						
	M3	1	2.402261 GHz	1.80 dBm			
Ready 11.12.2024					Ready	100	11.12.2024

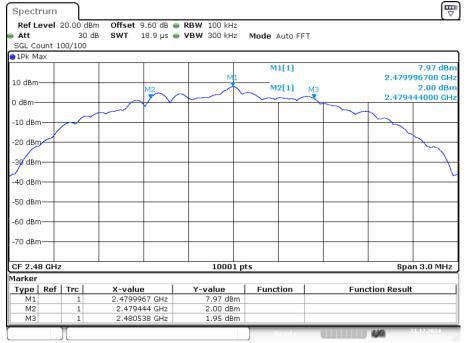
Date: 11.DEC.2024 10:23:39



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1

Date: 11.DEC.2024 10:26:10



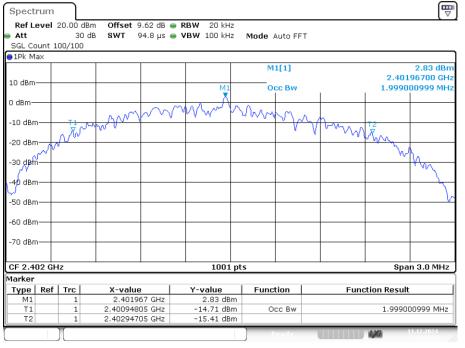


Date: 11.DEC.2024 10:28:30

oodupiou onannoi Bunamaan									
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)					
NVNT	BLE 2M	2402	Ant1	1.999					
NVNT	BLE 2M	2440	Ant1	1.99					
NVNT	BLE 2M	2480	Ant1	1.993					

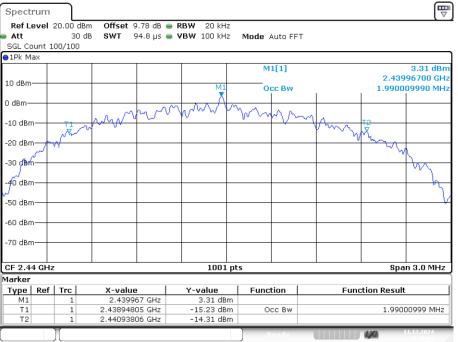
Occupied Channel Bandwidth

OBW NVNT BLE 2M 2402MHz Ant1

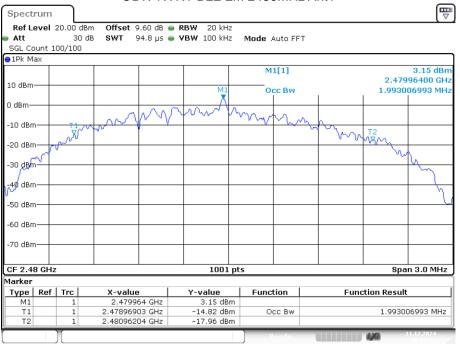


Date: 11.DEC.2024 10:23:31

OBW NVNT BLE 2M 2440MHz Ant1



Date: 11.DEC.2024 10:26:02



OBW NVNT BLE 2M 2480MHz Ant1

Date: 11.DEC.2024 10:28:21

8. BAND EDGE CHECK

8.1. Test limits

Please refer section 15.247.

8.2. Test Procedure

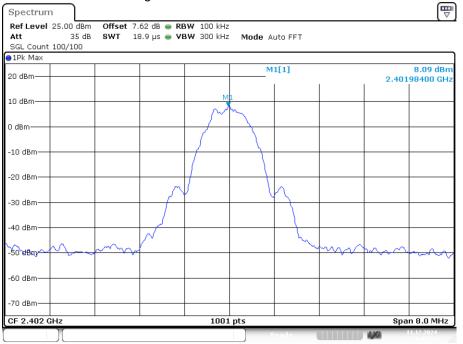
Details see the KDB558074 D01 Meas Guidance v05r02

- 8.2.1 Put the EUT on a 1.5m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission
- 8.2.2 Check the spurious emissions out of band.
- 8.2.3 RBW 1MHz , VBW 3MHz , peak detector for peak value , RBW 1MHz , VBW 3MHz , RMS detector for AV value.

8.3. Test Setup

Same as 3.3 above 1GHz.

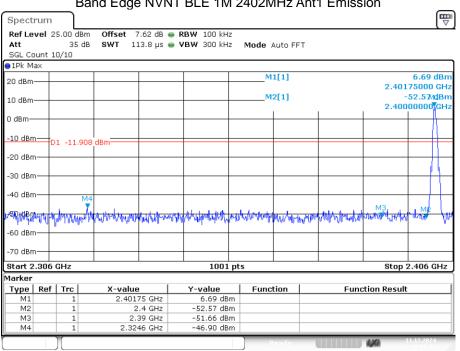
8.4. Test Results



Band Edge NVNT BLE 1M 2402MHz Ant1 Ref

Page 42 of 50

Date: 11.DEC.2024 10:15:11



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

Date: 11.DEC.2024 10:15:14



Band Edge NVNT BLE 1M 2480MHz Ant1 Ref

Date: 11.DEC.2024 10:20:33

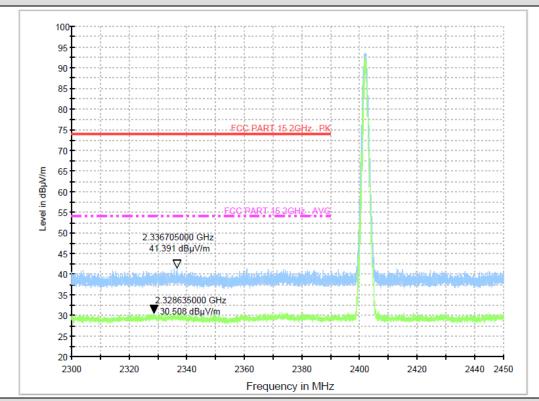


Spectru	ım											
Ref Leve	el 25.	.00 dBm	Offset 7	.60 dB 📢	RBW 100) kHz						
Att		35 dB	SWT 11	.3.8 µs 🧃	VBW 300) kHz	Mode /	Auto FF	Т			
SGL Cou		/10										
😑 1Pk Max												
20 dBm—							M	1[1]				7.19 dBm
20 00111												995000 GHz
10 dem-	_					\rightarrow	M	2[1]				-52.56 dBm
λ									1		2.48	350000 GHz
0 d6 m			-									
1000												
-10 cBm-	-D1	-11.48	8 dBm									
-20 cBm-	_											
-30 dBm-												
40 40-												
-40 dBm-	4											
ush de		the state	Multificration	an day	A. M. Albert	A. A.	authority.	1.40	L. 4.14	had no de son de	Mar 10 12 Amale	فأحد برام والمرابع
A	Selve We	ավանկուն	the control of	alter Ken	nder Die an Debau	COL IN	la Herd and	h Ardan R	A MIN	e Al. Internet	lan na cuin.	na Amana as
-60 dBm-	_					-+						
-70 dBm-												
Start 2.4	76 GI	Hz			1	001 pt	s				Stop	2.576 GHz
Marker												
Type F	Ref 1	Trc	X-value		Y-valu	e	Func	tion		Fund	ction Resul	t 🔤
M1		1		95 GHz		9 dBm						
M2		1		35 GHz	-52.56							
M3		1		.5 GHz	-53.47							
M4		1	2.48	39 GHz	-47.28	JUBM			_			
	П						R	le a d y			1,70	11.12.2024

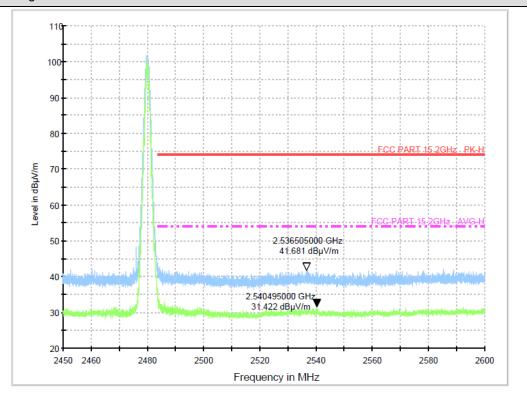
Date: 11.DEC.2024 10:20:37

GFSK 1M Mode:

Test channel: Lowest channel



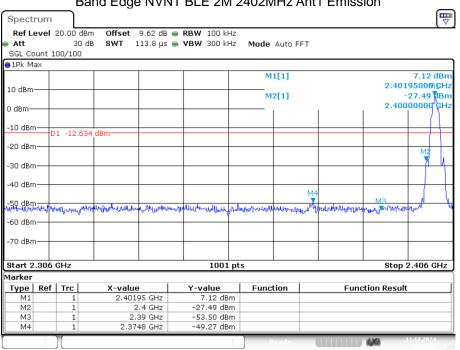
Test channel: Highest channel





Band Edge NVNT BLE 2M 2402MHz Ant1 Ref

Date: 11.DEC.2024 10:23:53



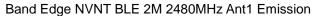
Band Edge NVNT BLE 2M 2402MHz Ant1 Emission

Date: 11.DEC.2024 10:23:58



Band Edge NVNT BLE 2M 2480MHz Ant1 Ref

Date: 11.DEC.2024 10:28:43

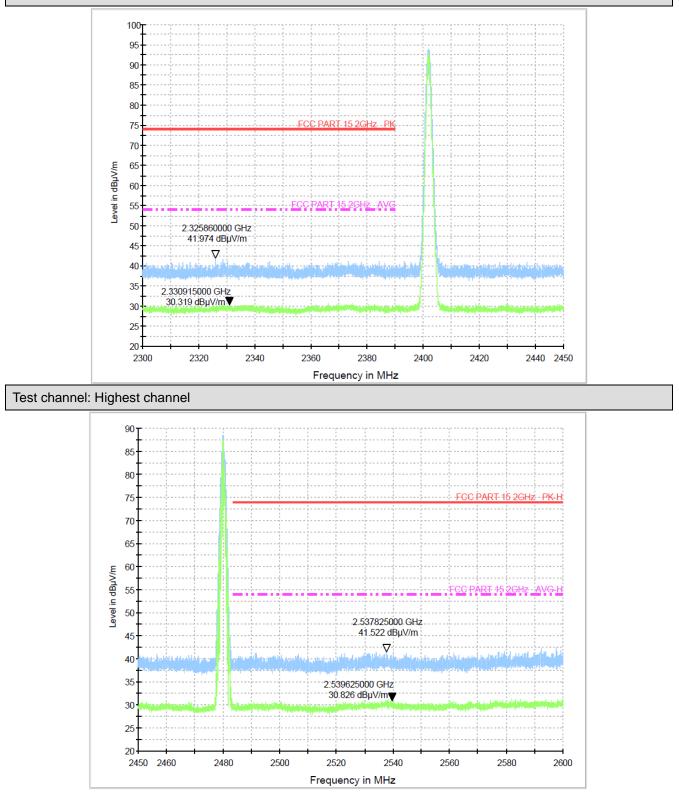


Spect	rum									E⊞ ▽
Att		20.00 d 30 00/100			 RBW 100 ki VBW 300 ki 		Auto F	FT		·
∎1Pk M	lax									
10 ¹ 08m						М	1[1]			6.79 dBm 2.47995000 GHz
10'06m						М	2[1]			-51.58 dBm 2.48350000 GHz
-10 dBn	n_	1 -12.0								
-20 dBn		1 -12.0								
-30 dBn	n									
-40 dBn										
50 dBr	12 Mar Jan	indutionality	M4 N3 Hor Jacon William	Muphun	manderia	Malanaturaht	Antonio	Array Marine	Marine /	Halleward workight
-60 dBn										
-70 dBn	n									
Start 2	2.476	GHz			1001	pts				Stop 2.576 GHz
/larker										
Туре	Ref	Trc	X-value	e	Y-value	Func	tion	F	unction	Result
M1		1		95 GHz	6.79 dB					
M2		1		35 GHz	-51.58 dB					
M3 M4		1		2.5 GHz 96 GHz	-53.03 dB -49.88 dB					
1914			2.49	90 GHZ	-49.00 UD					

Date: 11.DEC.2024 10:28:49

GFSK 2M Mode:

Test channel: Lowest channel



9. ANTENNA REQUIREMENT

9.1. 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 permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. 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.

9.2. Antenna Connected Construction

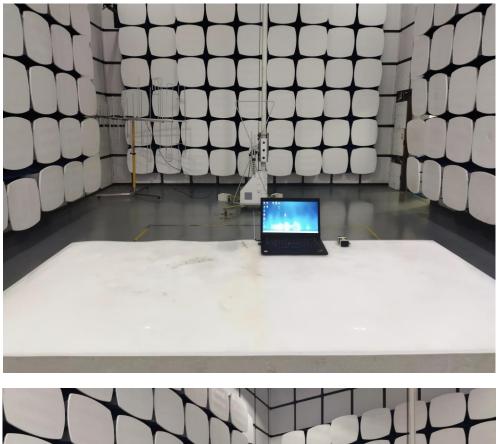
The antenna is Internal antenna and no consideration of replacement. Please see EUT photo for details.

9.3. Results

The EUT antenna is internal Antenna. It comply with the standard requirement.

10. Test Setup Photo

10.1.Photos of Radiated emission







-----END OF REPORT------