

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
8		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	51.76	-3.96	47.80	74.00	-26.20	peak	
2		2500.000	43.31	-4.00	39.31	74.00	-34.69	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only

Test Result: Pass



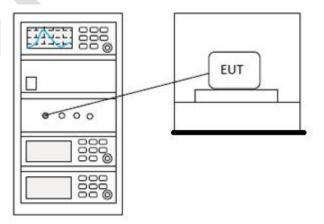
13 CONDUCTED SPURIOUS EMISSIONS

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)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Jozu			
Temperature	25°C			
Humidity	60%			

13.1 LIMITS

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)).

13.2 BLOCK DIAGRAM OF TEST SETUP





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13.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details



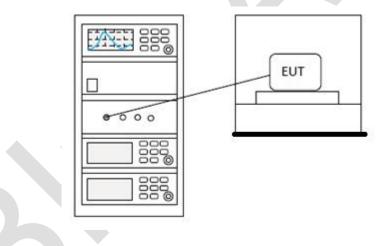
14 POWER SPECTRUM DENSITY

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

14.1 LIMITS

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

14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details



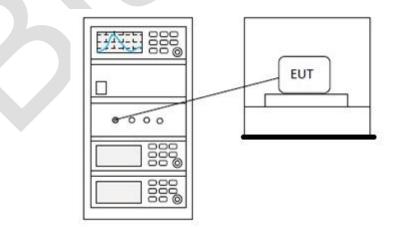
15 CONDUCTED PEAK OUTPUT POWER

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

15.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
	1 for \geq 50 hopping channels
902-928	0.25 for $25 \le$ 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
5725 5950	1 for frequency hopping systems and digital
5725-5850	modulation

15.2 BLOCK DIAGRAM OF TEST SETUP





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15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details



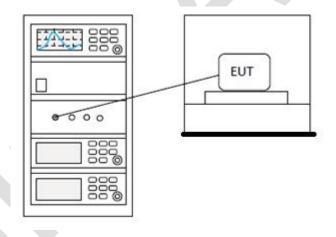
16 MINIMUM 6DB BANDWIDTH

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

16.1 LIMITS

Limit: $\geq 500 \text{ kHz}$

16.2 BLOCK DIAGRAM OF TEST SETUP



16.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details



17 ANTENNA REQUIREMENT

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

17.1 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 1.13dBi.



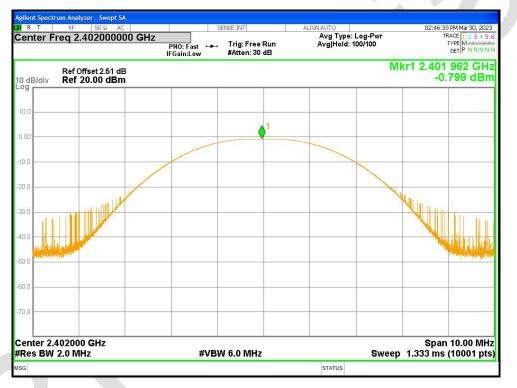
18 APPENDIX

Appendix1

Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-0.799	30	Pass
NVNT	BLE	2442	Ant1	-1.45	30	Pass
NVNT	BLE	2480	Ant1	-1.288	30	Pass

Power NVNT BLE 2402MHz Ant1

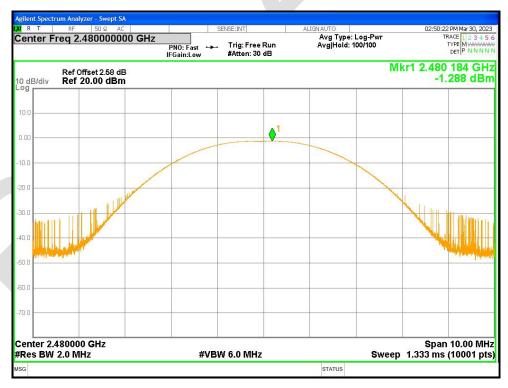


Power NVNT BLE 2442MHz Ant1





Power NVNT BLE 2480MHz Ant1





-6dB Bandwidth

Condition	Mode	Frequency	Antenna	-6 dB Bandwidth	Limit -6 dB	Verdict
		(MHz)		(MHz)	Bandwidth (MHz)	
NVNT	BLE	2402	Ant1	0.676	0.5	Pass
NVNT	BLE	2442	Ant1	0.678	0.5	Pass
NVNT	BLE	2480	Ant1	0.684	0.5	Pass

-6dB Bandwidth NVNT BLE 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2442MHz Ant1



T RF 50Ω AC			ALIGNAUTO		02:48:52 PM M	ar 30, 202:	
nter Freq 2.442000000					Radio Std: None Radio Device: BTS		
	#IFGain:Low	#Atten: 30 dB				-	
Ref Offset 2.53 dB B/div Ref 22.53 dBm				Mkr3	2.44234 -8.6797		
	A2	1		_			
	Lorm		mont				
	and the second s		- month	m			
				m	and a state of the		
man marken Mr.				-	man	- Contraction of the	
	(c)						
nter 2.442 GHz					Span	2 MH	
es BW 100 kHz		#VBW 300 k	Hz		Sweep 1.	333 m	
Occupied Bandwidth	ľ	Total Power	4.63 dBm				
1.0	0655 MHz						
ransmit Freq Error	7.431 kHz	OBW Power	99.00 %				
dB Bandwidth	678.3 kHz	x dB	-6.00 dB				
			STATUS				

-6dB Bandwidth NVNT BLE 2480MHz Ant1





Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.0521
NVNT	BLE	2442	Ant1	1.0452
NVNT	BLE	2480	Ant1	1.0500

OBW NVNT BLE 2402MHz Ant1



OBW NVNT BLE 2442MHz Ant1





OBW NVNT BLE 2480MHz Ant1





Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-16.014	8	Pass
NVNT	BLE	2442	Antl	-16.691	8	Pass
NVNT	BLE	2480	Antl	-16.767	8	Pass

PSD NVNT BLE 2402MHz Ant1



PSD NVNT BLE 2442MHz Ant1





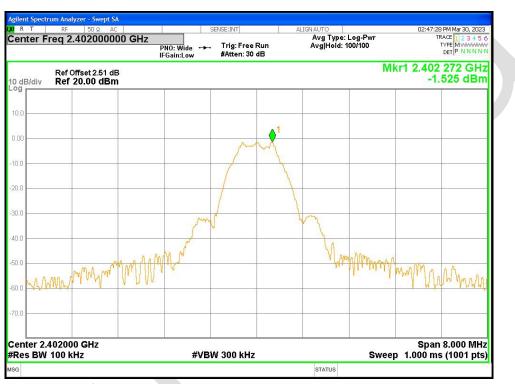
PSD NVNT BLE 2480MHz Ant1





Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-52.97	-30	Pass
NVNT	BLE	2480	Ant1	-50.85	-30	Pass



Band Edge NVNT BLE 2402MHz Ant1 Ref

Band Edge NVNT BLE 2402MHz Ant1 Emission



Agiler	nt Spe	ctru	n Ana	lyzer - Swept SA						
X/ R	T	Fre	RF	50 Ω AC	SENS	BE:INT	ALIGN AUTO Avg Type:	Log-Pwr		1 PM Mar 30, 2023 RACE 1 2 3 4 5 6
Cer	iter	110	<u>y</u> 2	ŀ		Trig: Free Run #Atten: 30 dB	Avg Hold:			DET P N N N N
10 d	D (dis			Offset 2.51 dB 20.00 dBm				1		02 0 GHz 737 dBm
Log		8 :	Rei	20.00 0.011						
10.0	⊢		-							1-
0.00	⊢		-						-	
-10.0	⊢								5-	
-20.0	-				ss				~	
-30.0										-31.53 dBm
-40.0									2	2
-50.0						4			<u></u>	
-60.0		MAR	MAN	mature the manual and a second second second	an manage mark the second	alemananaliteran	mondermonalling	muninorthy	upon man	and the state
-70.0										
Staı #Re					#VBW	300 kHz		Sweep		.40600 GHz s (1001 pts)
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FL	JNCTION VALUE	~
1	N N		f f	2.402 0 GHz 2.400 0 GHz	-0.737 dB -47.348 dB					
2 3 4 5 6 7 8 9 10	Ν		f	2.390 0 GHz	-57.062 dB	m				
4	Ν		f	2.356 1 GHz	-54.490 dB	m				
6										
8										
5 6 7 8 9										
11										~
<										>
MSG							STATUS			

Band Edge NVNT BLE 2480MHz Ant1 Ref



Band Edge NVNT BLE 2480MHz Ant1 Emission



R T F	RF 50 Ω AC		9	SENSE: INT		ALIGN AUTO			0 PM Mar 30, 202
nter Freq	2.52600000	PN	0: Fast ↔→ ain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold:	: Log-Pwr 100/100	°1	TYPE MWWWWW DET P N N N N
	ef Offset 2.58 dB ef 20.00 dBm							Mkr1 2.4 -1.	80 0 GH .303 dBr
	_						-		
									-32.02.08
	₿ <mark>74</mark>	3						100	LA C
- <u>M 11</u>	When the mark the	hand more more	armana and marked	Marana part alow	handenpipers	white a second second second	harmanylesisame	whendout	popularmano
) <u> </u>	2	9					25	2	
art 2.47600 es BW 100			#VBI	N 300 kHz			Swee	Stop 2 p 9.600 m	.57600 GH s (1001 pts
Mode TRC S		2.480 0 GHz	Y -1.303		CTION FU	NCTION WIDTH		FUNCTION VALUE	
N 1 f	F	2.483 5 GHz	-53.649	dBm					
N 1 f N 1 f		2.500 0 GHz 2.484 0 GHz	-58.758 -52.870						



Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-43.53	-30	Pass
NVNT	BLE	2442	Ant1	-43.8	-30	Pass
NVNT	BLE	2480	Antl	-43.83	-30	Pass

Tx. Spurious NVNT BLE 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



Agile	nt Spe	ectru	m Anal	lyzer - Swept SA								
Cer	T nter	Fre	RF Pq 1	50 Ω AC 3.265000000	GHz		ENSE:INT	ee Pun	ALIGNAUTO Avg Type Avg Hold:	: Log-Pwr 10/10	TF	PM Mar 30, 2023 ACE 1 2 3 4 5 6
						l0: Fast ↔ ain:Low	#Atten:		ingliou.			DET P NNNNN
10 d	B/di	v		Offset 2.51 dB 20.00 dBm								412 GHz 762 dBm
Log		-		re:								
10.0	1		0	1								
0.00			Ť									
-10.0											0	
-20.0												-30.98 dBm
-30.0												∧2
-40.0				\bigcirc^3	A4	۸5				2010210-00	and the second second	monument
-50.0	1		- daylo	monderman	martina	2 5	enderman	mandenine	wanter when the store	And and have the	- Harrison and a second	
-60.0	-	deres.										
-70.0			8		0			32			22	
Sta #Re			Hz 00 k	Hz		#VB	N 300 ki	Hz		Sw	Stop eep 2.530 s	26.50 GHz (1001 pts)
MKR	MODE	TRC	SCL	×		Y		UNCTION	FUNCTION WIDTH		FUNCTION VALUE	^
1	N		f		.412 GHz .229 GHz	-0.762 -44.519						
23	Ν		f	4	.795 GHz	-50.438	dBm					
4	N N		f f		.150 GHz .480 GHz	-55.154 -56.012						
6												
4 5 7 8 9 10												
2 3 4 5 6 7 8 9 10												
11												×
MSG									STATUS			
									014100			





Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



	ectrun		er - Swept S/									
Center	Fre	RF 2 q 13.	50 Ω AC 265000	DOO GHz	10: Fast ↔→ Gain:Low	Trig: Fr #Atten:			UTO vg Type: vg Hold: 1			5 PM Mar 30, 2023 RACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N
10 dB/di Log			set 2.53 di 0.00 dBn									.439 GHz .211 dBm
10.0		A 1				-						
0.00												
-10.0												
-20.0												-31.65 dBm
-40.0			Ŷ		<mark>5</mark>					and the state of the	الماسم المروجة والمحاصر والم	2
-60.0	antipeter	wertone	march	- Martine	muston	when a set of the	wel when the the	- martin				
Start 3 #Res B			z		#VB	W 300 ki	łz			Sw		o 26.50 GHz s (1001 pts)
MKR MODE	e trc			×	Y		UNCTION	FUNCTION V	VIDTH		FUNCTION VALUE	^
1 N 2 N 3 N 4 N 5 N 6		f f f f		2.439 GHz 25.468 GHz 4.874 GHz 7.283 GHz 9.930 GHz	-3.211 -45.458 -47.469 -55.500 -55.852	dBm dBm dBm						E.
4 N 5 N 6 7 8 9 10 11												~
K MSG								5	STATUS			



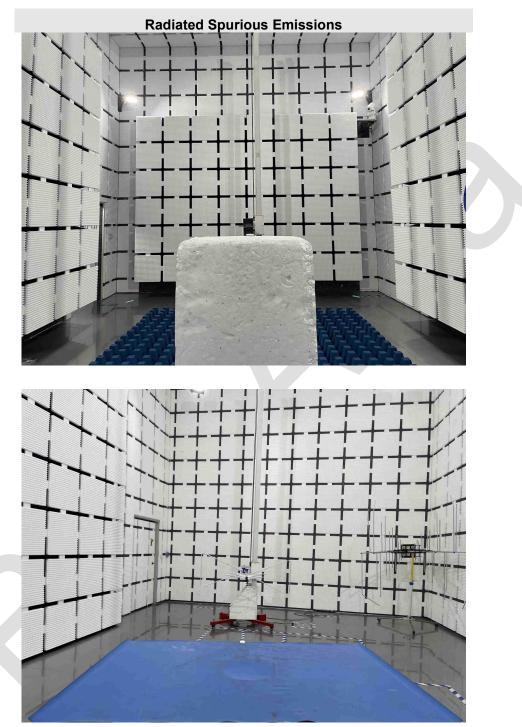


Tx. Spurious NVNT BLE 2480MHz Ant1 Emission



RT	RF	50 Ω AC			SENSE:INT		ALIGN AUT			03:01:5	58 PM Mar 30, 2023
enter F	req 1	3.2650000	I	PNO: Fast +++	Trig: Free #Atten: 30	Run dB	Avg Avg	Type: Log-F Hold: 10/10	^o wr		TRACE 12345 TYPE MWMMM DET P NNNN
dB/div		Offset 2.58 dE 20.00 dBm									2.492 GHz .080 dBm
9		2c									
	۵	1									
.0	Y										
.0											SUNDARY.
0											-31 40 dBr
0		\bigcirc	3	- 5	6	-					
0		white a	\wedge	05	the manufacture	wwwwww	a thread a start and	even met and a	Ch. Marthand	and a part of	A Aller and reserved
O postationer	March and	an al algorithme		had a share a s							
.0			Q.		8		2	20		2	
art 30 l tes BW		Hz		#VB	W 300 kHz	5			Swe		o 26.50 GHz s (1001 pts
R MODE T	RC SCL		× 2.492 GHz	-3.080		ICTION	FUNCTION WID	TH	Fl	INCTION VALUE	-
N	f		25.309 GHz	-45.236	dBm						
N	f		4.953 GHz 7.336 GHz								
N	f		9.930 GHz								
											-





APPENDIX A: PHOTOGRAPHS OF TEST SETUP



APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202303-A11301

----END OF REPORT----

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