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## 12. Hopping Channel Separation

## 12.1 Block Diagram Of Test Setup



#### 12.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

## 12.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

Relative Humidity:

54%

Test Voltage:	AC 120V	/60Hz	Remar	'k:	N/A	and the second		
The second s								
Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict		
NVNT	1-DH1	2401.874	2402.874	1	0.576	Pass		
NVNT	1-DH1	2440.87	2441.872	1.002	0.571	Pass		
NVNT	1-DH1	2478.868	2479.868	1	0.568	Pass		
NVNT	2-DH1	2401.872	2402.872	1	0.831	Pass		
NVNT	2-DH1	2440.87	2441.872	1.002	0.825	Pass		
NVNT	2-DH1	2478.868	2479.87	1.002	0.842	Pass		
NVNT	3-DH1	2402.034	2403.034	1	0.815	Pass		
NVNT	3-DH1	2441.03	2442.03	1	0.81	Pass		
NVNT	3-DH1	2479.028	2480.028	/////	0.809	Pass		

#### 12.4 Test Result

**26**℃

Temperature:

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Edition: B.2

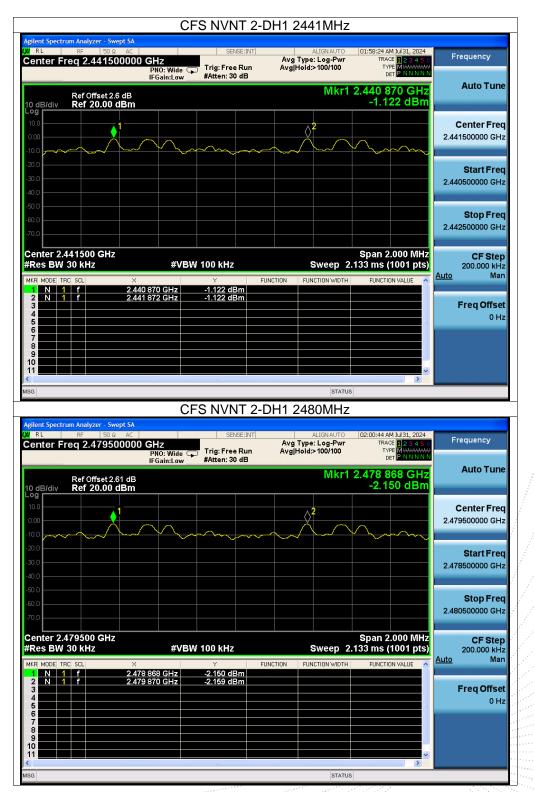
No.: BCTC/RF-EMC-005





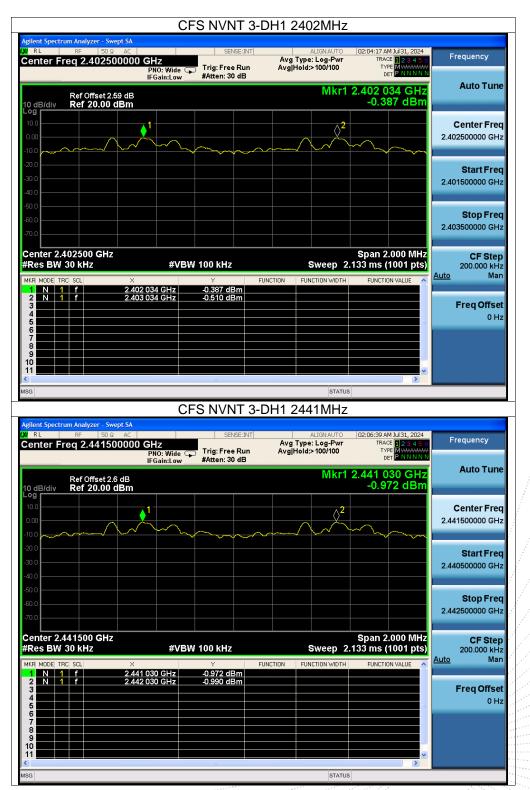
C 00.,LT













(	CFS NVNT 3	-DH1 2480MHz		
Agilent Spectrum Analyzer - Swept SA	SENSE:INT	ALIGN AUTO	02:08:46 AM Jul 31, 2024 TRACE 1 2 3 4 5 6	Frequency
PNO: Wide IFGain:Low		Avg Hold:>100/100	TYPE MWWWWWW DET P N N N N	Auto Tune
Ref Offset 2.61 dB 10 dB/div Ref 20.00 dBm		Mkr1	2.479 028 GHz -2.056 dBm	Auto Func
	~~~~~~	~~~~^ <sup>2</sup>		Center Freq 2.479500000 GHz
-20.0				Start Freq 2.478500000 GHz
-50.0				<b>Stop Freq</b> 2.480500000 GHz
Center 2.479500 GHz #Res BW 30 kHz #V	BW 100 kHz	Sweep 2	Span 2.000 MHz 2.133 ms (1001 pts)	CF Step 200.000 kHz
MKR         MODE         TRC         SCL         X           1         N         1         f         2.479         028         GHz           2         N         1         f         2.480         028         GHz           3	Y -2.056 dBm -2.074 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man Freq Offset
4 6 7 7				0 Hz
8 9 9 10 10 11 11 11 11 11 11 11 11 11 11 11				
MSG	UII	STATU	s	

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## 13. Number Of Hopping Frequency

## 13.1 Block Diagram Of Test Setup



#### 13.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

#### 13.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.
4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

#### 13.4 Test Result

Temperature:	<b>26</b> ℃	Relative Humidity: 54%	
Test Voltage:	AC 120V/60Hz	Remark: N/A	
		= 1 + N + N + N + N + N + M + M + M + M + M	
Condition	Mode	Hopping Number	Verdict

Condition	Mode	Hopping Number	Limit	Verdict
NVNT	1-DH1	79	15	Pass
NVNT	2-DH1	79	15	Pass
NVNT	3-DH1	79	15	Pass

No.: BCTC/RF-EMC-005

Edition: B.2

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	Test ( Hopping No. NVN	Graphs T 1-DH1 2441MH	łz	
	AC SENSE:INT		12:17:03 AM Jul 31, 2024	Frequency
Center Freq 2.4417	PN0: Fast IFGain:Low #Atten: 30 dB	Avg Hold:>100/100	TRACE 123456 TYPE MWWWW DET PNNNNN	
Ref Offset 2. 10 dB/div Ref 20.00		Mkr1 2.40	01 920 5 GHz 0.836 dBm	Auto Tune
			<mark>_2</mark>	Center Freq
0.00		ADAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		2.441750000 GHz
-20.0	<u> </u>	• • • • • • • • • • • • • • • • • • • •		Start Fred
-40.0				2.40000000 GH:
-50.0			<u></u>	Stop Fred 2.483500000 GH;
-70.0				2.483500000 GH
Start 2.40000 GHz #Res BW 100 kHz	#VBW 300 kHz		op 2.48350 GHz 0 ms (1001 pts)	CF Step 8.350000 MH
MKR MODE TRC SCL 1 N 1 f 2 N 1 f	X Y 2.401 920 5 GHz 0.836 dBm 2.479 909 5 GHz -0.803 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>uto</u> Mar
3 4 5				Freq Offse 0 Hi
6 7 8				
9				
11		STATUS	>	
	Hopping No. NVN		łz	
Agilent Spectrum Analyzer - Sw XI RL RF 50 Ω	AC SENSE:INT			
			12:21:24 AM Jul 31, 2024	Frequency
		ALIGNAUTO ( Avg Type: Log-Pwr Avg Hold:>100/100	12:21:24 AM Jul 31, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
Center Freq 2.4417	50000 GHZ PNO: Fast IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456	
Center Freq 2.4417	50000 GHZ PNO: Fast IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE DET PNNNNN 18370GHz	Auto Tune
Center Freq 2.44175 Ref Offset 2: 10 dB/div Ref 20.00 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	50000 GHZ PNO: Fast IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4	1784CE 1 2 3 4 5 6 TYPE MUNUMU DET P NNNNN 1 837 0 GHz -2.477 dBm	Auto Tune Center Free
Ref Offset 2:           10 dB/div         Ref Offset 2:           10 dB/div         Ref 20.00           10 dB/div         Ref 20.00           10 dB/div         Ref 20.00           10 dB/div         Ref 20.00           20 dB/div         Ref 20.00           20 dB/div         Ref 20.00	50000 GHz PNO: Fast IFGain:Low 6 dB dBm	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4	1784CE 1 2 3 4 5 6 TYPE MUNUMU DET P NNNNN 1 837 0 GHz -2.477 dBm	Auto Tune Center Fred 2.441750000 GH: Start Fred
Ref Offset 2: 10 dB/div Ref 20.00 - 10 0 10 0	50000 GHz PNO: Fast IFGain:Low 6 dB dBm	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4	1784CE 1 2 3 4 5 6 TYPE MUNUMU DET P NNNNN 1 837 0 GHz -2.477 dBm	Auto Tune Center Fred 2.441750000 GH: Start Fred
Ref Offset 2: 10 dB/div Ref 20.00 100 100 100 100 100 100 100	50000 GHz PNO: Fast IFGain:Low 6 dB dBm	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4	1784CE 1 2 3 4 5 6 TYPE MUNUMU DET P NNNNN 1 837 0 GHz -2.477 dBm	Auto Tune Center Frec 2.441750000 GH: Start Frec 2.400000000 GH: Stop Frec
Ref Offset 2:         Ref 20.00           10         6         6           10         1         6           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         7           10         1         1           10         1         1           10         1         1           10         1	50000 GHz PNO: Fast IFGain:Low 6 dB dBm	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4(	11837 0 GHz -2.477 dBm	Auto Tune Center Frec 2.441750000 GH: Start Frec 2.400000000 GH: Stop Frec
Ref Offset 2: 10 dB/div Ref 20.00 - 10 0 10 0	50000 GHz PNO: Fast IFGain:Low 6 dB dBm	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4( ////////////////////////////////////	DEF 2.48350 GHz 0 2.48350 GHz 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto Tune Center Frec 2.441750000 GHz Start Frec 2.400000000 GHz Stop Frec 2.483500000 GHz CF Step 8.350000 MHz
Ref Offset 2:           10 dB/div         Ref 20.00           10 dV/div         Ref 20.00           10 dV/div         Ref 20.00           10 dV/div         Ref 20.00           10 dV/div         Ref 20.00	50000 GHz       Trig: Free Run         PN0: Fast       Trig: Free Run         #Atten: 30 dB       #Atten: 30 dB         6 dB       #U/JU/W/V/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4( ////////////////////////////////////	DEF 2.48350 GHz 0 2.48350 GHz 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto Tune Center Frec 2.441750000 GH: Start Frec 2.400000000 GH: Stop Frec 2.483500000 GH: CF Step 8.350000 MH:
Ref Offset 2:         Ref 20.00           10         1         Ref 20.00           10         1         1           10         1         1           10         1         1           10         1         1           10         1         1           10         1         1           10         1         1           10         1         1           10         1         1           1         1         1           1         1         1           1         1         1           2         1         1           3         1         1	50000 GHz PNO: Fast IFGain:Low 6 dB 6 dB 1 1 1 1 1 1 1 1 1 1 1 1 1	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4( ////////////////////////////////////	0 p 2.48350 GHz 0 ms (1001 pts)	Auto Tune Center Frec 2.441750000 GH: Start Frec 2.400000000 GH: Stop Frec 2.483500000 GH: CF Step 8.350000 MH
Ref Offset 2:           10 dB/div         Ref 20.00           10	50000 GHz       Trig: Free Run         PN0: Fast       Trig: Free Run         #Atten: 30 dB       #Atten: 30 dB         6 dB       #U/JU/W/V/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4( ////////////////////////////////////	0 p 2.48350 GHz 0 ms (1001 pts)	Auto Tune Center Free 2.441750000 GH: Start Free 2.400000000 GH: Stop Free 2.483500000 GH: CF Step 8.350000 MH: Uto Mar
Ref Offset 2:           10 dB/div         Ref Offset 2:           10 dB/div         Ref 20.00 d           10 dV         1           10 dV         1           10 dV         1           1         1           2         N         1           3         4           6         4	50000 GHz       Trig: Free Run         PN0: Fast       Trig: Free Run         #Atten: 30 dB       #Atten: 30 dB         6 dB       #U/JU/W/V/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/	Avg Type: Log-Pwr Avg Hold>100/100 Mkr1 2.4( ////////////////////////////////////	0 p 2.48350 GHz 0 ms (1001 pts)	Auto Tune Center Frec 2.441750000 GH: Start Frec 2.400000000 GH: Stop Frec 2.483500000 GH: 2.483500000 GH: CF Step 8.350000 MH: Mar Freq Offse



Hopping No. N	NT 3-DH1 2441MHz
Agilent Spectrum Analyzer - Swept SA CARL RF 50 Ω AC SENS Center Freq 2.441750000 GHz PN0: Fast → EFGainci ny #Atten: 30 (	ALIGNAUTO         02:25:11 AM Jul 31, 2024           Avg Type: Log-Pwr         TRACE         1 2 3 4 5 6           Avg[Hold>100/100         TYPE         Wwwwww           DET P N NN N         DET P N NN N
Ref Offset 2.6 dB 10 dB/div Ref 20.00 dBm	Mkr1 2.401 670 0 GHz -3.885 dBm
-10.0 -10.0 -10.0 -10.0	<b>Center Freq</b> ۲۰۰۰ ۲۰۰۹ ۲۰۰۹ ۲۰۰۹ ۲۰۰۹ ۲۰۰۹ ۲۰۰۹ ۲۰۰۹
-20.0	Start Freq           2.400000000 GHz
-50.0 <b>7</b>	Stop Freq 2.483500000 GHz
Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz	Stop 2.48350 GHz Sweep 8.000 ms (1001 pts)
MKR         MODE         TRC         SCL         X         Y           1         N         1         f         2.401 670 0 GHz         -3.885 dBr           2         N         1         f         2.480 410 5 GHz         -4.759 dBr           3         -         -         -         -         -           5         -         -         -         -         -	FUNCTION FUNCTION WIDTH FUNCTION VALUE Auto Man
6 7 8 9 10	
MSG III	STATUS

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## 14. Dwell Time

#### 14.1 Block Diagram Of Test Setup



#### 14.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

#### 14.3 Test procedure

No.: BCTC/RF-EMC-005

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set spectrum analyzer span = 0. Centred on a hopping channel;

3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.

4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

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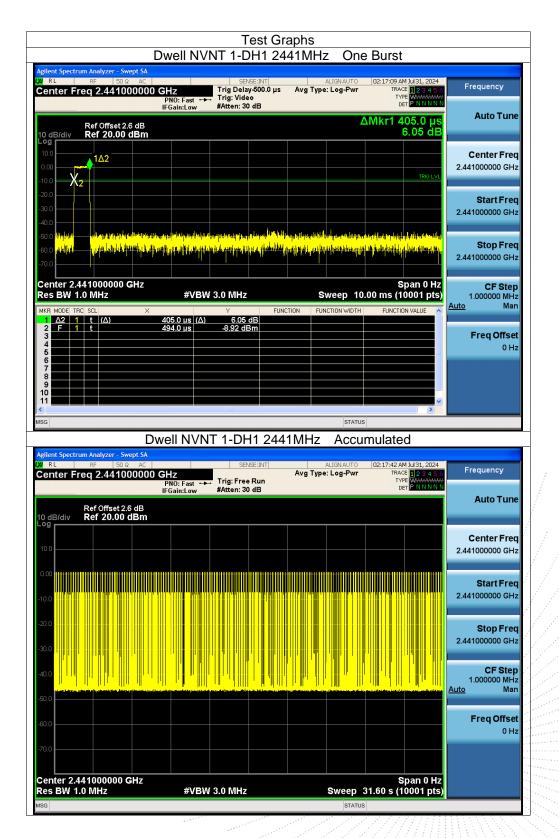
# 14.4 Test Result

Temperature: 26°C			Relative	Relative Humidity:		54%		
Test Voltage:	AC	120V/60Hz		Remark		N/A		
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.405	129.195	319	31600	400	Pass
NVNT	1-DH3	2441	1.644	282.768	172	31600	400	Pass
NVNT	1-DH5	2441	2.909	305.445	105	31600	400	Pass
NVNT	2-DH1	2441	0.413	131.747	319	31600	400	Pass
NVNT	2-DH3	2441	1.657	278.376	168	31600	400	Pass
NVNT	2-DH5	2441	2.912	285.376	98	31600	400	Pass
NVNT	3-DH1	2441	0.412	131.428	319	31600	400	Pass
NVNT	3-DH3	2441	1.663	281.047	169	31600	400	Pass
NVNT	3-DH5	2441	2.907	302.328	104	31600	400	Pass

Note: Total Dwell Time (ms) = Pulse Time (ms)\*Burst Count

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	vell NVNT 1-DH3 2	2441MHz One	e Burst	
Agilent Spectrum Analyzer - Swept SA X RL RF 50 Ω AC Center Freq 2.441000000 GH	NO: East +++ Trig: Video	ALIGNAUTO s Avg Type: Log-Pwr	10:09:26 AM Dec 03, 2024 TRACE 12345 6 TYPE WWWWWW	Frequency
Ref Offset 2.6 dB 10 dB/div Ref 20.00 dBm	Gain:Low #Atten: 30 dB	Δ	Mkr1 1.644 ms 2.05 dB	Auto Tune
			TRIG LVL	Center Freq 2.441000000 GHz
-20.0				Start Fred 2.441000000 GHz
-50.0 <mark>41401 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 400 - 11466 - 11466 400 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 114666 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 11466 - 114666 - 1</mark>	a, da al da la da la da la da la da	er of a contract (describer of the local) A fair (an all all all all all all all all all a	inte provid a provident de la seconda de	Stop Fred 2.441000000 GHz
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	-	Span 0 Hz .00 ms (10001 pts)	<b>CF Step</b> 1.000000 MH: <u>Auto</u> Mar
2 F 1 t 49 3 4 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	544 ms (Δ) 2.05 dB 38.0 μs -7.42 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			~	
3G		STATUS		
gilent Spectrum Analyzer - Swept SA	ell NVNT 1-DH3 24	41MHZ ACCU	mulated	
	SENSE:INT IZ NO: Fast ↔ Trig: Free Run Gain:Low #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr	10:09:59 AM Dec 03, 2024 TRACE 123456 TYPE WWWWW DET PNNNNN	Frequency
Ref Offset 2.6 dB D dB/div Ref 20.00 dBm				Auto Tun
0.0				Center Fre 2.441000000 GH
				<b>Start Fre</b> 2.441000000 GH
0.0 d				Stop Fre 2.441000000 GH CF Stel
				1.000000 MH Auto Ma
50.0				Freq Offse 0 H
70.0				
enter 2.441000000 GHz es BW 1.0 MHz	#VBW 3.0 MHz	-	Span 0 Hz 31.60 s (10001 pts)	
SG		STATUS	3	



		T 1-DH5 24		e Burst	
Agilent Spectrum Analyzer - Swept	AC 000 GHz PN0: Fast ↔	SENSE:INT Trig Delay-500.0 µs Trig: Video #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr	02:27:55 AM Jul 31, 2024 TRACE 12345 6 TYPE WWWWWWW DET P N N N N N	Frequency
Ref Offset 2.6 d 10 dB/div Ref 20.00 dB	В	#Atten: 50 dB	Δ	Mkr1 2.909 ms 7.40 dB	Auto Tune
10.0 0.00 -10.0	1Δ2			TRIO LVL	Center Freq 2.441000000 GHz
-20.0					Start Freq 2.441000000 GHz
-50.0 (1991) -60.0 (1991) -70.0	jaken kerke (frægarisela	e de stander de la serve de la serve An de la serve de la serve de la serve An de la serve de la serve de la serve de la serve	(frank)n eren an der viel die ser ster bilden se je bezeitet die seriet die ster begehet die serie se je bezeitet die seriet die seriet die seriet die seriet	na ng mang ng m Ng mang ng mang n	<b>Stop Freq</b> 2.441000000 GHz
Center 2.441000000 GH Res BW 1.0 MHz	#VBW 3			Span 0 Hz .00 ms (10001 pts)	CF Step 1.000000 MHz <u>Auto</u> Man
MKR         MODE         TRC         SCL           1         Δ2         1         t         (Δ)           2         F         1         t         (Δ)           3         -         -         -         -           4         -         -         -         -           5         -         -         -         -	× 2.909 ms (Δ) 494.0 μs	7.40 dB -9.11 dBm	CTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
6 7 8 9 10 11					
MSG			STATUS	×	
Agilent Spectrum Analyzer - Swept	Dwell NVNT	1-DH5 244	1MHz Accu	mulated	
Agnent spectrum Analyzer - Swept Center Freq 2.441000	AC 000 GHz	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	02:28:28 AM Jul 31, 2024 TRACE 12 3 4 5 6	Frequency
		#Atten: 30 dB		DET P N N N N	
Ref Offset 2.6 d 10 dB/div Ref 20.00 dB	IFGain:Low	#Atten: 30 dB		TYPE WWWWWWW	Auto Tune
	IFGain:Low	#Atten: 30 at		TYPE WWWWWWW	Auto Tune Center Freq 2.441000000 GHz
10 dB/div Ref 20.00 dB	IFGain:Low			TYPE WWWWWWW	Center Freq
10 dB/div Ref 20.00 dB	IFGain:Low			TYPE WWWWWWW	Center Freq 2.441000000 GHz Start Freq
10 dB/div Ref 20.00 dB	IFGain:Low			TYPE WWWWWWW	Center Freq 2.44100000 GHz Start Freq 2.441000000 GHz Stop Freq
10 dB/div Ref 20.00 dB	IFGain:Low			TYPE WWWWWWW	Center Freq 2.44100000 GHz Start Freq 2.44100000 GHz Stop Freq 2.44100000 GHz CF Step 1.00000 MHz
10 dB/div Ref 20.00 dB 10 0 10 0	IFGain:Low			TYPE WWWWWWW	Center Freq           2.441000000 GHz           Start Freq           2.441000000 GHz           Stop Freq           2.441000000 GHz           CF Step           1.000000 MHz           Auto           Freq Offset
10 dB/div Ref 20.00 dB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	B M A A A A A A A A A A A A A		Sweep :	Cer PANNAN Der PANNAN	Center Freq 2.44100000 GHz Start Freq 2.44100000 GHz Stop Freq 2.44100000 GHz 1.00000 MHz Auto Man

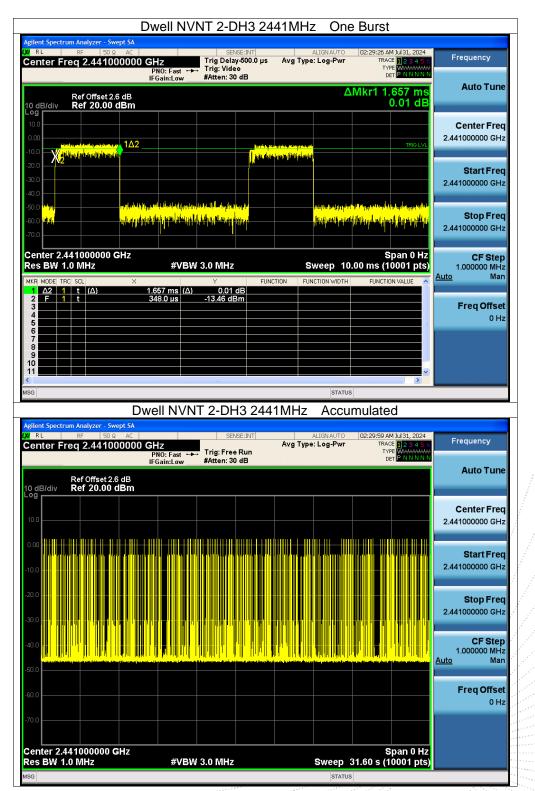
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	vell NVNT 2-DH1 2	441MHz One	Burst	
gilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC Center Freq 2.441000000 GF P	NO: Fast 🛶 Trig: Video	ALIGNAUTO Avg Type: Log-Pwr	02:21:30 AM Jul 31, 2024 TRACE 123456 TYPE WWWWWWW DET P N N N N N	Frequency
Ref Offset 2.6 dB 10 dB/div Ref 20.00 dBm	Gain:Low #Atten: 30 dB	Δ	Mkr1 413.0 µs 4.12 dB	Auto Tune
- °g 10.0 0.00 10.0 Χ2			TRIG LVL	Center Freq 2.441000000 GHz
30.0				Start Free 2.441000000 GHz
50.0 <mark>hadan bagahartan barakartan bagiara</mark>	his second part of the provident line of the second second second second second second second second second se In the second part of a second seco	nd direction of the distribution of the second s Second second	contraction for the state	Stop Free 2.441000000 GH:
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	-	Span 0 Hz 00 ms (10001 pts)	CF Step 1.000000 MH; <u>Auto</u> Mar
2 F 1 t 49 3 4 4	Y FL 3.0 μs (Δ) 4.12 dB 4.0 μs -7.56 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
5 6 7 8 9				
10		STATUS		
	II NVNT 2-DH1 24		mulated	
	Z NO: Fast ↔ Trig: Free Run Jain:Low #Atten: 30 dB	ALIGN AUTO Avg Type: Log-Pwr	02:22:03 AM Jul 31, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P N N N N N	Frequency
Ref Offset 2.6 dB 0 dB/div Ref 20.00 dBm	Sain:Low MARCEN. So db			Auto Tune
og 				Center Fre 2.441000000 GH
0.0				<b>Start Fre</b> 2.441000000 GH
00				Stop Free 2.441000000 GH
0.0 <mark>-                                     </mark>				CF Stej 1.000000 MH <u>Auto</u> Ma
70.0 			Span 0 Hz	Freq Offse 0 H

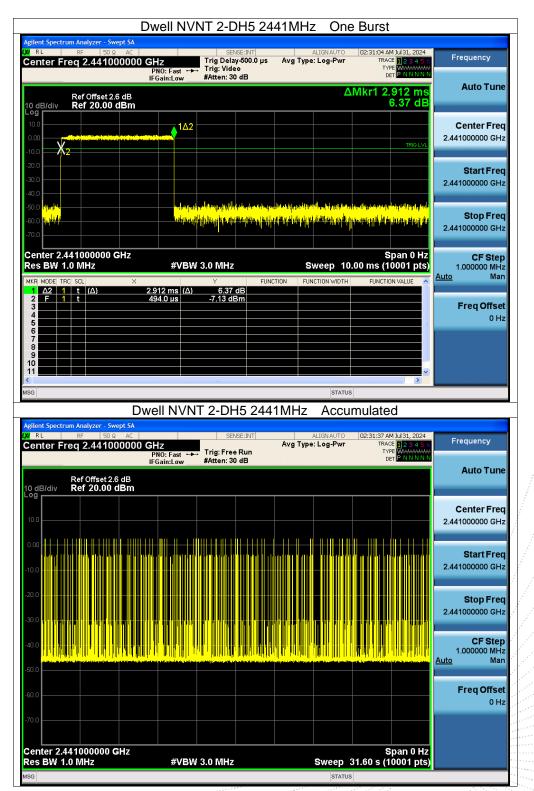
# n 00.,LTA





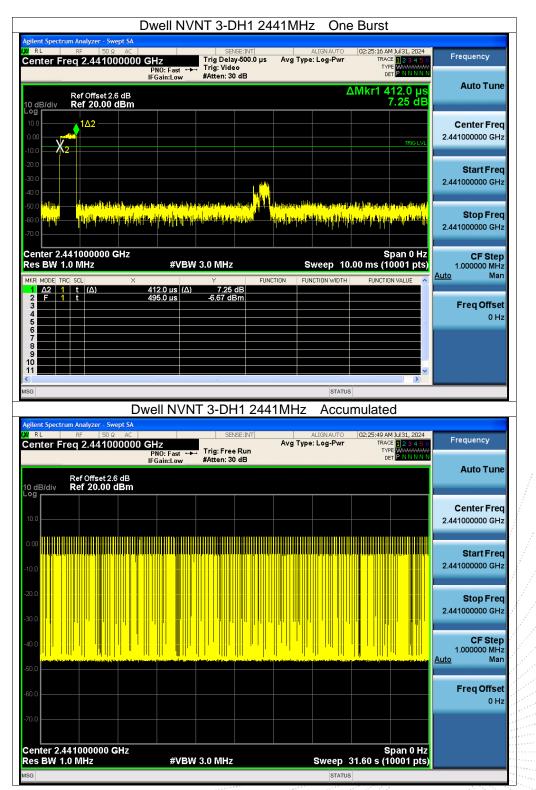














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		IVNT 3-DH3	2441MHz	One I	Burst	
Agilent Spectrum Analyze	50 Ω AC	SENSE:INT Trig Delay-500.0 Trig: Video			12:32:00 AM Jul 31, 2024 TRACE <b>1</b> 2 3 4 5 6 TYPE WWWWWW DET P N N N N N	Frequency
Ref Offs	IFGain:Lov et 2.6 dB .00 dBm			ΔM	kr1 1.663 ms 6.51 dB	Auto Tune
10 dB/div Ref 20					TRIG LVL	Center Freq 2.441000000 GHz
-30.0						Start Free 2.441000000 GHz
-50.0 <mark>ballan</mark> -60.0 <mark>ballah -70.0</mark>	n de standet (ferendet konste ny de her fan de ferendet konste ny de her fan de ferendet konste	kiter (konstruine det her det bleven Anderen (her det besker en stalle geboer Anderen (her det besker en stalle geboer	nde fallen fan de fallen f Fallen fallen	n operator og og polyr I for i skiller for affitter f	hteorependen die bestelte Appleansen die pendipenae	<b>Stop Fred</b> 2.441000000 GH;
Center 2.4410000 Res BW 1.0 MHz		BW 3.0 MHz		veep 10.00	Span 0 Hz ms (10001 pts)	CF Step 1.000000 MH <u>Auto</u> Mar
1 Δ2 1 t (Δ) 2 F 1 t 3 4 5	1.663 ms 494.0 μs					Freq Offse 0 H
6 7 8 9 10						
				STATUS	×	
	Dwell N	/NT 3-DH3 24	441MHz	Accum	ulated	
gilent Spectrum Analyze RL RF Center Freq 2.44	50 Ω AC 1000000 GHz PNO: Fast	SENSE:INT	Avg Type:		12:32:33 AM Jul 31, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWW DET P N N N N N	Frequency
Ref Offs 0 dB/div Ref 20	IFGain:Lov et 2.6 dB 00 dBm	/ #Atten: 30 dB			DEI	Auto Tun
10.0						Center Fre 2.441000000 G⊦
D.00						<b>Start Fre</b> 2.441000000 G⊦
20.0						Stop Fre 2.441000000 G⊢
						CF Ste 1.000000 M⊢ <u>Auto</u> Ma
60.0						Freq Offse 0 H
70.0						
Center 2.4410000 Res BW 1.0 MHz		BW 3.0 MHz		Sweep 31.	Span 0 Hz 60 s (10001 pts)	
SG				STATUS		



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	Dwell NVNT 3-DH5 2	441MHz One I	Burst	
Agilent Spectrum Analyzer - Swept SA W RL RF 50 Q AC Center Freq 2.44100000	OGHZ PNO: Fast ↔ Trig: Video		02:32:59 AM Jul 31, 2024 TRACE 12345 6 TYPE WWWWWW DET PNNNNN	Frequency
Ref Offset 2.6 dB 10 dB/div Ref 20.00 dBm Log		ΔΜ	lkr1 2.907 ms 3.49 dB	Auto Tune
10.0 0.00 -10.0			TRIG LVL	Center Freq 2.441000000 GHz
-20.0				Start Freq 2.441000000 GHz
-50.0 17 -60.0 pi -70.0	in de die see de state ander see die s After die die die gelange with part die see die die see	ant a challen in a contraction of all all all and a line of a contraction of a line of a contraction of a co	n a ha a baran a baran An mula baran da baran a	<b>Stop Freq</b> 2.441000000 GHz
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	-	Span 0 Hz 0 ms (10001 pts)	CF Step 1.000000 MHz <u>Auto</u> Man
MKR         MODE         TRC         SCL         X           1         Δ2         1         t         (Δ)           2         F         1         t           3         -         -         -           4         -         -         -           5         -         -         -	2.907 ms (Δ) 3.49 dB 193.0 μs -13.89 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
6 7 7 8 9 9 10 11				
K MSG		STATUS		
Agilent Spectrum Analyzer - Swept SA	Dwell NVNT 3-DH5 24	41MHz Accum	ulated	
x/ RL RF 50Ω AC Center Freq 2.44100000		ALIGNAUTO	02:33:32 AM Jul 31, 2024 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P NNNNN	Frequency
Ref Offset 2.6 dB 10 dB/div Ref 20.00 dBm				Auto Tune
10.0				Center Fred 2.441000000 GHz
0.00				Start Fred 2.441000000 GHz
-20.0				<b>Stop Freq</b> 2.441000000 GHz
-40.0				CF Step 1.000000 MHz Auto Man
-50.0				Freq Offset 0 Hz
-70.0				
-70.0				
Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 31	Span 0 Hz .60 s (10001 pts)	

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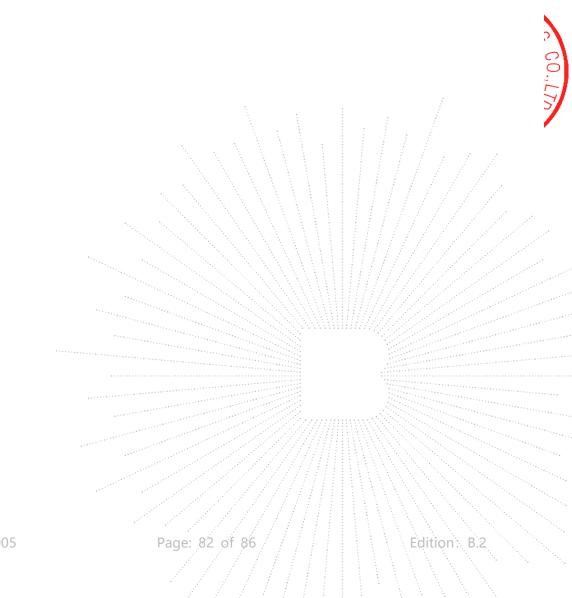
# 15. Antenna Requirement

## 15.1 Limit

15.203 requirement: For intentional device, according to 15.203: 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.

## 15.2 Test Result

The EUT antenna is Internal antenna, fulfill the requirement of this section.



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# 16. EUT Photographs

## EUT Photo 1







# NOTE: Appendix-Photographs Of EUT Constructional Details.

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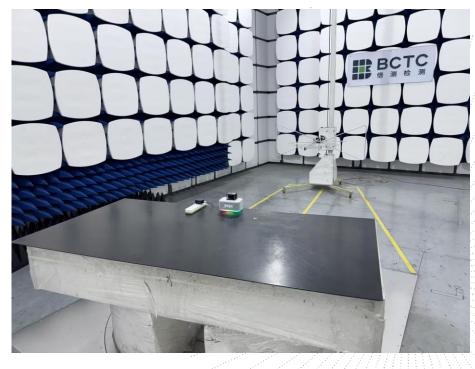


# 17. EUT Test Setup Photographs

# **Conducted Emissions Photo**

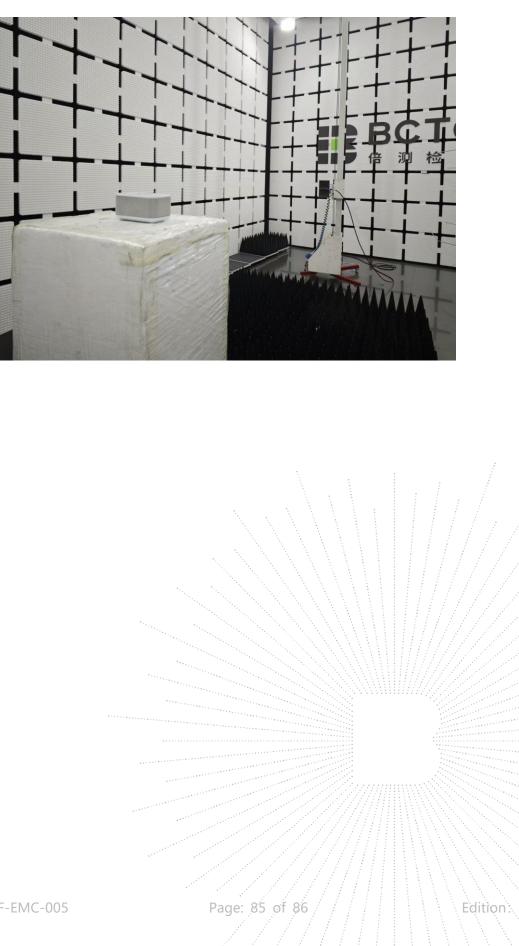


**Radiated Measurement Photos** 



BC APPR





No.: BCTC/RF-EMC-005

Edition: B.2

TEST

t Seal



## STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn.

Complaint/Advice E-mail: advice@bctc-lab.com.cn

\*\*\*\*\* END \*\*\*\*\*

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