9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.07,21	1 Year
2.	RF Cable	Mini-Circults	CBL-1M-SMSM+	No.4	Oct.11,21	1 Year

9.2.Limit

For digitally modulated systems, the 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.

9.3.Test Procedure

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.

9.4.Test Results

EUT: WiFi module		
M/N: U9W35		
Test date: 2021-12-27	Pressure: 102.3±1.0 kpa	Humidity: 53.3±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 25.2±0.6 ℃

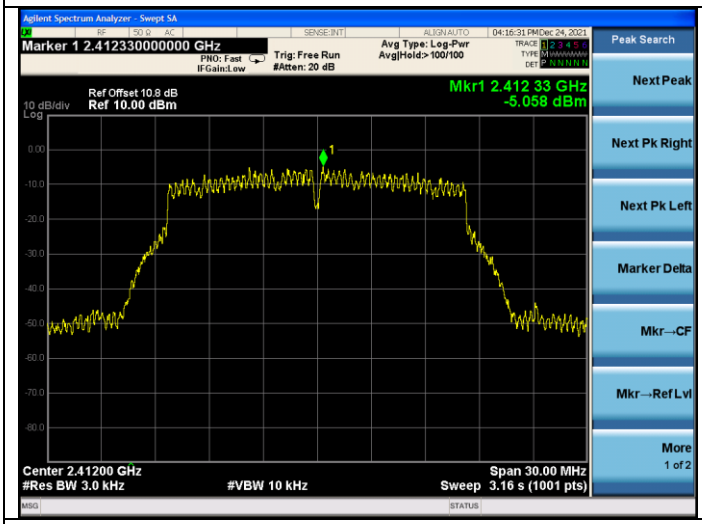
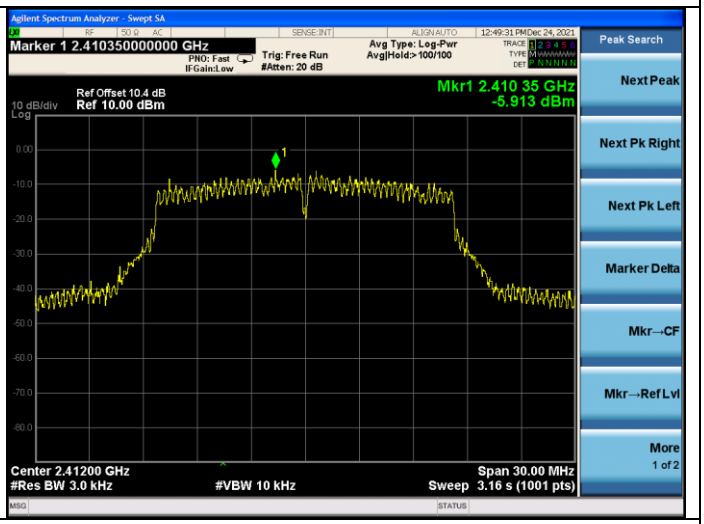
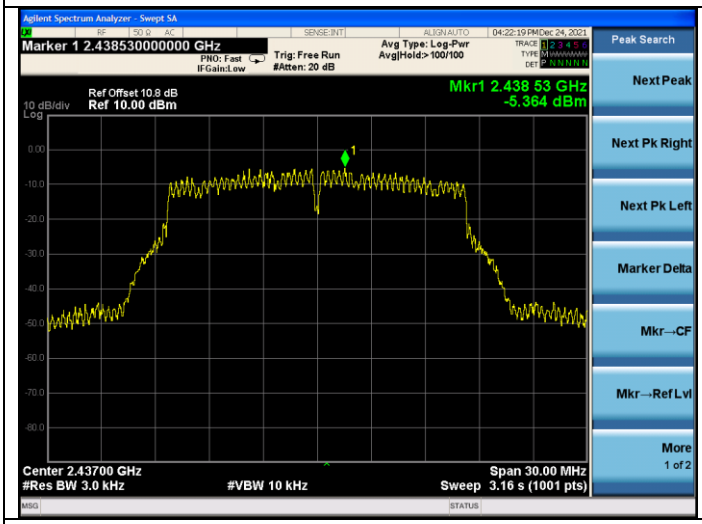
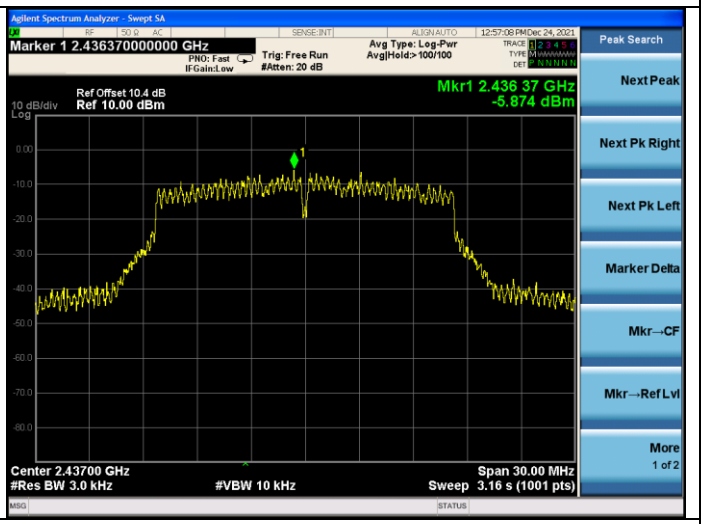
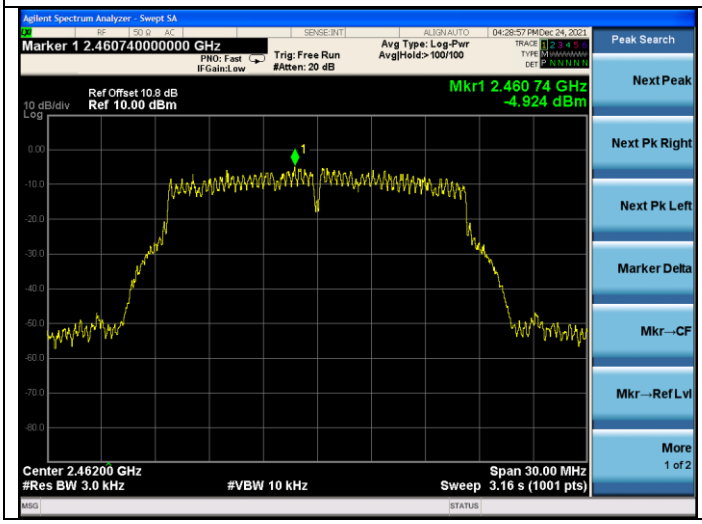
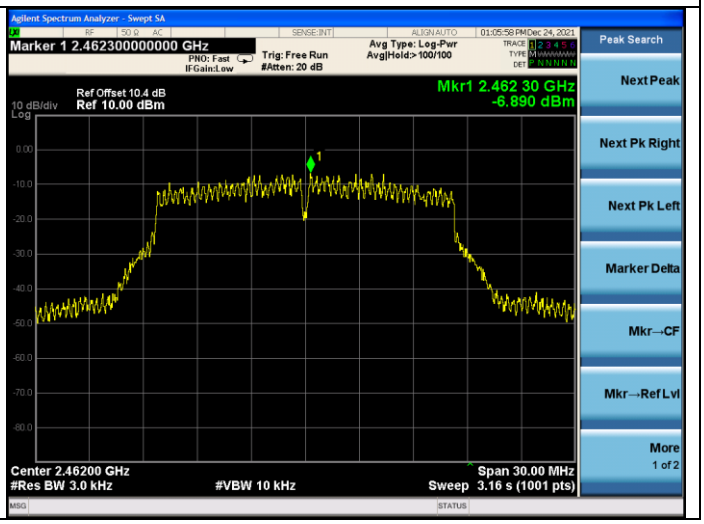
Test Mode	CH	Power Density (dBm/3kHz)			Limit (dBm/3kHz)
		ANTB	ANTA	Total	
11b	CH1	-4.276	-5.648	N/A	8
	CH6	-3.826	-6.786	N/A	
	CH11	-4.450	-5.389	N/A	
11g	CH1	-5.058	-5.913	N/A	8
	CH6	-5.364	-5.874	N/A	
	CH11	-4.924	-6.890	N/A	
11n HT20	CH1	-5.453	-8.467	-3.69	8
	CH6	-5.191	-7.116	-3.04	
	CH11	-5.459	-8.399	-3.67	
11n HT40	CH3	-9.747	-10.476	-7.09	8
	CH6	-8.707	-10.126	-6.35	
	CH9	-9.757	-11.870	-7.68	
Conclusion: PASS					

Note: 1. For 11n HT20/11n HT40 Mode

Directional Gain= $10 \log[(10^{-1.04/20}+10^{-2.61/20})^2 /2]$dBi= 1.22dB < 6dBi.

2. The transmit signals are correlated.

ANT B:	**ANT A:**
Test Mode: IEEE 802.11b Test CH1: 2412MHz	Test Mode: IEEE 802.11b Test CH1: 2412MHz
Test CH6: 2437MHz	Test CH6: 2437MHz
Test CH11: 2462MHz	Test CH11: 2462MHz

ANT B:	**ANT A:**
Test Mode: IEEE 802.11g Test CH1: 2412MHz	Test Mode: IEEE 802.11g Test CH1: 2412MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANT B:	**ANT A:**
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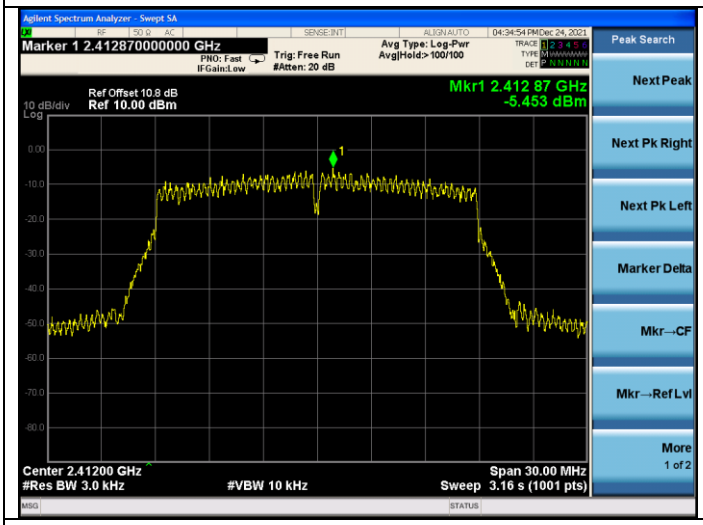
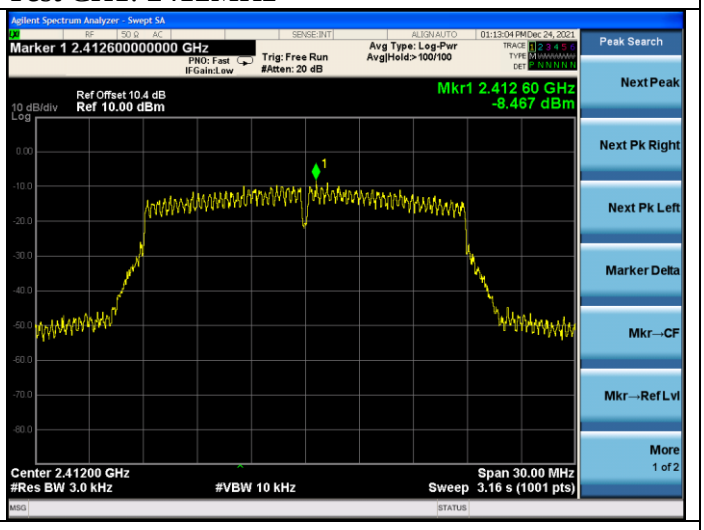
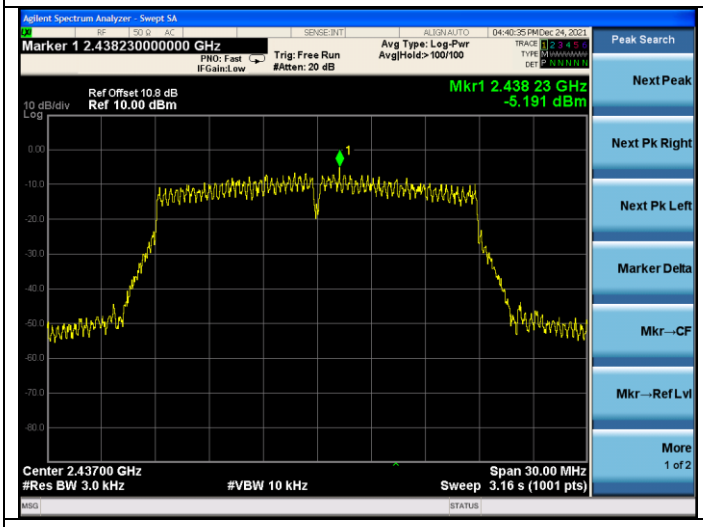
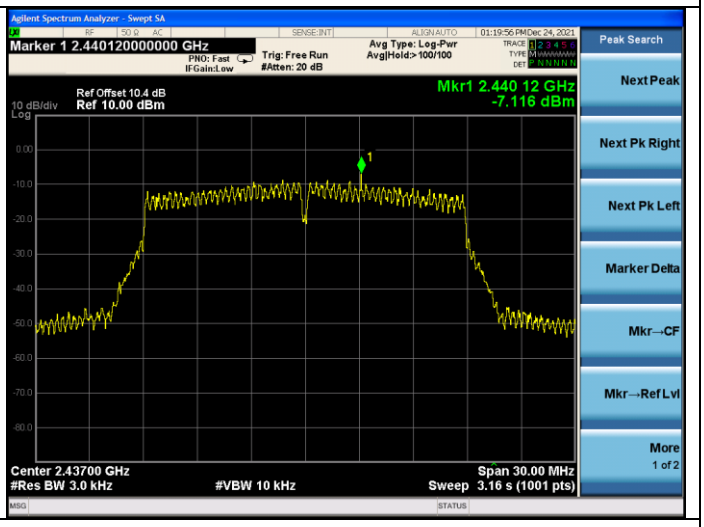
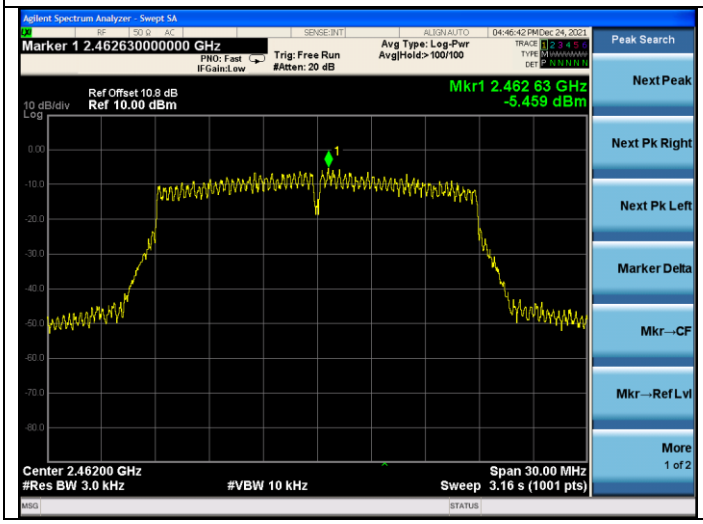
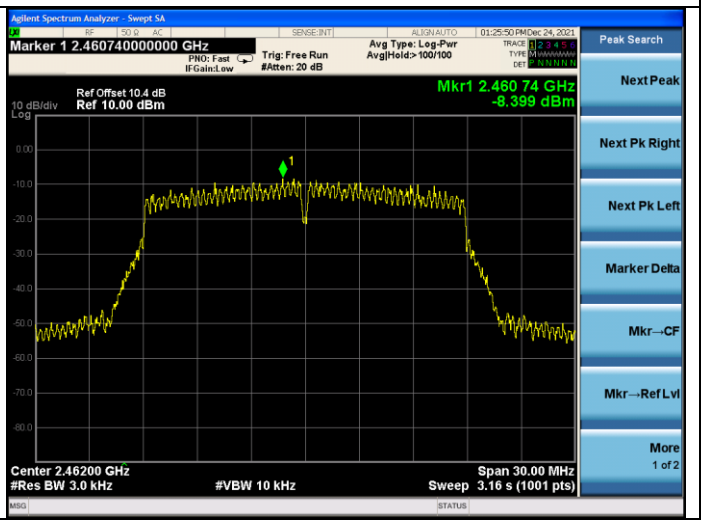
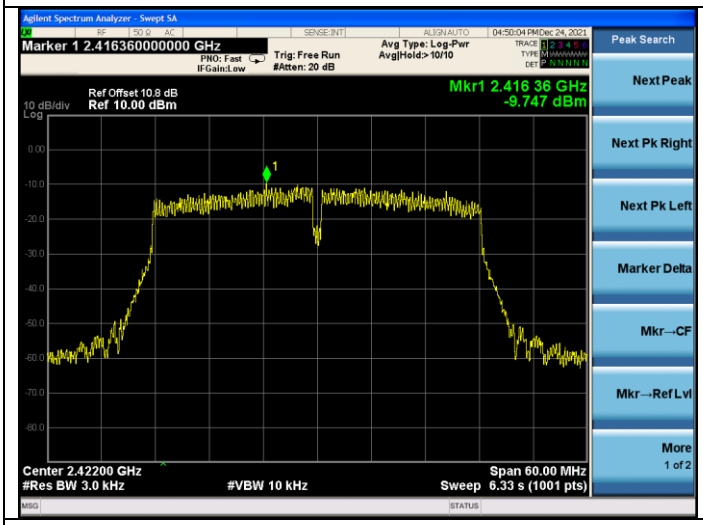
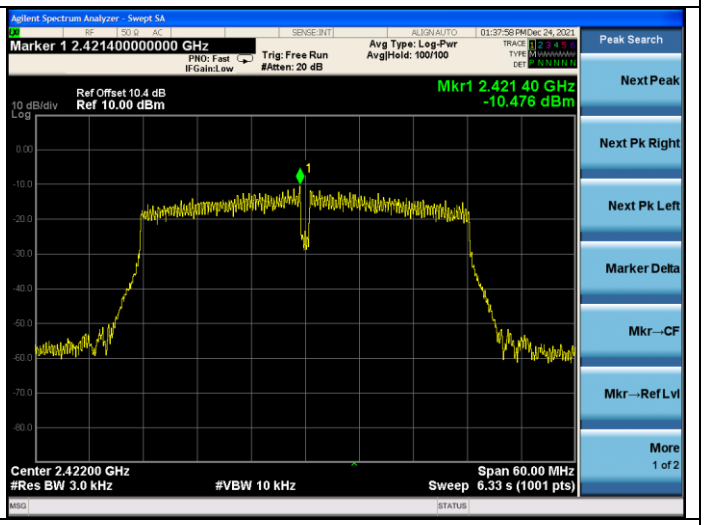
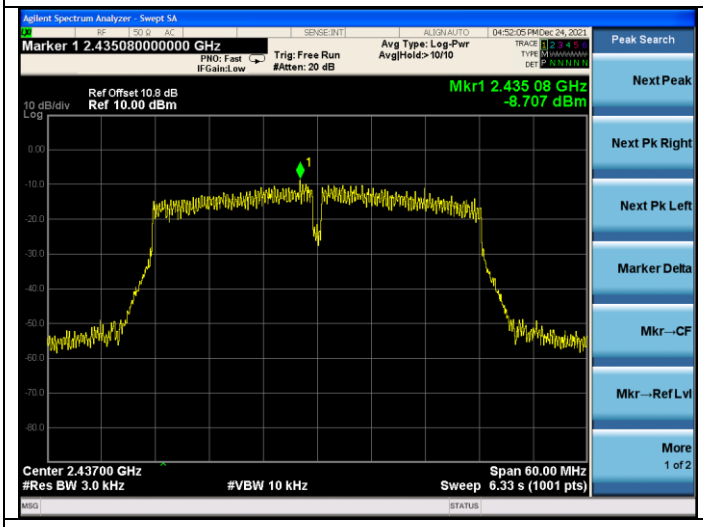
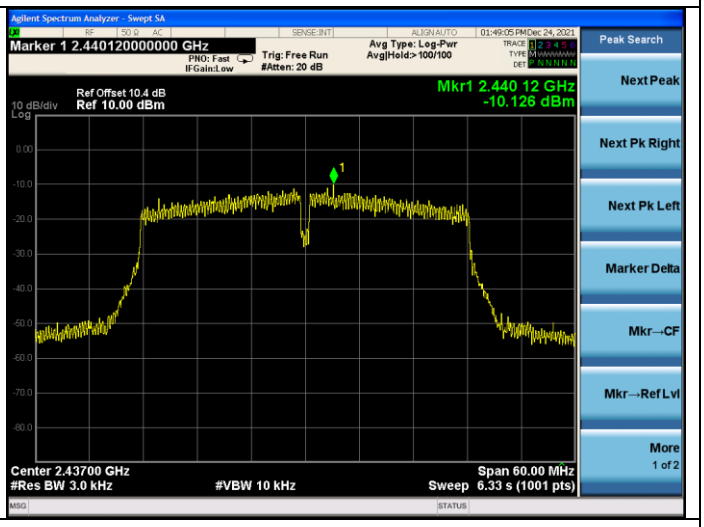
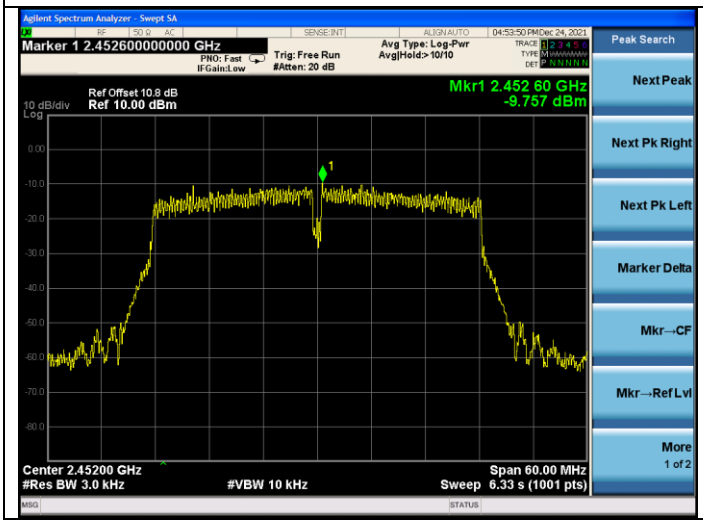
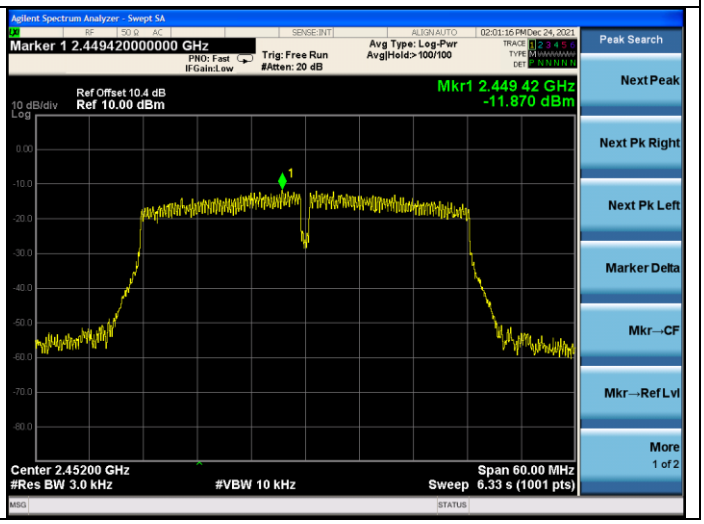
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANT B:	**ANT A:**
Test Mode: IEEE 802.11n HT40 Test CH3: 2422MHz	Test Mode: IEEE 802.11n HT40 Test CH3: 2422MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH9: 2452MHz	Test CH9: 2452MHz
	

10. ANTENNA REQUIREMENT

10.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. Antenna Connected Construction

The antennas used for this product are ANTA: monopole Antenna, ANTB: External Metal antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is DTS Band: ANT A: -1.04dBi; ANT B: -2.08dBi.

11. DEVIATION TO TEST SPECIFICATIONS

[NONE]

THE END