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	Jun.30,19	1 Year
2.	Attenuator	Agilent	8491B	MY39269201	Oct.13,19	1 Year
3.	RF Cable	EMCI	EMC102-KM-KM 3500	170702	May.13,19	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

Use the test method descried in ANSI C63.10 clause 11.10.2:

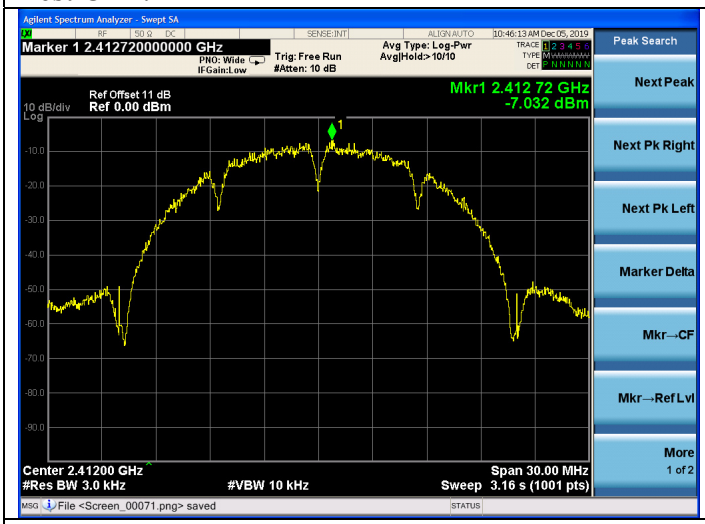
a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

9.4.Test Results

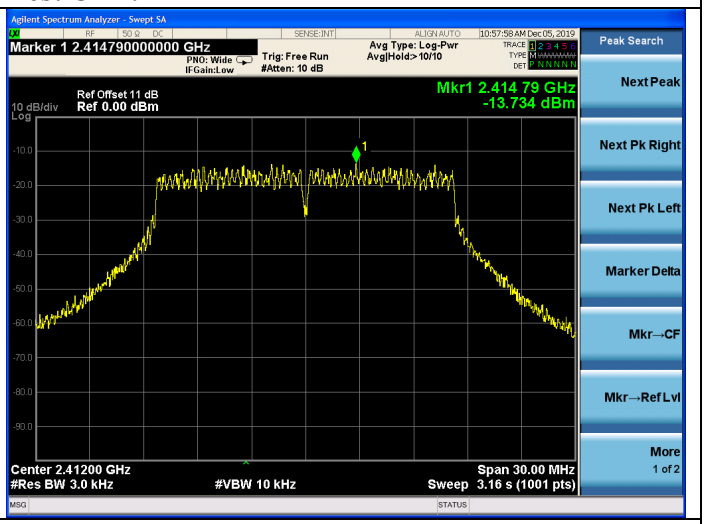
EUT: Smart Signboard		
M/N: IAD-18001		
Test date: 2019-12-05	Pressure: 102.3±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Allen	Test site: RF site	Temperature: 25.5±0.6 ℃

Test Mode	CH	Power density (dBm/3KHz)	Limit (dBm/3KHz)
11b	CH1	-7.032	8
	CH6	-7.628	
	CH11	-6.739	
11g	CH1	-13.734	8
	CH6	-11.074	
	CH11	-13.660	
11n HT20	CH1	-15.389	8
	CH6	-11.974	
	CH11	-13.885	
11n HT40	CH3	-17.016	8
	CH6	-15.798	
	CH9	-17.111	
Conclusion：PASS			

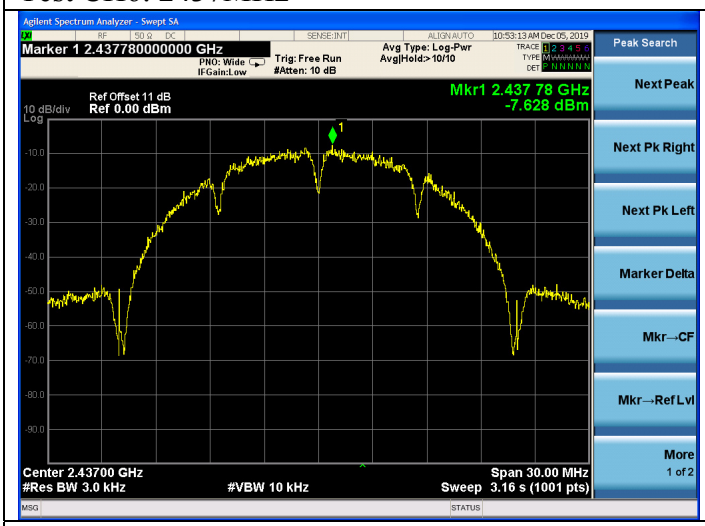
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



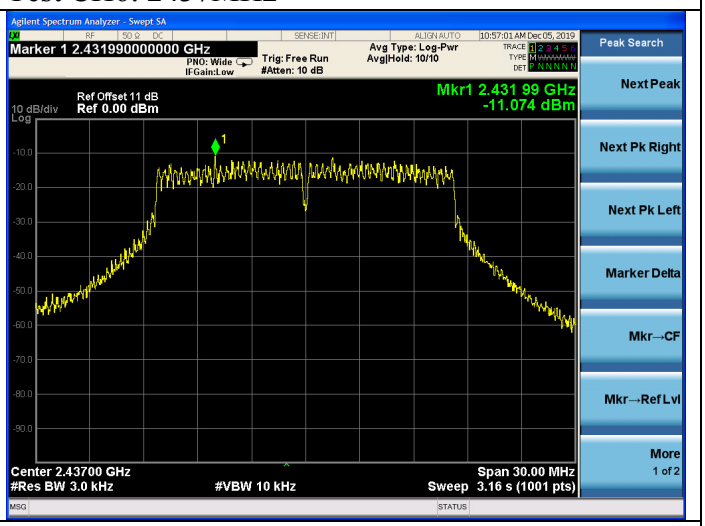
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



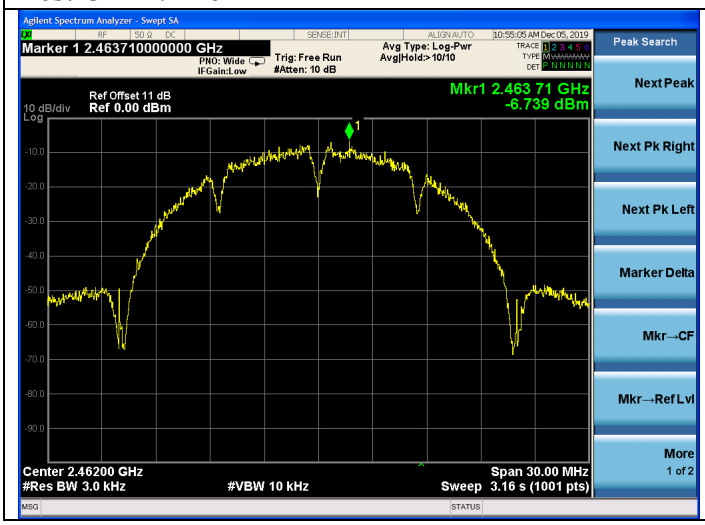
Test CH6: 2437MHz



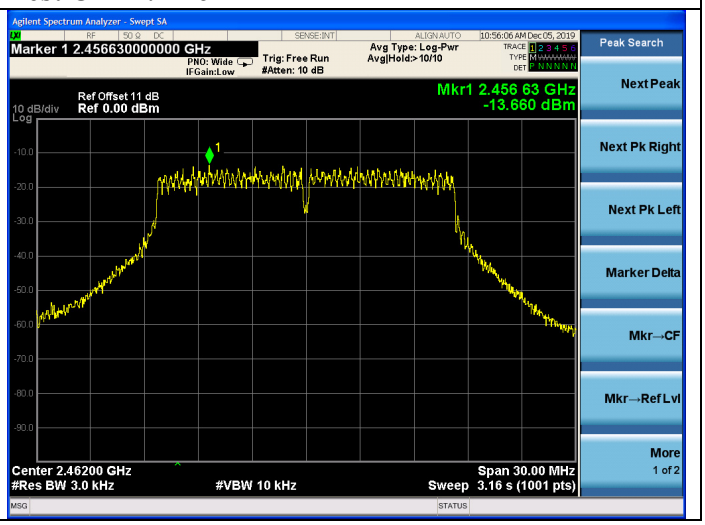
Test CH6: 2437MHz



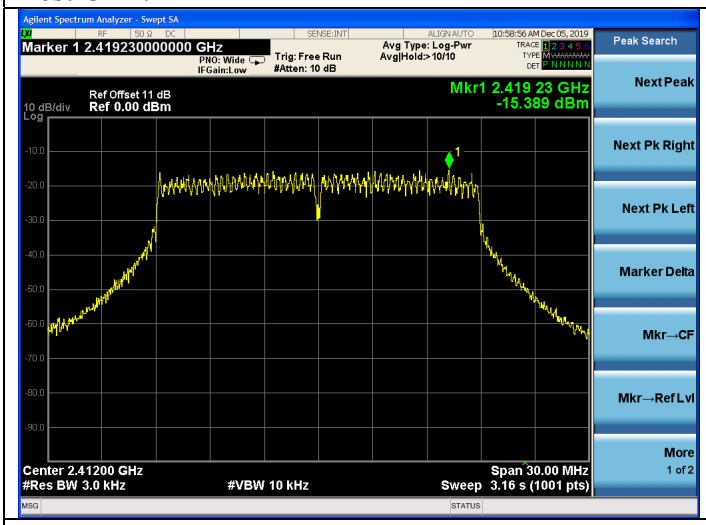
Test CH11: 2462MHz



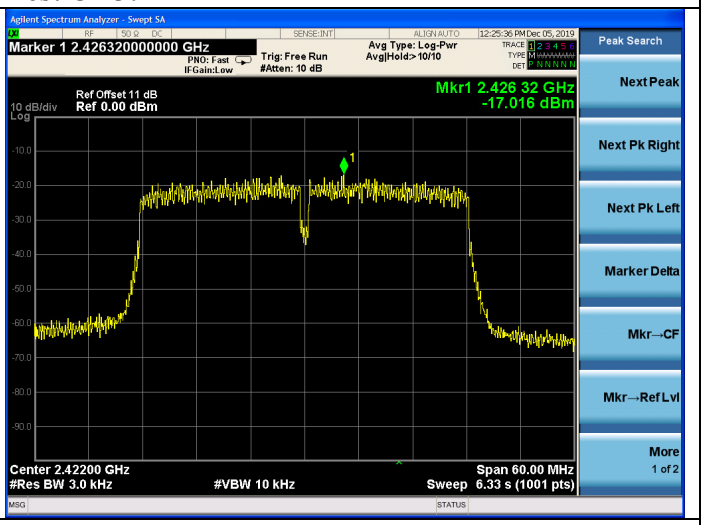
Test CH11: 2462MHz



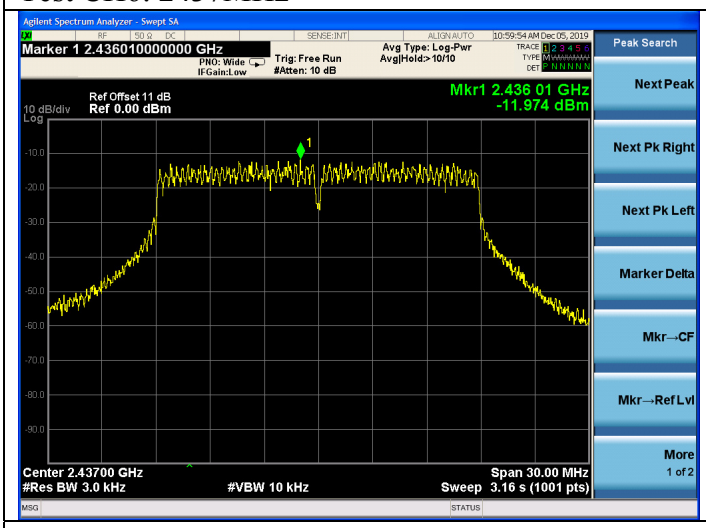
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



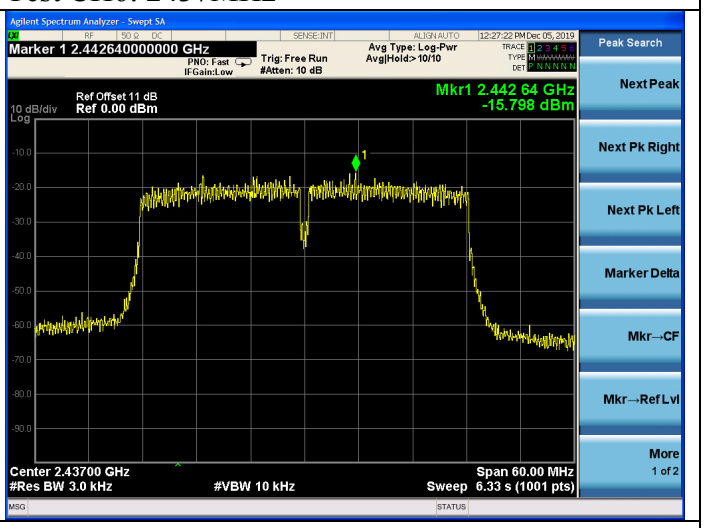
Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



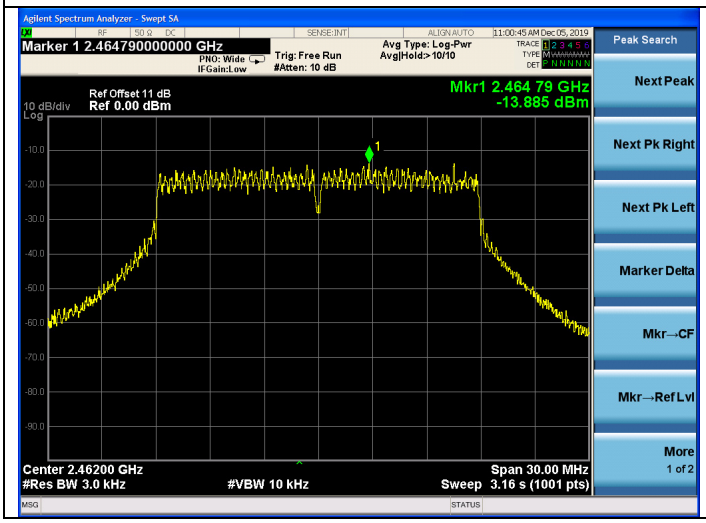
Test CH6: 2437MHz



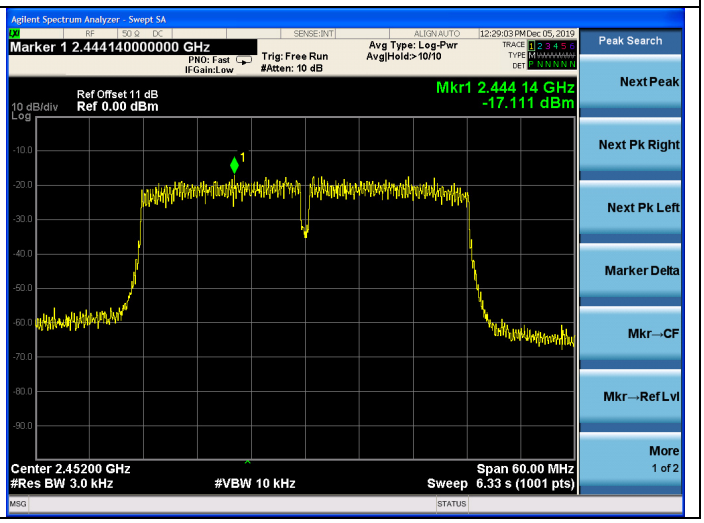
Test CH6: 2437MHz



Test CH11: 2462MHz



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 Internal 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 1.98dBi.

11. DEVIATION TO TEST SPECIFICATIONS

[NONE]

THE END