

RF Test Data for BLE

(Conducted Measurements)

General Description of EUT	
EUT Name:	WiFi Water Leak Sensor
Model:	W06
Sample ID:	HC-C-202601-0264-01-01#
Environmental Conditions	
Ambient Temperature:	25°C
Ambient Humidity:	45%RH
Test Power Supply:	DC 3V
Test Engineer:	Lily Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202601-0264-1	

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1: DTS Bandwidth

1.1 Test Result

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.640	2402.320	0.5	PASS
BLE_1M	Ant1	2440	0.664	2439.656	2440.320	0.5	PASS
BLE_1M	Ant1	2480	0.700	2479.632	2480.332	0.5	PASS

1.2 Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS

2: Occupied Channel Bandwidth

2.1 Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0354	2401.4774	2402.5128	---	---
BLE_1M	Ant1	2440	1.0290	2439.4797	2440.5087	---	---
BLE_1M	Ant1	2480	1.0292	2479.4775	2480.5067	---	---

2.2 Test Graphs

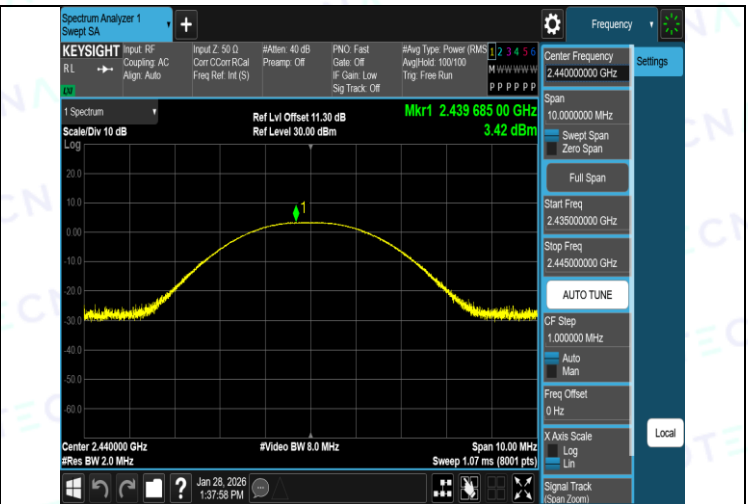
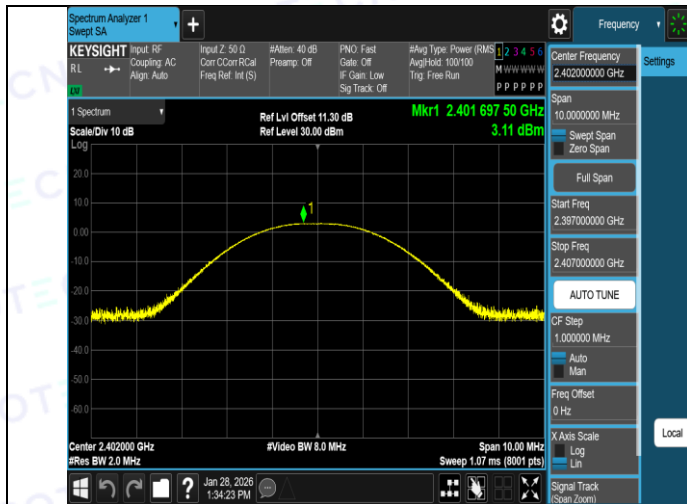


3: Maximum conducted output power

3.1 Test Result Peak

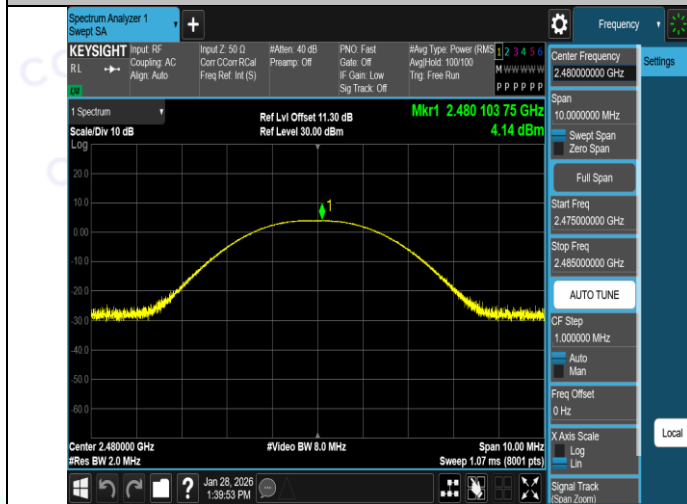
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.11	≤30	PASS
BLE_1M	Ant1	2440	3.42	≤30	PASS
BLE_1M	Ant1	2480	4.14	≤30	PASS

3.2 Test Graphs Peak



BLE_1M-Ant1-2402-PASS

BLE_1M-Ant1-2440-PASS



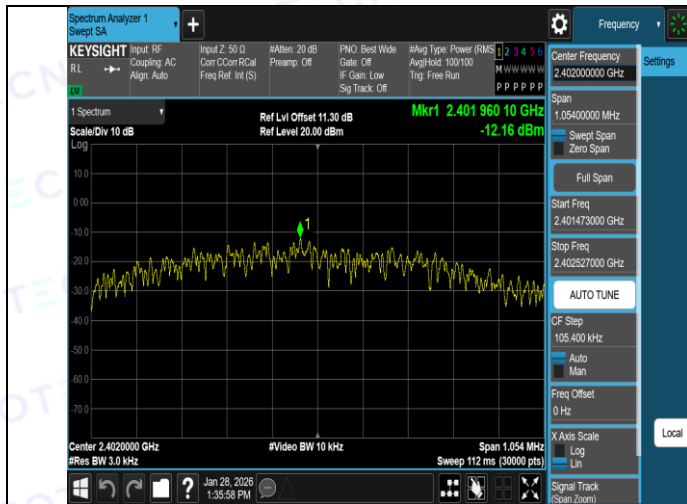
BLE_1M-Ant1-2480-PASS

4: Maximum power spectral density

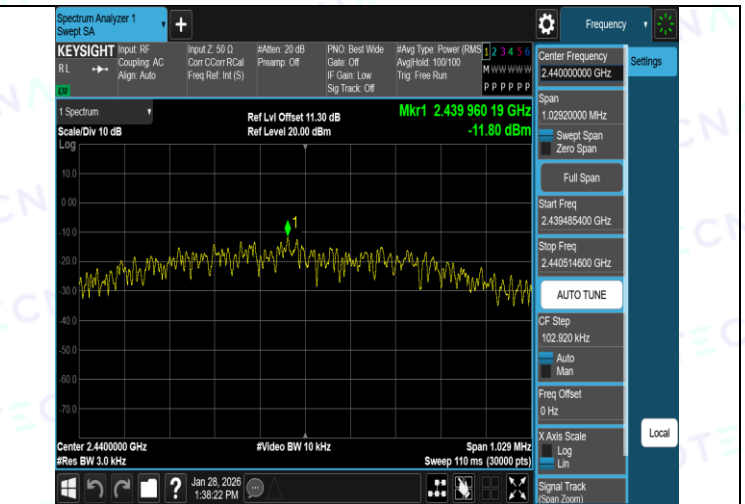
4.1 Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-12.16	≤8.00	PASS
BLE_1M	Ant1	2440	-11.80	≤8.00	PASS
BLE_1M	Ant1	2480	-11.09	≤8.00	PASS

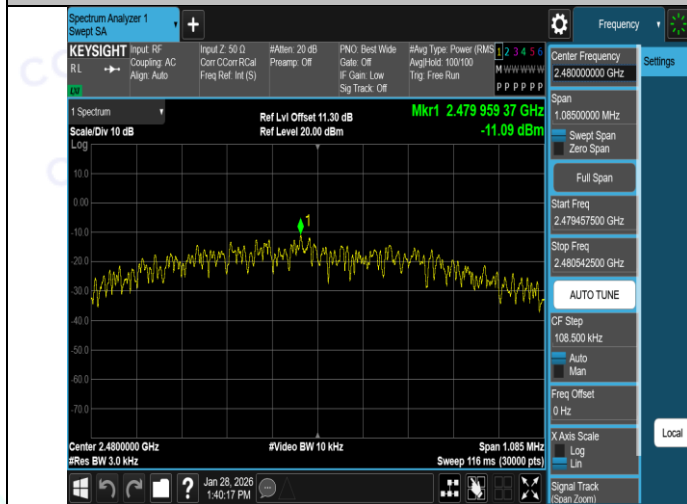
4.2 Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS



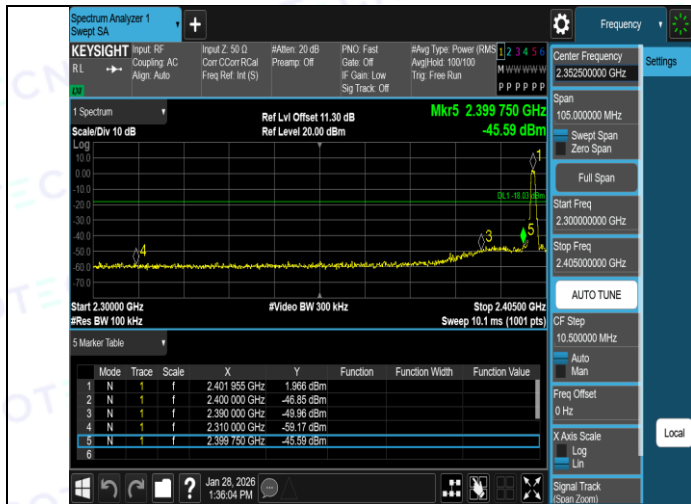
BLE_1M-Ant1-2480-PASS

5: Band edge measurements

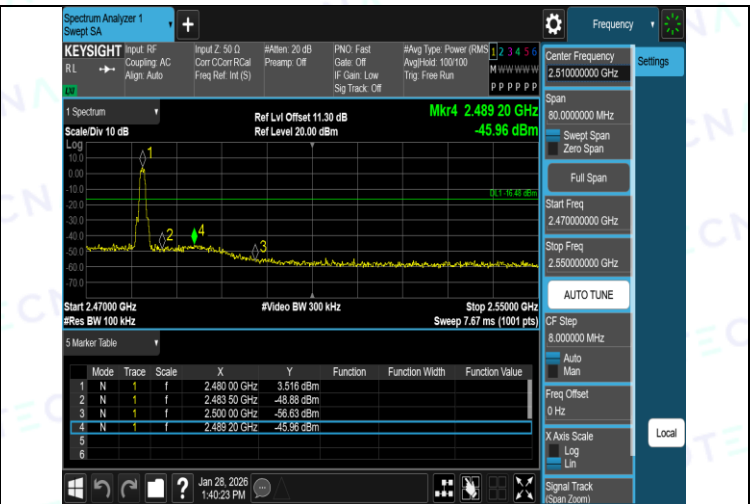
5.1 Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.97	-45.59	≤ -18.03	PASS
BLE_1M	Ant1	High	2480	3.52	-45.96	≤ -16.48	PASS

5.2 Test Graphs



BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS

6: Conducted Spurious Emission

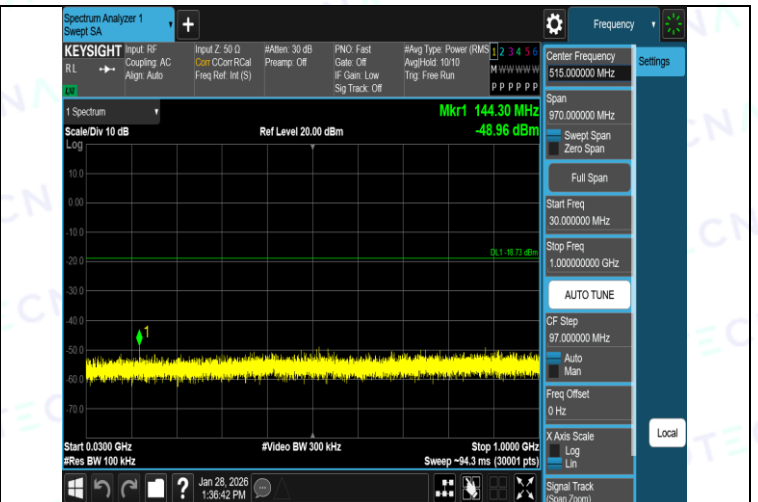
6.1 Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	1.27	1.27	---	PASS
BLE_1M	Ant1	2402	30~1000	1.27	-48.96	≤-18.73	PASS
BLE_1M	Ant1	2402	1000~26500	1.27	-33.1	≤-18.73	PASS
BLE_1M	Ant1	2440	0~Reference	1.51	1.51	---	PASS
BLE_1M	Ant1	2440	30~1000	1.51	-49.65	≤-18.49	PASS
BLE_1M	Ant1	2440	1000~26500	1.51	-32.13	≤-18.49	PASS
BLE_1M	Ant1	2480	0~Reference	2.36	2.36	---	PASS
BLE_1M	Ant1	2480	30~1000	2.36	-49.37	≤-17.64	PASS
BLE_1M	Ant1	2480	1000~26500	2.36	-33.96	≤-17.64	PASS

6.2 Test Graphs



BLE_1M-Ant1-2402-0~Reference-PASS



BLE_1M-Ant1-2402-30~1000-PASS



BLE_1M-Ant1-2402-1000~26500-PASS



BLE_1M-Ant1-2440-0~Reference-PASS



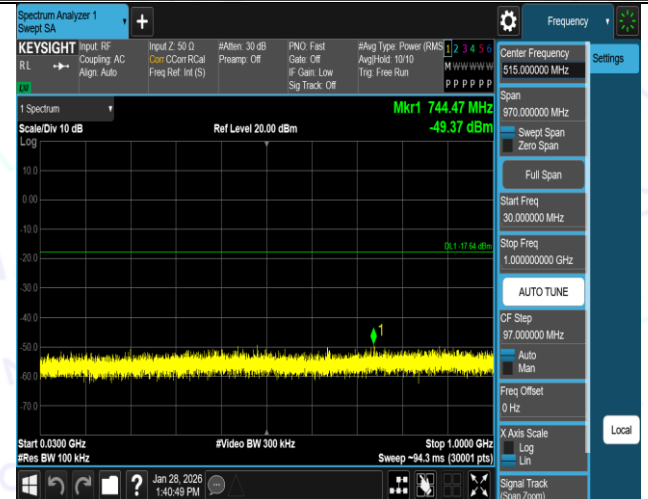
BLE_1M-Ant1-2440-30~1000-PASS



BLE_1M-Ant1-2440-1000~26500-PASS



BLE_1M-Ant1-2480-0~Reference-PASS



BLE_1M-Ant1-2480-30~1000-PASS



BLE_1M-Ant1-2480-1000~26500-PASS

7: Duty Cycle

7.1 Test Result

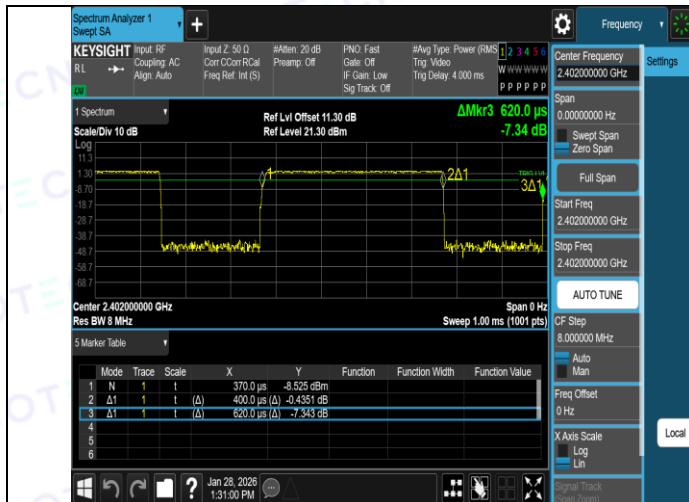
TestMode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor	1/T [kHz]
BLE_1M	Ant1	2402	0.40	0.62	64.52	1.90	2.50
BLE_1M	Ant1	2440	0.41	0.63	65.08	1.87	2.44
BLE_1M	Ant1	2480	0.41	0.63	65.08	1.87	2.44

Note: 1, Duty Cycle= Transmission Duration/ Transmission Period

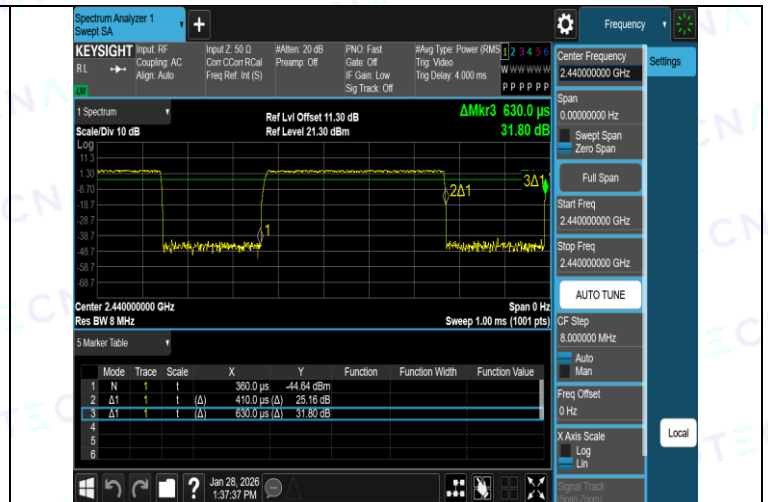
2, DC Factor= $10 \cdot \log_{10}(1/\text{Duty Cycle})$

3, $1/T = 1/\text{Transmission Duration}$

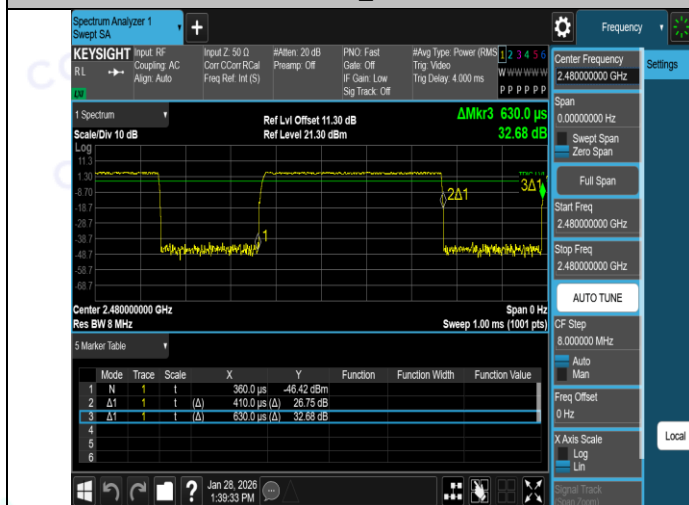
7.2 Test Graphs



NTNV-BLE_1M-Ant1-2402



NTNV-BLE_1M-Ant1-2440



NTNV-BLE_1M-Ant1-2480

8: Emissions in Restricted Bands

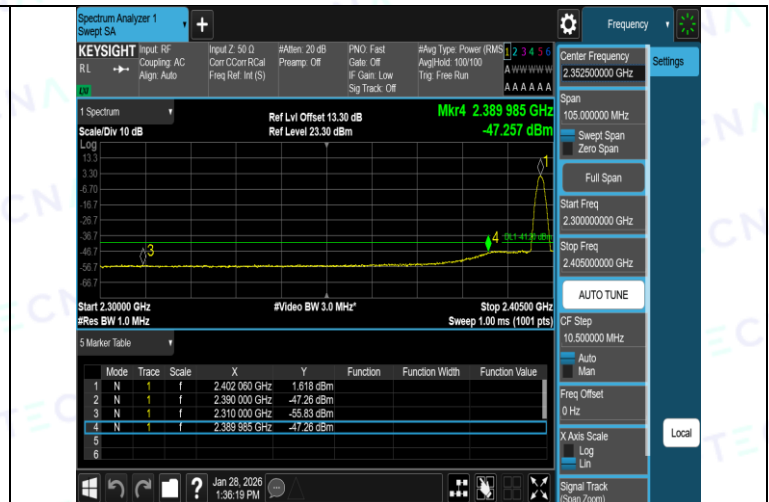
8.1 Test Result

Test Mode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	Peak	2390.000	-35.03	≤-21.20	60.17	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2310.000	-37.43	≤-21.20	57.77	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2387.990	-34.83	≤-21.20	60.37	≤74	PASS
BLE_1M	Ant1	Low	2402	AV	2390.000	-47.26	≤-41.20	47.94	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2310.000	-55.83	≤-41.20	39.37	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2389.985	-47.26	≤-41.20	47.94	≤54	PASS
BLE_1M	Ant1	High	2480	Peak	2483.500	-33.69	≤-21.20	61.51	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2500.000	-37.15	≤-21.20	58.05	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2493.120	-32.19	≤-21.20	63.01	≤74	PASS
BLE_1M	Ant1	High	2480	AV	2483.500	-45.56	≤-41.20	49.64	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2500.000	-52.56	≤-41.20	42.64	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2489.440	-44.52	≤-41.20	50.68	≤54	PASS

Note:

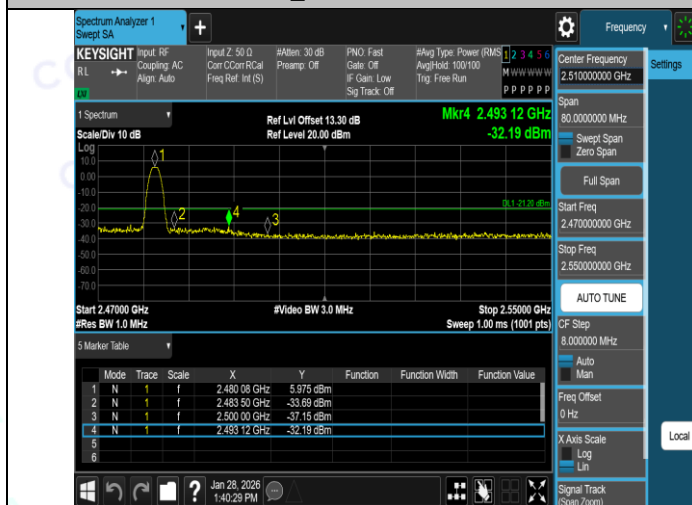
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

8.2 Test Graphs



BLE_1M-Ant1-2402-PASS

BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS

BLE_1M-Ant1-2480-PASS

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