

2. General Information

2.1 Test Mode and Procedure

Test Channel: As required by FCC Part15, Section 15.31(m) measurements on intentional radiators or receiver should be performed at three frequencies for operating frequency over 10MHz, one near top, one near middle and one near bottom.

Due to the support channels are 79 channels, the selected three frequencies for testing would be 2.402GHz near top for CH LOW, 2.441GHz near middle for CH MID and 2.480GHz near bottom for CH HIGH.

Test Mode	Channel setting and Operating condition
Channel Low Mode (2402MHz)	Using controller that is customer provides to control EUT test under Channel Low frequency and transmit continuously.
Channel Mid Mode (2441MHz)	Using controller that is customer provides to control EUT test under Channel Mid frequency and transmit continuously.
Channel High Mode (2480MHz)	Using controller that is customer provides to control EUT test under Channel High frequency and transmit continuously.

Test Procedure:

1. Putting the EUT on the platform and turning on the EUT (on/off button on the bottom of the EUT).
2. Setting test channel described as "Channel setting and operating condition", and testing channel by channel.
3. For the maximum output power measurement, we followed the method of measurement DA 00-705 (2000) "Alternative Test Procedure".
4. For the spurious emission test based on ANSI C63.4(2003), at the frequency where below 1GHz used quasi-peak detector mode; where above 1GHz used the peak and average detector mode. IF the peak value may be under average limit, the average mode will not be performed.
5. In this RFI test report, we provided the worst case conducted emission test data or/and radiated emission test data. The entire testing data was recorded and provided in this report.

8. §15.247(b)(2): Maximum Peak Radiated Output Power

Non-overlapping channel >75, Limit <1 Watt

8.1 Testing Description

- (A) The testing procedures followed **DA 00-705 (2000)** "Measurement Guidelines for Frequency Hopping Spread Spectrum Systems." Alternative Test Procedure

ALTERNATIVE TEST PROCEDURES

If antenna conducted tests cannot be performed on this device, radiated tests to show compliance with the various conducted requirements of Section 15.247 are acceptable. As stated previously, a pre-amp must be used in making the following measurements.

- (1) Calculate the transmitter's peak power using the following equation:

Where:

E = the measured maximum field strength in V/m.

Set the RBW > 6dB bandwidth of the emission or use a peak power meter.

$$P = (E \times d)^2 / (30 \times G)$$

G = the numeric gain of the transmitting antenna over an isotropic radiator.

d = the distance in meters from which the field strength was measured.

P = the power in watts for which you are solving:

- (B) Three channels were tested: CH LOW, CH MID AND CH HIGH Measurements were taken by using both horizontal and vertical antenna polarization, and the receiving antenna was raised between 1m and 4m to find the worst emission levels.

Test result:

Measurement Range: 30MHz~24GHz

Resolution Bandwidth: 30MHz~1GHz, RBW=120KHz

Above 1GHz, RBW=1MHz

Temperature: 26Humidity: 52 %Antenna polarization: HORIZONTAL ; Test distance : 3m ;

Freq. (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detector Mode
850.6	29.64	-57.26	86.90	25.08	21.75	4.81	22.00	Quasi-Peak
7230.0	43.44	-43.46	86.90	29.46	37.89	9.09	33.00	Peak
9595.0	46.83	-40.07	86.90	30.41	39.50	9.92	33.00	Peak
<u>Restricted Band</u>								
2268.4	43.29	-30.71	74.00	42.76	28.29	5.24	33.00	Peak
2268.4	25.08	-28.92	54.00	24.55	28.29	5.24	33.00	Average
4886.7	51.15	-22.85	74.00	43.02	33.11	8.02	33.00	Peak
4886.7	34.18	-19.82	54.00	26.05	33.11	8.02	33.00	Average
12046.0	60.13	-13.87	74.00	42.77	39.85	10.51	33.00	Peak
12046.0	48.20	- 5.80	54.00	30.84	39.85	10.51	33.00	Average

Antenna polarization: VERTICAL ; Test distance : 3m ;

Freq. (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Detector Mode
928.2	29.91	-56.99	86.90	23.76	23.07	5.08	22.00	Quasi-Peak
7195.0	43.69	-43.21	86.90	29.68	37.93	9.08	33.00	Peak
9670.0	47.05	-39.85	86.90	30.55	39.57	9.93	33.00	Peak
<u>Restricted Band</u>								
2269.8	39.41	-34.59	74.00	38.88	28.29	5.24	33.00	Peak
2269.8	25.23	-28.77	54.00	24.70	28.29	5.24	33.00	Average
4783.5	48.61	-25.39	74.00	40.97	32.71	7.93	33.00	Peak
4783.5	33.98	-20.02	54.00	26.34	32.71	7.93	33.00	Average
12034.0	59.31	-14.69	74.00	41.97	39.83	10.51	33.00	Peak
12034.0	47.60	- 6.40	54.00	30.26	39.83	10.51	33.00	Average

Note: If the Peak level under Average limit, the Average detector will not be perform.