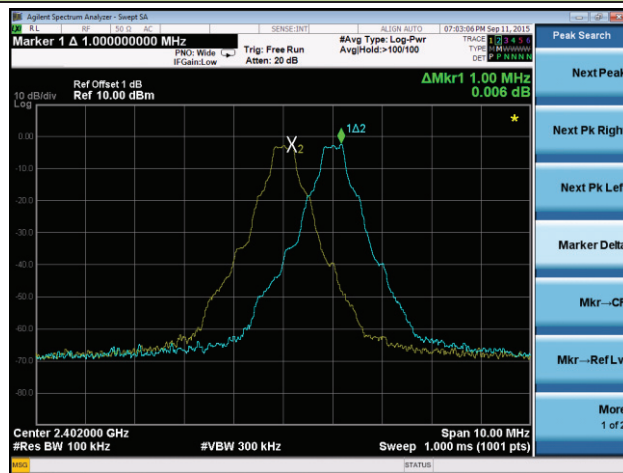
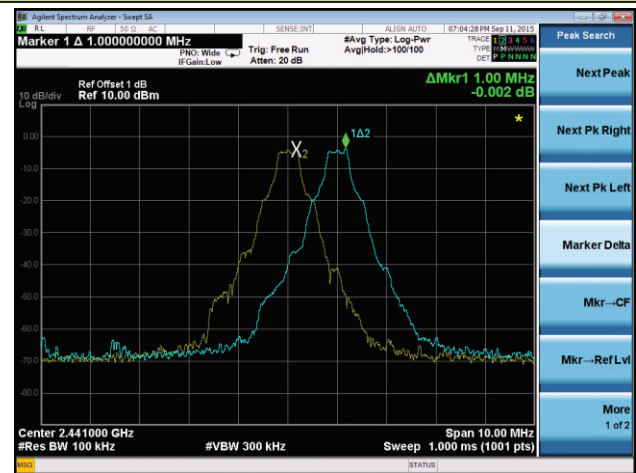


DH5 Carrier Frequency Separation

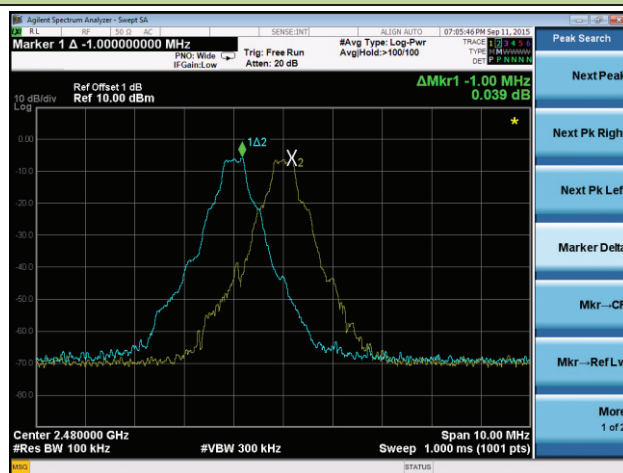
Channel 00 (2402MHz)



Channel 39 (2441MHz)

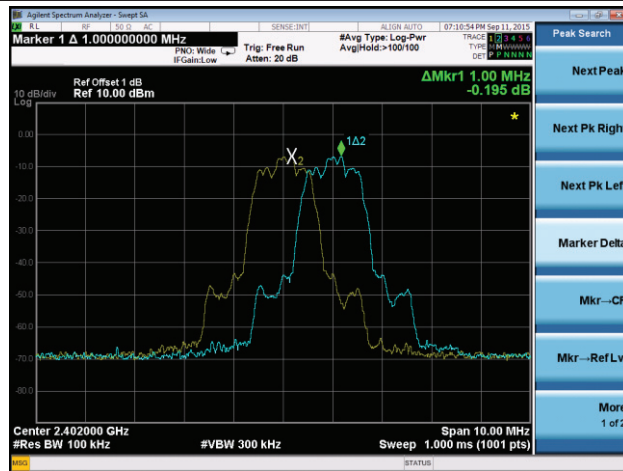


Channel 78 (2480MHz)

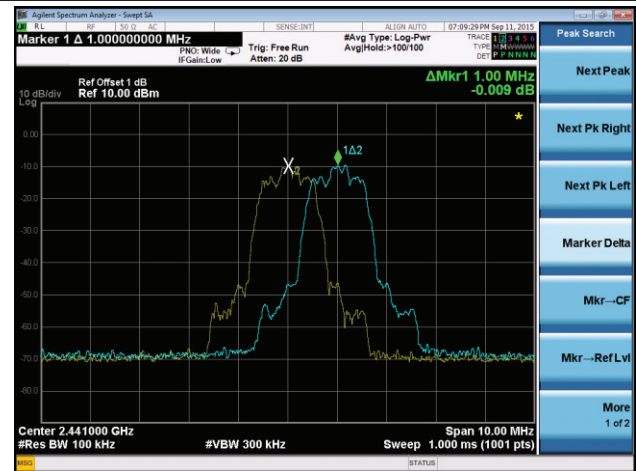


2DH5 Carrier Frequency Separation

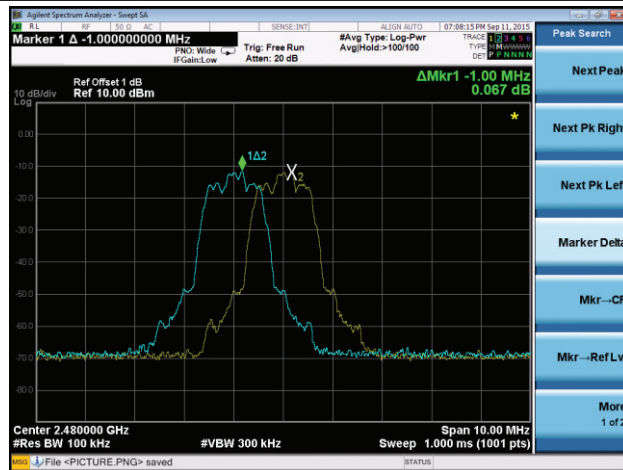
Channel 00 (2402MHz)



Channel 39 (2441MHz)

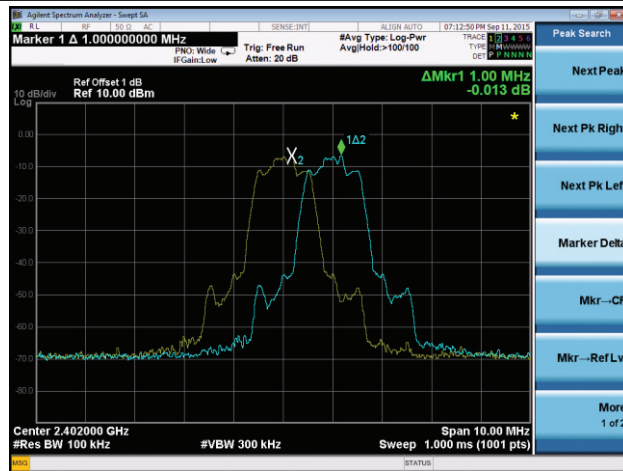


Channel 78 (2480MHz)

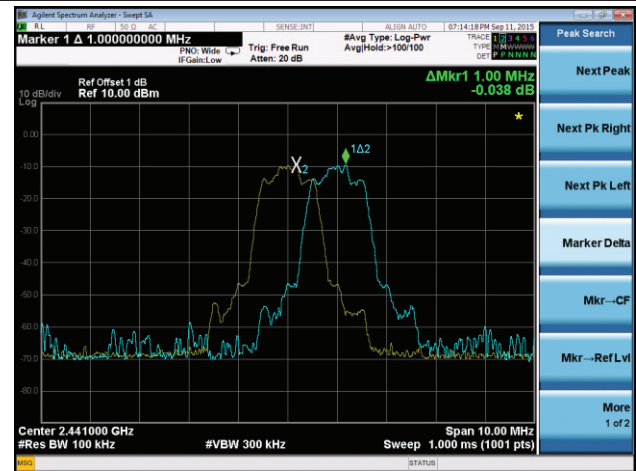


3DH5 Carrier Frequency Separation

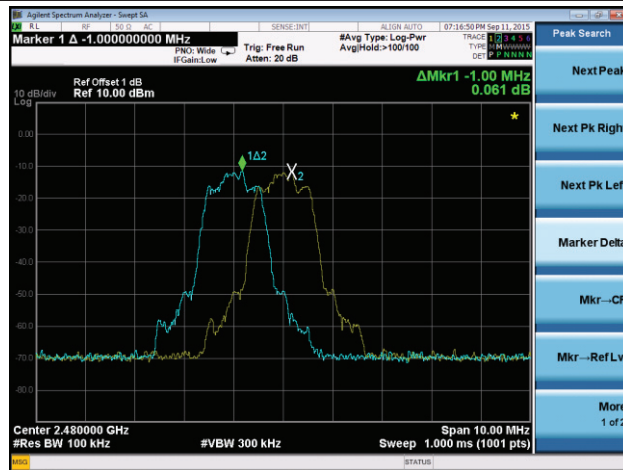
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



7.5. Number of Hopping Channels Measurement

7.5.1. Test Limit

This frequency hopping system must employ a minimum of 15 hopping channels.

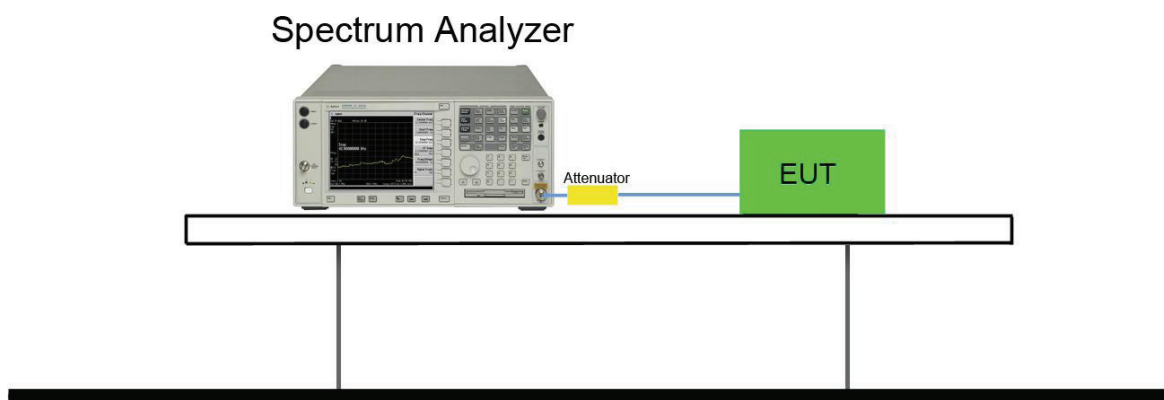
7.5.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.3

7.5.3. Test Setting

1. Span = the frequency band of operation.
2. RBW $\geq 1\%$ of the span
3. VBW $\geq$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

7.5.4. Test Setup

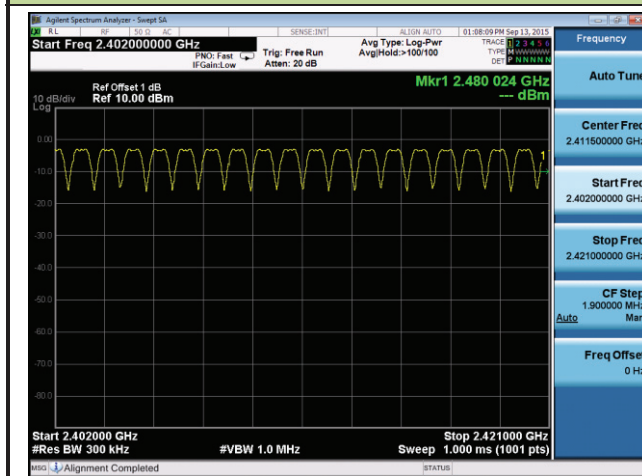


7.5.5. Test Result

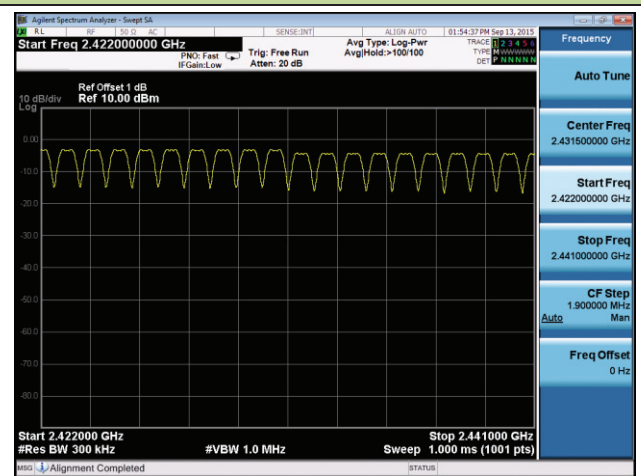
Test Mode (Hopping)	Channel Numbers	Frequency (MHz)	Limit (Hopping Channels)	Result
DH5	79	2402~2480	≥ 15	Pass
2DH5	79	2402~2480	≥ 15	Pass
3DH5	79	2402~2480	≥ 15	Pass

DH5 Number of Hopping Channels

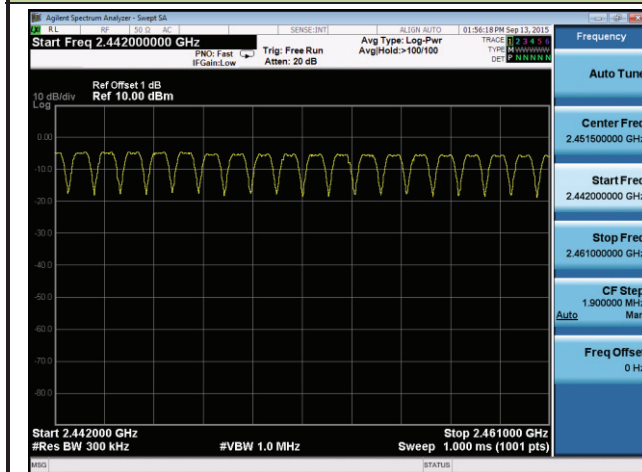
2402 ~ 2421MHz



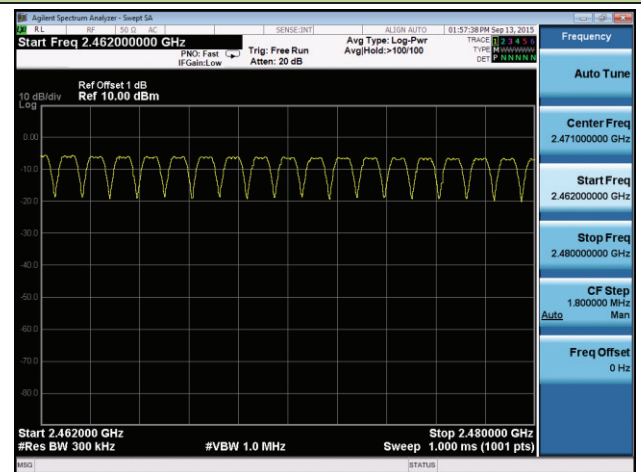
2422 ~ 2441MHz



2442 ~ 2461MHz

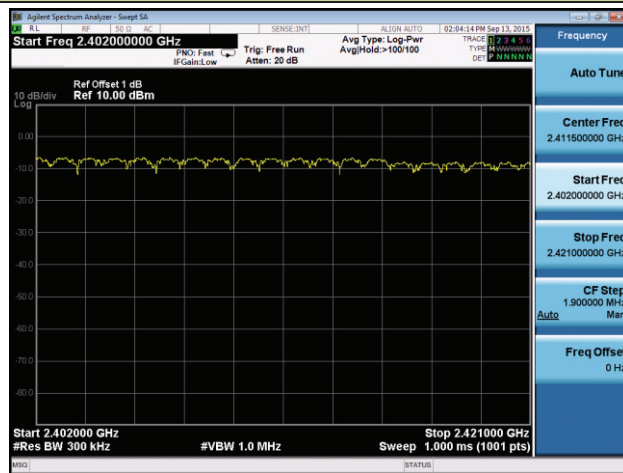


2462 ~ 2480MHz

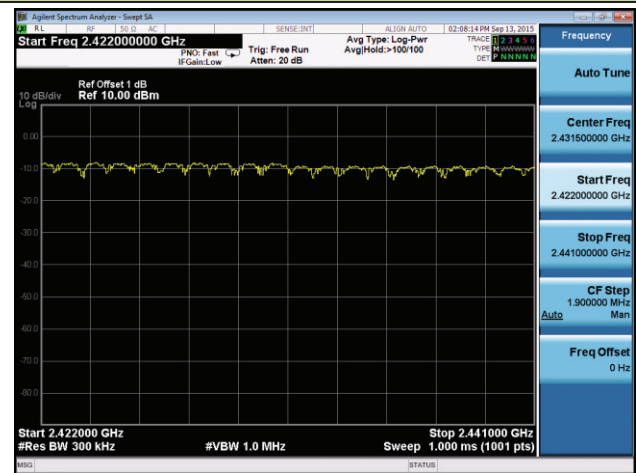


2DH5 Number of Hopping Channels

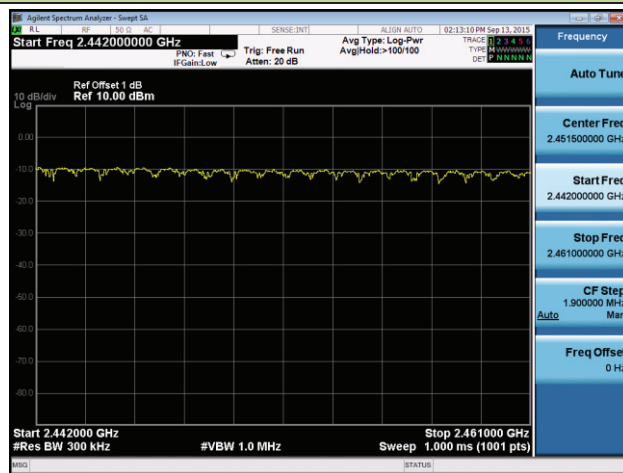
2402 ~ 2421MHz



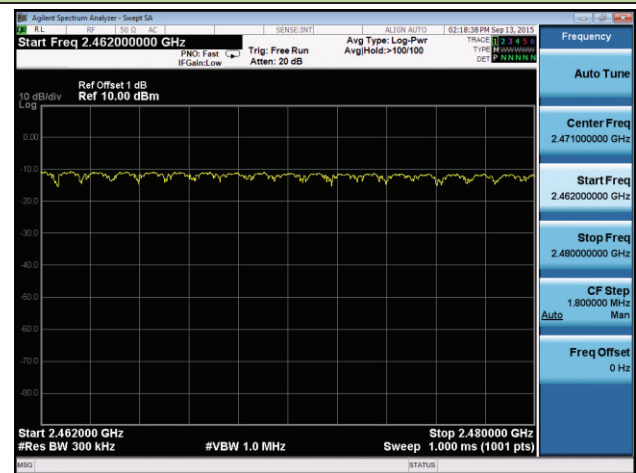
2422 ~ 2441MHz



2442 ~ 2461MHz

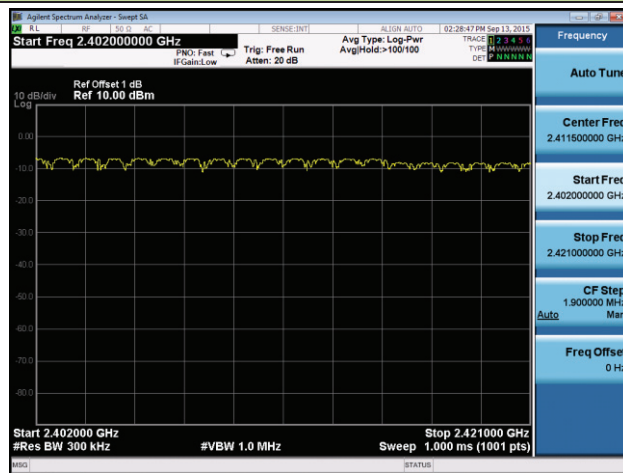


2462 ~ 2480MHz

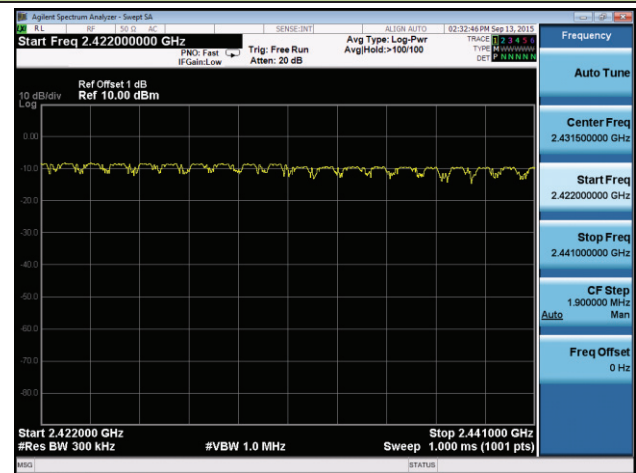


3DH5 Number of Hopping Channels

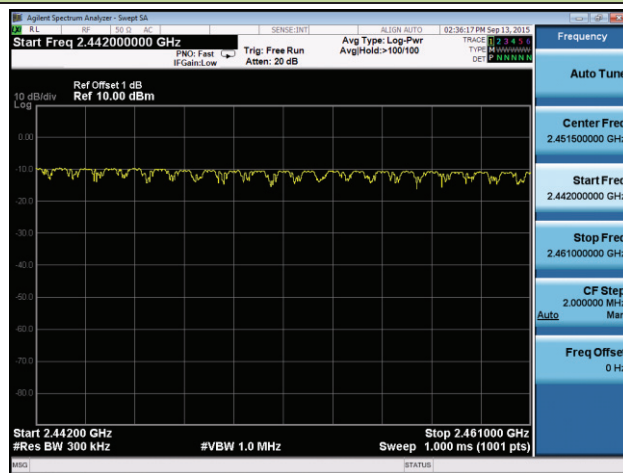
2402 ~ 2421MHz



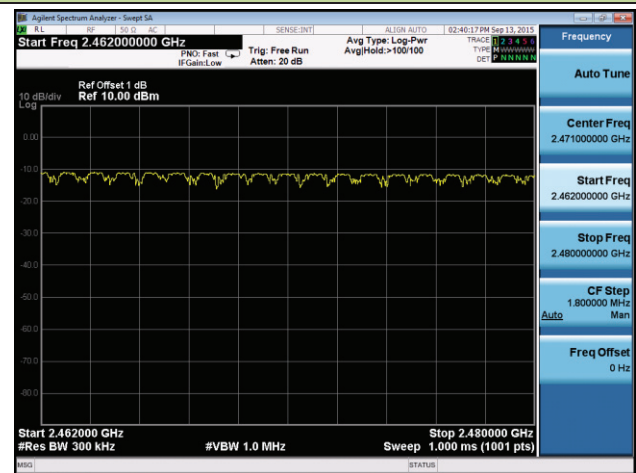
2422 ~ 2441MHz



2442 ~ 2461MHz



2462 ~ 2480MHz



7.6. Time of Occupancy Measurement

7.6.1. Test Limit

The maximum permissible time of occupancy is 400ms within a period of 400ms multiplied by the number of hopping channels employed.

7.6.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.4

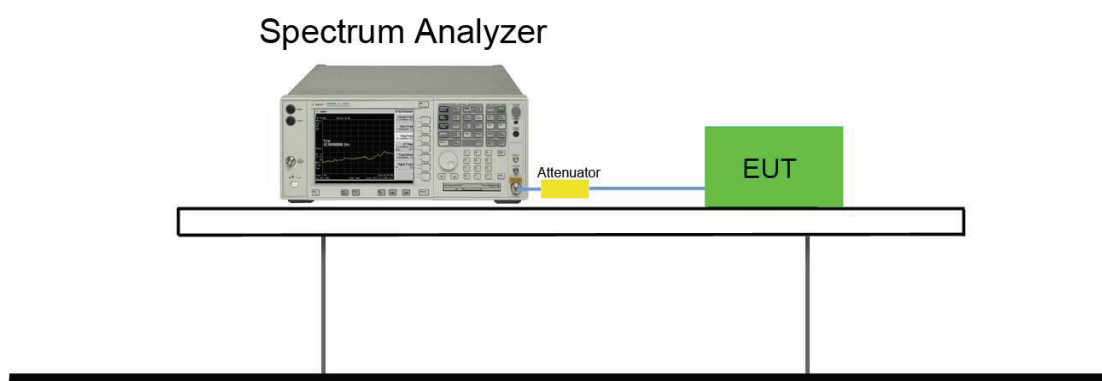
7.6.3. Test Settling

1. Span = zero span, centered on a hopping channel.
2. RBW = 1MHz
3. VBW $\geq$ RBW
4. Sweep time = as necessary to capture the entire dwell time per hopping channel
5. Detector = Peak
6. Trace mode = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (data rate, modulation format, etc.), repeat this test for each variation.

An oscilloscope may be used instead of a spectrum analyzer. The EUT shall show compliance with the appropriate regulatory limit for the number of hopping channels. A plot of the data shall be included in the test report.

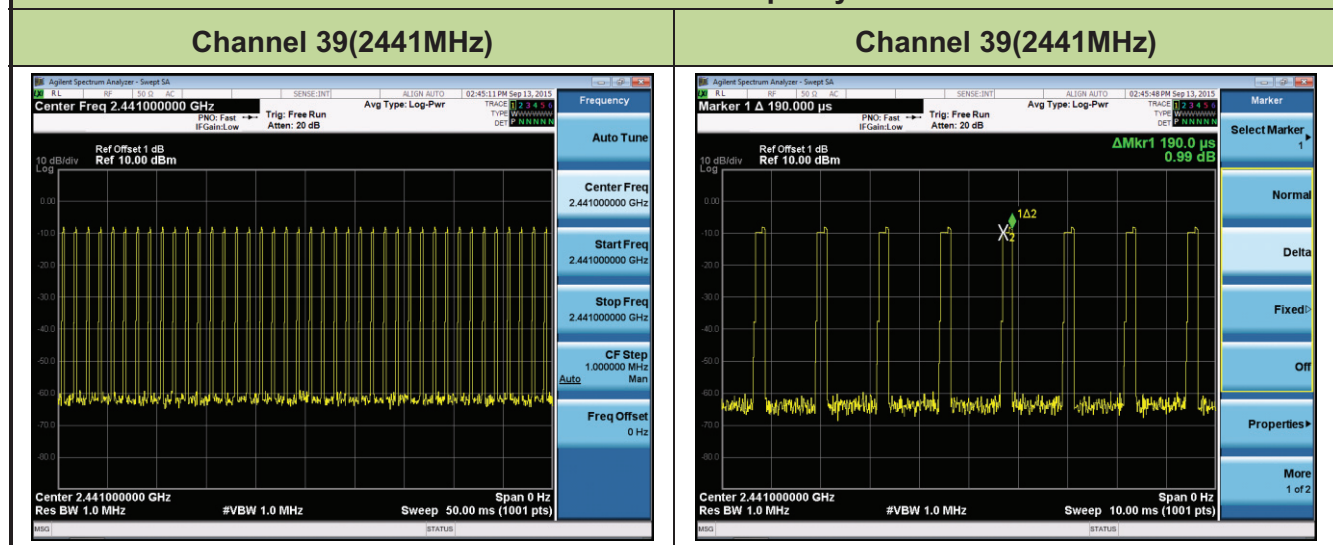
7.6.4. Test Setup



7.6.5. Test Result

Test Mode	Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
3DH1	39	2441	60.80	< 400	Pass
3DH3	39	2441	32.00	< 400	Pass
3DH5	39	2441	21.84	< 400	Pass

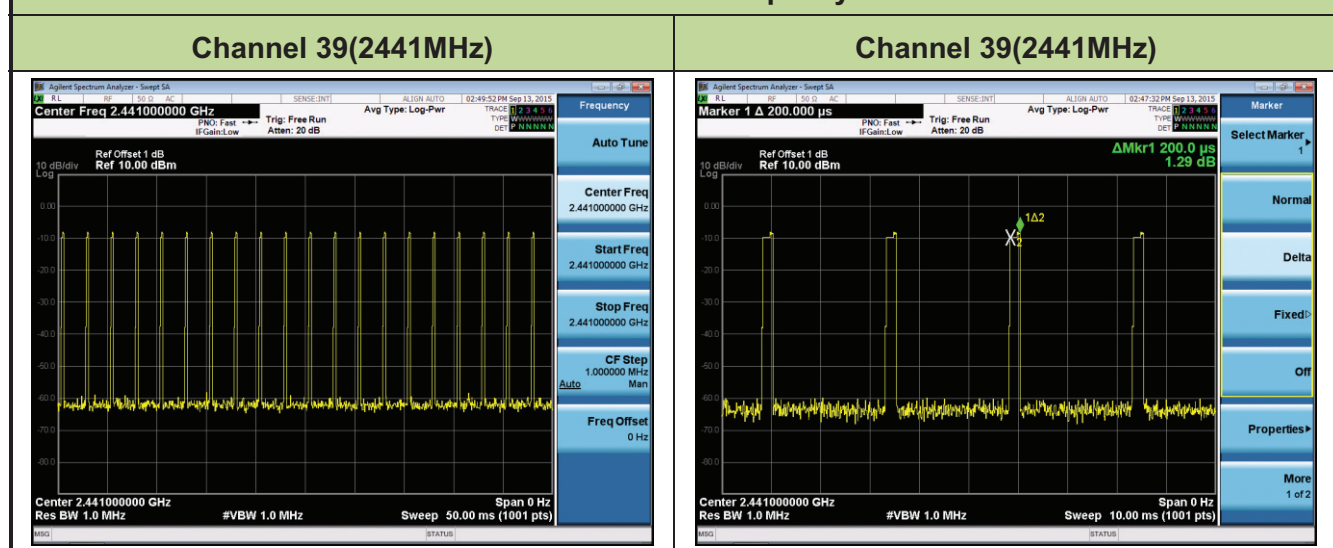
3DH1 Time of Occupancy



Note: Test Time Period: $0.4 \times 79 = 31.6$ sec, Hopping Times Within 1sec: $40/50$ msec=800 hops/sec.

The Maximum Occupancy Time within 31.6sec: $[(0.190\text{ms} \times 800)/79] \times 31.6 = 60.80$ msec.

3DH3 Time of Occupancy

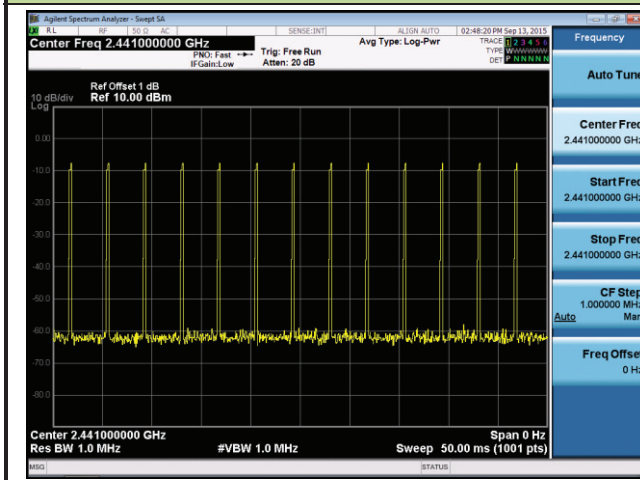


Note: Test Time Period: $0.4 \times 79 = 31.6$ sec, Hopping Times Within 1sec: $20/50$ msec=400hops/sec.

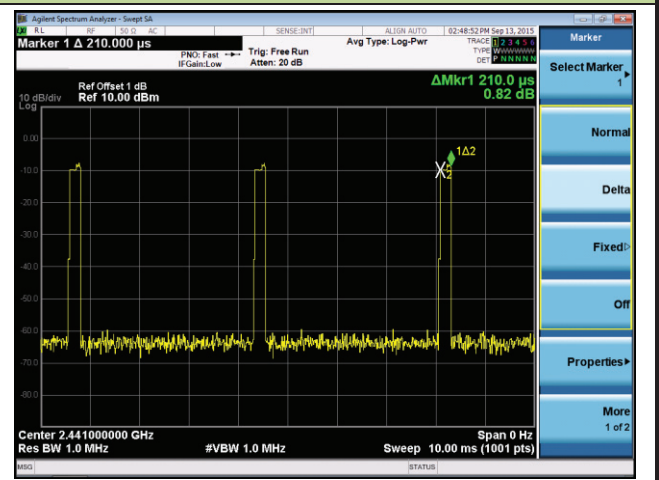
The Maximum Occupancy Time within 31.6sec: $[(0.200\text{ms} \times 400)/79] \times 31.6 = 32.00$ msec.

3DH5 Time of Occupancy

Channel 39(2441MHz)



Channel 39(2441MHz)



Note: Test Time Period: $0.4 \times 79 = 31.6 \text{ sec}$, Hopping Times Within 1sec: $13/50 \text{ msec} = 260 \text{ hops/sec}$.

The Maximum Occupancy Time within 31.6sec: $[(0.210 \text{ ms} \times 260) / 79] \times 31.6 = 21.84 \text{ msec}$.

7.7. Band-edge Compliance Measurement

7.7.1. Test Limit

The maximum permissible emission level is 20dBc. Any emissions were lying outside of the emission bandwidth and in authorized band edges to a field strength limit specified in Section 15.209 of the Title 47 CFR.

7.7.2. Test Procedure Used

ANSI C63.10-2013 - Section 6.10.4

7.7.3. Test Setting

1. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation.
2. RBW = 100kHz
3. VBW $\geq$ RBW
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Allow the trace to stabilize. Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission.