



3.2 Occupied bandwidth test according to § 15.247(a)(1)(ii)

3.2.1 General

This test was performed to prove that the maximum 20 dB bandwidth of the hopping channel is less than 1 MHz.

3.2.2 Test set-up

The test setup was the same as in test 3.1.

3.2.3 Test results

The measurements were performed in turn with 2FSK, 4FSK, 8FSK type of modulation and 1 Mbits, 2 Mbits, 3 Mbits per second data rate respectively. The occupied bandwidth measurement was performed for carrier (channel) frequency at low and high edges and at the middle of the 2.400 - 2.4835 GHz frequency band (see Tables 3.2.1 to 3.2.3 below). Plots 3.2.1 to 3.2.9 demonstrate the test results of the occupied bandwidth measurements. The spectrum analyzer settings are shown in plots.

Table 3.2.1 Occupied bandwidth test results with 2FSK type of modulation

Carrier frequency, GHz	Measured 20 dB BW, MHz	Limit, MHz	Result
2.402	0.968	1	Pass
2.441	0.788	1	Pass
2.480	0.788	1	Pass

Table 3.2.2 Occupied bandwidth test results with 4FSK type of modulation

Carrier frequency, GHz	Measured 20 dB BW, MHz	Limit, MHz	Result
2.402	0.888	1	Pass
2.441	0.664	1	Pass
2.480	0.680	1	Pass

Table 3.2.3 Occupied bandwidth test results with 8FSK type of modulation

Carrier frequency, GHz	Measured 20 dB BW, MHz	Limit, MHz	Result
2.402	0.872	1	Pass
2.441	0.576	1	Pass
2.480	0.556	1	Pass

Reference numbers of test equipment used

HL 0025	HL 0411	HL 1017				
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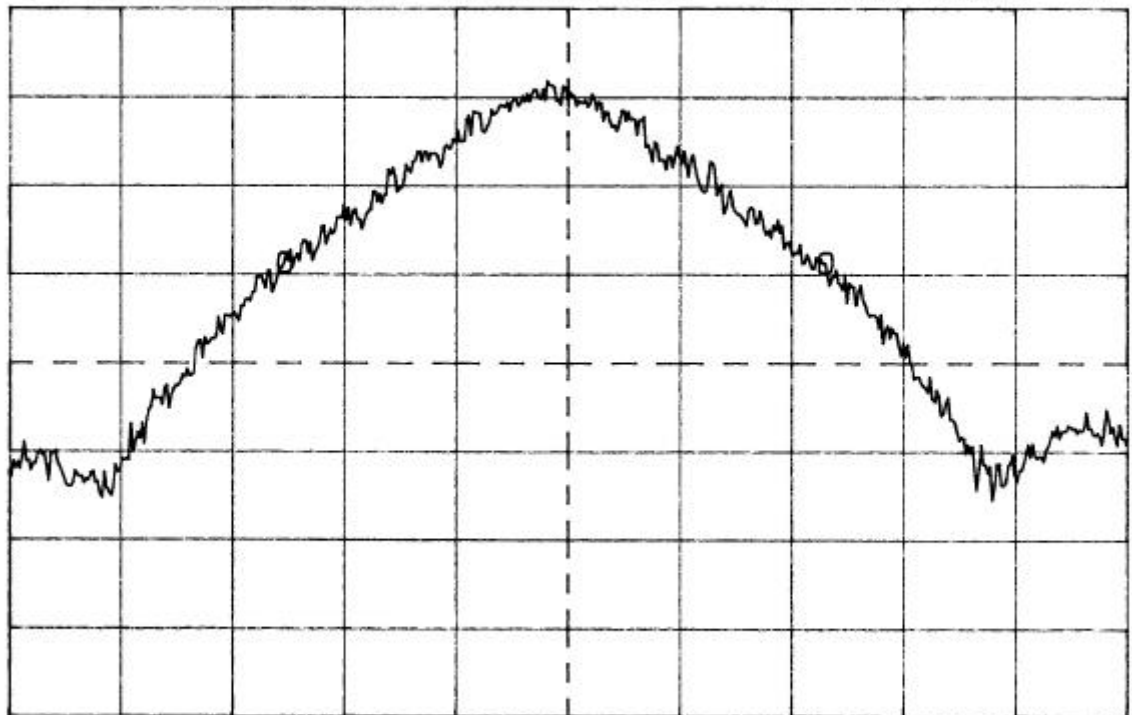
Full description is given in Appendix A.

Plot 3.2.1

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 2FSK type of modulation

dM: + 968.0kHz + 0.0dB

F: 2.40200GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-



RBW: 10kHz VBW: 30kHz SWP: 12mS/@ ATT: 10dB@

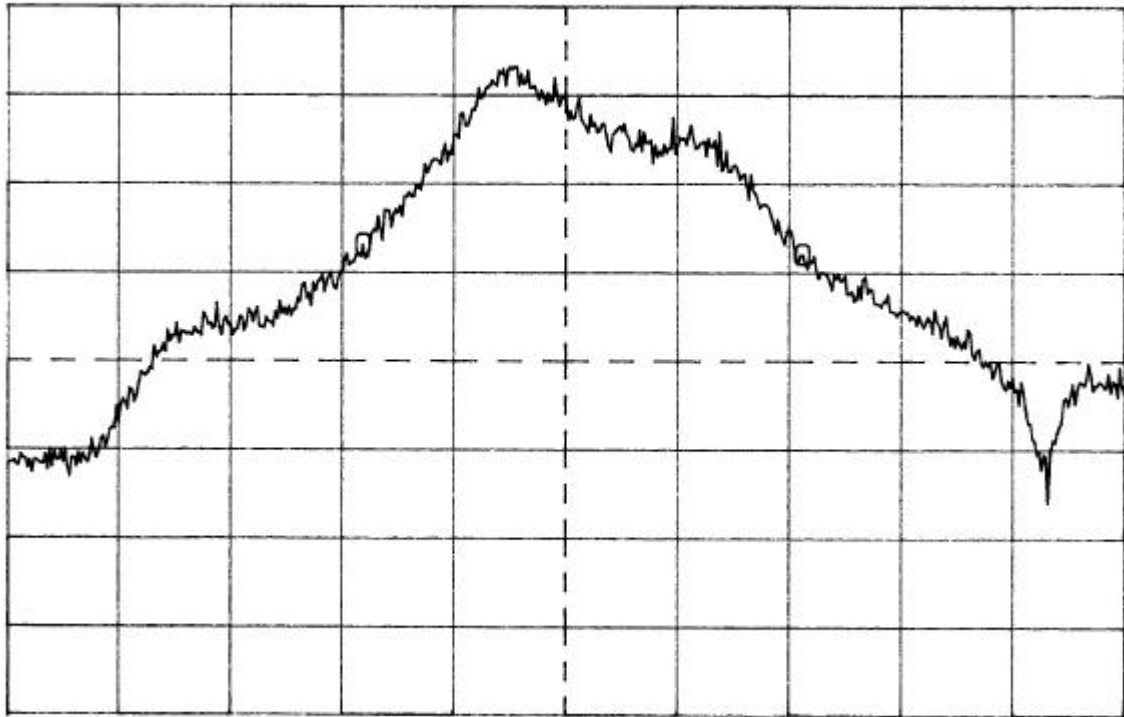


Plot 3.2.2

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 2FSK type of modulation

dM: + 788.0kHz - 1.1dB

F: 2.44100GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-



RBW: 10kHz VBW: 30kHz@ SWP: 12mS/@ ATT: 0dB

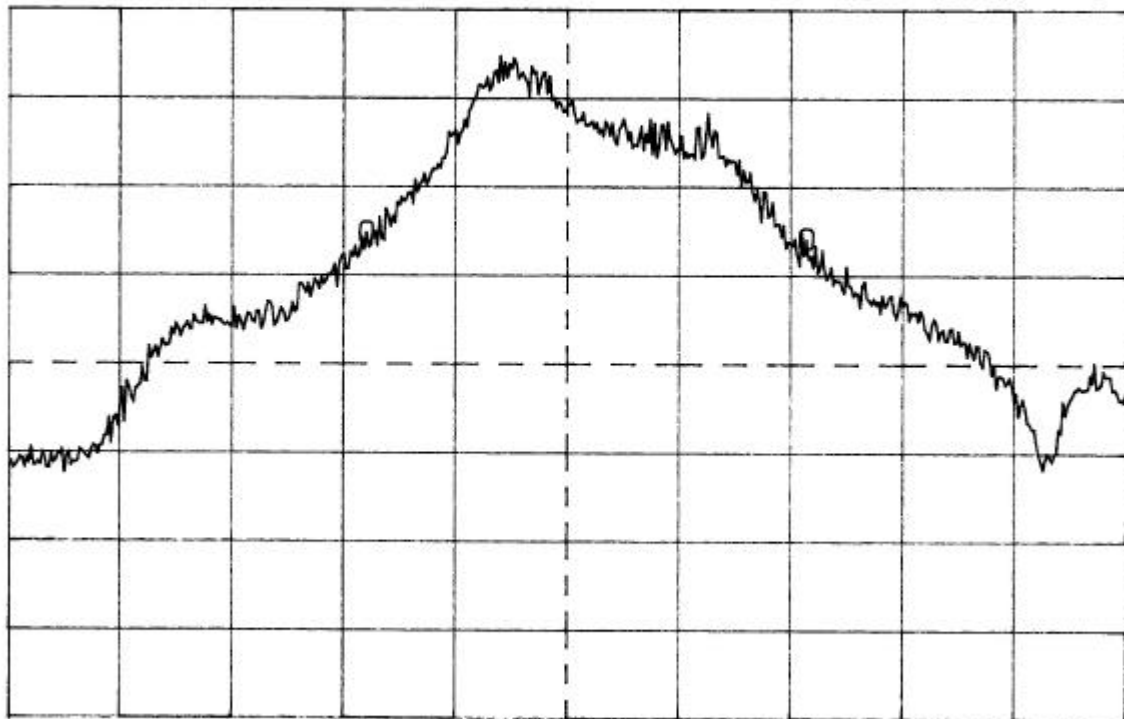


Plot 3.2.3

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 2FSK type of modulation

dM: + 788.0kHz - 0.7dB

F: 2.48000GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-

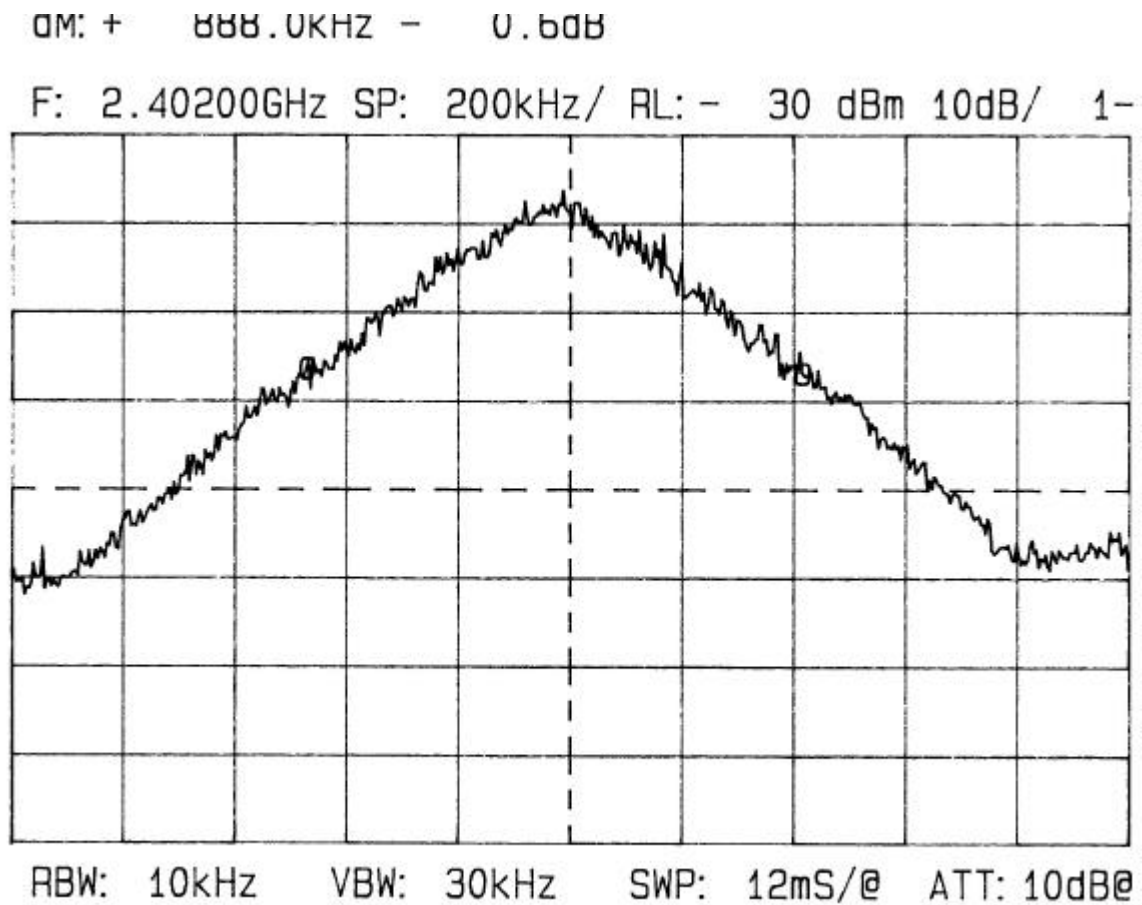


RBW: 10kHz VBW: 30kHz@ SWP: 12mS/@ ATT: 0dB



Plot 3.2.4

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 4FSK type of modulation



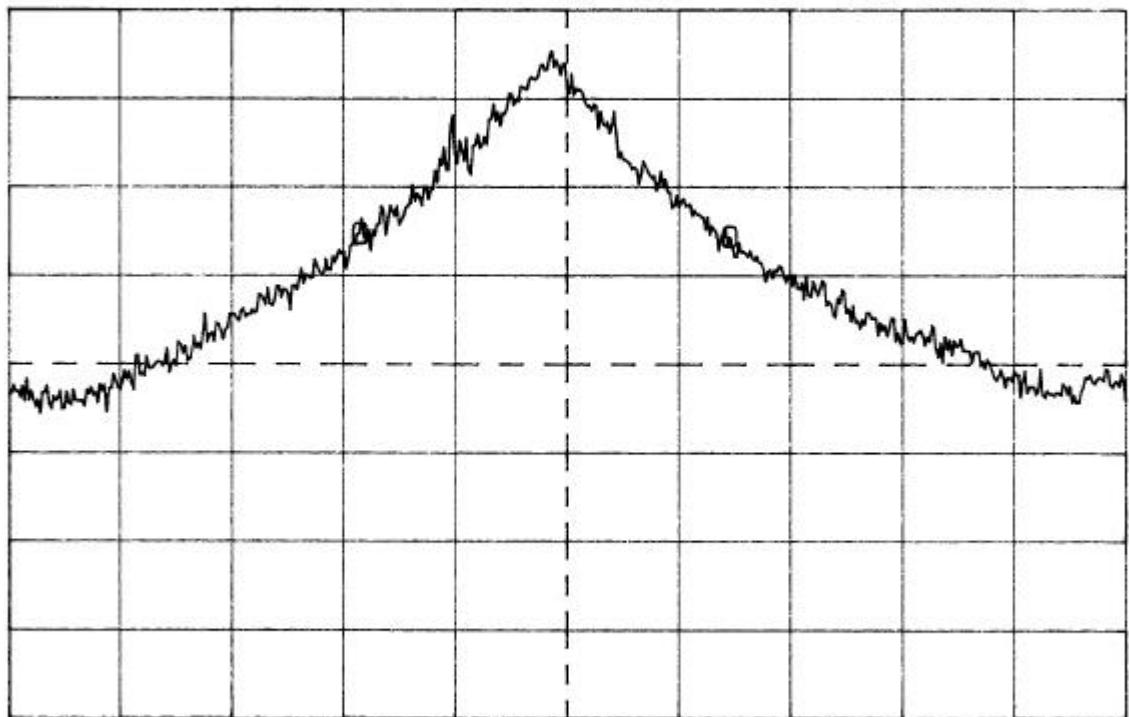


Plot 3.2.5

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 4FSK type of modulation

dM: + 664.0kHz - 0.4dB

F: 2.44100GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-



RBW: 10kHz VBW: 30kHz@ SWP: 12mS/@ ATT: 0dB