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Plot 3.2.6

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

dM: + 680.0kHz - 1.2dB

F: 2.48000GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-
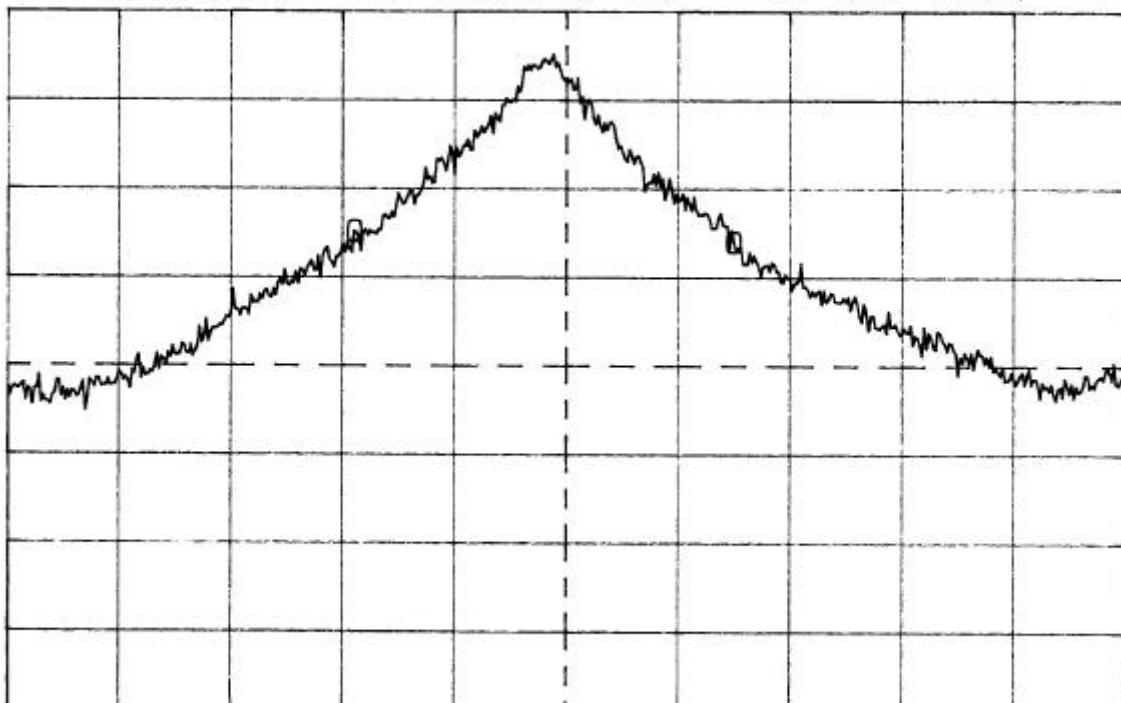
RBW: 10kHz   VBW: 30kHz@   SWP: 12mS/@   ATT: 0dB

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Plot 3.2.7

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 8FSK type of modulation

dM: +   872.0kHz -   0.1dB

F: 2.40200GHz SP: 200kHz/ RL: - 30 dBm 10dB/ 1-
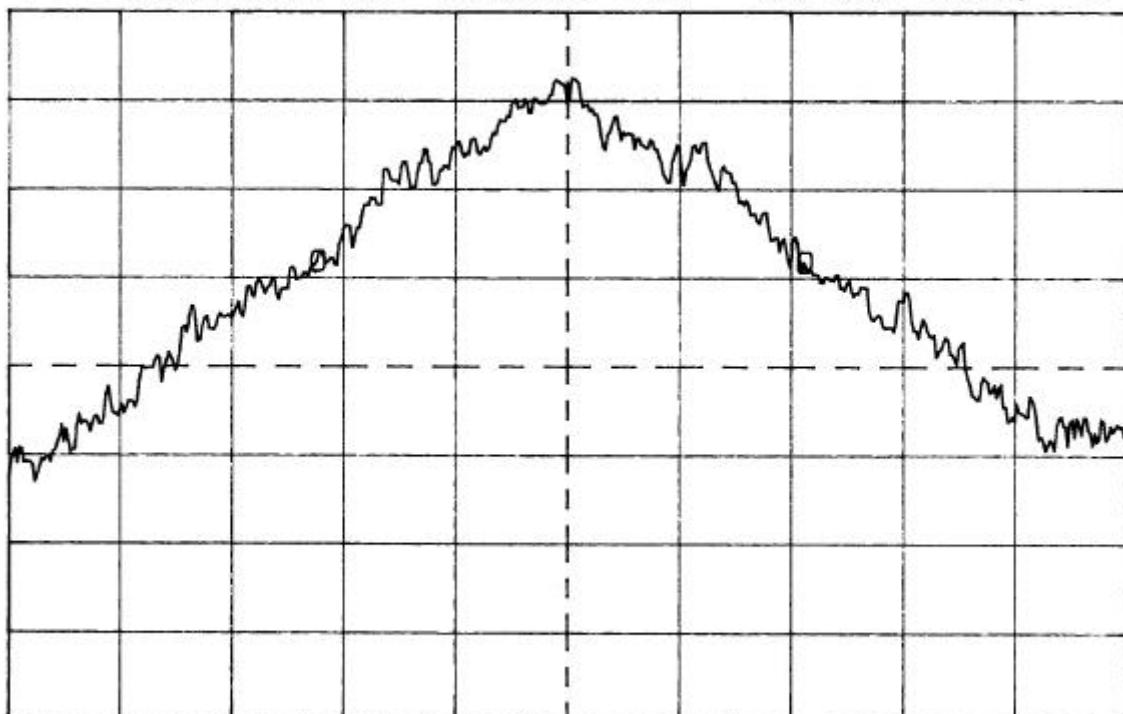
RBW: 10kHz   VBW: 30kHz   SWP: 12mS/@   ATT: 10dB@

Plot 3.2.8

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 8FSK type of modulation

dM: +   576.0kHz -   1.3dB

F: 2.44100GHz SP: 200kHz/ RL: -   30 dBm 10dB/   1-
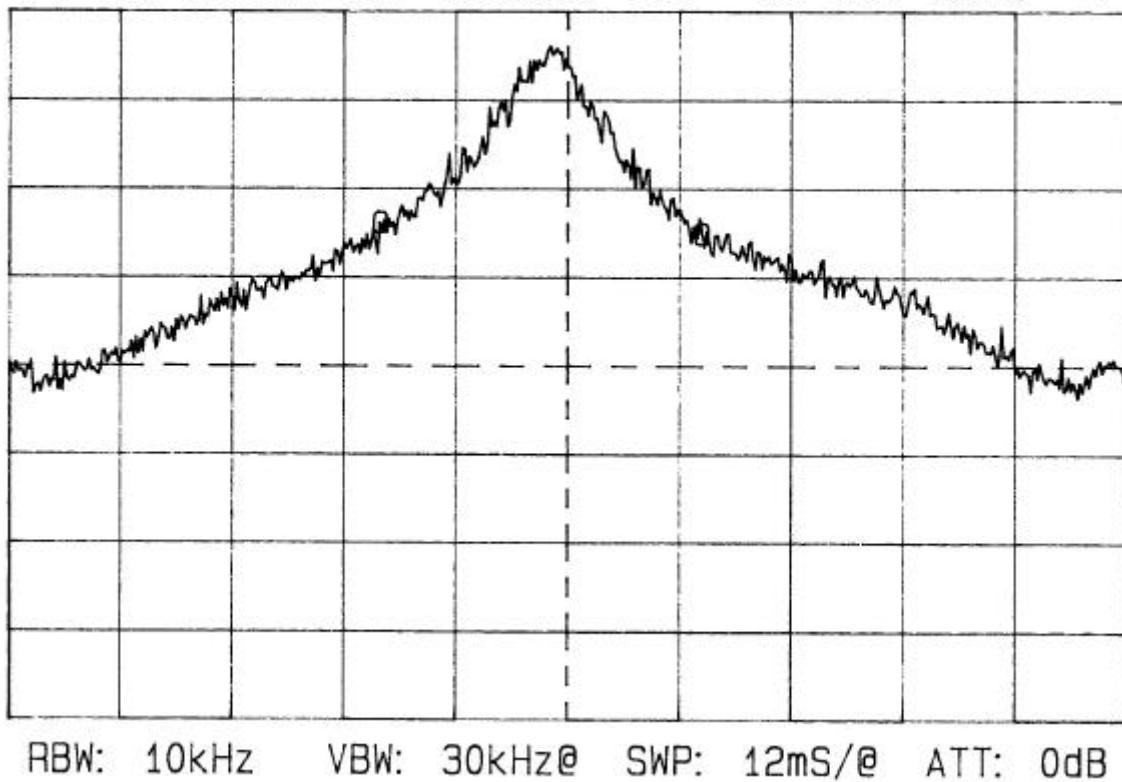
RBW: 10kHz   VBW: 30kHz@   SWP: 12mS/@   ATT: 0dB

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Plot 3.2.9

Test specification: § 15.247(a)(1)(ii)
Occupied bandwidth test results with 8FSK type of modulation

```
dM: +    556.0kHz -    0.5dB

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



```
RBW:  10kHz    VBW:  30kHz@  SWP:  12mS/@  ATT:  0dB
```
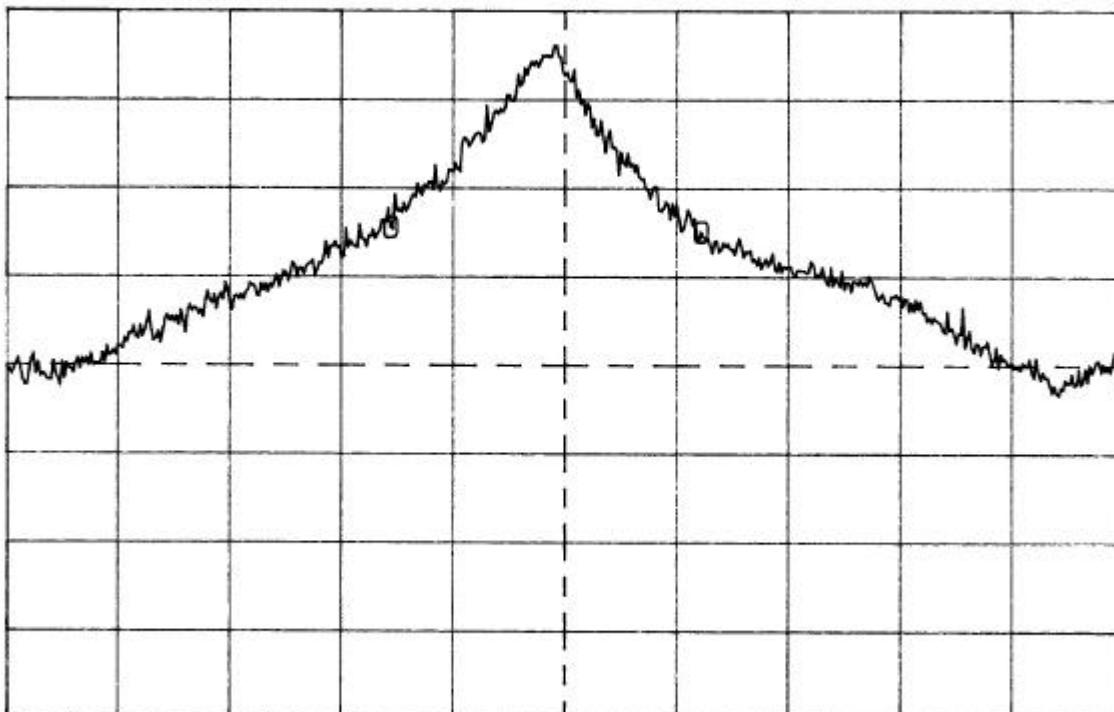
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3.3 Average factor (duty cycle correction) test § 15.35

3.3.1 General

The test was performed to define total time of transmitting energy occupancy during any 100 msec time interval.
This average factor applies for the actual emission level calculation.

3.3.2 Test results

The average factor calculation is given in table below: The specification was supplied by the manufacturer.

Dwell time		20 msec
Average packet length		500 byte
Tx duration		2.12 msec
Tx duration at 100 msec	Tx duration x (100 / dwell time)	10.6 msec
Duty cycle	10.6 msec / 100 msec	0.106
Averaging factor	= 20 x $\log_{10}$ (calculated duty cycle)	-19.49 dB

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3.4 Maximum peak output power test according to §15.247 (b)(1), (3)

3.4.1 General

This test was performed to demonstrate that the maximum RF peak output power of the transmitter plus antenna do not exceed 36 dBm.

3.4.2 Test set-up

The test setup was the same as in test 3.1.

3.4.3 Test results

The allowed output power for the maximum 17 dBi antenna gain (TA2308, manufactured by Til-Tek) is:

36 dBm - 17 dBi = 19 dBm.

The measurements were performed with hopping functions and modulation disabled.
The maximum RF output power was measured at 3 carrier (channel) frequencies (low, middle, high). The Table 3.4 below gives output power in dBm.

Table 3.4
Transmitter output RF power test results

Frequency, MHz	Peak output power, dBm	Limit, dBm	Margin dB	Result
2402	16.87	19	2.13	Pass
2441	17.65	19	1.35	Pass
2480	16.55	19	2.45	Pass

Reference numbers of test equipment used

HL 0053	HL 0056	HL 0316	HL 0460	HL 0872	HL 1200	

Full description is given in Appendix A.

3.4.4   Exposure limit according to part 1, §1.1310

Limit for power density for general population/uncontrolled exposure is 1 mW/cm^2.

The power density P (mW/cm^2) = $\dfrac{P_T}{4\pi\ r^2}$, where

P_T - the transmitted power, which is equal to the transmitter output power 17.65 dBm plus maximum antenna gain 17 dBi, the maximum equivalent isotropically radiated power (e.i.r.p.) is 34.65 dBm = 2917 mW.

$$1(mW/cm^2) = 2917\ mW\ /\ 4\pi\ r^2$$

The allowed distance "r", where RF exposure limits may not be exceeded, is 15.2 cm:

$$r = \sqrt{P_T\ /\ 4\pi} = \sqrt{2917/\ 4 \times 3.14} = 15.2\ (cm).$$

The public cannot be exposed to dangerous RF level.