

12-Sep-01

Re: Proxim IMK-HRFGW2

High rate channel occupancy

Number of high rate channels used:

Refer to attached plot (Proxim HR chans.pdf) showing 15 channels spaced 5 MHz apart.

Time of occupancy for high rate channel:

Refer to attached plot (Proxim HR occ.pdf) showing a single packet being transmitted.

The time of occupancy is not greater than 16 ms.

Average time of channel occupancy:

CFR 47 Paragraph 15.247 (a)(1)(iii) reads in part "The average time of occupancy on any one channel shall not be greater than 0.4 seconds within the time period required to hop through all channels."

The high rate channel hop pattern is linked to the low rate hop pattern, which cycles every 1.5 seconds. There are 15 high rate channels, and the hop duration is 20 ms. In one cycle, high rate channels are then used:

$$(1.5 \text{ sec} / 1 \text{ cycle}) * (1 \text{ cycle} / 15 \text{ HR channel}) * (1 \text{ channel occupancy} / 20 \text{ ms}) \\ = 5 \text{ channel occupancy} / \text{HR channel}$$

The hop duration is 20 ms, but only 16 ms of that is used for transmission:

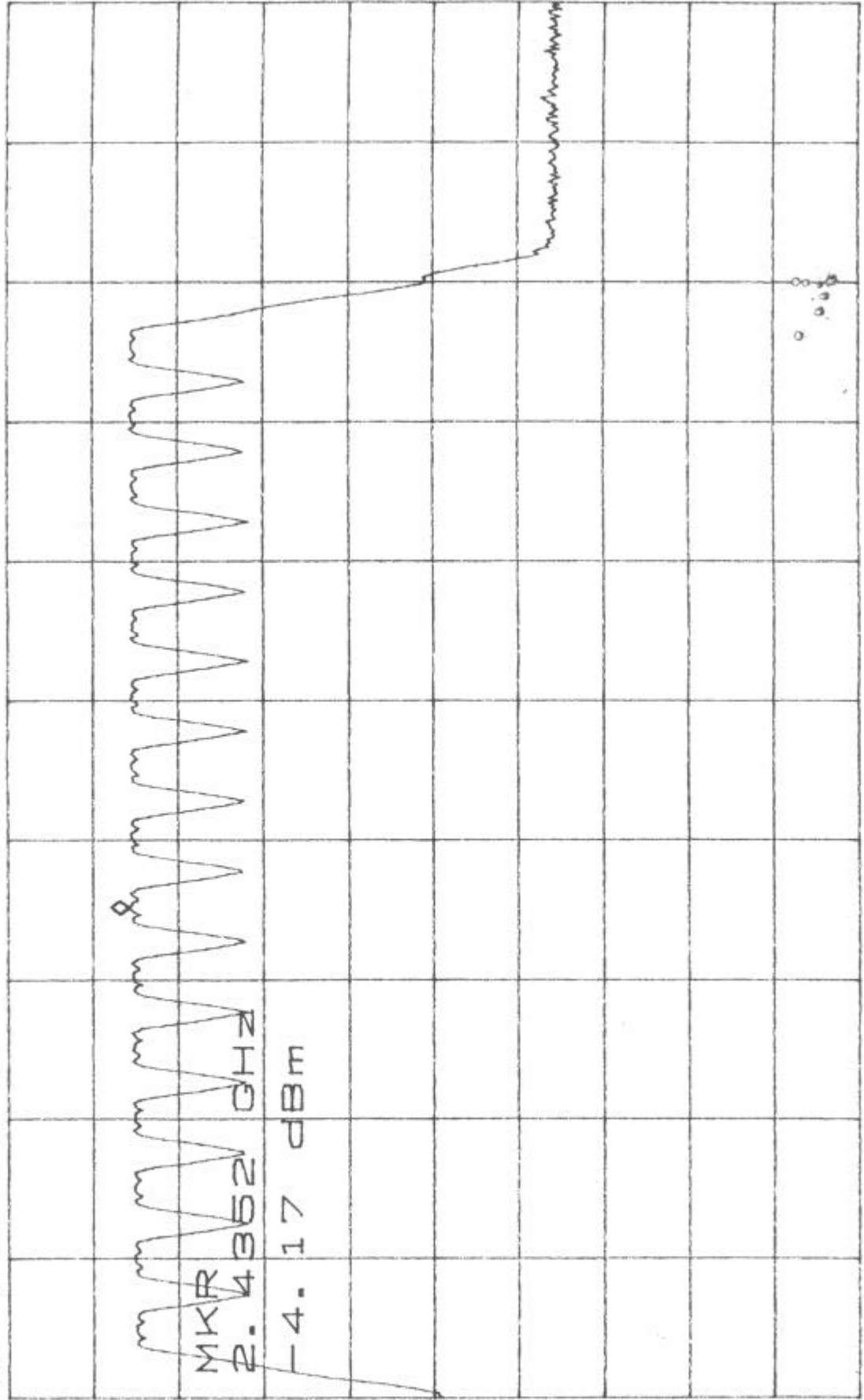
$$(5 \text{ chan occupancy} / \text{HR channel}) * (16 \text{ ms} / \text{chan occupancy}) = 80 \text{ ms} / \text{HR channel}$$

This is less than the 400 ms allowed.

ATTEN 20dB
RL 10.0dBm

MKR -4.17dBm
2.4352GHz

10dB/



D

CENTER 2.4500GHz
*RBW 1.0MHz VBW 1.0MHz

SPAN 100.0MHz SWP 50ms

