Modulation Standard: GFSK (1Mbps)
Channel: 78

Modulation Standard: π/4-DQPSK (2Mbps)
Channel: 00

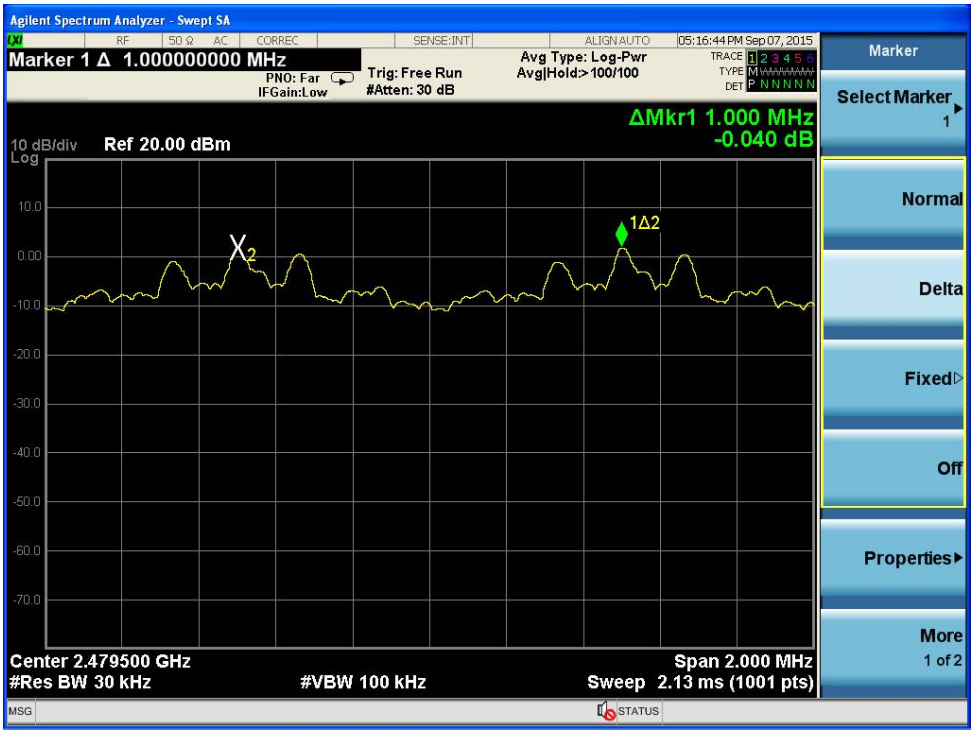
Modulation Standard: π/4-DQPSK (2Mbps)
Channel: 39

Modulation Standard: π/4-DQPSK (2Mbps)
Channel: 78

Modulation Standard: 8DPSK (3Mbps)
Channel: 00

Modulation Standard: 8DPSK (3Mbps)
Channel: 39

Modulation Standard: 8DPSK (3Mbps)
Channel: 78



10. Dwell Time on each channel

10.1 Test Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

10.2 Test Procedures

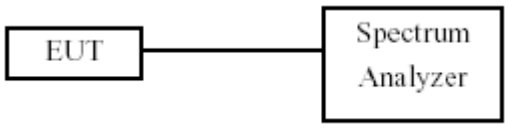
a. The transmitter output was connected to the spectrum analyzer.

b. Adjust the center frequency to measure frequency, then set zero span mode.

c. Set RBW of spectrum analyzer to 1 MHz and VBW to 1 MHz.

d. Measure the time duration of one transmission on the measured frequency.

10.3 Test Setup Layout



10.4 Test Result and Data

Test Date: Sep. 08, 2015 Temperature: 25 °C

Atmospheric pressure: 1010 hPa Humidity: 50 %

Modulation Type	Channel	Frequency (MHz)	Normal mode Dwell Time (ms)
GFSK DH1	00	2402	128.00
	39	2441	128.00
	78	2480	128.00
GFSK DH3	00	2402	264.96
	39	2441	264.96
	78	2480	264.96
GFSK DH5	00	2402	309.67
	39	2441	309.67
	78	2480	309.67
π/4-DQPSK 2DH5	00	2402	312.34
	39	2441	311.81
	78	2480	312.87
8DPSK 3DH5	00	2402	312.34
	39	2441	312.87
	78	2480	312.34

Normal mode test period: 0.4(second/ channel) x 79 channel= 31.6 second

The DH1 packet can cover a single time slot. A maximum length packet has duration of 1 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is 1/1600 seconds, or 0.625ms. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.

The DH3 packet can cover up to 3 time slots. A maximum length packet has duration of 3 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is 3/1600 seconds, or 1.875ms. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.

The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and

maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is 5/1600 seconds, or 3.125ms. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times
3.37 x 31.6 = 106.6 within 31.6 seconds

Example:
CH0,DH1 mode = 0.400 (ms)*(1600/79/2)*31.6 = 128.00 (ms)
CH0,DH3 mode = 1.656 (ms)*(1600/79/4)*31.6 = 264.96 (ms)
CH0,DH5 mode = 2.905 (ms)*(1600/79/6)*31.6 = 309.67 (ms)

Modulation Type	Channel	Frequency (MHz)	AFH mode Dwell Time (ms)
GFSK DH1	00	2402	64.00
	09	2411	64.00
	19	2421	64.00
GFSK DH3	00	2402	132.48
	09	2411	132.48
	19	2421	132.48
GFSK DH5	00	2402	155.01
	09	2411	155.01
	19	2421	155.01
π/4-DQPSK 2DH5	00	2402	156.34
	09	2411	156.34
	19	2421	156.34
8DPSK 3DH5	00	2402	156.61
	09	2411	156.61
	19	2421	156.61

AFH mode test period: 0.4(second/ channel) x 20 channel= 8 second

The DH1 packet can cover a single time slot. A maximum length packet has duration of 1 time slots. The hopping rate is 800 hops/second so the maximum dwell time is 1/800 seconds, or 1.25ms. DH1 Packet permit maximum 800 / 20 /2 = 20 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times
20 x 8 = 160 within 8 seconds.
The DH3 packet can cover up to 3 time slots. A maximum length packet has duration of 3 time

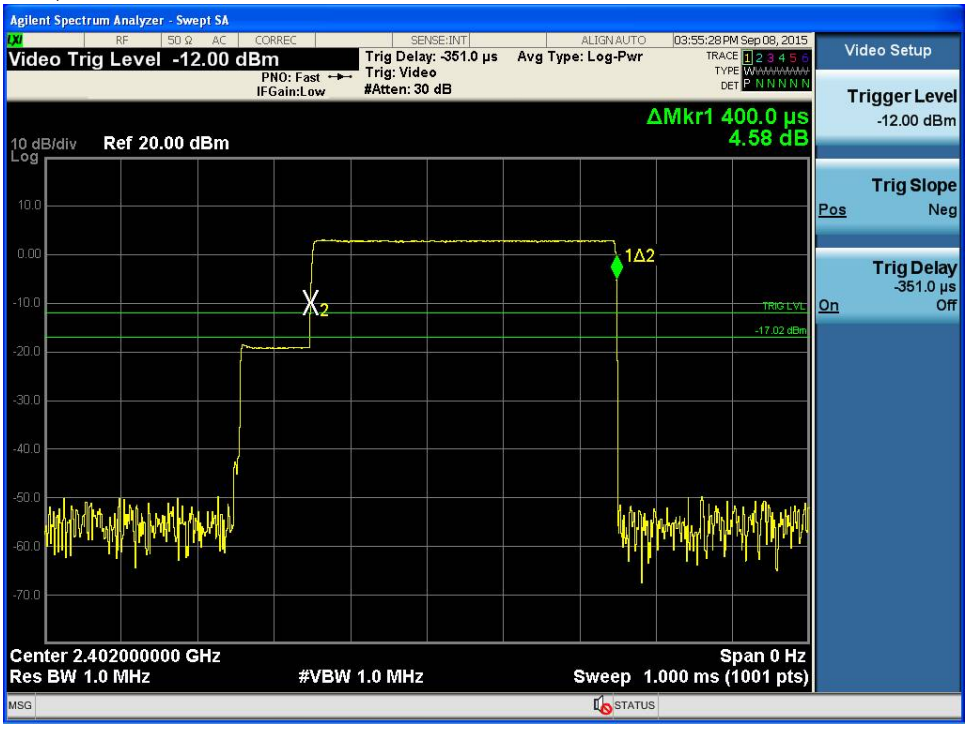
slots. The hopping rate is 800 hops/second so the maximum dwell time is 3/800 seconds, or 3.75ms. DH3 Packet permit maximum 800 / 20 / 4 = 10 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 10 x 8 = 80 within 8 seconds.

The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 800 hops/second so the maximum dwell time is 5/800 seconds, or 6.25ms. DH5 Packet permit maximum 800/ 20 / 6 = 6.67 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times

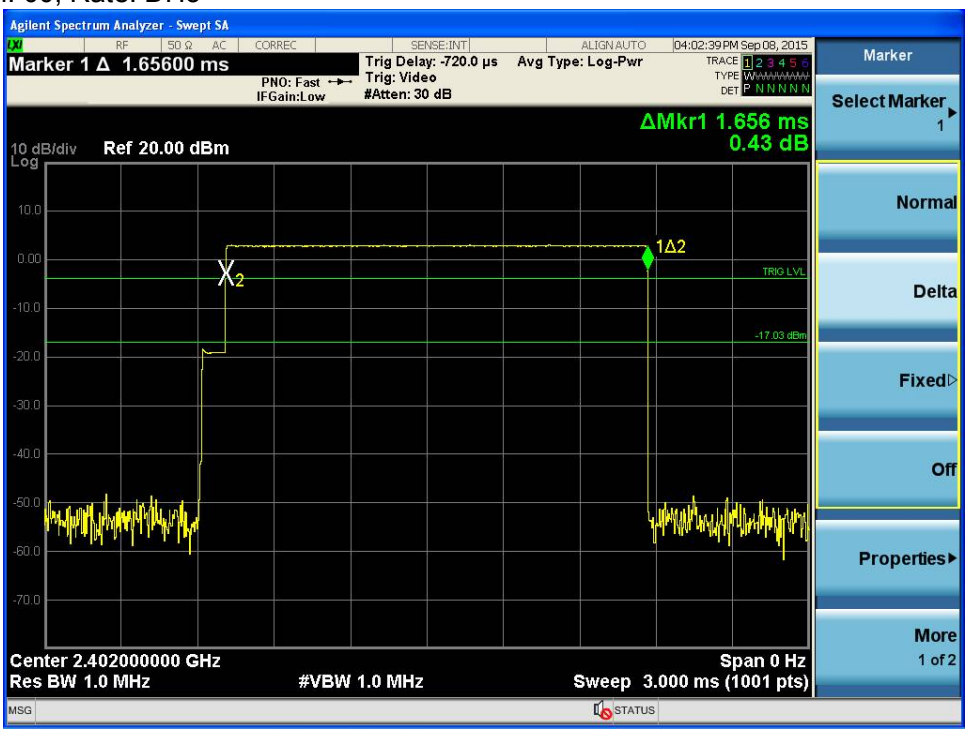
6.67 x 8 = 53.36 within 8 seconds

Example:
CH0,DH1 mode = 0.400 (ms)*(800/20/2)*8 = 64.00 (ms)
CH0,DH3 mode = 1.656 (ms)*(800/20/4)*8 = 132.48 (ms)
CH0,DH5 mode = 2.905 (ms)*(800/20/6)*8 = 155.01 (ms)

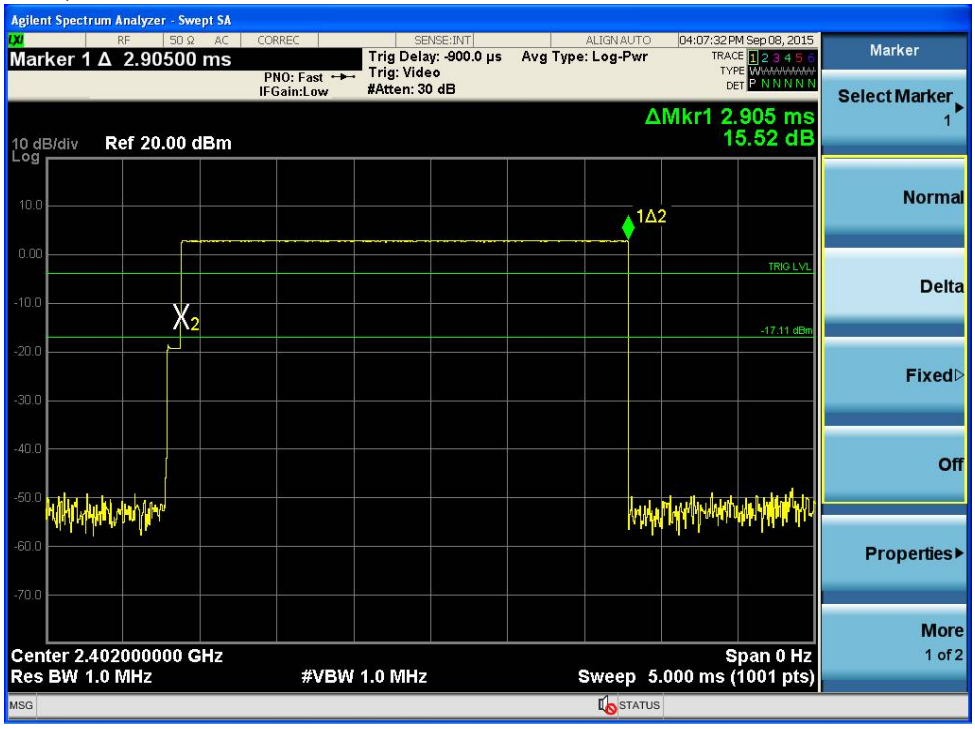
Modulation Standard: GFSK (1Mbps)
Channel: 00, Rate: DH1



Modulation Standard: GFSK (1Mbps)
Channel: 00, Rate: DH3



Modulation Standard: GFSK (1Mbps)
Channel: 00, Rate: DH5



Modulation Standard: GFSK (1Mbps)
Channel: 39, Rate: DH1