

10 NUMBER of HOPPING CHANNELS

10.1 Standard Applicable

According to 15.247(b)(1), for frequency hopping systems, operating in the 2400-2483.5MHz band employing at least 75 hopping channels

10.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The setup of the EUT as shown in figure 4. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set EUT to hopping operating mode and set spectrum analyzer miximum to measure the number of hopping channels.

10.3 Measurement Equipment

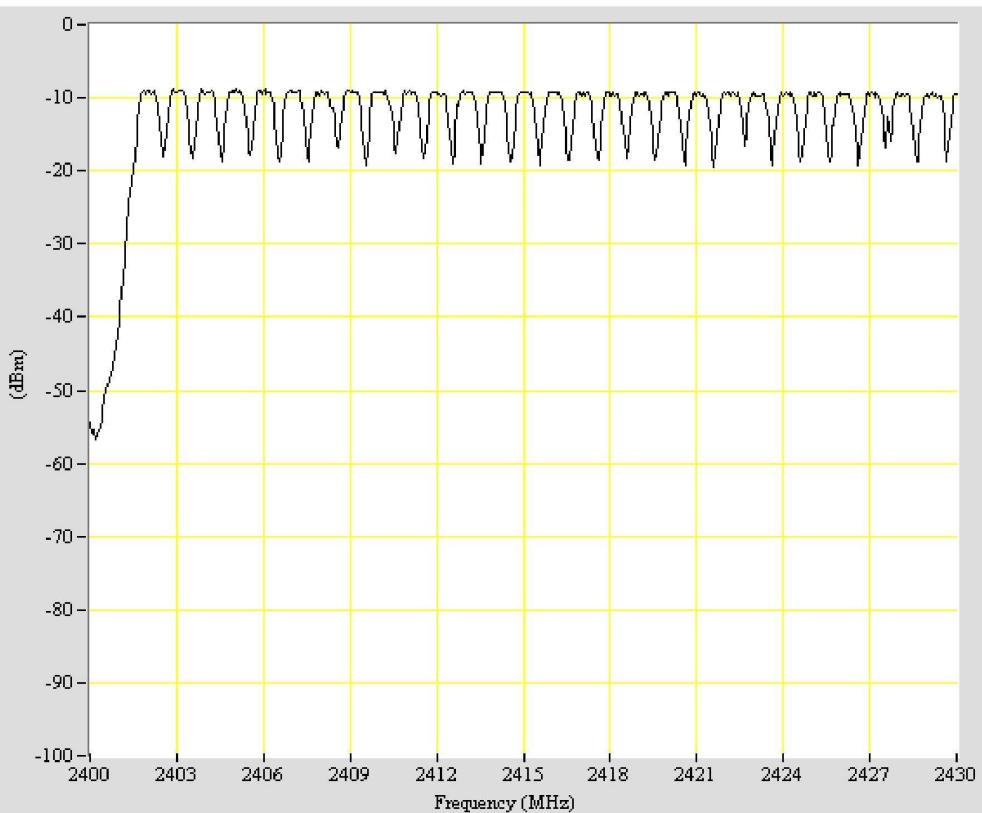
Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Agilent	8564EC	09/22/2007

10.4 Measurement Data

Test Date : Nov. 13, 2006 Temperature : 23°C Humidity : 72%

Number of hopping channels = 79 channels

Note: Please refer to page 43 to page 45 for chart.



*Center 2415.0000MHz

*SPAN 30.0000MHz

*RBW 300.00kHz

*VBW 300.00kHz

*SWP 50.00msec

*ATTEN 10.00dB

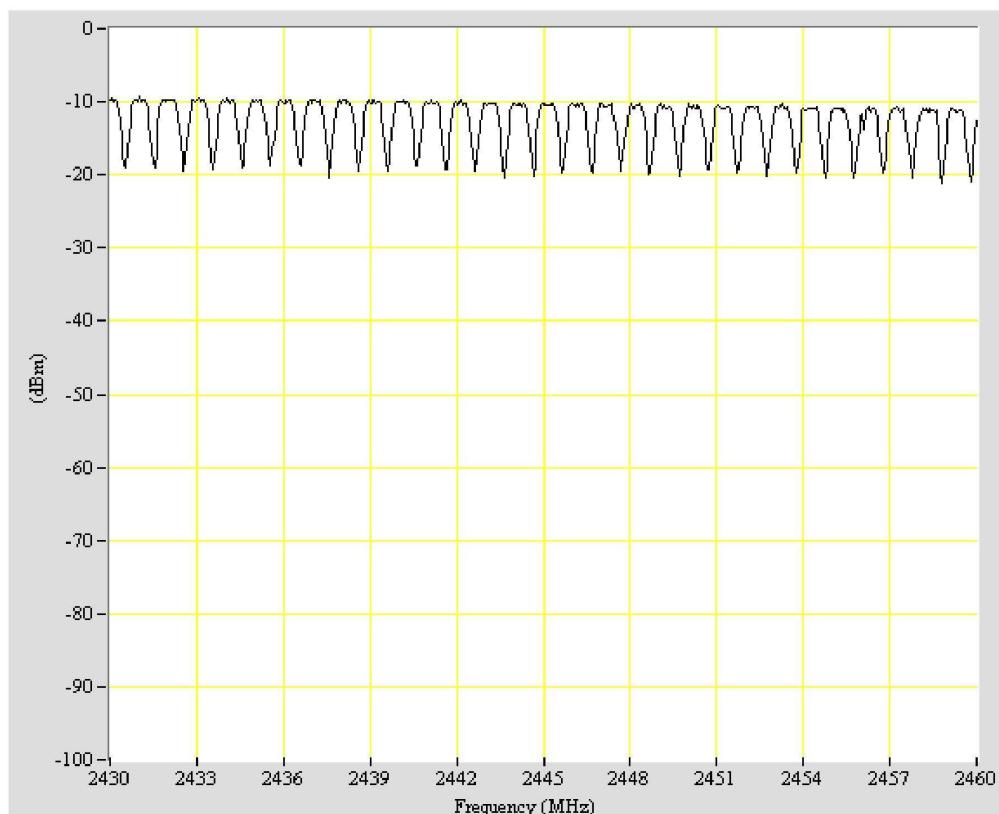
*RL 0.00dBm

EUT: BT

Purpose: No_of_Channel

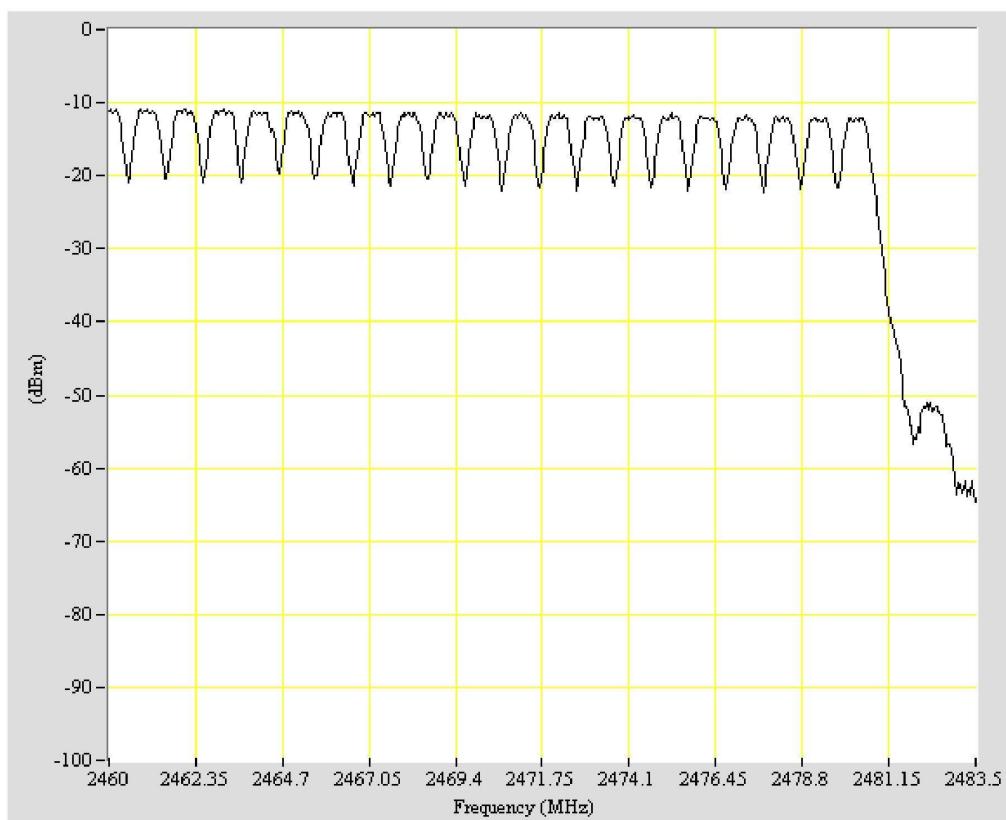
Condition: 1

Note:



*Center 2445.0000MHz
*SPAN 30.0000MHz
*RBW 300.00kHz
*VBW 300.00kHz
*SWP 50.00msec
*ATTEN 10.00dB
*RL 0.00dBm

EUT: BT
Purpose: No_of_Channel
Condition: 2
Note:



*Center 2471.7500MHz

*SPAN 23.5000MHz

*RBW 300.00kHz

*VBW 300.00kHz

*SWP 50.00msec

*ATTEN 10.00dB

*RL 0.00dBm

EUT: BT

Purpose: No_of_Channel

Condition: 3

Note:

11 HOPPING CHANNEL CARRIER FREQUENCY SEPARATED

11.1 Standard Applicable

According to 15.247(a)(1), the frequency hopping system shall have hopping channel carrier frequencies separated by minimum of 25kHz or the 20dB bandwidth of hopping channel, whichever is greater.

11.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The setup of the EUT as shown in figure 4. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any measurement frequency within its operating range and make sure the instrument is operated in its linear range.
3. Set spectrum analyzer maximum hold to measure channel carrier frequency , then adjust channel carrier frequency to adjacent channel.
4. Repeat above procedure until all measured frequencies were complete.

11.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Agilent	8564EC	09/22/2007

11.4 Measurement Data

Test Date : Nov. 13, 2006

Temperature : 23°C

Humidity : 72%

Channel	Frequency (MHz)	Hopping Channel Carrier Frequency Separated (MHz)	Chart
0	2402	1	Page 48
39	2441	1	Page 49
78	2480	1	Page 50

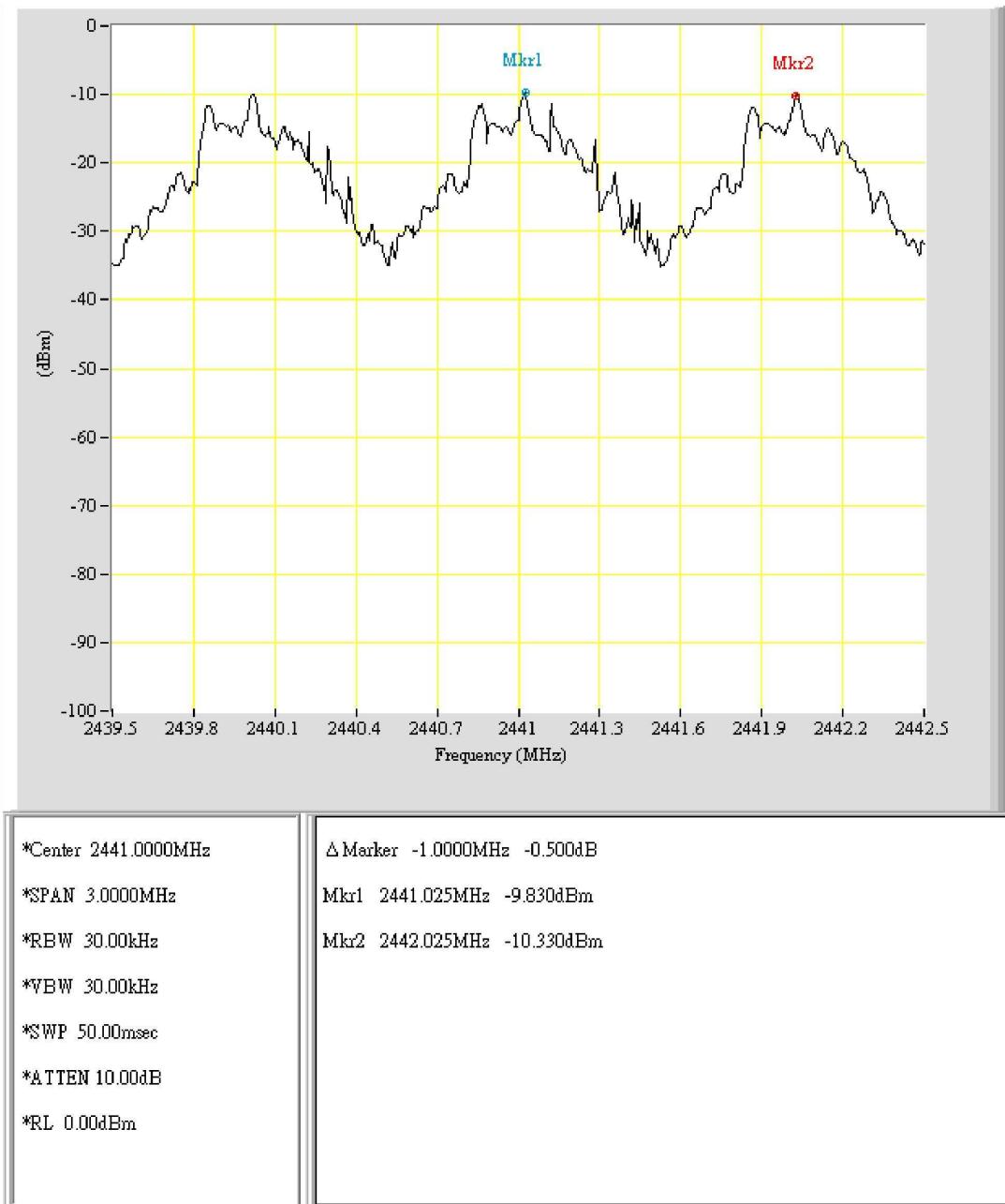
Note: Please refer to page 48 to page 50 for chart.



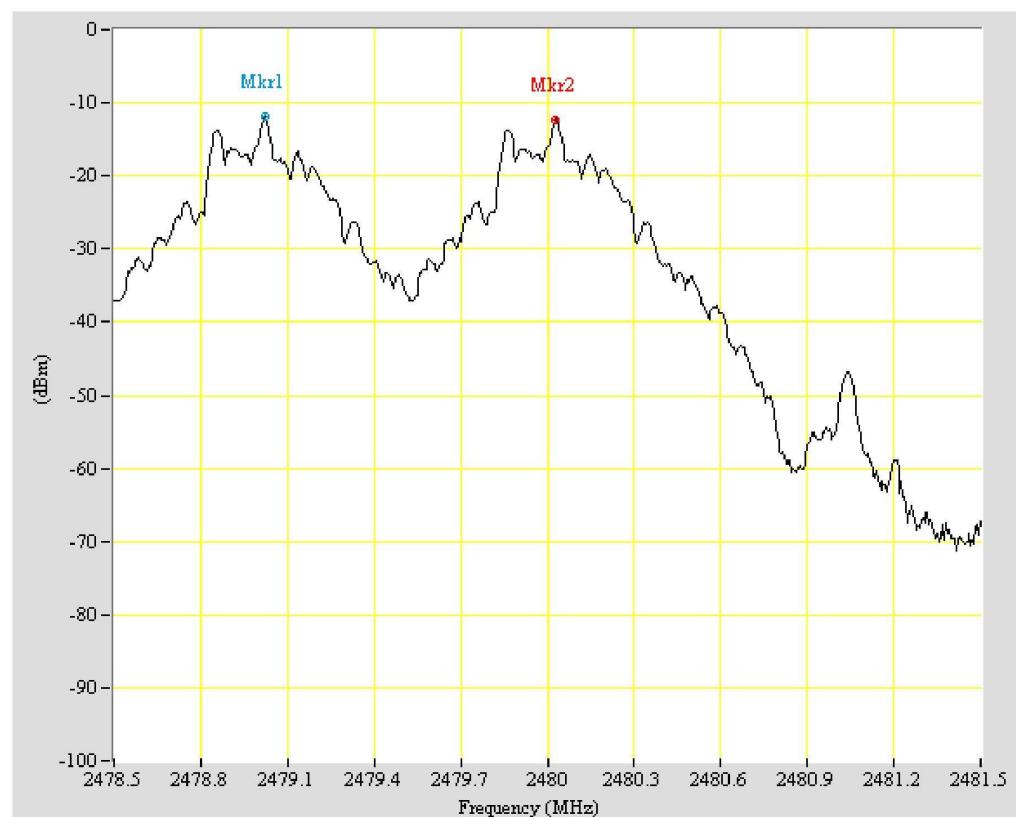
*Center 2402.0000MHz
*SPAN 3.0000MHz
*RBW 30.00kHz
*VBW 30.00kHz
*SWP 50.00msec
*ATTEN 10.00dB
*RL 0.00dBm

△ Marker -1.0000MHz 0.170dB
Mkr1 2402.015MHz -8.830dBm
Mkr2 2403.015MHz -8.660dBm

EUT: BT
Purpose: Channel_Seperation
Condition: ch00
Note:



EUT: BT
Purpose: Channel_Seperation
Condition: ch39
Note:



*Center 2480.0000MHz
*SPAN 3.0000MHz
*RBW 30.00kHz
*VBW 30.00kHz
*SWP 50.00msec
*ATTEN 10.00dB
*RL 0.00dBm

△ Marker -1.0000MHz -0.500dB
Mkr1 2479.025MHz -11.830dBm
Mkr2 2480.025MHz -12.330dBm

EUT: BT
Purpose: Channel_Seperation
Condition: ch78
Note:

12 Dwell Time

12.1 Standard Applicable

According to 15.247(a)(1)(iii), frequency hopping system in the 2400-2483.5MHz band employing at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 second multiplied by the number of hopping channels employed.

12.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The setup of the EUT as shown in figure 4.

12.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Agilent	8564EC	09/22/2007

12.4 Measurement Data

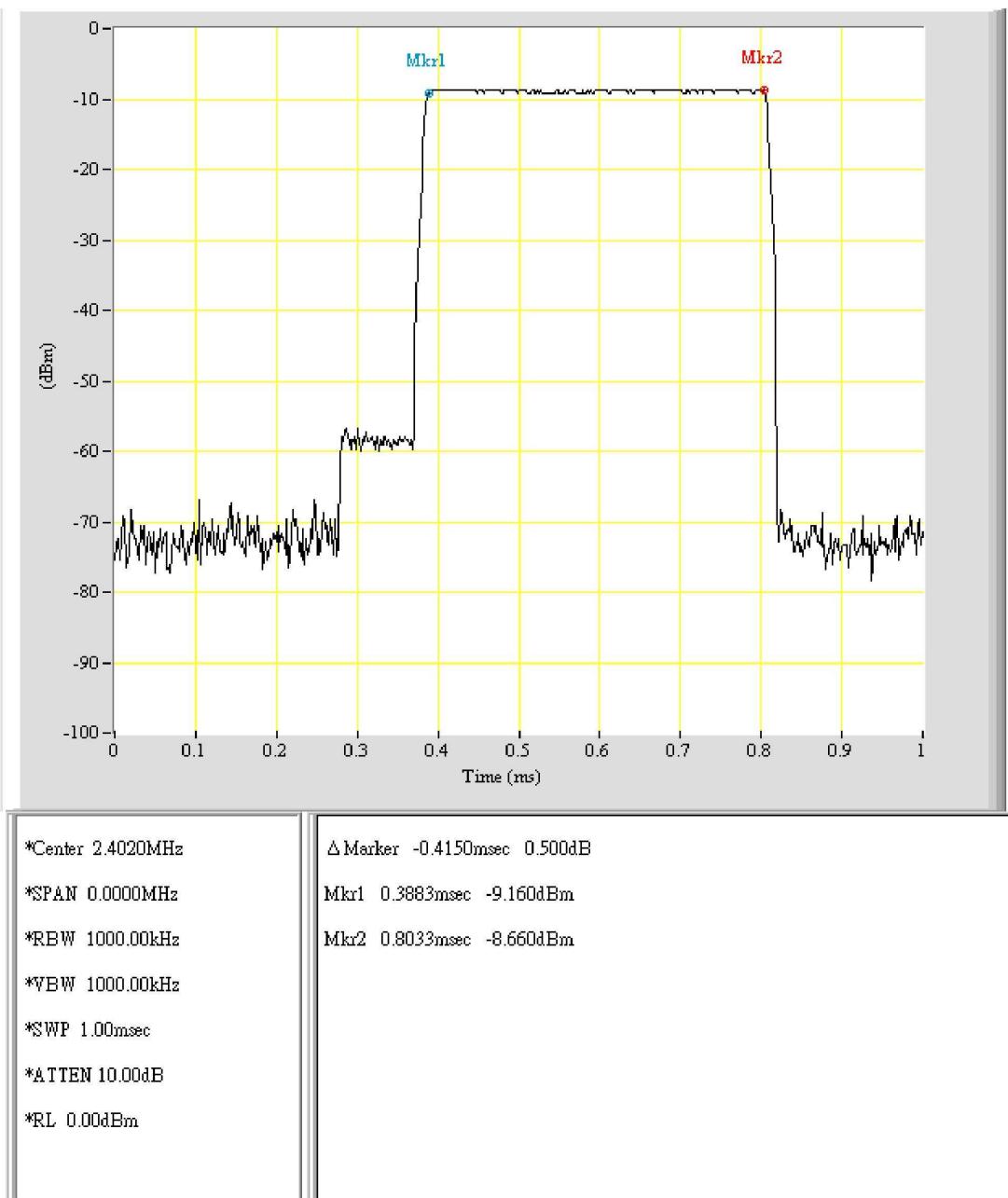
Test Date : Nov. 13, 2006 Temperature : 23°C Humidity : 72%

13.4.1 DH1

Test period=0.4(second/channel)×79 channel=31.6sec

$$2402\text{MHz dwell time} = 415.0 \text{ us} \times \frac{800}{79} \times 31.6 = 132.8 \text{ ms}$$

Note: Please refer to page 52 to page 53 for chart.

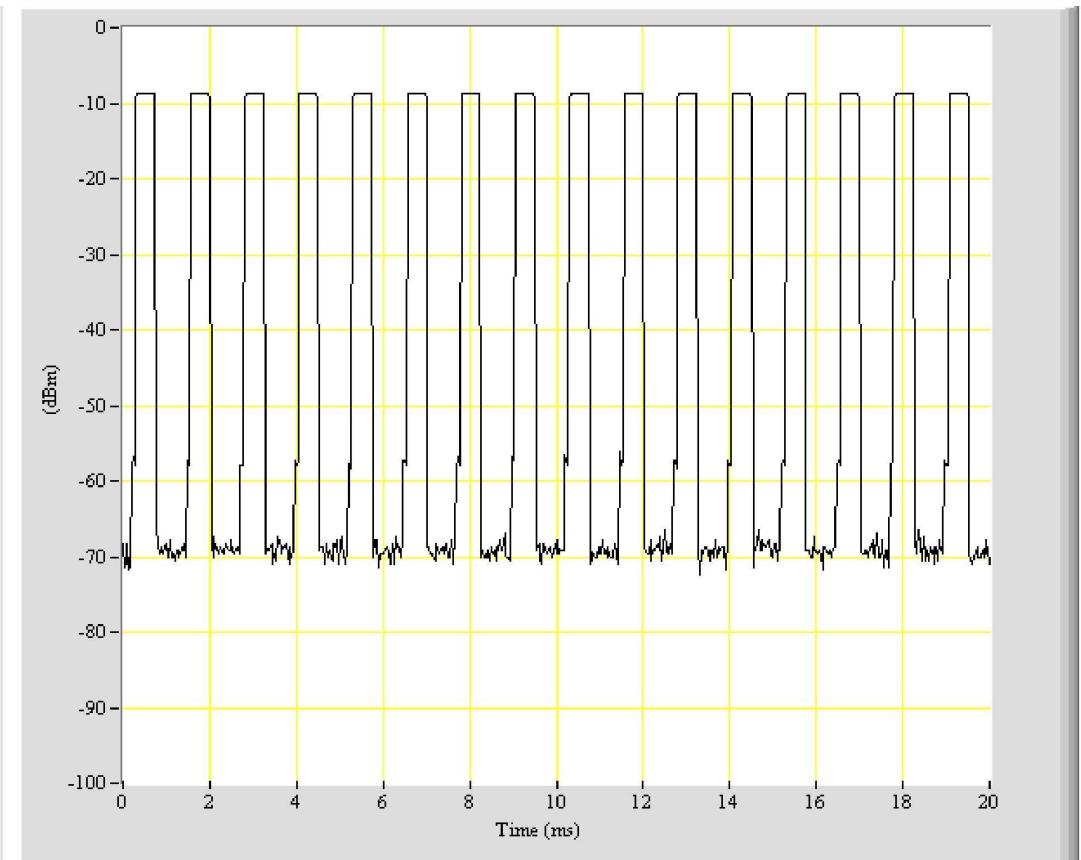


EUT: BT

Purpose: Dwell_Time

Condition: ch00_DH1

Note:



*Center 2.4020MHz

*SPAN 0.0000MHz

*RBW 1000.00kHz

*VBW 1000.00kHz

*SWP 20.00msec

*ATTEN 10.00dB

*RL 0.00dBm

EUT: BT

Purpose: Dwell_Time_Period

Condition: ch00_DH1

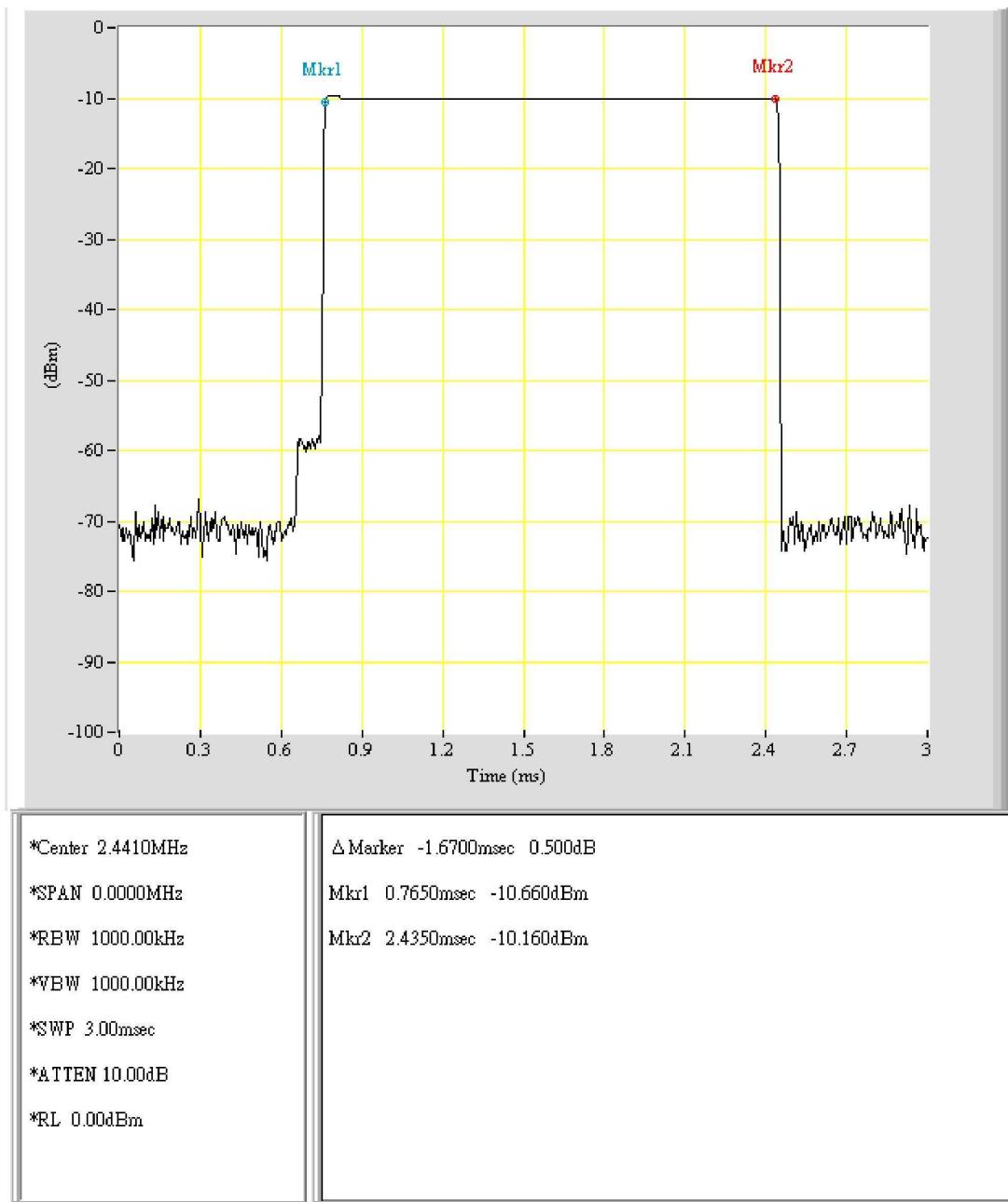
Note:

12.4.2 DH3

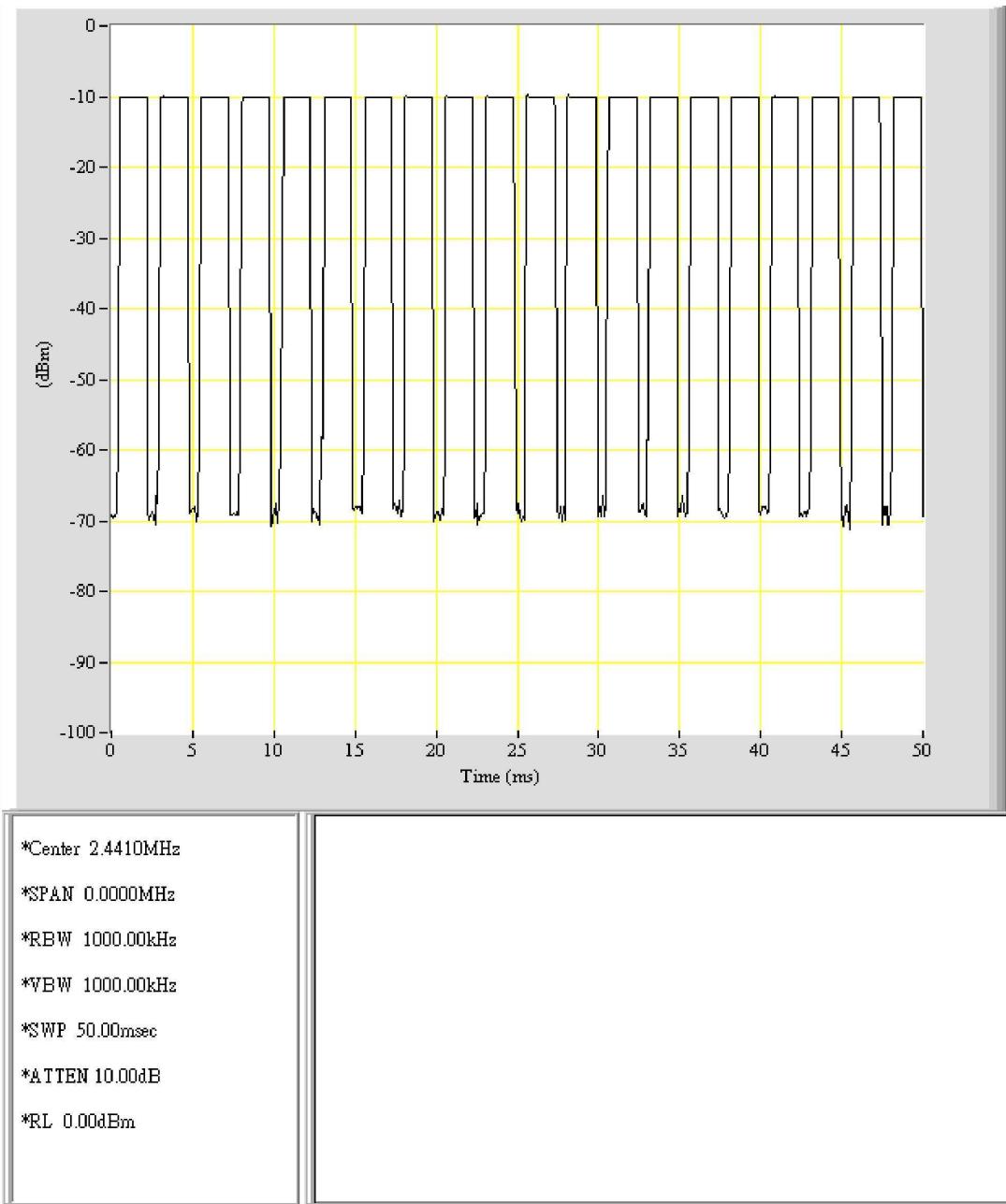
Test period=0.4(second/channel) \times 79 channel=31.6sec

$$2441\text{MHz dwell time} = 1.67 \text{ ms} \times \frac{400}{79} \times 31.6 = 267.2 \text{ ms}$$

Note: Please refer to page 55 to page 56 for chart.



EUT: BT
Purpose: Dwell_Time
Condition: ch39_DH3
Note:



EUT: BT

Purpose: Dwell_Time_Period

Condition: ch39_DH3

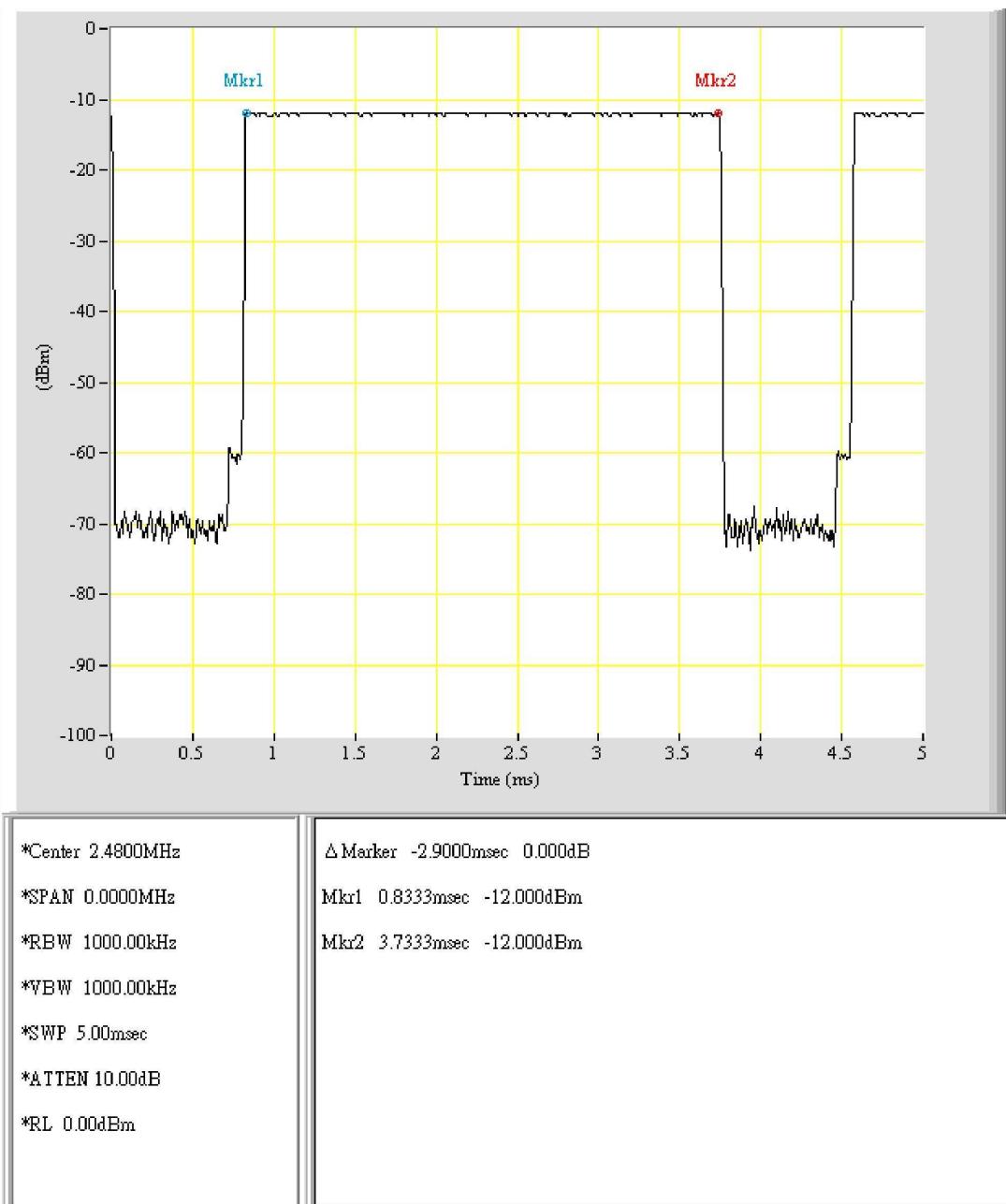
Note:

12.4.3 DH5

Test period=0.4(second/channel) \times 79 channel=31.6sec

$$2480\text{MHz dwell time} = 2.9 \text{ ms} \times \frac{260}{79} \times 31.6 = 309.37 \text{ ms}$$

Note: Please refer to page 58 to page 59 for chart.

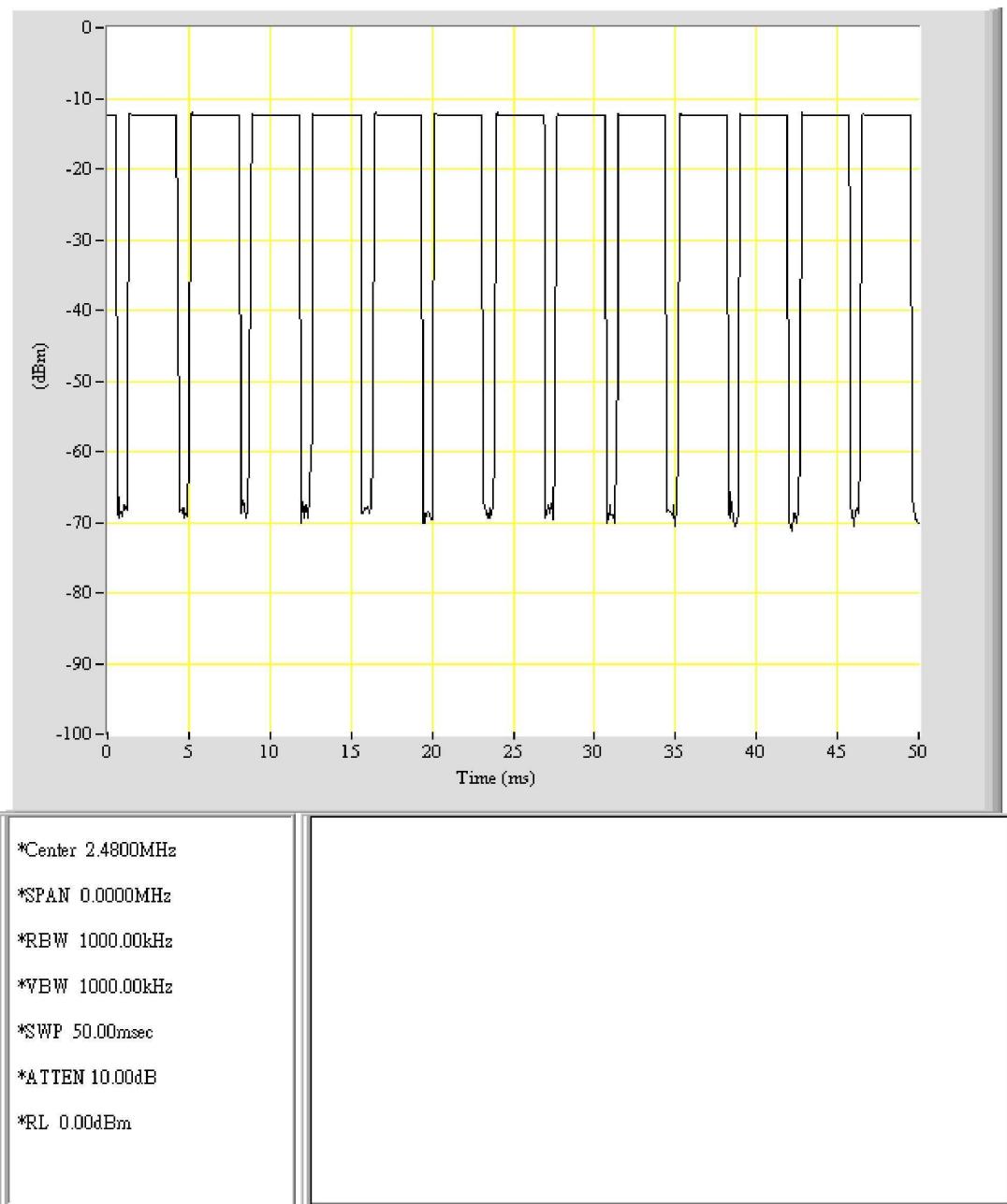


EUT: BT

Purpose: Dwell_Time

Condition: ch78_DH5

Note:



EUT: BT
Purpose: Dwell_Time_Period
Condition: ch78_DH5
Note: