

## 12 POWER SPECTRAL DENSITY

### 12.1 Standard Applicable

According to 15.247(d), for bluetooth device, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

### 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. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 3kHz, VBW to 30 kHz, sweep 300kHz and sweep time 100 sec.
4. Measure the highest amplitude appearing on spectral display and record the level to calculate result data.
5. Repeat above procedures until all frequencies measured were complete.

### 12.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Agilent	8564EC	09/23/2006

## 12.4 Measurement Data

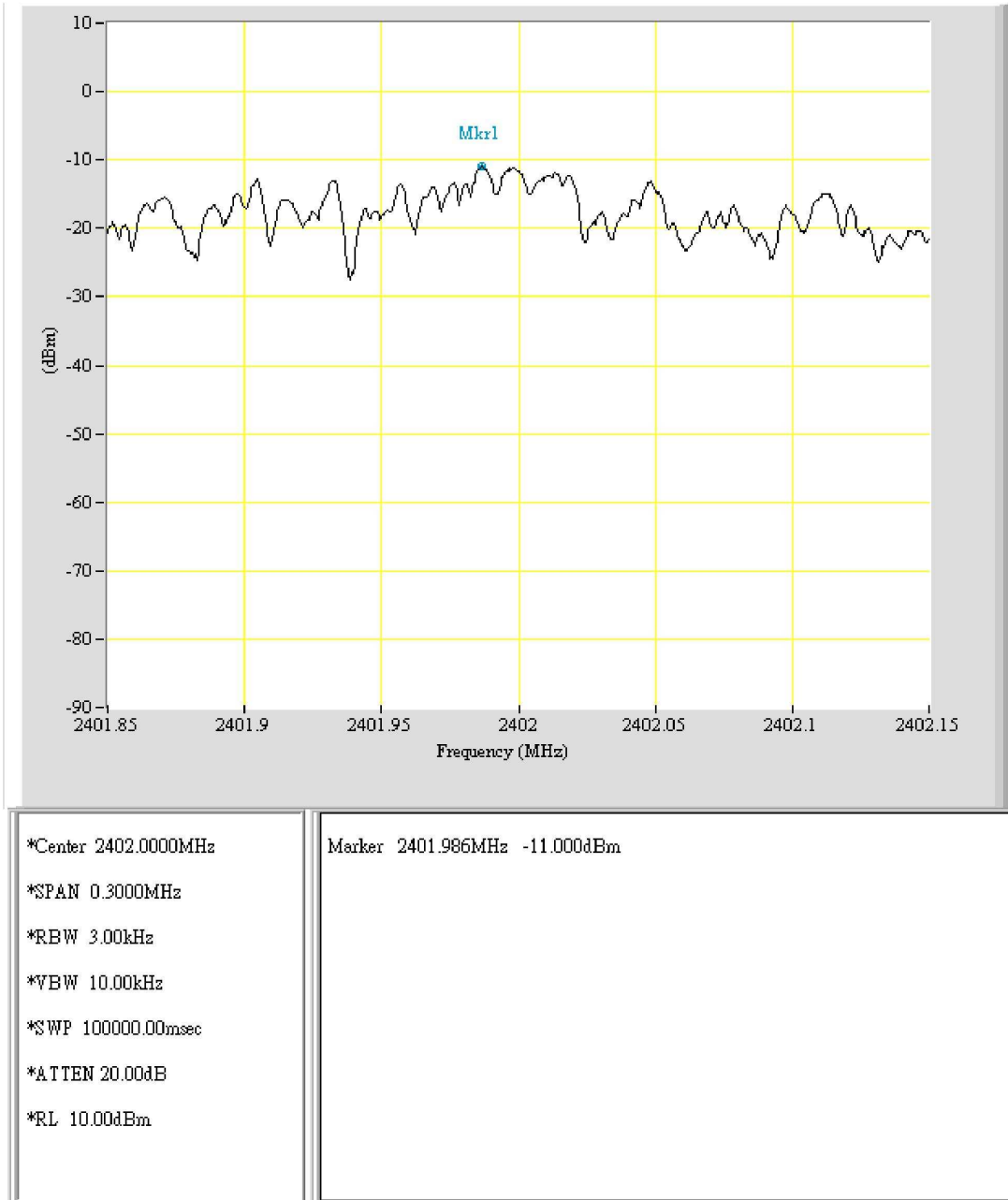
Test Date : Jan. 10, 2006

Temperature : 21°C

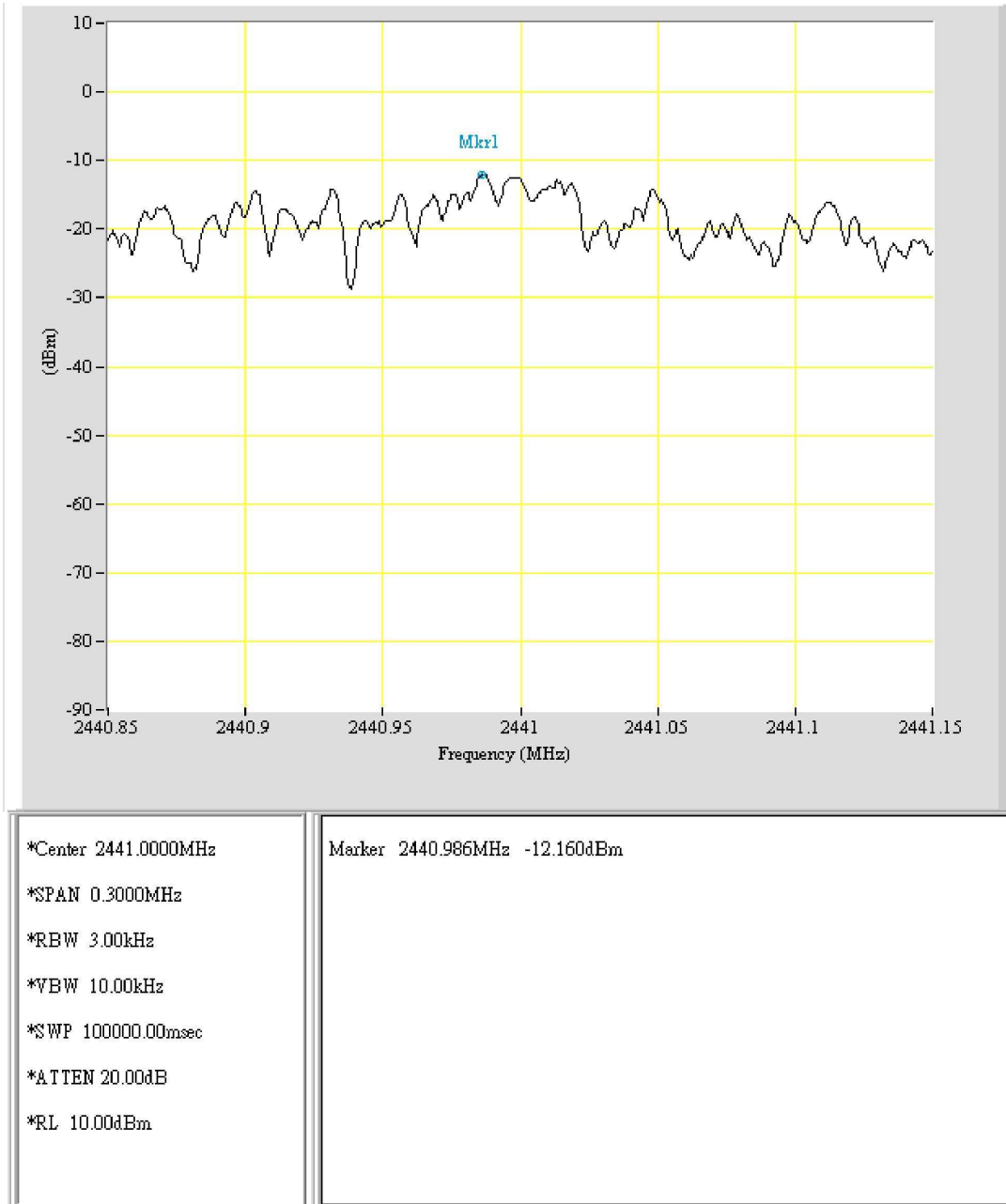
Humidity : 70%

Channel	Frequency (MHz)	Reading (dBm)	Cable Loss (dB)	Power Spectral Density (dBm)	FCC Limit (dBm)	Chart
0	2402	-11.00	0.5	-10.50	8	Page 60
39	2441	-12.16	0.5	-11.66	8	Page 61
78	2480	-13.33	0.5	-12.83	8	Page 62

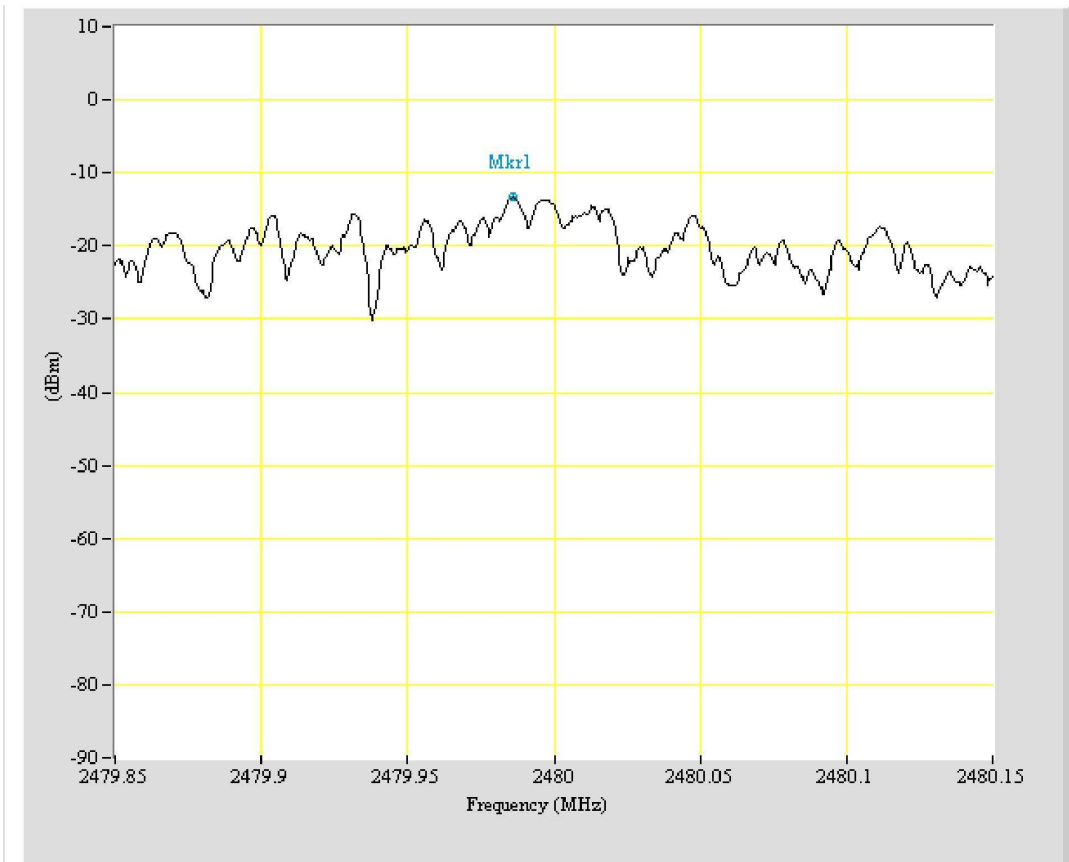
**Note: Please refer to page 60 to page 62 for chart.**



EUT: BLUETOOTH  
Purpose: PwrDensity  
Condition: CH0  
Note:



EUT: BLUETOOTH  
Purpose: PwrDensity  
Condition: CH39  
Note:



\*Center 2480.000MHz

\*SPAN 0.3000MHz

\*RBW 3.00kHz

\*VBW 10.00kHz

\*SWP 100000.00msec

\*ATTEN 20.00dB

\*RL 10.00dBm

Marker 2479.986MHz -13.330dBm

EUT: BLUETOOTH

Purpose: PwrDensity

Condition: CH78

Note:

## 13 Dwell Time

### 13.1 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.

### 13.2 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.

### 13.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Agilent	8564EC	09/23/2006

### 13.4 Measurement Data

Test Date : Jan. 10, 2006

Temperature : 21°C

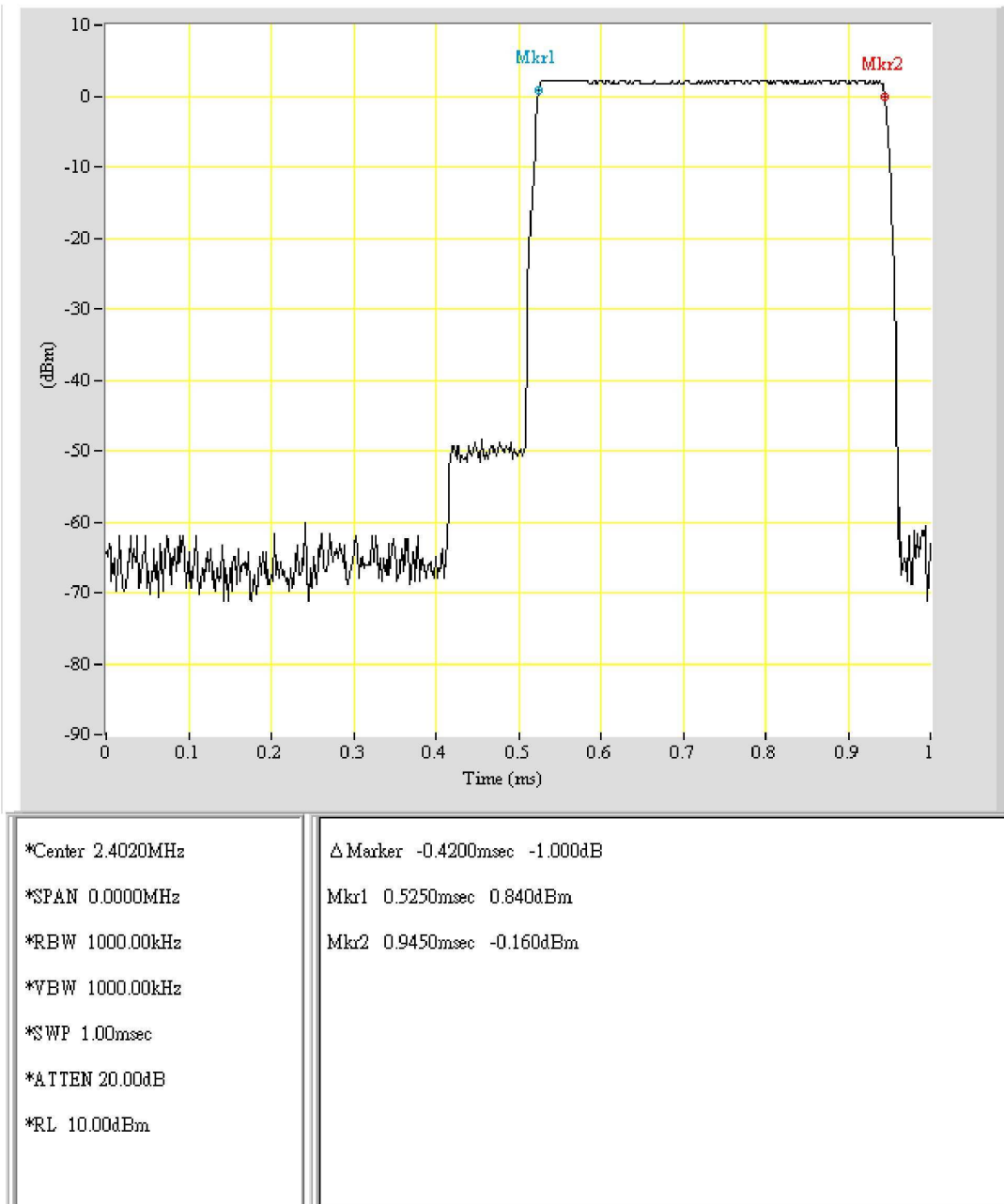
Humidity : 70%

#### 13.4.1 DH1

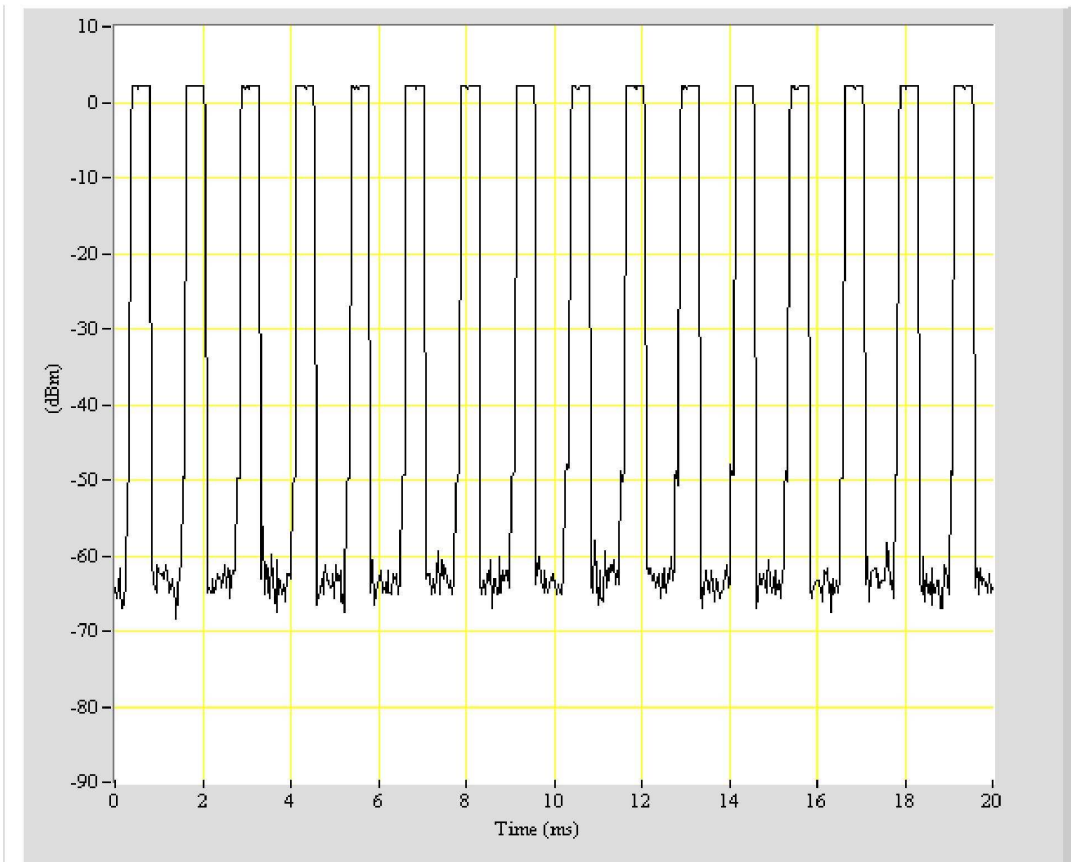
Test period=0.4(second/channel)× 79 channel=31.6sec

- a) 2402MHz dwell time=  $420.0 \text{ us} \times \frac{800}{79} \times 31.6 = 134.4 \text{ ms}$
- b) 2441MHz dwell time=  $420.0 \text{ us} \times \frac{800}{79} \times 31.6 = 134.4 \text{ ms}$
- c) 2480MHz dwell time=  $420.0 \text{ us} \times \frac{800}{79} \times 31.6 = 134.4 \text{ ms}$

*Note: Please refer to page 64 to page 69 for chart.*



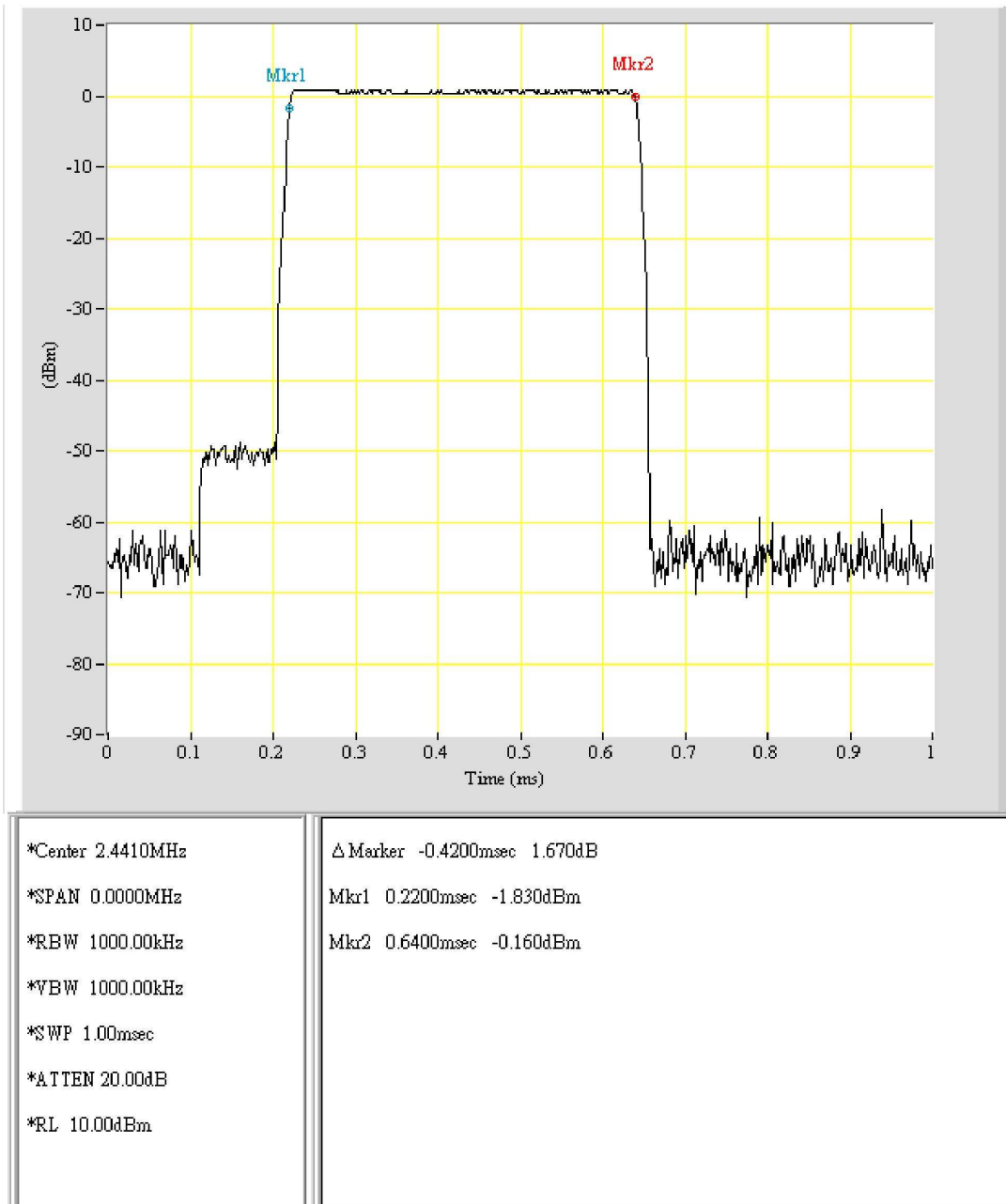
EUT: BLUETOOTH  
Purpose: Dwell\_Time  
Condition: DH1\_CH0  
Note:



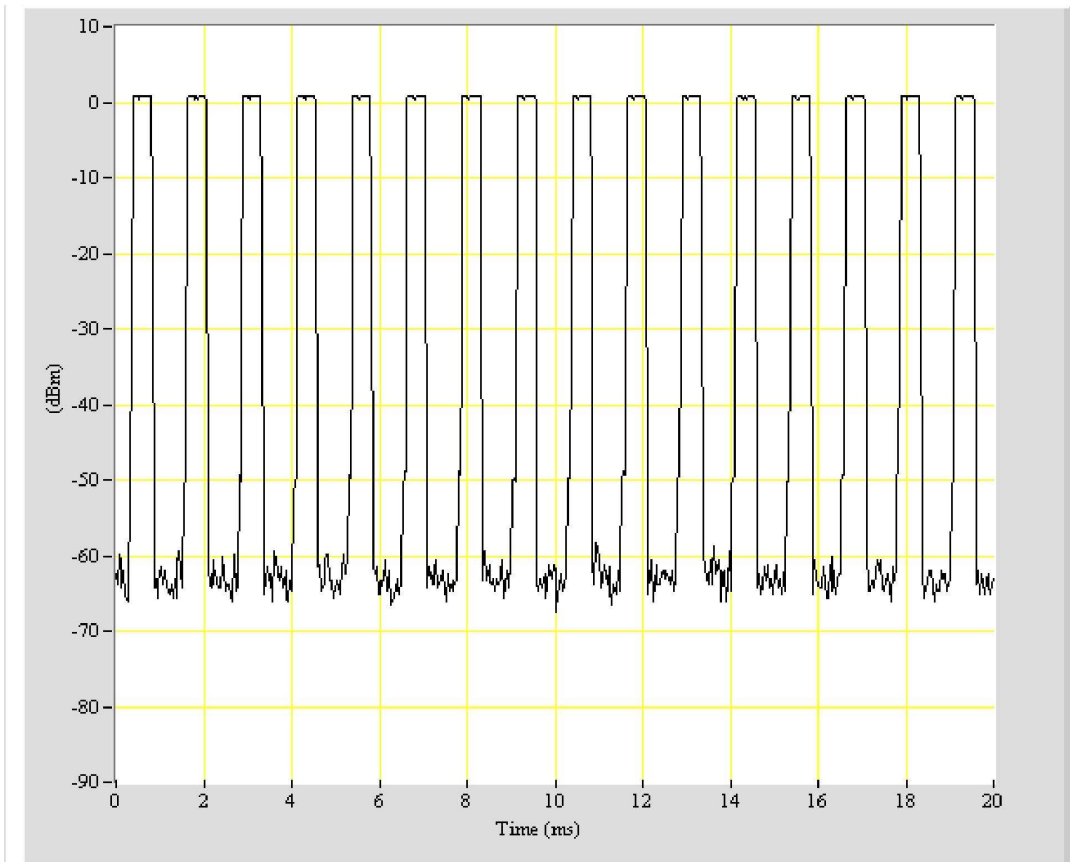
\*Center 2.4020MHz  
\*SPAN 0.0000MHz  
\*RBW 1000.00kHz  
\*VBW 1000.00kHz  
\*SWP 20.00msec  
\*ATTEN 20.00dB  
\*RL 10.00dBm

EUT: BLUETOOTH  
Purpose: Dwell\_Time\_Peroid  
Condition: DH1\_CH0  
Note:



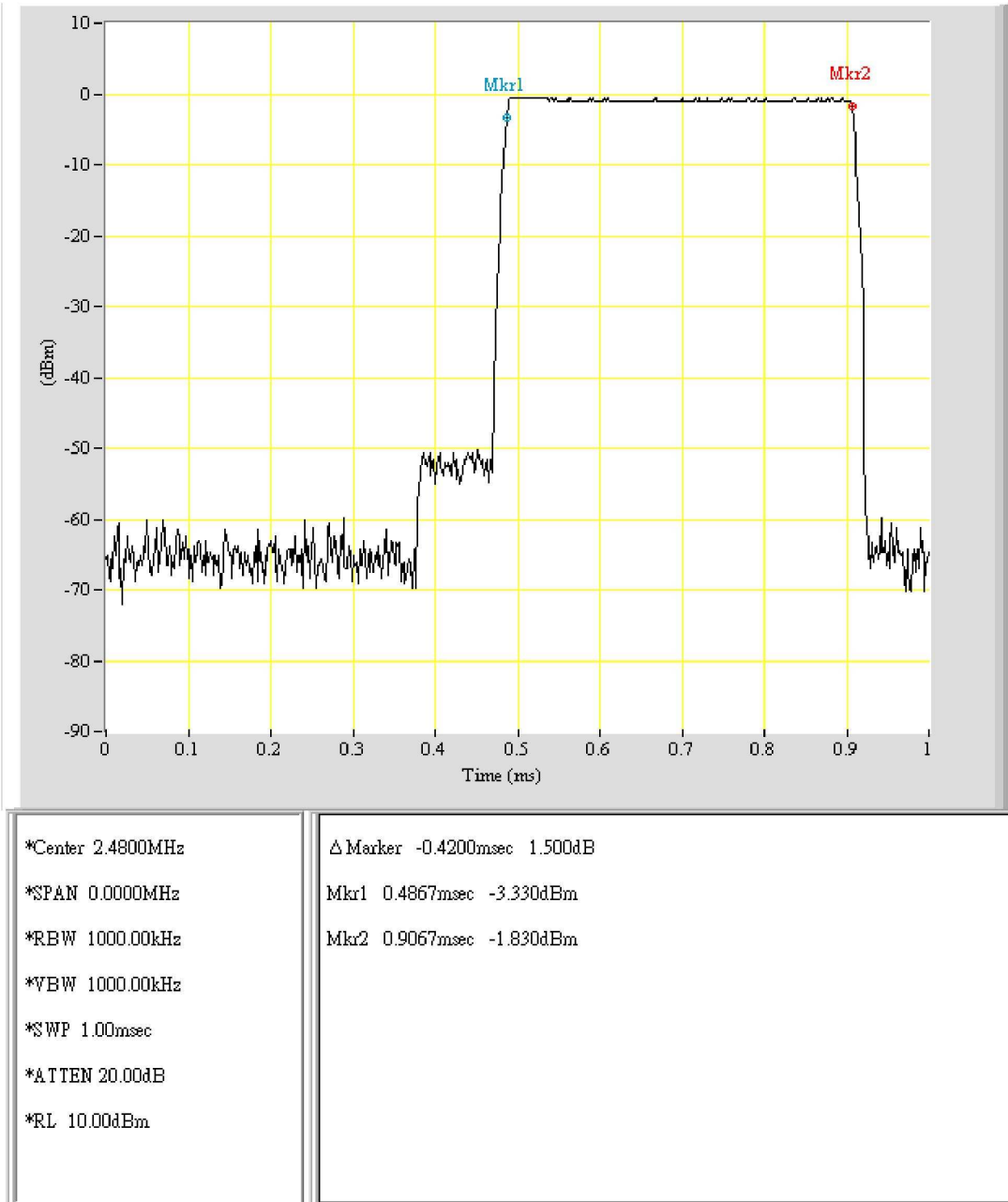


EUT: BLUETOOTH  
Purpose: Dwell\_Time  
Condition: DH1\_CH39  
Note:

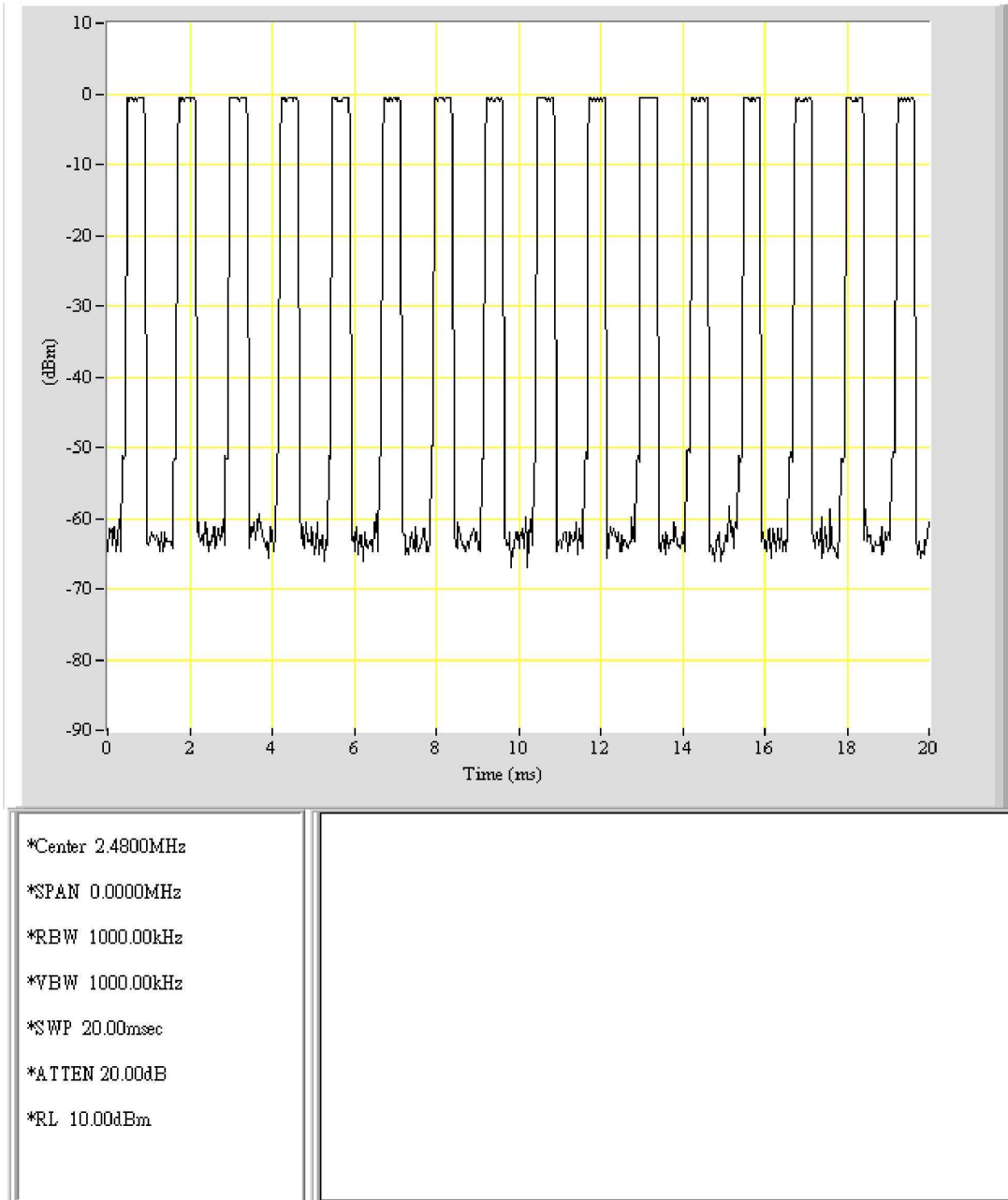


*Center 2.4410MHz	
*SPAN 0.0000MHz	
*RBW 1000.00kHz	
*VBW 1000.00kHz	
*SWP 20.00msec	
*ATTEN 20.00dB	
*RL 10.00dBm	

EUT: BLUETOOTH  
Purpose: Dwell\_Time\_Peroid  
Condition: DH1\_CH39  
Note:



EUT: BLUETOOTH  
Purpose: Dwell\_Time  
Condition: DH1\_CH78  
Note:



EUT: BLUETOOTH  
Purpose: Dwell\_Time\_Peroid  
Condition: DH1\_CH78  
Note: