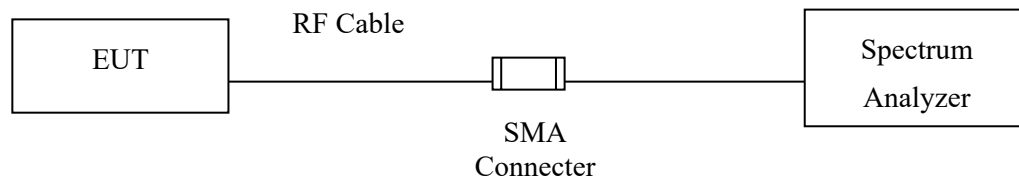


8. Channel Separation

8.1. Test Setup



8.2. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

8.3. Test Procedure

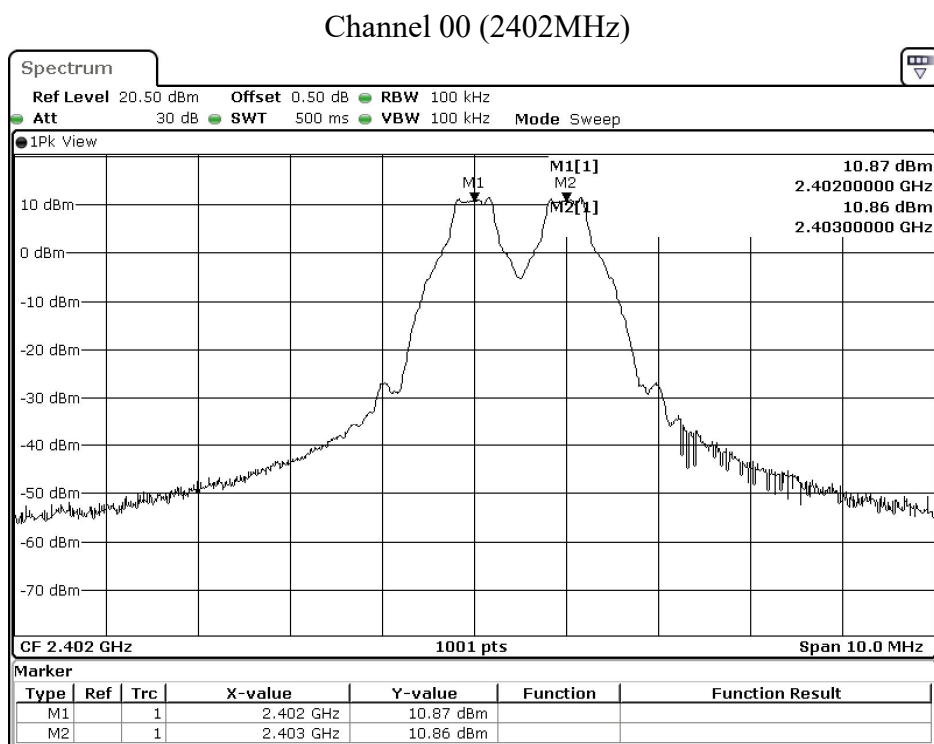
Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.

8.4. Test Result of Channel Separation

Product : Bluetooth Headset
 Test Item : Channel Separation
 Test Mode : Mode 1: Transmit - 1Mbps
 Test Date : 2021/07/13

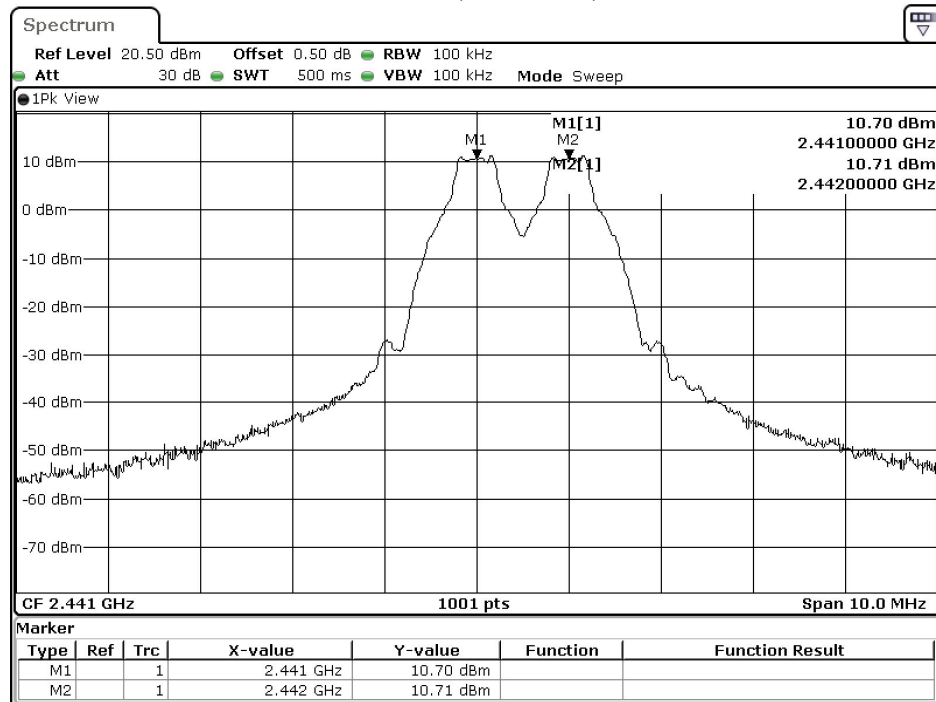
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	638.0	Pass
39	2441	1000	>25 kHz	640.0	Pass
78	2480	1000	>25 kHz	640.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.



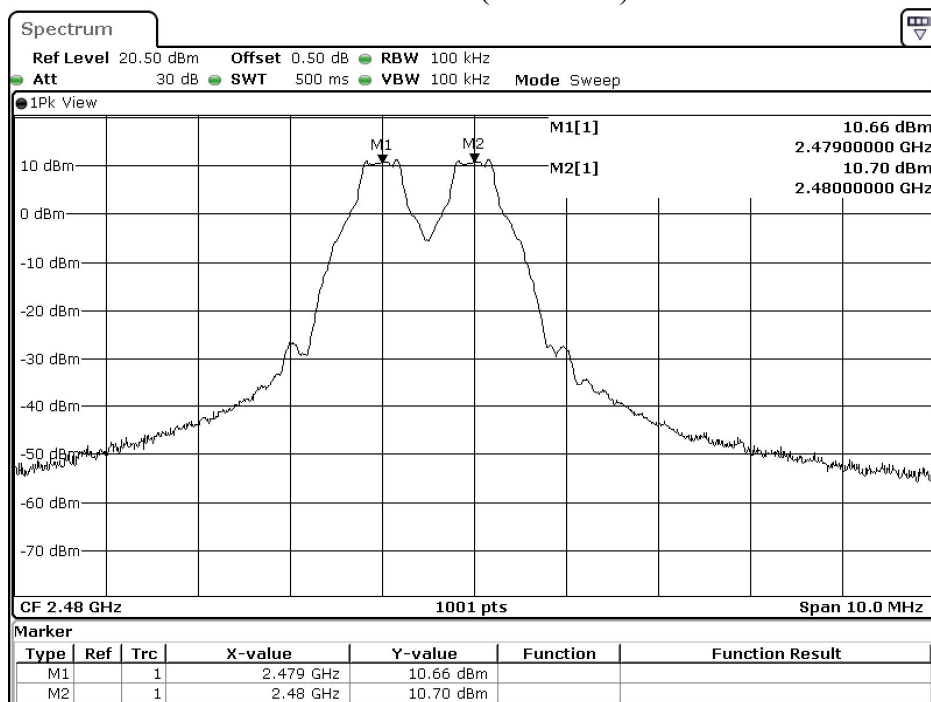
Date: 13.JUL.2021 03:49:53

Channel 39 (2441MHz)



Date: 13.JUL.2021 04:00:48

Channel 78 (2480MHz)



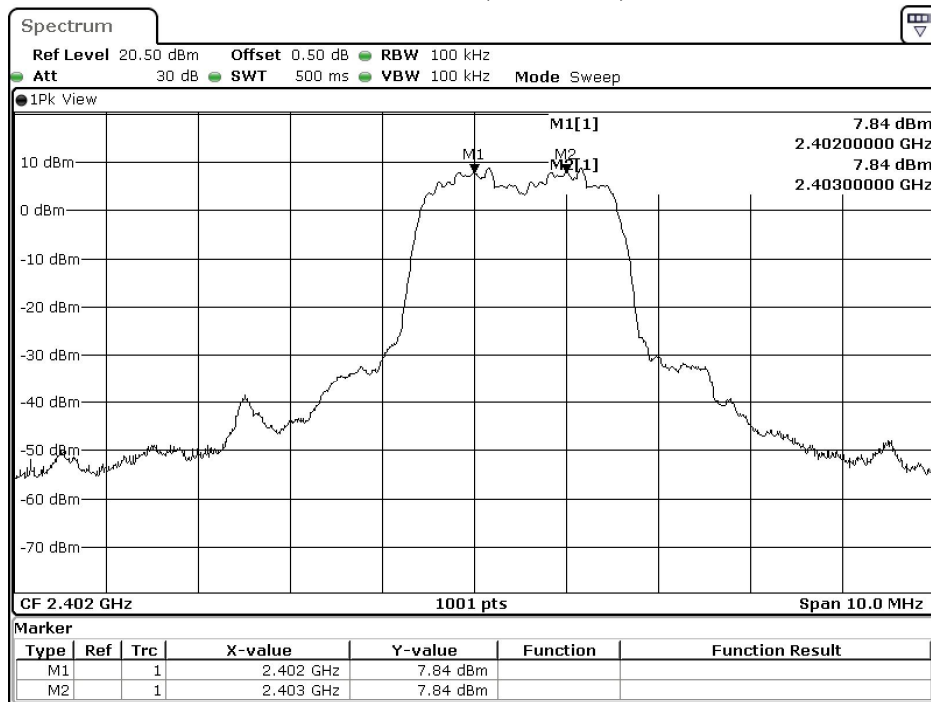
Date: 13.JUL.2021 04:08:31

Product : Bluetooth Headset
 Test Item : Channel Separation
 Test Mode : Mode 2: Transmit - 3Mbps
 Test Date : 2021/07/13

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	870.0	Pass
39	2441	1000	>25 kHz	872.0	Pass
78	2480	1000	>25 kHz	870.0	Pass

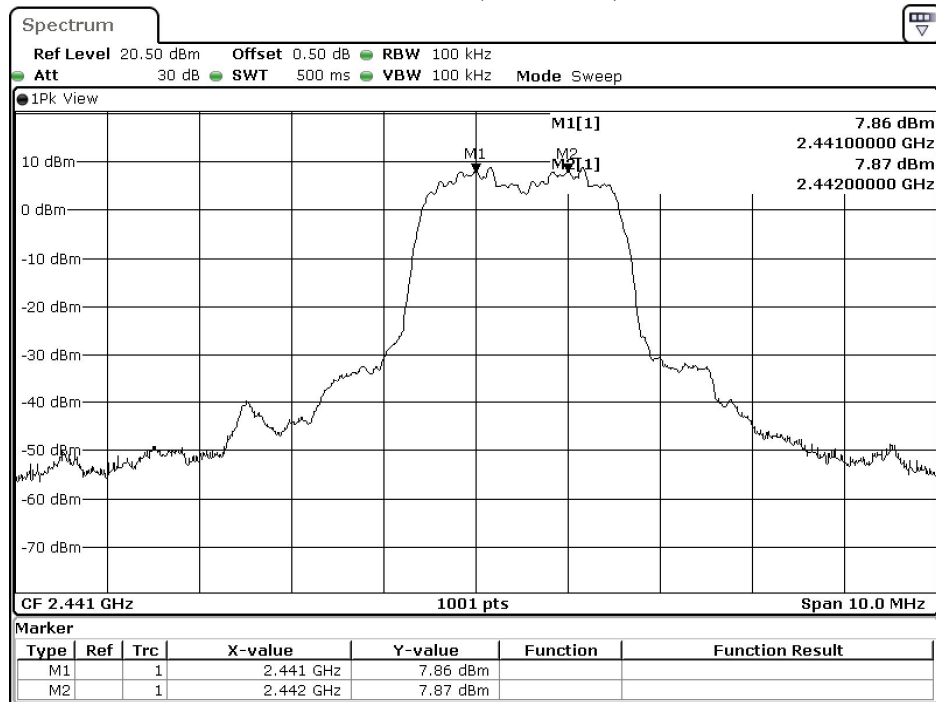
NOTE: The 20dB Bandwidth is refer to section 10.

Channel 00 (2402MHz)



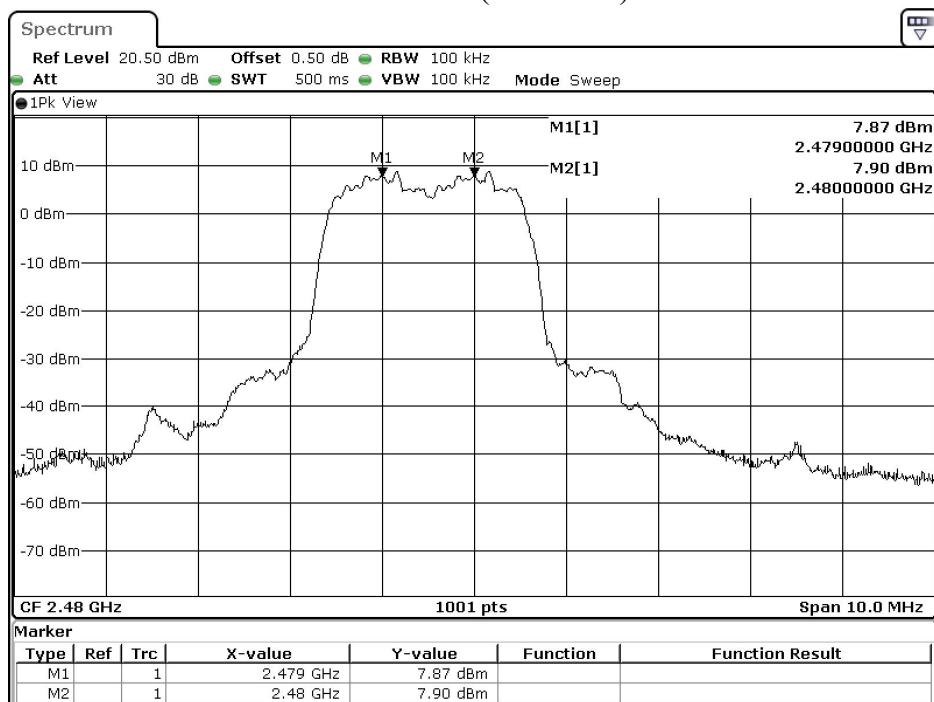
Date: 13.JUL.2021 05:03:50

Channel 39 (2441MHz)



Date: 13.JUL.2021 05:14:12

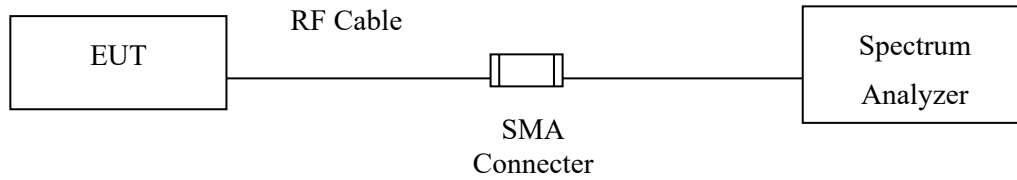
Channel 78 (2480MHz)



Date: 13.JUL.2021 05:21:54

9. Dwell Time

9.1. Test Setup



9.2. 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.

9.3. Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.

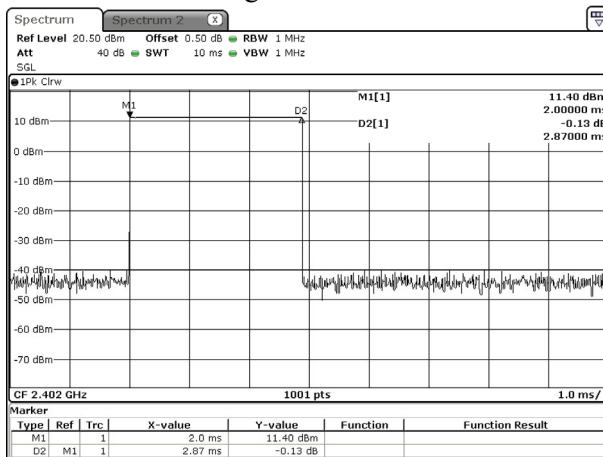
9.4. Test Result of Dwell Time

Product : Bluetooth Headset
 Test Item : Dwell Time
 Test Mode : Mode 1: Transmit - 1Mbps (Channel 00,39,78)
 Test Date : 2021/07/15

Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Dwell Time (ms)	Limit (ms)	Result
2402	2.870	104	31600	298.480	400	Pass
2441	2.890	89	31600	257.210	400	Pass
2480	2.870	95	31600	272.650	400	Pass

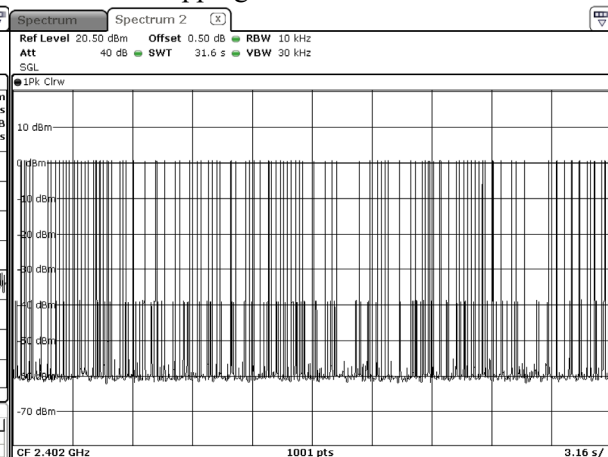
Dwell time = Time slot length (ms)*Hopping of Number

CH 00 Time slot length



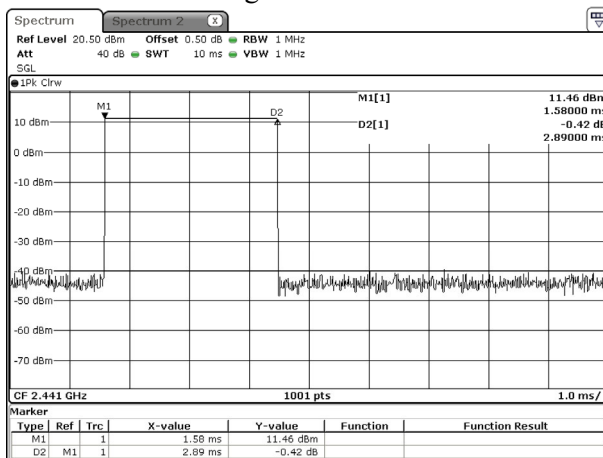
Date: 15.JUL.2021 02:42:40

CH 00 Hopping of Number



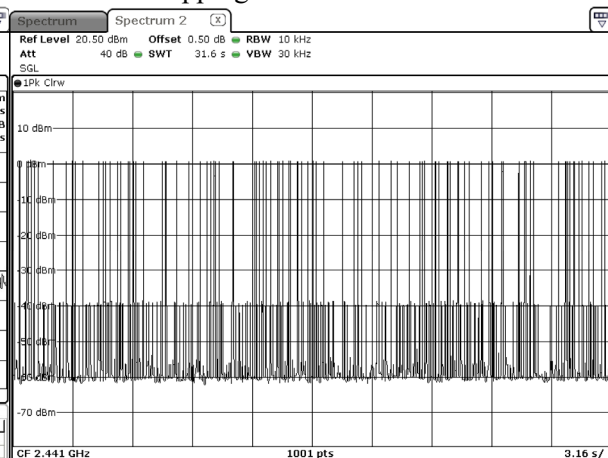
Date: 15.JUL.2021 02:44:24

CH 39 Time slot length



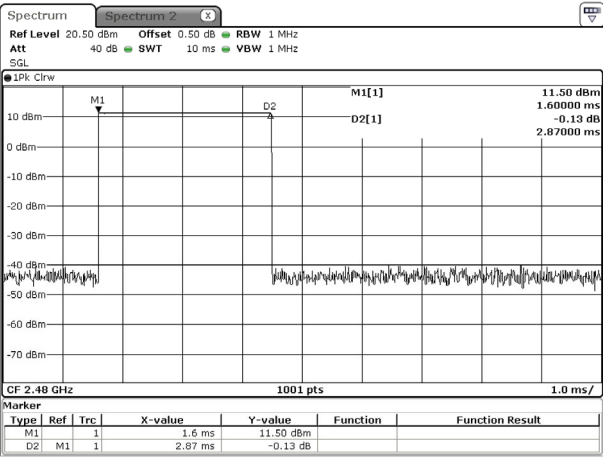
Date: 15.JUL.2021 02:46:14

CH 39 Hopping of Number



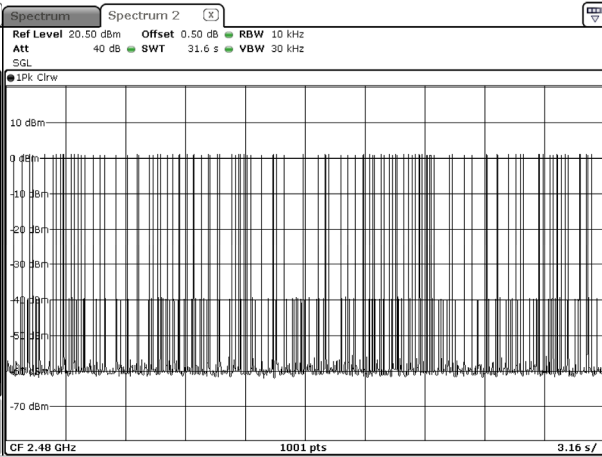
Date: 15.JUL.2021 02:46:52

CH 78 Time slot length



Date: 15 JUL 2021 02:47:38

CH 78 Hopping of Number



Date: 15 JUL 2021 02:48:54

Note:

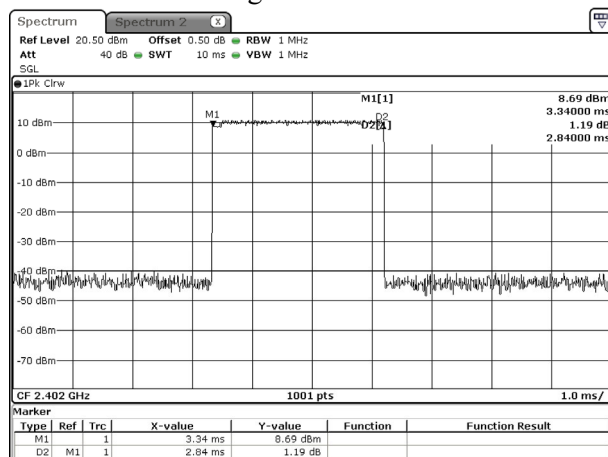
The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

Product : Bluetooth Headset
 Test Item : Dwell Time
 Test Mode : Mode 2: Transmit - 3Mbps (Channel 00,39,78)
 Test Date : 2021/07/15

Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Dwell Time (ms)	Limit (ms)	Result
2402	2.884	102	31600	294.178	400	Pass
2441	2.884	117	31600	337.440	400	Pass
2480	2.884	111	31600	320.135	400	Pass

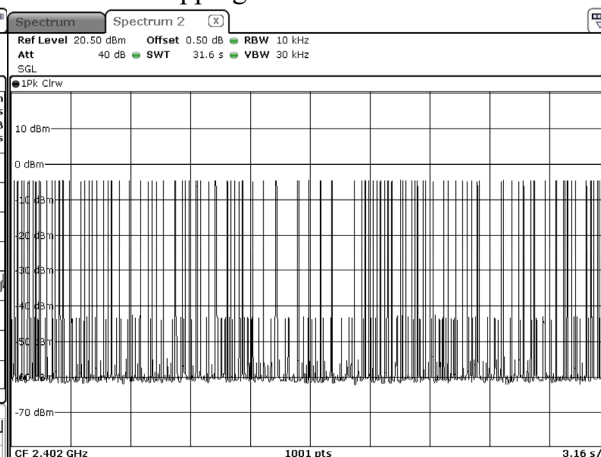
Dwell time = Time slot length (ms)*Hopping of Number

CH 00 Time slot length



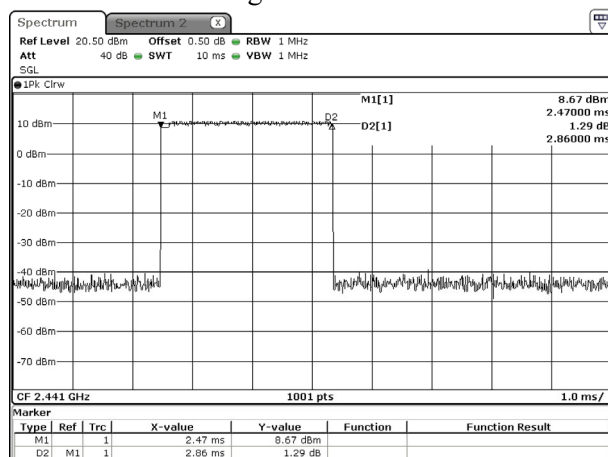
Date: 15 JUL 2021 03:11:54

CH 00 Hopping of Number



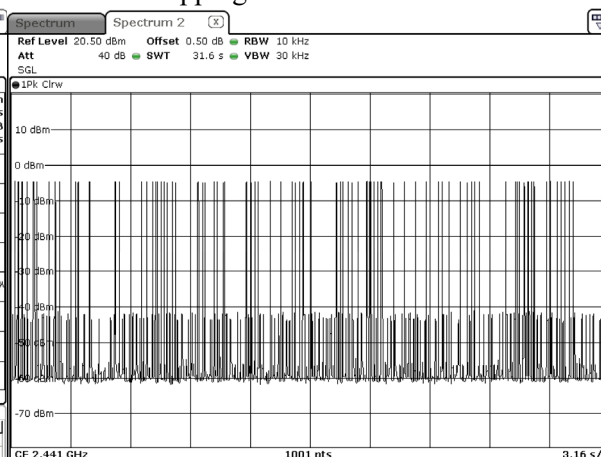
Date: 15 JUL 2021 03:18:10

CH 39 Time slot length



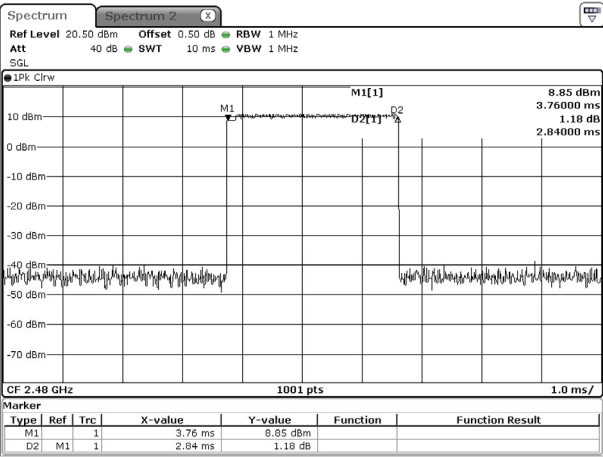
Date: 15 JUL 2021 03:13:32

CH 39 Hopping of Number



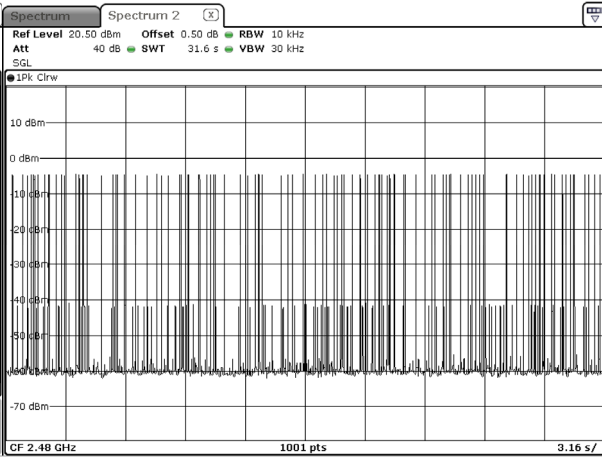
Date: 15 JUL 2021 03:19:13

CH 78 Time slot length



Date: 15 JUL 2021 03:16:31

CH 78 Hopping of Number



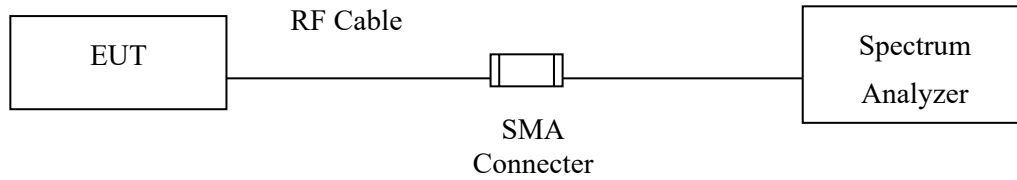
Date: 15 JUL 2021 03:20:31

Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

10. Occupied Bandwidth

10.1. Test Setup



10.2. Limits

N/A

10.3. Test Procedure

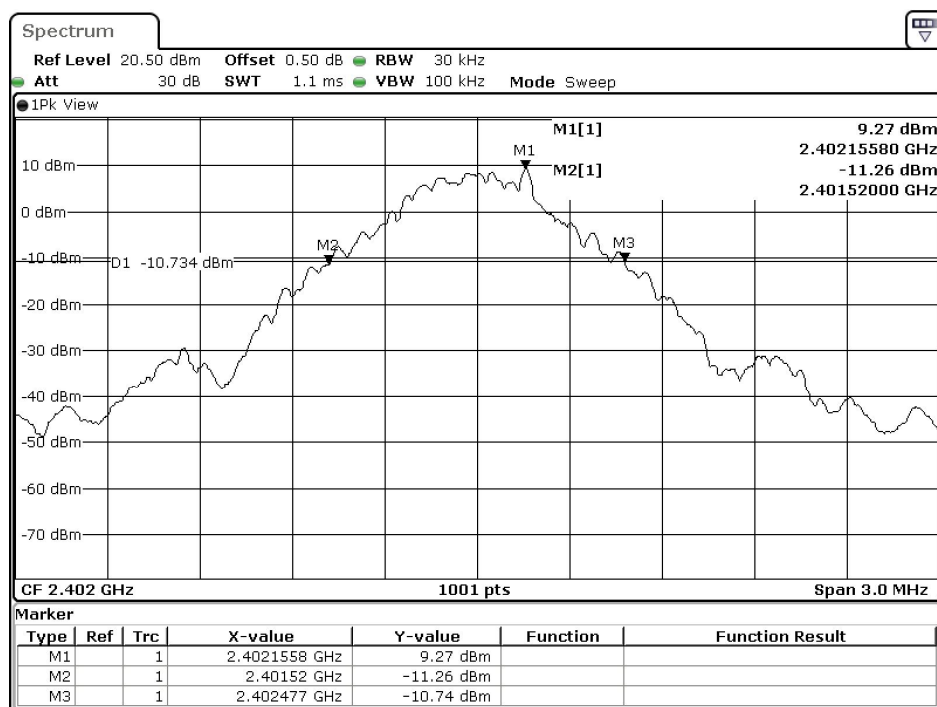
Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.

10.4. Test Result of Occupied Bandwidth

Product : Bluetooth Headset
 Test Item : Occupied Bandwidth Data
 Test Mode : Mode 1: Transmit - 1Mbps
 Test Date : 2021/07/13

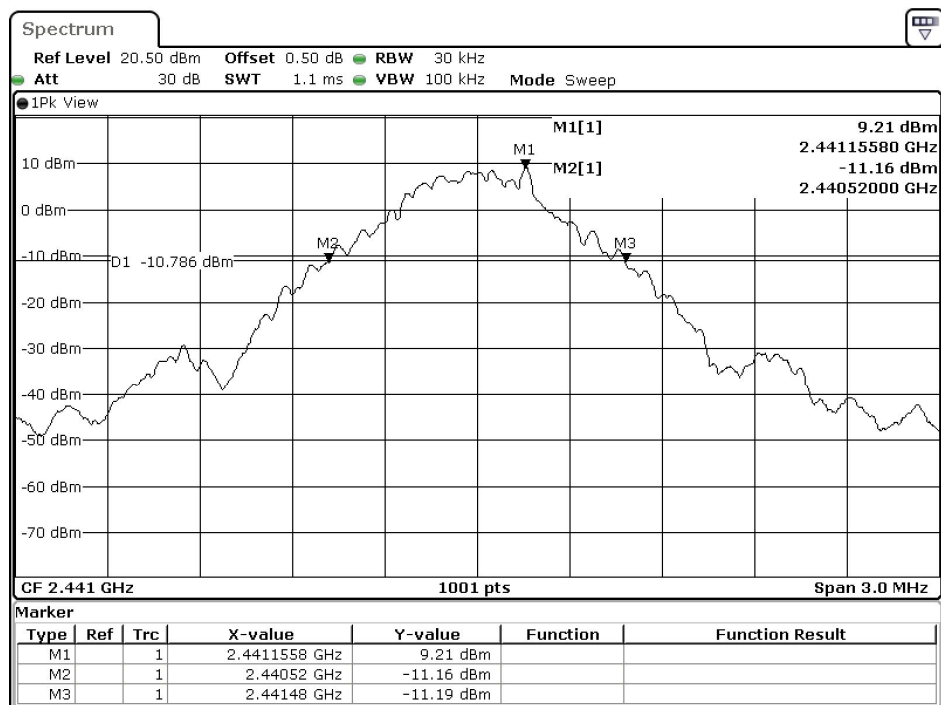
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	957	--	NA
39	2441	960	--	NA
78	2480	960	--	NA

Figure Channel 00:



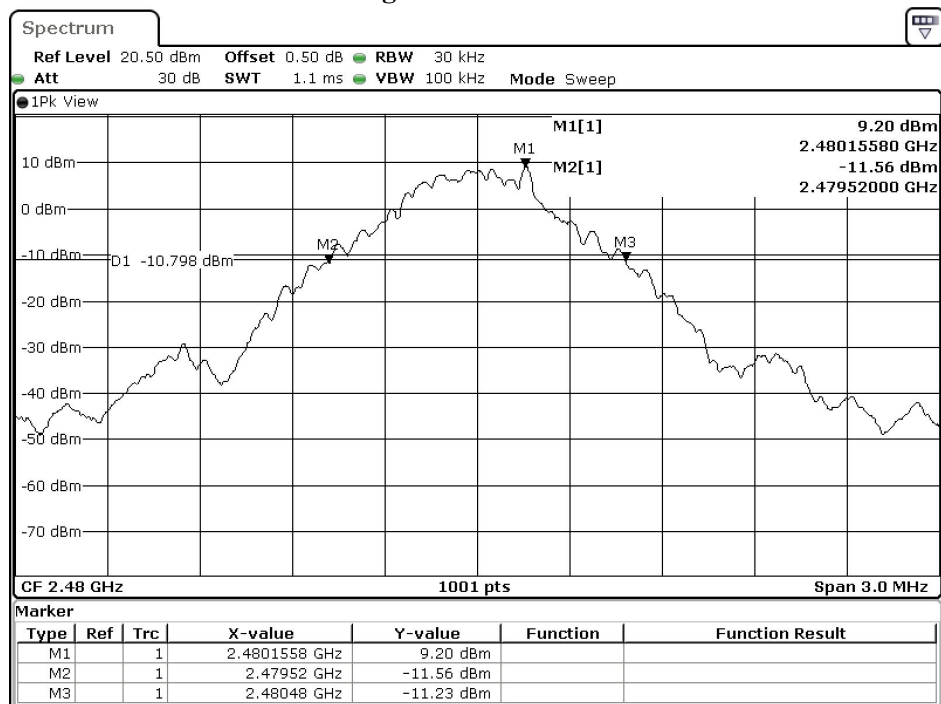
Date: 13.JUL.2021 03:55:56

Figure Channel 39:



Date: 13.JUL.2021 04:03:25

Figure Channel 78:

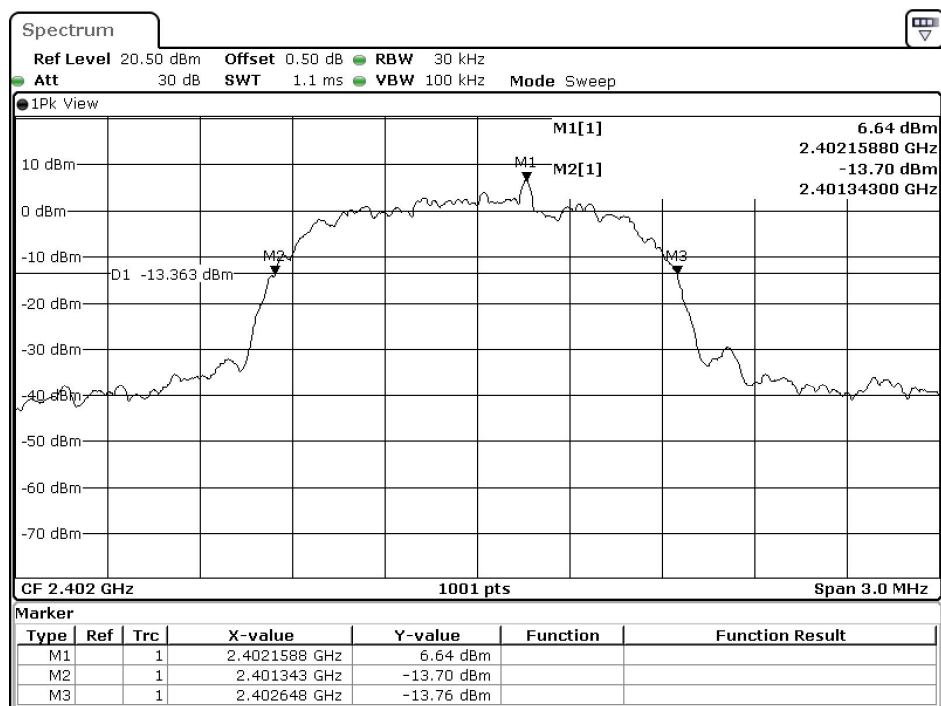


Date: 13.JUL.2021 04:19:43

Product : Bluetooth Headset
 Test Item : Occupied Bandwidth Data
 Test Mode : Mode 2: Transmit - 3Mbps
 Test Date : 2021/07/13

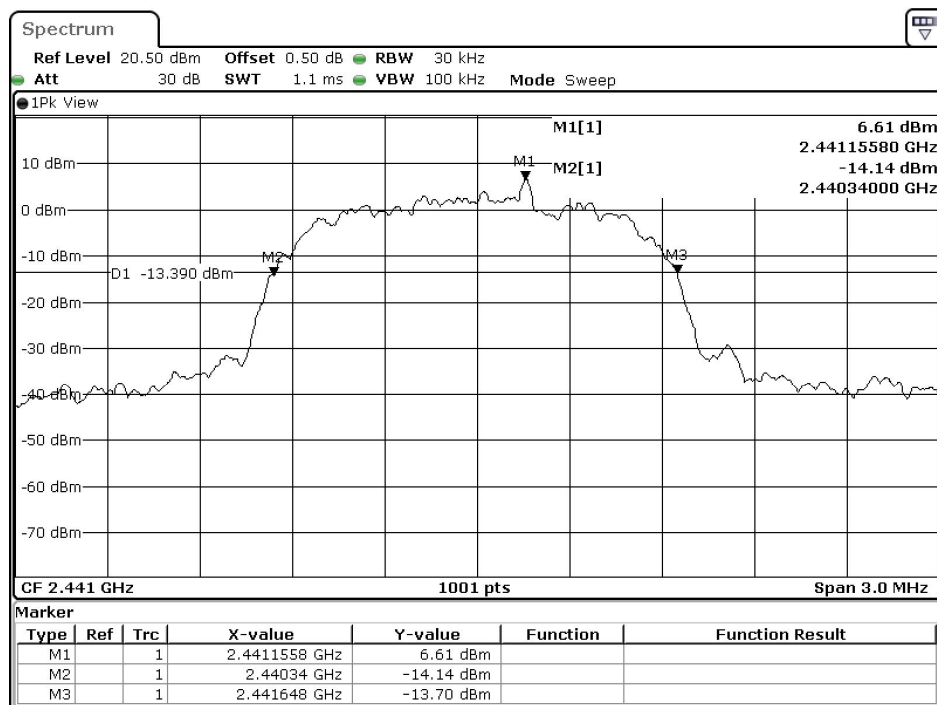
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1305	--	NA
39	2441	1308	--	NA
78	2480	1305	--	NA

Figure Channel 00:



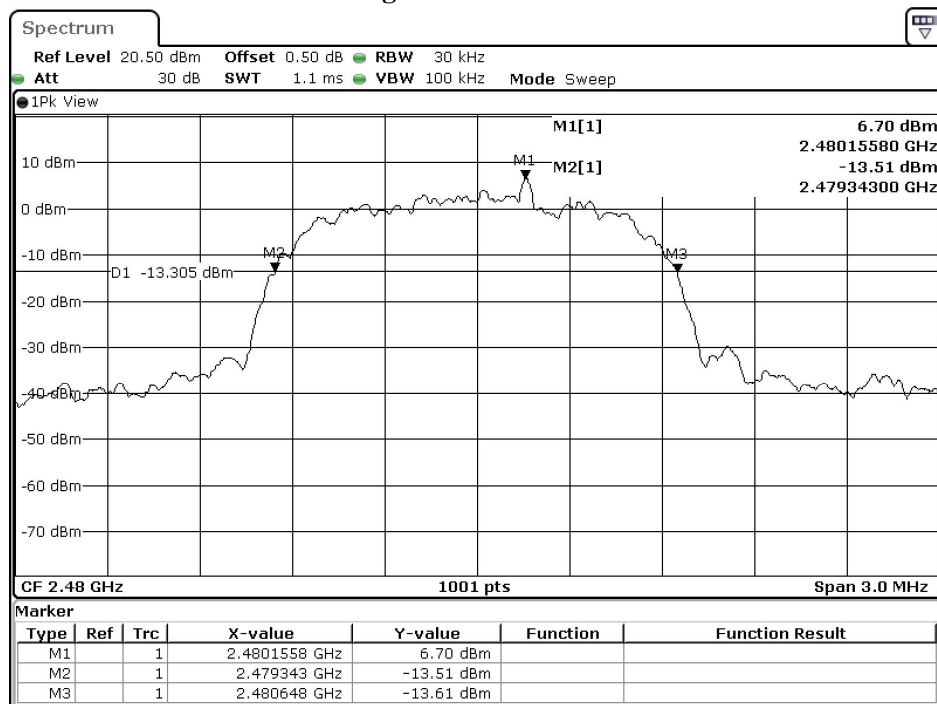
Date: 13.JUL.2021 05:10:12

Figure Channel 39:



Date: 13.JUL.2021 05:18:14

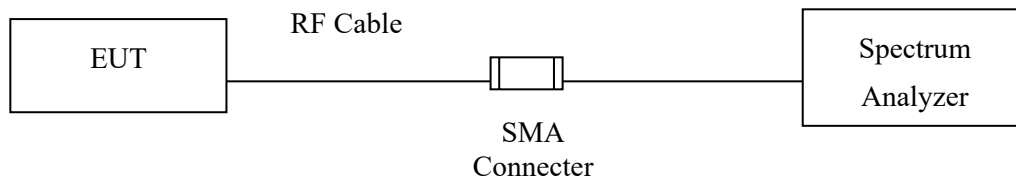
Figure Channel 78:



Date: 13.JUL.2021 05:33:18

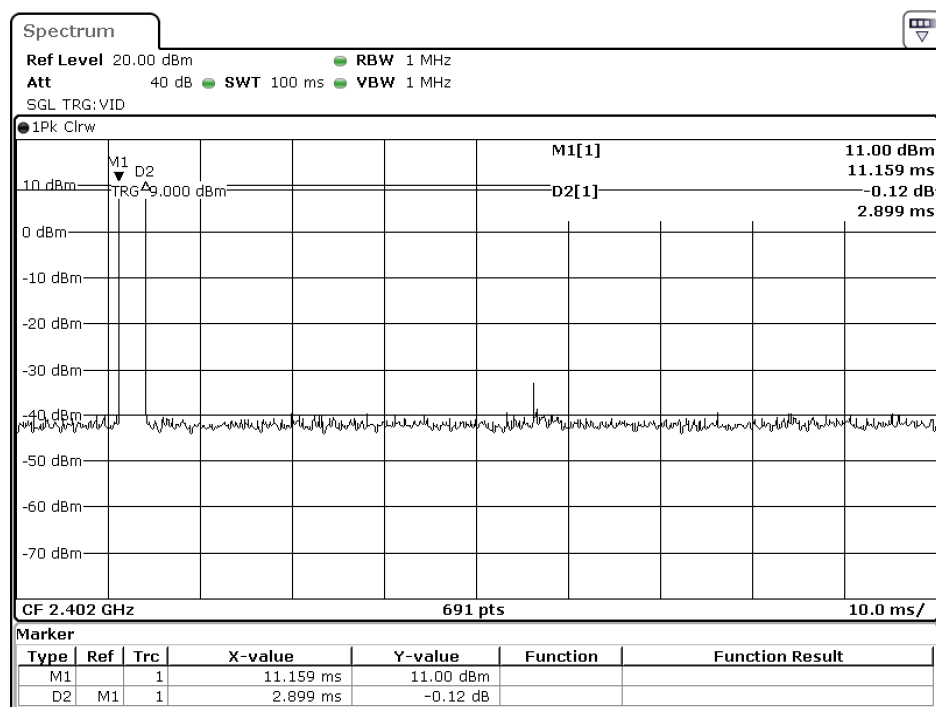
11. Duty Cycle

11.1. Test Setup



11.2. Test Result of Duty Cycle

Product : Bluetooth Headset
 Test Item : Duty Cycle Data
 Test Mode : Mode 1: Transmit - 1Mbps



Date: 13.JUL.2021 05:46:34

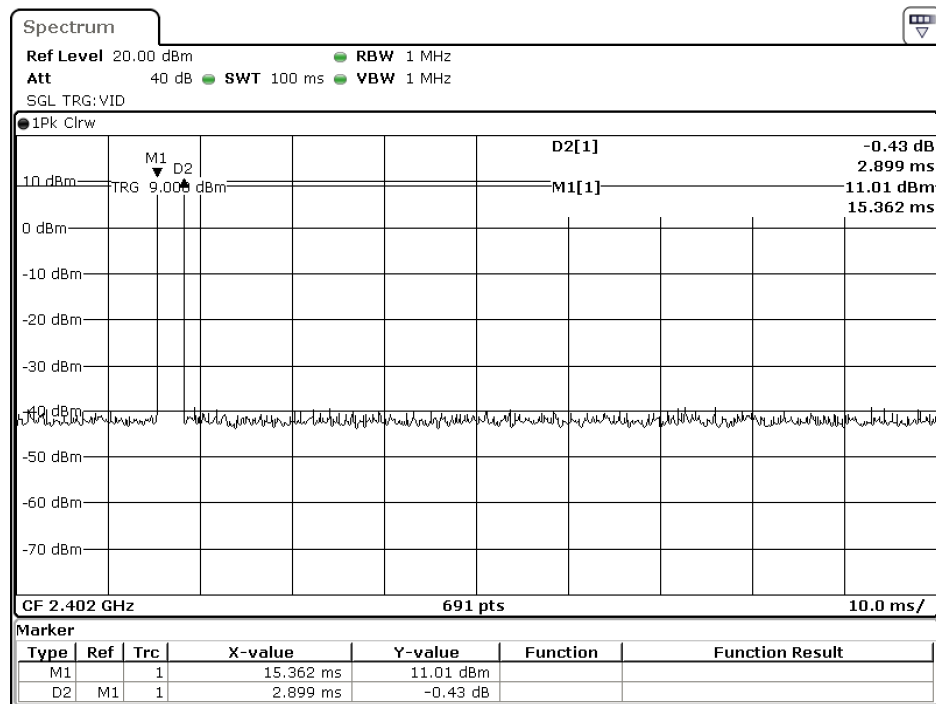
Time on of 100ms= 2.89ms

Duty Cycle= 2.89ms / 100ms= 0.0289

Duty Cycle correction factor= 20 LOG 0.0289= -30.782 dB

Duty Cycle correction factor	-30.782	dB
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Product : Bluetooth Headset
 Test Item : Duty Cycle Data
 Test Mode : Mode 2: Transmit - 3Mbps



Date: 13.JUL.2021 05:56:47

Time on of 100ms= 2.89ms

Duty Cycle= 2.89ms / 100ms= 0.0289

Duty Cycle correction factor= 20 LOG 0.0289= -30.782 dB

Duty Cycle correction factor	-30.782	dB
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12. EMI Reduction Method During Compliance Testing

No modification was made during testing.