

RADIO PERFORMANCE TEST REPORT

Test Report No. : OT-22O-RWD-025

Reception No. : 2209003110

Applicant : LG Electronics USA

Address : 111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States

Manufacturer : Hitachi-LG Data Storage Korea, Inc.

Address : (Gasam-dong), 189, Gasandigital1-ro, Geumcheon-gu, Seoul, Korea

Type of Equipment : Network Webcam

FCC ID. : BEJAN-VC22PR

Model Name : AN-VC22PR

Multiple Model Name : HL-GE1

Serial number : N/A

Total page of Report : 90 pages (including this page)

Date of Incoming : August 12, 2022

Date of issue : October 21, 2022

SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

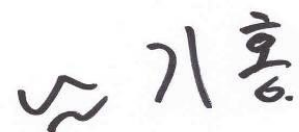
This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.



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CONTENTS

	Page
1. VERIFICATION OF COMPLIANCE	6
2. TEST SUMMARY.....	7
2.1 TEST ITEMS AND RESULTS	7
2.2 ADDITIONS, DEVIATIONS, EXCLUSIONS FROM STANDARDS.....	7
2.3 RELATED SUBMITTAL(S) / GRANT(S)	7
2.4 PURPOSE OF THE TEST	7
2.5 TEST METHODOLOGY.....	7
2.6 TEST FACILITY.....	7
3. GENERAL INFORMATION.....	8
3.1 PRODUCT DESCRIPTION.....	8
3.2 ALTERNATIVE TYPE(S)/MODEL(S); ALSO COVERED BY THIS TEST REPORT.....	13
4. EUT MODIFICATIONS.....	13
5. SYSTEM TEST CONFIGURATION	14
5.1 JUSTIFICATION.....	14
5.2 PERIPHERAL EQUIPMENT	14
5.3 MODE OF OPERATION DURING THE TEST	14
5.4 CONFIGURATION OF TEST SYSTEM.....	17
5.5 ANTENNA REQUIREMENT	17
6. PRELIMINARY TEST	17
6.1 AC POWER LINE CONDUCTED EMISSIONS TESTS.....	17
6.2 GENERAL RADIATED EMISSIONS TESTS	17
7. MINIMUM 20 dB BANDWIDTH.....	18
7.1 OPERATING ENVIRONMENT	18
7.2 TEST SET-UP	18
7.3 TEST DATE	18
7.4 TEST DATA	19
7.4.1 Test data for 1 Mbps	19
7.4.2 Test data for 2 Mbps	21
7.4.3 Test data for 3 Mbps	23
8. HOPPING FREQUENCY SEPARATION.....	25
8.1 OPERATING ENVIRONMENT	25

8.2 TEST SET-UP	25
8.3 TEST DATE	25
8.4 TEST DATA	26
8.4.1 Test data for 1 Mbps	26
8.4.2 Test data for 2 Mbps	27
8.4.3 Test data for 3 Mbps	28
9. NUMBER OF HOPPING CHANNELS	29
9.1 OPERATING ENVIRONMENT	29
9.2 TEST SET-UP	29
9.3 TEST DATE	29
9.4 TEST DATA	30
9.4.1 Test data for 1 Mbps	30
9.4.2 Test data for 2 Mbps	33
9.4.3 Test data for 3 Mbps	36
10. TIME OF OCCUPANCY	39
10.1 OPERATING ENVIRONMENT	39
10.2 TEST SET-UP	39
10.3 TEST DATE	39
10.4 TEST DATA	40
10.4.1 Test data for 1 Mbps	40
10.4.2 Test data for 2 Mbps	42
10.4.3 Test data for 3 Mbps	44
11. MAXIMUM PEAK OUTPUT POWER	46
11.1 OPERATING ENVIRONMENT	46
11.2 TEST SET-UP	46
11.3 TEST DATE	46
11.4 TEST DATA	47
11.4.1 Test data for 1 Mbps	47
11.4.2 Test data for 2 Mbps	49
11.4.3 Test data for 3 Mbps	51
12. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND	53
12.1 OPERATING ENVIRONMENT	53
12.2 TEST SET-UP FOR CONDUCTED MEASUREMENT	53
12.3 TEST SET-UP FOR RADIATED MEASUREMENT	53
12.4 TEST DATE	53
12.5 TEST DATA FOR CONDUCTED EMISSION	54

12.5.1 Test data for 1 Mbps	54
12.5.2 Test data for 2 Mbps	60
12.5.3 Test data for 3 Mbps	66
12.6 TEST DATA FOR TRANSMITTING MODE RADIATED EMISSION	72
12.6.1 Radiated Emission which fall in the Restricted Band.....	72
12.6.3 Spurious & Harmonic Radiated Emission above 1 GHz.....	75
13. RADIATED EMISSION TEST	78
13.1 OPERATING ENVIRONMENT	78
13.2 TEST SET-UP	78
13.3 TEST DATE	78
13.4 TEST DATA FOR 30 MHz ~ 1 000 MHz	79
13.4.1 Test data for Bluetooth	79
13.4.2 Test data for Intermodulation Mode (Bluetooth + WLAN 2.4 GHz)	80
13.4.3 Test data for Intermodulation Mode (Bluetooth + WLAN 5 GHz)	81
13.5 TEST DATA FOR BELOW 30 MHz	82
13.6 TEST DATA FOR ABOVE 1 GHz	82
14. CONDUCTED EMISSION TEST	83
14.1 OPERATING ENVIRONMENT	83
14.2 TEST SET-UP	83
14.3 TEST DATE	83
14.4 TEST DATA FOR BLUETOOTH	84
14.5 TEST DATA FOR INTERMODULATION MODE (BLUETOOTH + WLAN 2.4 GHz)	86
14.6 TEST DATA FOR INTERMODULATION MODE (BLUETOOTH + WLAN 5 GHz)	88

Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-22O-RWD-025	October 21, 2022	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : LG Electronics USA

Address : 111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States

Contact Person : Sung Soo Kim / Director, Regulatory and Environmental Affairs

Telephone No. : 201-266-2215

FCC ID : BEJAN-VC22PR

Model Name : AN-VC22PR

Brand Name : LG

Serial Number : N/A

Date : October 21, 2022

EQUIPMENT CLASS	DSS – PART 15 SPREAD SPECTRUM TRANSMITTER
E.U.T. DESCRIPTION	Network Webcam
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (a) (1)	Carrier Frequency Separation	Met the Limit / PASS
15.247 (a) (1) (iii)	Minimum Number of Hopping Channels	Met the Limit / PASS
15.247 (a) (1) (iii)	Average Time of Occupancy	Met the Limit / PASS
15.247 (b) (1)	Maximum Peak Conducted Output Power	Met the Limit / PASS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.209	Radiated Emission Limits, General Requirement	Met the Limit / PASS
15.207	Conducted Limits	Met requirement / PASS
15.203	Antenna Requirement	Met requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

3. GENERAL INFORMATION

3.1 Product Description

The LG Electronics USA, Model AN-VC22PR (referred to as the EUT in this report) is a Network Webcam. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Network Webcam	
OPERATING FREQUENCY	Bluetooth	2 402 MHz ~ 2 480 MHz
	WLAN 2.4 GHz	2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))
		2 422 MHz ~ 2 452 MHz (802.11n(HT40))
	WLAN 5 150 MHz ~ 5 250 MHz Band	5 180 MHz ~ 5 240 MHz (802.11a/n(HT20)/ac(VHT20))
		5 190 MHz ~ 5 230 MHz (802.11n(HT40)/ac(VHT40))
		5 210 MHz (802.11ac(VHT80))
	WLAN 5 250 MHz ~ 5 350 MHz Band	5 260 MHz ~ 5 320 MHz (802.11a/n(HT20)/ac(VHT20))
		5 270 MHz ~ 5 310 MHz (802.11n(HT40)/ac(VHT40))
		5 290 MHz (802.11ac(VHT80))
	WLAN 5 470 MHz ~ 5 725 MHz Band	5 500 MHz ~ 5 720 MHz (802.11a/n(HT20)/ac(VHT20))
		5 510 MHz ~ 5 710 MHz (802.11n(HT40)/ac(VHT40))
		5 530 MHz ~ 5 690 MHz (802.11ac(VHT80))
	WLAN 5 725 MHz ~ 5 850 MHz Band	5 745 MHz ~ 5 825 MHz (802.11a/n(HT20)/ac(VHT20))
		5 755 MHz ~ 5 795 MHz (802.11n(HT40)/ac(VHT40))
		5 775 MHz (802.11ac(VHT80))
MODULATION TYPE	Bluetooth	GFSK for 1Mbps, $\pi/4$ -DQPSK for 2Mbps, 8-DPSK for 3Mbps
	WLAN 2.4 GHz	802.11b: DSSS Modulation(DBPSK/DQPSK/CCK)
		802.11g/n(HT20)/n(HT40): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
	WLAN 5 GHz	802.11a/n(HT20)/n(HT40)/ac(VHT80): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)

RF OUTPUT POWER	Bluetooth	1 Mbps		8.01 dBm
		2 Mbps		7.60 dBm
		3 Mbps		7.89 dBm
	WLAN 2.4 GHz	Antenna 1		17.75 dBm(802.11b) 15.27 dBm(802.11g) 14.52 dBm(802.11n_HT20) 14.54 dBm(802.11n_HT40)
		Antenna 2		18.81 dBm(802.11b) 16.59 dBm(802.11g) 15.56 dBm(802.11n_HT20) 16.44 dBm(802.11n_HT40)
		Multiple Transmit	Antenna 1	11.57 dBm(802.11n_HT20) 12.02 dBm(802.11n_HT40)
			Antenna 2	12.90 dBm(802.11n_HT20) 13.22 dBm(802.11n_HT40)
			Antenna 1 + Antenna 2	15.30 dBm(802.11n_HT20) 15.60 dBm(802.11n_HT40)
		Antenna 1		16.73 dBm(802.11a) 16.62 dBm(802.11n_HT20) 15.99 dBm(802.11n_HT40) 14.35 dBm(802.11ac_VHT80)
		Antenna 2		15.77 dBm(802.11a) 15.62 dBm(802.11n_HT20) 15.13 dBm(802.11n_HT40) 12.96 dBm(802.11ac_VHT80)
	WLAN 5 150 MHz ~ 5 250 MHz Band	Multiple Transmit	Antenna 1	13.48 dBm(802.11n_HT20) 13.01 dBm(802.11n_HT40) 11.60 dBm(802.11ac_VHT80)
			Antenna 2	12.61 dBm(802.11n_HT20) 12.07 dBm(802.11n_HT40) 10.25 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	16.08 dBm(802.11n_HT20) 15.58 dBm(802.11n_HT40) 13.99 dBm(802.11ac_VHT80)

RF OUTPUT POWER	WLAN 5 250 MHz ~ 5 350 MHz Band	Antenna 1		17.43 dBm(802.11a) 17.35 dBm(802.11n_HT20) 13.64 dBm(802.11n_HT40) 13.94 dBm(802.11ac_VHT80)
		Antenna 2		16.61 dBm(802.11a) 16.41 dBm(802.11n_HT20) 13.35 dBm(802.11n_HT40) 12.73 dBm(802.11ac_VHT80)
		Multiple Transmit	Antenna 1	14.26 dBm(802.11n_HT20) 13.26 dBm(802.11n_HT40) 11.76 dBm(802.11ac_VHT80)
			Antenna 2	13.65 dBm(802.11n_HT20) 12.93 dBm(802.11n_HT40) 10.67 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	16.93 dBm(802.11n_HT20) 16.11 dBm(802.11n_HT40) 14.26 dBm(802.11ac_VHT80)
	WLAN 5 470 MHz ~ 5 725 MHz Band	Antenna 1		16.54 dBm(802.11a) 16.21 dBm(802.11n_HT20) 15.83 dBm(802.11n_HT40) 14.47 dBm(802.11ac_VHT80)
		Antenna 1_Straddle		15.10 dBm(802.11a) 14.87 dBm(802.11n_HT20) 15.08 dBm(802.11n_HT40) 13.68 dBm(802.11ac_VHT80)
		Antenna 2		15.22 dBm(802.11a) 15.10 dBm(802.11n_HT20) 15.08 dBm(802.11n_HT40) 13.63 dBm(802.11ac_VHT80)
		Antenna 2_Straddle		13.92 dBm(802.11a) 13.62 dBm(802.11n_HT20) 13.67 dBm(802.11n_HT40) 12.03 dBm(802.11ac_VHT80)

RF OUTPUT POWER	WLAN 5 470 MHz ~ 5 725 MHz Band	Multiple Transmit	Antenna 1	13.19 dBm(802.11n_HT20) 12.61 dBm(802.11n_HT40) 11.54 dBm(802.11ac_VHT80)
			Antenna 2	12.27 dBm(802.11n_HT20) 12.00 dBm(802.11n_HT40) 10.54 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	15.76 dBm(802.11n_HT20) 15.33 dBm(802.11n_HT40) 14.08 dBm(802.11ac_VHT80)
		Multiple Transmit _Straddle	Antenna 1	11.69 dBm(802.11n_HT20) 11.65 dBm(802.11n_HT40) 11.09 dBm(802.11ac_VHT80)
			Antenna 2	10.91 dBm(802.11n_HT20) 10.87 dBm(802.11n_HT40) 9.37 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	14.33 dBm(802.11n_HT20) 14.29 dBm(802.11n_HT40) 13.32 dBm(802.11ac_VHT80)
	WLAN 5 725 MHz ~ 5 850 MHz Band	Antenna 1		15.92 dBm(802.11a) 15.56 dBm(802.11n_HT20) 15.00 dBm(802.11n_HT40) 14.39 dBm(802.11ac_VHT80)
		Antenna 1_Straddle		8.87 dBm(802.11a) 9.05 dBm(802.11n_HT20) 4.69 dBm(802.11n_HT40) -0.56 dBm(802.11ac_VHT80)
		Antenna 2		14.31 dBm(802.11a) 14.01 dBm(802.11n_HT20) 13.63 dBm(802.11n_HT40) 13.07 dBm(802.11ac_VHT80)
		Antenna 2_Straddle		7.52 dBm(802.11a) 7.72 dBm(802.11n_HT20) 2.92 dBm(802.11n_HT40) -2.64 dBm(802.11ac_VHT80)

RF OUTPUT POWER	WLAN 5 725 MHz ~ 5 850 MHz Band	Multiple Transmit	Antenna 1	12.57 dBm(802.11n_HT20) 11.97 dBm(802.11n_HT40) 10.44 dBm(802.11ac_VHT80)
			Antenna 2	11.25 dBm(802.11n_HT20) 11.03 dBm(802.11n_HT40) 9.05 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	14.92 dBm(802.11n_HT20) 14.54 dBm(802.11n_HT40) 12.81 dBm(802.11ac_VHT80)
		Multiple Transmit _Straddle	Antenna 1	5.84 dBm(802.11n_HT20) 1.19 dBm(802.11n_HT40) -2.93 dBm(802.11ac_VHT80)
			Antenna 2	4.86 dBm(802.11n_HT20) 0.04 dBm(802.11n_HT40) -5.19 dBm(802.11ac_VHT80)
			Antenna 1 + Antenna 2	8.39 dBm(802.11n_HT20) 3.66 dBm(802.11n_HT40) -0.90 dBm(802.11ac_VHT80)

ANTENNA TYPE	SLOT Antenna		
ANTENNA GAIN	Bluetooth	-0.71 dBi	
	WLAN 2.4 GHz	Antenna 1	-0.71 dBi
		Antenna 2	1.11 dBi
		Multiple Transmit	3.30 dBi
	5 150 MHz ~ 5 250 MHz Band	Antenna 1	2.48 dBi
		Antenna 2	0.71 dBi
		Multiple Transmit	4.69 dBi
	5 250 MHz ~ 5 350 MHz Band	Antenna 1	2.48 dBi
		Antenna 2	0.71 dBi
		Multiple Transmit	4.69 dBi
	5 470 MHz ~ 5 725 MHz Band	Antenna 1	2.78 dBi
		Antenna 2	0.51 dBi
		Multiple Transmit	4.80 dBi
	5 725 MHz ~ 5 850 MHz Band	Antenna 1	2.32 dBi
		Antenna 2	1.02 dBi
		Multiple Transmit	4.73 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)		48 MHz, 27 MHz, 38.4 MHz	

3.2 Alternative type(s)/model(s); also covered by this test report.

-. The following lists consist of the added model and their differences.

Model Name	Differences	Tested
AN-VC22PR	Basic Model	☒
HL-GE1	This model is identical to the basic model except for the model name.	☐

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacturer is responsible for the compliance of all variants.

4. EUT MODIFICATIONS

-. None

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	Hitachi-LG Data Storage Korea, Inc.	N/A	N/A
Sub Board	Hitachi-LG Data Storage Korea, Inc.	N/A	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
AN-VC22PR	Hitachi-LG Data Storage Korea, Inc.	Network Webcam (EUT)	-
14-n241TU	HP	Notebook PC	EUT
PPP009C	CHICONY POWER TECHNOLOGY (Chong qing) CO., Ltd.	AC Adapter	-

5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at 2 402 MHz, 2 441MHz, and 2 480 MHz to get a maximum emission levels from the EUT. The EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis, but the worst data was recorded in this report.

-. Frequency / Channel Operations

Channel	Frequency
0	2 402
39	2 441
78	2 480

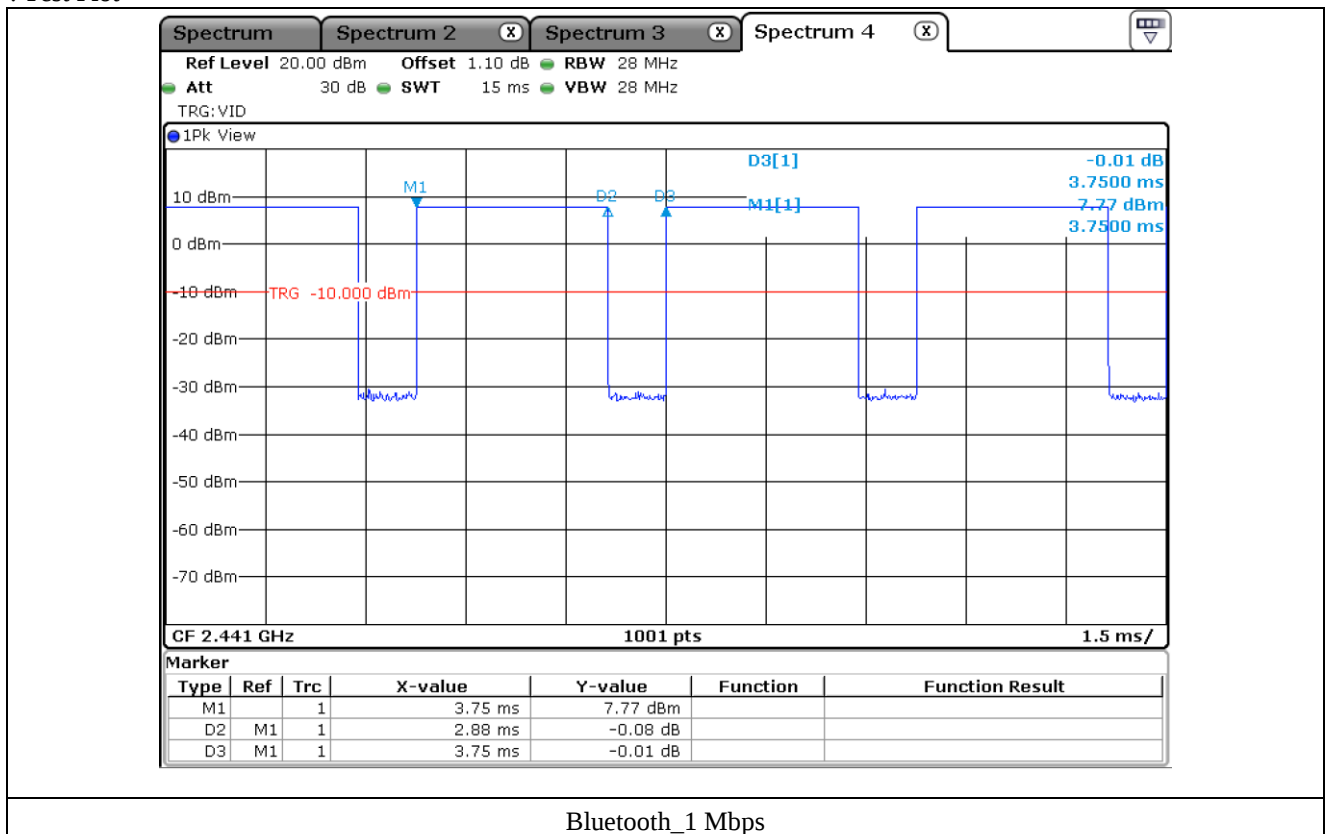
-. Duty Cycle

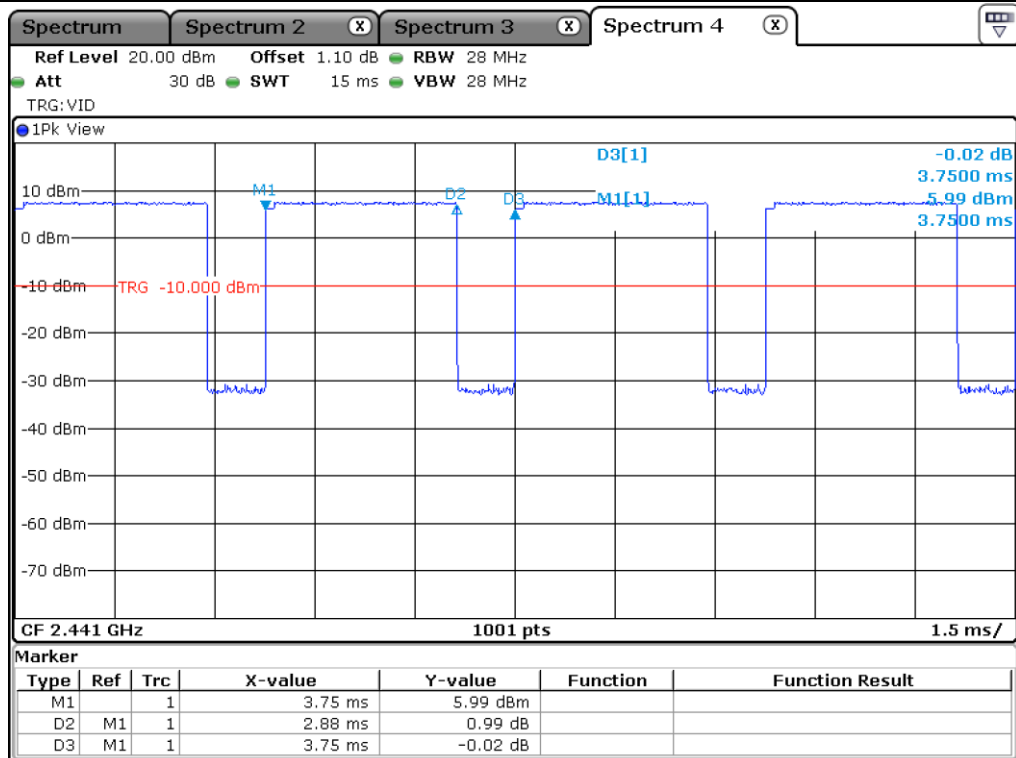
Mode	Tx On Time [ms]	Tx Off Time [ms]	Duty Cycle [%]	Correction Factor [dB]
Bluetooth [1 Mbps]	2.88	0.87	76.80	1.15
Bluetooth [2 Mbps]	2.88	0.87	76.80	1.15
Bluetooth [3 Mbps]	2.88	0.87	76.80	1.15

Note – Duty Cycle : (Tx On Time / (Tx On Time + Tx Off Time)) * 100

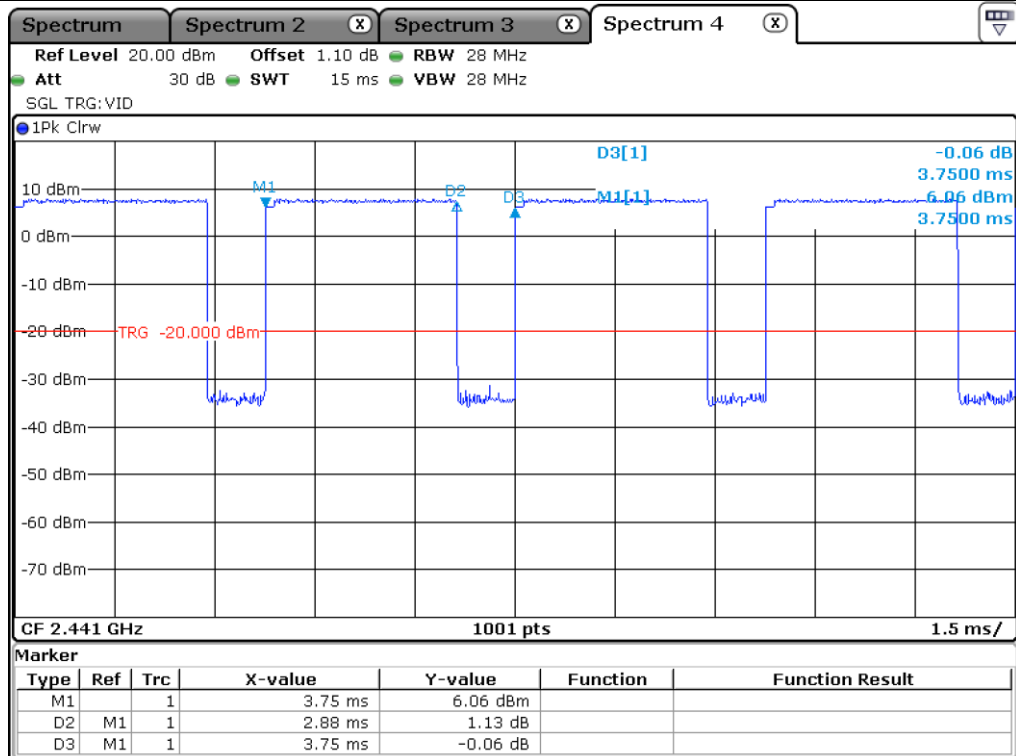
Correction Factor : 10 * Log(1 / (Duty Cycle / 100))

-. Test Plot





Bluetooth_2 Mbps



Bluetooth_3 Mbps

5.4 Configuration of Test System

Line Conducted Test: The EUT was tested in the Transmitting mode. All supporting equipment were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

The SLOT Antennas are located the in the EUT internally, so It is not able to be replaced by user.

6. PRELIMINARY TEST

6.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

6.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

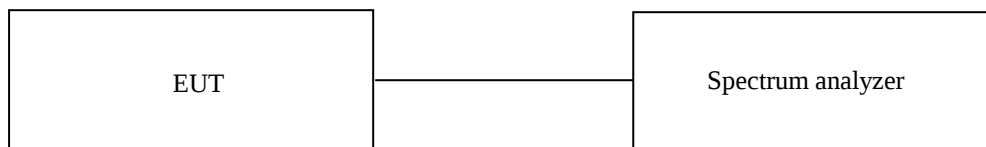
7. MINIMUM 20 dB BANDWIDTH

7.1 Operating environment

Temperature : 23 °C
Relative humidity : 50 % R.H.

7.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 10 kHz or 20 kHz, and peak detection was used. The 20 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 20 dB.



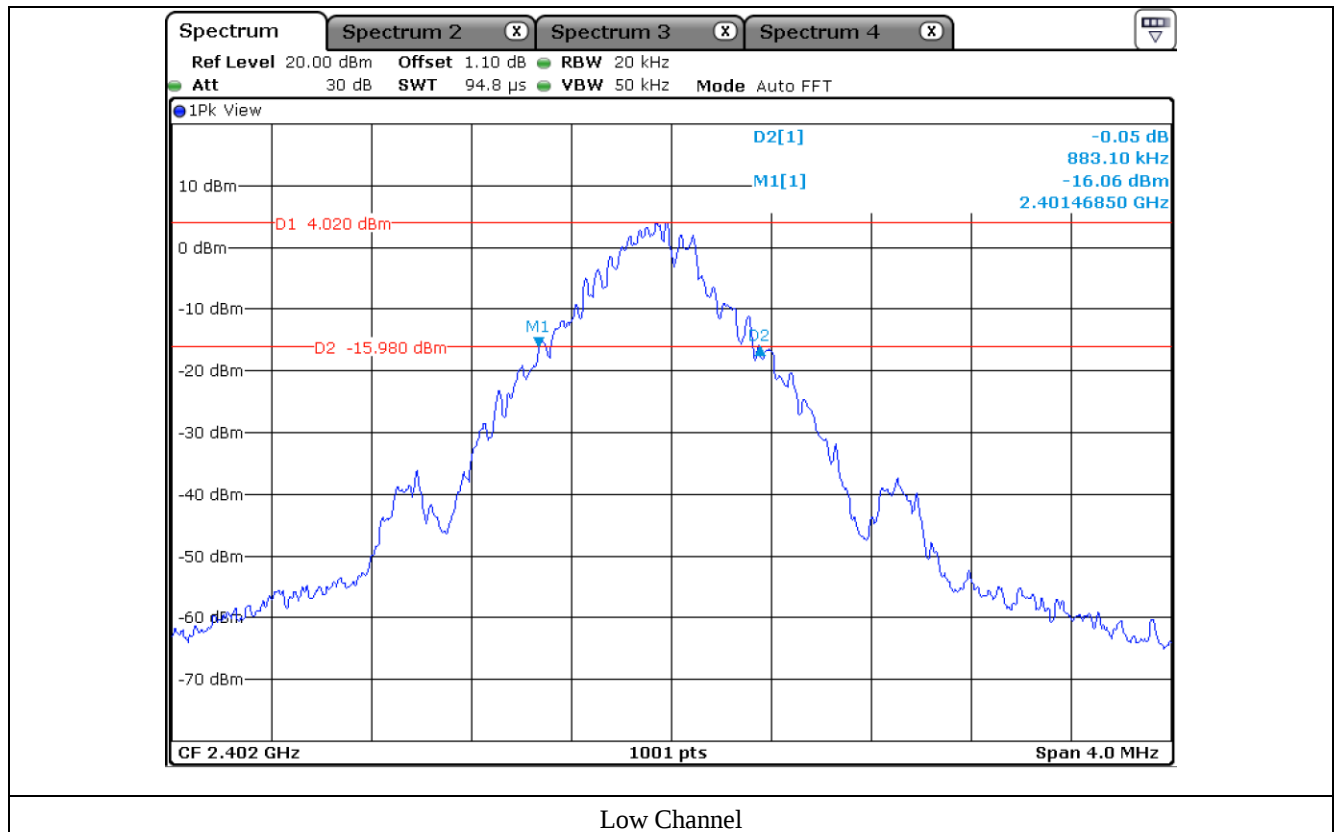
7.3 Test Date

August 19, 2022 ~ October 05, 2022

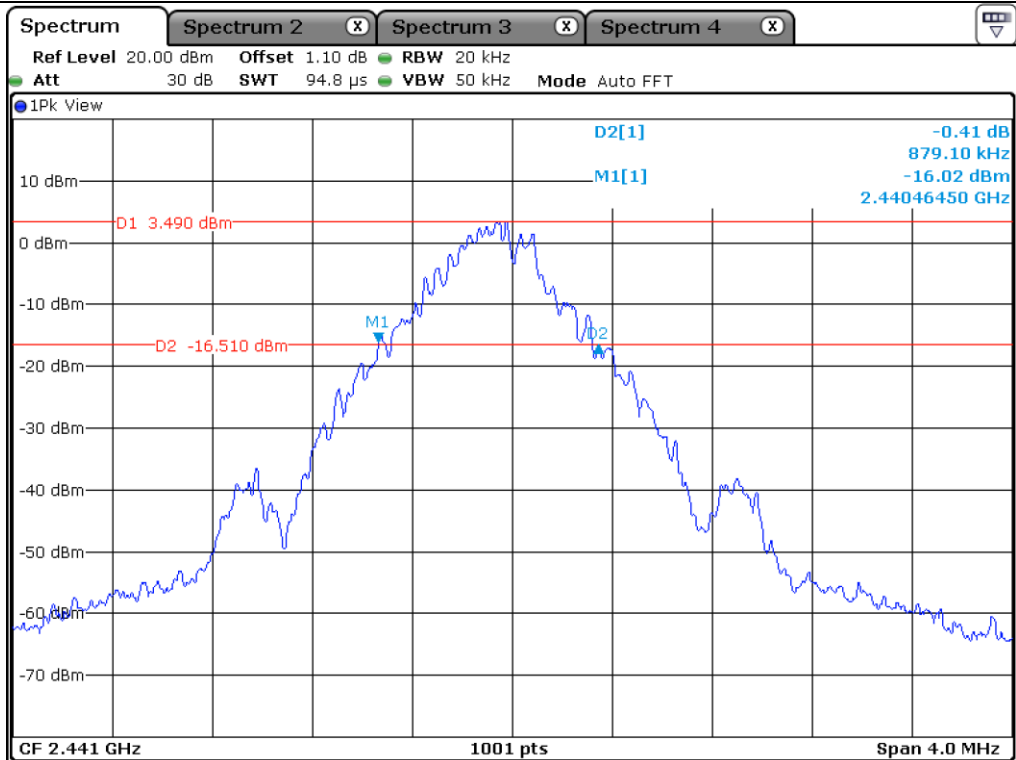
7.4 Test Data

7.4.1 Test data for 1 Mbps

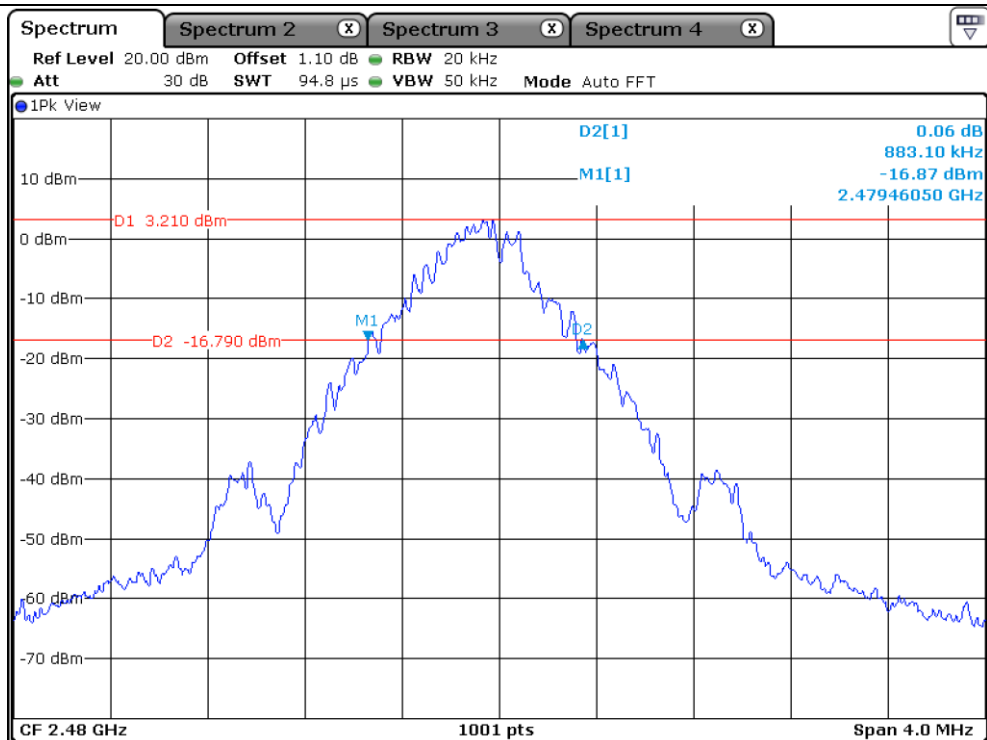
Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
Low	2 402.00	883.10
Middle	2 441.00	879.10
High	2 480.00	883.10



Low Channel



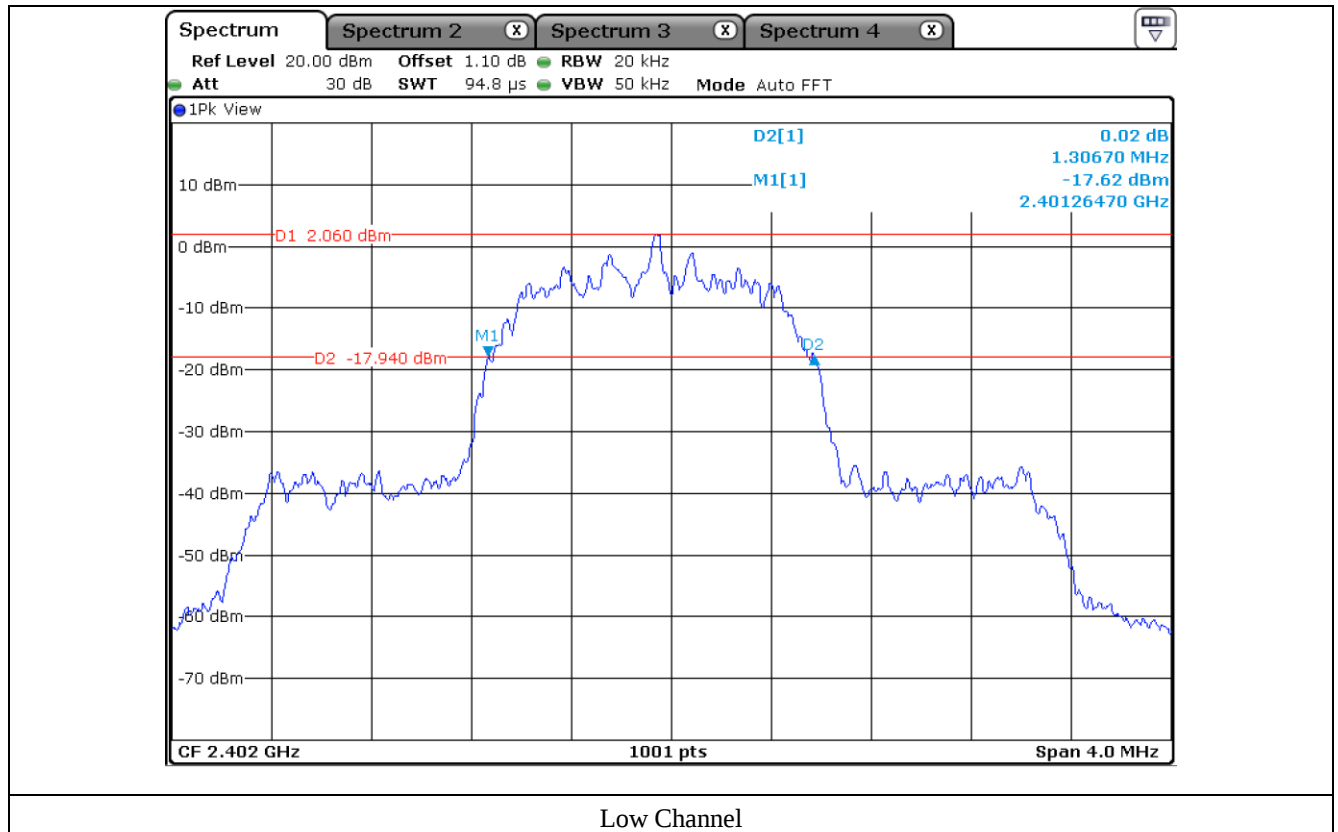
Middle Channel

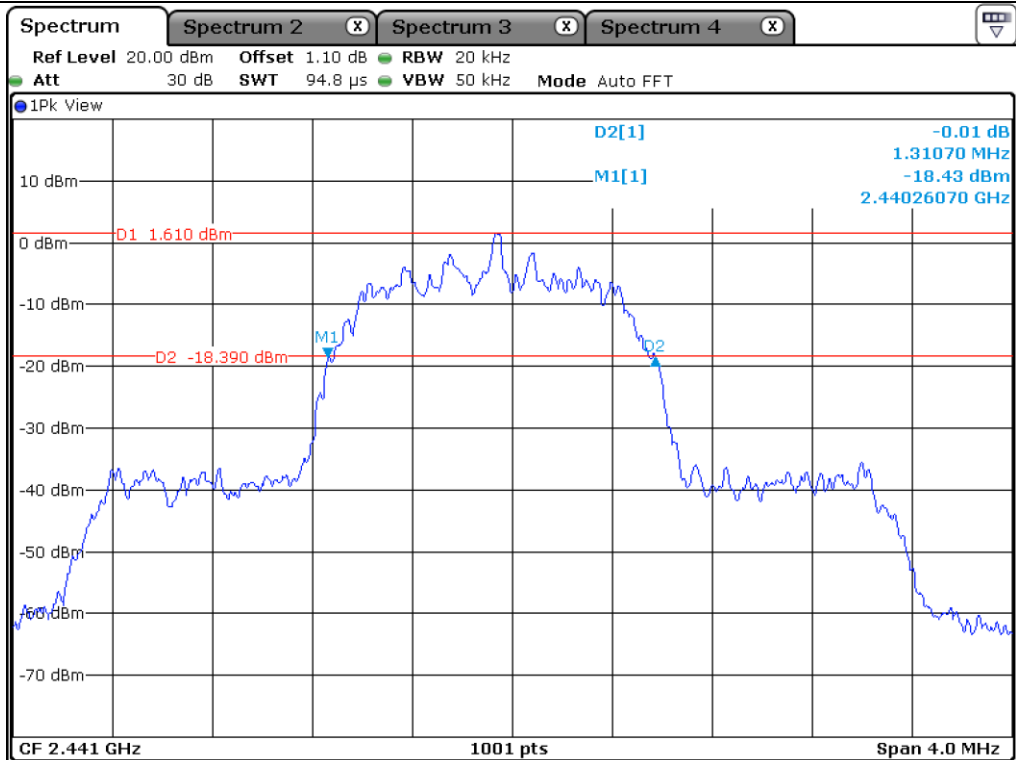


High Channel

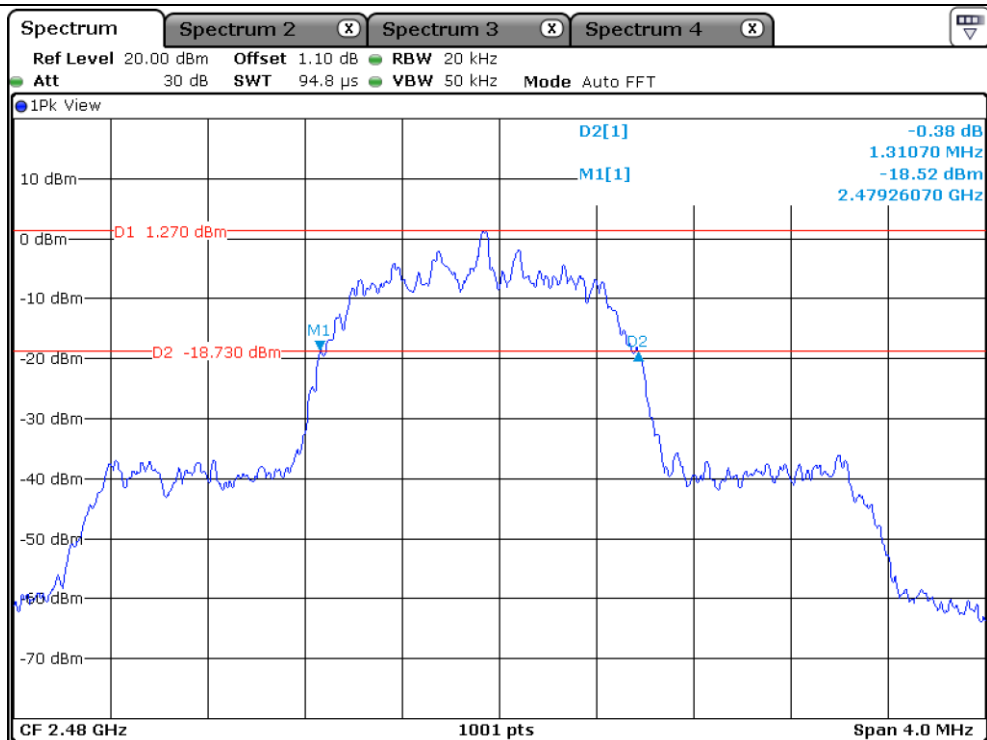
7.4.2 Test data for 2 Mbps

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
Low	2 402.00	1 306.70
Middle	2 441.00	1 310.70
High	2 480.00	1 310.70





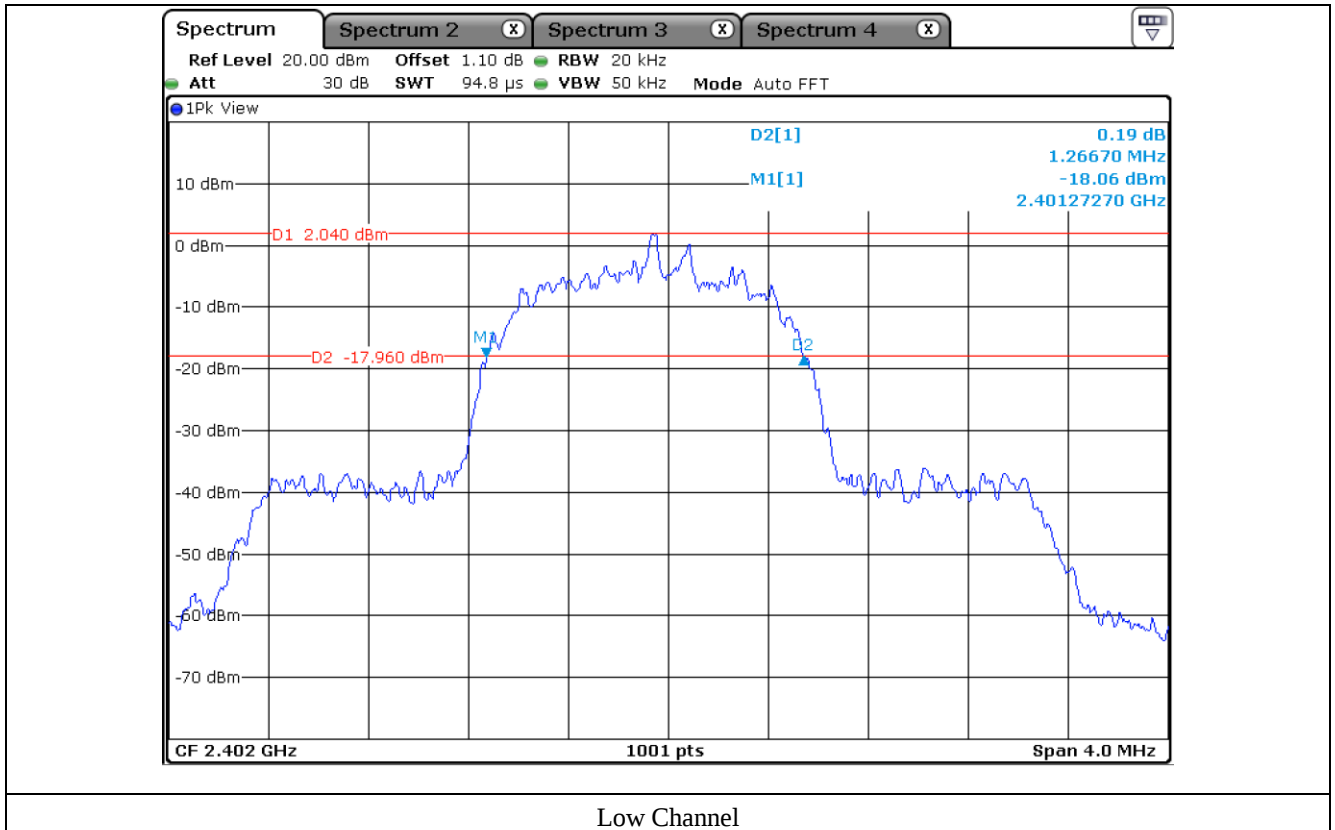
Middle Channel

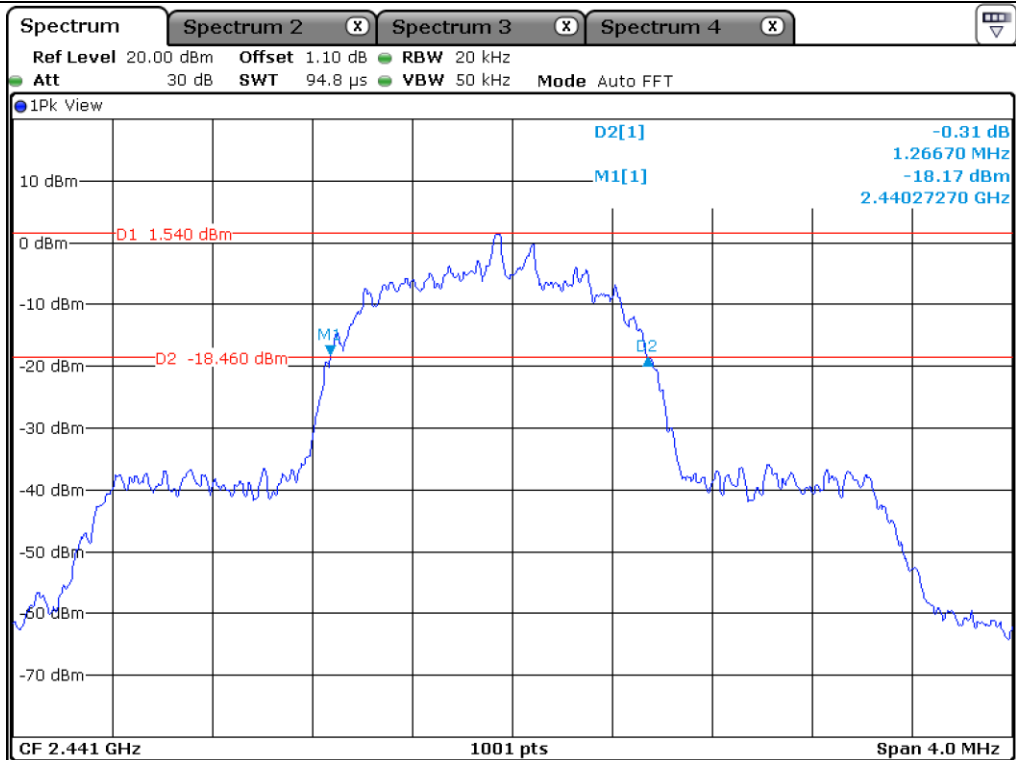


High Channel

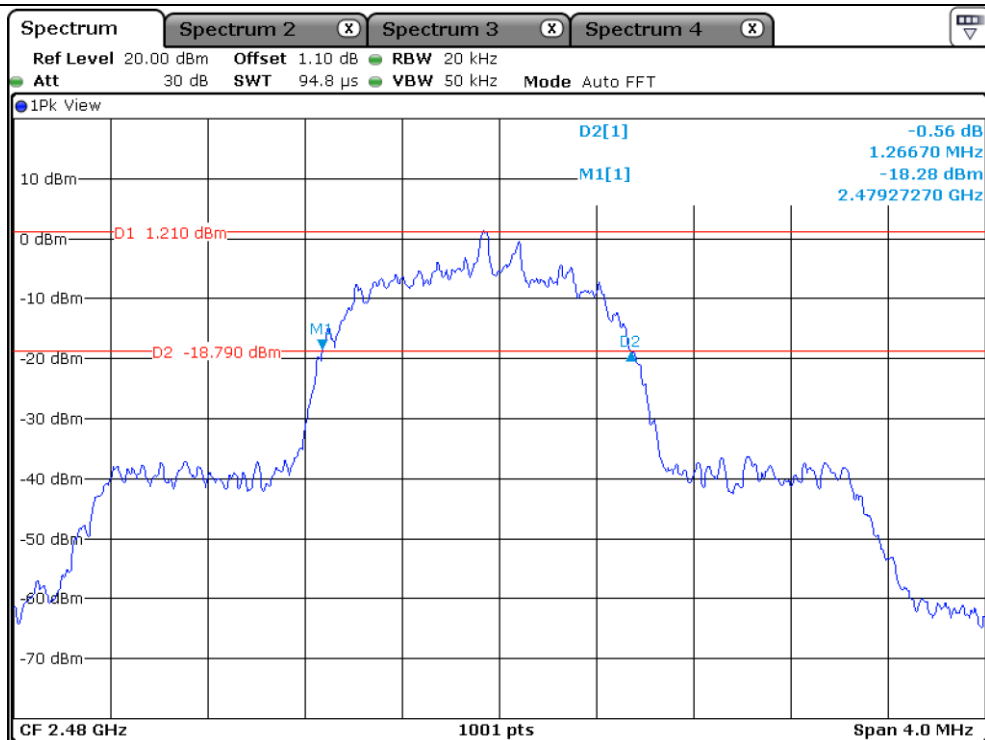
7.4.3 Test data for 3 Mbps

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
Low	2 402.00	1 266.70
Middle	2 441.00	1 266.70
High	2 480.00	1 266.70





Middle Channel



High Channel

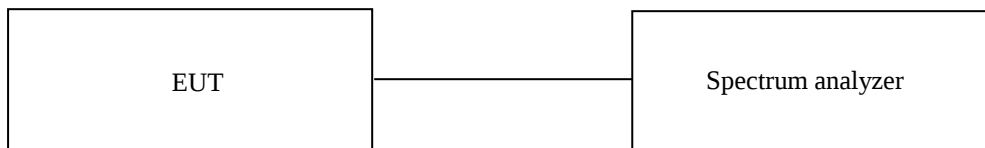
8. HOPPING FREQUENCY SEPARATION

8.1 Operating environment

Temperature : 23 °C
Relative humidity : 50 % R.H.

8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 5 MHz. The analyzer is set to peak hold then a pseudo-random hopping sequence of the transmitter is captured. The mark delta function was used to measure the frequency separation between two adjacent hopping channels.



8.3 Test Date

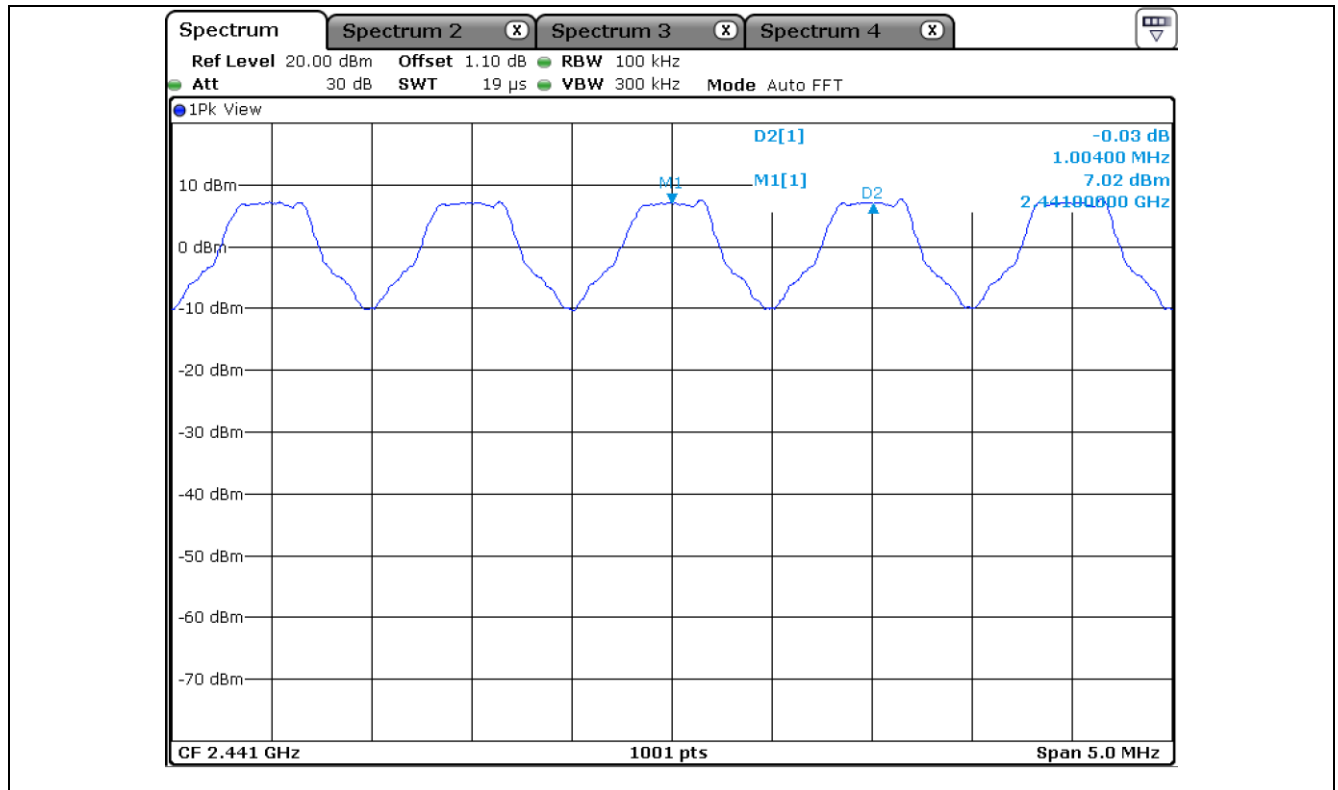
August 19, 2022 ~ October 05, 2022

8.4 Test Data

8.4.1 Test data for 1 Mbps

-. Test Result : Pass

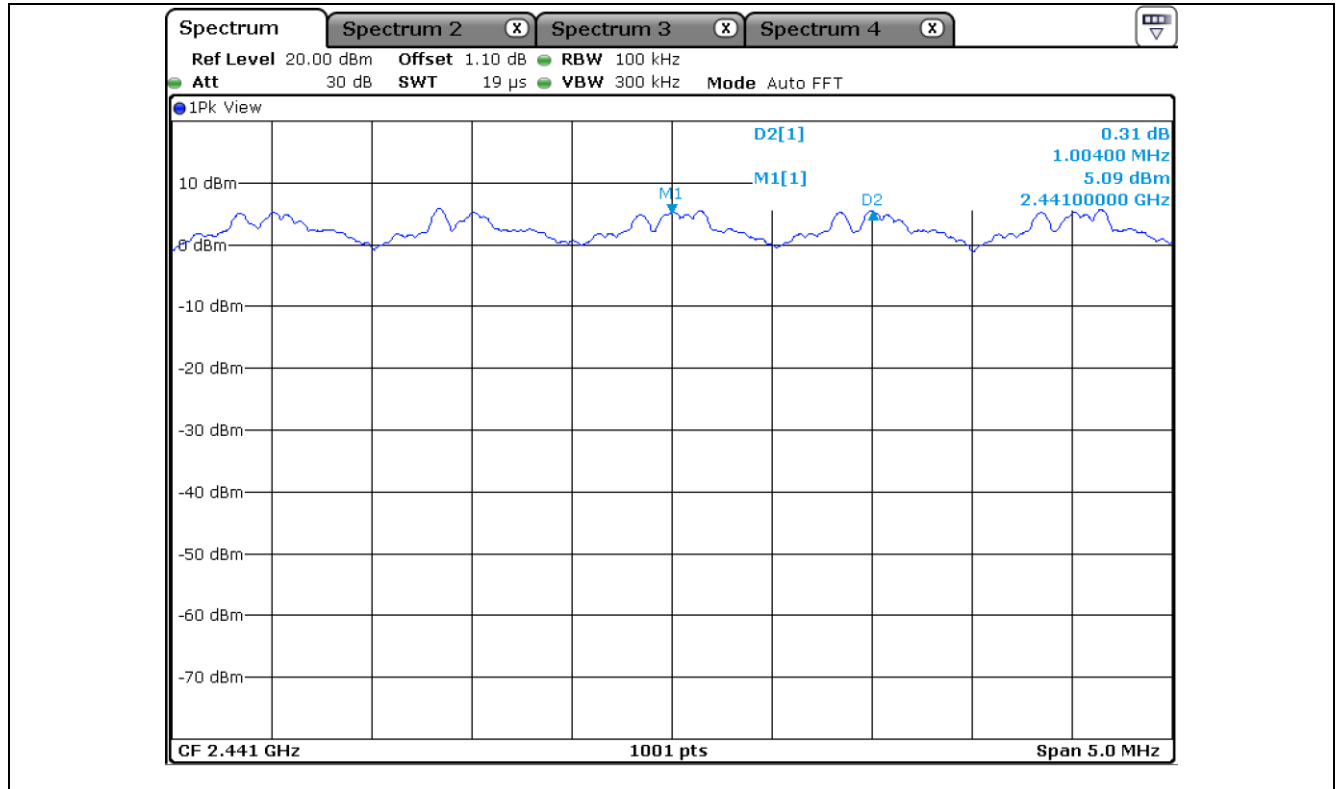
Measured Value (kHz)	Two-third of 20 dB Bandwidth (kHz)	Limit
1 004.00	586.07	Separated by a minimum of 586.07 kHz



8.4.2 Test data for 2 Mbps

-. Test Result : Pass

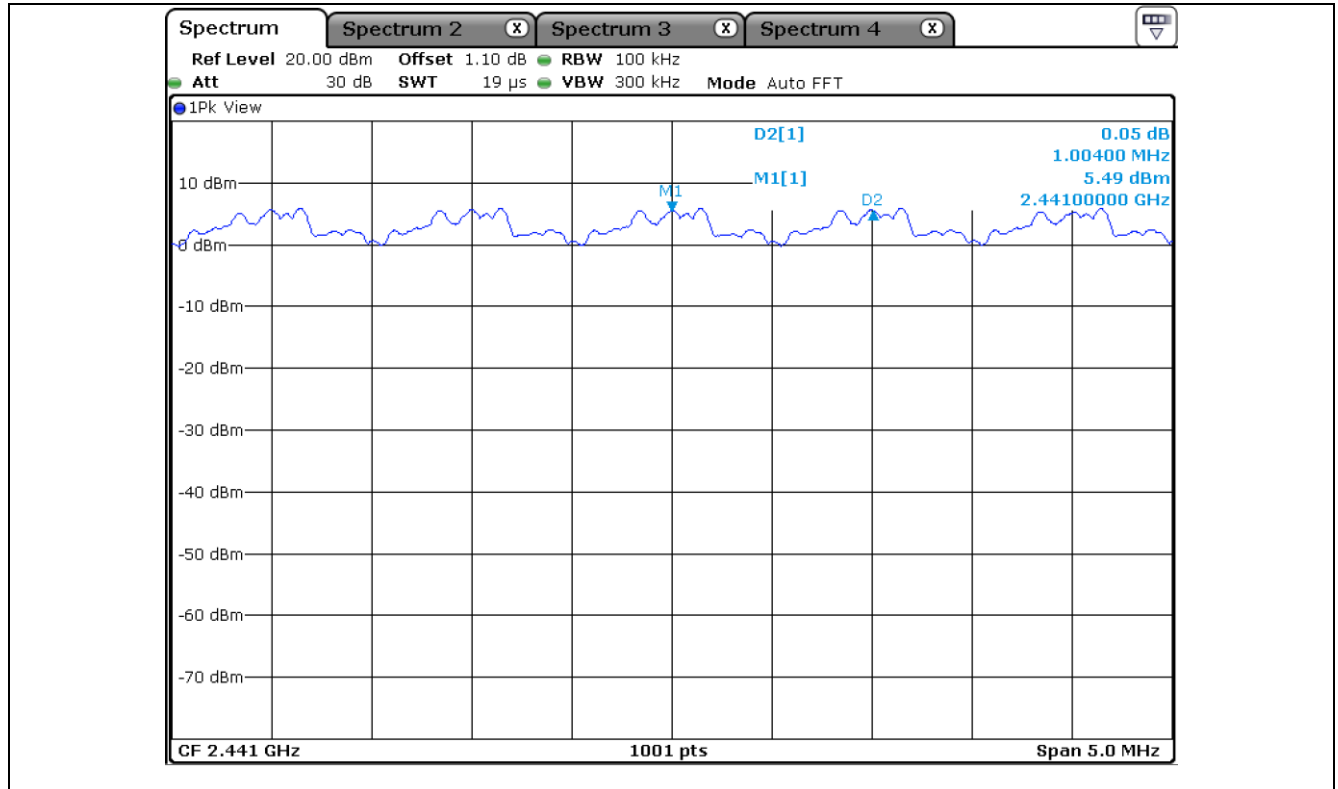
Measured Value (kHz)	Two-third of 20 dB Bandwidth (kHz)	Limit
1 004.00	873.80	Separated by a minimum of 873.80 kHz



8.4.3 Test data for 3 Mbps

-. Test Result : Pass

Measured Value (kHz)	Two-third of 20 dB Bandwidth (kHz)	Limit
1 004.00	844.47	Separated by a minimum of 844.47 kHz



9. NUMBER OF HOPPING CHANNELS

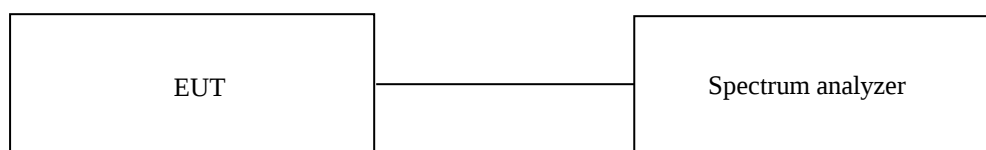
9.1 Operating environment

Temperature : 23 °C

Relative humidity : 50 % R.H.

9.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 100 MHz and the resolution bandwidth is set to 100 kHz. The analyzer is set to peak hold and then complete pseudo-random hopping sequence of the transmitter is captured.



9.3 Test Date

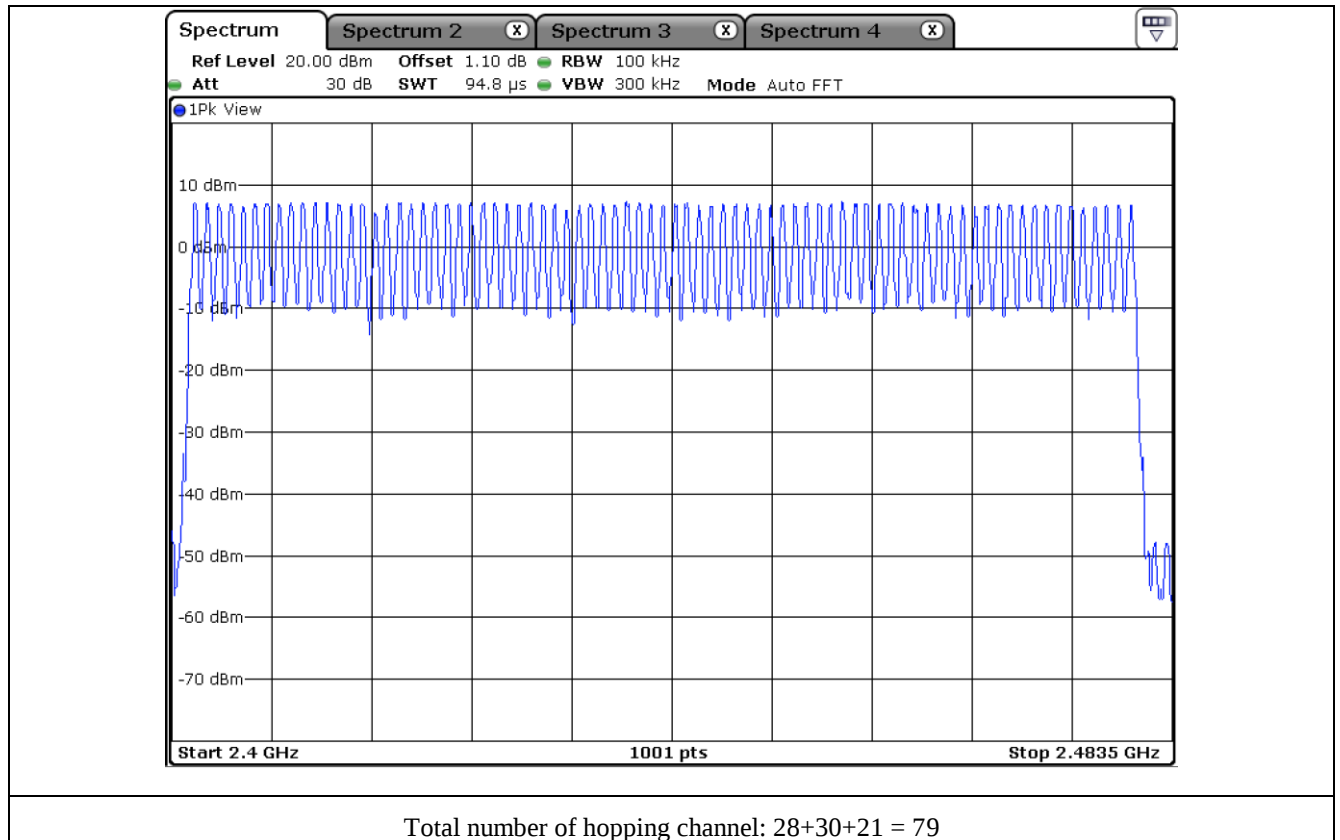
August 19, 2022 ~ October 05, 2022

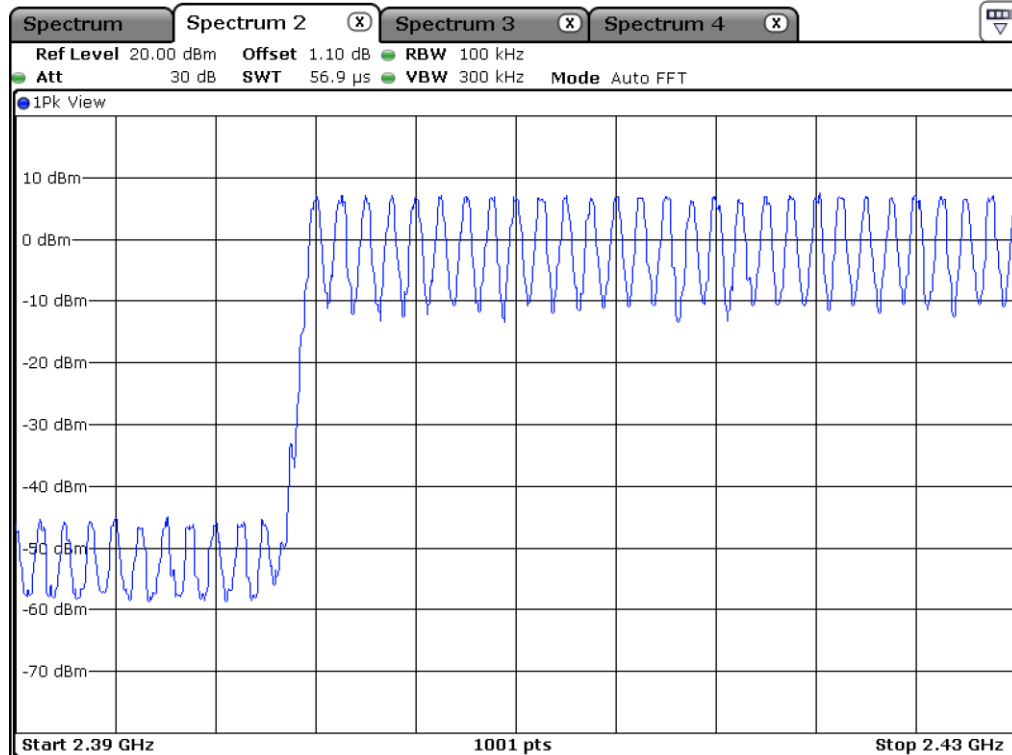
9.4 Test Data

9.4.1 Test data for 1 Mbps

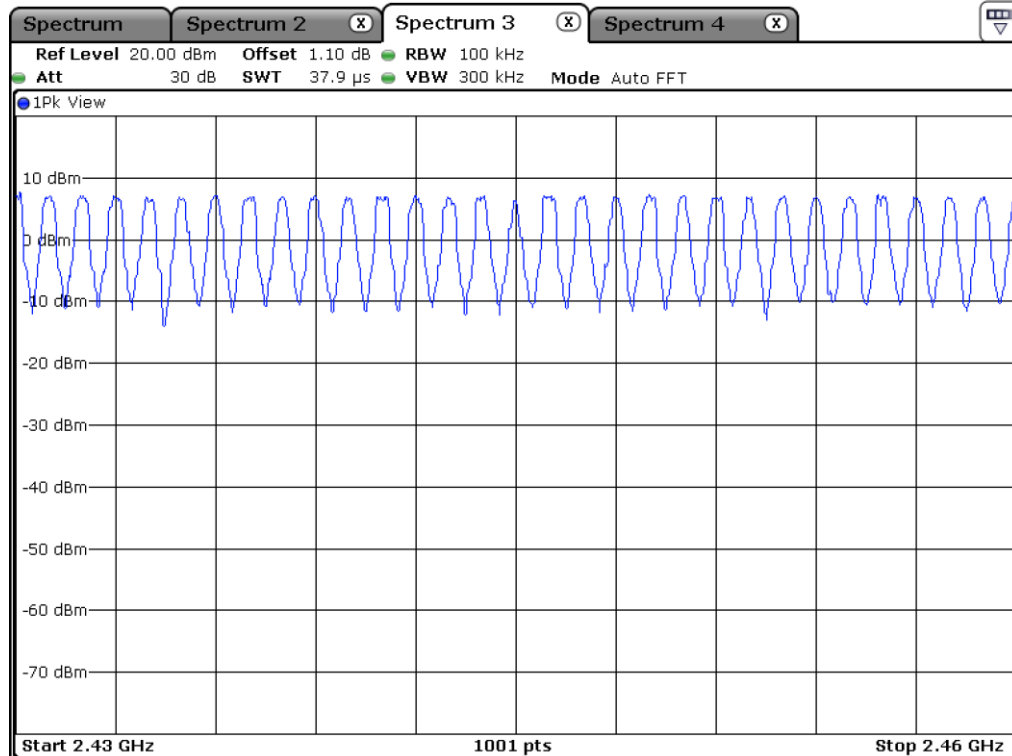
-. Test Result : Pass

Data Transfer Rate	Measured value (Number)	Limit (Number)	Margin (Number)
1 Mbps	79	Minimum of 15	64

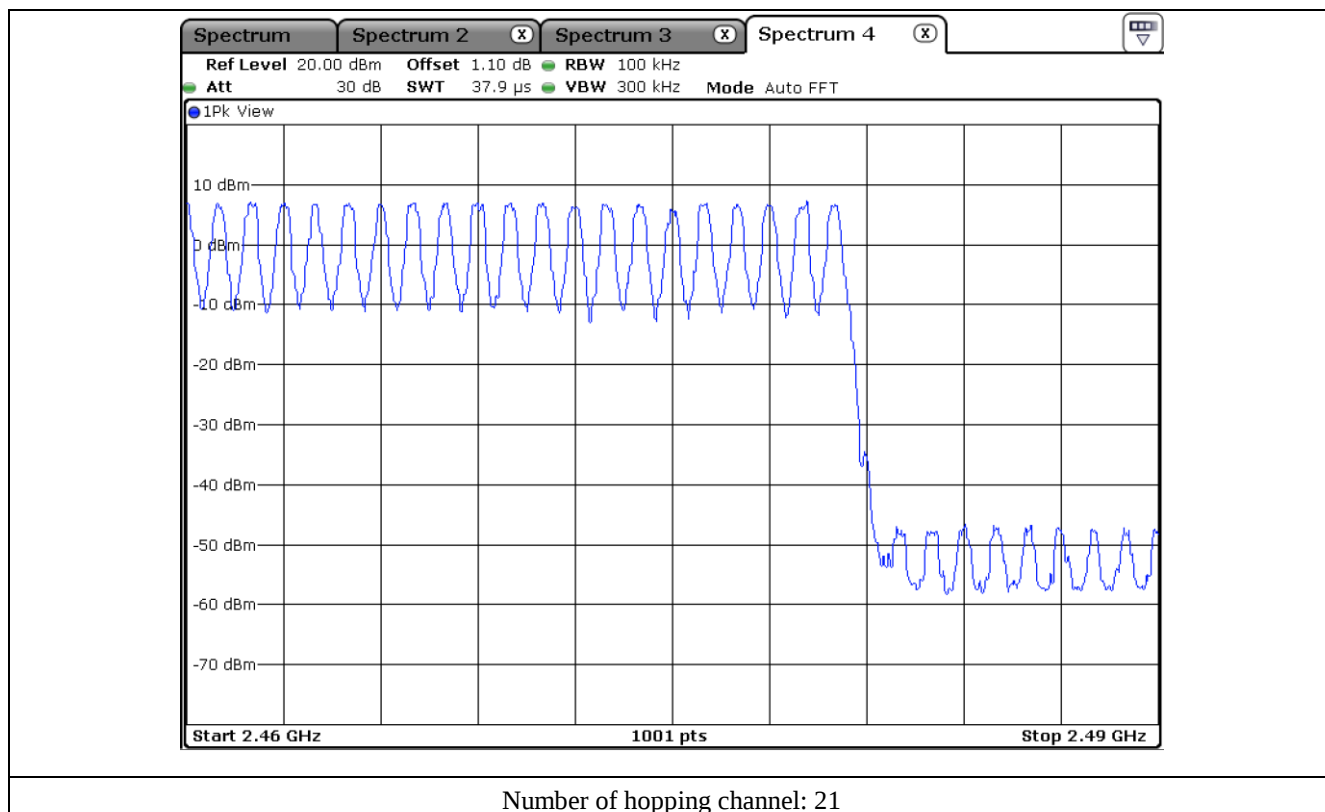




Number of hopping channel: 28



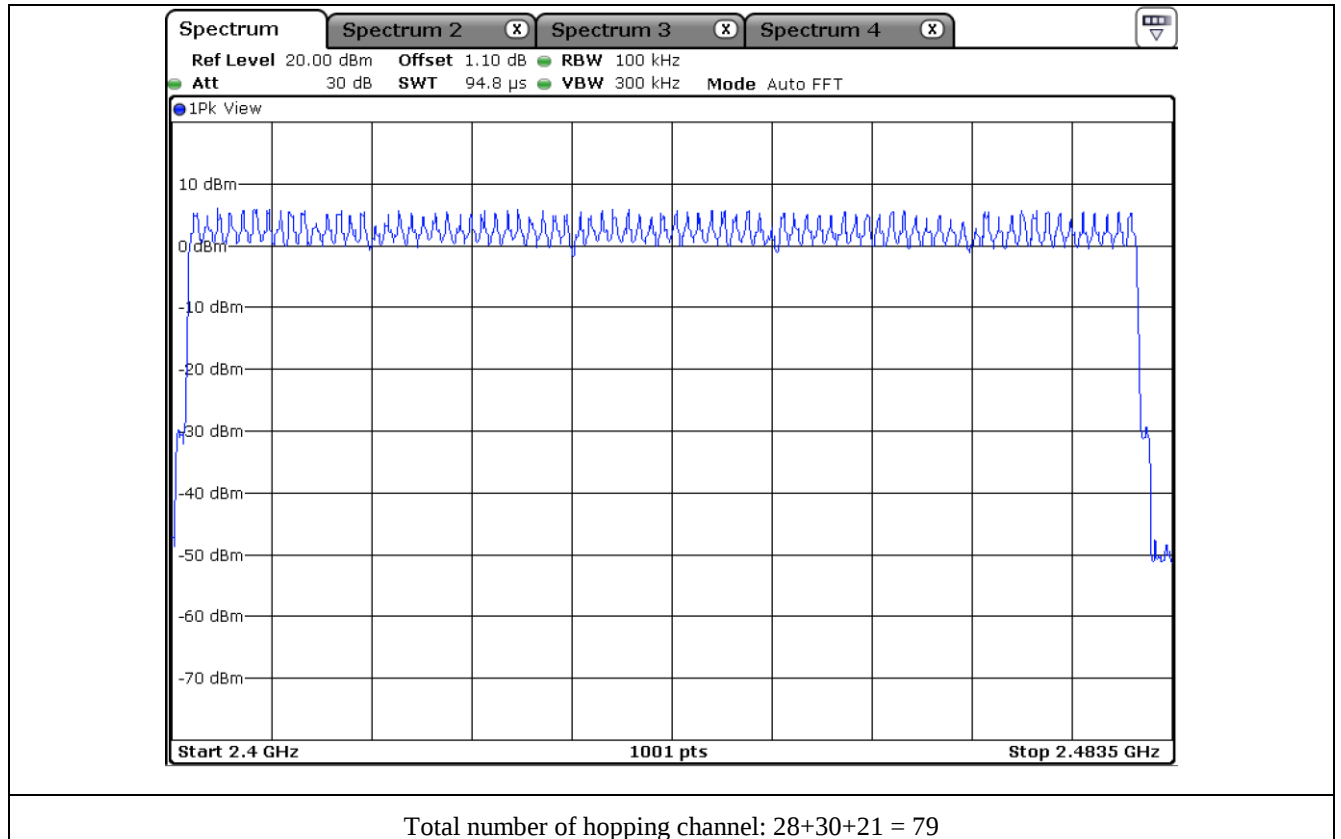
Number of hopping channel: 30

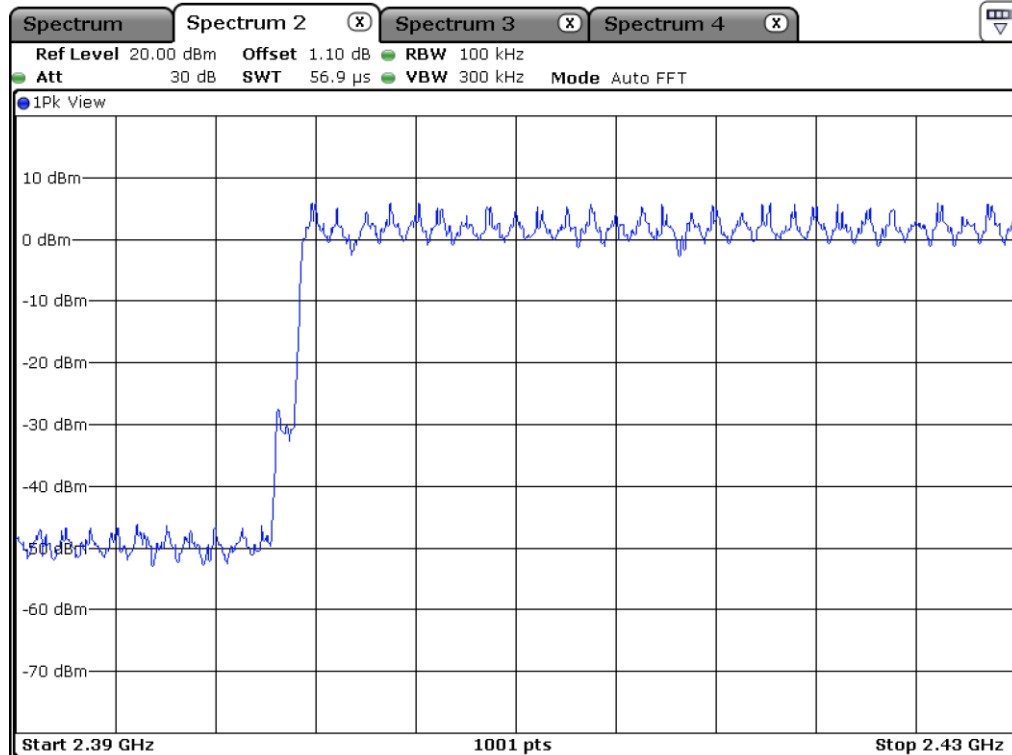


9.4.2 Test data for 2 Mbps

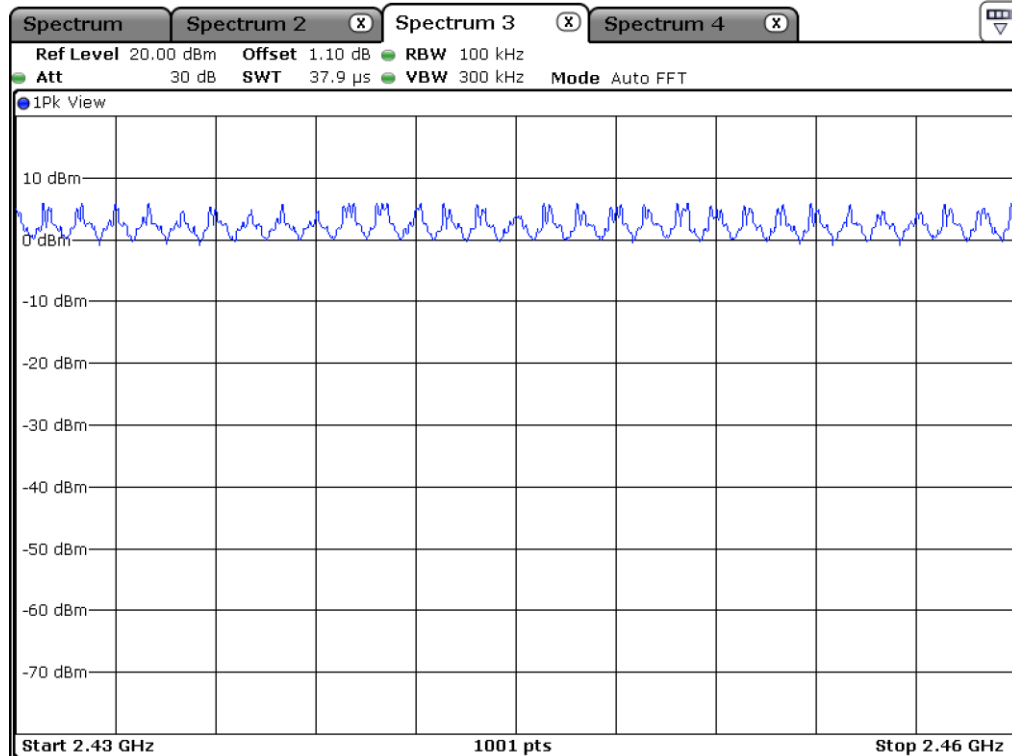
-. Test Result : Pass

Data Transfer Rate	Measured value (Number)	Limit (Number)	Margin (Number)
2 Mbps	79	Minimum of 15	64

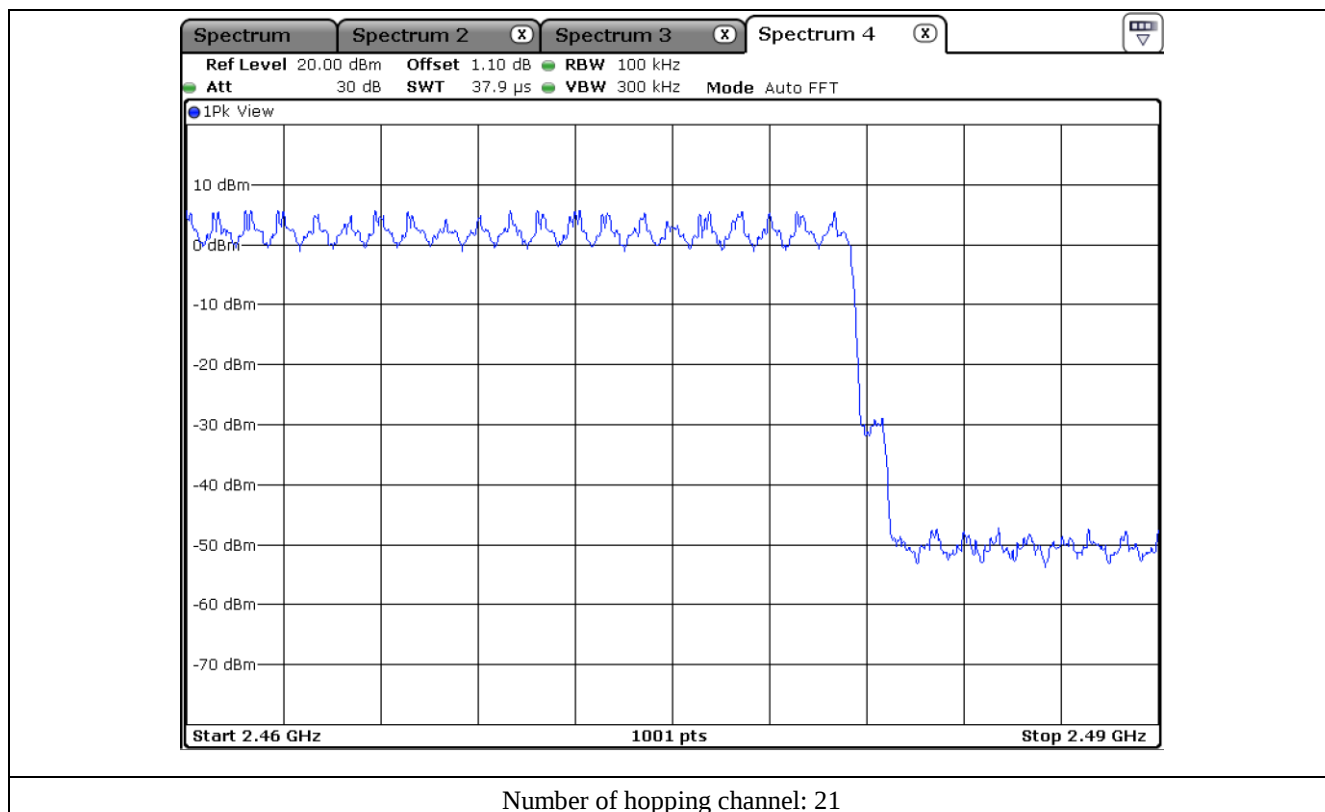




Number of hopping channel: 28



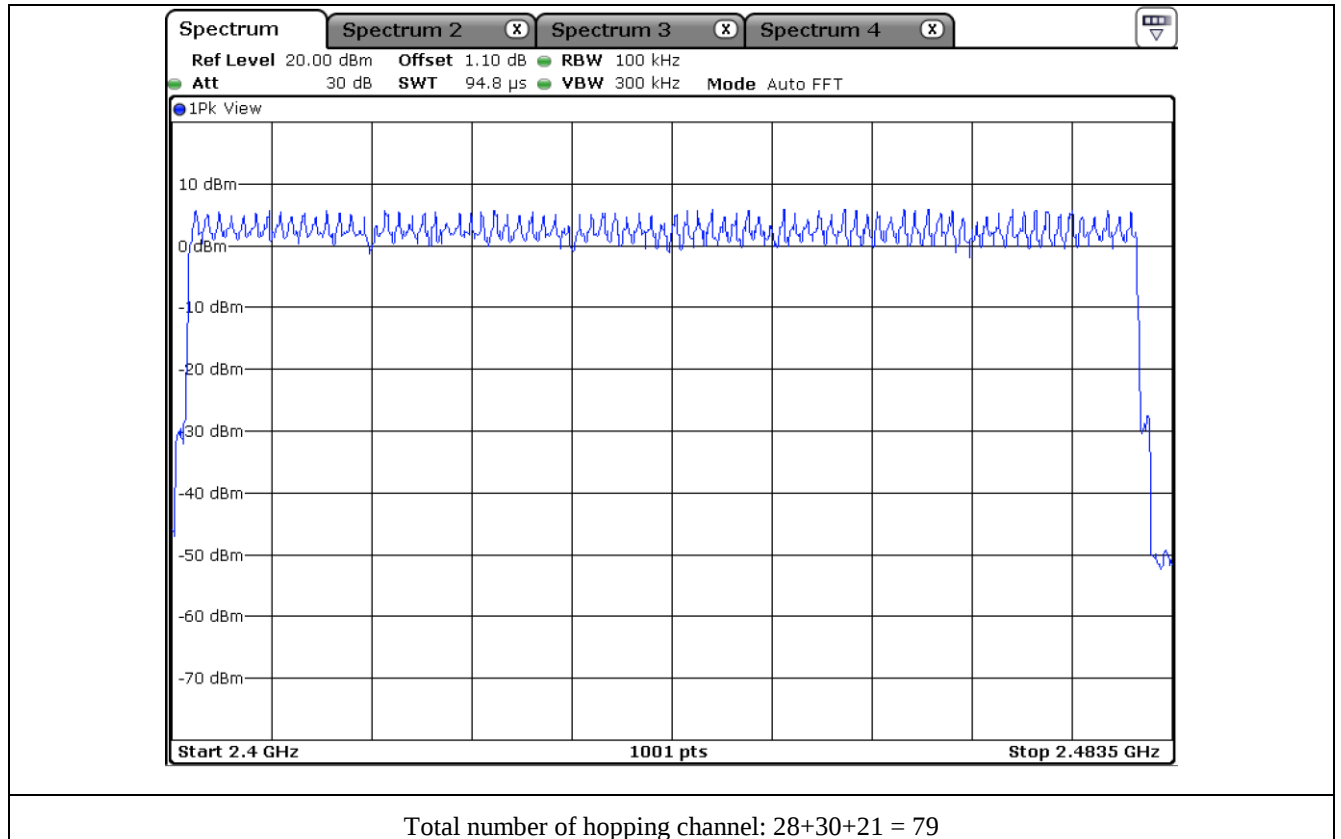
Number of hopping channel: 30

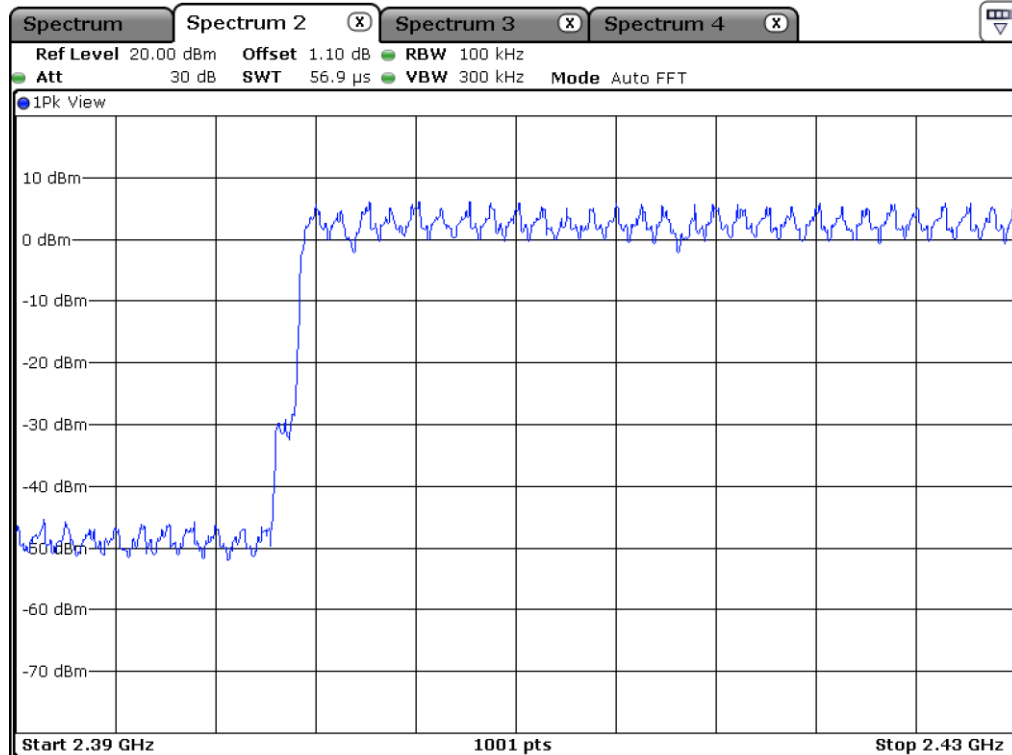


9.4.3 Test data for 3 Mbps

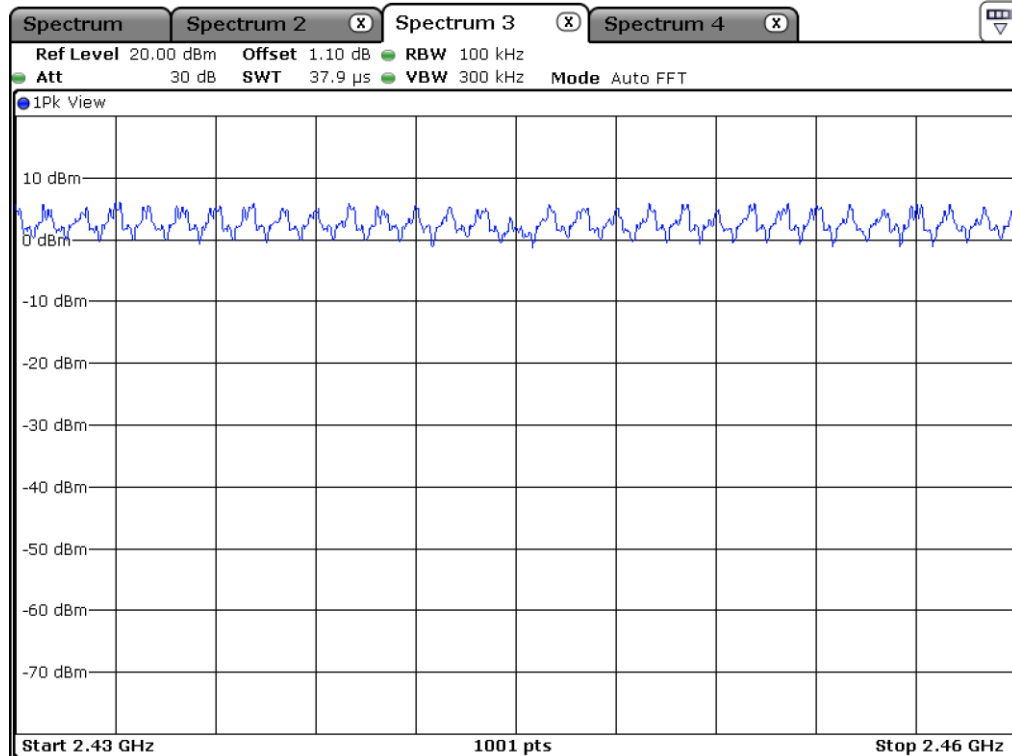
-. Test Result : Pass

Data Transfer Rate	Measured value (Number)	Limit (Number)	Margin (Number)
3 Mbps	79	Minimum of 15	64

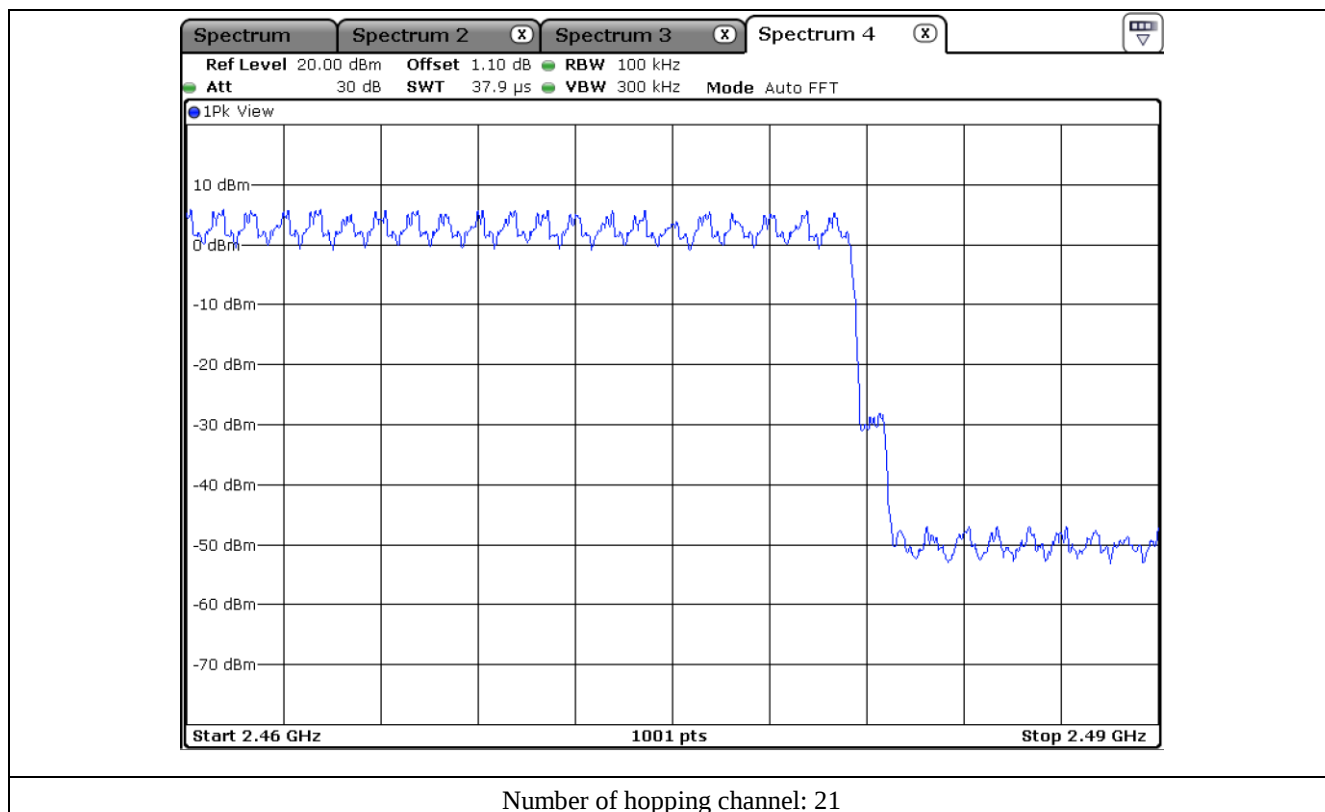




Number of hopping channel: 28



Number of hopping channel: 30



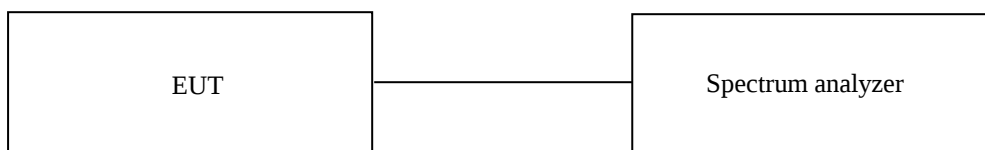
10. TIME OF OCCUPANCY

10.1 Operating environment

Temperature : 23 °C
Relative humidity : 50 % R.H.

10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The transmitter is set to operate in its normal frequency hopping mode. The center frequency of the spectrum analyzer is set to one of hopping channels near the center of the operating band and span is set to zero Hz. The sweep time is set to display one complete pulse. The mark delta function is used to measure the duration of the pulses.



10.3 Test Date

August 19, 2022 ~ October 05, 2022

10.4 Test Data

10.4.1 Test data for 1 Mbps

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625 μ s with 79 channels.

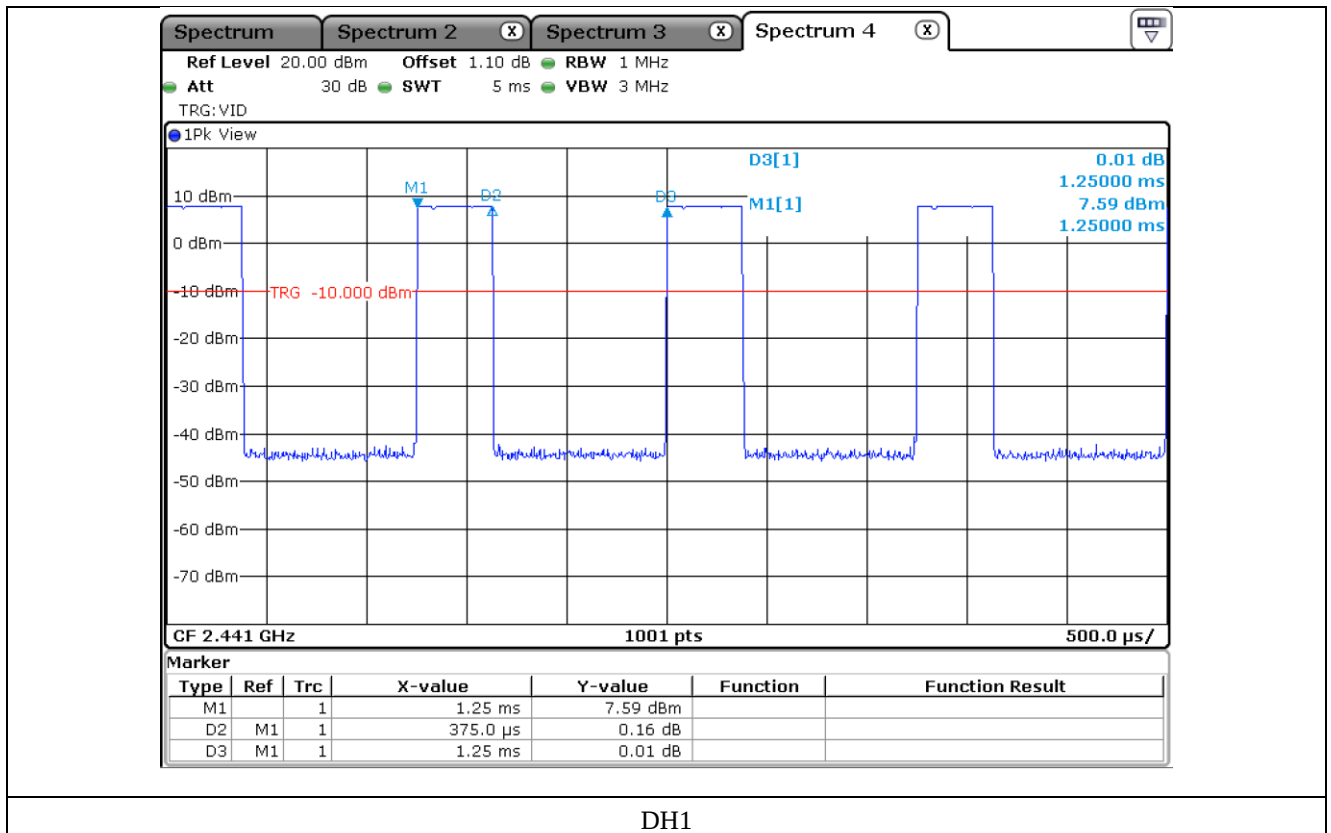
For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second ($= 1\,600/2/79$) for DH1, and 5.06 times ($= 1\,600/4/79$) for DH3, and 3.38 times ($= 1\,600/6/79$) for DH5.

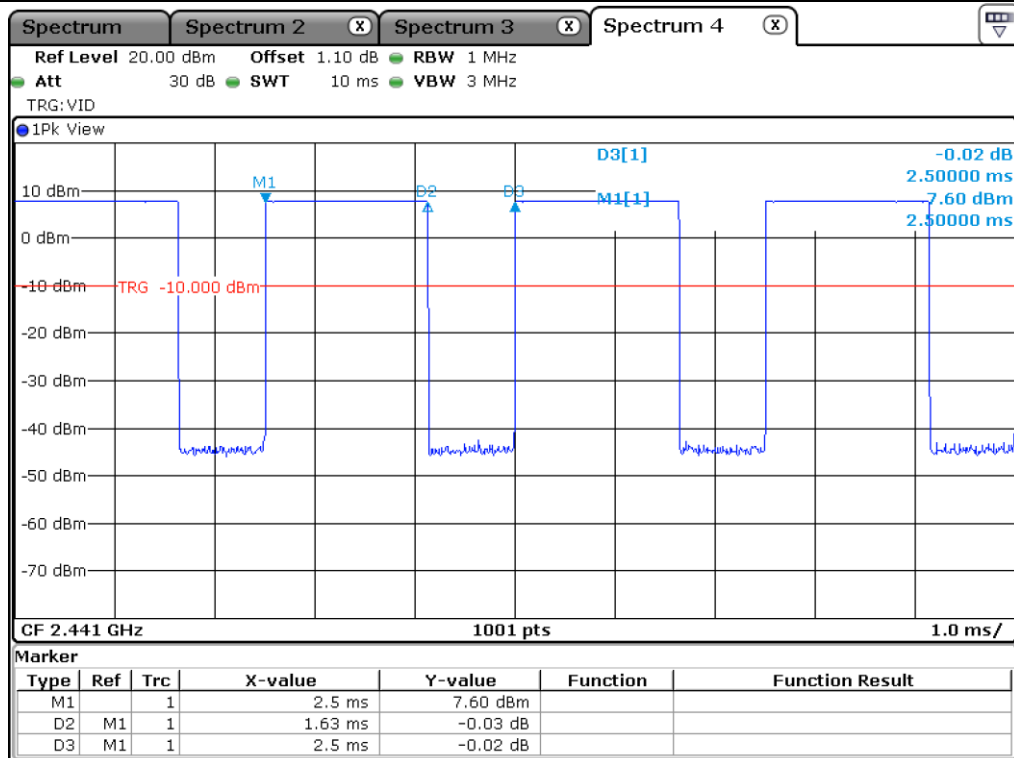
Packet Type	Pulse Time (ms)	Hops per second with channels	Period Time (ms)	Total Dwell Time (ms)	Limit (ms)	Test Result
DH1	0.375	10.13	31.60	120.04	400.00	PASS
DH3	1.630	5.06	31.60	260.63	400.00	
DH5	2.880	3.38	31.60	307.61	400.00	

Total dwell time is calculated as following.

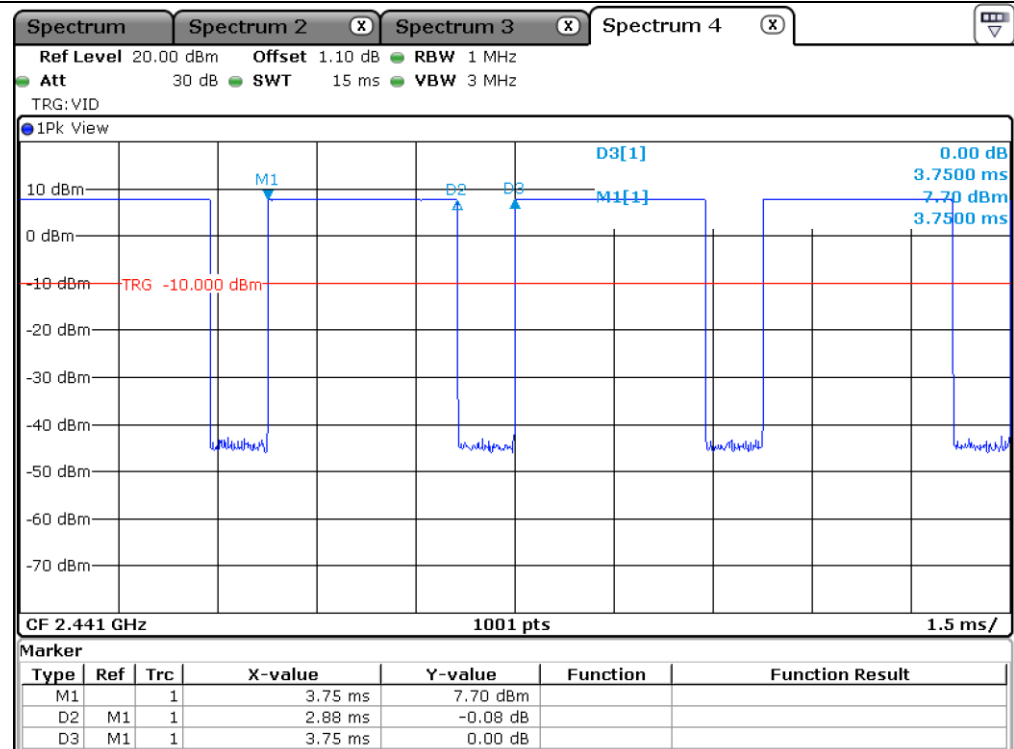
Total Dwell Time = Pulse time * Hops per second with channels * period time

Remark: See next page for an overview sweep performed with peak detector.





DH3



DH5

10.4.2 Test data for 2 Mbps

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625 μ s with 79 channels.

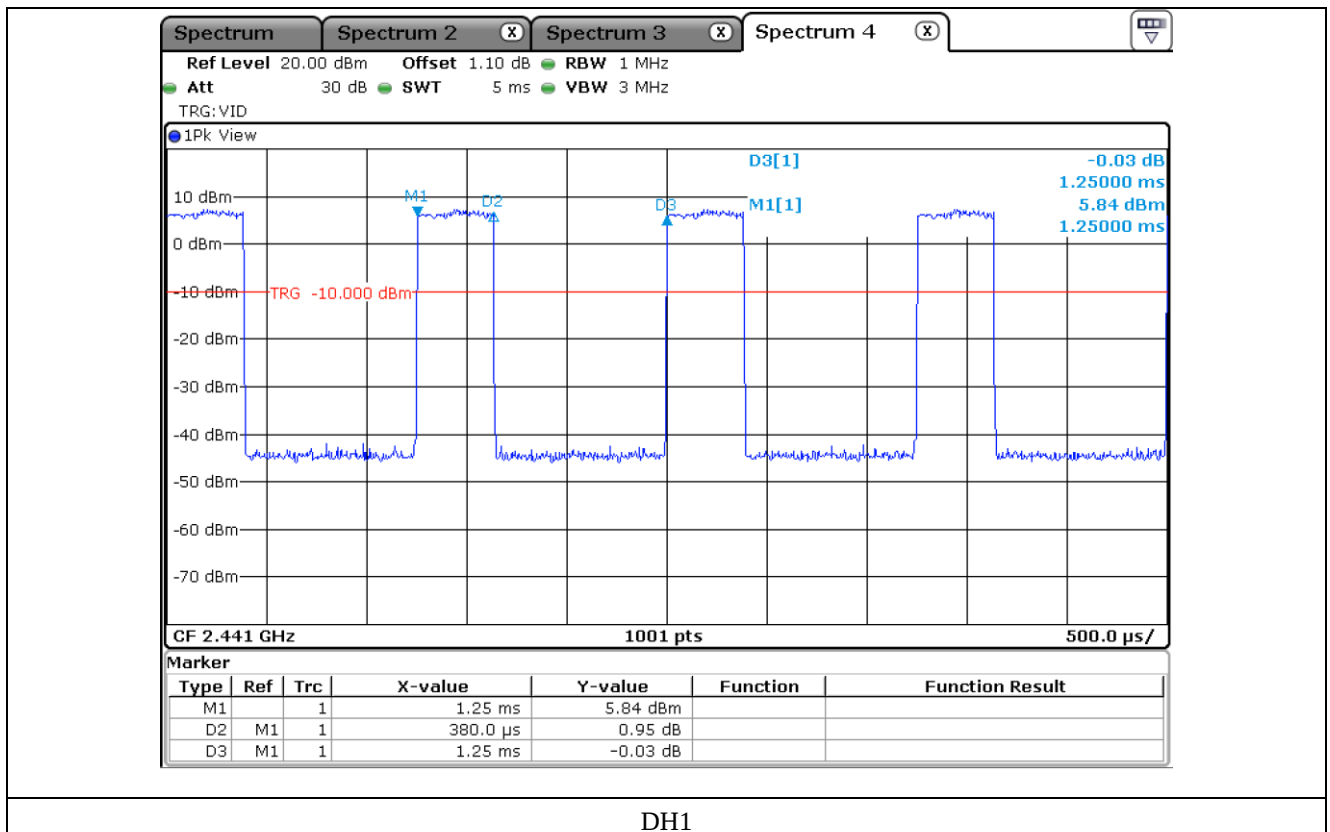
For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second ($= 1\,600/2/79$) for DH1, and 5.06 times ($= 1\,600/4/79$) for DH3, and 3.38 times ($= 1\,600/6/79$) for DH5.

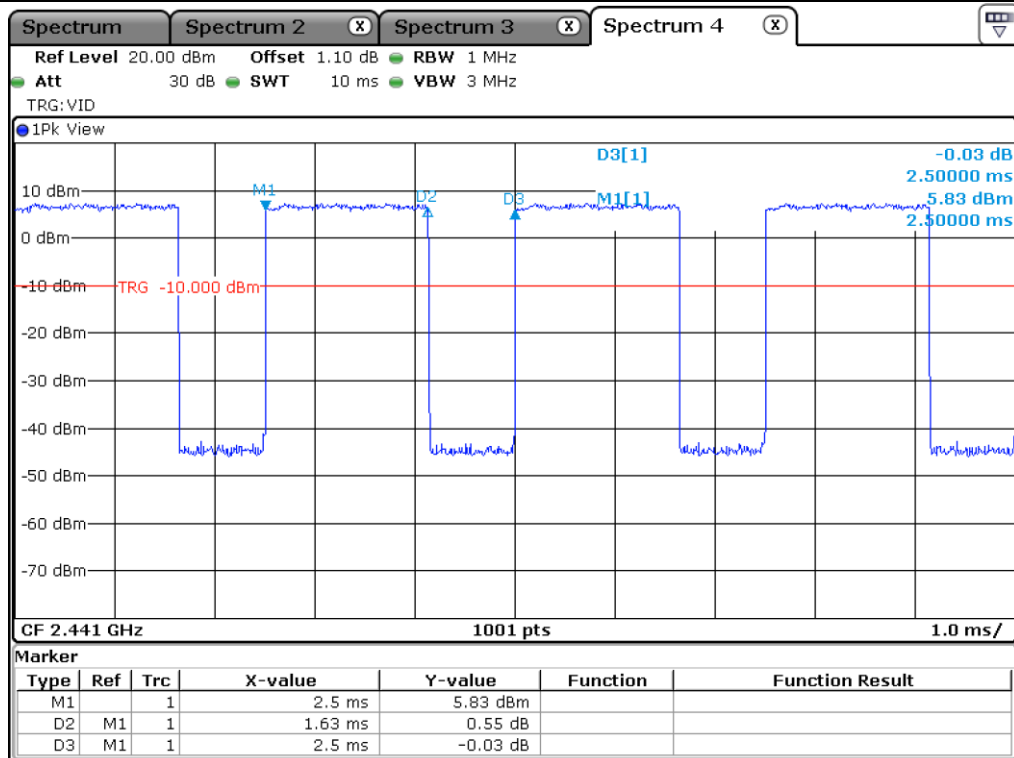
Packet Type	Pulse Time (ms)	Hops per second with channels	Period Time (ms)	Total Dwell Time (ms)	Limit (ms)	Test Result
DH1	0.380	10.13	31.60	121.64	400.00	PASS
DH3	1.630	5.06	31.60	260.63	400.00	
DH5	2.880	3.38	31.60	307.61	400.00	

Total dwell time is calculated as following.

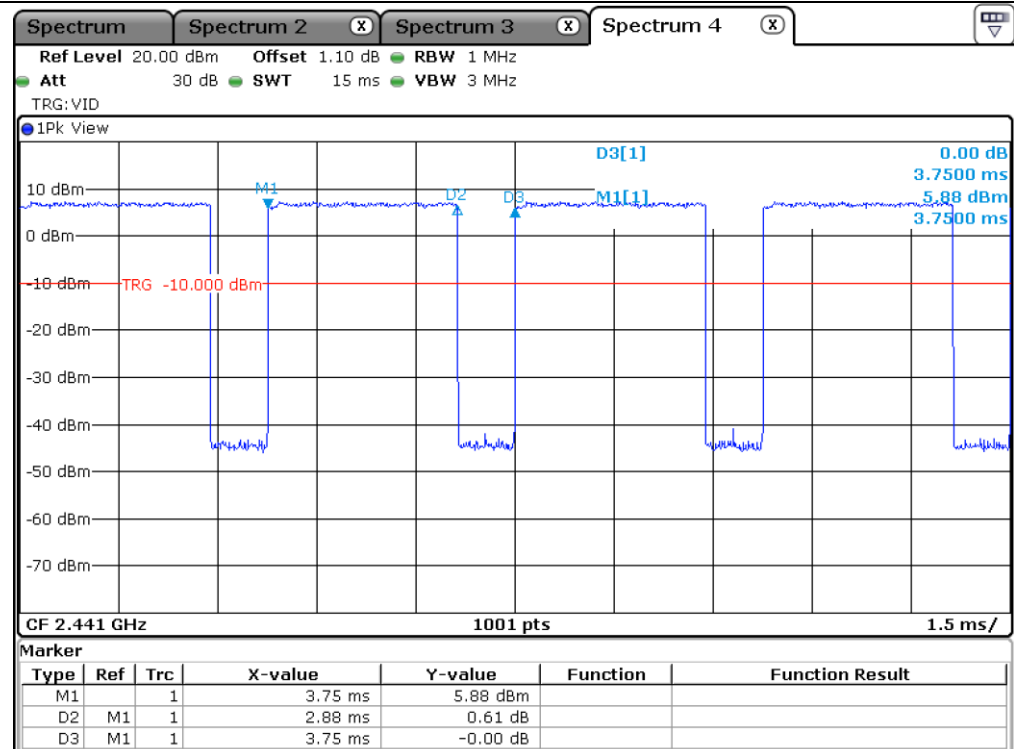
Total Dwell Time = Pulse time * Hops per second with channels * period time

Remark: See next page for an overview sweep performed with peak detector.





DH3



DH5

10.4.3 Test data for 3 Mbps

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625 μ s with 79 channels.

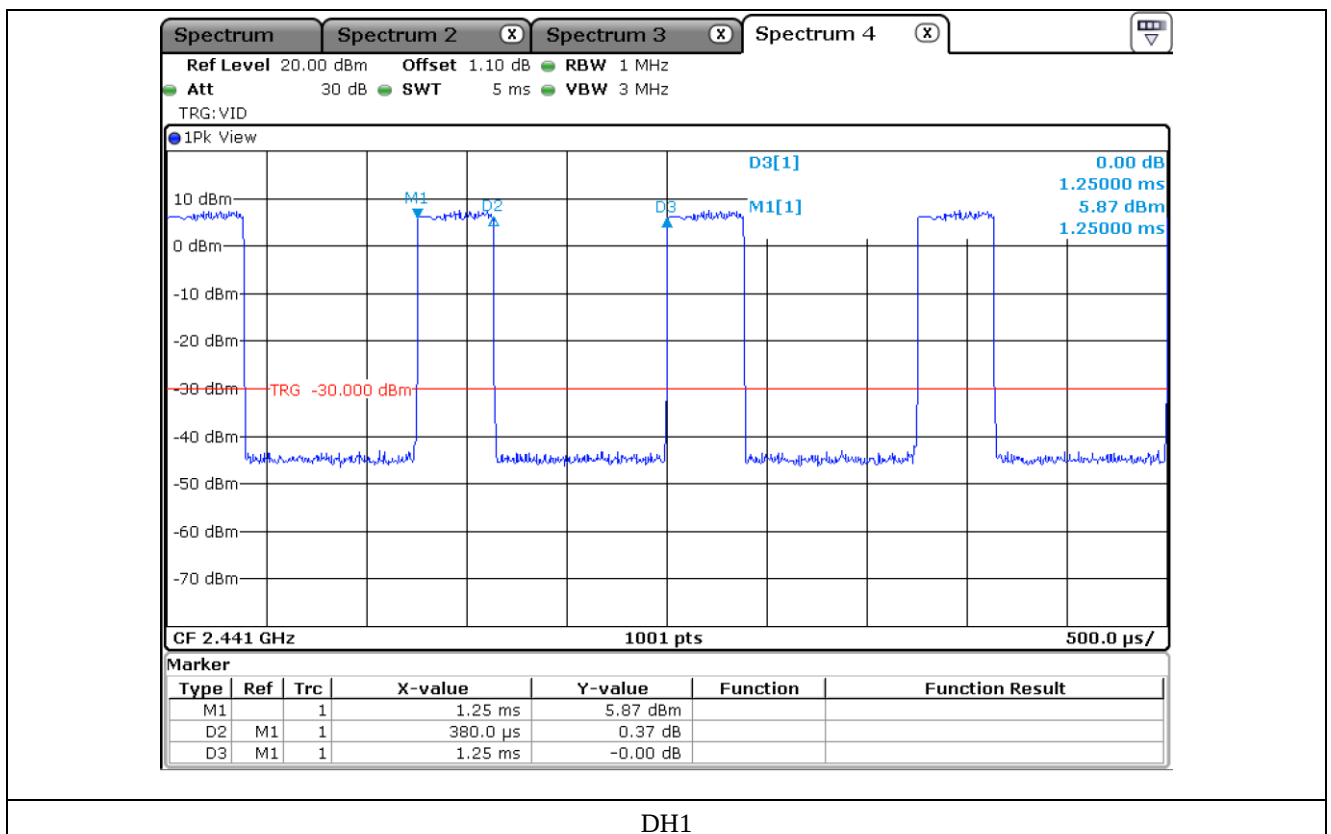
For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second ($= 1\,600/2/79$) for DH1, and 5.06 times ($= 1\,600/4/79$) for DH3, and 3.38 times ($= 1\,600/6/79$) for DH5.

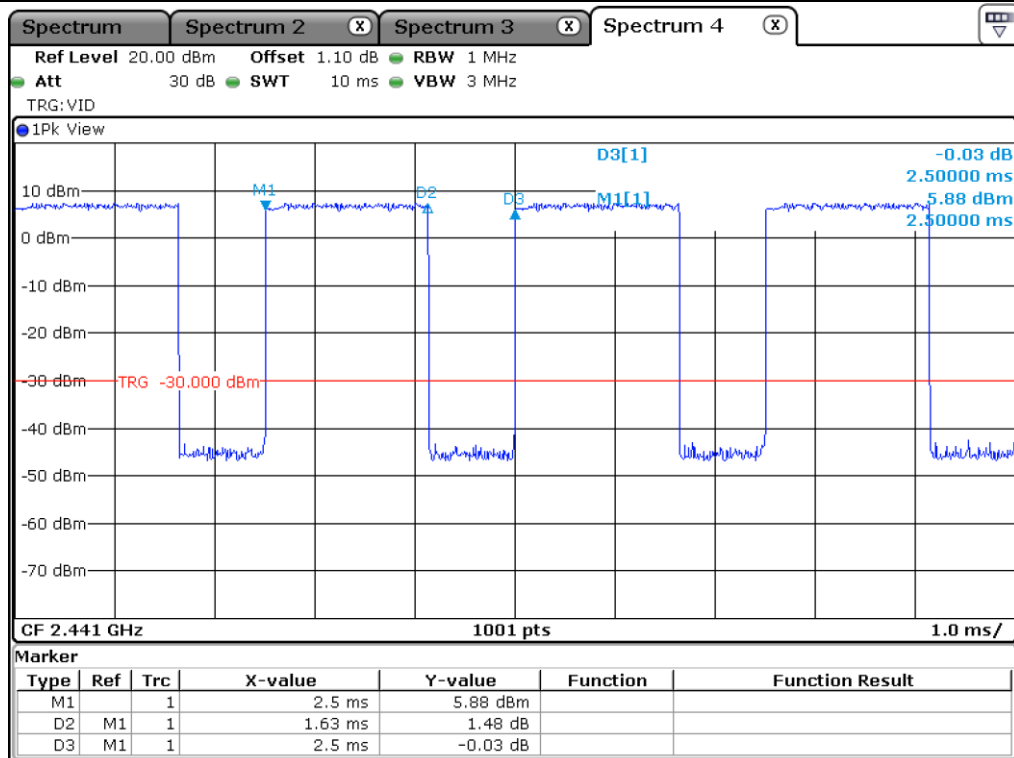
Packet Type	Pulse Time (ms)	Hops per second with channels	Period Time (ms)	Total Dwell Time (ms)	Limit (ms)	Test Result
DH1	0.380	10.13	31.60	121.64	400.00	PASS
DH3	1.630	5.06	31.60	260.63	400.00	
DH5	2.880	3.38	31.60	307.61	400.00	

Total dwell time is calculated as following.

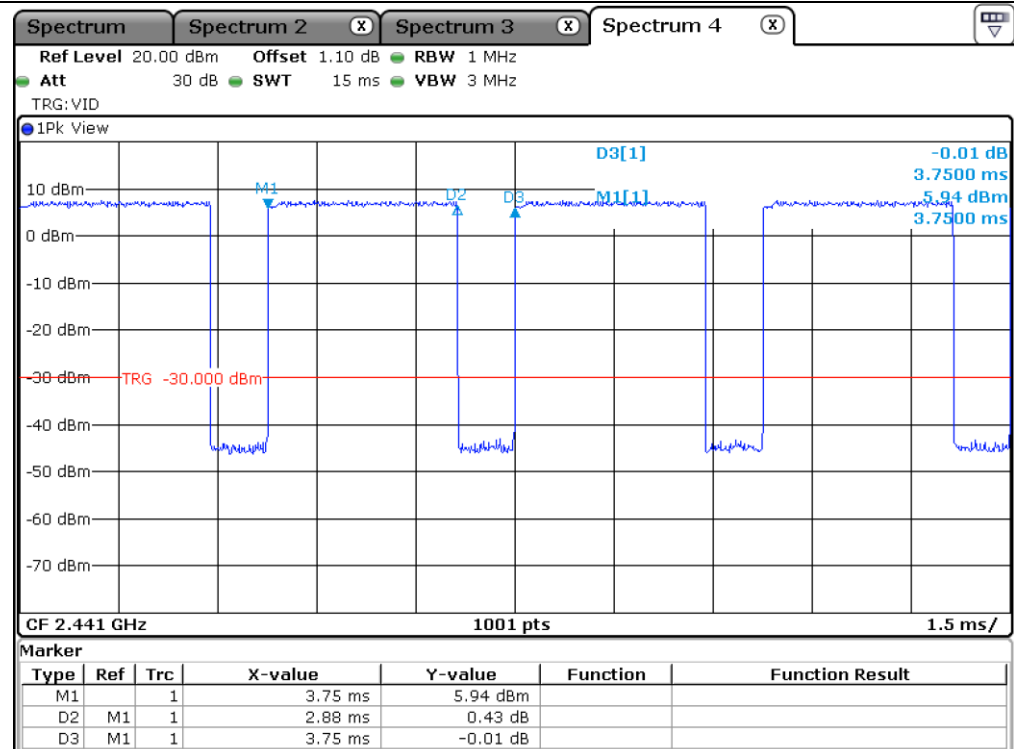
Total Dwell Time = Pulse time * Hops per second with channels * period time

Remark: See next page for an overview sweep performed with peak detector.





DH3



DH5