

Conducted Spurious Emissions Measurement Results: 802.11

Mode	Channel Number	Frequency (MHz)	Modulation	Bit Rate (Mbps)	Reference Measurement [P _{Ref}] (dBm)	Measured Emission [P _{Em}] (dBm)	Emission Frequency (MHz)	Attenuation [Attn] (dBi)	Limit (dB)	Margin (dB)
802.11b	6	2437.00	DSSS	11	6.5	-37.2	2994	43.7	30	13.7
						-36.7	7564	43.2		13.2
						-35.7	10497	42.2		12.2
						-31.5	14304	38.0		8.0
						-32.2	20436	38.7		8.7
802.11g	1	2412.00	OFDM	6	2.6	-37.0	2915	39.6		9.6
						-36.3	7620	38.8		8.8
						-36.4	13240	38.9		8.9
						-31.8	14797	34.3		4.3
						-31.6	23236	34.2		4.2
802.11n	6	2437.00	OFDM	MCS7	3.8	-37.2	2600	41.0		11.0
						-36.5	3854	40.3		10.3
						-37.0	10770	40.8		10.8
						-31.1	15879	34.9		4.9
						-32.6	21752	36.4		6.4

Results:
Complies

Ref *	6	2437.00	DSSS	11	6.5
	1	2412.00	OFDM	6	2.6
	6	2437.00	OFDM	MCS7	3.8

$$\text{Attenuation} = [P_{\text{Ref}}] - [P_{\text{Em}}]$$

$$\text{Margin} = \text{Attn} - \text{Limit}$$

* Reference Measurement

Conducted Spurious Emissions: 802.11b

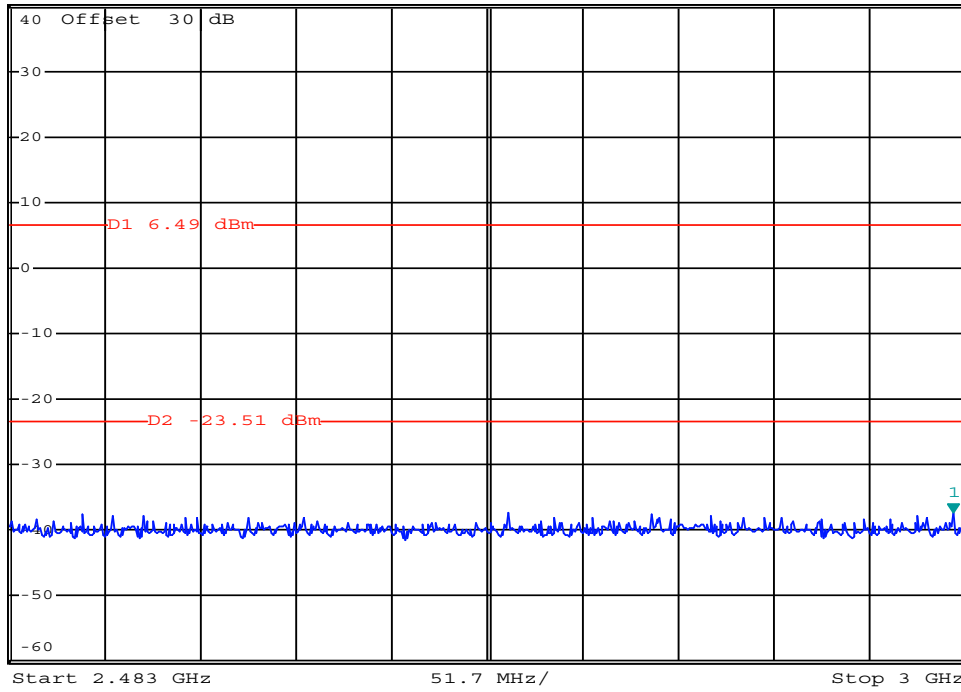


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -37.20 dBm
 SWT 55 ms 2.993796000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:34:34

Channel Number: 6

Channel Frequency (MHz): 2437

Emission Frequency (MHz) 2994

Modulation: DSSS

Bit Rate (Mbps): 11

Measured Emission (dBm): -37.20

Conducted Spurious Emissions: 802.11b

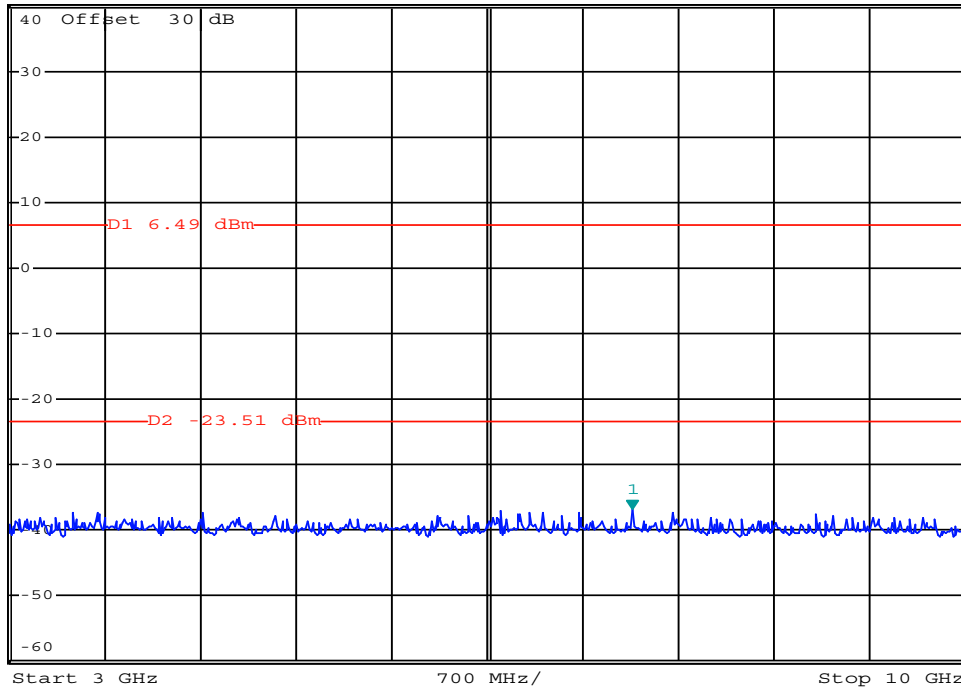


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -36.73 dBm
SWT 700 ms 7.564000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:34:54

Channel Number: **6**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **7564**

Modulation: **DSSS**

Bit Rate (Mbps): **11**

Measured Emission (dBm): **-36.73**

Conducted Spurious Emissions: 802.11b

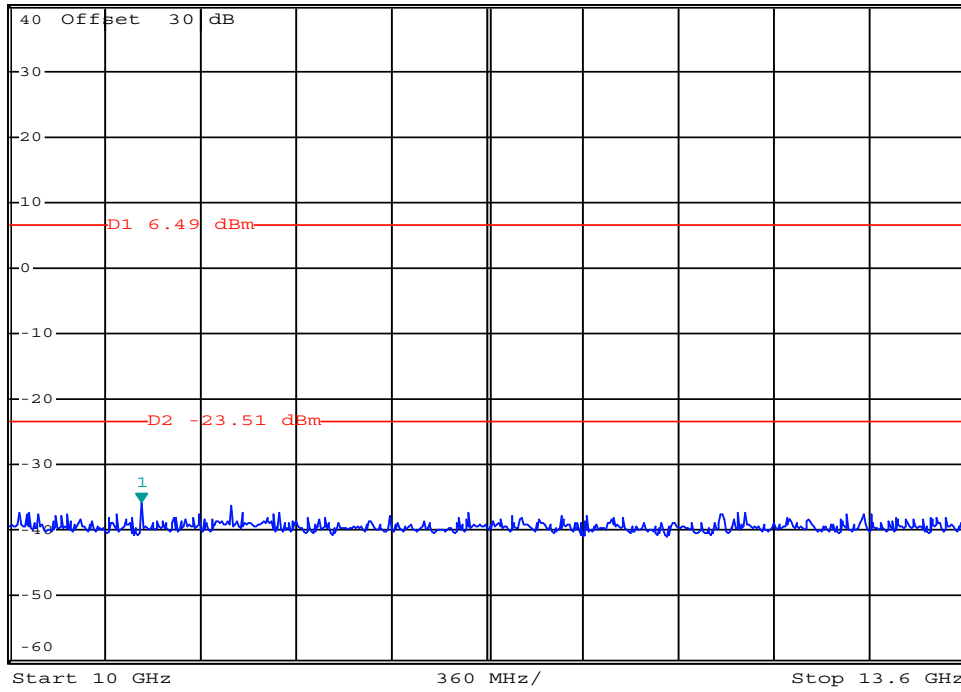


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -35.72 dBm
 SWT 360 ms 10.496800000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:35:13

Channel Number: **6**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **10497**

Modulation: **DSSS**

Bit Rate (Mbps): **11**

Measured Emission (dBm): **-35.72**

Conducted Spurious Emissions: 802.11b

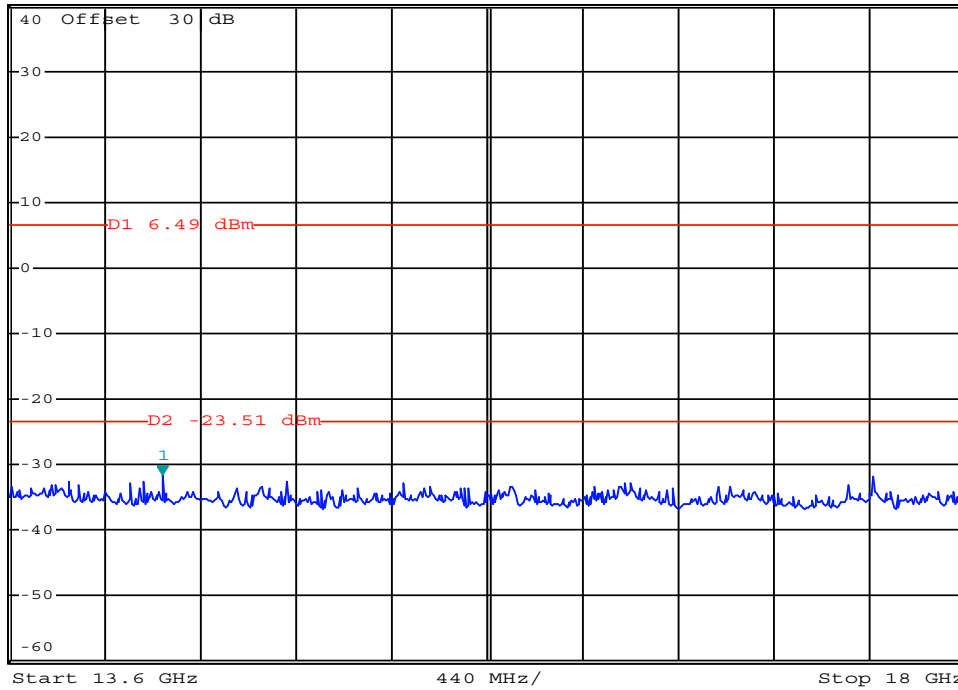


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -31.51 dBm
 SWT 440 ms 14.304000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:35:37

Channel Number: **6**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **14304**

Modulation: **DSSS**

Bit Rate (Mbps): **11**

Measured Emission (dBm): **-31.51**

Conducted Spurious Emissions: 802.11b

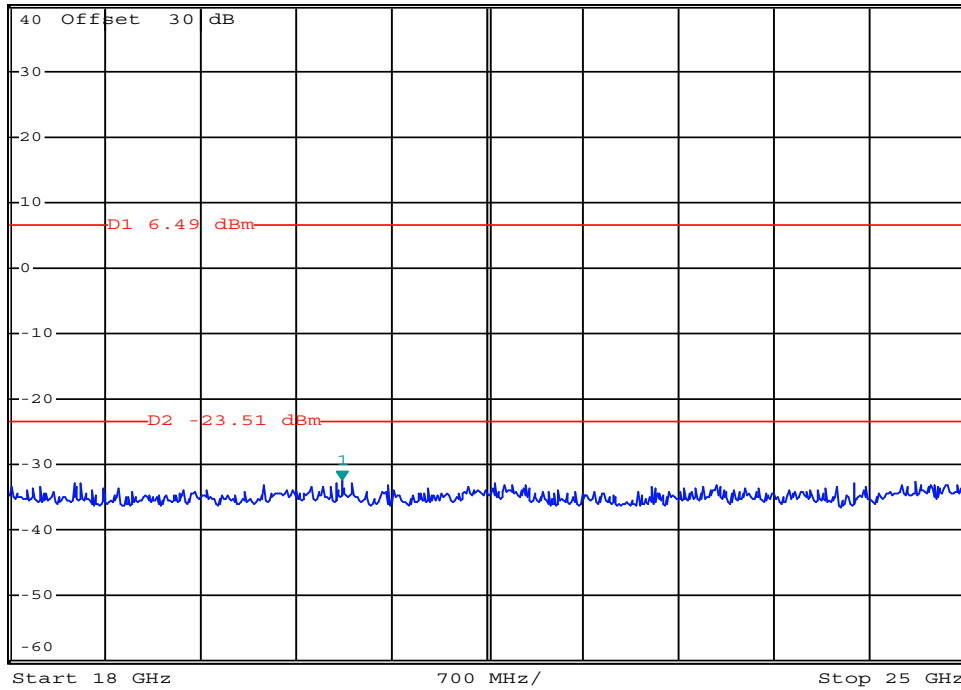


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -32.22 dBm
SWT 700 ms 20.436000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:36:02

Channel Number: **6**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **20436**

Modulation: **DSSS**

Bit Rate (Mbps): **11**

Measured Emission (dBm): **-32.22**

Conducted Spurious Emissions: 802.11g

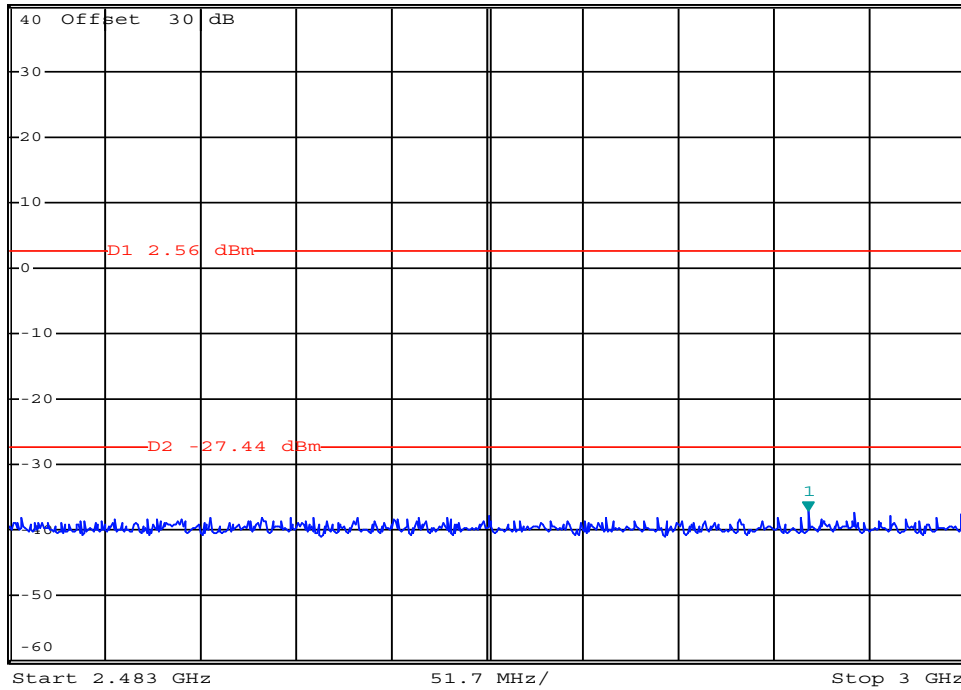


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -37.04 dBm
 *SWT 100 ms 2.915212000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:28:09

Channel Number: 1

Channel Frequency (MHz): 2412

Emission Frequency (MHz) 2915

Modulation: OFDM

Bit Rate (Mbps): 6

Measured Emission (dBm): -37.04

Conducted Spurious Emissions: 802.11g

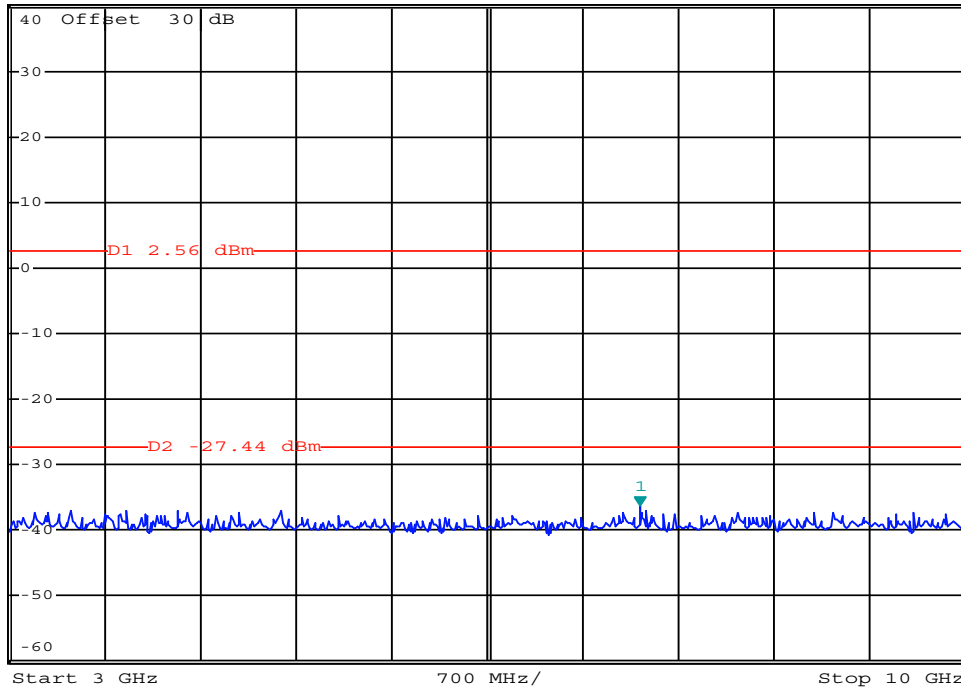


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -36.25 dBm
SWT 700 ms 7.620000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:28:52

Channel Number: 1

Channel Frequency (MHz): 2412

Emission Frequency (MHz) 7620

Modulation: OFDM

Bit Rate (Mbps): 6

Measured Emission (dBm): -36.25

Conducted Spurious Emissions: 802.11g

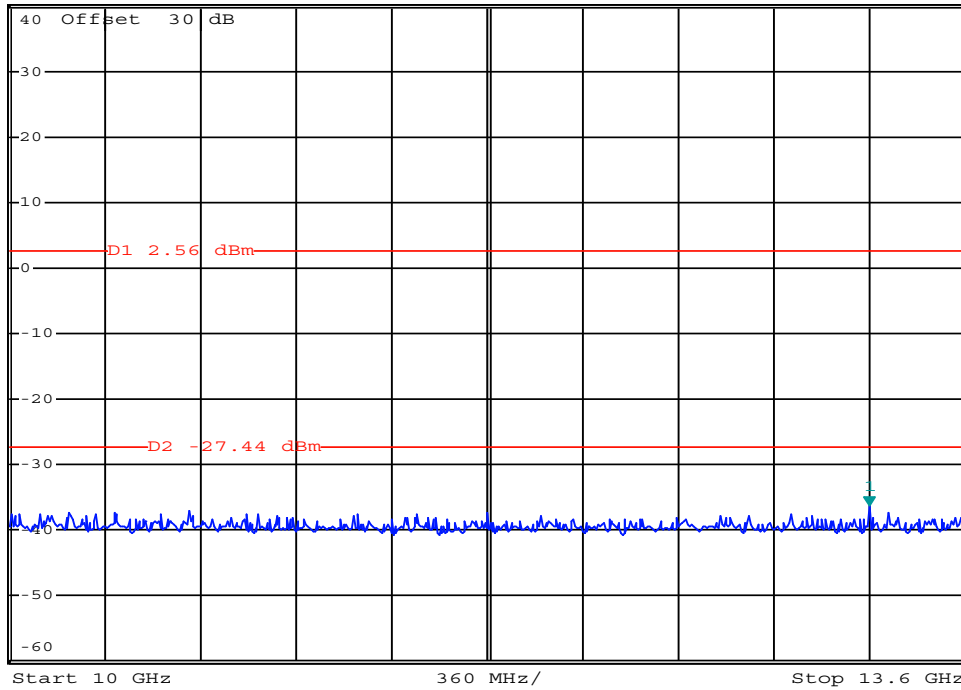


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -36.35 dBm
SWT 360 ms 13.240000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:29:15

Channel Number: 1

Channel Frequency (MHz): 2412

Emission Frequency (MHz) 13240

Modulation: OFDM

Bit Rate (Mbps): 6

Measured Emission (dBm): -36.35

Conducted Spurious Emissions: 802.11g

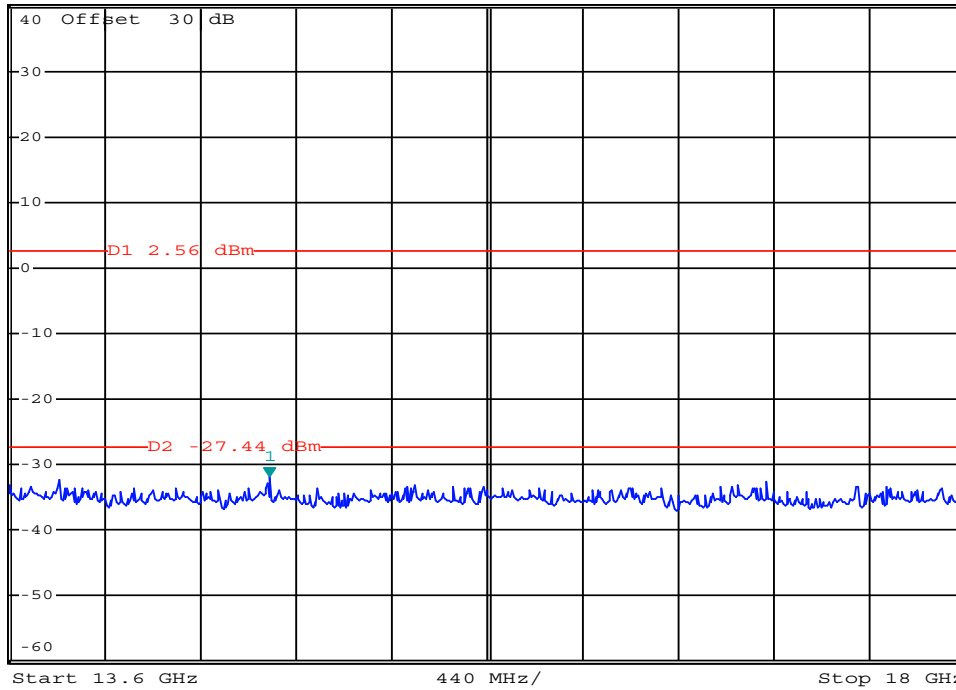


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -31.76 dBm
SWT 440 ms 14.796800000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:29:37

Channel Number: **1**

Channel Frequency (MHz): **2412**

Emission Frequency (MHz) **14797**

Modulation: **OFDM**

Bit Rate (Mbps): **6**

Measured Emission (dBm): **-31.76**

Conducted Spurious Emissions: 802.11g

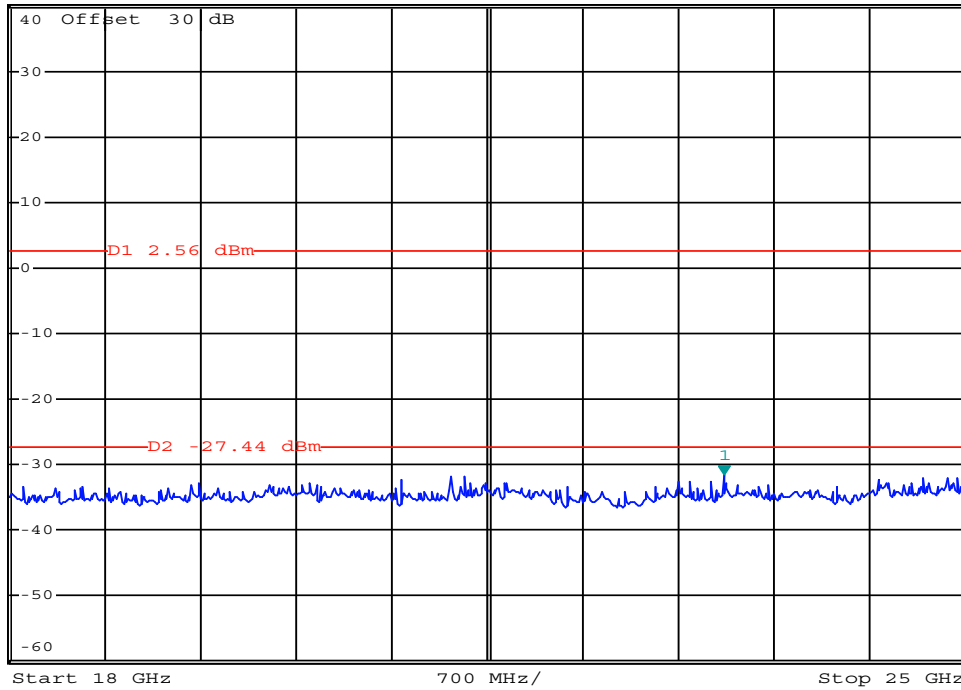


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -31.64 dBm
 SWT 700 ms 23.236000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:30:00

Channel Number: 1

Channel Frequency (MHz): 2412

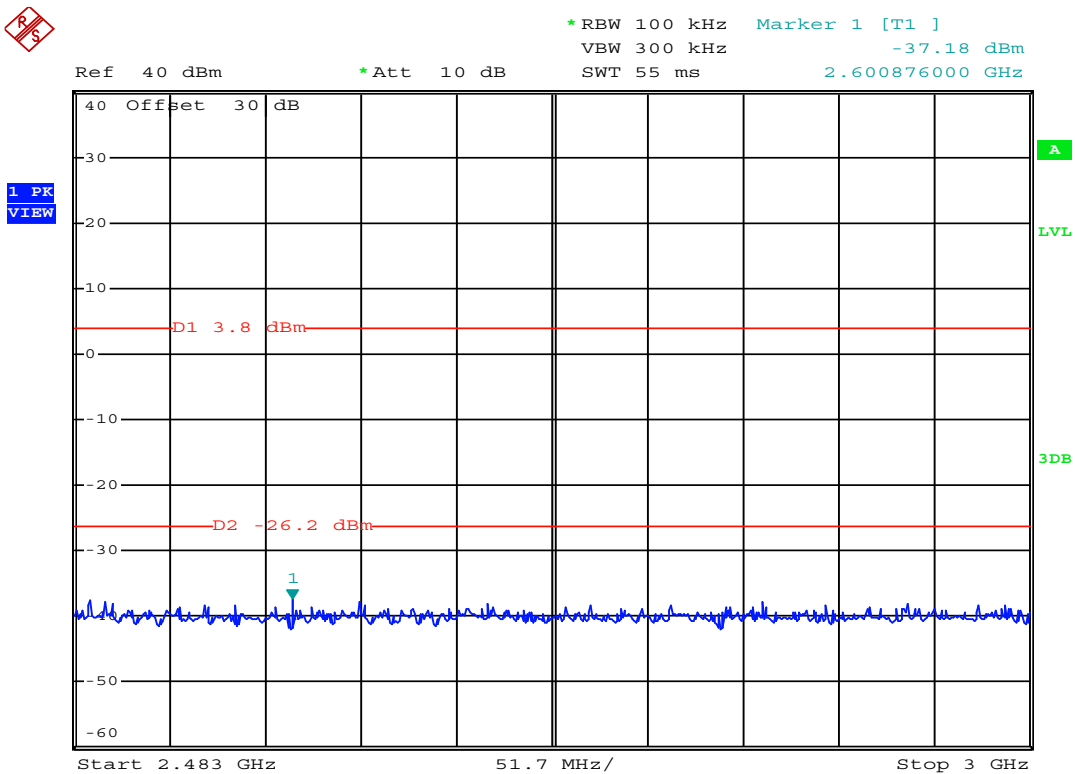
Emission Frequency (MHz) 23236

Modulation: OFDM

Bit Rate (Mbps): 6

Measured Emission (dBm): -31.64

Conducted Spurious Emissions: 802.11n



Date: 31.MAY.2021 11:31:57

Channel Number: **1**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **2600**

Modulation: **OFDM**

Bit Rate (Mbps): **MCS7**

Measured Emission (dBm): **-37.18**

Conducted Spurious Emissions: 802.11n

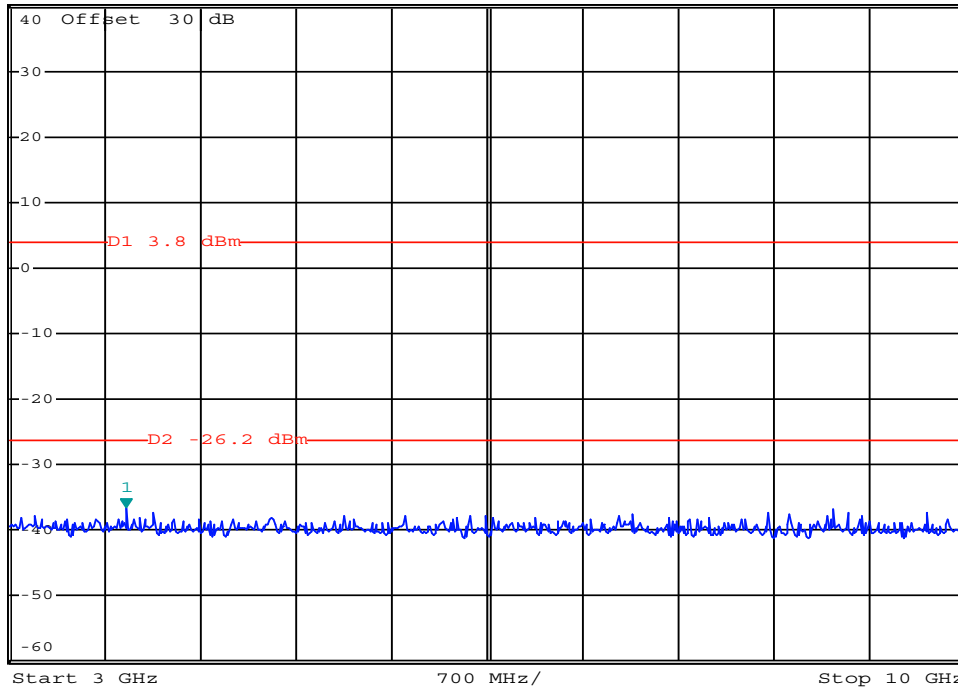


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -36.47 dBm
 SWT 700 ms 3.854000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:32:22

Channel Number: 1

Channel Frequency (MHz): 2437

Emission Frequency (MHz) 3854

Modulation: OFDM

Bit Rate (Mbps): MCS7

Measured Emission (dBm): -36.47

Ref 40 dBm

* Att 10 dB

SWT 360 ms

10.770400000 GHz



Channel Number: 1

Channel Frequency (MHz): **2437**Emission Frequency (MHz) **10770**Modulation: **OFDM**

Bit Rate (Mbps): **MCS7**

Measured Emission (dBm): **-37.04**

Conducted Spurious Emissions: 802.11n

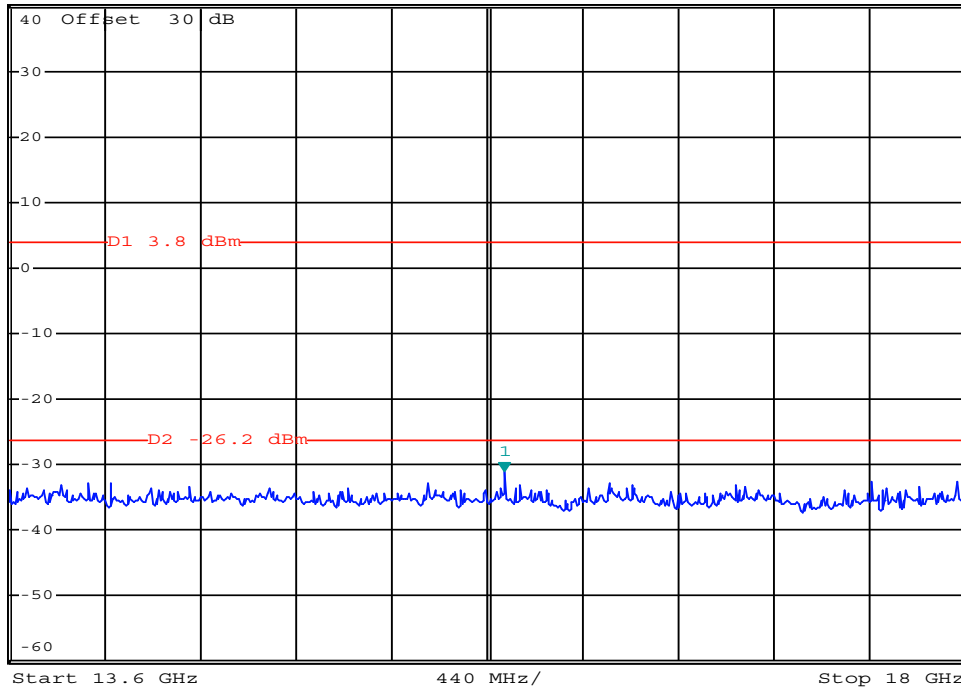


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -31.13 dBm
SWT 440 ms 15.879200000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:32:55

Channel Number: 1

Channel Frequency (MHz): 2437

Emission Frequency (MHz) 15879

Modulation: OFDM

Bit Rate (Mbps): MCS7

Measured Emission (dBm): -31.13

Conducted Spurious Emissions: 802.11n

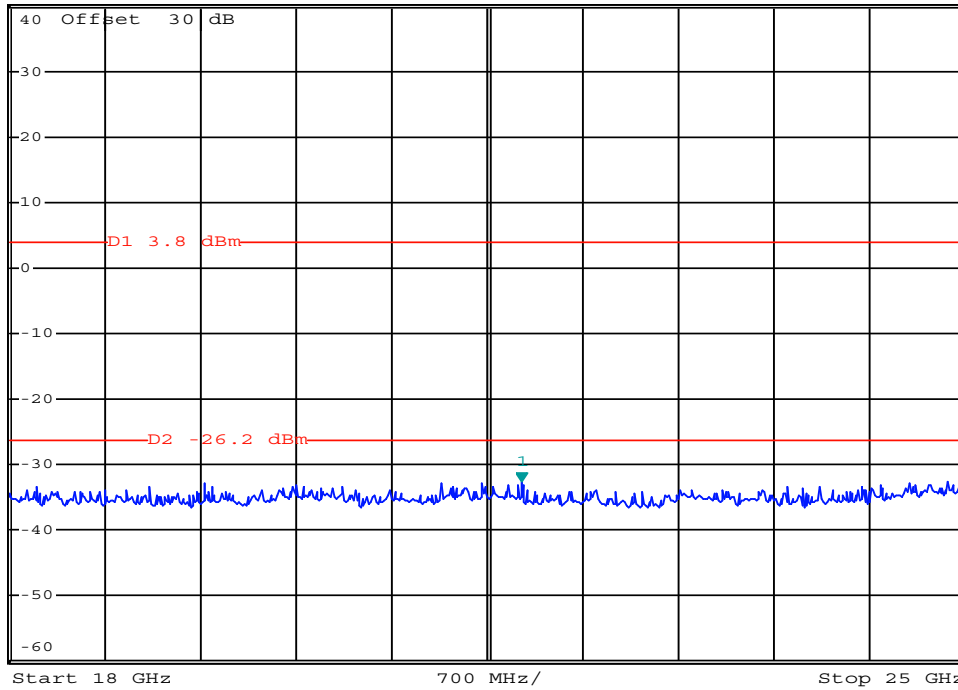


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -32.61 dBm
SWT 700 ms 21.752000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 11:33:13

Channel Number: **1**

Channel Frequency (MHz): **2437**

Emission Frequency (MHz) **21752**

Modulation: **OFDM**

Bit Rate (Mbps): **MCS7**

Measured Emission (dBm): **-32.61**

Conducted Spurious Emissions: Reference Measurement: 802.11b

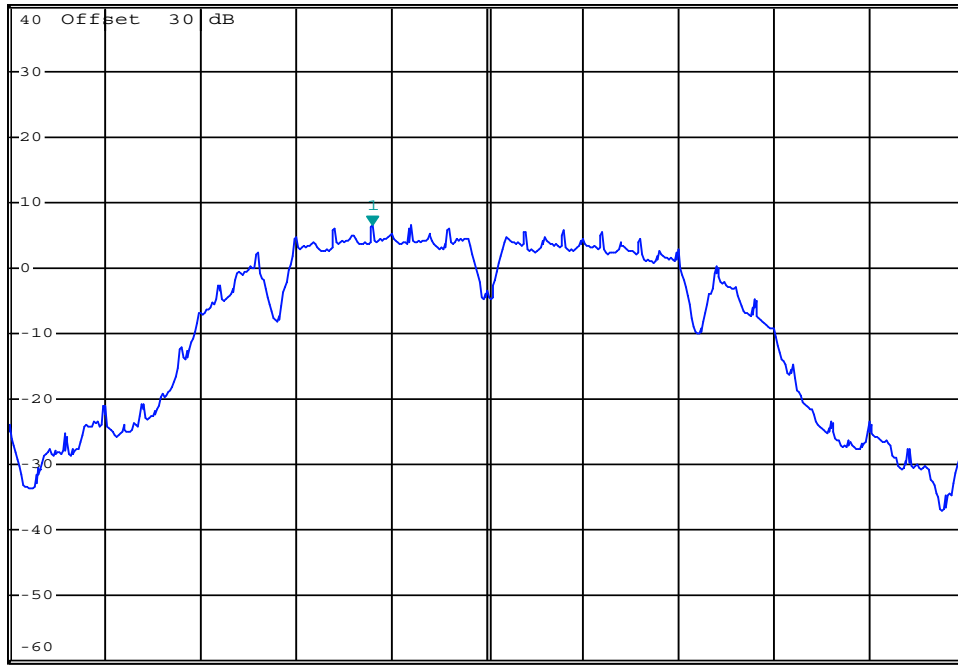


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz 6.49 dBm
*SWT 100 ms 2.434000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Center 2.437 GHz

2.5 MHz/

Span 25 MHz

Date: 31.MAY.2021 11:19:14

Channel Number: 6

Channel Frequency (MHz): 2437

Modulation: DSSS

Bit Rate (Mbps): 11

Measured PSD (dBm)

6.49

Conducted Spurious Emissions: Reference Measurement: 802.11g

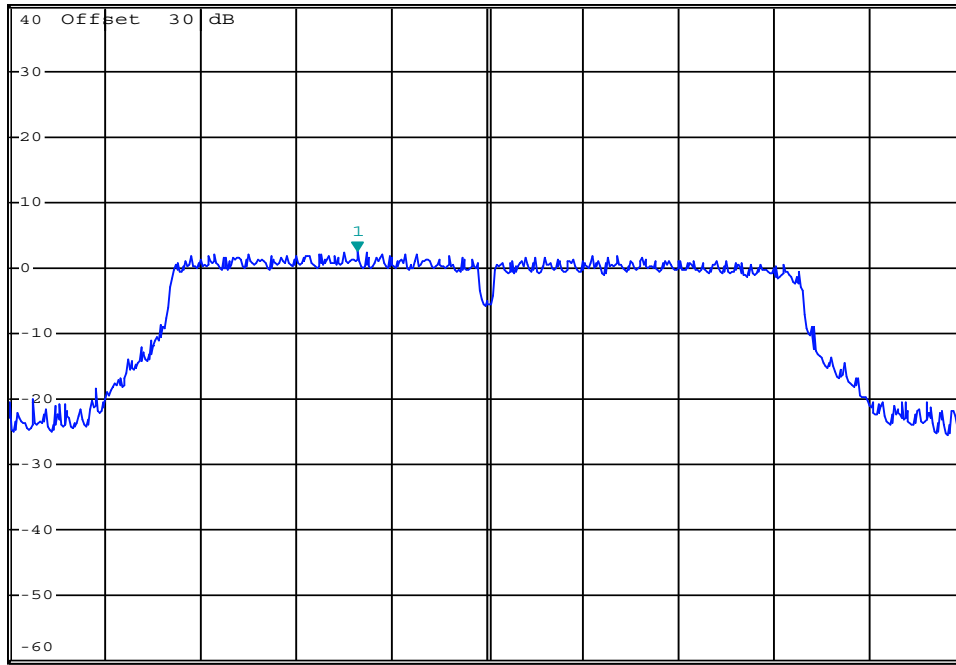


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz 2.56 dBm
*SWT 100 ms 2.408600000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



A

LVL

3DB

Date: 31.MAY.2021 11:20:37

Channel Number: 1

Channel Frequency (MHz): 2412

Modulation: OFDM

Bit Rate (Mbps): 6

Measured PSD (dBm)

2.56

Conducted Spurious Emissions: Reference Measurement: 802.11n

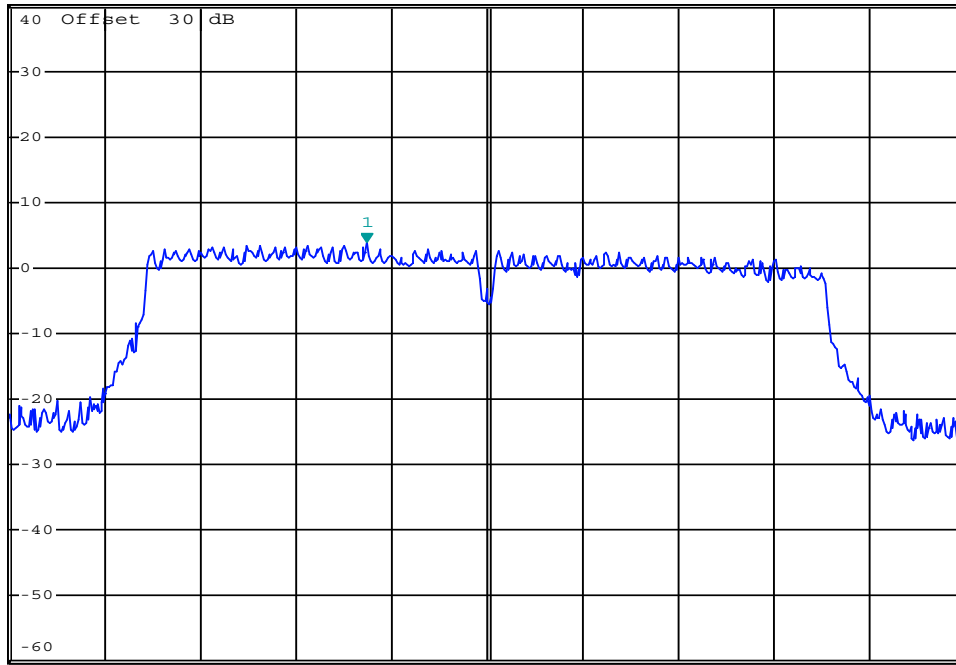


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz 3.80 dBm
*SWT 100 ms 2.433850000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



A

LVL

3DB

Date: 31.MAY.2021 11:18:06

Channel Number: 6

Channel Frequency (MHz): 2437

Modulation: OFDM

Bit Rate (Mbps): MCS7

Measured PSD (dBm)

3.80

Conducted Spurious Emissions Measurement Results: FHSS

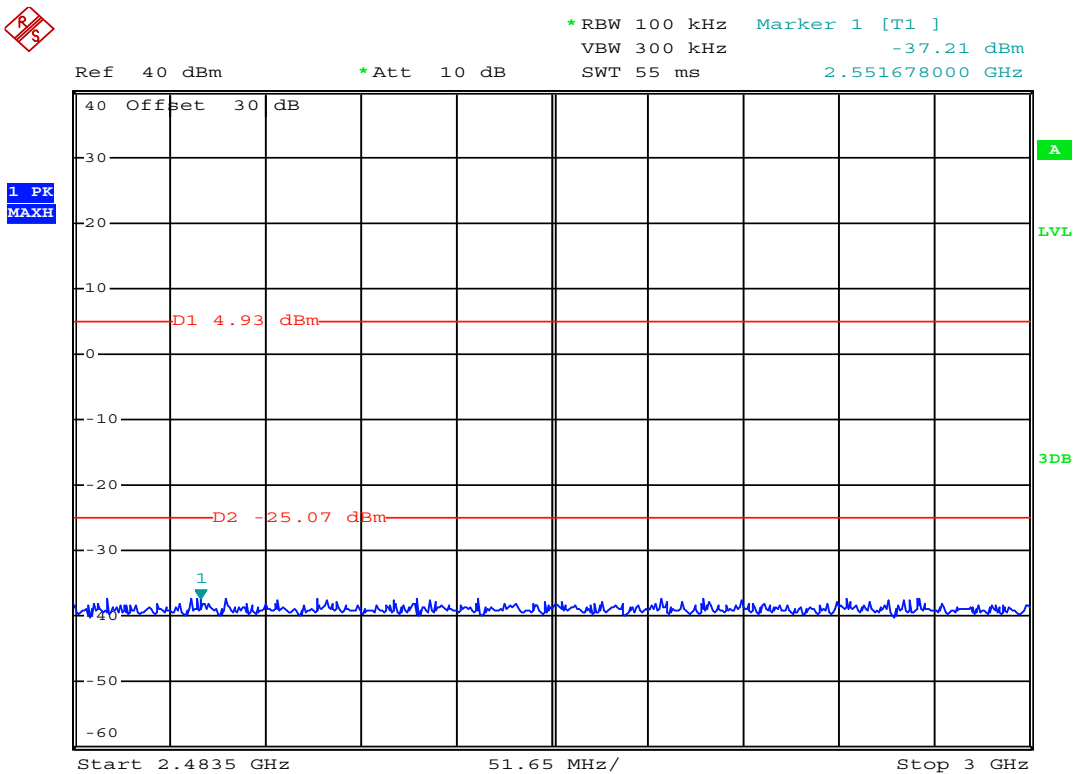
Mode	Channel Number	Frequency (MHz)	Modulation	Bit Rate (Mbps)	Reference Measurement [P _{Ref}] (dBm)	Measured Emission [P _{Em}] (dBm)	Emission Frequency (MHz)	Attenuation [Attn] (dBi)	Limit (dB)	Margin (dB)
BT EDR2	41	2441.00	Pi/4-DQPSK	2	4.93	-37.2	2552	42.1	30	12.1
						-36.3	4442	41.3		11.3
						-37.0	13204	41.9		11.9
						-32.4	14427	37.3		7.3
						-31.2	24608	36.1		6.1
BT EDR3			8-DPSK	3	4.91	-37.5	2493	42.4		12.4
						-36.9	4120	41.8		11.8
						-36.0	13088	40.9		10.9
						-32.5	17049	37.4		7.4
						-32.3	21892	37.2		7.2
Results:									Complies	
Ref *	41	2441.00	Pi/4-DQPSK	2	4.93					
			8-DPSK	3	4.91					

Attenuation = [P_{Ref}] - [P_{Em}]

Margin = Attn - Limit

* Reference Measurement

Conducted Spurious Emissions: FHSS



Date: 31.MAY.2021 12:21:14

Channel Number: 41	Channel Frequency (MHz): 2441	Emission Frequency (MHz) 2552
Modulation: PI/4-DQPSK	Bit Rate (Mbps): 2	Measured Emission (dBm): -37.21

Conducted Spurious Emissions: FHSS

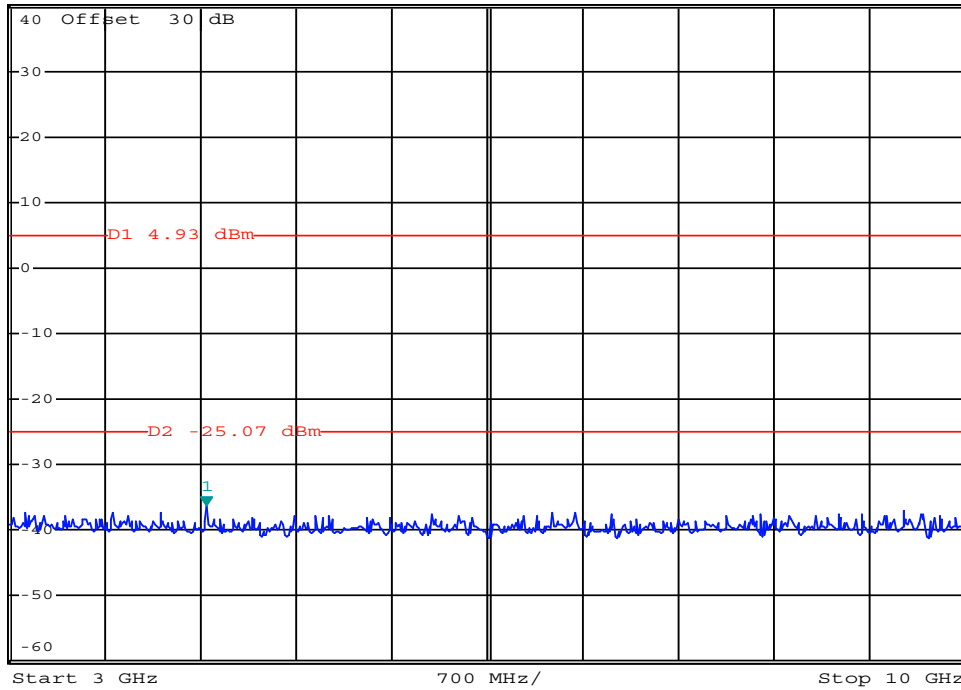


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -36.33 dBm
 SWT 700 ms 4.442000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:21:36

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **4442**

Modulation: **PI/4-DQPSK**

Bit Rate (Mbps): **2**

Measured Emission (dBm): **-36.33**

Conducted Spurious Emissions: FHSS

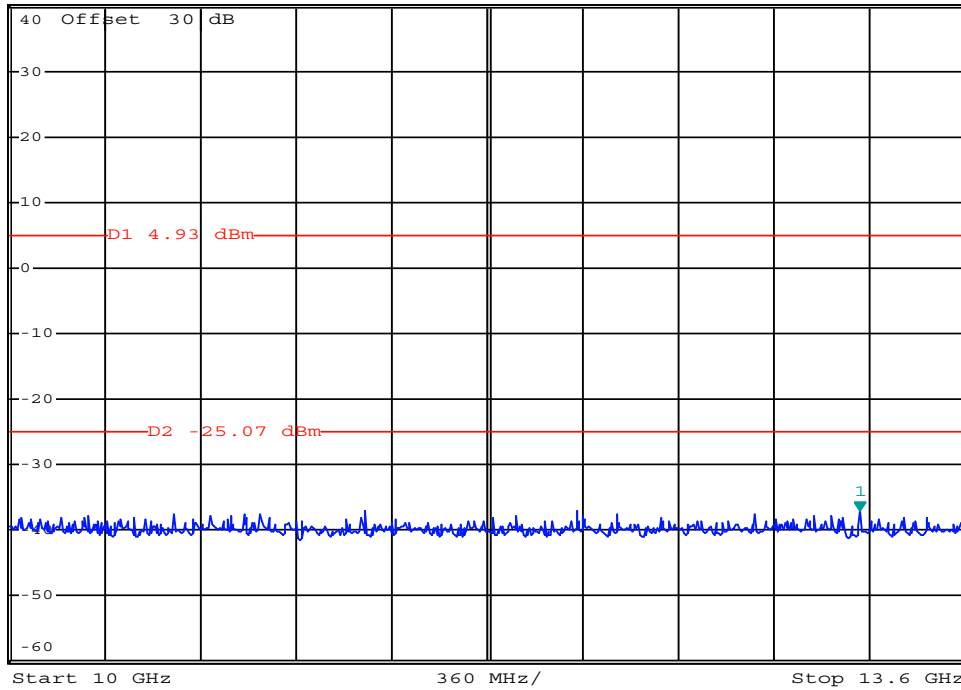


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -37.01 dBm
 SWT 360 ms 13.204000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:21:57

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **13204**

Modulation: **PI/4-DQPSK**

Bit Rate (Mbps): **2**

Measured Emission (dBm): **-37.01**

Conducted Spurious Emissions: FHSS

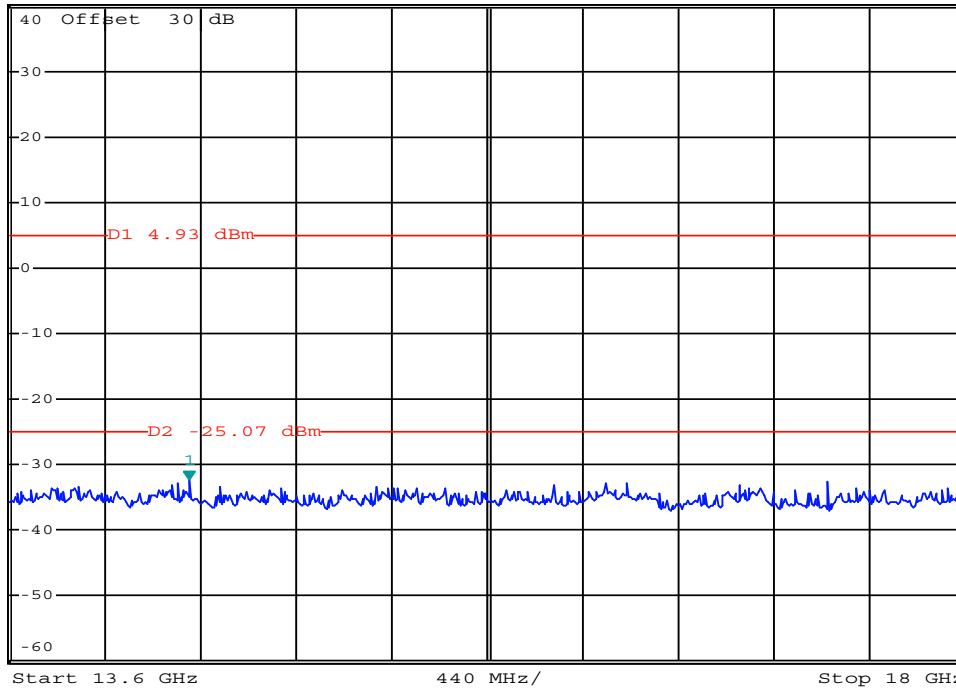


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -32.36 dBm
SWT 440 ms 14.427200000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:22:21

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **14427**

Modulation: **PI/4-DQPSK**

Bit Rate (Mbps): **2**

Measured Emission (dBm): **-32.36**

Conducted Spurious Emissions: FHSS

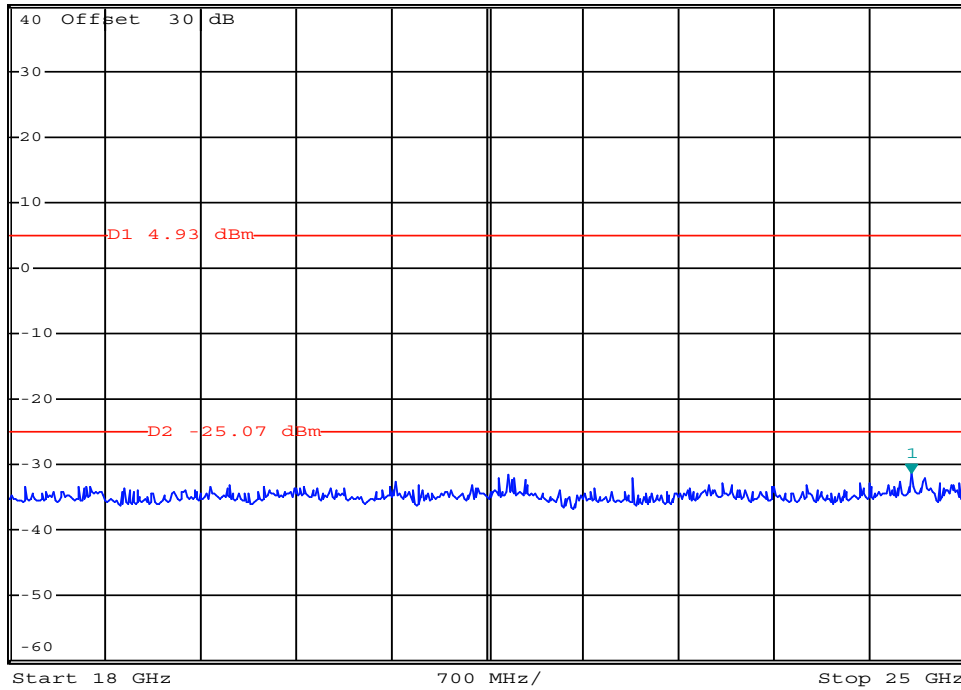


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -31.15 dBm
SWT 700 ms 24.608000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:22:52

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **24608**

Modulation: **PI/4-DQPSK**

Bit Rate (Mbps): **2**

Measured Emission (dBm): **-31.15**

Conducted Spurious Emissions: FHSS

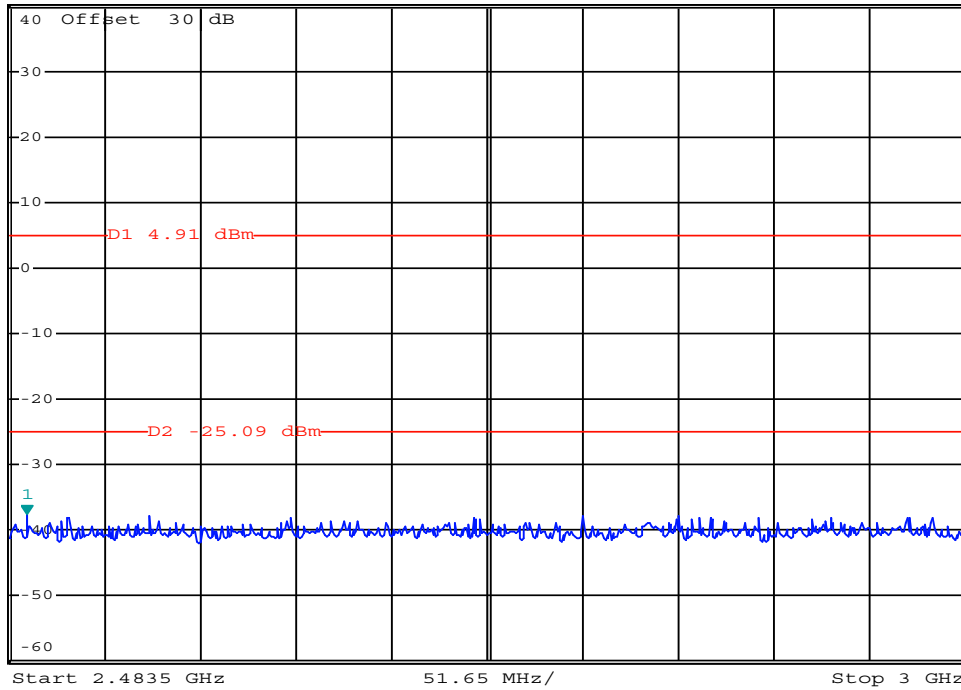


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -37.49 dBm
 SWT 55 ms 2.492797000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:25:29

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **2493**

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**

Measured Emission (dBm): **-37.49**

Conducted Spurious Emissions: FHSS

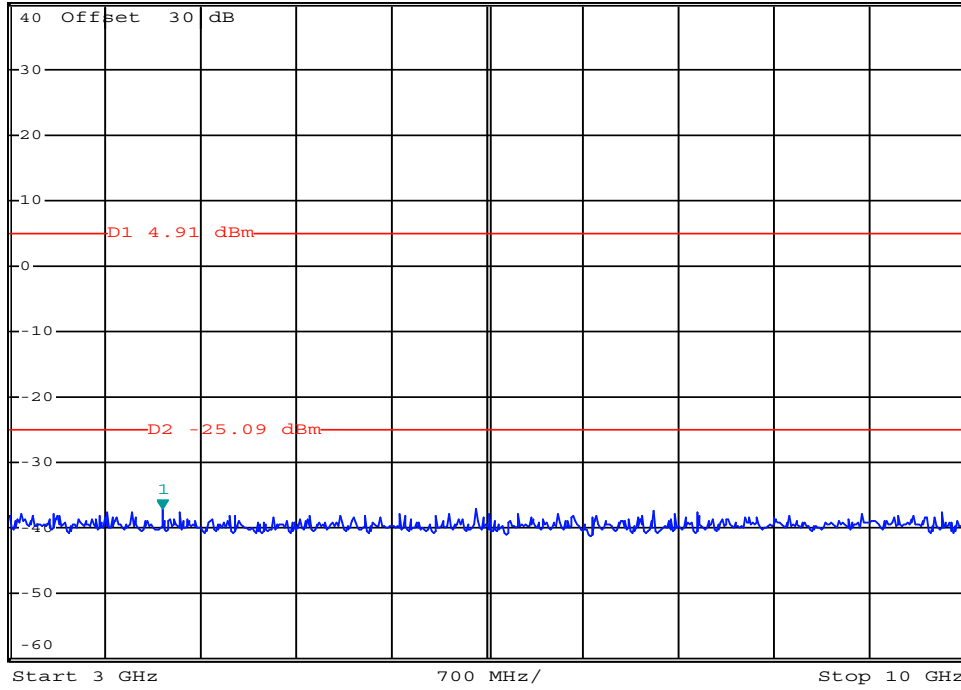


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -36.93 dBm
 SWT 700 ms 4.120000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:25:48

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **4120**

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**

Measured Emission (dBm): **-36.93**

Conducted Spurious Emissions: FHSS

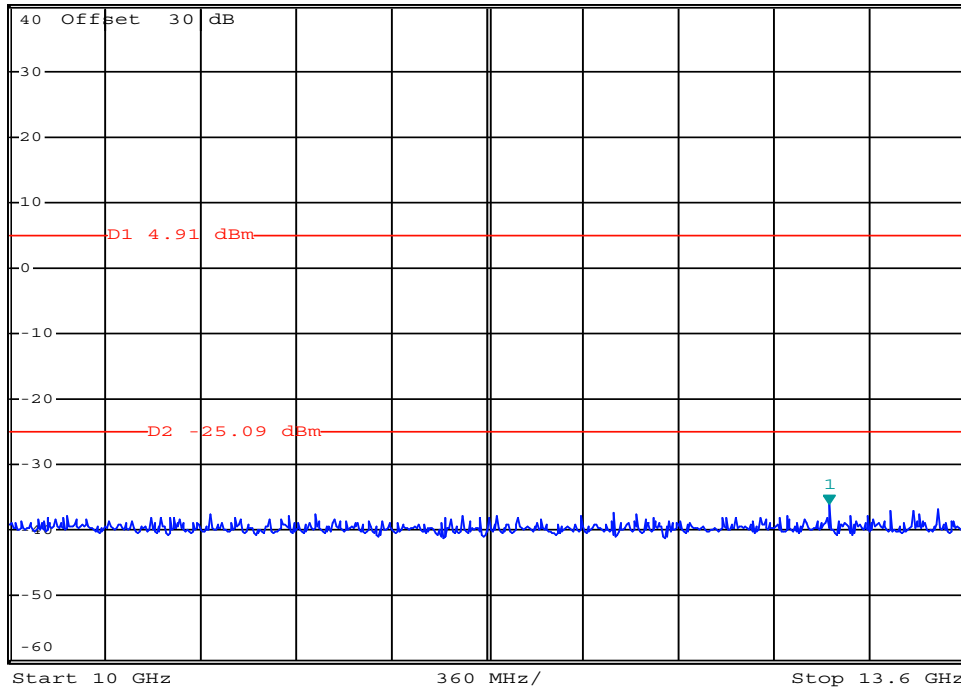


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -36.03 dBm
 SWT 360 ms 13.088800000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:26:10

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **13088**

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**

Measured Emission (dBm): **-36.03**

Conducted Spurious Emissions: FHSS

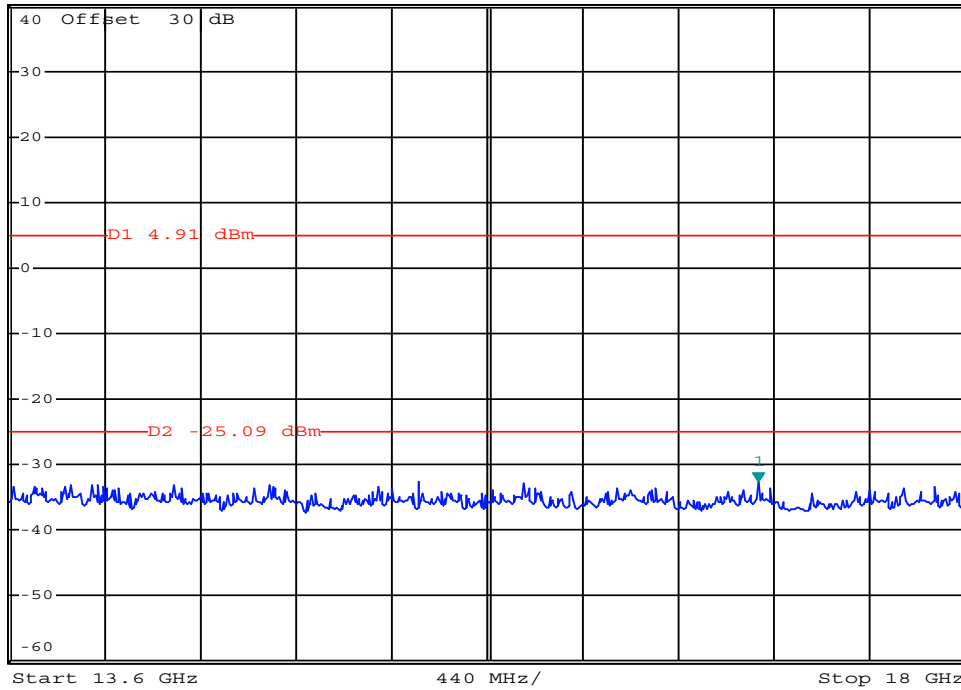


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz -32.50 dBm
SWT 440 ms 17.049600000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:26:26

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **17049**

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**

Measured Emission (dBm): **-32.50**

Conducted Spurious Emissions: FHSS

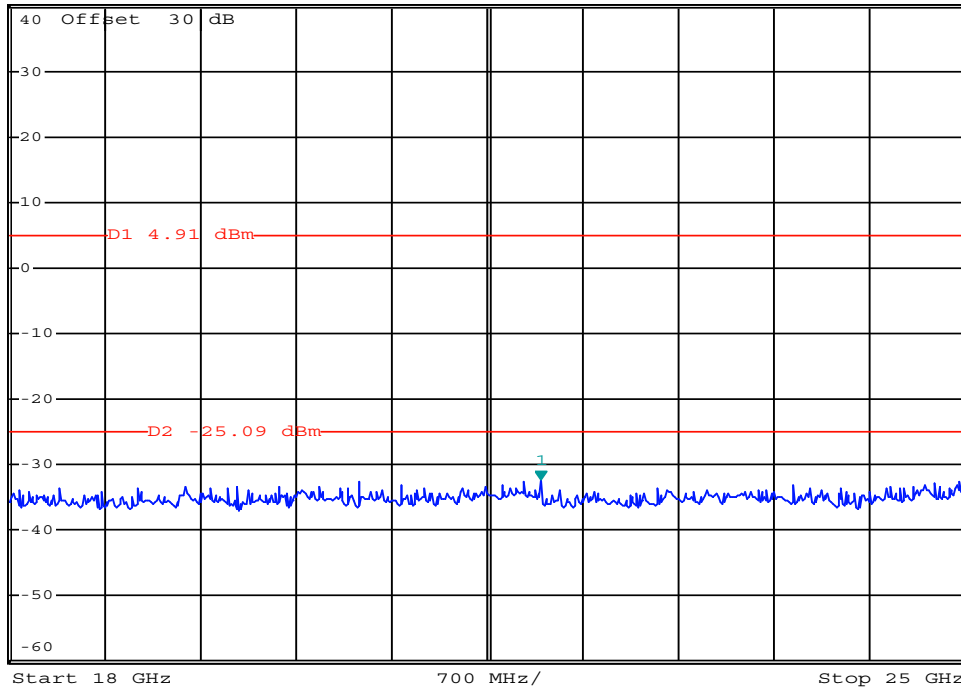


*RBW 100 kHz Marker 1 [T1]
 VBW 300 kHz -32.29 dBm
 SWT 700 ms 21.892000000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Date: 31.MAY.2021 12:26:44

Channel Number: **41**

Channel Frequency (MHz): **2441**

Emission Frequency (MHz) **21892**

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**

Measured Emission (dBm): **-32.29**

Conducted Spurious Emissions: Reference Measurement: FHSS

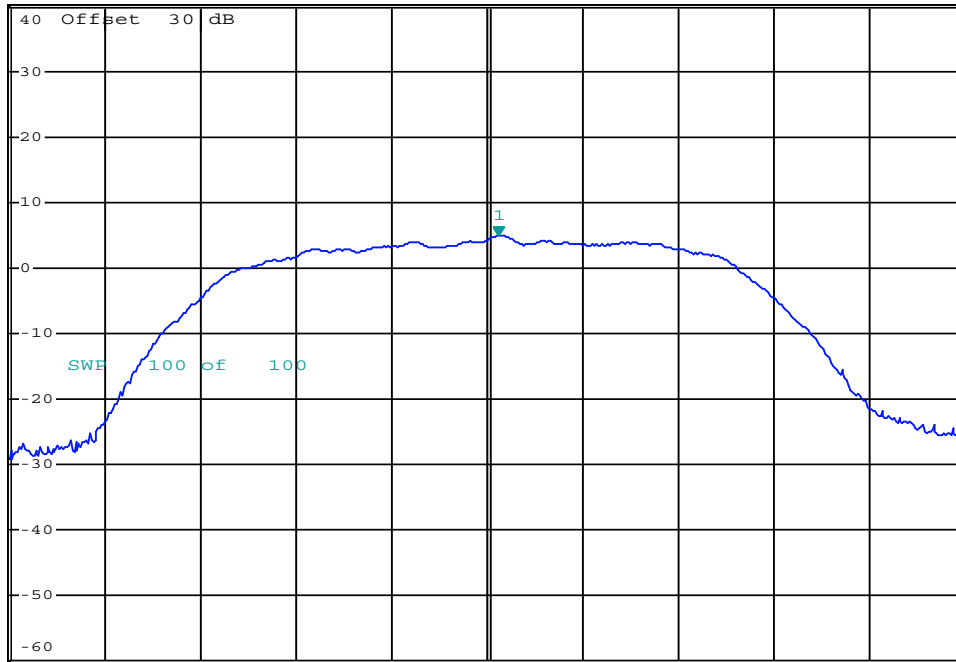


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz 4.93 dBm
*SWT 20 ms 2.441024000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Center 2.441 GHz

200 kHz/

Span 2 MHz

Date: 31.MAY.2021 12:17:53

Channel Number: **41**

Channel Frequency (MHz): **2441**

Measured PSD (dBm)

4.93

Modulation: **PI/4-DQPSK**

Bit Rate (Mbps): **2**

Conducted Spurious Emissions: Reference Measurement: FHSS

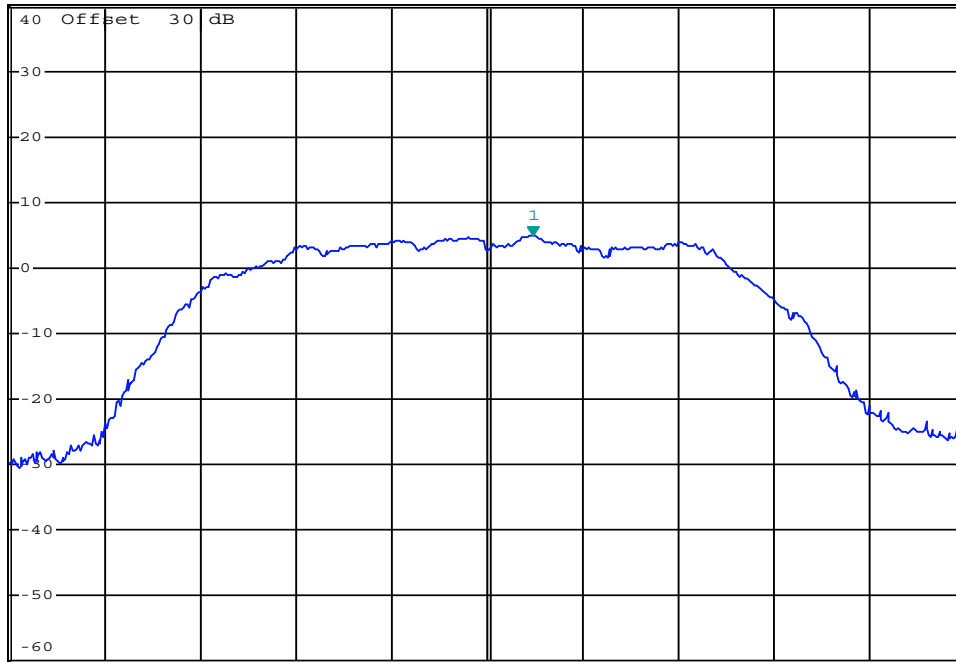


*RBW 100 kHz Marker 1 [T1]
VBW 300 kHz 4.91 dBm
SWT 2.5 ms 2.441096000 GHz

Ref 40 dBm

*Att 10 dB

1 PK
VIEW



Center 2.441 GHz

200 kHz/

Span 2 MHz

Date: 31.MAY.2021 12:23:52

Channel Number: **41**

Channel Frequency (MHz): **2441**

Measured PSD (dBm)

4.91

Modulation: **8-DPSK**

Bit Rate (Mbps): **3**