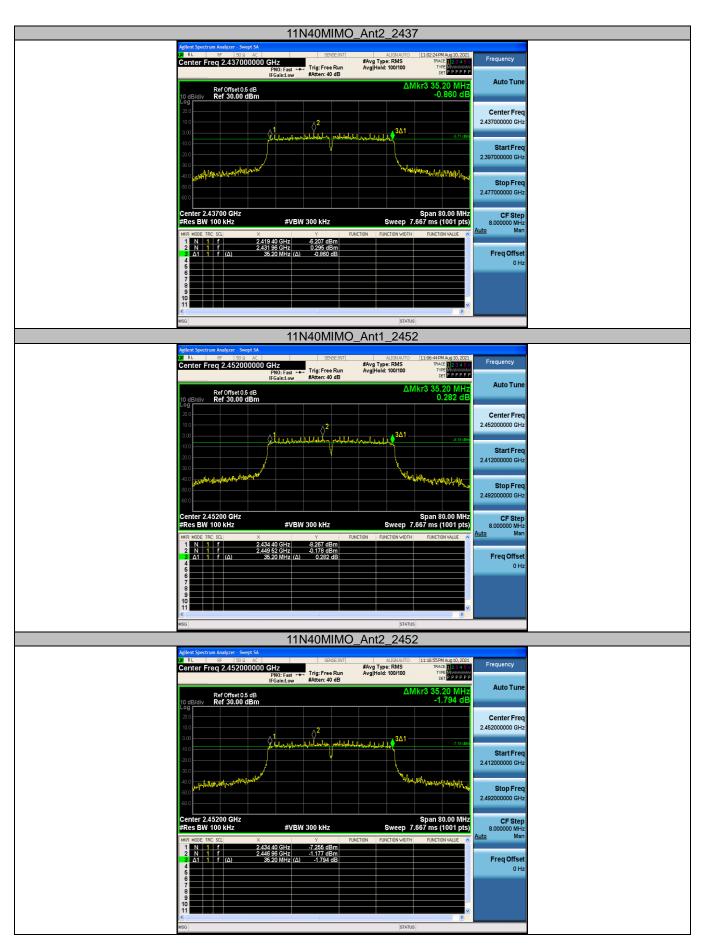


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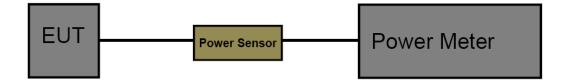
## 3.6. Peak Output Power

<u>Limit</u>

### FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)/ RSS-247 5.4:

Section	Test Item	Limit	Frequency Range(MHz)
CFR 47 FCC 15.247(b)(3)	Maximum conducted output power	1 Watt or 30dBm	2400~2483.5
ISED RSS-247 5.4 d	EIRP	4 Watt or 36dBm	2400~2483.5

## Test Configuration



#### Test Procedure

- 1. The maximum conducted output power may be measured using a broadband Peak RF power meter.
- 2. Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
- 3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
- 4. Record the measurement data.

#### Test Mode

Please refer to the clause 2.4.



## Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
	Ant1	2412	20.28	<=30	PASS
14.0	Ant2	2412	20.93	<=30	PASS
	Ant1	2437	19.95	<=30	PASS
11B	Ant2	2437	20.92	<=30	PASS
	Ant1	2462	20.16	<=30	PASS
	Ant2	2462	20.54	<=30	PASS
	Ant1	2412	24.52	<=30	PASS
	Ant2	2412	21.22	<=30	PASS
11G	Ant1	2437	24.32	<=30	PASS
IIG	Ant2	2437	21.39	<=30	PASS
	Ant1	2462	24.42	<=30	PASS
	Ant2	2462	21.11	<=30	PASS
	Ant1	2412	20.21	<=30	PASS
	Ant2	2412	20.72	<=30	PASS
	total	2412	23.5	<=30	PASS
	Ant1	2437	19.88	<=30	PASS
11N20MIMO	Ant2	2437	20.87	<=30	PASS
	total	2437	23.4	<=30	PASS
	Ant1	2462	20.03	<=30	PASS
	Ant2	2462	20.79	<=30	PASS
	total	2462	23.4	<=30	PASS
	Ant1	2422	20.41	<=30	PASS
	Ant2	2422	20.64	<=30	PASS
	total	2422	23.5	<=30	PASS
11N40MIMO	Ant1	2437	20.58	<=30	PASS
	Ant2	2437	20.75	<=30	PASS
	total	2437	23.7	<=30	PASS
	Ant1	2452	20.33	<=30	PASS
	Ant2	2452	19.44	<=30	PASS
	total	2452	22.9	<=30	PASS

Note: Test results increased RF cable loss by 0.5dB.



# 3.7. Power Spectral Density

## <u>Limit</u>

## FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)/ RSS-247 5.2 b:

Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

## **Test Configuration**



### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.

3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz

Set the VBW to: 10 kHz

Detector: PK

Sweep time: Auto

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

## Test Mode

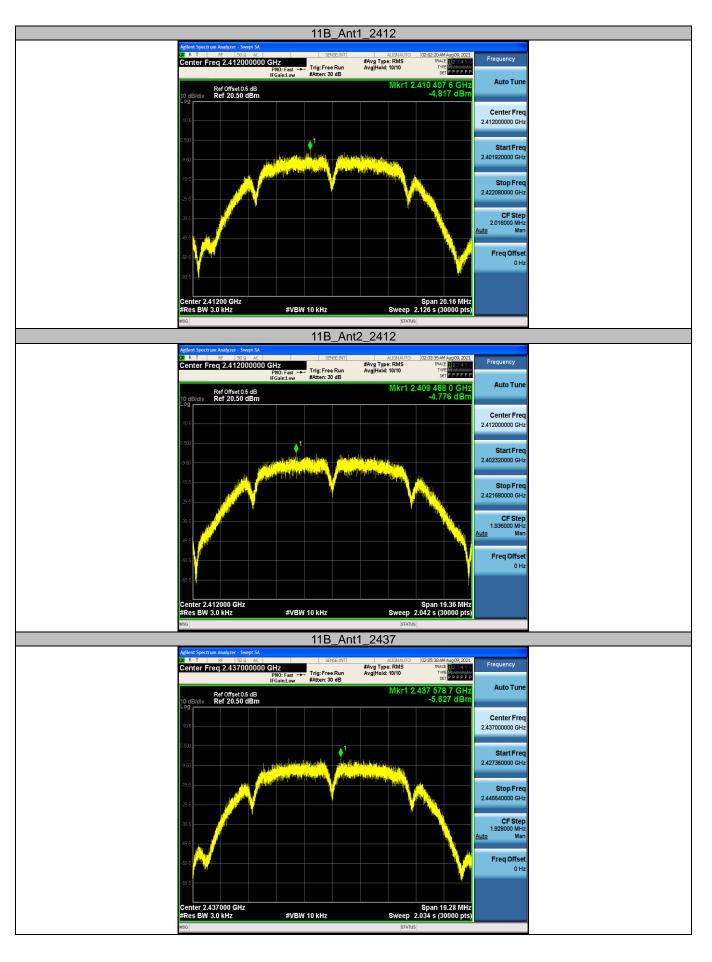
Please refer to the clause 2.4.



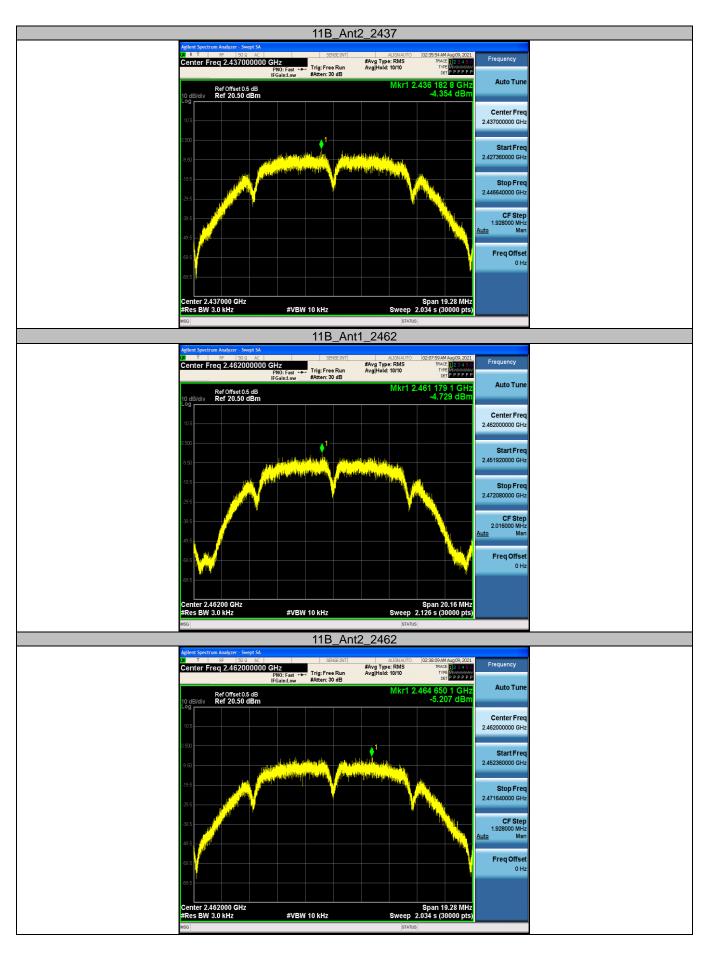
#### Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
	Ant1	2412	-4.82	<=8	PASS
44.5	Ant2	2412	-4.78	<=8	PASS
	Ant1	2437	-5.63	<=8	PASS
11B	Ant2	2437	-4.35	<=8	PASS
	Ant1	2462	-4.73	<=8	PASS
	Ant2	2462	-5.21	<=8	PASS
	Ant1	2412	-7.32	<=8	PASS
	Ant2	2412	-10.19	<=8	PASS
11G	Ant1	2437	-7.77	<=8	PASS
IIG	Ant2	2437	-10.48	<=8	PASS
	Ant1	2462	-7.16	<=8	PASS
	Ant2	2462	-9.65	<=8	PASS
	Ant1	2412	-9.47	<=8	PASS
	Ant2	2412	-11.52	<=8	PASS
	total	2412	-7.36	<=8	PASS
	Ant1	2437	-11.58	<=8	PASS
11N20MIMO	Ant2	2437	-11.22	<=8	PASS
	total	2437	-8.39	<=8	PASS
	Ant1	2462	-12.13	<=8	PASS
	Ant2	2462	-11.84	<=8	PASS
	total	2462	-8.97	<=8	PASS
	Ant1	2422	-15	<=8	PASS
	Ant2	2422	-14.23	<=8	PASS
	total	2422	-11.59	<=8	PASS
	Ant1	2437	-14.31	<=8	PASS
11N40MIMO	Ant2	2437	-14.88	<=8	PASS
	total	2437	-11.58	<=8	PASS
	Ant1	2452	-14.77	<=8	PASS
	Ant2	2452	-15.05	<=8	PASS
	total	2452	-11.90	<=8	PASS

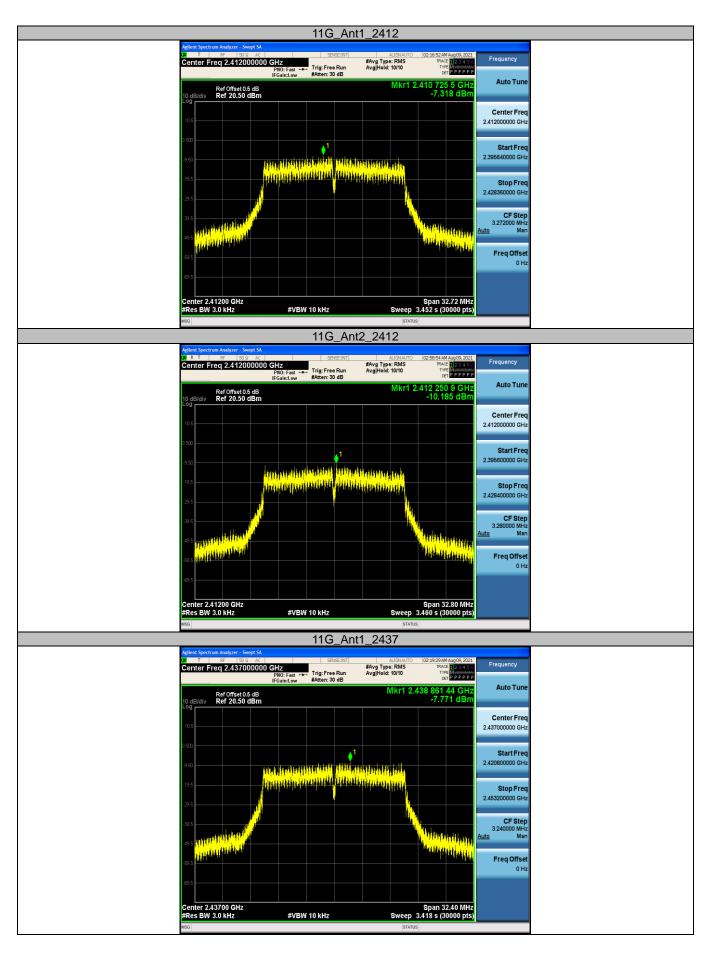




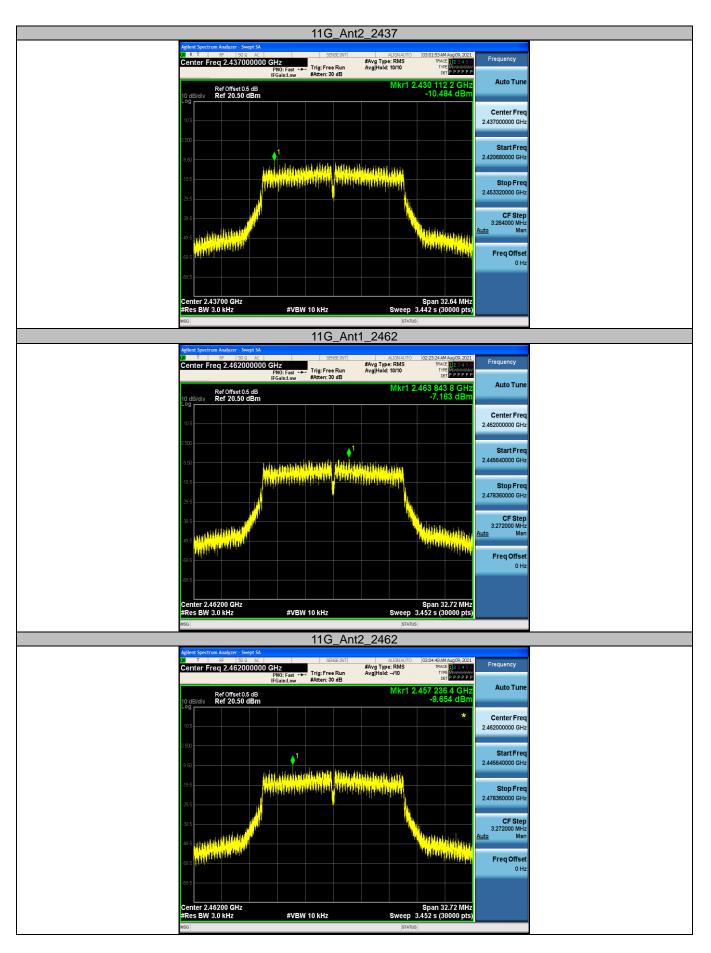




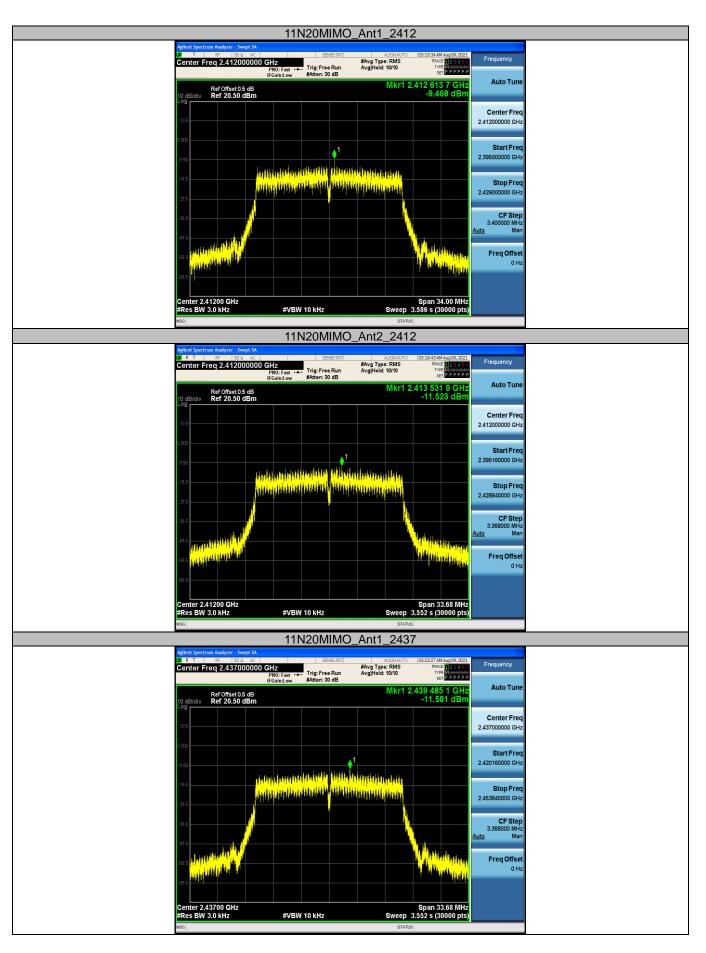




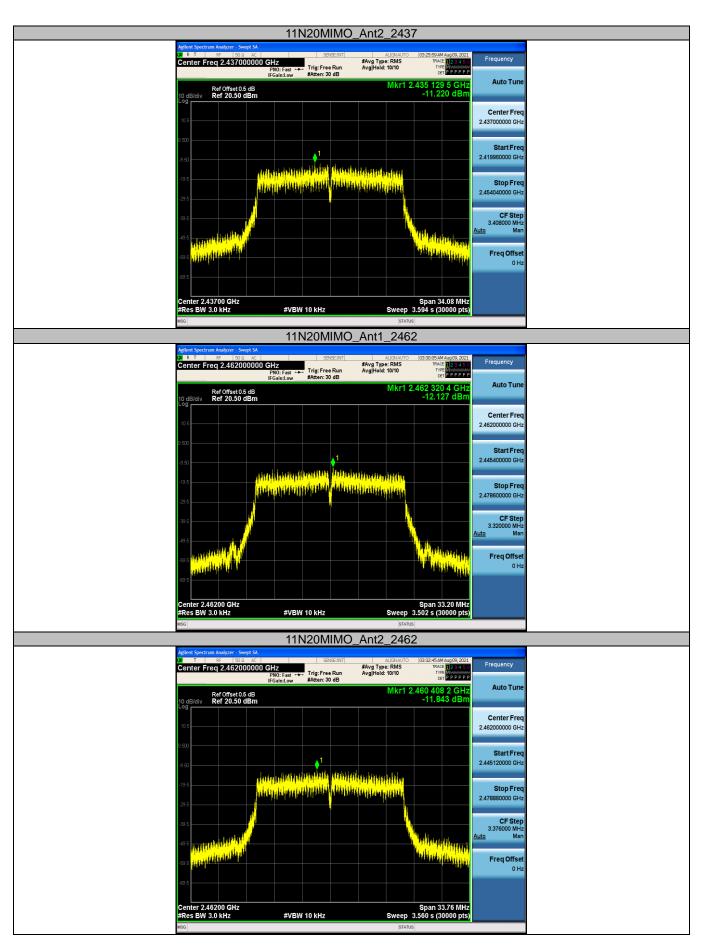




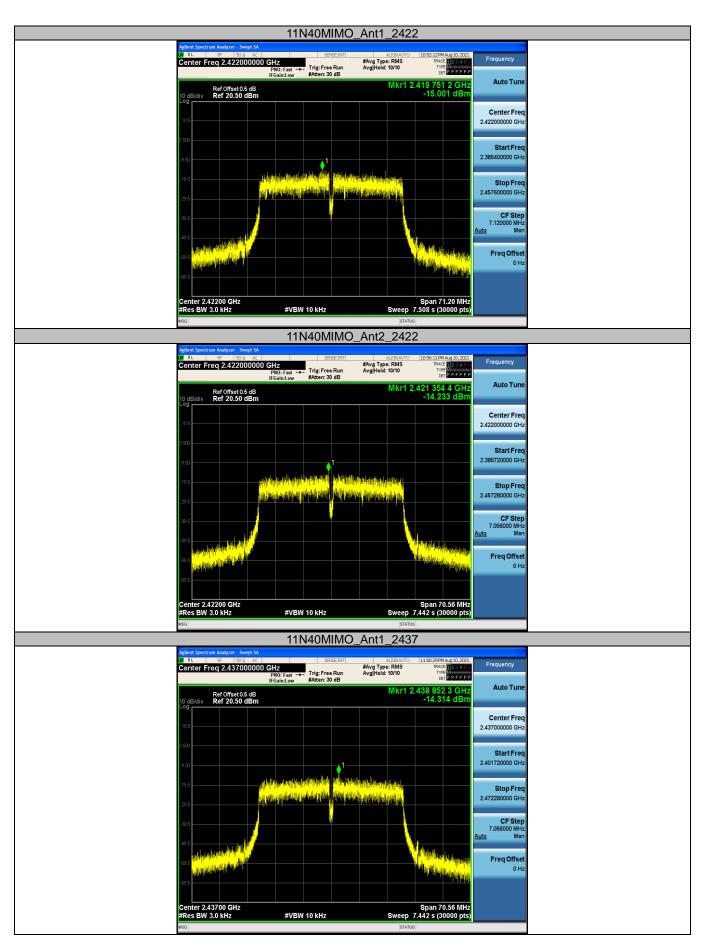




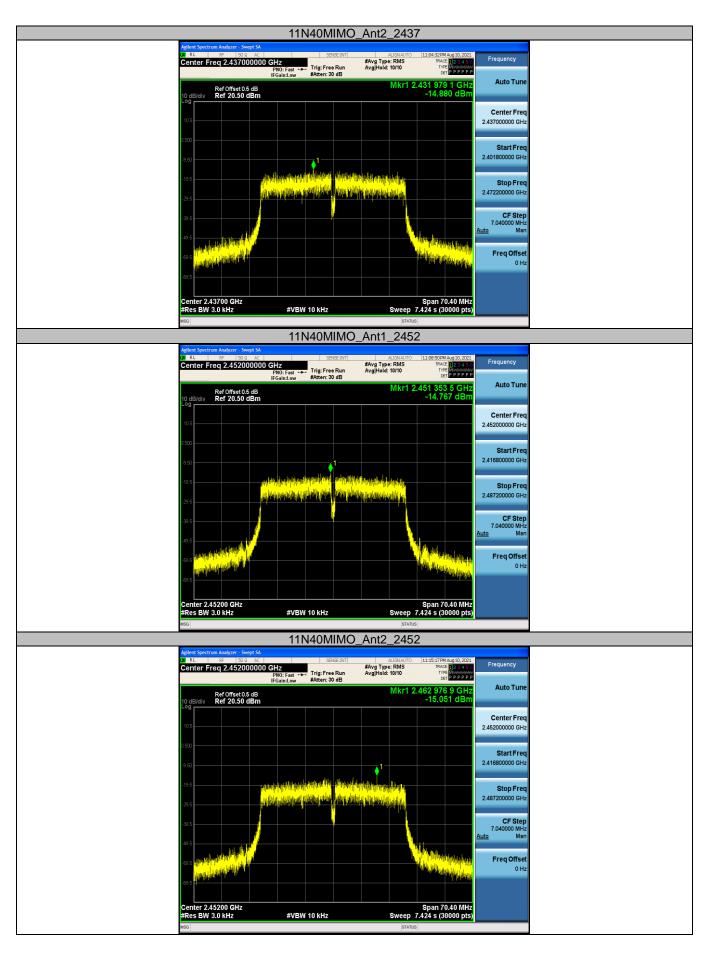












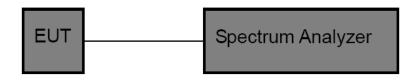


## 3.8. Duty Cycle

<u>Limit</u>

None, for report purposes only.

### **Test Configuration**



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.

3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency. Set the span to 0Hz

Set the RBW to 10MHz

Set the VBW to 10MHz

Detector: peak

Sweep time: auto

Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

## Test Mode

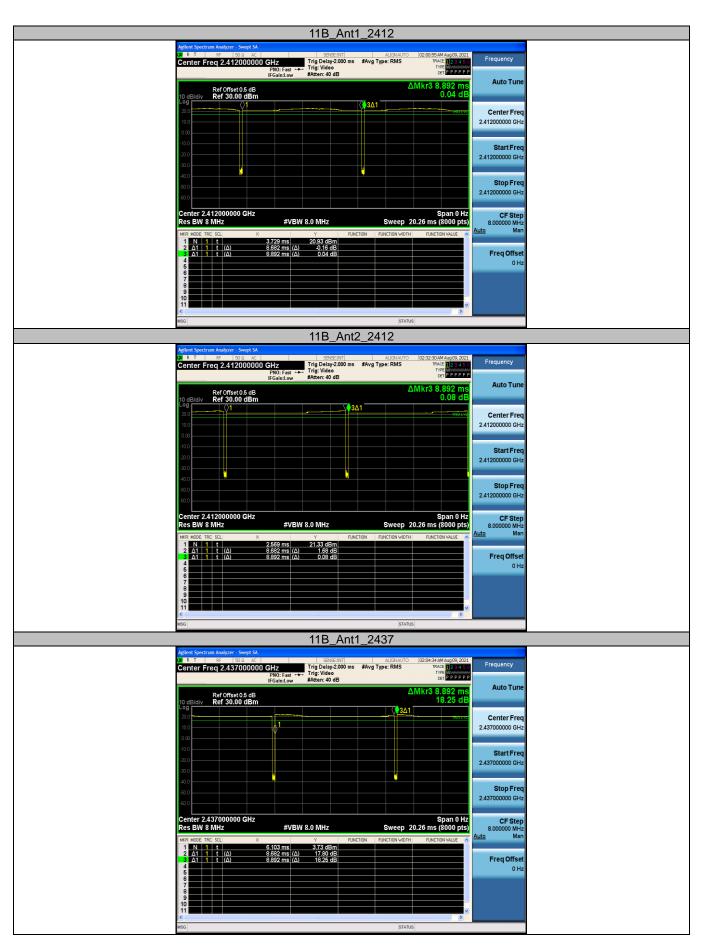
Please refer to the clause 2.4.



#### Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
	Ant1	2412	8.68	8.89	97.64	0.11	1.00
	Ant2	2412	8.68	8.89	97.64	0.11	1.00
11B	Ant1	2437	8.68	8.89	97.64	0.11	1.00
ПВ	Ant2	2437	8.68	8.89	97.64	0.11	1.00
	Ant1	2462	8.68	8.89	97.64	0.11	1.00
	Ant2	2462	8.68	8.89	97.64	0.11	1.00
	Ant1	2412	1.44	1.65	87.27	0.61	1.00
	Ant2	2412	1.44	1.65	87.27	0.61	1.00
11G	Ant1	2437	1.44	1.65	87.27	0.61	1.00
ng i	Ant2	2437	1.44	1.65	87.27	0.61	1.00
	Ant1	2462	1.44	1.65	87.27	0.61	1.00
	Ant2	2462	1.44	1.65	87.27	0.61	1.00
	Ant1	2412	0.68	0.89	76.40	1.12	2.00
	Ant2	2412	0.68	0.89	76.40	1.12	2.00
11N20MIMO	Ant1	2437	0.68	0.89	76.40	1.12	2.00
	Ant2	2437	0.68	0.89	76.40	1.12	2.00
	Ant1	2462	0.68	0.89	76.40	1.12	2.00
	Ant2	2462	0.68	0.89	76.40	1.12	2.00
	Ant1	2422	0.35	0.56	62.50	1.79	2.00
	Ant2	2422	0.35	0.56	62.50	1.79	2.00
11N40MIMO	Ant1	2437	0.35	0.56	62.50	1.79	2.00
	Ant2	2437	0.35	0.56	62.50	1.79	2.00
	Ant1	2452	0.35	0.56	62.50	1.79	2.00
	Ant2	2452	0.35	0.56	62.50	1.79	2.00







44 D - A -	+2 2/27	
Agilent Spectrum Analyzer - Swept SA	12_2437	
UX R T RF 50Ω AC SENSE:INT	ALIGNAUTO 02:34:51 AM Aug 09, 2021 s #Avg Type: RMS TRACE 22:34 55 TYPE DET PPPPPP	equency
Ref Offset 0.5 dB 10 dB/div Ref 30.00 dBm	ΔMkr3 8.892 ms 1.70 dB	Auto Tune
		Center Freq 7000000 GHz
10.00		Start Freq
-20.0	2.43	7000000 GHz
40.0	2.43	Stop Freq 7000000 GHz
Center 2.437000000 GHz Res BW 8 MHz #VBW 8.0 MHz		CF Step 3.000000 MHz
1 N 1 t 8.781 ms 20.92 dBm   2 Δ1 1 t (Δ) 8.682 ms (Δ) 1.26 dB	INCTION FUNCTION WIDTH FUNCTION VALUE	Man
3 Δ1 1 t (Δ) 8.892 ms (Δ) 1.70 dB   4 -		Freq Offset 0 Hz
7 8 9 10		
 11 S	STATUS	
11B_An	t1_2462	
PNO: Fast +++ Trig: Video	s wing type. tune	requency
IFGain:Low #Atten: 40 dB Ref Offiset 0.5 dB	DET P P P P P P	Auto Tune
20.0	<a>3∆1</a>	Center Freq
10.0	2.46	2000000 GHz
-0.0	2.46	Start Freq 2000000 GHz
-40.0	2.46	Stop Freq 2000000 GHz
Center 2.462000000 GHz	Span 0 Hz	CF Step
1 N 1 t 5.089 mc 1.95 dBm	Sweep 20.26 ms (8000 pts) Auto	3.000000 MHz Man
2 Δ1 1 t (Δ) 8.692 ms (Δ) 19.64 dB 3 Δ1 1 t (Δ) 8.692 ms (Δ) 19.01 dB 4 5 6		Freq Offset 0 Hz
10 11 MSG	STATUS	
11B_An		
Agilent Spectrum Analyzer - Swept SA   μ T RF 50 Ω ΔC SENSE:INT   Constant From 2 A S20 Ω AC Trip Pelaw2000 m	ALIGN AUTO 02:37:06 AM Aug 09, 2021	requency
PN0: Fast → Trig: video IFGain:Low #Atten: 40 dB		AutoTune
Ref Offset 0.5 dB 10 dB/div Ref 30.00 dBm	21.49 dB	Center Freq
10.0 0.00		2000000 GHz
-10.0	2.46	Start Freq 2000000 GHz
-30.0		Stop Freq
-60.0		2000000 GHz
Center 2.462000000 GHz   Res BW 8 MHz #VBW 8.0 MHz   MKR_MODE_TRC_SCL X Y P	Span 0 Hz Sweep 20.26 ms (8000 pts) INCTION FUNCTION VALUE A	CF Step 3.000000 MHz Man
1 N 1 t 4.887 ms -0.24 dBm   2 Δ1 1 t (Δ) 8.892 ms (Δ) 21.30 dB   3 Δ1 1 t (Δ) 8.892 ms (Δ) 21.49 dB   4		Freq Offset
6 6 7 8		V III
9 10 11	×	
MSG 1	STATUS	





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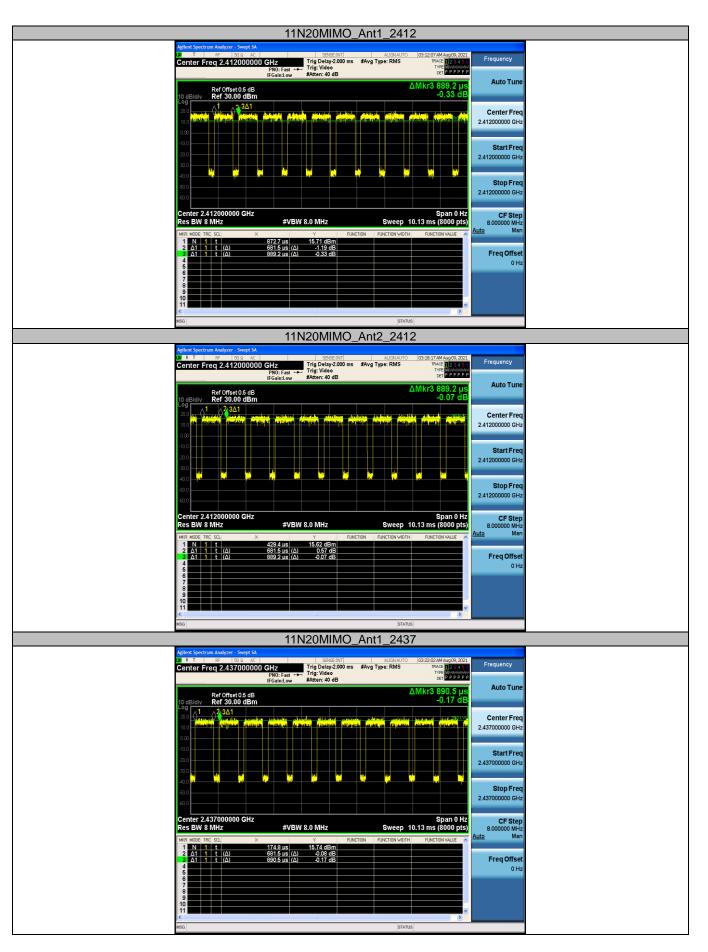


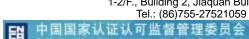


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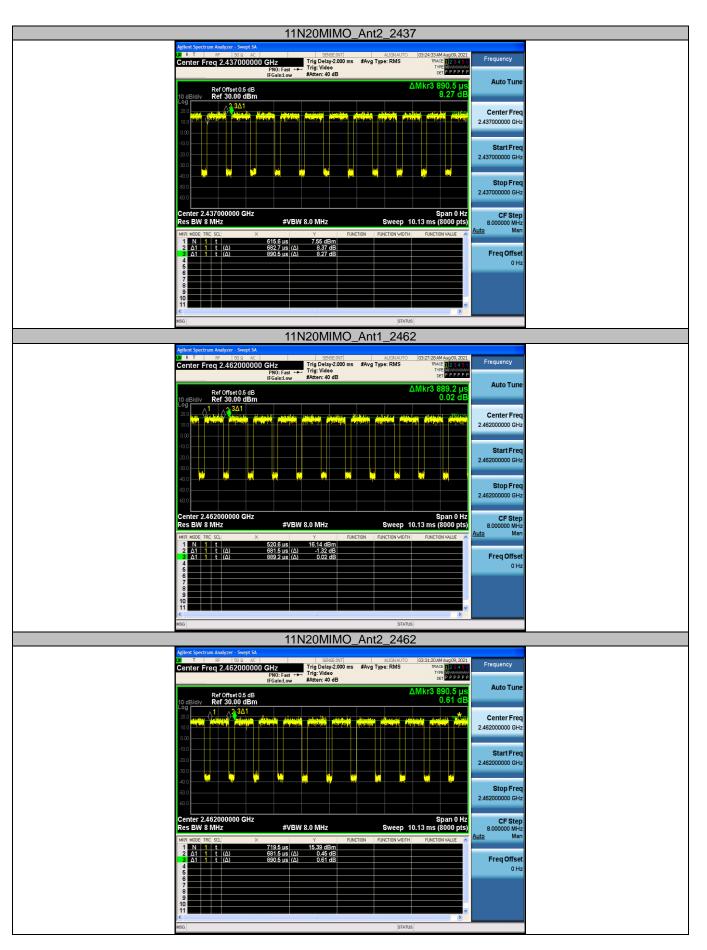






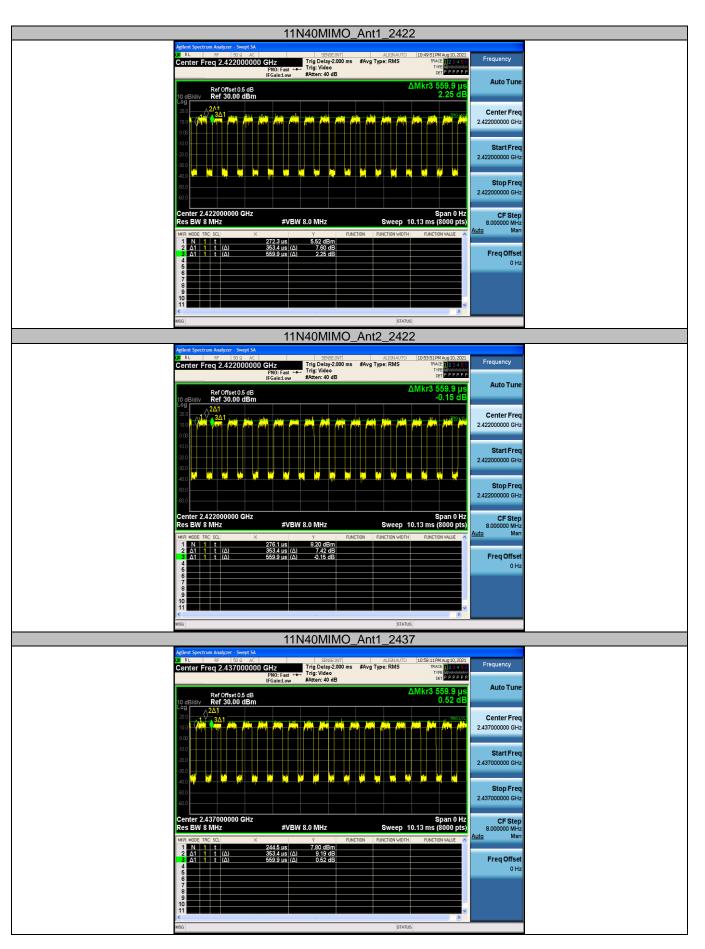








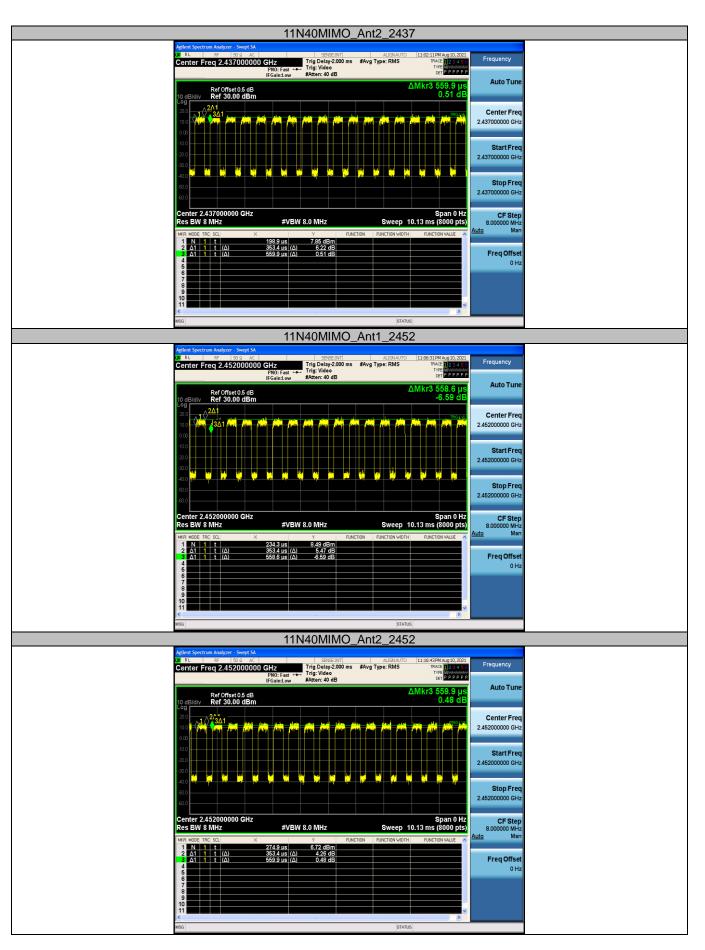




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# 3.9. Antenna Requirement

## <u>Requirement</u>

#### FCC CFR Title 47 Part 15 Subpart C 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. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### Test Result

Complies

Directional gain =  $G_{ANT}$  = 5dBi

Note: All transmit signals are completely uncorrelated with each other in MIMO transmitting modes (Manufacturer's Declaration).