

#### 9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

#### 9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in§15.205(a), must also comply with the radiated emission limits specified in15.209(a).

## 9.2 TEST PROCEDURE

Using the following spectrum analyzer setting:

#### A) Set the RBW = 100KHz.

- B) Set the VBW = 300KHz.
- C) Sweep time = auto couple.
- D) Detector function = peak.
- $\dot{E}$ ) Trace mode = max hold.
- F) Allow trace to fully stabilize.

#### 9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 9.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 9.6 TEST RESULTS

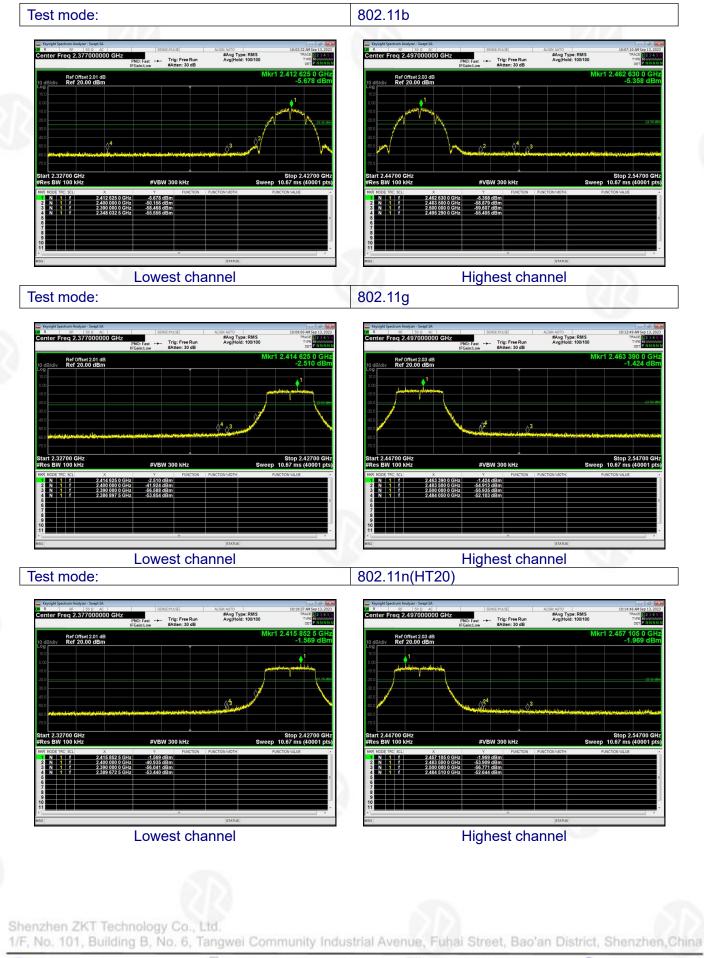








# Test plot as follows:

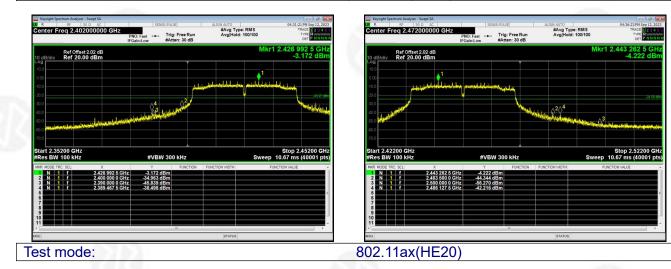


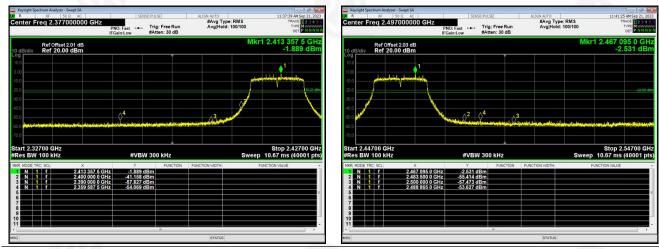




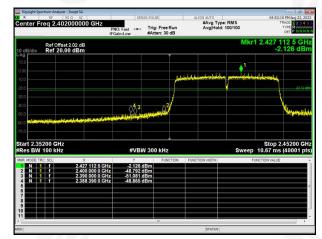
# Test mode:

# 802.11n(HT40)

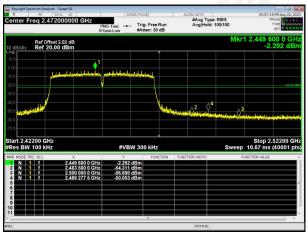




#### Test mode:



# 802.11ax(HE40)



Lowest channel

#### **Highest channel**

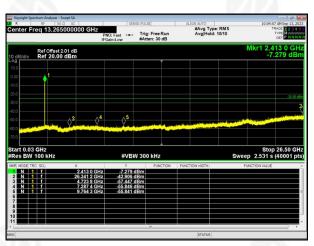
Note: Only the worst data recorded was ANT 1. Both of ANT 1&2 has been tested. The worst ANT1 has attenuated 3db below the limit. So the MIMO mode deemed to passed.





# Test plot as follows:





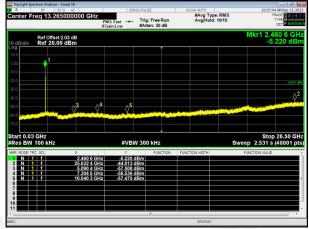
# Middle channel



R RF Renter Freq 13.	265000000 GHz	SENSE:PU	g: Free Run	ALIGN AUTO #Avg Typ Avg Hold		10:05:55 AM Sep 13, 20 TRACE 2 3 4 TYPE MWWWW
	IFC	Sain:Low #A	tten: 30 dB	-		DET P NNN
Ref Of dB/div Ref 2	fset 2.02 dB 0.00 dBm					Mkr1 2.437 4 GF -5.885 dB
29						
m1						
.0						-24.91 c
.0						٨2
0						8
n	AS A4	<u>5</u>				And the second se
	0 0				a strend of the	
		Y				Change of the local division of the local di
0 and a state of the						
0						
art 0.03 GHz		#VBW 30	0 kHz		Swe	Stop 26.50 Gl
art 0.03 GHz tes BW 100 kH		#VBW 30				ep 2.531 s (40001 p
art 0.03 GHz tes BW 100 kH	× 2.437 4 GHz	Y -5.885 dBm	0 kHz FUNCTION	FUNCTION WIDTH		Stop 26.50 G ep 2.531 s (40001 p Function value
art 0.03 GHz kes BW 100 kH	× 2.437 4 GHz 24.783 4 GHz	Y -5.885 dBm -44.154 dBm		FUNCTION WIDTH		ep 2.531 s (40001 p
art 0.03 GHz tes BW 100 kH MODE TRC SCL N 1 f	× 2,437 4 GHz 24,783 4 GHz 5,029 5 GHz 7,183 5 GHz	¥ -5.885 dBm -44.154 dBm -57.252 dBm -56.557 dBm		FUNCTION WIDTH		ep 2.531 s (40001 p
art 0.03 GHz tes BW 100 kH Mode TRC SCL N 1 f N 1 f N 1 f N 1 f	× 2.437 4 GHz 24.783 4 GHz 5.029 5 GHz	Y -5.885 dBm -44.154 dBm -57.252 dBm		FUNCTION WIDTH		ep 2.531 s (40001 p
art 0.03 GHz tes BW 100 kH MODE TRC ScL N 1 f N 1 f N 1 f	× 2,437 4 GHz 24,783 4 GHz 5,029 5 GHz 7,183 5 GHz	¥ -5.885 dBm -44.154 dBm -57.252 dBm -56.557 dBm		FUNCTION WIDTH		Stop 26.50 G ep 2.531 s (40001 p epictron vaue
art 0.03 GHz es BW 100 kH R MODE TRC SCLI N 1 f N 1 f N 1 f	× 2,437 4 GHz 24,783 4 GHz 5,029 5 GHz 7,183 5 GHz	¥ -5.885 dBm -44.154 dBm -57.252 dBm -56.557 dBm		FUNCTION VIDTH		ep 2.531 s (40001 p
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	× 2,437 4 GHz 24,783 4 GHz 5,029 5 GHz 7,183 5 GHz	¥ -5.885 dBm -44.154 dBm -57.252 dBm -56.557 dBm		FUNCTION WIDTH		ep 2.531 s (40001 p
art 0.03 GHz tes BW 100 KH R MODE TRC SCL N 1 f N 1 f N 1 f	× 2,437 4 GHz 24,783 4 GHz 5,029 5 GHz 7,183 5 GHz	¥ -5.885 dBm -44.154 dBm -57.252 dBm -56.557 dBm				ep 2.531 s (40001 p

# Highest channel





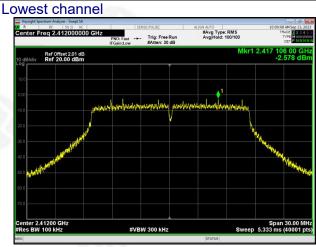
#### Note: Only the worst data recorded was ANT 1.

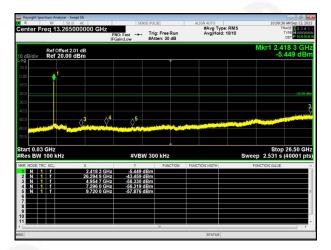




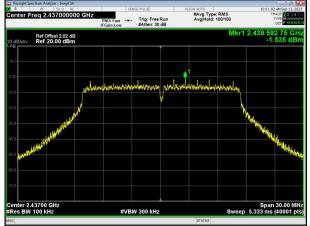


# 802.11g



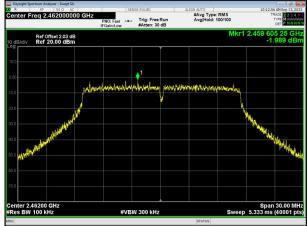


# Middle channel



	Ω AC	SENSE:PU	LSE	ALIGN AUTO		10:11:32 AM Sep 13, 2
enter Freq 13.265	PNC		ig: Free Run tten: 30 dB	#Avg Type: Avg Hold: 1		TRACE 2 2 TYPE MWWW DET P NN
Ref Offset 2 dB/div Ref 20.00						Mkr1 2.439 4 G -2.299 dE
.0						
00 <b></b>						
.0						
.00						
0						
.00						
0	A3 A4	.5				
					State of the local division of the local div	
	Q Y	A Company	and in the second			
10 maintaine the standard	<b>0 V</b>					
art 0.03 GHz						Stop 26.50 G
art 0.03 GHz		#VBW 30	00 KHz		Swee	Stop 26.50 G p 2.531 s (40001 p
art 0.03 GHz es BW 100 kHz	×	Y	FUNCTION	FUNCTION WIDTH		Stop 26.50 G p 2.531 s (40001 p INCTION VALUE
art 0.03 GHz tes BW 100 kHz R MODE TRC SCL N 1 f	× 2.439 4 GHz 25 872 7 GHz	#VBW 30	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz M MODE TRC SCL N 1 f N 1 f	2.439 4 GHz 25.872 7 GHz 4.748 9 GHz	-2.299 dBm -43.751 dBm -57.527 dBm	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz R MODE TRC: Scli N 1 f N 1 f N 1 f	2.439 4 GHz 25.872 7 GHz	-2.299 dBm -43.751 dBm	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz R MODE TRC SCL N 1 f N 1 f N 1 f N 1 f	2,439 4 GHz 25.872 7 GHz 4.748 9 GHz 7,283 4 GHz	Y -2.299 dBm -43.751 dBm -57.527 dBm -54.950 dBm	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz N 000 tRC scl N N 1 f N 1 f N 1 f N 1 f N 1 f	2,439 4 GHz 25.872 7 GHz 4.748 9 GHz 7,283 4 GHz	Y -2.299 dBm -43.751 dBm -57.527 dBm -54.950 dBm	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz    tes BW 100 kHz    R MODE TRCI SCL    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1	2,439 4 GHz 25.872 7 GHz 4.748 9 GHz 7,283 4 GHz	Y -2.299 dBm -43.751 dBm -57.527 dBm -54.950 dBm	FUNCTION	FUNCTION WIDTH		p 2.531 s (40001 p
art 0.03 GHz Res BW 100 kHz R MODE TRC SCL N 1 f N 1 f N 1 f	2,439 4 GHz 25.872 7 GHz 4.748 9 GHz 7,283 4 GHz	Y -2.299 dBm -43.751 dBm -57.527 dBm -54.950 dBm	FUNCTION	FUNCTION WOTH		p 2.531 s (40001 p

# Highest channel



R RF	50 Q AC	SENSE:PI		ALIGN AUTO	10:13:25 AM S	6
enter Freq 13.	265000000 GHz	PNO: Fast and Tr	rig: Free Run Atten: 30 dB	#Avg Type: RI Avg Hold: 10/1	IS TRACE	ep 13, 2 1 2 3 4 M M M P N N N
Ref Off D dB/div Ref 20	set 2.03 dB 0.00 dBm				Mkr1 2.463 -1.22	
0.0						
1.0						-21.99
10	۸3 ۸4					
1.0 <b>1.0 1.0 1.0 1.0 1.0 1.0</b> 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	N P P	the second second				
0.0					Stop 26.	50.0
art 0.03 CHz					atop zo.	
	z	#VBW 3	00 kHz		Sweep 2.531 s (40)	001 p
Res BW 100 kH	× 2.463 3 GH	y -1.221 dBm	FUNCTION	FUNCTION WIDTH	Sweep 2.531 s (400 FUNCTION VALUE	001 p
Res BW 100 kH: R MODE TRC SCL N 1 f 2 N 1 f 3 N 1 f	× 2.463 3 GH 25.871 3 GH 4.805 2 GH	z -1.221 dBm z -43.818 dBm z -56.345 dBm	FUNCTION	FUNCTION WIDTH		001 p
Res BW 100 kH    R MODE TRC SCL    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1	× 2.463 3 GH 25.871 3 GH	z -1.221 dBm z -43.818 dBm z -56.345 dBm z -57.245 dBm	FUNCTION	FUNCTION WIDTH		001 p
Res  BW  100 kH;    I  N  1  f    2  N  1  f    3  N  1  f    4  N  1  f    5  N  1  f    6  7  1  f    8  1  1  f	× 2,463 3 GH 25.871 3 GH 4.805 2 GH 7.274 2 GH	z -1.221 dBm z -43.818 dBm z -56.345 dBm z -57.245 dBm	FUNCTION	FUNCTION WIDTH		001 p
2 N 1 f 3 N 1 f 4 N 1 f	× 2,463 3 GH 25.871 3 GH 4.805 2 GH 7.274 2 GH	z -1.221 dBm z -43.818 dBm z -56.345 dBm z -57.245 dBm	FUNCTION	FUNCTION WIDTH		001 p

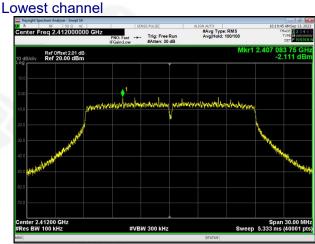
Note: Only the worst data recorded was ANT 1.

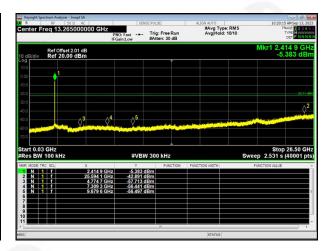




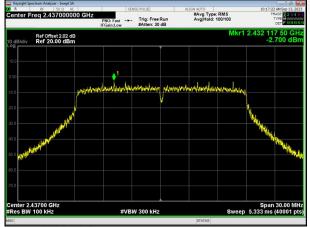


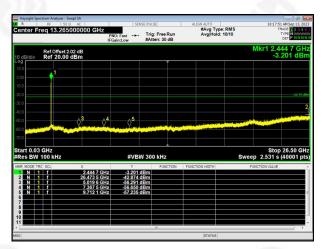
# 802.11n(HT20)



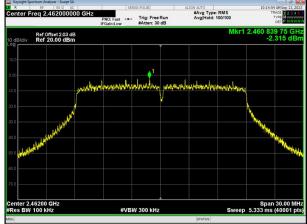


## Middle channel





# Highest channel



enter Fr		50 9 AC		SENSE:PULS	Free Run		Type: RMS Iold: 10/10	10:15:23 AM TRACE	Sep 13, 20
			PNO: Fast H IFGain:Low	#Atte	en: 30 dB	Avgin		DET	PNNN
0 dB/div	Ref Offse Ref 20.0							Mkr1 2.459 -5.51	3 GH 0 dB
0.0									
.00	1								
0.0									
3.0									
1.0									
1.0		.3	4 .5						
		$\Diamond$				and the state of the	and in the state of a state	- Contraction of the local division of the l	
							No. of the local division in the local divis		
and the state of the									
1.0									
tart 0.03			#VI	BW 300	kHz		5	Stop 26 Sweep 2.531 s (40	i.50 G 1001 p
art 0.03 Res BW	100 kHz	×	Y		kHz FUNCTION	FUNCTION WIDT		Stop 26 Sweep 2.531 s (40 FUNCTION VALUE	5.50 G 1001 p
tart 0.03 Res BW R MODE TR N 1 2 N 1	100 kHz	2.459 3 G 26.500 0 G	Y Hz -5.51 Hz -43.88	0 dBm 18 dBm		FUNCTION WIDTH		Sweep 2.531 s (40	5.50 G 1001 p
art 0.03 Res BW 1 R MODE TRI N 1 2 N 1 3 N 1 4 N 1	100 kHz f f f f	2.459 3 G 26.500 0 G 4.831 7 G 7.250 4 G	Hz -5.51 Hz -43.88 Hz -56.72 Hz -56.75	0 dBm 18 dBm 11 dBm 16 dBm		FUNCTION WIDTH		Sweep 2.531 s (40	5.50 G 1001 p
tart 0.03 Res BW 1 Res BW 1 R MODE TR N 1 2 N 1 3 N 1 4 N 1 5 N 1	100 kHz	2.459 3 G 26.500 0 G 4.831 7 G	Hz -5.51 Hz -43.88 Hz -56.72 Hz -56.75	0 dBm 18 dBm 11 dBm		FUNCTION WIDTH		Sweep 2.531 s (40	5.50 G 1001 p
tart 0.03 Res BW R MODE TRI N 1 2 N 1 3 N 1 4 N 1 6 N 1 6 N 1 6	100 kHz f f f f	2.459 3 G 26.500 0 G 4.831 7 G 7.250 4 G	Hz -5.51 Hz -43.88 Hz -56.72 Hz -56.75	0 dBm 18 dBm 11 dBm 16 dBm		FUNCTION WIDTI		Sweep 2.531 s (40	5.50 G
art 0.03 Res BW MODE TR MODE TR MODE TR MODE TR N 1 N 1 S N 1 S N N N N N N N N N N N N N N N N N N	100 kHz f f f f	2.459 3 G 26.500 0 G 4.831 7 G 7.250 4 G	Hz -5.51 Hz -43.88 Hz -56.72 Hz -56.75	0 dBm 18 dBm 11 dBm 16 dBm		FUNCTION WIDTI		Sweep 2.531 s (40	5.50 G
00	100 kHz f f f f	2.459 3 G 26.500 0 G 4.831 7 G 7.250 4 G	Hz -5.51 Hz -43.88 Hz -56.72 Hz -56.75	0 dBm 18 dBm 11 dBm 6 dBm 75 dBm		FUNCTION WIDTI		Sweep 2.531 s (40	5.50 G

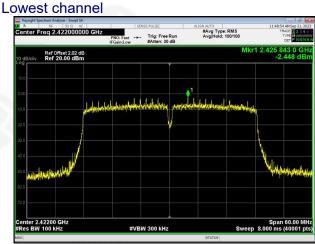
### Note: Only the worst data recorded was MIMO.

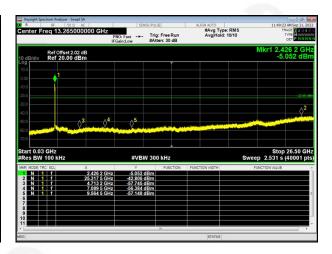
Ð





# 802.11n(HT40)



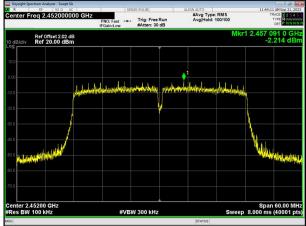


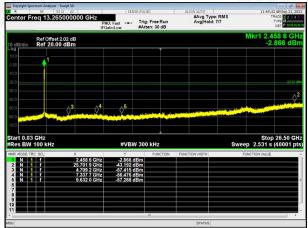
## Middle channel



Keysight Spectrum Analyzer - S R RF 50	Ω AC	SENSE:PUL		ALIGN AUTO		11:46:4	9 AM Sep 21. 2
enter Freq 13.265	000000 GHz	East Trig	g: Free Run ten: 30 dB	#Avg Typ Avg Hold	e: RMS : 10/10	TI	TYPE NWW
Ref Offset 2 dB/div Ref 20.00	02 dB dBm					Mkr1 2.4 -5.	36 1 G 390 dE
9 .0							
m1							
°							22.22
0							
0							
		A 5					
.0							
Annual Statement	V V			destances as how the second	a second a state of the	The second	
o management of the state		N STORE		de la construcción de la	des de la constitue de la const	Disease of the	
and an and a state of the state				dentro de la cita de la		The second	
						Stop	26.50.0
art 0.03 GHz		#VBW 30	0 kHz		Swee	Stop 2.531 s	26.50 G (40001 p
art 0.03 GHz es BW 100 kHz	×	#VBW 30	0 KHz	FUNCTION WIDTH		Stop 2.531 s	26.50 G (40001 p
art 0.03 GHz es BW 100 kHz MODE TRC SCL	2.436 1 GHz	Y -5.390 dBm		FUNCTION WIDTH		ep 2.531 s	26.50 G (40001 p
art 0.03 GHz les BW 100 kHz R MODE TRC SCL N 1 f	2.436 1 GHz 26.493 4 GHz	Y -5.390 dBm -43.109 dBm		FUNCTION WIDTH		ep 2.531 s	26.50 G (40001 p
0  0    art 0.03 GHz  0    tes BW 100 kHz  0    N 1 f  1    N 1 f  1    N 1 f  1	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		FUNCTION W/DTH		ep 2.531 s	26.50 G (40001 p
0  GHZ    tes BW 100 kHz    N  1    N  1    N  1    N  1    N  1    N  1    N  1    N  1	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm		FUNCTION WIDTH		ep 2.531 s	26.50 G (40001 p
0 art 0.03 GHz es BW 100 kHz R MODE TRC; SCL N 1 f N 1 f N 1 f N 1 f	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		FUNCTION WIDTH		ep 2.531 s	26.50 G (40001 p
art 0.03 GHz es BW 100 kHz R MODE TRC SCL N 1 f N 1 f N 1 f N 1 f	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		FUNCTION WIDTH		ep 2.531 s	26.50 G (40001 p
art 0.03 GHz es BW 100 kHz R MORE TRC SCL N 1 f N 1 f N 1 f	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		FUNCTION KIDTH		ep 2.531 s	26.50 G (40001 p
art 0.03 GHz es BW 100 kHz R MORE TRC SCL N 1 f N 1 f N 1 f	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		Primer M Restrict 1		ep 2.531 s	26.50 G (40001 p
N 1 f N 1 f N 1 f	2.436 1 GHz 26.493 4 GHz 4.956 7 GHz 7.384 7 GHz	Y -5.390 dBm -43.109 dBm -56.920 dBm -56.651 dBm		FUNCTION WADTH		ep 2.531 s	26.50 G (40001 p

# **Highest channel**



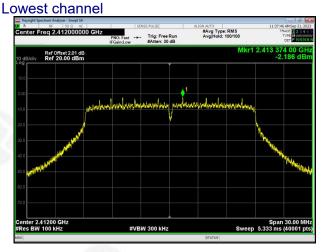


#### Note: Only the worst data recorded was MIMO.

B

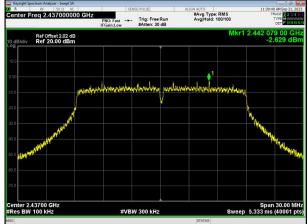






enter Freq 13.26	PNC		: Free Run en: 30 dB	#Avg Type Avg Hold:	RMS 10/10	TRACE 1 2 3 4 TYPE M
Ref Offset 0 dB/div Ref 20.0	t 2.01 dB 10 dBm				M	lkr1 2.415 6 GH -4.673 dB
10.0						
0.00						
0.0						
0.0						22.19 0
0.0						0
50.0	A3	5				and the second second
60.0	V AND	A Strategy	al state of side			
tart 0.03 GHz		#VBW 300	) KHZ		Sweep	Stop 26.50 GF 2.531 s (40001 p
tart 0.03 GHz Res BW 100 kHz	×	Y	D KHZ	FUNCTION WIDTH		Stop 26.50 GF 2.531 s (40001 pi ction value
1  1  f    2  1  f	2.415 6 GHz 25.762 1 GHz	Y -4.673 dBm -42.947 dBm		FUNCTION WIDTH		Stop 26.50 GF 2.531 s (40001 pt CTION VALUE
tart 0.03 GHz Res BW 100 kHz	2.415 6 GHz 25.762 1 GHz 4.914 4 GHz 7.221 9 GHz	4.673 dBm -42.947 dBm -57.398 dBm -56.275 dBm		FUNCTION WIDTH		2.531 s (40001 p
300  1	2.415 6 GHz 25.762 1 GHz 4.914 4 GHz	4.673 dBm -42.947 dBm -57.398 dBm		FUNCTION WIDTH		2.531 s (40001 p
1  1	2.415 6 GHz 25.762 1 GHz 4.914 4 GHz 7.221 9 GHz	4.673 dBm -42.947 dBm -57.398 dBm -56.275 dBm		FUNCTION WIDTH		2.531 s (40001 pt
000  000  000    start 0.03 GHz  Res BW 100 kHz    Res BW 100 kHz  1    N 1  1    2  N    3  N    4  N    5  N    6  0	2.415 6 GHz 25.762 1 GHz 4.914 4 GHz 7.221 9 GHz	4.673 dBm -42.947 dBm -57.398 dBm -56.275 dBm		PUNCTION WIDTH		2.531 s (40001 p

# Middle channel



8	RF	50 Q AC			SENSE:F		ALIGN				0:09 AM Sep 21, 20
					SENSE?	ULSE		Avg Type:	DMC	11340	TRACE
inter F	req 13.	2650000		PNO: Fast FGain:Low		rig: Free Run Atten: 30 dB		vg Hold: 1			TYPE NWWW DET PNNN
dB/div	Ref Off	set 2.02 dB 0.00 dBm	3							Mkr1 2.	442 1 GH 2.397 dBi
9 .0											
	<b>≬</b> ¹										
~ 0											
ů –											
											-22.63 d
0											
÷											a landthe
			3		5					Alexander and	-
0		\$	3		) <sup>5</sup>			<b>dituistim</b> )			
	<b></b>	\$	<sup>3</sup> ∕ <sup>4</sup>	4	5						
	-	0	<sup>3</sup> \∕ <sup>4</sup>	×	>5						
o o art 0.03	3 GHz 100 KH	z	3\$ <sup>4</sup>		5 #VBW 3	800 kHz			Swe		
art 0.03 es BW	100 kH	z	3			300 KHz	FUNCTION	WDTH			s (40001 pt
art 0.03 es BW	100 kH	)	2.442 1 GHz	-7	¢VBW 3	FUNCTION	FUNCTION	WDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 KH	>	2.442 1 GHz	-2	¢VBW 3 γ 397 dΒr 579 dΒr	FUNCTION	FUNCTION	WDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 KH	> 2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz	-2 -42 -57	#VBW 3 397 dBr 579 dBr 282 dBr	FUNCTION 11	FUNCTION	WDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz 7.368 1 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr 282 dBr	FUNCTION m m	FUNCTION	WIDTH		ep 2.531	s (40001 pt
R MODE TI	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr	FUNCTION m m	EUNCTION	WIDTH		ep 2.531	pp 26.50 GH s (40001 pt €
art 0.03 es BW	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz 7.368 1 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr 282 dBr	FUNCTION m m	FUNCTION	WIDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz 7.368 1 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr 282 dBr	FUNCTION m m	FUNCTION	WIDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz 7.368 1 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr 282 dBr	FUNCTION m m	FUNCTION	WIDTH		ep 2.531	s (40001 pt
art 0.03 es BW	100 kH	2	2.442 1 GHz 6.481 5 GHz 5.073 2 GHz 7.368 1 GHz	-2 -42 -57 -56	#VBW 3 397 dBr 579 dBr 282 dBr 282 dBr	FUNCTION m m	FUNCTION	WIDTH		ep 2.531	s (40001 pt

# **Highest channel**



R RF 50 G		SENSE:PUL	.SE	ALIGN AUTO		11:42:03 AM Sep 21, 2
enter Freq 13.2650	PNC		g: Free Run ten: 30 dB	#Avg Typ Avg Hold:	e: RMS : 10/10	TRACE 1 2 3 4 TYPE MWWW DET P NNN
Ref Offset 2: dB/div Ref 20.00	03 dB dBm				N	Akr1 2.454 7 GI -3.461 dB
9						
n1						
0						
.0						-22:40
.0						
n						
						41.41.6
.0	A <sup>3</sup> A <sup>4</sup>	5		the second second second		Sund and the standard in
	34	5				
	§ <sup>3</sup> § <sup>4</sup>	5	-			
0 and a state of the state of t	03 04	5				
art 0.03 GHz		5 	0 kHz			Stop 26.50 G 2.531 s (40001 p
art 0.03 GHz es BW 100 kHz	2 <sup>3</sup> 2 <sup>4</sup>		0 kHz	FUNCTION WIDTH	Sweep	Stop 26.50 G 2.531 s (40001 p xtrion value
art 0.03 GHz es BW 100 kHz R MODE TRC SCL N 1 f	2.454 7 GHz	#VBW 30		FUNCTION WADTH	Sweep	Stop 26.50 G 2.531 s (40001 p criton value
art 0.03 GHz es BW 100 kHz	2.454 7 GHz 25.860 1 GHz	#VBW 30		FUNCTION WIDTH	Sweep	2.531 s (40001 p
A T T T T T T T T T T T T T T T T T T T	2.454 7 GHz 25.860 1 GHz 5.085 1 GHz 7.396 6 GHz	#VBW 30 -3.461 dBm -43.157 dBm -57.566 dBm -56.846 dBm		FUNCTION WIDTH	Sweep	2.531 s (40001 p
art 0.03 GHz es BW 100 kHz N 1 f N 1 f N 1 f N 1 f	2.454 7 GHz 25.860 1 GHz 5.085 1 GHz	#VBW 30 -3.461 dBm -43.157 dBm -57.566 dBm		FUNCTION WIDTH	Sweep	2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz N 11 f N 1 f N 1 f N 1 f N 1 f	2.454 7 GHz 25.860 1 GHz 5.085 1 GHz 7.396 6 GHz	#VBW 30 -3.461 dBm -43.157 dBm -57.566 dBm -56.846 dBm		FUNCTION WIDTH	Sweep	2.531 s (40001 p
A T T T T T T T T T T T T T T T T T T T	2.454 7 GHz 25.860 1 GHz 5.085 1 GHz 7.396 6 GHz	#VBW 30 -3.461 dBm -43.157 dBm -57.566 dBm -56.846 dBm		FUNCTION WDTH	Sweep	2.531 s (40001 p
art 0.03 GHz tes BW 100 kHz R Model rrac sci / N 1 f N 1 f N 1 f	2.454 7 GHz 25.860 1 GHz 5.085 1 GHz 7.396 6 GHz	#VBW 30 -3.461 dBm -43.157 dBm -57.566 dBm -56.846 dBm		PUNCTION WIDTH	Sweep	2.531 s (40001 p

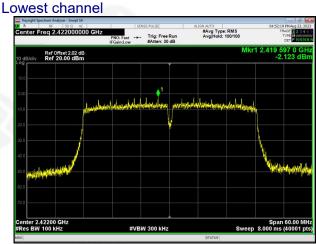
#### Note: Only the worst data recorded was MIMO.

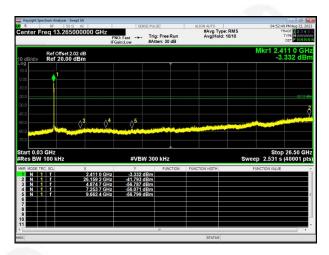






# 802.11ax(HE40)





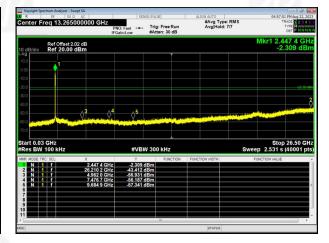
# Middle channel



	50 Ω AC	SENSE:PUL	.SE	ALIGN AUTO	04:55:17 PM Aug
enter Freq 13.2		O: Fast Tri ain:Low #At	g: Free Run ten: 30 dB	#Avg Type: R Avg Hold: 10	MS TRACE TYPE
	et 2.02 dB .00 dBm				Mkr1 2.428 2 -2.380
0.0					
10					
0.0					
1.0	$\wedge^3$ $\wedge^4$	\$		As any Sound Standards	Charles and the second state of the second
art 0.03 GHz Res BW 100 kHz		#VBW 30	0 kHz		Stop 26.50 Sweep 2.531 s (4000
Res BW 100 kHz	X	Y	0 kHz FUNCTION	FUNCTION WIDTH	Stop 26.50 Sweep 2.531 s (4000 FUNCTION VALUE
RES BW 100 KHZ	× 2.428 2 GHz 26.216 8 GHz	-2.380 dBm -42.027 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
RES BW 100 KHZ	× 2.428 2 GHz 26.216 8 GHz 4.738 4 GHz	Y -2.380 dBm -42.027 dBm -57.057 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
Note  Trc  Scl    N  1  f    N  1  f    N  1  f    N  1  f    N  1  f    N  1  f    N  1  f    N  1  f	× 2.428 2 GHz 26.216 8 GHz	-2.380 dBm -42.027 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
Res BW 100 kHz    II  N  1  f	× 2.428 2 GHz 26.216 8 GHz 4.738 4 GHz 7.270 2 GHz	Y -2.380 dBm -42.027 dBm -57.057 dBm -54.955 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
Res BW 100 kHz    R MODE TRC SCL    N  1    Z  N  1    J  N  1    Z  N  1    J  N  1    Z  N  1    J  N  1    J  N  1    J  N  1    J  N  1	× 2.428 2 GHz 26.216 8 GHz 4.738 4 GHz 7.270 2 GHz	Y -2.380 dBm -42.027 dBm -57.057 dBm -54.955 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
Res BW 100 kHz  R  MODE TRC: SCL    1  N  1  f    2  N  1  f    3  N  1  f    4  N  1  f    5  N  1  f    6  N  1  f    7  8  1  f	× 2.428 2 GHz 26.216 8 GHz 4.738 4 GHz 7.270 2 GHz	Y -2.380 dBm -42.027 dBm -57.057 dBm -54.955 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000
Res BW 100 kHz    MODE TRC SCL    N  1	× 2.428 2 GHz 26.216 8 GHz 4.738 4 GHz 7.270 2 GHz	Y -2.380 dBm -42.027 dBm -57.057 dBm -54.955 dBm		FUNCTION WIDTH	Sweep 2.531 s (4000

# **Highest channel**





Note: Only the worst data recorded was MIMO.









#### **10. DUTY CYCLE**

Test Method:

ANSI C63.10:2013

#### 10.1 APPLIED PROCEDURES / LIMIT

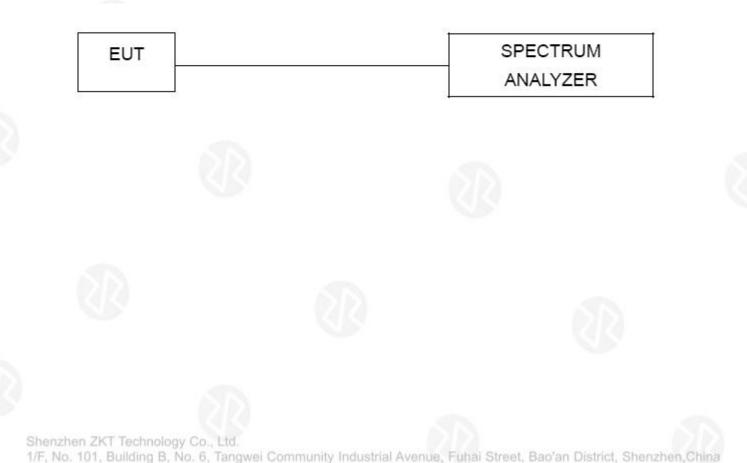
Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.
- b) The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
  - 1) Set the center frequency of the instrument to the center frequency of the transmission.
  - 2) Set  $RBW \ge OBW$  if possible; otherwise, set RBW to the largest available value.
  - 3) Set  $VBW \ge RBW$ . Set detector = peak or average.
  - 4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 µs.)

#### **10.2 DEVIATION FROM STANDARD**

No deviation.

#### 10.3 TEST SETUP



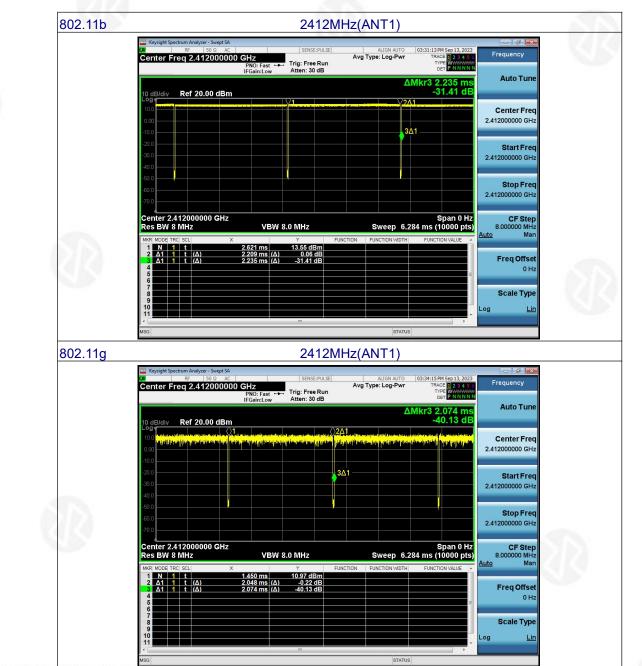






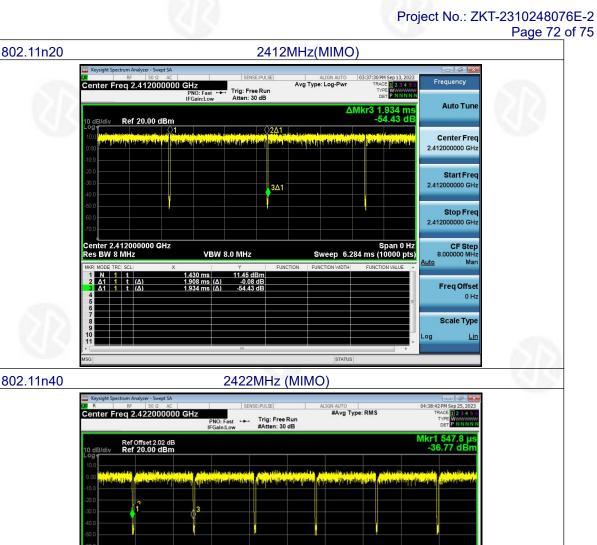
## **10.4 TEST RESULTS**

Mode	Frequency (MHz)	Duty Cycle (%)
802.11b	2412	98.84
802.11g	2412	98.75
802.11n20	2412	98.66
802.11n40	2422	97.92
802.11ax20	2412	96.45



Shenzhen ZKT Technology Co.,

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China



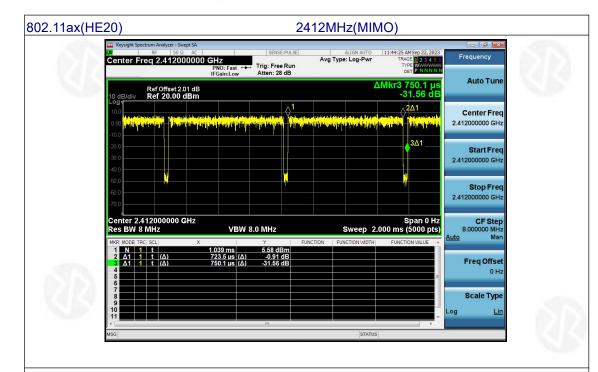


		Mkr1 547	8 III S
B n		-36.77	dBm
And the second s	A NUMBER OF A DESCRIPTION OF A DESCRIPTI	and the fate and all the start faces.	office (1)
3			
		Span	1 O Hz
			1 pts)
547.8 µs -36.77 dBn		FUNCTION VALUE	- î
572.4 µs -32.30 dBn 1.510 ms -37.20 dBn			
	#VBW 8 ************************************	************************************	-36.77 dBm









Note: All mode have been tested, and the report only reflects the worst case data. Duty Cycle = Ton / Total\*100%









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 an 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. 15.247(c) (1)(i) requirement: (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. EUT Antenna:					
The antenna is External A	ntenna, the best	case gain of the antenna i	s 2.0 dBi, reference to th	e appendix II for details	
enzhen ZKT Technology , No. 101, Building B, No					







# **12. TEST SETUP PHOTO**

Reference to the appendix I for details.

# **13. EUT CONSTRUCTIONAL DETAILS**

Reference to the appendix II for details.

\*\*\*\*\* END OF REPORT \*\*\*\*



