

Appendix for Test report



Appendix A: 20dB Emission Bandwidth (EBW)



1 Result Table

EUT Conf.	EBW [MHz]	Limit[MHz]	Verdict
TM1_DH5_Ch0	0.95		Pass
TM1_DH5_Ch39	0.95		Pass
TM1_DH5_Ch78	0.95		Pass
TM2_2DH5_Ch0	1.29		Pass
TM2_2DH5_Ch39	1.31		Pass
TM2_2DH5_Ch78	1.31		Pass
TM3_3DH5_Ch0	1.29		Pass
TM3_3DH5_Ch39	1.31		Pass
TM3_3DH5_Ch78	1.31		Pass



2 Test Plot

2.1 TM1_DH5_Ch0





2.2 TM1_DH5_Ch39

RL RF 50.9 AC	-+- Trig:	sense INT ALIGNAUTO nter Freq: 2.441000000 GHz g: Free Run AvgjHold>10/10 ten: 30 dB		01:06:11 PM Jan 09, 2019 Radio Std: None Radio Device: BTS	Frequency	
o dB/div Ref 30.00 dBm						
- cg 20.0 10.0 2 00					Center Fred 2.441000000 GH	
enter 2.441 GHz Res BW 30 kHz		#VBW 100 kHz		Span 2 MHz #Sweep 10 ms	CF Ste 200.000 kH	
Occupied Bandwidt	h 62.79 kHz	Total Power		ō dBm	Auto Ma	
Transmit Freq Error x dB Bandwidth	-1.053 kHz 947.7 kHz	OBW Power x dB		9.00 % 00 dB	он	
8G			STATU	5	n	



2.3 TM1_DH5_Ch78





2.4 TM2_2DH5_Ch0





2.5 TM2_2DH5_Ch39

Transmit F x dB Band		-821 Hz 1.310 MHz	OBW Power x dB	99.00 9 -20.00 dl		0.11
	Occupied Bandwidth 1.1792 N		Total Power 2 HZ		n	Auto Mar Freq Offse
center 2.441 #Res BW 30			#VBW 100 kHz	#5	Span 2 MHz Sweep 10 ms	CF Ste 200.000 kH
	~				hann an	
			~~n/~~~~	~		Center Fre 2.441000000 GH
	tef Offset 7 dB tef 30.00 dBm					
enter Freq 2	2.441000000	-p- Trig	sense int] ter Freq: 2.441000000 GHz : Free Run Avg Hold en: 30 dB	Radie: 10/10	5:25 PM Jan 09, 2019 o Std: None o Device: BTS	Frequency



2.6 TM2_2DH5_Ch78

Center Freq 2.48000000	Trig: F	sense:int) r Freq: 2.480000000 GHz Free Run Avg Hold 1: 30 dB	ALIGNAUTO : 10/10	01:33:32 PM Jan 09, 2019 Radio Std: None Radio Device: BTS	Frequency
Ref Offset 7 dB I0 dB/div Ref 30.00 dBm	1				
-09 20.0 10.0 6 00	- mar	Mr. Marina			Center Fred 2.480000000 GHz
			~		
40.0 ~ / · · · · · · · · · · · · · · · · · ·				ma	
Center 2.48 GHz Res BW 30 kHz	#	#VBW 100 kHz		Span 2 MHz #Sweep 10 ms	CF Stej 200.000 kH
Occupied Bandwidt	n 1760 MHz	Total Power	15.8	dBm	Auto Mar Freq Offse
Transmit Freq Error x dB Bandwidth	-1.860 kHz 1.310 MHz	OBW Power x dB		.00 % 00 dB	0.11
SG			STATUS	Į.	



2.7 TM3_3DH5_Ch0

RL RF 50.0 AC enter Freq 2.402000000	Trig: I	SENSE (NT) er Freq: 2.402000000 GHz Free Run Avg Hold h: 30 dB	: 10/10 Ra	2-56-27 PM Jan 09, 2019 adio Std: None adio Device: BTS	Frequency
Ref Offset 7 dB 0 dB/div Ref 30.00 dBn	n				
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	un In the man	~~~		Center Fred 2.402000000 GH
				Vin M	
Center 2.402 GHz Res BW 30 kHz		VBW 100 kHz		Span 2 MHz #Sweep 10 ms	CF Ste 200.000 kH
Occupied Bandwidt 1.	^ь 1809 MHz	Total Power	18.0 d	Bm	Auto Ma Freq Offse
Transmit Freq Error x dB Bandwidth	-102 Hz 1.308 MHz	OBW Power x dB	99.00 -20.00		OH
G			STATUS		1



#### 2.8 TM3_3DH5_Ch39

Center Freq 2.441000000	- Trig: F	sense:htt] r Freq: 2.441000000 GHz Free Run AvgjHold: h: 30 dB	: 10/10	01:23:50 PM Jan09, 2019 tadio Std: None tadio Device: BTS	Frequency
Ref Offset 7 dB Ref 30.00 dBm	1				
20.0 10.0 6.00		rtun hathanna	~~~~		Center Fred 2.441000000 GHz
Center 2.441 GHz #Res BW 30 kHz	#	VBW 100 kHz		Span 2 MHz #Sweep 10 ms	CF Ster 200.000 kH
Occupied Bandwidt	^h 1783 MHz			IBm	Auto Mai Freq Offse
Transmit Freq Error x dB Bandwidth	-851 Hz 1.309 MHz	OBW Power x dB	99.0 -20.00		OH
86			STATUS		-

#### 2.9 TM3_3DH5_Ch78





### Appendix B: Carrier Frequency Separation



#### 3 Result Table

EUT Conf.	Carrier Frequency Separation [MHz]	Limit[MHz]	Verdict
TM1_DH5_Hop	1	≥0.633	Pass
TM2_2DH5_Hop	0.95	≥0.873	Pass
TM3_3DH5_Hop	1.1	≥0.873	Pass



#### 4 Test Plot

#### 4.1 TM1_DH5_Hop

enter Freq 2.441000000 C		Run Avg Hold	e: Log-Pwr	DI FM Jan 09, 2019 TRACE 2, 3, 4, 5 TYPE MUNNINN DET PNNNNN	Frequency
Ref Offset 7 dB 0 dB/div Ref 27.00 dBm			Mkr2 2.441 13	050 GHz 406 dBm	Auto Tune
09 17.0 7.00 3.00	ne for the second	2 may mit	And the second of the second s	mark w	Center Fred 2.441000000 GHz
13.0					Start Fred 2.438500000 GHz
43.0					Stop Free 2.443500000 GH
start 2.438500 GHz Res BW 100 kHz	#VBW 300 kHz		Sweep 2.520 r		CF Step 500.000 kH
	050 GHz 13.911 df 050 GHz 13.406 df	3m	NCTION WIDTH FUN	CTION VALUE	
3 4 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					Freq Offse 0 H
8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9				×	
sg			STATUS	3	



#### 4.2 TM2_2DH5_Hop

nter Freq 2.44100000		SENSEJINT	ALIGNAUTO Avg Type: Log-Pwr Avg[Hold: 100/100	01:13:16 PM Jan09, 2019 TRACE 2:26:4 E TYPE MUSAN	Frequency
Ref Offset 7 dB	IFGain:Low	#Atten: 30 dB	Mkr2	2.441 000 GHz 12.164 dBm	Auto Tuno
dB/diy Ref 27.00 dBm	yapalinewarenyi	2 yourna William	Mermer and States and States and a state of the states of		Center Fre 2.441000000 GH
0					Start Fre 2.438500000 GH
0 0					Stop Fre 2.443500000 GH
art 2.438500 GHz tes BW 100 kHz	#VBW	300 kHz	Sweep	top 2.443500 GHz 2.520 ms (601 pts)	CF Ste 500.000 kH Auto Ma
	0 050 GHz 1 000 GHz	Y FU 10.510 dBm 12.164 dBm	NCTION FUNCTION WDTH	FUNCTION VALUE	Freq Offse 0 H

### 4.3 TM3_3DH5_Hop

nter Freq 2.441000000	PNO: Wide T	rig: Free Run Atten: 30 dB	Avg Type: Log-Pwr AvgjHold: 100/100	01-21-39 PM Jan09, 2019 TRACE 1 2 3 4 5 TYPE MILLION	Frequency Auto Tune		
Ref Offset 7 dB Mkr2 2.441 150 GHz 9.048 dBm 9.048 dBm							
9 00 00 00 00	nonthananyayay	puerue yorkey instruction	and a support	ana ang ang ang ang ang ang ang ang ang	Center Freq 2.441000000 GHz		
0 0					Start Free 2.438500000 GHz		
0					Stop Fred 2.443500000 GH		
art 2.438500 GHz les BW 100 kHz	#VBW 30	0 kHz	S Sweep 2	top 2.443500 GHz 2.520 ms (601 pts)	CF Ster 500.000 kH		
		.134 dBm	FUNCTION FUNCTION WDTH	FUNCTION VALUE	<u>Auto</u> Mai		
N 1 f 2.441	1 150 GHz 9	.048 dBm			Freq Offse 0 H		
				· · ·			



### Appendix C: Number of Hopping Channel



#### 5 Result Table

EUT Conf.	Number of Hopping Channel	Limit	Verdict
TM1_DH5_Hop	79	≥15	Pass
TM2_2DH5_Hop	79	≥15	Pass
TM3_3DH5_Hop	79	≥15	Pass



#### 6 Test Plot

#### 6.1 TM1_DH5_Hop

RL Center F	req 2.44100000	) GHz PNO: Fast -+ IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Avg[Hold: 1	LIGNAUTO Log-Pwr 100/100	TRAC TVS	4 Jan 09, 2019 E 1 2 3 4 5 1 E Mussource F P N N N N N	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm				Mk	r1 2.48 12.3	0 0 GHz 94 dBm	Auto Tune
10.0		internet and the second se				111.000110 000000		Center Free 2.441000000 GH
0.0		manatali	1+1+1111111111111111	tranlutuu	umlu	1111111		Start Fre 2.391000000 GH
0.0								Stop Fre 2.491000000 GH
10 10								СF Ste 10.000000 Мн <u>Ашто</u> Ма
) ()	ant						hananada	Freq Offso 0 H
	44100 GHz 100 kHz	#\/8\A	300 kHz		ween 0	Span 1	00.0 MHz 1001 pts)	
IG DW	100 KH2	#VDV	J00 KH2		STATUS		roor proj	



#### 6.2 TM2_2DH5_Hop

RL RF 500 AC		ALIGNAUTO Avg Type: Log-Pwr	01-15-10 PM Jan 09, 2019 TRACE 10 2019	Frequency
enter Freq 2.44 100000	PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Hold: 100/100	DET P NNNNN	2/201 200
Ref Offset 7 dB 0 dB/div Ref 20.00 dBm		Mk	r1 2.480 0 GHz 6.627 dBm	Auto Tune
og 10.0 ///////////////////////////////////	nortal madding with a spectra and a second	when when the	phylophana 1	Center Free 2.441000000 GH
0.0				Start Fre 2.391000000 GH
0.0				Stop Fre 2.491000000 GH
0.0				CF Ste 10.000000 MH Auto Ma
0.0			hursone	Freq Offse 0 H
enter 2.44100 GHz Res BW 100 kHz	#VBW 300 kHz	Sweep 9	Span 100.0 MHz .600 ms (1001 pts)	



### 6.3 TM3_3DH5_Hop

RL RF 500 AC	GHz	Avg Type: Log-Pwr	01-23-33 PM Jan09, 2019 TRACE 2 2 3 4 5 4	Frequency
	PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg[Hold: 100/100	DET PINNINN	Val av
Ref Offset 7 dB dB/div Ref 20.00 dBm		Mk	r1 2.480 0 GHz 8.242 dBm	Auto Tune
11	nadudhaddaaddaadaadaadaadaadaadaadaadaadaada	handinanananan	antriwayy	Center Fred 2.441000000 GH
0.0				Start Free 2.391000000 GH
NO				Stop Fre 2.491000000 GH
ο				CF Ste 10.000000 MH Auto Ma
81-Langung ⁴			Victoriain	Freq Offse 0 H
enter 2.44100 GHz Res BW 100 kHz	#VBW 300 kHz	Sween	Span 100.0 MHz .600 ms (1001 pts)	



## Appendix D: Time of Occupancy (Dwell Time)

#### 7 Result Table

The Dwell Time = Burst Width * Total Hops. The detailed calculations are showed as follows:

- The duration for dwell time calculation: 0.4 [s] * hopping number = 0.4 [s] * 79 [ch] = 31.6 [s*ch];
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch*hop/s] for all channels. So the final hopping rate for all channels is 1600 / 6 = 266.67 [ch*hop/s];
- The hops per second on one channel: 266.67 [ch*hop/s] / 79 [ch] =3.38 [hop/s];
- The total hops for all channels within the dwell time calculation duration: 3.38 [hop/s] * 31.6 [s*ch] = 106.67 [hop*ch];
- The dwell time for all channels hopping: 106.67 [hop*ch] * Burst Width [ms/hop/ch].

EUT Conf.	Burst Width [s/hop/ch]	Total Hops [hop*ch]	Dwell Time [ms]	Verdict
TM1_DH5_Ch39	0.00287	106.67	0.309	Pass
TM2_2DH5_Ch39	0.00288	106.67	0.309	Pass
TM3_3DH5_Ch39	0.00289	106.67	0.309	Pass



#### 8 Test Plot

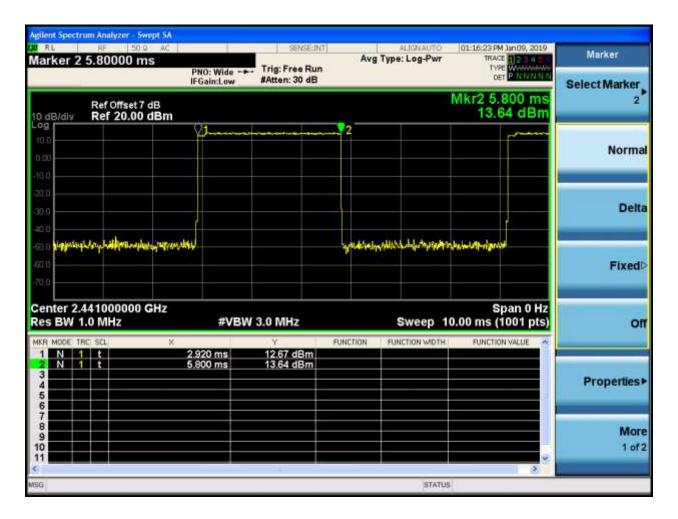
NOTE: The test plots are only for Burst Width measurements.

#### 8.1 TM1_DH5_Ch39

	432000 ms	PN	0: Wide -+-	Trig: F	ree Run 30 dB	Avg	ALIC Type: Lo	og-Pwr	TRAC	M Jan09, 2019 25 J 2 3 4 5 4 26 M NNNN N	Marker
dB/div	Ref Offset 7 d Ref 20.00 d	в	onicow						Mkr2 7. 14.4	320 ms 41 dBm	Select Marker 2
9 ,0 .0				¥1				2		*	Norma
				-							Delt
0 0 0	population	rannalistophy	menterm	alun)				Notifical	q _{aa} lejitlande	~16.viljandeji	Fixed
nter 2.44 s BW 1.0		Hz	#VBW	3.0 M	Hz	FUNCTION		еер 1	0.00 ms (	pan 0 Hz 1001 pts)	0
N 1 N 1	t	4.45	50 ms 20 ms		dBm dBm						Properties
										×	Moi 1 of
-							_	STATU	57	2	

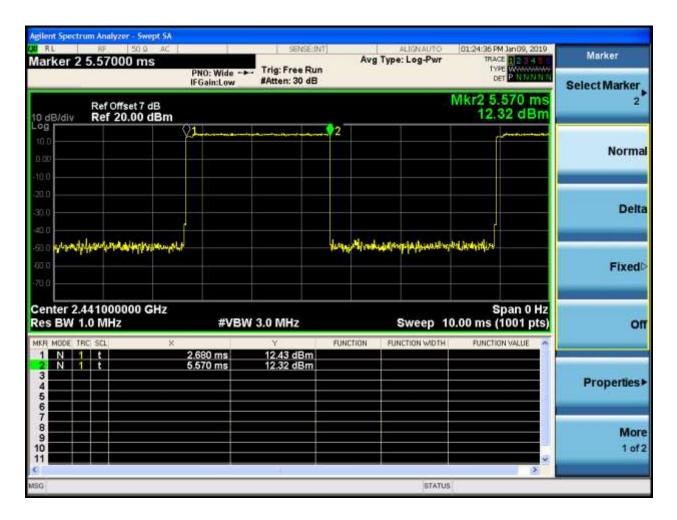


#### 8.2 TM2_2DH5_Ch39





#### 8.3 TM3_3DH5_Ch39





# Appendix E: Maximum Peak Conducted Output Power



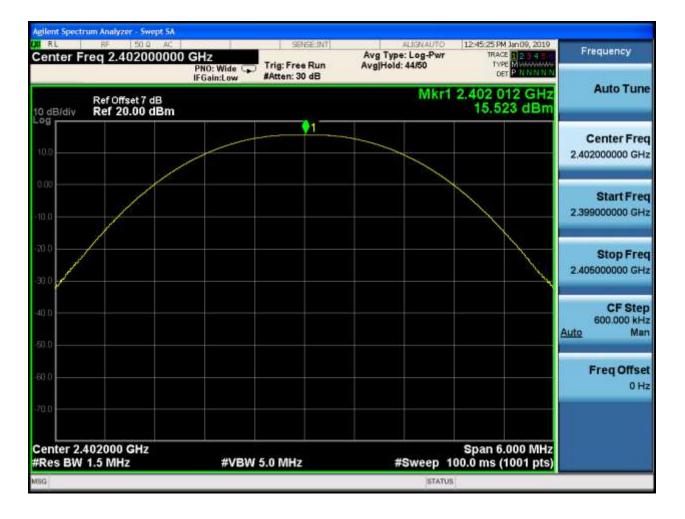
#### 9 Result Table

EUT Conf.	Max. Peak Power [dBm]	Limit[dBm]	Verdict
TM1_DH5_Ch0	15.52	20.97	Pass
TM1_DH5_Ch39	14.62	20.97	Pass
TM1_DH5_Ch78	12.98	20.97	Pass
TM2_2DH5_Ch0	15.90	20.97	Pass
TM2_2DH5_Ch39	15.06	20.97	Pass
TM2_2DH5_Ch78	10.66	20.97	Pass
TM3_3DH5_Ch0	13.06	20.97	Pass
TM3_3DH5_Ch39	15.09	20.97	Pass
TM3_3DH5_Ch78	13.40	20.97	Pass



#### 10 Test Plot

#### 10.1TM1_DH5_Ch0



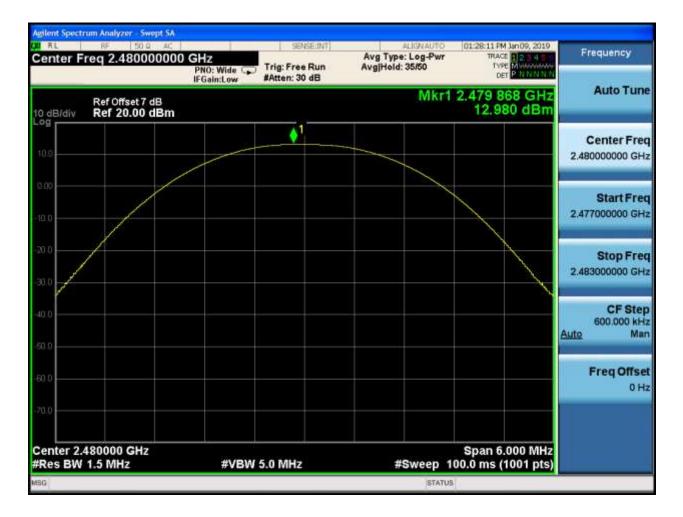


#### 10.2TM1_DH5_Ch39



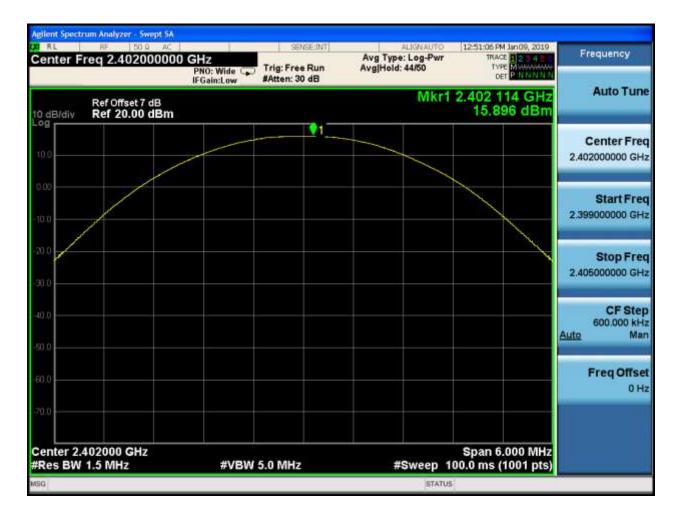


#### 10.3TM1_DH5_Ch78



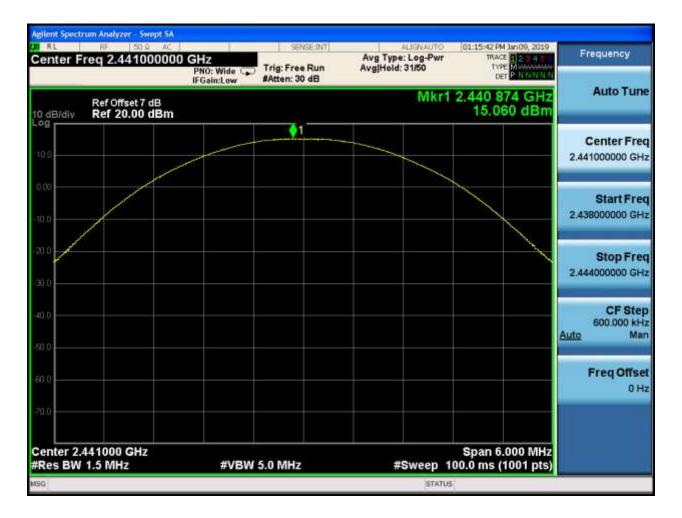


#### 10.4TM2_2DH5_Ch0



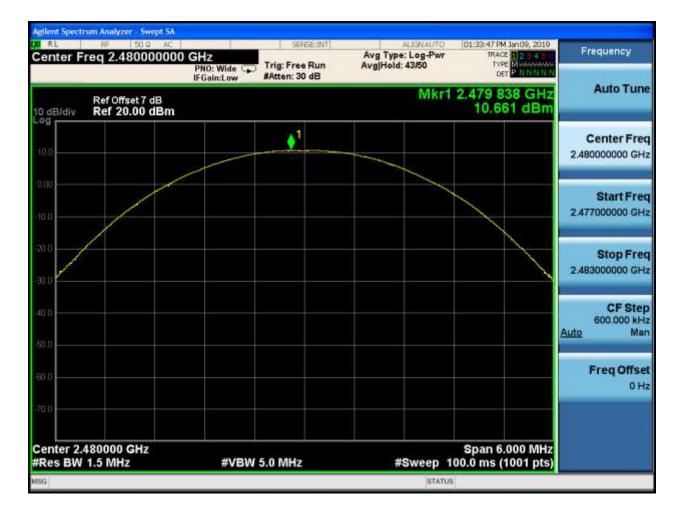


#### 10.5TM2_2DH5_Ch39



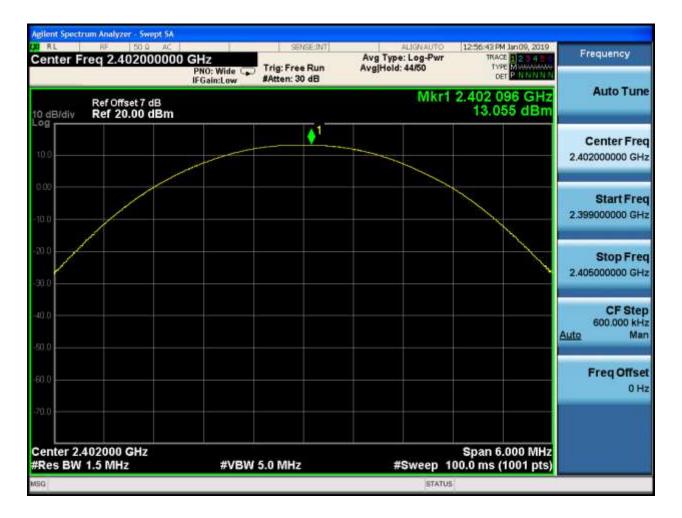


#### 10.6TM2_2DH5_Ch78



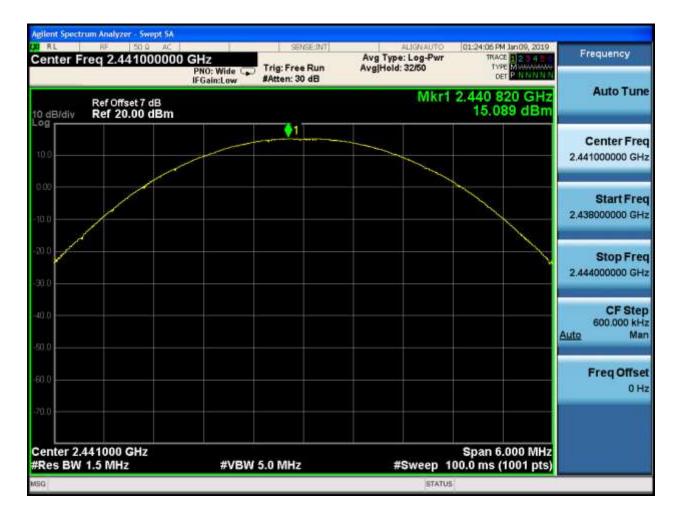


#### 10.7TM3_3DH5_Ch0



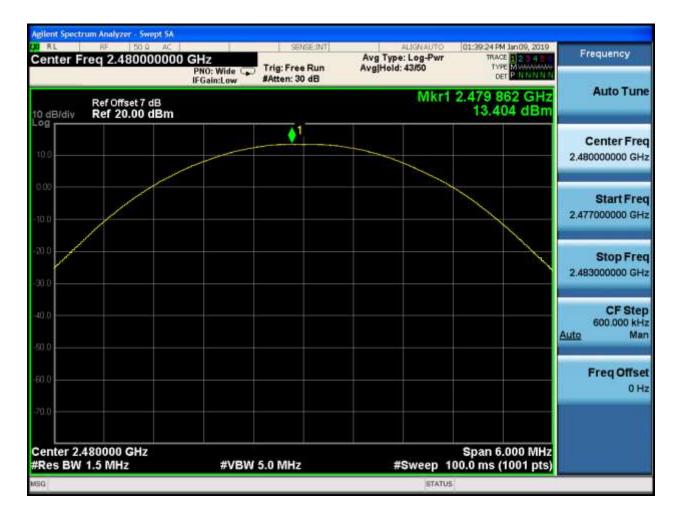


#### 10.8TM3_3DH5_Ch39





#### 10.9TM3_3DH5_Ch78





# Appendix F: Band edge spurious emission

### 11 Result Table

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1 DH5 Ch0	0	2402	-49.678	Off	15.324	-4.676	Pass
	-	-	-51.94	On	14.76	-5.24	Pass
TM1_DH5_Ch78	78	2480	-54.867	Off	12.743	-7.257	Pass
	-	-	-56.06	On	12.132	-7.868	Pass
TM2 2DH5 Ch0	0	2402	-42.542	Off	13.42	-6.58	Pass
	-	-	-45.751	On	11.305	-8.695	Pass
TM2_2DH5_Ch7	78	2480	-54.416	Off	8.177	-11.823	Pass
8	-	-	-55.654	On	5.907	-14.093	Pass
TM3 3DH5 Ch0	0	2402	-48.03	Off	10.612	-9.388	Pass
	-	-	-50.804	On	8.721	-11.279	Pass
TM3_3DH5_Ch7	78	2480	-52.867	Off	10.969	-9.031	Pass
8	-	-	-56.137	On	8.459	-11.541	Pass



# 12 Test Plot

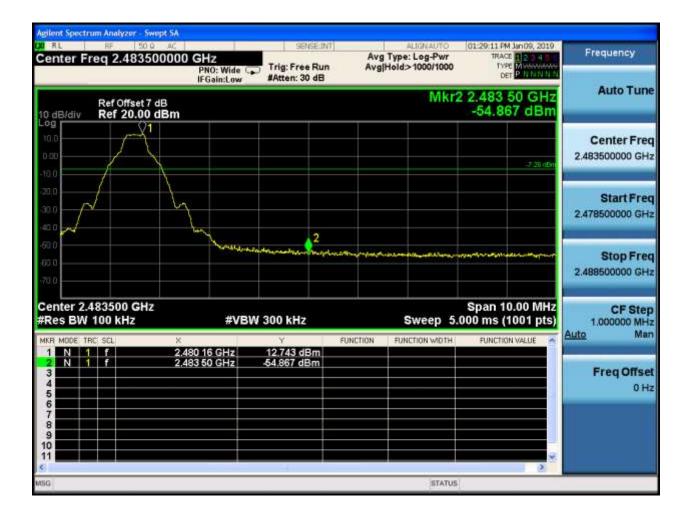
#### 12.1TM1_DH5_Ch0

	AL C	SENSE:INT	ALIGNAUTO	12:46:27 PM Jan 09, 2019	Frequency
enter Freq 2.4000	00000 GHz PNO: Wide G IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>1000/1000	TRACE 2 3 4 5 1 TYPE MUSER NNNNN DET PNNNNN	requency
Ref Offset 7 0 dB/div Ref 20.00		1.434.344.2440.4	Mkr	2 2.400 00 GHz -49.678 dBm	Auto Tune
0 00				-4 60 abm	Center Fred 2,400000000 GH:
20.0		2 -		hung -	Start Free 2.395000000 GH
50 0 90 0 70 0	مى ئەلەرەم بەرەم بەرىلىرى بەرەم بەر	and the second second		Contraction of the second second	Stop Free 2.405000000 GH
center 2.400000 GHz Res BW 100 kHz		W 300 kHz	Sweep 5.	Span 10.00 MHz 000 ms (1001 pts)	CF Ste 1.000000 MH
IKR MODE TRC SCL	× 2.402 17 GHz	Y FI 15.324 dBm	INCTION FUNCTION WDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N K1 f	2.400 00 GHz	-49.678 dBm			Freq Offse 0 H
5 6 7 8 9 9 10					





#### 12.2TM1_DH5_Ch78





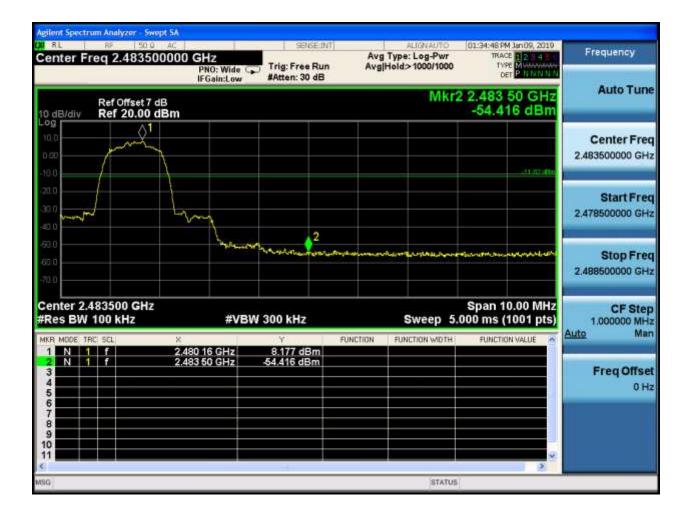


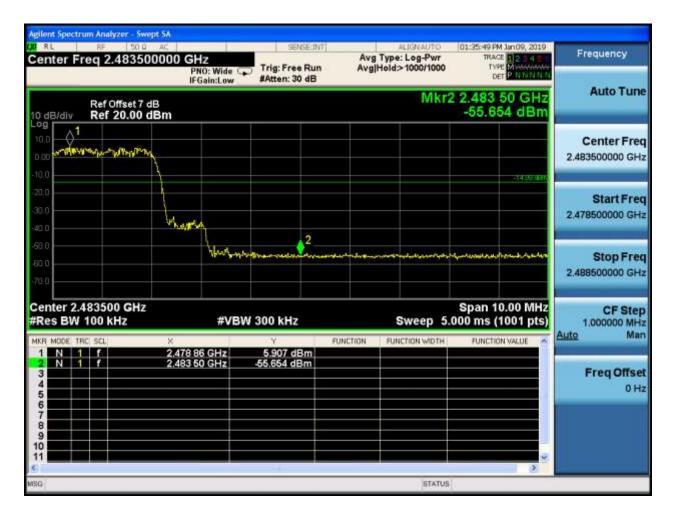






# 12.4TM2_2DH5_Ch78





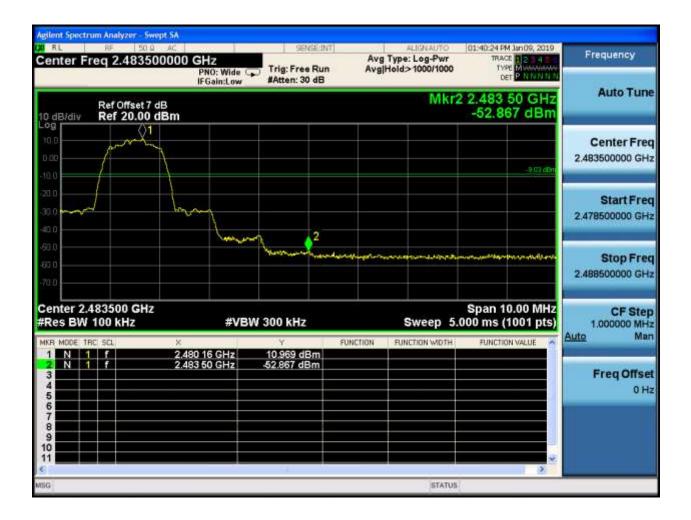








# 12.6TM3_3DH5_Ch78







# Appendix G: Conducted RF Spurious Emission

#### 13 Result Table

In this Appendix, the "Pref" refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, the "Puw" referrers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =  $10 \times lg(100 \ [kHz]/narrower RBW \ [kHz])$ . As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed".

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	15.276	< Limit	Pass
TM1_DH5_Ch39	14.472	< Limit	Pass
TM1_DH5_Ch78	12.768	< Limit	Pass
TM2_2DH5_Ch0	13.431	< Limit	Pass
TM2_2DH5_Ch39	12.68	< Limit	Pass
TM2_2DH5_Ch78	8.274	< Limit	Pass
TM3_3DH5_Ch0	10.645	< Limit	Pass
TM3_3DH5_Ch39	12.648	< Limit	Pass
TM3_3DH5_Ch78	10.998	< Limit	Pass



### 14 Test Plot

#### 14.1TM1_DH5_Ch0

#### 14.1.1 Pref

RL RF 50.0 AC	SENSE:INT	ALIGNAUTO	12:48:19 PM Jan 09, 2019	ELEMANAL BAN
Center Freq 2.4020000	PNO: Wide Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg[Hold: 40/100	TRACE 2 2 4 5 1 TYPE MUSANIMA DET P N N N N N	Frequency
Ref Offset 7 dB IQ dB/div Ref 20.00 dBm		Mkr1 2.4	102 162 45 GHz 15.276 dBm	Auto Tune
10.0				Center Fred 2.402000000 GH:
10.0				Start Free 2.401525000 GH
00				Stop Fre 2.402475000 GH
ο. ο.ο.				CF Ste 95.000 kH Auto Ma
0.0				Freq Offse 0 H
enter 2.4020000 GHz			Span 950.0 kHz	
Res BW 100 kHz	#VBW 300 kHz	#Sweep	1.000 s (1001 pts)	
99		STATUS	V.	



#### 14.1.2 Puw

Agilent Spectr	um Analyzer - Swept SA RF 50 Q A DC		SENSE:INT]	ALISNAUTO	12:48:40 PM Jan 09, 2019	
	req 79.500 kHz	PNO: Close 🖵	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 1 2 3 4 5 TYPE MUSEUM	Frequency
10 dB/div	Ref Offset 7 dB Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr1 9.71 kHz -72.731 dBm	Auto Tune
10.0						Center Freq 79.500 kHz
10.0						Start Freq 9.000 kHz
20.0 30.0					-24.72 dSm	Stop Freq 150.000 kHz
40.0						CF Step 14.100 kHz Auto Man
e0.0						Freq Offset 0 Hz
Start 9.00	KHZ	#VBW		An Manus Alexand Sweep 1	Stop 150.00 kHz 34.8 ms (1000 pts)	
MSG					DC Coupled	N

RL		ADC .		SEN	ISE:INT		ALIGNAUTO		Jan 09, 2019	- Charles	and the
Center F	req 15.075	P	IO: Wide 🦕 Sain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold	: Log-Pwr 59/100	TRAC TYP DE		Frequen	
0 dB/div	Ref Offset 7 Ref 20.00						M	kr1 21.5 -66.3	33 MHz 32 dBm	Auto	Tun
10.0										Center 15.07500	
10.00									-14.72 dBm	Star 150.0	t Free 00 kH
20.0 30.0										Stop 30.00000	o Fre DO MH
0.0 0.0										2.98500 Auto	Ste MH Ma
60.0		9. 40 1.00		ioner a	1		<b>1</b>	4		Freq	Offse 0 H
tart 150 Res BW		Mir girde e Meining		30 kHz	ning di	rongen diselertende			).00 MHz		

RL		AL.		SENSE		ALIGNAUTO	12:49:22 PM Jan 09, 2019	Frequency
Center Fre	eq 1.1650		PNO: Fast 😱 FGain:Low	Trig: Free R #Atten: 30 d	un Avg	Type: Log-Pwr  Hold: 77/100	TRACE 2.34 B T TYPE MUMORAN DET P N N N N N	
	Ref Offset 7 Ref 20.00					Mkr	1 2.132 33 GHz -52.829 dBm	Auto Tun
10.0								Center Fre 1.165000000 GH
10.0							-4.72 dBn	Start Fre 30.000000 MH
30.0 30.0								Stop Fre 2.300000000 GH
40.0 50.0								CF Ste 227.000000 MH <u>Auto</u> Ma
80.0 <b>44.0</b> 004	an should be			hand the state	unter tra des	enne delstaten en		Freq Offse 0 H
Start 30 Mi		1.	#\/B\M	300 kHz		Sween 2	Stop 2.300 GHz 17.3 ms (8192 pts)	

RL	RF 50.0	opt SA	1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 -	SENSE:INT	ALIGNAUTO	12:49:44 PM Jan 09, 2019	
Center F	req 2.3500	F	NO: Fast	ig: Free Run tten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 2 2 3 4 8 1 FYPE MUSANIAN DET PINNINN	Frequency
0 dB/div	Ref Offset 7 Ref 20.00				Mkr	2.399 820 GHz -48.507 dBm	Auto Tuno
10.0							Center Free 2.350000000 GH
10.0						-4.72 dBn	Start Free 2.300000000 GH
20.0 30.0							Stop Free 2.400000000 GH
40.0							СF Stej 10.000000 МН <u>Аuto</u> Ма
80.0 <b>()</b>	and the second secon	ناوتر، والجاري بر غنورياً.	a for entre an office in	hipited as termined	بريادل المراجب مغرجته والمحافظ والمراجع	مر المراجعة المراجعة المراجعة المراجعة الم	Freq Offse 0 H
	0000 GHz 100 kHz		#VBW 30	0 647	Swaan	Stop 2.40000 GHz 9.665 ms (5000 pts)	

RL RL	rum Analyzer - Swept SA BF 150.9 AC	SENSE (IN	TI ALIGNAUTO	12:50:05 PM Jan 09, 2019	-
Center F	req 2.491750000		Avg Type: Log-Pwr	TRACE 234 TYPE MINIMUM DET PININNNN	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm		Mkr1	2.492 917 GHz -52.678 dBm	Auto Tuno
10.0					Center Fre 2.491750000 GH
10.00				-4.72 dBm	Start Free 2.483500000 GH
20.0					Stop Free 2.500000000 GH
40.0 50.0			<b>1</b>		CF Ste 1.650000 MH <u>Auto</u> Ma
80.0 70.0	ener y www.ener energings.	wardene trakene opparent verkouteren f	ang kang pananang panahan panah Panahan panahan p	torage million and	Freq Offse 0 H
	33500 GHz 100 kHz	#VBW 300 kHz	Sweep 1	stop 2.500000 GHz .666 ms (5000 pts)	





# 14.2TM1_DH5_Ch39

#### 14.2.1 Pref

#Atten: 30 dB	Mkr1 2.4	41 159 60 GHz 14.472 dBm	Auto Tune
			Center Fred 2.441000000 GH:
			Start Free 2.440525000 GH
			Stop Fre 2.441475000 GH
			CF Ste 95.000 kH Auto Ma
			Freq Offse 0 H
( 300 kHz	#Sween	Span 950.0 kHz 1 000 s (1001 pts)	
	V 300 kHz		Landon Hz Span 950.0 kHz / 300 kHz / 300 kHz // 300 kHz // 300 kHz



#### 14.2.2 Puw

Agilent Spectre	am Analyzer - Swept SA RF 50.9 (LOC		SENSE INT	ALIGNAUTO	01-09-10 PM Jan 09, 2019	
	eq 79.500 kHz	PNO: Close 🖵	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 1 2 3 4 5 TYPE MUSIC ALL OF	Frequency
10 dB/div	Ref Offset 7 dB Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB	1	Mkr1 9.42 kHz -73.111 dBm	Auto Tune
10.0						Center Freq 79.500 kHz
-10.0						Start Freq 9.000 kHz
-20.0					-25 53 d9e	Stop Freq 150.000 kHz
-40.0						CF Step 14.100 kHz <u>Auto</u> Man
60.0						Freq Offset 0 Hz
Start 9.00	KHZ	Avanamat #VBW		sweep 1	500 150.00 kHz 34.8 ms (1000 pts)	
MSG					DC Coupled	

RL	RF 50 C			SE	(SE:INT)		ALIGNAUTO		Jan 09, 2019	Frequence	ev
Center F	req 15.075	P	NO: Wide 🕞 Gain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold	e: Log-Pwr : 59/100	TRACI	123451 Mummun PNNNNN		
0 dB/div	Ref Offset 7 dB dB/div Ref 20.00 dBm				Mkr1 10.319 MHz -66.673 dBm				Auto	Tun	
10.0										Center 15.07500	
1.00									-15.53 dBn	Start 150.00	
x0.0 x0.0										Stop 30.00000	
0.0 0.0										CF 2.98500 <u>Auto</u>	Ste MH Ma
0.0			<b>●</b> ¹							FreqC	Offse 0 H
70.0 NHA		****	ur production of prover state	*********	Nhurshatet.	however	to all some the differences of the	Stop 3	0.00 MHz		
Res BW			#VBW	30 kHz			Sweep 2	85.3 ms (2	2000 pts)		

RL		AC.		SENS	EINT			52 PM Jan 09, 2019	Frequency
enter Fre	q 1.16500		NO: Fast 😱 Gain:Low	Trig: Free F #Atten: 30 d		Avg Type: Lo Avg Hold: 77/		TRACE 2 2 3 4 5 1 TYPE MUNICIPALITY DET P N NN N N	
	Ref Offset 7 o Ref 20.00 o					5	Mkr1 2.2 -5	69 24 GHz 2.061 dBm	Auto Tun
10.0									Center Fre 1.165000000 GH
10.0								-5 53 dbm	Start Fre 30.000000 MH
30.0 30.0									Stop Fre 2.300000000 GH
40.0 50.0									CF Ste 227.000000 MH <u>Auto</u> Ma
ao o <mark>a chuis da</mark>	si di mana sala ka		<b>int</b> minin	a foi i sia findia		Les marine	dan kara kata di	unterfactul de la constante	Freq Offse 0 H
Start 30 MH			#\/E\W	300 kHz			Sto	op 2.300 GHz ns (8192 pts)	

RL		AC.		SENSE:INT	ALIGNAUTO	01:10:13 PM Jan 09, 2019	Frequency
Center F	req 2.3500		NO: East	rig: Free Run Atten: 30 dB	Avg Type: Log-Pwr AvgjHold>100/100	TRACE 2 3 4 5 1 TYPE MUNICIPAL OFT P N N N N N	
0 dB/div	Ref Offset 7 Ref 20.00				Mkr1	2.390 778 GHz -52.879 dBm	Auto Tune
10.0							Center Free 2.350000000 GH
10.00						-5.53 citm	Start Free 2.300000000 GH
20.0 30.0							Stop Free 2.400000000 GH
43.0						<b>1</b>	СF Ste 10.000000 МН <u>Ашto</u> Ма
80.0 <b></b>	louineatialise in	ning state of the	ndernentsteeldente	allin addingstrom	Adamselsinkenserseidenie	a frankin frankin Frankin frankin	Freq Offse 0 H
Start 2.30	0000 GHz		#VBW 30			Stop 2.40000 GHz .665 ms (5000 pts)	

RL		Q AC		SENSE:INT	ALIGNAUT		Frequency
Center F	req 2.4917	PI	O: Wide	rig: Free Run Atten: 30 dB	Avg Type: Log-Pw AvgjHold>100/100		
0 dB/div	Ref Offset 7 Ref 20.00				Mk	r1 2.490 025 GH -53.578 dBn	z Auto Tuno N
10.0							Center Fred 2,491750000 GH
10.00						-5,53 of	Start Fred 2.483500000 GHz
20.0 30.0							Stop Fred 2.500000000 GH2
40.0			1				CF Step 1.650000 MH: <u>Auto</u> Mar
60.0	anter a constraint was	r-witeware, Arry	www.achelhuig	et e generation fictuation of the	ulponentensisonen	latharail an an ann an	Freq Offset 0 Hz
	3500 GHz 100 kHz		#VBW 30	0 kH2	Sweep	Stop 2.500000 GH 1.666 ms (5000 pts	Z





# 14.3TM1_DH5_Ch78

#### 14.3.1 Pref

SHZ PNO: Wide EGain: Jour #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 40/100	01:31:03 PM Jan09, 2019 TRACE 2 2 3 4 8 TYPE MUMANNA DET P N N N N N	Frequency
I CONTLOW	Mkr1 2.4	180 161 50 GHz 12.772 dBm	Auto Tune
			Center Fred 2,480000000 GHz
			Start Free 2.479525000 GH
			Stop Fre 2.480475000 GH
			CF Step 95.000 kH Auto Ma
			Freq Offse 0 H
#VBW 300 kHz	#Sween	Span 950.0 kHz	
	SHz PNO: Wide IFGain:Low #Atten: 30 dB	SHz   Avg Type: Log-Pwr Avg Hold: 40/100     PN0: Wide + (FGain:Low)   Trig: Free Run #Atten: 30 dB     Mkr1 2.4	SHZ   Trig: Free Run   Avg Type: Log-Pwr   Trig: Trig: Free Run     Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1 2.480 161 50 GHz   1000 Mkr1 2.480 161 50 GHz     1000 Mkr1



#### 14.3.2 Puw

Agilent Spectri CM RL	um Analyzer - Swept SA RF 50.0 ADC				201 DFR. 41 (202)	Los cos cos rea	1-00-0010	_	
	req 79.500 kHz	PNO: Close 😱	SENSE INT	Avg	Type: Log-Pwr Hold>100/100	15/26	123451	F	requency
10 dB/div	Ref Offset 7 dB Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB			Mkr1 9.	28 kHz 7 dBm		Auto Tune
10.0									Center Freq 79.500 kHz
0.00 -10.0									Start Freq 9.000 kHz
-20.0							-27 23 40m		Stop Freq 150.000 kHz
-40.0								Auto	CF Step 14.100 kHz Man
-60.0									Freq Offset 0 Hz
Start 9.00			متسر ۸۵۸۵۵ میلیس 3.0 kHz	ilan an a		MMM Stop 15 34.8 ms (1	0.00 KHZ		
MSG						DC Cou			

A DC PNO: Wide IFGain:Low	SENSE:INT	Avg Type: Log-P Avg Hold: 59/100	Mkr1 9.796 -66.173 (	Auto Tune Auto Tune Center Free 15.075000 MH Start Free 150.000 kH
			-66.173 (	Center Free 15.075000 MH Start Free 150.000 kH 7.23 dSt Stop Free
				15.075000 MH Start Free 150.000 kH 7.23 dSt Stop Free
			-4	7.23 don Stop Fred
				Stop Free
				30.000000 MH
				СF Stej 2.985000 МН <u>Ашto</u> Ма
• • • • •				Freq Offse 0 H
			Stop 30.00	MHz 0 pts)
		1 hough and the annotated the annotated the annotation of the anno	#VBW 30 kHz Sweet	

RL		AC DODDOD C		SENS	EUNT	ALIGNAU Avg Type: Log-P		Jan 09, 2019	Frequency
Senter Fi	req 1.1650		NO: Fast 😱 Gain:Low	Trig: Free F #Atten: 30 d		Avg Hold: 76/100	TVS	PNNNN	
0 dB/div	Ref Offset 7 Ref 20.00					N	1kr1 2.267 -51.7	85 GHz 95 dBm	Auto Tuni
10.0									Center Fred 1.165000000 GH
10.0								-7.23 cEm	Start Free 30.000000 MH
20.0 30.0									Stop Free 2.300000000 GH
40.0 50.0								_	CF Step 227.000000 MH Auto Mar
60.0	a interiori a lin	<mark>illin l_{en é}nike</mark>	and the second second				the telescontrictment	in dia sind	Freq Offse 0 H
Start 30 N				300 kHz			Stop 2 217.3 ms (	300 GHz	

RL		AC.	a 1	SENSE:INT			PM Jan 09, 2019	Frequency
Center F	req 2.3500	PN	O: Fast D If	ig: Free Run tten: 30 dB	Avg Type: Log Avg Hold>100	/100	ACE 23451 TYPE MUMMANN DET PINNNNN	
0 dB/div	Ref Offset 7 Ref 20.00				1	/lkr1 2.303 -53.	961 GHz 305 dBm	Auto Tun
10.0								Center Free 2.350000000 GH
0.00							7.23 (Dir)	Start Free 2.300000000 GH
20.0 30.0								Stop Fre 2.400000000 GH
40.0								CF Ste 10.000000 MH Auto Ma
80.0 <b>Medu</b>	anin an	وريهو العربية والمراج	ujutantika ndenka	lan, ing the states	مىرىدە بەلىپەرىيە رومەن مەلىر.	ada, fi seri yaka kata ata ata ata ata ata ata ata ata	ingentalisigan (m. Ann	Freq Offse 0 H
70.0 Start 2.30 #Res BW			#VBW 300			Stop 2.	40000 GHz	

RL RF 50.0 AC		SE:INT ALIGNAUT		Frequency
Center Freq 2.49175000	PNO: Wide Trig: Free IFGain:Low #Atten: 30			
Ref Offset 7 dB 0 dB/div Ref 20.00 dBm		Mk	r1 2.484 355 GHz -52.523 dBm	Auto Tune
10.0				Center Fred 2.491750000 GH
10.0			-7.23 (Bri	Start Fred 2.483500000 GH
30.0				Stop Free 2.500000000 GH
et c				CF Stej 1.650000 MH <u>Auto</u> Ma
60.0	new/NetWeetnewsels.	uninternalmisterinternetation	nan san tanan na san san san san san san san san	Freq Offse 0 H
Start 2.483500 GHz Res BW 100 kHz	#VBW 300 kHz	Sween	Stop 2.500000 GHz 1.666 ms (5000 pts)	





# 14.4TM2_2DH5_Ch0

#### 14.4.1 Pref

RL RF 50.9 AC Center Freq 2.402000000	GHz PNO: Wide IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 40/100	12:53:59 PM Jan09, 2019 TRACE 2 2 3 4 5 TYPE MUNOCOM DET P N N N N N	Frequency
Ref Offset 7 dB		Mkr1 2.4	02 161 25 GHz 13.431 dBm	Auto Tune
10.0		•1		Center Fred 2.402000000 GHz
10.0				Start Free 2.401355000 GH
20.0				Stop Fred 2.402645000 GH:
40.0				CF Step 129.000 kH Auto Mar
60.0				Freq Offse 0 H
20.0 Center 2.4020000 GHz ≭Res BW 100 kHz	#VBW 300 kHz	#Sween	Span 1.290 MHz 1.000 s (1001 pts)	



## 14.4.2 Puw

THE SECONDERVICE	ALIGNAUTO	12:54:20 PM Jan 09, 2019	Frequency
	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 2345 TYPE MUNICIPAL OFF	
		Mkr1 12.39 kHz -74.348 dBm	Auto Tune
			Center Fred 79.500 kH
			Start Free 9.000 kH
		-36.57 dBm	Stop Fre 150.000 kH
			CF Ste 14,100 kH Auto Ma
			Freq Offse 0 H
		Stop 150.00 KHz	
IFGaint low #/	IFGain:Low #Atten: 30 dB	HOUSE Close And and a second a	Image: Production   #Atten: 30 dB       Image: Production   Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production       Image: Production

	ADC .		95	VSE:INT	and the second s	ALIGNAUTO	12:54:41 PM	Jan 09, 2019	The second second	11 PAL 10
eq 15.0750	PN						TRACI TYPE DE		Freque	ncy
Ref Offset 7 dB Mkr1 20.996 MHz 0 dB/div Ref 20.00 dBm -66.580 dBm									Aut	o Tuni
									0.000.000	er Fred 000 MH:
								40.61.48		rt Fred 000 kH
									and a second	p Free
										F Ste 000 MH Ma
		er offentiet an oan				1	Tractic the set		Freq	Offse 0 H
Hriadina, ita (Hz 10 kHz	hintediren			No.			Stop 30	).00 MHz		
	Ref Offset 7 ( Ref 20.00 (	IF( Ref Offset 7 dB Ref 20.00 dBm	Ref Offset 7 dB Ref 20.00 dBm	PHO: Wide Trig: Free IFGain:Low HAtten: 30 Ref 20.00 dBm	PNO: Wide Trig: Free Run #Atten: 30 dB Ref 20.00 dBm	PNO: Wide IFGain:Low #Atten: 30 dB Ref 20.00 dBm	PN0: Wide     Trig: Free Run     AvgiHold: 59/100       Ref Offset 7 dB     Mile       Ref 20.00 dBm     Image: Second Seco	PNO: Wide       Trig: Free Run #Atten: 30 dB       Avg Hold: 59/100       Trie De         Ref Offset 7 dB Ref 20.00 dBm       Mkr1 20.93 -66,58         Image: Second dBm       -66,58         Image: Second dBm       -66,58 <td>PNO: Wide     Trig: Free Run #Atten: 30 dB     AvgiHold: 59/100     Trig: Free Run Det Mixeria       Ref Offset 7 dB Ref 20.00 dBm     Mkr1 20.996 MHz -66.580 dBm      </td> <td>Eq. 15.075000 MIRZ       Trig: Free Run MAtten: 30 dB       Augitabilities 59/100       Mixer 20.996 MHz Certification       Automation         Ref Offset 7 dB Ref 20.00 dBm       Mixer1 20.996 MHz -66,580 dBm       Centus       Centus       15.0750         Image: State 1       Image: State 1</td>	PNO: Wide     Trig: Free Run #Atten: 30 dB     AvgiHold: 59/100     Trig: Free Run Det Mixeria       Ref Offset 7 dB Ref 20.00 dBm     Mkr1 20.996 MHz -66.580 dBm	Eq. 15.075000 MIRZ       Trig: Free Run MAtten: 30 dB       Augitabilities 59/100       Mixer 20.996 MHz Certification       Automation         Ref Offset 7 dB Ref 20.00 dBm       Mixer1 20.996 MHz -66,580 dBm       Centus       Centus       15.0750         Image: State 1       Image: State 1

A RL RF 50.0 AC	SENSE:INT	ALIGNAUTO	12-55-02 PM Jan 09, 2019	LINE AND DESCRIPTION
Center Freq 1.165000000	CHZ PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 76/100	TRACE 2 3 4 5 1 TYPE MUSERNAM DET P N N N N	Frequency
Ref Offset 7 dB 0 dB/div Ref 20.00 dBm		Mkr	1 2.204 11 GHz -52.803 dBm	Auto Tune
10.0				Center Free 1.165000000 GH
10.0			-6.57 dBm	Start Free 30.000000 MH
30.0				Stop Free 2.300000000 GH
40.0			<b></b>	CF Step 227.000000 MH Auto Mar
60.0 <mark>gette 2.50 gette det det det beneter</mark> 70.0	na harin arenin aren aren harine	n addina i na sin ji na na kana addi pasa din	gia lan ing dalah kasarak di saniad	Freq Offse 0 H
Start 30 MHz Res BW 100 kHz	#VBW 300 kHz	Sweep 2	Stop 2.300 GHz 17.3 ms (8192 pts)	

A RL	RF 50.Q AC		SENSE: INT	ALIGNAUTO	12:55:23 PM Jan 09, 2019	HERAMON SNY
Center F	req 2.350000000	PNO: Fast Trig: P	ree Run : 30 dB	Avg Type: Log-Pwr AvgjHold>100/100	TRACE 23451 TYPE MUNIMUM DET PININNNN	Frequency
l0 dB/div	Ref Offset 7 dB Ref 20.00 dBm			Mkr1	2.399 540 GHz -39.585 dBm	Auto Tun
10.0						Center Fre 2,350000000 GH
10.00					-6.57 dBm	Start Fre 2.300000000 GH
20.0 30.0						Stop Fre 2.400000000 GH
40.0 50.0						CF Ste 10.000000 MH Auto Ma
0.0	ala yan da ya ka ya ka ya	والمطافية ومالعة لمقاله أماون حليراوه ا	nya in the state	Mandada ana ang kana mahapang	محلحلاتين عندارين ومرسل المع	Freq Offse 0 H
	0000 GHz 100 kHz	#VBW 300 k			Stop 2.40000 GHz .665 ms (5000 pts)	







## 14.5TM2_2DH5_Ch39

### 14.5.1 Pref

	: Free Run en: 30 dB	Avg Type: Log-Pwr Avg Hold: 40/100	TRACE 2 2 3 4 5 1 TYPE MULLING DET P N N N N N	Frequency
I Gamelaw Print		Mkr1 2	.441 162 44 GHz 12.680 dBm	Auto Tune
		<u></u>		Center Freq 2.441000000 GHz
				Start Free 2.440345000 GH
				Stop Fred 2.441655000 GH
				СF Stej 131.000 кН <u>Ашто</u> Ма
				Freq Offse 0 H
#VBW 300	kH2	#Swaa	Span 1.310 MHz	
	#VBW 300	#VBW 300 kHz		Span 1.310 MHz



## 14.5.2 Puw

RL	um Analyzer - Swept SA RF 50 Q ADC		SENSEINT	ALIGN Avg Type: Log		M Jan 09, 2019 CE <b>N 2 64 6 C</b>	Frequency
center Fr	req 79.500 kHz	PNO: Close 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold>100/	100	PE MUNICIPAL PINNINN	
IO dB/div	Ref Offset 7 dB Ref 20.00 dBm				Mkr1 10 -72.8	0.41 kHz 77 dBm	Auto Tune
10.0							Center Fred 79.500 kH:
10.0							Start Free 9.000 kH
30.0 30.0						-27.37 dEm	Stop Free 150.000 kH
0.0 0.0							CF Stej 14.100 kH Auto Mar
a.o							Freq Offse 0 H
Start 9.00					Stop 1	50.00 kHz	
Res BW	1.V KHZ	#VBW	3.0 KHZ	SWe	ep 134.8 ms		

RL	RF 50.0		_	951	ISE:INT		ALIGNAUTO		Jan 09, 2019	Frequ	iency
Center Fr	eq 15.075	Pł	IO: Wide 🕞 Sain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold	: Log-Pwr : 59/100	TRAC TYP DE			
Ref Offset 7 dB dB/div Ref 20.00 dBm							Mkr1 4 -66.5	449 kHz 50 dBm	AL	ito Tuni	
og										Contraction of the second s	nter Fre 5000 MH
10.0											tart Fre 0.000 kH
xx 0 xx 0									-17-32 dBm	CARD-CARD	top Fre 0000 MH
0.0 0.0											CF Ste 5000 MH Ma
0.0			1.000 - 2002	to the Point State		an a santa		91. a 55 a 210.		Fre	e <b>q Offse</b> 0 H
tart 150 Res BW				30 kHz	niine an	detrad at the detraded of the special section of the section of th	Sweep 2	Stop 3	0.00 MHz		

RL		AC .		SENSED		ALIGNAUTO	01:18:17 PM Jan 09, 2019	Frequency
enter F	req 1.1650		PNO: Fast G	Trig: Free Ru #Atten: 30 dB	n Avg H	Type: Log-Pwr Iold: 77/100	TRACE 23451 TYPE MUMMMM DET PNNNNN	
0 dB/div	Ref Offset 7 Ref 20.00					Mkr	1 2.201 06 GHz -51.616 dBm	Auto Tune
10.0								Center Free 1.165000000 GH
10.00							-7.32 dBh	Start Free 30.000000 MH
90.0 90.0								Stop Fre 2.300000000 GH
40.0								CF Stej 227.000000 MH <u>Auto</u> Mar
60.0 <b>11.1 11</b>	ile da por late		l, i de lint i			na pilot ni da	in the second	Freq Offse 0 H
Start 30 M				300 kHz			Stop 2.300 GHz 17.3 ms (8192 pts)	

A RL		AC .	2 N 1	SENSE:INT		ALIGNAUTO	01-18-38 PM Jan 09, 2019	Frequency
Center F	req 2.3500	PN	IO: Fast	rig: Free Run Atten: 30 dB	Avg Type Avg[Hold:	: Log-Pwr >100/100	TRACE 2.3.4 B 1 TYPE MUNANNA DET P. N.N.N.N.N	
0 dB/div	Ref Offset 7 Ref 20.00					Mkr1	2.345 089 GHz -52.849 dBm	Auto Tune
10.0								Center Free 2.350000000 GH
10.00							-7.32 dBm	Start Free 2.300000000 GH
20.0 90.0								Stop Free 2.400000000 GH
43.0				1				СF Stej 10.000000 МН <u>Аuto</u> Ма
60.0	er:Mijelbyriillenfriger	in the state of the last	مانتو ميليان فانتخافوه ومرا	نىرونىر يەرىپىيە يەرىپەر تەرىپارىلىغان يەرىپىرىكە تەرىپىلىغان يەرىپىرىكە تەرىپىرىكە تەرىپىرىكە تەرىپىرىكە تەرىپ تەرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يېرىپىرىكە يې	helanishi katina	iyadyahadaa	nanaloga akasan kapan kalain	Freq Offse 0 H
Start 2.30	0000 GHz 100 kHz	f.	#VBW 3	00 KH2		Sween 0	Stop 2.40000 GHz .665 ms (5000 pts)	

RL	RF 50.0 AC	SENSE			Frequency
Center F	req 2.491750000	PNO: Wide Trig: Free F IFGain:Low #Atten: 30 d		TRACE 23455	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm		Mkr	1 2.498 706 GHz -52.863 dBm	Auto Tune
10.0					Center Fred 2,491750000 GH
10.00				-7.32 cDn	Start Free 2.483500000 GH
30.0 30.0					Stop Free 2.500000000 GH
40.0					CF Stej 1.650000 MH <u>Auto</u> Ma
60.0 70.0	and an	man a hardware and a such	have concertency have a figure and a	ninnemanlermeter	Freq Offse 0 H
	3500 GHz 100 kHz	#VBW 300 kHz	Sweep	Stop 2.500000 GHz 1.666 ms (5000 pts)	





## 14.6TM2_2DH5_Ch78

#### 14.6.1 Pref

	SENSE INT	Avg Type: Log-Pwr Avg Hold: 40/100	01:36-40 PM Jan09, 2019 TRACE 1 2 3 4 5 TYPE MINORMAN DET P N N N N N	Frequency
Ref Offset 7 dB 0 dB/div Ref 20.00 dBm		Mkr1 2.4	80 161 13 GHz 8.274 dBm	Auto Tuno
10.0		• ¹		Center Free 2.480000000 GH
				Start Free 2.479345000 GH
0.0				Stop Fre 2.480655000 GH
0.0				СF Ste 131.000 ki <u>Ашto</u> Ма
0.0				Freq Offs 0 H
200 Center 2.4800000 GHz Res BW 100 kHz	#VBW 300 kHz	#Cuucan	Span 1.310 MHz 1.000 s (1001 pts)	



### 14.6.2 Puw

RL RF 500 AD Center Freq 79.500 kH		SENSE:INT]	ALIGNAUTO Avg Type: Log-Pwr	01:37:01 PM Jan 09, 2019 TRACE 12:04 4	Frequency
Senter Pred 79.500 KH	PNO: Close 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold>100/100	DET DINNIN	
Ref Offset 7 dB 0 dB/div Ref 20.00 dBr	n			Mkr1 12.81 kHz -73.081 dBm	Auto Tune
10.0					Center Fred 79.500 kHz
10.0					Start Fred 9.000 kHz
20.0				-01-70 £m	Stop Free 150.000 kH:
eŭ 0					CF Step 14.100 kH Auto Mar
80.0					Freq Offse 0 H
start 9.00 KHz	when down and			1 AVM AM & sola Stop 150.00 kHz	
Res BW 1.0 kHz	#VBW	3.0 KHZ		34.8 ms (1000 pts)	

RL	RF 50.0			99	VSE:UNT	- stilles i	ALIGNAUTO		1 Jan (19, 2019	Frequ	in the second
enter F	req 15.075	PI	10: Wide 🖵 Gain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold	e: Log-Pwr : 59/100	TRAC TYP DE	E 2 3 4 5 6 C MUMMMAN T P N N N N N		
0 dB/div	Ref Offset 7 Ref 20.00						M	(r1 24.7 -66.5	14 MHz 74 dBm	Au	ito Tuni
10.0										Contraction of the second s	iter Frei 5000 MH
10.0											art Free 0.000 kH
30.0 <u></u>									-21-75-60n	CARD-CARD	top Free
e0.0 50.0											CF Stej 5000 MH Ma
80.0		an i k		a a se				• ¹	ud is at	Fre	<b>q Offse</b> 0 H
tart 150 Res BW				30 kHz			Sweep 2	Stop 3	0.00 MHz		

RL		AC.		SENSE:INT		ALIGNAUTO	01:37:43 PM Jan 09, 2019	Frequency
Center F	req 1.1650		PNO: Fast 😱 FGain:Low	Trig: Free Run #Atten: 30 dB	Avg Typ Avg Hold	e: Log-Pwr I: 76/100	TRACE 23451 TYPE MUNOWING DET PININNN	requirey
0 dB/div	Ref Offset 7 Ref 20.00					Mkr	1 2.206 88 GHz -52.239 dBm	Auto Tune
10.0								Center Fred 1.165000000 GH
0.00							-11.73 i@n	Start Free 30.000000 MH
20.0 30.0								Stop Free 2.300000000 GH
40.0							•`-	СF Stej 227.000000 МН <u>Auto</u> Ма
60.0 <mark>(1997)</mark>		<b>des</b> ident		n allan daara allaha	Labintal attack			Freq Offse 0 H
Start 30 M			#\/B\M	300 kHz		Sween 2	Stop 2.300 GHz 17.3 ms (8192 pts)	

Agilent Spect	rum Analyzer - Swep		SENSE: INT	ALIGNAUTO	01:38:04 PM Jan 09, 2019	
	req 2.350000		Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	TRACE	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dE			Mkr1	2.393 739 GHz -52.722 dBm	Auto Tune
10.0						Center Free 2.350000000 GH
10.0						Start Free 2.300000000 GH
20.0 30.0						Stop Fre 2.40000000 GH
40.0					1	CF Ste 10.000000 MH <u>Auto</u> Ma
80.0	niyyda ar ynarol, a'rylyf	eloret downist for the tipes are	atsuitis, latter, tip tip tip	م ومنهونية المحمد المربع ماليونية المنابع	aliption in the second second	Freq Offse 0 H
Start 2.30	0000 GHz	#\/D\\/	300 kHz	Sugar	Stop 2.40000 GHz .665 ms (5000 pts)	
Res DW	100 KH2	#4844	500 KH2	Sweep s		-

A RL	RF 50.Q AC	SENSEINT	ALIGNAUTO	01:38:25 PM Jan 09, 2019	HIBASACCE BOX
Center F		NO: Wide Trig: Free Run Gain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg[Hold>100/100	TRACE 2 3 4 5 1 TYPE MUNANIN DET P N N N N N	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm		Mkr1	2.487 108 GHz -52.494 dBm	Auto Tun
10.0					Center Free 2,491750000 GH
10.02					Start Free 2.483500000 GH
20.0 30.0					Stop Fre 2.500000000 GH
40.0 50.0					CF Ste 1.650000 MH Auto Ma
80.0 70.0	months the transfer of the second	het monorite and the second provide	duiperaturing also interests also influetorio	howand	Freq Offse 0 H
	3500 GHz 100 kHz	#VBW 300 kHz	Sween 1	top 2.500000 GHz .666 ms (5000 pts)	





# 14.7TM3_3DH5_Ch0

## 14.7.1 Pref

RL RF 50.9 AC Center Freq 2.402000000	GHz PNO: Wide - IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Typ AvgjHolo	e: Log-Pwr 1: 37/100	12:59:35 PM Jan09, 2019 TRACE 2 3 4 5 TYPE MINIMAN DET P N N/N N A	Frequency
Ref Offset 7 dB g dB/div Ref 20.00 dBm				Mkr1 2.4	02 159 82 GHz 10.645 dBm	Auto Tune
og 10.0			1			Center Free 2.402000000 GH
10.00						Start Fred 2.401345000 GH
00						Stop Fred 2.402655000 GH
e0.0						CF Stej 131.000 kH <u>Auto</u> Mar
80.0						Freq Offse 0 H
Center 2.4020000 GHz Res BW 100 kHz	#VB	W 300 kHz		#Sweep	Span 1.310 MHz 1.000 s (1001 pts)	



## 14.7.2 Puw

	SENSE: INT	ALIGNAUTO	12:59:56 PM Jan 09, 2019	A REAL PROPERTY AND A REAL PROPERTY AND A
PNO: Close 😱 Tr	ig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 2345 TYPE M DET PINNINN	Frequency
N CONTLOW			Mkr1 10.83 kHz -73.406 dBm	Auto Tune
				Center Freq 79.500 kHz
				Start Freq 9.000 kHz
			-29 % (Be	Stop Freq 150.000 kHz
				CF Step 14.100 kHz Auto Man
				Freq Offset 0 Hz
			Stop 150.00 kHz	
	PNO: Close IFGain:Low	PNO: Clese Trig: Free Run #Atten: 30 dB	PNO: Close Trig: Free Run AvglHold>100/100 #Atten: 30 dB	PNO: Close Trig: Free Run #Atten: 30 dB Mkr1 10.83 kHz -73.406 dBm 20 36 der 20 36 der Stop 150.00 kHz

RL		ADC .		SEN	ISE:INT		ALIGNAUTO		Jan (09, 2019	PROVIDE NO.
Center Fi	req 15.075	PI	10: Wide 🖕 Sain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold:	: Log-Pwr 59/100	TRAC TYP DE		Frequency
0 dB/div	Ref Offset 7 Ref 20.00						N	lkr1 3.8 -65.99	38 MHz 96 dBm	Auto Tur
10.0										Center Fre 15.075000 Mi
10.02										Start Fre 150.000 ki
30.0 30.0									419.05 dBm	Stop Fre 30.000000 Mi
40.0 50.0										CF Ste 2.985000 Mi <u>Auto</u> Ma
0.0	, •	lanar en		- 84 - 96 - 9	in ne sa					Freq Offs 01
tart 150 Res BW	kHz	international second		30 kHz	in the state of the second		Sweep 2	Stop 30	0.00 MHz	

A RL RF			14	SEN	ISE:UNT		ALIGNAUTO	01:00:38 PM		Frequency
center Freq	1.16500	Р	NO: Fast 😱 Gain:Low	Trig: Free #Atten: 30		Avg Type Avg Hold:	: Log-Pwr 76/100	TYPE	P NNNNN	
	Offset 7 d f 20.00 d						Mkr	1 2.250	12 GHz 9 dBm	Auto Tun
10.0										Center Fre 1.165000000 GH
10.0									-8.38 cBm	Start Free 30.000000 MH
ad 0 90.0										Stop Free 2.300000000 GH
40.0									<b>(</b> `	СF Stej 227.000000 МН <u>Ашто</u> Ма
	<u>er a terdek</u> i	deir gir die state	urdeki dek	u liku si t			dilla dan			Freq Offse 0 H
Start 30 MHz Res BW 100	kH7		#VBW	300 kHz			Sween 2	Stop 2. 17.3 ms (8	300 GHz	

RL	RF 501			SENSE: INT	ALIGNAU			Frequency
Center F	req 2.3500	PN	O: Fast Trig:	Free Run n: 30 dB	Avg Type: Log-Pv Avg Hold>100/10	WY TRACE 0 TYPE DET	NNNNN	
0 dB/div	Ref Offset 7 Ref 20.00				Mk	r1 2.399 540 -45.392	dBm	Auto Tuni
10.0								Center Free 2.350000000 GH
10.00							-8.36 dBm	Start Free 2.300000000 GH
20.0 30.0								Stop Free 2.400000000 GH
40.0								CF Stej 10.000000 MH Auto Ma
80.0	a <b>, i, en</b> oyeiiningii e	لدور المراجعة الإورانين	unterstforde guited prozet he	n fan Legis de en af de ser af de fan Ser fan S	รูโอสารทร <b>งกรูปใ</b> หม่าย แต่กระหมากจา	nahladharwertarrebr	lamiputri	Freq Offse 0 H
	0000 GHz 100 kHz		#VBW 300 k	U-		Stop 2.400	00 GHz	

RL RL	um Analyzer - Swept SA RF 50.0 AC		SENSE INT	ALIGNAUTO	01-01-21 PM Jan 09, 2019	-
Center Fi	req 2.49175000	PNO: Wide	g: Free Run tten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 2 2 4 5 1 TYPE MUSEUM	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm			Mkr1	2.497 792 GHz -51.932 dBm	Auto Tune
10.0						Center Free 2.491750000 GH
10.0					-8.36 albn	Start Free 2.483500000 GH
20.0						Stop Free 2.50000000 GH
40.0 50.0						CF Step 1.650000 MH <u>Auto</u> Ma
60.0	nandananananan	nonhatationstancement	Neurinnsselessere	-gentrespillaren general martina	in and a second and the second	Freq Offse 0 H
	3500 GHz	#VBW 30	) kHz	Sween	Stop 2.500000 GHz	
Res BW		#VBW 300	) kHz	Sweep	1.666 ms (5000 pts)	





# 14.8TM3_3DH5_Ch39

#### 14.8.1 Pref

RL RF 50.0 AC Center Freq 2.441000000	SENSE INT PNO: Wide IFGain:Low #Atten: 30 dB	Avg Type: Log-Pwr Avg[Hold: 40/100	01:25:27 PM Jan09, 2019 TRACE 1 2 3 4 5 TYPE MIMOUNT DET P N N/N N	Frequency				
Ref Offset 7 dB Mkr1 2.441 159 82 GHz 12.648 dBm 12.648 dBm								
10.0				Center Free 2.441000000 GH:				
10.0				Start Free 2.440345000 GH				
20.0				Stop Fred 2.441655000 GH				
#10 500				CF Stej 131.000 kH Auto Ma				
80.0				Freq Offse 0 H				
Center 2.4410000 GHz Res BW 100 kHz	#VBW 300 kHz	#Sweep	Span 1.310 MHz 1.000 s (1001 pts)					



#### 14.8.2 Puw

Agilent Spectre	im Analyzer - Swept SA			11		
	eq 79.500 kHz	BNO SI	SENSEINT	Avg Type: Log-Pw Avg[Hold>100/100	r TRACE 2345	Frequency
		PNO: Close 😱 IFGain:Low	#Atten: 30 dB	- Angli total total total	DET PNNNN	
10 dB/div	Ref Offset 7 dB Ref 20.00 dBm				Mkr1 9.42 kHz -74.318 dBm	
10.0						Center Freq 79.500 kHz
-10.0						Start Freq 9.000 kHz
-30.0					-27.35 džin	Stop Freq 150.000 kHz
-40.0						CF Step 14.100 kHz <u>Auto</u> Man
-63.0						Freq Offset 0 Hz
ترسم 1 همر برای ا Start 9.00 #Res BW	KHZ	nhailteannach #VBW		manum alluna Sweep	Stop 150.00 kHz 134.8 ms (1000 pts	
MSG			and sold who		Tus 1 DC Coupled	

q 15.0750				VSE:INT	and the second s	ALIGNAUTO	UT:5000 http	Jan 09, 2019	and the second se	
	PN	0:Wide 🦕 jain:Low	Trig: Free #Atten: 30		Avg Type Avg[Hold	: Log-Pwr 59/100	TRACI TVP DE		Freque	ncy
					Mkr1 23.684 MHz -67.057 dBm			Auto	o Tuni	
									CARGON	er Fre X00 MH
										nt Fre 000 kH
								-17-35 (69)	and the second se	р Fre Doo мн
										F Step 000 MH Ma
							1		Freq	Offse 0 H
Hz	the for fact, the state of the		is a second second	(de, d'al di di ga			Stop 30	0.00 MHz		
	Ref 20.00 d	Hz	Ref 20.00 dBm	Ref 20.00 dBm	Ref 20.00 dBm	Ref 20.00 dBm	Ref 20.00 dBm	Ref 20.00 dBm       -67.05	Ref 20.00 dBm       -67.057 dBm	Ref 20.00 dBm       -67.057 dBm         Centre       15.0750         Sta       15.0750

RL RF	50.0 AC		SENSE:INT	ALIGNAUTO	01:26:30 PM Jan 09, 2019	Frequency
Center Freq 1.	165000000	PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 76/100	TRACE 2.3.4.8.1 TYPE MUNICIPAL DET P. N.N.N.N.N	
	ffset 7 dB 20.00 dBm			Mkr	1 2.288 91 GHz -51.679 dBm	Auto Tun
10.0						Center Fre 1,165000000 GH
10.0					.7.55 d5m	Start Free 30.000000 MH
30.0						Stop Free 2.300000000 GH
40 0 50 0					,	С <b>F Ste</b> 227.000000 МН <u>Ашто</u> Ма
60.0 <b>000 15 41 (16) 4</b>	en al de la de	dan Historia da Angelanda	lalma interiori di Antolia	n bie anter en est de la companya d La companya de la comp	d yn leith y arthur yn arthur y Lleith y ferner yn arthur yn art	Freq Offse 0 H
20.0 Start 30 MHz ≭Res BW 100 kł		#VBW 3	00 kWs		Stop 2.300 GHz 17.3 ms (8192 pts)	

RL		AC.		SENSE:INT	ALIGNAUTO	01:26:51 PM Jan 09, 2019	Frequency
enter F	req 2.3500		NO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr AvgjHold>100/100	TRACE 2.3.4.5.1 TYPE MINNEN DET PINNEN	
0 dB/div	Ref Offset 7 Ref 20.00				Mkr1	2.394 639 GHz -53.273 dBm	Auto Tun
10.0							Center Fre 2,350000000 GH
100						-7.55 clim	Start Free 2.300000000 GH
30.0							Stop Fre 2.400000000 GH
40.0 50.0						1	СF Stej 10.000000 МН <u>Аuto</u> Ма
60.0	nhandi vontalitaise	unantidurritati	Altra Maria and Anna Anna Anna Anna Anna Anna Anna	dentsiereenserieni	logofilitga,taamubaaharuntee	inntskýlefornéta skiho slože	Freq Offse 0 H
	000 GHz 100 kHz		#VBW 3	:00 kHz	Sween	Stop 2.40000 GHz .665 ms (5000 pts)	

RL	RF 50.9 AC	SENSE:1	ALIGNAUTO	01:27:12 PM Jan 09, 2019	
Center Fr	eq 2.491750000	PNO: Wide Trig: Free Ru IFGain:Low #Atten: 30 dB		TRACE 2345 TYPE MUNININ DET PINNINN	Frequency
0 dB/div	Ref Offset 7 dB Ref 20.00 dBm		Mkr1	2.490 884 GHz -53.005 dBm	Auto Tuno
10.0					Center Free 2.491750000 GH
10.00				-7.55 cbm	Start Free 2.483500000 GH
20.0 30.0					Stop Free 2.500000000 GH
40.0					СF Stej 1,650000 МН <u>Аuto</u> Ма
60.0 70.0	romanta) administration for the Ality	www.apr.markanet.autowalanta	lannan manathrana mahari	hannaln in spanning and an and an	Freq Offse 0 H
Start 2.483		#VBW 300 kHz	Sweep 1	Stop 2.500000 GHz .666 ms (5000 pts)	





## 14.9TM3_3DH5_Ch78

#### 14.9.1 Pref

RL RF 50.0 AC Center Freq 2.480000000	GHz PNO: Wide	Trig: Free Run #Atten: 30 dB	Avg Type: L Avg Hold: 40	.og-Pwr	12:15 PM Jan 09, 2019 ТКАСЕ 1 2 3 4 В 1 ГУРЕ МИКОЛИИ ОЕТ P N N N N N	Frequency
Ref Offset 7 dB 0 dB/div Ref 20.00 dBm			Μ	kr1 2.480	161 13 GHz 10.998 dBm	Auto Tune
og 10.0			• ¹			Center Free 2.48000000 GH
0.00					-	
10.0						Start Free 2.479345000 GH
20.0						Stop Fre 2.480655000 GH
10 Q						CF Step 131.000 kH Auto Ma
50.0						
80.0						Freq Offse 0 H
70.0						
enter 2.4800000 GHz Res BW 100 kHz	#VBW :	300 kHz	#	Sp Sweep 1.0	oan 1.310 MHz )0 s (1001 pts)	



## 14.9.2 Puw

	RF 50.9 ADC		SENSE:INT	AL	IGNAUTO	01:42:37 PM	Jan (19, 2019	-	
Center Free	q 79.500 kHz	PNO: Close 😱	Trig: Free Run	Avg Type: I Avg Hold>1		TYPE		Fr	equency
10 dB/div	Ref Offset 7 dB Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB			Mkr1 9			Auto Tune
10.0								C	Center Fred 79.500 kHz
10.00									Start Fred 9.000 kHz
20.0							-29 00 451		Stop Free 150.000 kH
43.0								Auto	CF Stej 14.100 kH Mai
80.0									Freq Offse 0 H
20.0		n whom we have the weather the				Stop 15 34.8 ms (*	0.00 KHZ		
60	V KIIZ		570 KHZ		_	DC Cou			

RL		∆DC		S\$1	VSE:UNT	and as i	ALIGNAUTO		4 Jan 09, 2019	Fran	uency
Center F	req 15.0750	PI	10: Wide 🖵 Gain:Low	Trig: Free #Atten: 30		Avg Typ Avg Hold	e: Log-Pwr : 59/100	TRAC TVI DI	E 123491 C MUMMINN ET P N N N N N		
0 dB/div	Ref Offset 7 ( Ref 20.00 (						M	kr1 24.7 -66.8	29 MHz 64 dBm	A	uto Tune
10.0										CASE.	nter Fred 75000 MH:
10.00											tart Fred
20.0 30.0									-18.0) dðm		top Free
43.0 53.0										2.96 <u>Auto</u>	CF Step 35000 MH Mar
80.0		والمعاد الم			aco - 16363		W. Jacobild	• ¹		Fr	e <b>q Offse</b> 0 H:
Start 150	kHz	el e e e e e e e e e e e e e e e e e e		30 kHz	West Streets		Sweep 2	Stop 3	0.00 MHz		

RL RF	50.0 AC		SENSE:INT	ALIGNAUTO	01:43:19 PM Jan 09, 2019	Frequency
enter Freq 1.	165000000 G	NO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold: 77/100	TRACE 2345 TYPE MUNININ DET PININNIN	
Ref O D dB/div Ref 2	ffset 7 dB 20.00 dBm			Mkr	1 2.292 24 GHz -51.479 dBm	Auto Tun
0.0						Center Fre 1.165000000 GH
0.0					-0.00 (551)	Start Fre 30.000000 MH
0.0						Stop Fre 2.300000000 GH
00 00					,	СF Ste 227.000000 Мн <u>Ашto</u> Ма
o.o <mark>er Hengils het a</mark> te	et de la constantine de la constantine de	estin i dente	the second states in the		eyyyddian antol ddiada a fearf	Freq Offse
tart 30 MHz					Stop 2.300 GHz	
tart 30 MHz Res BW 100 kl	H7	#VBW 3	300 kHz	Sween 2	Stop 2.300 GHz 17.3 ms (8192 pts)	

RL		AC.	a 1 a 1	SENSE:INT	ALIGNAU			requency
Center F	req 2.3500	PI	NO: Fast D Trig	: Free Run ten: 30 dB	Avg Type: Log-P Avg Hold>100/10	WF TRACE		requency
0 dB/div	Ref Offset 7 Ref 20.00				M	r1 2.309 642 -52.586	GHz dBm	Auto Tune
10.0								Center Free 50000000 GH:
10.00							-0.0 sbn 2.30	Start Free
20.0 30.0							2.40	Stop Free
40.0 50.0	1						Auto	CF Step 0.000000 MH Mar
80.0 <b>(1444)</b>	and the standard made	n indebenande	andala da anna da anga da f	willysbapubieri	anterneter steren et en	ويوجع طريرتين الوالين والمرادية	h#*#\$\$\$	Freq Offse 0 H
	0000 GHz 100 kHz		#VBW 300			Stop 2.4000 9.665 ms (50	0 GHz	

RL	RF 50 9	AC .	9	NSE:0NT	ALIGNAUTO			
Center F	req 2.4917	PN	0: Wide 😱 Trig: Fre		Avg Type: Log-Pwr Avg Hold>100/100	TRACE TYPE DET	23451 Mixeday PNNNNN	Frequency
0 dB/div	Ref Offset 7 Ref 20.00	dB	anneou		Mkr	1 2.497 70 -52.65	6 GHz 8 dBm	Auto Tun
10.0								Center Free 2.491750000 GH
0.00							-0.00.sEm	Start Free 2.483500000 GH
20.0 30.0								Stop Free 2.500000000 GH
40.0 50.0						1		CF Ste 1.650000 MH Auto Ma
80.0 70.0	Mr.R. a.S.M. wowl	wywarteniewiewi	nannnatalaine	lenen han an a	lwannshi Mirinhadalan Mal	aver the lawson	nkellen sollen f	Freq Offse 0 H
Start 2.48	3500 GHz 100 kHz		#VBW 300 kH2		Sweep	Stop 2.5000 1.666 ms (5	00 GHz	





# Appendix H: Radiated Emissions in the Restricted Bands

## 1 Result Table

The whole testing range is from "30 MHz to 26.5 GHz (10th harmonics)" is divided into 5 parts according to the test site settings, which are:

- (Part 1): Test range of "9 KHz to 30 MHz",
- (Part 2): Test range of "30 Mhz to 1GHz
- (Part 3): Test range of "1 GHz to 3 GHz".
- (Part 4): Test range of "3 GHz to 18 GHz",
- (Part 5): Test range of "18 GHz to 26.5 GHz".

In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the "< Limit" denotes that "Not found obvious spikes or see marked spikes on plots and listed emissions records".

Test Range	EUT Conf.	Emissions	Verdict
30 MHz to 1 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
1 GHz to 3 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass
3 GHz to 18 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
18 GHz to 26.5 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass

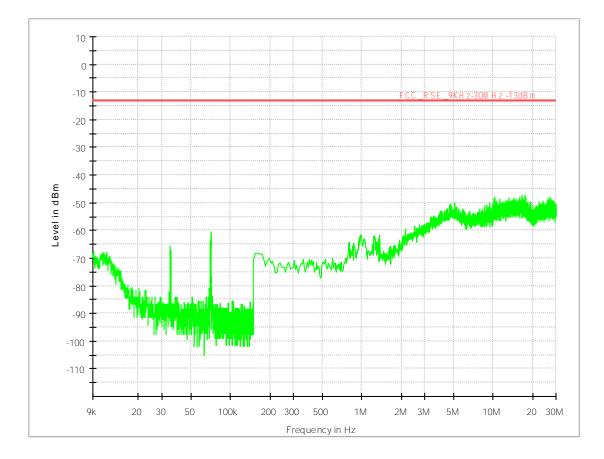
Note: We tested all modes, but the data presented below is the worst case.



## 2 Result Plot

### Part 1: Testing Range of "9 kHz to 30MHz"

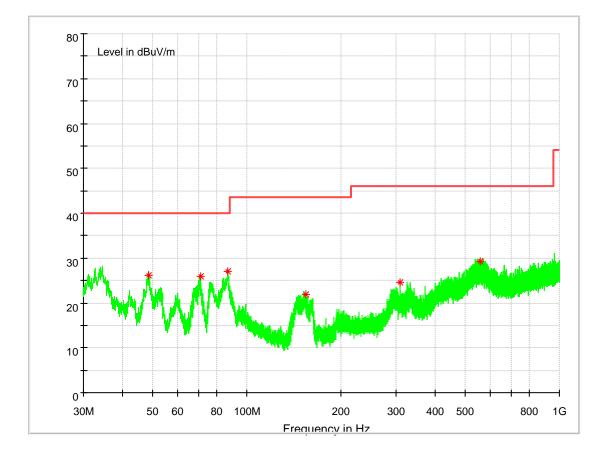
Note 1: The test results and plot for testing range of "9 kHz to 30 MHz" showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.





### Part 2: Testing Range of "30 MHz to 1 GHz"

- Note 1: The test results and plot for testing range of "30 MHz to 1 GHz" showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Frequency	Level	Limit	Margin	Height	Pol	Azimuth	Transd.
(MHz)	(dB	(dB	(dB)	(cm)		(deg)	(dB)
48.300667	26.21	40.00	13.79	100.0	V	268.0	14.2
70.966333	25.99	40.00	14.01	100.0	V	185.0	9.5
86.939000	27.06	40.00	12.94	100.0	V	243.0	12.0
154.095333	21.92	43.50	21.58	100.0	V	169.0	9.9
309.036667	24.52	46.00	21.48	100.0	V	71.0	15.1
557.162667	29.36	46.00	16.64	100.0	Н	152.0	20.0

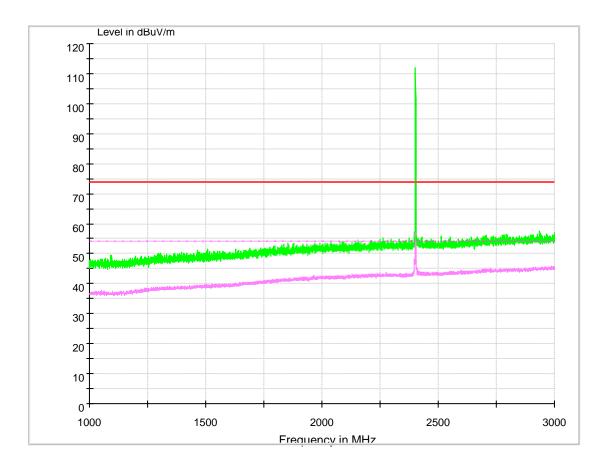
Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain) The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

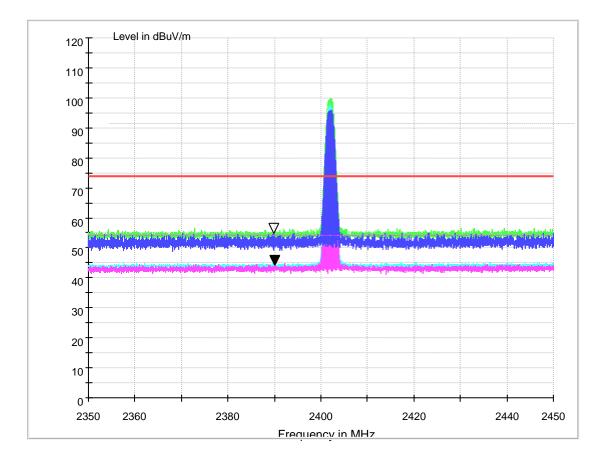
## Part 3: Testing Range of "1GHz to 3GHz"

- Note 1: The testing range of "1 GHz to 3 GHz" is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).
- Note 3: The peak spike exceeds the limit line is EUT's operating frequency.





## Channel 0



## MEASUREMENT RESULT: AV Detector

Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.			
(MHz)	(dB	(dB	(dB)	(cm)		h	(dB)			
2390	44.312	54.00	9.688	150.0	Н	57.0	-6.8			
MEASUREMENT RESULT: PK Detector										
Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.			
(MHz)	(dB	(dB µ V/m)	(dB)	(cm)		h (deg)	(dB)			
2390	55.148	74.00	18.852	150.0	Н	45.0	-6.8			

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss - preamplifier gain)

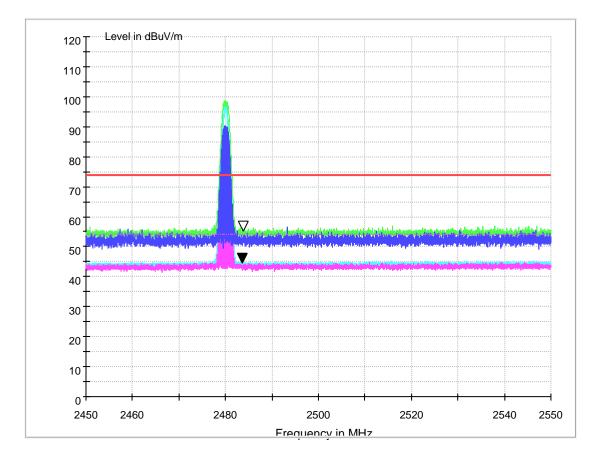
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit – Level

Page 123 of 130



## Channel 78



## MEASUREMENT RESULT: AV Detector

Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.				
(MHz)	(dB	(dB	(dB)	(cm)		h	(dB)				
2483.5	44.651	54.00	9.349	150.0	Н	57.0	-10.2				
MEASUDEMENT											

MEASUREMENT RESULT: PK Detector

Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.
(MHz)	(dB	(dB	(dB)	(cm)		h (deg)	(dB)
2483.5	55.649	74.00	18.351	150.0	Н	-8.0	-10.2

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

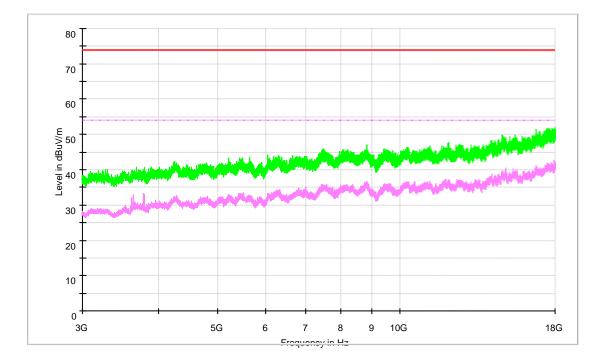
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level



## Part 4: Testing Range of "3 GHz to 18 GHz"

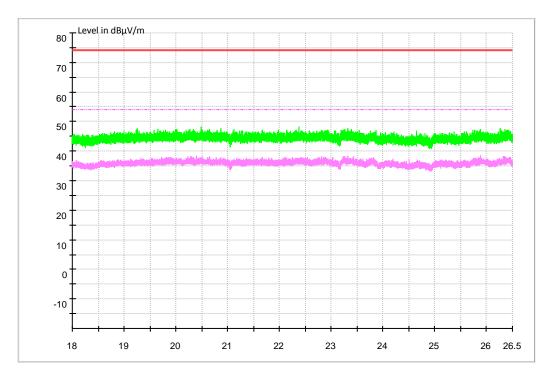
- Note 1: The test results and plot for testing range of "3 GHz to 18 GHz" showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of "3 GHz to 18 GHz" is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).



Public

## Part 5: Testing Range of "18 GHz to 26.5 GHz"

- Note 1: The test results and plot for testing range of "18 GHz to 26.5 GHz" showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of "18 GHz to 26.5 GHz" is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74  $dB\mu V/m$ ) and Average Limit (54  $dB\mu V/m$ ).





## Appendix I: Conducted Emission at Power Port



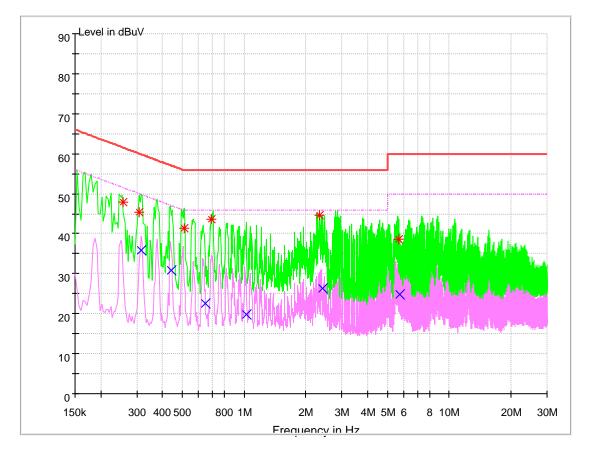
## 1 Result Table

In this Appendix, only the test results and plots under the worst case can be reported.

EUT Conf.	Maximum Emissions	Verdict
TM1_DH5_Ch78	Not found obvious spikes or see marked spikes on plots and listed	Pass
	emissions records.	



## 2 Result Plot



## Channel 78

## **MEASUREMENT RESULT: PK Detector**

Frequency (MHz)	Level (dB µ V)	Limit (dB µ V)	Transd. (dB)	Margin (dB)	Line	PE
0.256408	47.90	61.55	9.7	13.65	L1	FLO
0.306948	45.40	60.05	9.7	14.65	L1	FLO
0.513504	41.26	56.00	9.7	14.74	Ν	FLO
0.693976	43.52	56.00	9.7	12.48	L1	FLO
2.332059	44.58	60.00	9.7	11.42	L1	FLO
5.700942	38.61	60.00	9.7	21.39	N	FLO

## **MEASUREMENT RESULT: AV Detector**

Frequency (MHz)	Level (dB µ V)	Limit (dB µ V)	Transd. (dB)	Margin (dB)	Line	PE
0.315424	35.83	49.83	9.7	14.00	Ν	FLO
0.441100	30.89	47.04	9.7	16.15	L1	FLO
0.646007	22.57	46.00	9.7	23.43	L1	FLO



1.026926	19.69	46.00	9.7	26.31	Ν	FLO
2.415564	26.42	46.00	9.7	19.58	L1	FLO
5.736813	24.86	50.00	9.7	25.14	L1	FLO

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss - preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit – Level

END