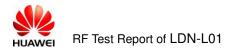


# **Appendix for Test report**



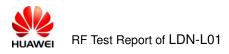
### Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
TM1 _Ch0	L	2402	0.68	pass
TM1 _Ch19	М	2440	0.68	pass
TM1 _Ch39	Н	2480	0.68	pass



#### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





#### 2.2 TM1\_Ch19\_M

Agilent Spectrum Analyzer - Occupied B					
X RL RF 50 Ω AC Center Freq 2.440000000	GHz Center i	ENSE:INT Freq: 2.440000000 GHz	Radio Std	I: None Frequency	
	HFGain:Low #Atten:		Radio Dev	vice: BTS	
Ref Offset 1 dB 10 dB/div Ref 25.00 dBn	n				
15.0				Center Fr 2.44000000 G	- 1
-5.00		$\sim$		2.440000000	<u>71 12</u>
-15.0					
-35.0					
-45.0			hommon	mmm	
-65.0					
Center 2.44 GHz #Res BW 100 kHz	#V	BW 300 kHz		eep 1 ms 400.000 k	
Occupied Bandwidt	h	Total Power	6.37 dBm	<u>Auto</u> M	/lan
1.	0937 MHz			FreqOffs	set
Transmit Freq Error	3.224 kHz	OBW Power	99.00 %	0	Hz
x dB Bandwidth	677.4 kHz	x dB	-6.00 dB		
MSG			STATUS		



#### 2.3 TM1\_Ch39\_H

Agilent Spectrum Analyzer - Occupied BW M RL RF 50 Ω AC Center Freq 2.480000000 G			Radio S1 1: 10/10	AMFeb04,2018 id: None evice: BTS	Frequency
Ref Offset 1 dB 10 dB/div Ref 25.00 dBm				_	
15.00 5.00 -5.00					Center Freq 2.480000000 GHz
-15.0					
-35.0 -45.0 -55.0				ᢞᠬᢥᡊᠬ᠕᠕᠕᠆᠆᠆ᠬ	
Center 2.48 GHz #Res BW 100 kHz	#VI	BW 300 kHz	S	pan 4 MHz /eep 1 ms	CF Step
Occupied Bandwidth	941 MHz	Total Power	5.44 dBm	-	400.000 kHz <u>Auto</u> Man
Transmit Freq Error	2.708 kHz	OBW Power	99.00 %		Freq Offset 0 Hz
x dB Bandwidth	680.7 kHz	x dB	-6.00 dB		
MSG			STATUS		

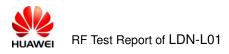


### Appendix B: Occupied Bandwidth

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

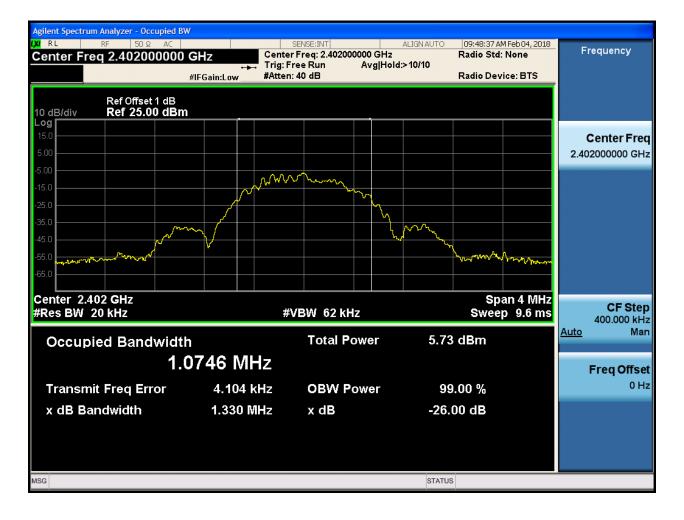
#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Occupied Bandwidth [MHz]	Verdict
TM1 _Ch0	L	2402	1.07	pass
TM1 _Ch19	М	2440	1.07	pass
TM1 _Ch39	Н	2480	1.07	pass



#### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





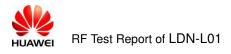
#### 2.2 TM1\_Ch19\_M

Agilent Spectrum Analyzer - Occupied B   IX RF 50 Ω AC   Center Freq 2.440000000	GHz Center	SENSE:INT Freq: 2.440000000 GHz ree Run Avg Hold 40 dB	Radio Std:		Frequency
Ref Offset 1 dB 10 dB/div Ref 25.00 dBn	ı				
Log 15.0 5.00					Center Freq 2.440000000 GHz
-15.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
-25.0					
-45.0	$\sim$	\\	with the second se		
-55.0			wy lang was shown	՟ՠՠՠ՟	
Center 2.44 GHz #Res BW 20 kHz	#\	/BW 62 kHz		an 4 MHz 9.6 ms	<b>CF Step</b> 400.000 kHz
Occupied Bandwidt	h	Total Power	5.93 dBm	E	<u>Auto</u> Man
1.	0746 MHz				Freq Offset
Transmit Freq Error	3.332 kHz	OBW Power	99.00 %		0 Hz
x dB Bandwidth	1.332 MHz	x dB	-26.00 dB		
MSG			STATUS		



#### 2.3 TM1\_Ch39\_H

Agilent Spectrum Analyzer - Occupied BW   X RL RF 50 Ω AC   Center Freq 2.480000000 G #II	T	SENSE:INT enter Freq: 2.48000000 G rig: Free Run Avg] Atten: 40 dB	Hz Radio S Hold: 10/10	8 AM Feb 04, 2018 itd: None Device: BTS	Frequency
Ref Offset 1 dB 10 dB/div Ref 25.00 dBm					
Log 15.0 5.00					Center Freq 2.48000000 GHz
-15.0	^	m			
-25.0		V	Щ.		
-45.0			- Marina	under of the control	
Center 2.48 GHz #Res BW 20 kHz		#VBW 62 kHz		Span 4 MHz eep 9.6 ms	<b>CF Step</b> 400.000 kHz
Occupied Bandwidth		Total Power	5.03 dBm		<u>Auto</u> Man
1.07	743 MHz	-			Freq Offset
Transmit Freq Error	3.119 kHz	OBW Power	99.00 %		0 Hz
x dB Bandwidth	1.331 MHz	z xdB	-26.00 dB		
MSG			STATUS		



### Appendix C: Duty Cycle

#### Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
TM1	CH0,CH19,CH39	61.7

#### Part II - Test Plots

#### 2.1 TM1

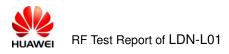
Agilent Spectr															
(XIRL	RF	50 Ω				SEI	VSE:IN	Т	#Avg T		GNAUTO		50 AM Feb 04, TRACE <mark>1 2 3</mark>		Frequency
Center F	req Z	.40200	0000		ast ↔⊷ .ow	Trig: Free Atten: 20		1	#Avg i	ype.r	1115			<del>www</del>	
10 dB/div	Ref Ref	Offset 1 c <b>10.00 c</b>	iB <b>IBm</b>									Mkr′	l 488.0 0.56 dl	µs 3m	Auto Tune
Log 0.00 -10.0 -20.0				1		<b>⊘2</b>		<b>∕3</b>							Center Fred 2.402000000 GHz
-30.0 -40.0 -50.0															<b>Start Fred</b> 2.402000000 GHz
-60.0 -70.0 -80.0		Unit for the	pwrth			w market	htyte	N			r vypi	halaa ah			<b>Stop Fred</b> 2.402000000 GH:
Center 2.4 Res BW 3	3.0 MI		Hz	\	/BW 5	50 MHz*		FUNC	TION		иеер 2		Span ( s (1001	Hz pts)	<b>CF Step</b> 3.000000 MH <u>Auto</u> Mar
1 N 1 2 N 1 3 N 1 4 5	t			488.0 μ 874.0 μ 1.114 m	s	-0.56 dl -0.57 dl -0.56 dl	Зm			Tonen					Freq Offse 0 Ha
6 7 8 9 10 11															
<														>	
SG											STATU	S			



## Appendix D: Maximum Conducted Average Output Power

#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]		Power[dBm]	Verdict
TM1 _Ch0	L	2402	61.7	-0.52	pass
TM1 _Ch19	М	2440	61.7	-0.27	pass
TM1 _Ch39	Н	2480	61.7	-1.18	pass



#### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L

Agilent Spectr	<mark>um Analyzer - The</mark> RF 50 Ω		ctor 2.1	dB ad		(m)(m) - 318 ( (m))				00-10-00-M		
	req 2.40200	0000 GH	z			ISE:INT		vg Typ	ALIGNAUTO	TRAG	M Feb 04, 2018 CE <mark>1 2 3 4 5 6</mark> PE A WWWWW	Frequency
10 dB/div	Ref Offset 3.1 Ref 30.00 d	dB	IO: Wide Sain:Low		Trig: Free Atten: 38		AV		Mkr1	D	00 GHz 15 dBm	Auto Tur
20.0 10.0 0.00												Center Fre 2.402000000 GH
-10.0 -20.0 -30.0				$\sim$	- ~~	1	<b>V</b>					Start Fre 2.40000000 G⊦
-40.0 -50.0 -60.0	~~~~		V						m ,	L	·····	<b>Stop Fre</b> 2.404000000 GF
Start 2.40 #Res BW		×	#VI	вw	62 kHz*	FII	NCTION	FUN	Sweep	12.32 ms	1000 GHz (601 pts)	CF Ste 400.000 kH Auto Ma
1 N 1   2 3 4   3 4 4   5 5 6   7 8 4		2.402 000	D GHz		-14.290 dE		Powe		1.080 MHz		0.515 dB	Freq Offs 0 ⊦
9 10 11 <					ш				STATUS		~	



#### 2.2 TM1\_Ch19\_M





#### 2.3 TM1\_Ch39\_H

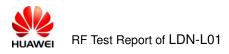




# Appendix E: Maximum Power Spectral Density Level

#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	PSD[dBm/10 kHz]	Verdict
TM1 _Ch0	L	2402	61.7	-13.09	pass
TM1 _Ch19	М	2440	61.7	-13.23	pass
TM1 _Ch39	Н	2480	61.7	-15.37	pass



#### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L





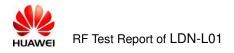
#### 2.2 TM1\_Ch19\_M





#### 2.3 TM1\_Ch39\_H

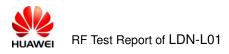




## Appendix F: Band Edges Compliance

#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	-0.66	-50.05	pass
TM1_Ch39	Н	2480	-1.30	-51.23	pass



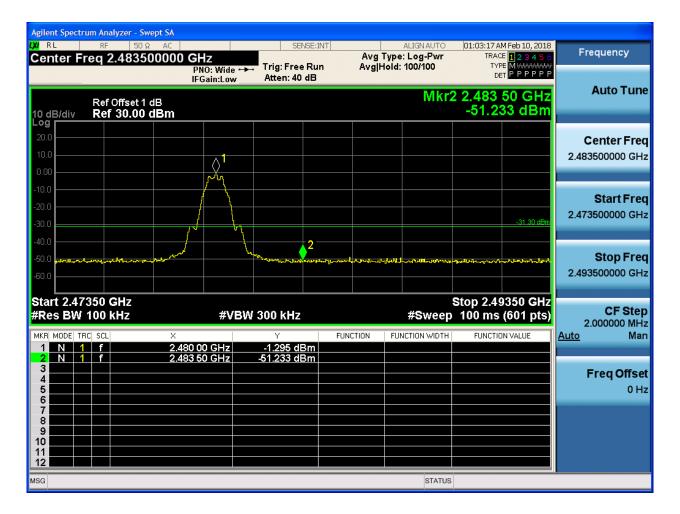
#### Part II - Test Plots

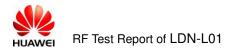
#### 2.1 TM1\_Ch0\_L

	ım Analyzer - Swe									
Center Fr	RF   50 Ω eq 2.39250		z		SE:INT	Avg Type	ALIGNAUTO	TRAC	4 Feb 04, 2018 E <mark>1 2 3 4 5 6</mark>	Frequency
	Ref Offset 1 o	PN IFG	10: Fast ↔ Sain:Low	→ Trig: Free Atten: 40		Avg Hold		DI 2 2.400		Auto Tune
10 dB/div Log	Ref 30.00 (							-50.04	46 dBm	
20.0 10.0 0.00								^		Center Freq 2.392500000 GHz
-10.0 -20.0 -30.0									-30.66 dBm	Start Freq 2.380000000 GHz
-40.0 -50.0	arpent to a provident	<b>Դերիեղյուր տահիս</b> ու	ᠰᢏᠧᡛᢂᢩᡷ᠇ᢖᡗᢥᢝ᠂ᡆᢩᡟ᠆᠆ᢧᢩ	ֈֈՈւադլեգրաթյոհութ	Marather for the set	an a	ᡩ ᠆ᡩᡶᢞᡟᢩᡘᢪᡕᡶᡊᢛᠶᡓᡁ᠍ᢪ᠆ᡁᡢ	2	M. ALLAN	<b>Stop Freq</b> 2.405000000 GHz
Start 2.380 #Res BW	100 kHz	×	#VBW	/ 300 kHz	FUNC		#Sweep	100.0 ms	0500 GHz (601 pts)	<b>CF Step</b> 2.500000 MHz <u>Auto</u> Man
1 N 1 2 N 1	f f	2.402.00	) GHz ) GHz	-0.655 dB -50.046 dB	m			FUNCTIO		
3 4 5										Freq Offset 0 Hz
6 7 8 9										
10 11 <									<b>×</b>	
MSG							STATUS	3		



#### 2.2 TM1\_Ch39\_H





### Appendix G: Unwanted Emissions into Non-Restricted Frequency

### Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, 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.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref[dBm]-30[dBm],see test plots for detailed".

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
TM1 _Ch0	L	2402	-0.54	<limit< td=""><td>pass</td></limit<>	pass
TM1 _Ch19	М	2440	-0.35	<limit< td=""><td>pass</td></limit<>	pass
TM1 _Ch39	Н	2480	-1.23	<limit< td=""><td>pass</td></limit<>	pass

#### Part I - Test Results



#### Part II - Test Plots

#### 2.1 TM1\_Ch0\_L

Pref:

	um Analyzer - Swept S					
Center Fi	RF 50Ω A req 2.4020000		SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>1000/1000	09:49:35 AM Feb 04, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
10 dB/div	Ref Offset 1 dB Ref 20.00 dBr	IFGain:Low	Atten: 30 dB	Mkr	DET PPPPPP 1 2.402 000 GHz -0.542 dBm	Auto Tune
10.0			1			<b>Center Fre</b> 2.402000000 GH
10.0						Start Fre 2.400000000 G⊢
20.0						<b>Stop Fre</b> 2.404000000 G⊦
10.0					ma	CF Ste 400.000 kH Auto Ma
50.0 ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	hand have been been been been been been been be				July and the second	Freq Offso 0 H
70.0	0000 GHz				Stop 2.404000 GHz	
Res BW		#VBW	300 kHz	Sweep	1.000 ms (601 pts)	
SG				STATL	IS	



Puw:

	um Analyzer - Swept SA									
Center F	RF   50 ହ <u>A</u> DC req 79.500 kHz			ISE:INT	Avg Type	ALIGN AUTO :: Log-Pwr	TRAC	4 Feb 04, 2018 E <mark>1 2 3 4 5 6</mark>	F	requency
		PNO: Wide 😱 IFGain:Low	Trig: Free #Atten: 26		Avg Hold:			PE MWWWWW TPPPPP		Auto Tuno
10 dB/div Log	Ref Offset 1 dB Ref 0.00 dBm					IV	lkr1 10. -53.7	175 kHz 10 dBm		Auto Tune
-10.0										Center Freq 79.500 kHz
-20.0										79.500 KHZ
-30.0										Start Freq 9.000 kHz
-40.0								-50.54 dBm		<b>Stop Freq</b> 150.000 kHz
ίλ <sub>α α</sub> ά	ſ,									CF Step
-70.0	···· U <sup>kun</sup> y <sup>A</sup> lu <sup>n</sup> u <sup>n</sup> u <sup>n</sup> u <sup>n</sup> u	~ <sup>all</sup> lwhwhvare I	a - 1						<u>Auto</u>	14.100 kHz Man
-80.0		իսիս ավե	Դ ՆԽՂՆՊ կր	᠂᠕ᡙ᠕ᡀ	ᢦᢉᢧ <sub>ᡀᡆᡆ</sub> ᠆ᡗᡕ	ᡩ᠋ᢛᡊᡰᡙᡘᢧᢩ᠉	ᢂᡊᢧᡳᡁᡔᡥᠯᢈ	ᢦᠠᡀᡄᢛ᠕ᡁᠬ		Freq Offset
-90.0										0 Hz
-00.0										
Start 9.00 #Res BW		#VBW	3.0 kHz			Sweep	Stop 15 134.8 ms	i0.00 kHz (601 pts)		
MSG						STATUS	🛓 DC Cou	ıpled		



	t Spectrum Ana											
LXI RL					SEN	NSE:INT		ALIGN AUTO : Log-Pwr		4 Feb 04, 2018 E <b>1 2 3 4 5 6</b>	Frequenc	ev.
Cent	ter Freq 1	5.0750		PNO: Fast 🖵 Gain:Low	Trig: Free #Atten: 40		Avg Hold:		TYF	E MWWWWW PE MWWWWWW PPPPPP		
10 dB Log r		Offset 1 20.00							Mkr1 1 -41.49	150 kHz 92 dBm	Auto	Tune
10.0											Center 15.07500	
0.00 - -10.0 -											<b>Start</b> 150.00	
-20.0 - -30.0 -											<b>Stop</b> 30.00000	<b>Freq</b> 0 MHz
-40.0	1									-40.54 dBm	CF 2.985000 <u>Auto</u>	Step 0 MHz Man
-60.0 -	Whenter		rhall stif can i shi si	uty atal partials de parties	Nala and the state of the	, initiation of the state of the	niyini halanda kadin	ha ka	and the state of the	(dyndartting fateri	Freq C	<b>Offset</b> 0 Hz
	t 150 kHz s BW 10 kl	7		#\/R)A	30 kHz			Sweep 2	Stop 3	0.00 MHz 3001 pts)		
MSG		12		#VDV	50 KHZ			_	DC Cou			



Agilent Spectr	r <mark>um Analyzer - Swept</mark> RF 50 Ω /		000				00,50,00,00	15-b 04-0010	
	req 1.1650000					ALIGN AUTO : Log-Pwr >50/50	TRAC TYP	1 Feb 04, 2018 E <b>1 2 3 4 5 6</b> E MWWWWW T P P P P P P	Frequency
10 dB/div Log	Ref Offset 1 dB Ref 20.00 dB		#Atten: 44			Mkı	1 2.226 -46.64	79 GHz 47 dBm	Auto Tune
10.0									Center Freq 1.165000000 GHz
.0.00									Start Freq 30.000000 MHz
-20.0								-30.54 dBm	<b>Stop Freq</b> 2.300000000 GHz
-40.0	يەلەر ئە <sup>ر</sup> ەر 1 يەلەر يورىغى بالەردى يوغى بىلەرلىق بىلەت		<sup>21</sup> 1713 3 1944 7 1 4 5 17 17 19 19 3 171 <sup>1</sup> 4971		क हिन्द्रा स्वरूप (फार्ट क्र	testaga forth side and the	- Locate Manufactor	1 I startlas das besta	<b>CF Step</b> 227.000000 MHz <u>Auto</u> Man
-60.0	a kana na mana na mana Na mana na mana Na mana na mana	na an a		and a second second second	inis karpona iki safi k	<sup>1</sup> 1. Kristova a. 11. godi pli okonov			<b>Freq Offset</b> 0 Hz
-70.0									
Start 30 N #Res BW		#VE	3W 300 kHz			Sweep 2	Stop 2. 17.1 ms (	.300 GHz 8001 pts)	
ISG						STATU	5		



ISG							STAT	us		
Start 2.30 #Res BW	000 GHz 100 kHz		#VBW	300 kHz			Sweep	Stop 2.40 9.600 ms (	0000 GHz 1001 pts)	
70.0										
60.0										Freq Offse 0 H
	๛๚๚๛๛๚๛๛๛๚๛๛๚๚๛๛๛๚	Weinstein (1974)	ula fladdad yn llyn		Pylos, Marine Ard a Wal	artilland and an	ALCONT AND	ulahahanan kalandar pa	Thereader	Ener Offer
50.0			l la mart ar		. I		1	<b>.</b> .		10.000000 MH <u>Auto</u> Mai
40.0										CF Step
30.0									-30.54 dBm	2.400000000 GH
20.0										Stop Fre
10.0										Start Free 2.300000000 GH
0.00										
10.0										2.350000000 GH
- <sup>og</sup>										Center Fred
0 dB/div	Ref Offset 1 c Ref 20.00 c	lB <b>IBm</b>					IV	kr1 2.39 -48.3	3 6 GHZ 85 dBm	
			PNO: Fast 🖵 Gain:Low	#Atten: 40		Arginola.		Dł	ТРРРРР	Auto Tun
	req 2.35000	00000 GI	Hz				: Log-Pwr	TRAC	E 1 2 3 4 5 6 E MWWWWW	Frequency
gilent Spectr	RF 50 Ω	AC		CEN	ISE:INT		ALIGN AUTO	00,50,45 A	4 Feb 04, 2018	



	um Analyzer - Swept								
X/ RL	RF 50Ω req 2.491750		SEI	NSE:INT		ALIGN AUTO	09:50:54 AM TRACE	123456	Frequency
	6q 2.40 11 00	PNO: Fast IFGain:Low			Avg Hold:	>200/200	DE	PPPPP	Auto Turo
10 dB/div Log	Ref Offset 1 dB Ref 20.00 dB					Mkr1 2	.484 490 -48.35	0 GHz 57 dBm	Auto Tune
10.0									Center Fred 2.491750000 GHz
0.00									<b>Start Free</b> 2.483500000 GH:
20.0								-30.54 dBm	<b>Stop Free</b> 2.500000000 GH
40.0	1 ᡃᡟᡵᡥᠵ᠋ᡃᢦᠵᡘᢔᢦᢧᢛᡀᠽ	᠆᠊ᢗᡀᢪ᠇ᢏᠾᢛᢧᡅᢂᢦ᠆ᢧᢂ᠆᠊ᠬ	<u>~~~</u>	valat rates	ญาาปินนุญเตรุศ์ค	᠙ᡔ᠆ᡀᢧᢦ᠆᠊᠋ᡰᡕᢧᢧ	ᠴᡏᡆᡃᢈᢧᢪᢦᠧᡙᡘᢥ᠇ᡟᡃᡥ		<b>CF Stej</b> 1.650000 MH <u>Auto</u> Ma
60.0									Freq Offse 0 H
5tart 2.48 Res BW	3500 GHz		BW 300 kHz			Sween	Stop 2.500 1.600 ms	000 GHz (601 pts)	
SG SG		<i>#</i> V	1944 300 KHZ			SWEED		(our pts)	



Agilent Spectr	rum Analyzer - Swe	ept SA								
LXI RL		AC		SEN	ISE:INT		ALIGN AUTO : Log-Pwr		M Feb 04, 2018	Frequency
Center F	req 14.5000	P	1 <b>12</b> NO: Fast 🖵 Gain:Low	Trig: Free #Atten: 40		Avg Type Avg Hold:		TY	CE 123456 PE MWWWWW ET P P P P P P	
10 dB/div Log	Ref Offset 1 d <b>Ref 20.00</b> d						Μ	kr1 26.0 -38.8	986 GHz 85 dBm	Auto Tune
10.0										Center Freq 14.50000000 GHz
-10.0										Start Freq 2.50000000 GHz
-20.0									-30.54 dBm	<b>Stop Freq</b> 26.500000000 GHz
-40.0	la mana ana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana ami	and the state of the		S Line III. An orbit Ins.			the state of the s	i Angliggen Hand		<b>CF Step</b> 2.400000000 GHz <u>Auto</u> Man
-60.0										<b>Freq Offset</b> 0 Hz
-70.0								<u></u>		
Start 2.50 #Res BW			#VBW	300 kHz			Sweep	Stop 2 2.294 s (	6.50 GHz 8001 pts)	
MSG							STATUS	3		



### 2.2 TM1\_Ch19\_M

#### Pref:

Agilent Spectr	u <mark>m Analyzer - Swe</mark> j RF 50Ω			SEN	VSE:INT		ALIGN AUTO	09:55:02 40	4 Feb 04, 2018	_
	req 2.44000	0000 GH	Z IO: Wide 😱			Avg Type	: Log-Pwr >1000/1000	TRAC	E 123456	Frequency
			Sain:Low	Atten: 30					07 GHz	Auto Tune
10 dB/div Log	Ref Offset 1 d Ref 20.00 d	B Bm						-0.3	50 dBm	
										Center Freq
10.0					1					2.440000000 GHz
0.00										Oto at Europ
-10.0			بر	/						Start Freq 2.438000000 GHz
-20.0			/							<b>Stop Freq</b> 2.442000000 GHz
		$\frown$								CF Step
-40.0	- Amark						\\	L.		400.000 kHz Auto Man
July and a second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								and the second s	Freq Offset
-60.0										0 Hz
-70.0										
Start 2.43 #Res BW			#VBW	300 kHz			Sweep	top 2.442 1.000 <u>ms</u>	2000 GHz (601 pts)	
MSG							STATUS			



Puw:

Agilent Spectr	rum Analyzer - Swept SA		001.000.00			0055120051010100	
	RF 50 Ω <u>A</u> DC req 79.500 kHz	PNO: Wide 😱	SENSE:INT		ALIGN AUTO :: Log-Pwr >50/50	09:55:17 AM Feb 04, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P	Frequency
10 dB/div Log	Ref Offset 1 dB <b>Ref 0.00 dBm</b>	IFGain:Low	#Atten: 26 dB			Mkr1 9.235 kHz -52.620 dBm	Auto Tune
-10.0							<b>Center Freq</b> 79.500 kHz
-20.0							<b>Start Freq</b> 9.000 kHz
-40.0						-50.35 dBm	<b>Stop Freq</b> 150.000 kHz
-60.0	Low Marker Contraction	margare a	۸				<b>CF Step</b> 14.100 kHz <u>Auto</u> Man
-80.0		י אר <i>ז</i> רז	<sup>տ</sup> և/Ն/կդումնյ <sub>ամ</sub> ^ <sub>Նո</sub> /Ն	ᢦᡗᡰᠬᡃᡀᠬᡃᡡᡔ᠈ᡃᡁᡊᠾ	<sup>ֈ</sup> Ա <sup>ՠ</sup> ՟՟՟ֈ <sup>ՠ</sup> Ա՟ՠ	$\mathcal{A}_{\mathcal{A}}$	Freq Offset 0 Hz
-90.0		<i>"</i> »				Stop 150.00 kHz	
#Res BW	1.0 KHZ	#VBW	3.0 kHz		-	134.8 ms (601 pts)	



	it Spectrum A										
LXI RI	- ,				SEN	ISE:INT		ALIGN AUTO :: Log-Pwr		1 Feb 04, 2018	Frequency
Cen	ter Freq	15.0750		'NO: Fast 🖵 Gain:Low	Trig: Free #Atten: 40		Avg Hold:		TYP	E MWWWWW E MWWWWWW T P P P P P	
10 dE Log i		ef Offset 1 ( ef 20.00 (							Mkr1 1 -40.4	150 kHz 11 dBm	Auto Tun
10.0											Center Fre 15.075000 M⊦
0.00 -10.0											<b>Start Fre</b> 150.000 k⊦
-20.0 -30.0											Stop Fre 30.000000 M⊦
-40.0										-40.35 dBm	CF Ste 2.985000 M⊦ <u>Auto</u> Ma
-60.0	which which	V <sup>AL</sup> detserverie	a de la compañía de l		nt twin failt d	gdagaad ol for gaag	dd a daralar yn bedd dd a darac yn bedd			11. hallmanna hanna h	Freq Offse 0 ⊦
	t 150 kHz s BW 10			#\/B\A	30 kHz			Sweep 2	Stop 3	0.00 MHz	
MSG	5-1544-10			<b>77 V LO V V</b>	50 KH2				DC Cou		



RL RF 50 Ω Center Freq 1.165000	AC						
	PNO: Fast 🗔	PNO: Fast 😱 Trig: Free Run		ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>50/50		b04,2018 ] <mark>23456</mark> 1 <del>////////////////////////////////////</del>	Frequency
Ref Offset 1 dE	IFGain:Low	#Atten: 40 dE	3	Mkr	1 2.274 40 -46.615	6 GHz	Auto Tune
10.0							Center Freq 1.165000000 GHz
10.0							Start Freq 30.000000 MHz
20.0						-30.35 dBm	<b>Stop Fred</b> 2.300000000 GHz
40.0		u station a constantia	zaitetetere u en albitere dun		produces a Badarika A Muselas		<b>CF Step</b> 227.000000 MHz <u>Auto</u> Mar
(1) and prove that provide the structure of the struct	a da parte da construcción de la co A la construcción de la construcción		ne oka kalenda ing ng pangang pangang ng pangang pangang pangang pangang pangang pangang pangang pangang panga Ng ng kalenda kalenda pangang pa		n Loon i ann fealtain dùsac I shu à dath i dhi tha		Freq Offse 0 Hz
-70.0					Stop 2.30	00 GHz	
Res BW 100 kHz	#VBW	300 kHz		Sweep 2	17.1 ms (80		

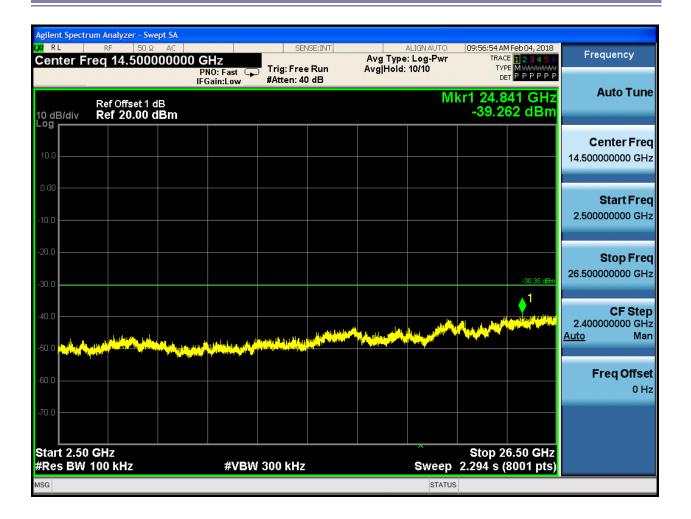


Agnent Spectr	um Analyzer - Swept SA RF 50 Ω AC		ENSE:INT	ALIGN AUTO	09:56:12 AM F	eh04 2019	
	req 2.35000000			Avg Type: Log-Pwi Avg Hold:>200/200	r TRACE TYPE	123456 MWWWWW PPPPPP	Frequency
10 dB/div	Ref Offset 1 dB Ref 20.00 dBm			N	1kr1 2.397 -48.11	7 GHz 5 dBm	Auto Tune
10.0							<b>Center Fred</b> 2.350000000 GHz
0.00							<b>Start Free</b> 2.300000000 GH:
30.0						-30.35 dBm	<b>Stop Fred</b> 2.400000000 GH:
40.0					In Jan Jack I and a de		<b>CF Step</b> 10.000000 MH <u>Auto</u> Mar
60.0	urhalannadiaile saudh	ŧĸĸĦĸijĸŧŊŎĊĸĸţĸŊŊġĸġſŊġĸĸġſŊġĸĸġſŊġĸĸ	nervelejkotés koleven LA	Trolliturest, in incentor		A LYTIN TUMUT	<b>Freq Offse</b> 0 H
-70.0 Start 2.30 #Res BW				0	Stop 2.400		
	TOUKHZ	#VBW 300 kH:	2	Sweep	9.600 ms (1	JUT PIS)	



	um Analyzer - Sw									
X/RL	RF  50 Ω req 2.49175		Hz	SEN	NSE:INT		ALIGNAUTO		1Feb04, 2018 E <b>1 2 3 4 5 6</b>	Frequency
Center 1	109 2.45 173	F	PNO: Fast 🖵 Gain:Low	Trig: Free #Atten: 40		Avg Hold:	>200/200	TYF De	Е <mark>М₩₩₩₩₩₩</mark> ТРРРРР	Auto Tune
10 dB/div Log	Ref Offset 1 ( <b>Ref 20.00</b> (						Mkr1 2	496 837 -48.1	7 5 GHz 92 dBm	Auto Tune
10.0										<b>Center Freq</b> 2.491750000 GHz
-10.0										Start Freq 2.483500000 GHz
-20.0									-30.35 dBm	<b>Stop Freq</b> 2.500000000 GHz
-40.0	Gunnan and and and and and and and and and		<u>በማጭ-ጊልፖኒ ለካ</u> ቴ	<sup>ለ</sup> ዲ <sub>ካ በ</sub> የሆብኒ(ኩቢዮ <sup>2</sup>		ل ماليه اس اس ال	fr-front 12 martin	1 of bourn rul	ᢦᠲᠴᢦᠯᡅᡊ᠇ᡗᠯᡮᡅᢪ	CF Step 1.650000 MHz <u>Auto</u> Man
-60.0										Freq Offset 0 Hz
	3500 GHz							Stop 2.500	1000 GHz	
#Res BW	100 kHz		#VBW	300 kHz				1.600 ms	(601 pts)	
ISG							STATU	S		







# 2.3 11B\_H@Ant 1

#### Pref:

Agilent Spectr	u <mark>m Analyzer - Swe</mark> RF 50 Ω			CEN	ICE-INIT			10.07.27 44	45-b 04 2010	
	req 2.48000	0000 GH		<b>.</b>		Avg Type	ALIGN AUTO : Log-Pwr >1000/1000		M Feb 04, 2018 CE <mark>1 2 3 4 5 6</mark> PE M <del>WWWWW</del>	Frequency
			O: Wide 🖵 iain:Low	Atten: 30		Avginoid.		Dł	Трррррр	Auto Turo
10 dB/div Log	Ref Offset 1 d Ref 20.00 d						Mkr1	2.480 0 -1.2	07 GHz 34 dBm	Auto Tune
_ 3										Center Freq
10.0										2.48000000 GHz
0.00					<u></u>					
				$\sum$	$\sim \sim$					Start Freq 2.478000000 GHz
-10.0					``````````````````````````````````````	MAN NO TO				2.470000000 0112
-20.0										Stop Freq
-30.0										2.482000000 GHz
-30.0		$\frown$	, f				$\sim$			
-40.0	/	/								<b>CF Step</b> 400.000 kHz
-50.0	have been and here an									<u>Auto</u> Man
under Appyryty	ᠰᠾᡣᡗᢂᡘ								The second se	Freq Offset
-60.0										0 Hz
-70.0										
Start 2.47			40 (D)				5	top 2.482	2000 GHz	
#Res BW	TUU KHZ		#VBW	300 kHz			Sweep		(601 pts)	



Puw:

Agilent Spectr	r <mark>um Analyzer - Swept SA</mark> RF 50 Ω <u>A</u> DC		SENSE:INT		ALIGN AUTO	10:07:41 AM	Feb04, 2018	
	req 79.500 kHz	PNO: Wide 🖵 IFGain:Low	Trig: Free Run #Atten: 26 dB	Avg Typ Avg Hold	e: Log-Pwr	TRACE	123456 MWWWWW PPPPP	Frequency
10 dB/div	Ref Offset 1 dB Ref 0.00 dBm					Mkr1 9.4 -53.21	70 kHz 7 dBm	Auto Tune
-10.0								Center Freq 79.500 kHz
-20.0								Start Freq 9.000 kHz
-40.0							-51.23 dBm	<b>Stop Freq</b> 150.000 kHz
60.0	Land Contraction Contraction	ully long song dy	הקריהיון נולע	~				CF Step 14.100 kHz Auto Mar
80.0			- 4 4 (Jimb)	<sup>1</sup> ԽՈՆԱԻՆ(ՄՎՈՐԽԱՆ	ᡁᠰᡊᡎ᠁ᠯᡊᡁᡀ	Warday And Jaway		Freq Offset 0 Hz
Start 9.00 #Res BW		#VBW	3.0 kHz		Sweep	Stop 15 134.8 ms	0.00 kHz (601 pts)	
ISG					-	L DC Cou		



Agiler	nt Spectrui	n Analyzer - S									
LXI R	-		Ω 🔔 DC 📔		SEM	NSE:INT		ALIGN AUTO :: Log-Pwr		1 Feb 04, 2018 E <b>1 2 3 4 5 6</b>	Frequency
Cen	nter Fre	eq 15.07:		PNO: Fast 🖵 FGain:Low	Trig: Free #Atten: 40		Avg Hold:		TYP	E MWWWWW T P P P P P	
10 dl Log		Ref Offset 1 Ref 20.00							Mkr1 1 -42.8	150 kHz 08 dBm	Auto Tun
10.0											Center Fre 15.075000 MH
0.00 -10.0											<b>Start Fre</b> 150.000 kH
-20.0 -30.0											<b>Stop Fre</b> 30.000000 MH
-40.0 -50.0	<u></u>									41.23 dBm	CF Ste 2.985000 MH <u>Auto</u> Ma
-60.0	""Walk	Whiteman	appleann an	toftwilligeneration toge	telephologiation	a a shekara a she min	upon a line da politica da como de la como de	ha laha manghang ba	n in the start of th	ni, ki da karata	Freq Offse 0 H
-70.0 Star	rt 150 k	Hz							Stop 3	0.00 MHz	
#Re	s BW 1			#VBW	30 kHz			Sweep 2	85.4 ms (	3001 pts)	
ISG								STATUS	L DC Cou	pied	



Agilent Spect	rum Analyzer - Sw									
XIRL		AC		SEN	ISE:INT		ALIGNAUTO : Log-Pwr		4 Feb 04, 2018 E <b>1 2 3 4 5 6</b>	Frequency
Center F	req 1.1650		FIZ PNO: Fast 🖵 FGain:Low	Trig: Free #Atten: 40		Avg Hold:		TYF	E MWWWW PE MWWWWW PPPPPP	
10 dB/div Log	Ref Offset 1 Ref 20.00						Mkı	1 1.776 -46.9	77 GHz 24 dBm	Auto Tune
10.0										Center Freq 1.165000000 GHz
-10.0										Start Freq 30.000000 MHz
-20.0									-31.23 dBm	<b>Stop Freq</b> 2.300000000 GHz
-40.0	waren jelen war al bezi ar decha bezi	- <b>kall</b> - <b>1</b>		bu anatu data ta	an legg statistics and the	فأنهره وكارور فيواف	1	la cut ser la tablet del	s Yry Drubb David	CF Step 227.000000 MHz <u>Auto</u> Man
-60.0			a de la construction de		, <sub>the second second line by the second</sub>	et i far et en prostet i tit er	a franske stade græne stæret for fra			<b>Freq Offset</b> 0 Hz
-70.0								Stop 2	.300 GHz	
#Res BW			#VBW	300 kHz			Sweep 2	310p 2 217.1 ms (	.500 GH2 8001 pts)	
MSG							STATU	S		

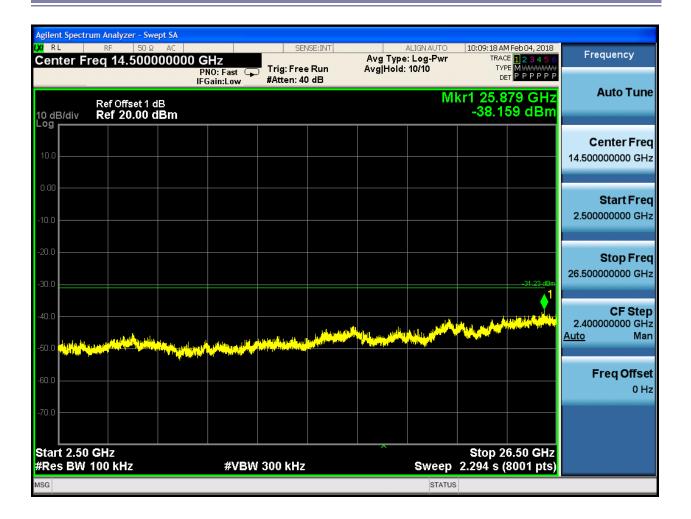


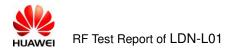
	um Analyzer - Sv									
XIRL	RF 50 s req 2.3500			SEN	ISE:INT		ALIGNAUTO : Log-Pwr		4 Feb 04, 2018 E 1 2 3 4 5 6	Frequency
	req 2.3500		PNO: Fast 🖵 FGain:Low	Trig: Free #Atten: 40		Avg Hold:	>200/200	TYF De	E MWWWWW PPPPPP	Auto Turo
10 dB/div Log	Ref Offset 1 Ref 20.00						M	kr1 2.374 -48.0	4 7 GHz 19 dBm	Auto Tune
10.0										Center Freq 2.350000000 GHz
-10.0										<b>Start Freq</b> 2.300000000 GHz
-20.0									31.23 dBm	<b>Stop Freq</b> 2.400000000 GHz
-40.0	last phylan deletra	յահարդեկութելոր	ad Partis Specificant	urrultaourr	www.flat.granuality.	∼¶¤∕₩∆å]r-/₩₩₩	1	jpaletationstructure	յեւ Սեգիլիս <del>Մ</del> ԱՄԱՆԱՆԱՆԱՆ	CF Step 10.000000 MHz <u>Auto</u> Man
-60.0										<b>Freq Offset</b> 0 Hz
-70.0								Stop 2 <u>.40</u>	0000 GHz	
#Res BW			#VBW	300 kHz			Sweep	9.600 ms (	1001 pts)	
MSG							STAT	US		



	um Analyzer - Swep									
XIRL	RF   50 Ω req 2.491750		7	SEN	ISE:INT		ALIGNAUTO : Log-Pwr		1 Feb 04, 2018	Frequency
Genter	req 2.49 m 50	Р	NO: Fast 😱 Gain:Low	Trig: Free #Atten: 40		Avg Hold:		TYP		
10 dB/div Log	Ref Offset 1 dE Ref 20.00 dl						Mkr1 2	498 817 -48.3	7 5 GHz 03 dBm	Auto Tune
10.0										Center Freq 2.491750000 GHz
0.00 -10.0										<b>Start Freq</b> 2.483500000 GHz
-20.0									-31.23 dBm	<b>Stop Freq</b> 2.500000000 GHz
-40.0	ᡔᠬᠧᢇᠻᡊ᠆ᡎᡰᠣᠮᡎ᠋ᡟᠰᡵᠧ᠆ᡙᠰ	ᠮᢧᡮᡙᢧᠯᡔᡗᡟᢦ	آستامین الاتھا میں	ant water to a character	مەرىمىمىرىمىر مەرىمىرىمىر	ل <sub>م</sub> یگرامرا <sub>، ۵</sub> ۹٫۰۰۰	ليترياليو المحافزية[[برم	พชษายการคารใช		CF Step 1.650000 MHz <u>Auto</u> Mar
-60.0			· · · · · ·							<b>Freq Offset</b> 0 Hz
-70.0 Start 2.48 #Res BW	3500 GHz		#\/B\M	300 kHz			Sween	Stop 2.500 1.600 ms	0000 GHz	
			#VDVV	500 KHZ			Sweep		(our pts)	







# Appendix H: Radiated Spurious Emission & Spurious in Restricted

# Band

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

Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

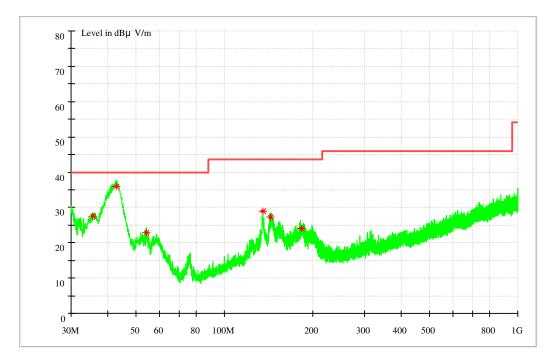


#### 1.1 Part 1: Testing Range of "9 kHz to 30MHz"

NOTE1: No peak found in the Test Range of "9 kHz to 30MHz"

## 1.2 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).



#### **MEASUREMENT RESULT: QP Detector**

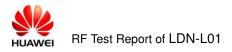
Frequency	Level	Limit	Margin	Height	Pol	Azimuth	Transd.
(MHz)	(dBµ V/m)	(dBµ V/m)	(dB)	(cm)		(deg)	(dB)
35.68178	27.43	40	12.57	101	Н	292	16.1
42.80968	35.91	40	4.09	101	Н	296	17.4
54.27208	22.95	40	17.05	100	Н	39	11.5
135.21230	29.04	43.5	14.46	101	Н	151	13.6
143.09696	27.40	43.5	16.1	101	Н	176	13.2
183.06086	24.04	43.5	19.46	152	V	116	11.6

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

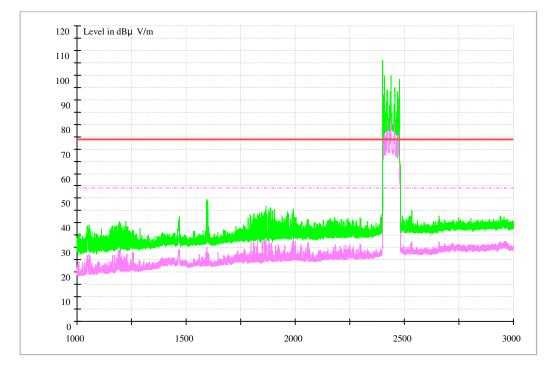


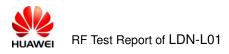
## 1.3 Part 3: Testing Range of "1GHz to 3GHz"

- Note 1: The testing range of "1GHz 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  $dB\mu V/m$ ).

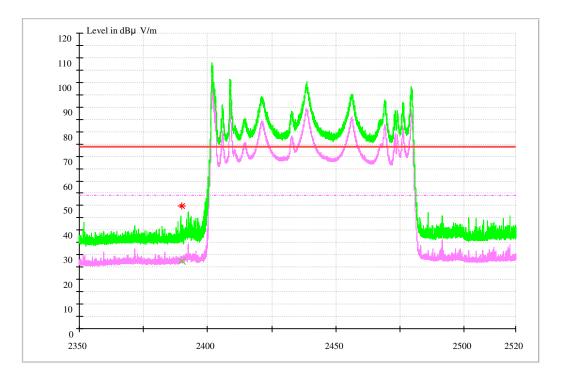
Note 3: The peak spike exceeds the limit line is EUT's operating frequency. Test Mode:

## 1.3.1Test Mode: TM1





## 1.3.1.1 Channel 0



#### MEASUREMENT RESULT: AV Detector

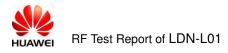
Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.
(MHz)	(dBµ V/m)	(dBµ V/m)	(dB)	(cm)		h	(dB)
2390.0	27.28	54.00	26.72	150.0	V	57.0	-10.2
MEASUREMENT	RESULT: PK De	etector					
Frequency	Level	Limit	Margin	Height	Pol	Azimut	Transd.
(MHz)	(dBµ V/m)	(dBµ V/m)	(dB)	(cm)		h	(dB)
2390.0	49.96	74.00	24.04	150.0	V	135.0	-10.2

Note:

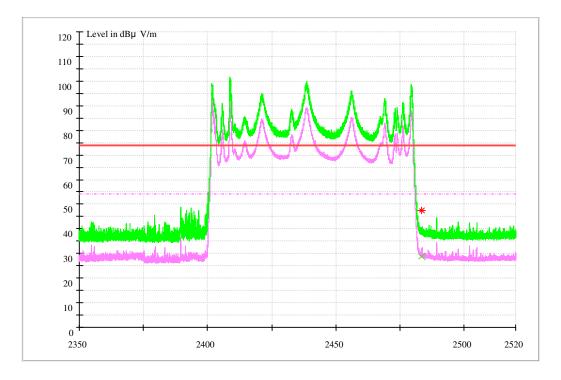
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss - preamplifier gain)

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

2, Margin=Limit - Level



# 1.3.1.2 Channel 39



#### MEASUREMENT RESULT: AV Detector

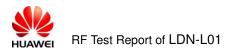
Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimut h	Transd. (dB)
2483.5	28.75	54.00	25.25	150.0	V	79.0	-6.8
MEASUREMENT	RESULT: PK Det	ector					
Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimut h (deg)	Transd. (dB)
2483.5	47.57	74.00	26.43	150.0	V	151.0	-6.8

Note:

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

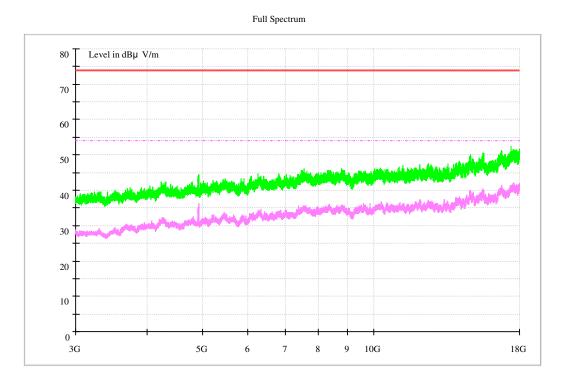
The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level



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

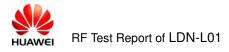
- Note 1: The test results and plot for testing range of "3 GHz to 18 GHz" showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of "3 GHz to 18 GHz" is for checking radiated emissions located 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  $dB\mu V/m$ ) and Average Limit (54  $dB\mu V/m$ ).





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

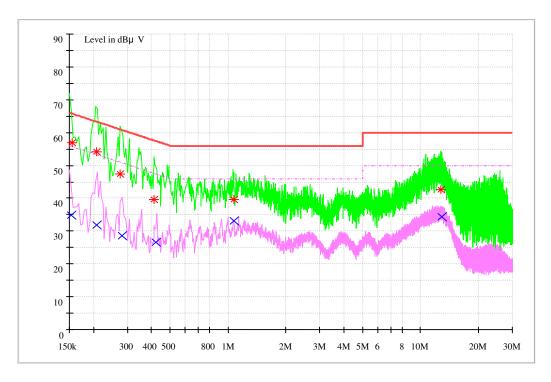
NOTE: No peak found in the Test Range of "18 GHz to 26.5GHz"



# Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

# Channel 39



#### **MEASUREMENT RESULT: PK Detector**

Frequency (MHz)	Level (dBµ V)	Limit (dBµ V)	Transd. (dB)	Margin (dB)	Line	PE
0.156008	56.82	65.67	9.7	8.85	Ν	FLO
0.207096	54.24	63.32	9.7	9.08	N	FLO
0.276268	47.47	60.93	9.7	13.46	N	FLO
0.413191	39.51	57.59	9.7	18.08	Ν	FLO
1.07013	39.66	56	9.7	16.34	N	FLO
12.773095	42.62	60	10	17.38	Ν	FLO

Frequency (MHz)	Level (dBµ V)	Limit (dBµ V)	Transd. (dB)	Margin (dB)	Line	PE
0.153476	34.72	55.81	9.7	21.09	Ν	FLO
0.207169	31.77	53.32	9.7	21.55	Ν	FLO
0.281674	28.68	50.76	9.7	22.08	Ν	FLO
0.421266	26.58	47.42	9.7	20.84	N	FLO
1.07271	33.07	46	9.7	12.93	L1	FLO
12.940337	34.41	50	10	15.59	L1	FLO

# **MEASUREMENT RESULT: AV Detector**

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