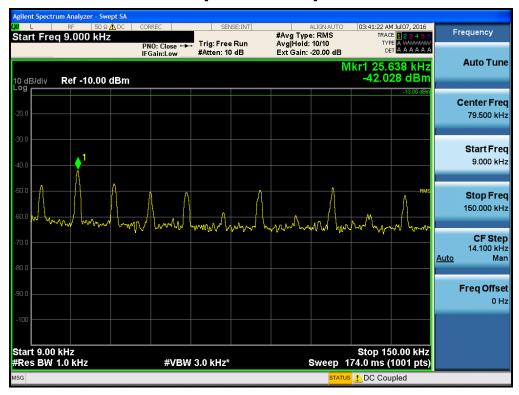


Single channel Enhancer Plots of Spurious Emission for PCS1900 BAND CDMA Conducted Spurious Emissions (9 kHz – 150 kHz)



[Downlink Low]





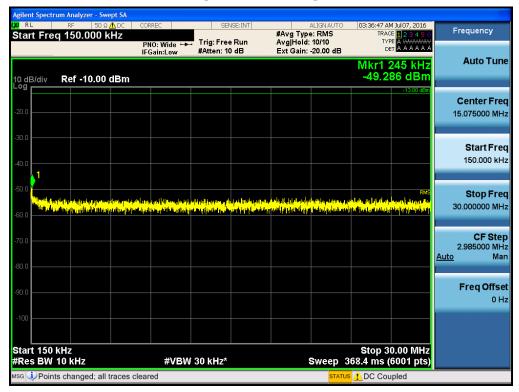
Swept S AM Jul 07, 2016 RACE 1 2 3 4 5 6 TYPE A WWWWW DET A A A A A A SENSE:INT Frequency #Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Start Freg 9.000 kHz Trig: Free Run #Atten: 10 dB PNO: Close • IFGain:Low Auto Tune Mkr1 25.638 kHz -43.059 dBm 10 dB/div Log Ref -10.00 dBm **Center Freq** 79.500 kHz Start Freq 1 9.000 kHz Stop Freq 150.000 kHz my may when when a point of the point mann W mony Y WW MARY **CF Step** 14.100 kHz Man <u>Auto</u> Freq Offset 0 Hz Start 9.00 kHz #Res BW 1.0 kHz Stop 150.00 kHz Sweep 174.0 ms (1001 pts) #VBW 3.0 kHz* ss 😳 Points changed; all traces cleared DC Coupled



Conducted Spurious Emissions (150 kHz – 30 MHz)

			alyzer - Sw									
LXI RI Cen		RF	50 s 15.075		CORREC 7	SEM	ISE:INT	#Avg Typ	ALIGNAUTO e: RMS		M Jul 07, 2016	Frequency
een		сq	15.015	000 111	PNO: Wide ++ IFGain:Low	Trig: Free #Atten: 10		Avg Hold: Ext Gain:	10/10	TY		
10 dE Log	3/div	Re	F -10.00	dBm						Mkr1 -50.1	200 kHz 97 dBm	Auto Tune
-20.0											-13.00 dBm	Center Freq 15.075000 MHz
-30.0 -40.0	.1											Start Freq 150.000 kHz
-50.0 -60.0	Hyphyddy	ţ	(indiani) du dia Pilano <mark>a bana</mark>	poladili, dipel projetjenj	(passallatat) at tai tai tai tai tai Alera tai ara pata tai dala tai a	taining a difference Training a difference	n a that a start a star The start a start	t the first start start start of the first start st Start start star	liganig seliting by Maria Saturia	ville des Plandala (natur Natur Parlandala) (natur)	RMS With All and Data Data All and All and	Stop Freq 30.000000 MHz
-70.0 -80.0												CF Step 2.985000 MHz <u>Auto</u> Man
-90.0												Freq Offset 0 Hz
-100 Star	t 150 l	kHz								Stop 3	0.00 MHz	
#Re	s BW	10 k	Hz		#VBV	/ 30 kHz*			Sweep		(6001 pts)	
MSG 🤇	Point	s cha	anged; all	traces cl	eared				STATU	J <mark>S 🦺</mark> DC Col	upled	

[Downlink Low]





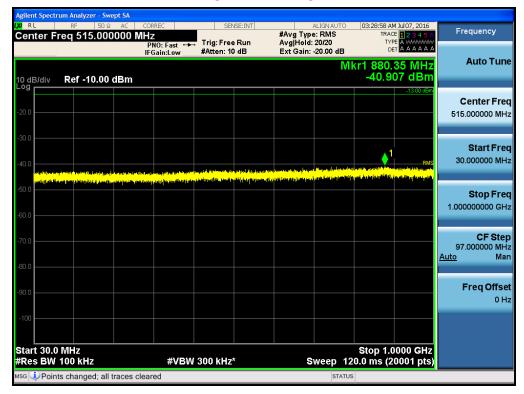
RL RF 50 Ω ▲ DC tart Freq 150.000 kHz	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	03:38:30 AM Jul 07, 2016 TRACE 1 2 3 4 5 6	Frequency
		Trig: Free Run #Atten: 10 dB	Avg Hold: 10/10 Ext Gain: -20.00 dB		• • • • • • • •
dB/div Ref -10.00 dBm				Mkr1 215 kHz -50.054 dBm	Auto Tun
og				-13.00 dBm	O a máx a E ma
0.0					Center Fre 15.075000 M⊦
0.0					Start Fre
					150.000 KP
	utin jahila andra Dashura adalah sahiran Kangar Penger Julia panalah seria a	phistochanisticka principalitic possibiliti Principalitic principalitic possibilitication	n de spatier en de les de la companya de ser la desta de la companya de la companya de la companya de la compa Na fizia de la companya de la company	RMS A MARKAN AND AND AND AND AND A MARKAN AND AND AND AND AND AND AND AND AND A	Stop Fre 30.000000 MH
0.0					CF Ste 2.985000 MI
0.0					<u>Auto</u> M
0.0					Freq Offs 0 I
00					
				Stop 30.00 MHz	

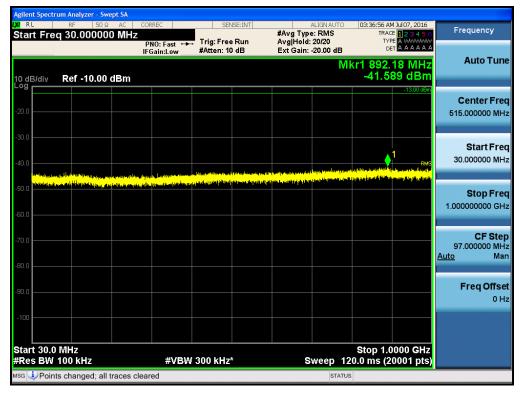


Model: LRDU_1900P_AWS13

Conducted Spurious Emissions (30 MHz – 1 GHz)

[Downlink Low]







RL RF 50 Ω AC tart Freq 30.000000 MH	CORREC Z PNO: Fast ↔→ IFGain:Low	SENSE:INT Trig: Free Run #Atten: 10 dB	ALIGN AUTO #Avg Type: RMS Avg Hold: 20/20 Ext Gain: -20.00 dB	03:38:39 AM Jul 07, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A A A A A A	Frequency
0 dB/div Ref -10.00 dBm			MI	(r1 885.44 MHz -41.646 dBm	Auto Tun
20.0				-13.00 dBm	Center Fre 515.000000 MH
		tor press (pl f 1 h grant here) ⁽¹ grant here here here	in a first part of a start of the	1 RMS	Start Fre 30.000000 M⊦
	na stara - roju je je svite ti filo d	<mark>n - polocing Mittle Contents y</mark> and the second of	in a start of the second s		Stop Fre 1.000000000 GH
0.0					CF Ste 97.000000 MH <u>Auto</u> Ma
0.0					Freq Offs 0 F
tart 30.0 MHz Res BW 100 kHz	#\/B\M	300 kHz*	Sween 12	Stop 1.0000 GHz 0.0 ms (20001 pts)	



Conducted Spurious Emissions (1 GHz – 26.5 GHz)

[Downlink Low]-1



[Downlink Low]-2



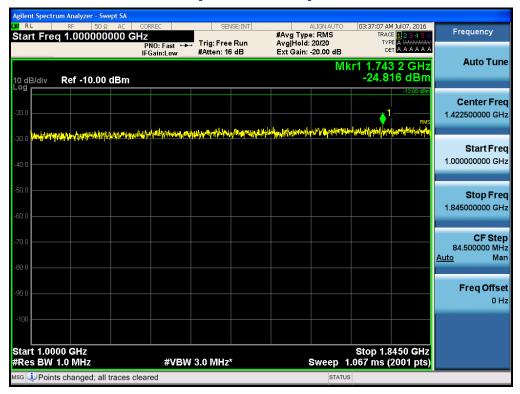


[Downlink Low]-3





[Downlink Middle]-1



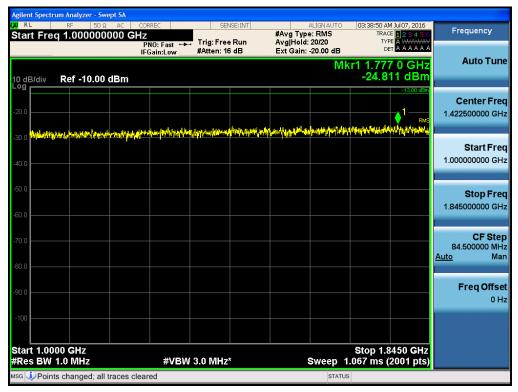




n Analyzer Swe Agrient Speed OV T RF S0 Q AC CONNECT Start Freq 12.750000000 GHz PN0: Fast ↔ IFGain:Low ITACE 123456 TYPE A WWWWW DET A A A A A A SENSE:INT Frequency #Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Trig: Free Run #Atten: 10 dB Auto Tune Mkr1 25.489 7 GHz -17.089 dBm 10 dB/div Log Ref -10.00 dBm 7 **Center Freq** . 19.625000000 GHz Start Freq 12.750000000 GHz Stop Freq 26.50000000 GHz **CF Step** 1.375000000 GHz <u>uto</u> Man <u>Auto</u> Freq Offset 0 Hz Stop 26.500 GHz Sweep 34.67 ms (40001 pts) Start 12.750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* SG STATUS



[Downlink High]-1



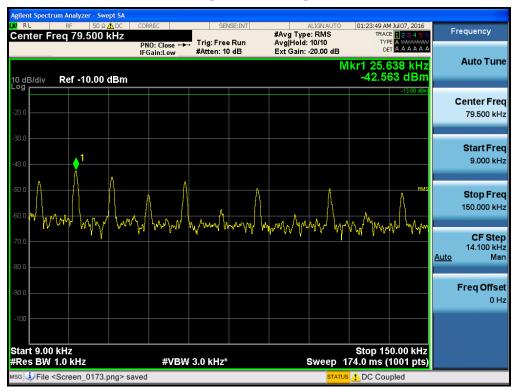




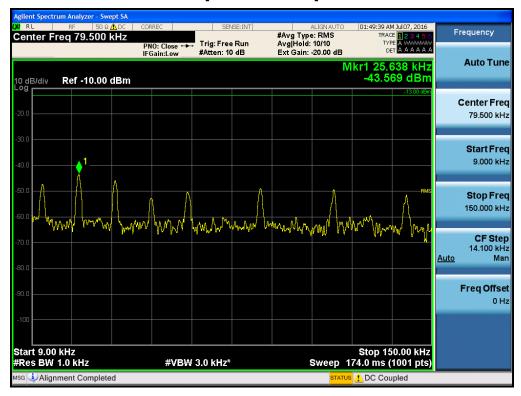




Single channel Enhancer Plots of Spurious Emission for PCS1900 BAND WCDMA Conducted Spurious Emissions (9 kHz – 150 kHz)



[Downlink Low]





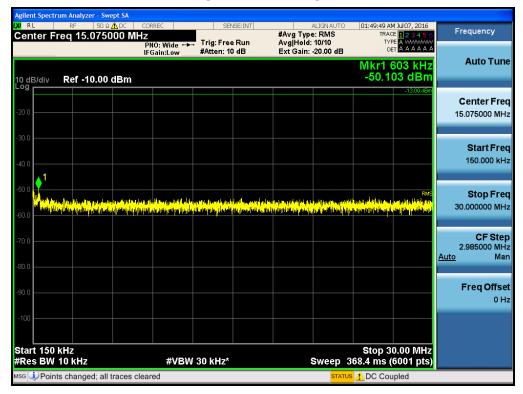




Conducted Spurious Emissions (150 kHz – 30 MHz)

		um Analyz										
IXI RI Cen		RF 15.	50 Ω <u>/</u> .0750	<u>1</u> . dc ∣ co 00 MHz	RREC		NSE:INT	#Avg Type			M Jul 07, 2016 26 1 2 3 4 5 6 26 A WWWWW	Frequency
				Р	NO: Wide 🔸 Gain:Low	. Trig: Free #Atten: 10		Avg Hold: Ext Gain:		TYF DE		
10 dE Log _I	3/div	Ref -1	10.00 (dBm						Mkr1 4 -49.6	563 kHz 88 dBm	Auto Tune
-20.0											-13.00 dBm	Center Freq 15.075000 MHz
-30.0 -40.0												Start Freq 150.000 kHz
-50.0 -60.0) Ny I <u>ka</u>			aht de la tente de Norder hy distant	lana, salah da Tangangan	fin fillinilin, adat Marijalji prijelji u dat	ada an		inte population and a state of the state of	nder og kan stal	RMS And the period of the peri	Stop Freq 30.000000 MHz
-70.0												CF Step 2.985000 MHz <u>Auto</u> Man
-80.0												Freq Offset
-90.0												0 Hz
-100												
	t 150 s BW	kHz 10 kHz			#VBW	/ 30 kHz*			Sweep 3		0.00 MHz 6001 pts)	
	_			races clea						上 DC Cou		

[Downlink Low]



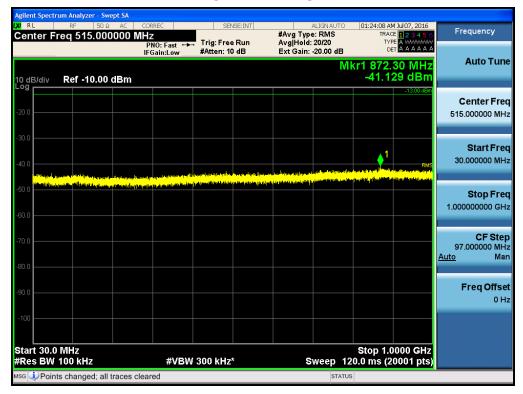


Agilent Spectr	um Analyzer - Swe RF 50 ຊ.		REC	SEN	ISE:INT		ALIGN AUTO	01:50:55 60	4 Jul 07, 2016	
Center Fi	req 15.0750	00 MHz	IO: Wide ↔ Gain:Low		Run	#Avg Typ Avg Hold: Ext Gain:	e: RMS 10/10	TRAC	E 123456 E A WWWWW T A A A A A A	Frequency
10 dB/div	Ref -10.00		5011.2.0					Mkr1 4 -47.5	573 kHz 04 dBm	Auto Tune
									-13.00 dBm	Center Free
-20.0										15.075000 MH
-30.0										Start Free 150.000 kH
-==0.0									BMG	Oton Free
-60.0	ki din din di she seri bi Kaji na manana na ma	lahini si kitada Visipi na kitada	alla histori da da da da Maria da gunda da d	intendenten in Allen en fallen	nden die Hetel destreid Geschichtigt volgen die Geschichtigt volgen die State (ist oldsteden skille Istoren af prijelen	d haladadada Majaratan			Stop Free 30.000000 MH
-70.0										CF Step 2.985000 MH <u>Auto</u> Mar
-90.0										Freq Offse 0 H
-100										
Start 150 #Res BW		<u> </u>	#VBW	30 kHz*		<u> </u>	Sweep 3	Stop 3 68.4 ms (0.00 MHz 6001 pts)	
usg 🕕 Point	s changed; all t	races clear	ed				STATUS	DC Cou	pled	



Conducted Spurious Emissions (30 MHz – 1 GHz)

[Downlink Low]





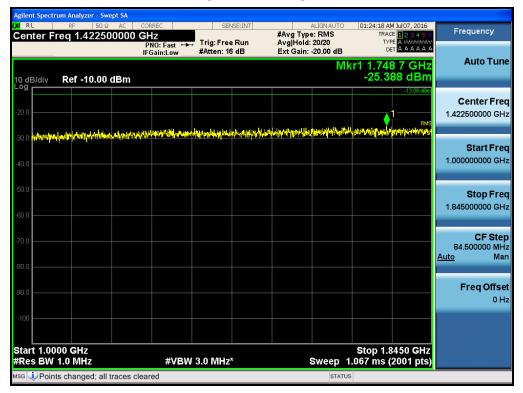


	AC CORREC	SENSE:IN		01:51:05 AM Jul 07, 2016	Frequencia
enter Freq 515.000	1000 MHz PNO: Fast IFGain:Lov		#Avg Type: RMS Avg Hold: 20/20 Ext Gain: -20.00 dB	TRACE 123456 TYPE A WARAWA DET A A A A A A	Frequency
0 dB/div Ref -10.00 (dBm		Μ	kr1 893.25 MHz -41.676 dBm	Auto Tun
0.0				-13.00 dBm	Center Fre 515.000000 M⊦
0.0	gel den jat top na kryce sy wedd y yr 10° man don	neet poor taki (ment poor d ^{i kal} en y poor disk in tili ku	and be a light of a set of the server of the set		Start Fre 30.000000 MH
0.0 ******************************** *** * ******	under affresen i der under soller bliefte i der Bereiten bestenden i der	an a	nen er en		Stop Fre 1.000000000 GH
0.0					CF Ste 97.000000 MI <u>Auto</u> M
0.0					Freq Offs 01
tart 30.0 MHz Res BW 100 kHz		/BW 300 kHz*	Sween 1	Stop 1.0000 GHz 20.0 ms (20001 pts)	



Conducted Spurious Emissions (1 GHz – 26.5 GHz)

[Downlink Low]-1



[Downlink Low]-2



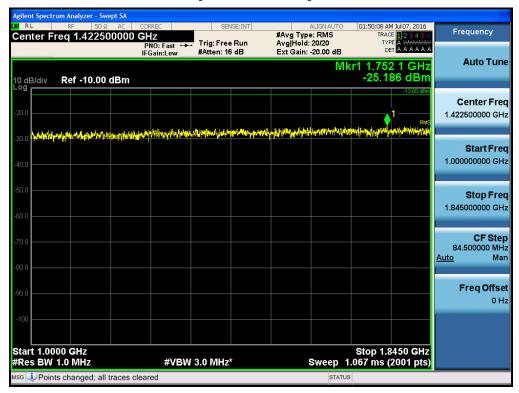


[Downlink Low]-3





[Downlink Middle]-1



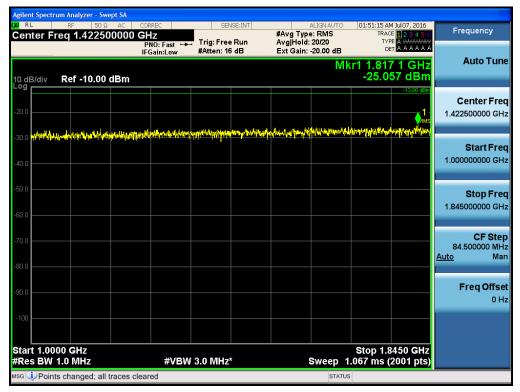




ctrum Analyzer Swe Start Freq 12.750000000 GHz PN0: Fast +++ IFGain:Low #Atten: 10 dB 39 AM Jul 07, 2016 TRACE **1 2 3 4 5 6** TYPE A WWWWW DET A A A A A A SENSE:INT Frequency #Avg Type: RMS Avg|Hold: 20/20 Ext Gain: -20.00 dB Auto Tune Mkr1 25.450 4 GHz -17.568 dBm 10 dB/div Log Ref -10.00 dBm ∛1 **Center Freq** . 19.625000000 GHz Start Freq 12.750000000 GHz Stop Freq 26.50000000 GHz **CF Step** 1.375000000 GHz <u>uto</u> Man <u>Auto</u> Freq Offset 0 Hz Stop 26.500 GHz Sweep 36.00 ms (30001 pts) Start 12.750 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* SG STATUS



[Downlink High]-1



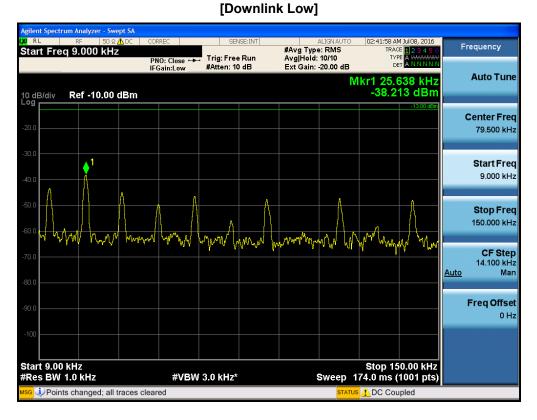


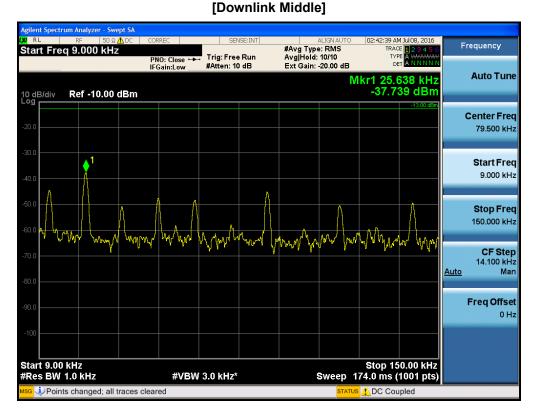






Multi channel Enhancer Plots of Spurious Emission for IC_AWS BAND Conducted Spurious Emissions (9 kHz – 150 kHz)







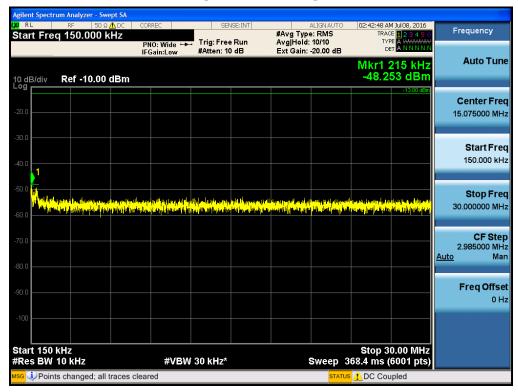
Swept S AM Jul 08, 2016 SENSE:INT Frequency #Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Start Freg 9.000 kHz PNO: Close +++ Trig: Free Run IFGain:Low #Atten: 10 dB TYPE A DET A Auto Tune Mkr1 25.638 kHz -37.647 dBm 10 dB/div Log Ref -10.00 dBm **Center Freq** 79.500 kHz ø Start Freq 9.000 kHz Stop Freq 150.000 kHz mannon ωNη/ MAM March Mill WWWWW mand he WW \mathbb{V} **CF Step** 14.100 kHz Man <u>Auto</u> Freq Offset 0 Hz Start 9.00 kHz #Res BW 1.0 kHz Stop 150.00 kHz Sweep 174.0 ms (1001 pts) #VBW 3.0 kHz* Points changed; all traces cleared DC Coupled



Conducted Spurious Emissions (150 kHz - 30 MHz)

7 AM Jul 08, 2016 ACE 123 TYPE A WW DET A N #Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Frequency Start Freq 150.000 kHz Trig: Free Run #Atten: 10 dB PNO: Wide +++ IFGain:Low Auto Tune Mkr1 598 kHz -47.974 dBm Ref -10.00 dBm 10 dB/div **Center Freq** 15.075000 MHz Start Freq 150.000 kHz Stop Freq ماداه الطرقان na da 30.000000 MHz ماله المعادية والمستعمل والمعادية والمعادية والمعادية ومعالمه والمعادة والمعادة والمعادة والمعادية والمعادة والمعادية والمعادة والم CF Step 2.985000 MHz Man Auto Freq Offset 0 Hz Start 150 kHz #Res BW 10 kHz Stop 30.00 MHz Sweep 368.4 ms (6001 pts) #VBW 30 kHz* Points changed; all traces cleared L DC Coupled

[Downlink Low]





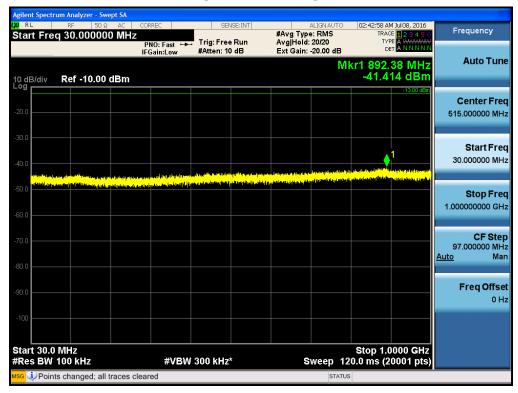
Agilent Spectrum Analyzer - Swept SA					
₩ RL RF 50 Ω <u>Λ</u> DC Start Freq 150.000 kHz	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS Avg Hold: 10/10	02:43:30 AM Jul 08, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWW	Frequency
	IFGain:Low	#Atten: 10 dB	Ext Gain: -20.00 dB		Auto Tune
10 dB/div Ref -10.00 dBm				Mkr1 603 kHz -47.409 dBm	
				-13.00 dBm	Center Fred
-20.0					15.075000 MHz
-30.0					Start Fred
-40.0					150.000 kHz
-50.0	hala a filika a shi a biki ka shi ki ka k	An a han ge har heilig stören han hann av h	ky komenta telelegen beren statet mit die	, <mark>de la contraction de la contraction de la cont</mark> e	Stop Freq 30.000000 MHz
-60.0	Approximation of the second	<mark>a pi pilipilina salati sa pin</mark> g kalin bili k	<mark>t_{er} pitalis, en di interio perandente di suto de la posicio de la suto de la suto de la suto de la suto de la s La suto de la suto de la</mark>	a da pranjenske pladital naseraje prosen je pla	30.000000 MHz
-70.0					CF Step 2.985000 MHz <u>Auto</u> Mar
-90.0					Freq Offset
-100					0 H:
Start 150 kHz	4\/D\\/	20 1/11-*		Stop 30.00 MHz	
#Res BW 10 kHz		30 kHz*	-	68.4 ms (6001 pts)	



Conducted Spurious Emissions (30 MHz – 1 GHz)



[Downlink Low]





U RL	um Analyzer - Swept SA RF 50 Ω AC	CORREC	SENSE:INT	ALIGN AUTO	02:43:39 AM Jul 08, 2016	Frequency
Start Fre	q 30.000000 MH:	PNO: Fast ↔ IFGain:Low	. Trig: Free Run #Atten: 10 dB	#Avg Type: RMS Avg Hold: 20/20 Ext Gain: -20.00 dB	TRACE 123456 TYPE A WWWWW DET A N N N N N	
0 dB/div	Ref -10.00 dBm			М	kr1 880.01 MHz -41.296 dBm	Auto Tun
.09					-13.00 dBm	Center Fre
20.0						515.000000 MH
30.0					<u>1</u>	Start Fre 30.000000 M⊦
0.0	An and the Andrew States in the Local Data and the	an and added for some hand in the size	er fast for an ablater best state over the base or other to	ala lin mana tifa tala mata antina tiratigi bahasa		30.000000 MH
50.0	ين در ور ور افغار _{در م} ادر <mark>ا</mark> ختر (انتهام حادث عرب	And the state of the second state of the secon	na anna an iomraidh anna an a			Stop Fre
60.0						1.000000000 G⊢
70.0						CF Ste
30.0						97.000000 MH <u>Auto</u> Ma
90.0						Freq Offs
100						0 H
start 30.0					Stop 1.0000 GHz	
Res BW	100 kHz	#VBW	300 kHz*	Sweep 12	0.0 ms (20001 pts)	



Conducted Spurious Emissions (1 GHz –26.5 GHz)

		ım Analyzei										
<mark>IXI</mark> RI Star		_{RF} 1.000 و		AC COR	REC	SEN	SE:INT	#Avg Type	ALIGNAUTO		4 Jul 08, 2016 E 1 2 3 4 5 6	Frequency
oru		1.000		PN	IO: Fast ↔ iain:Low	. Trig: Free #Atten: 16		Avg Hold: Ext Gain:	-20.00 dB	DE		Auto Tune
10 dB Log	3/div	Ref -10	.00 dE	3m					IVI	(r1 2.04) -23.2	43 dBm	
-20.0							i se se katal		a shata mada na	e sili antoni dala	-13.00 dBm	Center Freq 1.552500000 GHz
-30.0 -40.0	ster Bylge	ne seld for the below		gilais ang pina fini		//////////////////////////////////////		alahan ya da	les con el substant	y yyhynnine (hairydd)		Start Freq 1.000000000 GHz
-50.0												Stop Freq 2.105000000 GHz
-70.0												CF Step 110.500000 MHz <u>Auto</u> Man
-80.0												Freq Offset
-100												0 Hz
		00 GHz									050 GHz	
		1.0 MHz			#VBW	3.0 MHz*				.467 ms (2001 pts)	
MSG 🤇	₽File <	AAA.PNC	i> save	d					STATU	S		

[Downlink Low]-1

[Downlink Low]-2

RL			CORREC	SEI	NSE:INT		ALIGN AUTO		M Jul 08, 2016	Frequency
itart Fre	q 2.18500	10000 GF	IZ PNO: Fast ↔ IFGain:Low	Trig: Free #Atten: 14		#Avg Typ Avg Hold: Ext Gain:	100/100	TY	CE 123456 PE A WWWWW ET A N N N N N	
0 dB/div	Ref -10.0	0 dBm					Mk	r1 2.99 -25.1	5 9 GHz 94 dBm	Auto Tun
. og	ajarrengi arwingi alwar		inter a company of the	a start and and a start and				raina sing in / painting of the for	-13.00 dBm	Center Fre 2.592500000 G⊦
40.0										Start Fre 2.185000000 GF
50.0 										Stop Fr 3.000000000 G
0.0										CF Sto 81.500000 M <u>Auto</u> M
0.0										Freq Offs 0
								Oton Ot		
itart 2.18 Res BW	30 GHZ 1.0 MHZ		#VB\	V 3.0 MHz	*		Sweep 1	5top 3. .067 ms (0000 GHz 2001 pts)	
G							STATUS			



[Downlink Low]-3

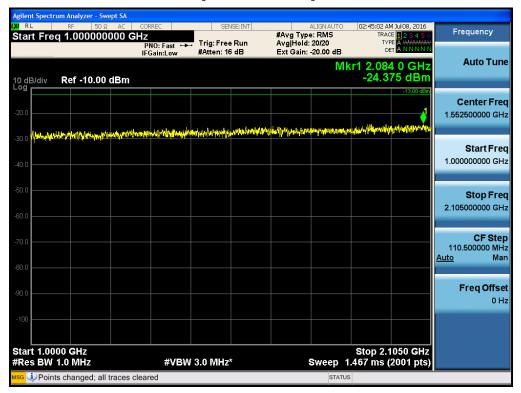


[Downlink Low]-4





[Downlink Middle]-1



RL	RF 50 Ω		RREC	SEP	NSE:INT		ALIGN AUTO		4 Jul 08, 2016	Frequency
tart Fre	q 2.1850000	Р	NO: Fast ↔ Gain:Low	_ Trig: Free #Atten: 14		#Avg Typ Avg Hold: Ext Gain:	100/100	TYF	ХЕ 1 2 3 4 5 6 РЕАМИМИИ ЕТА N N N N N	
) dB/div	Ref -10.00 (dBm					Mk	r1 2.99 -25.6	8 8 GHz 86 dBm	Auto Tun
og	مريني ميرين مي مريني ميرين ميري	- Lenger (Franklighter	. And a construction of the	and a start of a fact that we want	and a start of the	and the state of the	aft, daeland an an inder speed		-13.00 dBm 1	Center Fre 2.592500000 G⊦
0.0										Start Fre 2.185000000 GI
0.0										Stop Fr 3.000000000 G
0.0										CF St (81.500000 M <u>Auto</u> M
).0										Freq Offs 0
tart 2.18			41)/D14	(20 104	*		Succession - 4	Stop 3.0	0000 GHz	
	1.0 MHz <aaa.png> say</aaa.png>		#VBV	/ 3.0 MHz			Sweep 1		2001 pts)	



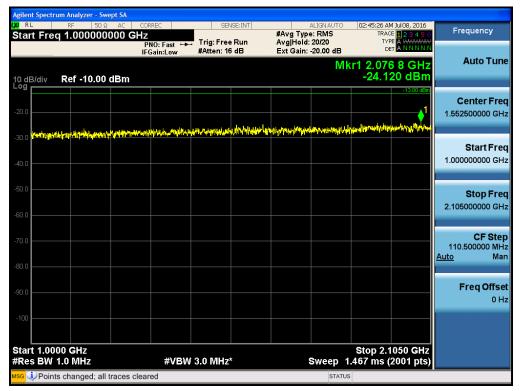
[Downlink Middle]-3







[Downlink High]-1



RL tart Fre	RF 50 Ω AC eq 2.185000000 (CORREC GHz PNO: Fast ↔	SENSE:INT	ALIGNAUTO #Avg Type: RMS Avg Hold: 100/100	02:45:35 AM Jul 08, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
0 dB/div	Ref -10.00 dBm	IFGain:Low	#Atten: 14 dB	Ext Gain: -20.00 dB	(r1 2.997 1 GHz -25.742 dBm	Auto Tun
og					-13.00 dBm 	Center Fre 2.592500000 G⊦
10.0 ****** 10.0 ** *	na parta per carte parta per territor					Start Fre 2.185000000 GH
50.0 50.0						Stop Fre 3.000000000 GH
70.0 30.0						CF Ste 81.500000 Mi <u>Auto</u> M
0.0						Freq Offs 01
itart 2.18	850 GHz 1.0 MHz	#\/B\/	V 3.0 MHz*	Sween	Stop 3.0000 GHz .067 ms (2001 pts)	
	<aaa.png> saved</aaa.png>			STATU		



[Downlink High]-3



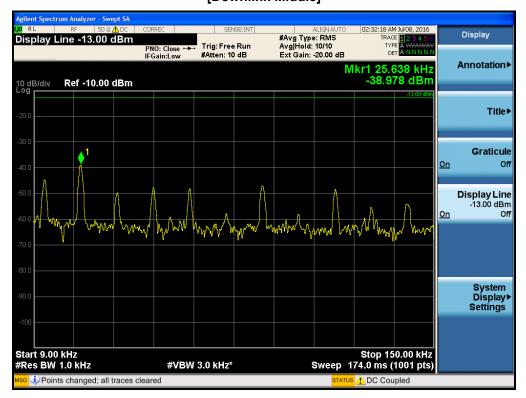




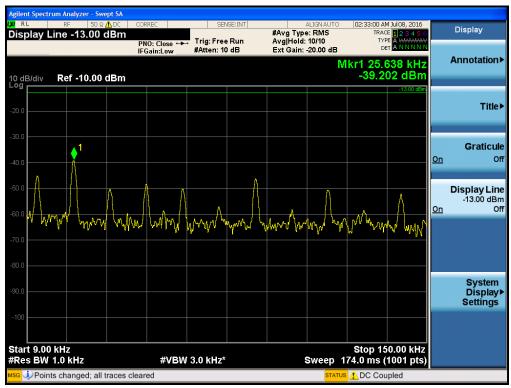
Multi channel Enhancer Plots of Spurious Emission for IC_1900 PCS BAND Conducted Spurious Emissions (9 kHz – 150 kHz) [Downlink Low]

lent Spectrum Analyzer - Swept SA AM Jul 08, 2016 Display #Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Display Line -13.00 dBm RACE Trig: Free Run #Atten: 10 dB TYP PNO: Close DEI IFGain:Low **Annotation** Mkr1 25.638 kHz -38.077 dBm Ref -10.00 dBm 10 dB/div Title▶ 1 Graticule On Off Display Line -13.00 dBm Off you want when wyhym phyl mpmmmm mp My my System Display▶ Settings Start 9.00 kHz Stop 150.00 kHz #Res BW 1.0 kHz #VBW 3.0 kHz* Sweep 174.0 ms (1001 pts) Points changed; all traces cleared DC Coupled

[Downlink Middle]

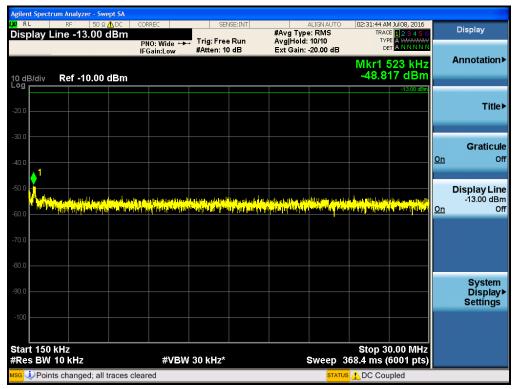






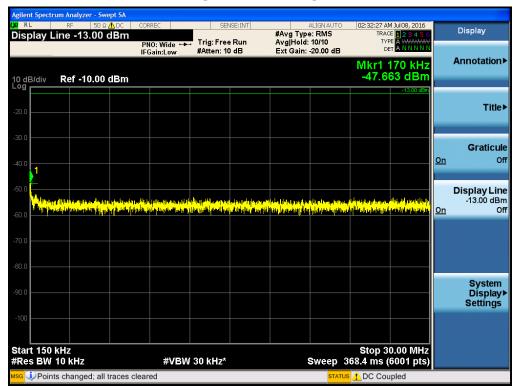


Conducted Spurious Emissions (150 kHz – 30 MHz)



[Downlink Low]

[Downlink Middle]





Agilent Spectr	um Analyzer - Swept S RF 50 Q ∕∧ D		SENSE:INT	ALIGNAUTO	02:33:09 AM Jul 08, 2016	
	ine -13.00 dB			#Avg Type: RMS Avg Hold: 10/10 Ext Gain: -20.00 dB	TRACE 123456 TYPE A WWWWW DET A N N N N N	Display
10 dB/div	Ref -10.00 dB	m			Mkr1 558 kHz -48.357 dBm	Annotation
-20.0					-13.00 dBm	Title
40.0						Graticul <u>On</u> O
-50.0	letini, selek neter den den seren beid. Herrini generationen beiden	in te di Madilan di Lin ke di Manan da astas Manja di Lingta Appendista astas dan dan	elymant ar mag eitaith d'eitaen airrithea An 1945 an teorra dhairrithean an teorra	na, Lang dia Jana dia kaoka dia minina mpikambana dia mpikambana dia mpikambana dia mpikambana dia mpikambana d	a si shi kullita shkita na sa kulla ka sa kulla ka kuta A kuta kullita shkita na sa kulla kuta kuta kuta kuta ku	Display Lin -13.00 dBr <u>On</u> Of
70.0						
30.0						
90.0						System Display Settings
-100						
Start 150 #Res BW		#VBW	30 kHz*	Sweep 3	Stop 30.00 MHz 68.4 ms (6001 pts)	
<mark>sg</mark> 🗼 Point	ts changed; all trac	es cleared		STATUS	DC Coupled	



Conducted Spurious Emissions (30 MHz – 1 GHz)



[Downlink Low]

[Downlink Middle]





RL	r <mark>um Analyzer - Swep</mark> RF 50 Ω	AC CORRE	c	SENSE:INT		ALIGN AUTO	02:33:19 AM J		Display
)isplay L	.ine -13.00 d	PNO		g: Free Run ten: 10 dB	#Avg Typ Avg Hold: Ext Gain:	20/20	TRACE TYPE DET	123456 A WWWWW A N N N N N	
0 dB/div	Ref -10.00 d	Bm				M	kr1 888.5 -41.09		Annotatior
^{og}								-13.00 dBm	
0.0									Title
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							1		Graticu On (
0.0	a na statistic di statistica di su di s	198 decksort determined	a starting the part of the start of the start	a atala kaipataa mataka biji data	e la participation de la controle			han the state of the state	
0.0 <mark>M^{and}halanak</mark>	el estado de la constante de la constante el estado de la constante de la	ملياه حداوي الشاه مدريق الناه	operation of the second second second	an a	leste sieles kileet i derekted		ateria di che a su		Display Li
0.0								<u>.</u>	-13.00 dB <u>On</u> (
5.0									
0.0									
0.0									
0.0									System Display
									Settings
00									
tart 30.0	MHz						Stop 1.00	00 GHz	
Dec BIM	100 kHz		#VBW 300	kHz*	s	weep 12	.0.0 ms (20	001 pts)	



Conducted Spurious Emissions (1 GHz –26.5 GHz)



[Downlink Low]-1

[Downlink Low]-2



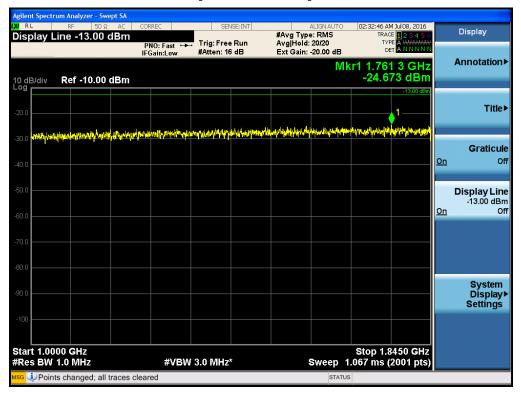


[Downlink Low]-3





[Downlink Middle]-1



[Downlink Middle]-2



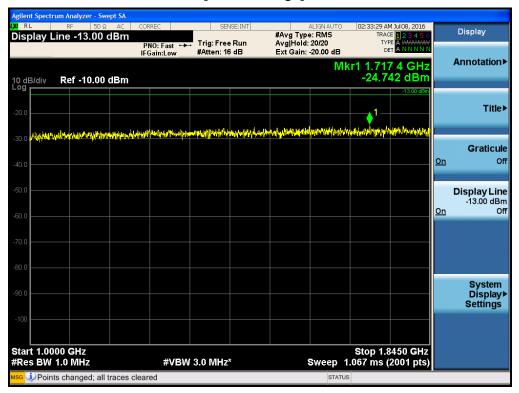


ctrum Analyzer Swept S Start Freq 12.750000000 GHz PNO: Fast ↔→ IFGain:Low #Atten: 10 dB 3 AM JUI08, 2016 RACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N SENSE:INT Frequency #Avg Type: RMS Avg|Hold: 20/20 Ext Gain: -20.00 dB Auto Tune Mkr1 25.469 8 GHz -17.407 dBm 10 dB/div Log Ref -10.00 dBm 7 **Center Freq** . 19.625000000 GHz Start Freq 12.750000000 GHz Stop Freq 26.50000000 GHz **CF Step** 1.375000000 GHz <u>uto</u> Man <u>Auto</u> Freq Offset 0 Hz Start 12.750 GHz #Res BW 1.0 MHz Stop 26.500 GHz Sweep 34.67 ms (40001 pts) #VBW 3.0 MHz* STATUS

[Downlink Middle]-3



[Downlink High]-1



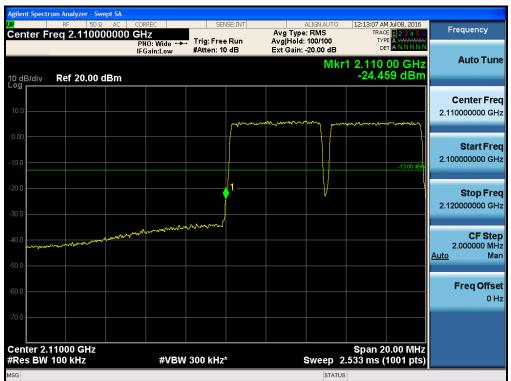








Intermodulation Spurious Emissions for FCC_AWS BAND LTE 5 MHz



[Downlink Low]





Intermodulation Spurious Emissions for FCC_AWSBAND LTE 10 MHz



[Downlink Low]





Intermodulation Spurious Emissions for FCC_AWSBAND LTE 20 MHz



[Downlink Low]

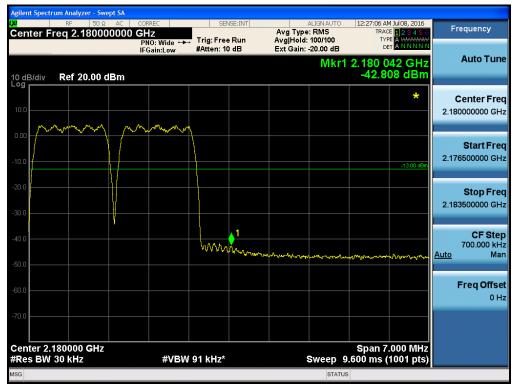




Intermodulation Spurious Emissions for FCC_AWS CDMA

trum Analy 46 AM Jul 08, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N Avg Type: RMS Avg|Hold: 100/100 Ext Gain: -20.00 dB Frequency Center Freq 2.110000000 GHz PNO: Wide +++ IFGain:Low Trig: Free Run #Atten: 10 dB Auto Tune Mkr1 2.109 951 GHz -42.030 dBm 10 dB/div Log Ref 20.00 dBm **Center Freq** 2.110000000 GHz Start Freq 2.106500000 GHz Stop Freq 2.113500000 GHz CF Step 700.000 kHz 1 mmm Auto Man Freq Offset 0 Hz Center 2.110000 GHz #Res BW 30 kHz Span 7.000 MHz Sweep 9.600 ms (1001 pts) #VBW 91 kHz* STATUS

[Downlink Low]





Intermodulation Spurious Emissions for FCC_AWS BAND WCDMA

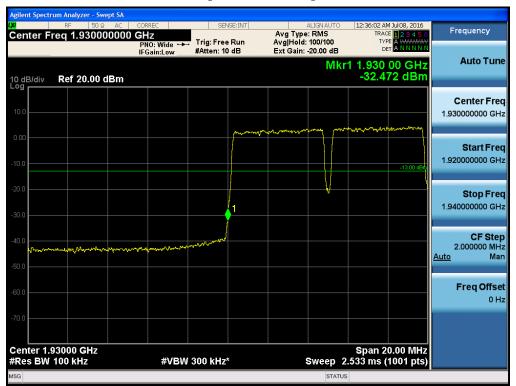


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Intermodulation Spurious Emissions for FCC_1900 PCS BAND LTE 5 MHz

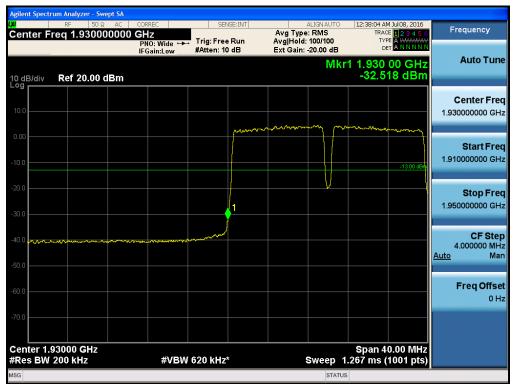


[Downlink Low]





Intermodulation Spurious Emissions for FCC_1900 PCS BAND LTE 10 MHz



[Downlink Low]





Intermodulation Spurious Emissions for FCC_1900 PCS BAND LTE 20 MHz

Anah Agrenter Freq 1.930000000 GHz PN0: Fast ↔ IFGain:Low 12 AM Jul 08, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N Avg Type: RMS Avg|Hold: 100/100 Ext Gain: -20.00 dB Frequency Trig: Free Run #Atten: 10 dB Auto Tune Mkr1 1.930 00 GHz -32.154 dBm 10 dB/div Log Ref 20.00 dBm **Center Freq** 1.930000000 GHz Start Freq 1.890000000 GHz Stop Freq 1.970000000 GHz CF Step 8.000000 MHz Man Auto Freq Offset 0 Hz Center 1.93000 GHz #Res BW 390 kHz Span 80.00 MHz Sweep 1.000 ms (1001 pts) #VBW 1.2 MHz* STATUS

[Downlink Low]





Intermodulation Spurious Emissions for FCC_1900 PCS BAND CDMA



[Downlink Low]





Intermodulation Spurious Emissions for FCC_1900 PCS BAND WCDMA

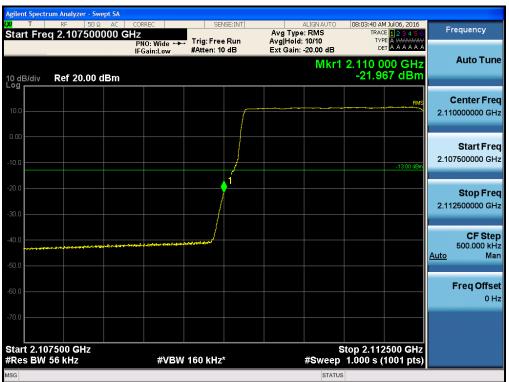


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Single channel Enhancer Band Edge_AWS BAND LTE 5 MHz

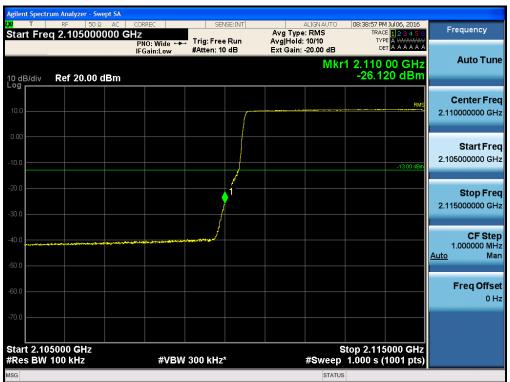


[Downlink Low]





Single channel Enhancer Band Edge_AWS BAND LTE 10 MHz



[Downlink Low]





Single channel Enhancer Band Edge_AWS BAND LTE 20 MHz



[Downlink Low]





Single channel Enhancer Band Edge_AWS BAND CDMA

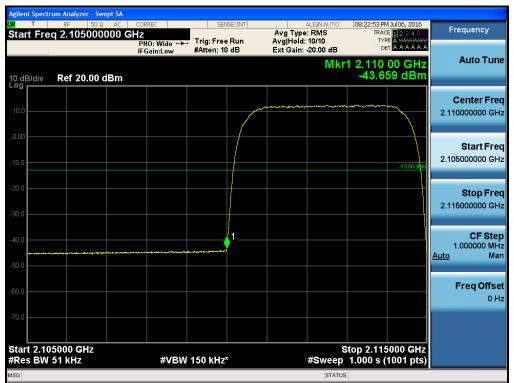


[Downlink Low]





Single channel Enhancer Band Edge_AWS BAND WCDMA



[Downlink Low]





Single channel Enhancer Band Edge_1900 PCS BAND LTE 5 MHz



[Downlink Low]





Single channel Enhancer Band Edge_1900 PCS BAND LTE 10 MHz



[Downlink Low]





Single channel Enhancer Band Edge_1900 PCS BAND LTE 20 MHz



[Downlink Low]





Single channel Enhancer Band Edge_1900 PCS BAND CDMA



[Downlink Low]





Single channel Enhancer Band Edge_1900 PCS BAND WCDMA



[Downlink Low]

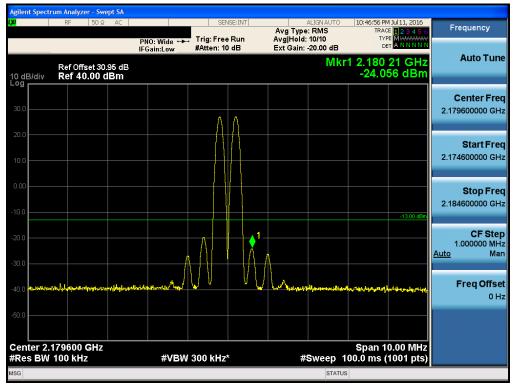




37 PM Jul 11, 2016 FRACE 1 2 3 4 5 TYPE MWWWWW DET A N N N N SENSE:INT Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Frequency Trig: Free Run #Atten: 10 dB PNO: Wide IFGain:Low Auto Tune Mkr1 2.109 80 GHz -22.718 dBm Ref Offset 30.95 dB Ref 40.00 dBm 10 dB/div Log **Center Freq** 2.110400000 GHz Start Freq 2.105400000 GHz Stop Freq 2.115400000 GHz CF Step 1.000000 MHz Man Auto Freq Offset 0 Hz Center 2.110400 GHz #Res BW 100 kHz Span 10.00 MHz #Sweep 100.0 ms (1001 pts) #VBW 300 kHz* STATUS

[Downlink Low]

Multi channel Enhancer Band Edge for IC_AWS BAND

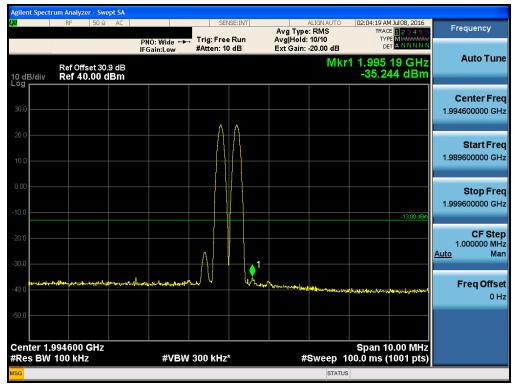




57 AM Jul 08, 2016 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A N N N N SENSE:INT Avg Type: RMS Avg|Hold: 10/10 Ext Gain: -20.00 dB Frequency Trig: Free Run #Atten: 10 dB PNO: Wide IFGain:Low Auto Tune Mkr1 1.929 80 GHz -30.982 dBm Ref Offset 30.9 dB Ref 40.00 dBm 10 dB/div Log **Center Freq** 1.930400000 GHz Start Freq 1.925400000 GHz Stop Freq 1.935400000 GHz CF Step 1.000000 MHz Man Auto Freq Offset 0 Hz Span 10.00 MHz #Sweep 100.0 ms (1001 pts) Center 1.930400 GHz #Res BW 100 kHz #VBW 300 kHz* STATUS

[Downlink Low]

Multi channel Enhancer Band Edge for IC_PCS1900 BAND





10. RADIATED SPURIOUS EMISSIONS

Test Requirement(s): § 2.1053 Measurements required: Field strength of spurious radiation.

§ 2.1053 (a) Measurements shall be made to detect spurious emissions that may be Radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of § 2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field strength measurements. Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from half-wave dipole antennas.

§ 2.1053 (b): The measurements specified in paragraph (a) of this section shall be made for the following equipment:

(1)Those in which the spurious emissions are required to be 60 dB or more below the mean power of the transmitter.

(2) All equipment operating on frequencies higher than 25 MHz.

(3) All equipment where the antenna is an integral part of, and attached directly to The transmitter.

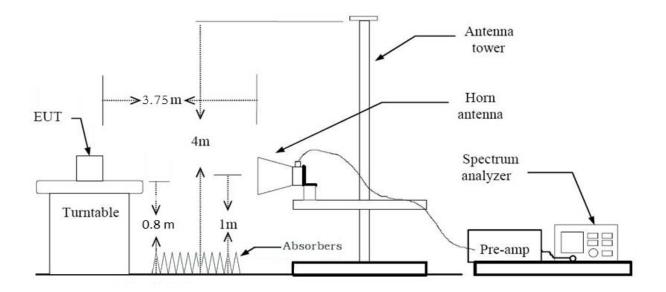
(4) Other types of equipment as required, when deemed necessary by the Commission.

Test Procedures: As required by 47 CFR 2.1053, *field strength of radiated spurious measurements* were made in accordance with the procedures of ANSI/TIA-603-D-2010 "Land Mobile FM or PM Communications Equipment Measurement and Performance Standards". Radiated emission measurements were performed inside a 3 meter semi-anechoic chamber. The EUT was set at a distance of 3m from the receiving antenna. The EUT's RF ports were terminated to 50ohm load. The EUT was set to transmit at the low, mid and high channels of the transmitter frequency range at its maximum power level. The EUT was rotated about 360and the



receiving antenna scanned from 1-3m in order to capture the maximum emission. A calibrated antenna source was positioned in place of the EUT and the previously recorded signal was duplicated. The maximum EIRP of the emission was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried. out with the receiving antenna in both vertical and horizontal polarization. Harmonic emissions up to the 10th or 40GHz, whichever was the lesser, were investigated.





Note :

- 1. According to SVSWR requirement in ANSI 63.4-2014, We performed the radiated test at 3.75 m distance from center of turn table. So, we applied the distance factor(reference distance : 3 m).
- 2. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)



Test Result:

Note.

Input signal is the CW signal.

AWS

Voltage			Measured	Ant. Factor	C.L	Amp.	H.P.F.	D.F.		Measured	Result
supplied	Ch.	Freq.(MHz)	Level		0.2	Gain		5	Pol.	Power	rtoourt
to EUT			[dBuV/m]	[dB/m]	[dB]	[dB]	[dB]	[dB]		[dBm]	[dBm]
	Low	4,220.40	75.14	30.248	4.17	44.90	-0.83	1.96	V	-20.06	-29.412
120 Vac	Mid	4,290.00	84.74	30.392	3.53	44.56	-0.17	1.96	V	-10.46	-19.308
	High	4,359.60	66.36	30.508	4.62	44.62	-0.36	1.96	V	-28.84	-36.732

Voltage			Measured	Ant. Factor	C.L	Amp.	H.P.F.	D.F.		Measured	Result
supplied	Ch.	Freq.(MHz)	Level		U.L	Gain		D.I .	Pol.	Power	rtesuit
to EUT			[dBuV/m]	[dB/m]	[dB]	[dB]	[dB]	[dB]		[dBm]	[dBm]
	Low	4,220.40	75.02	30.248	4.17	44.90	-0.83	1.96	V	-20.18	-29.532
-48 Vdc	Mid	4,290.00	84.33	30.392	3.53	44.56	-0.17	1.96	V	-10.87	-19.718
	High	4,359.60	66.09	30.508	4.62	44.62	-0.36	1.96	V	-29.11	-37.002



Test Result:

Note.

Input signal is the CW signal.

Harmonics were not found.

PCS 1900

Voltage			Measured	Ant. Factor	C.L	Amp.	H.P.F.	D.F.		Measured	Result
supplied	Ch.	Freq.(MHz)	Level		O.L	Gain	11.1 .1 .	D.I .	Pol.	Power	Result
to EUT			[dBuV/m]	[dB/m]	[dB]	[dB]	[dB]	[dB]		[dBm]	[dBm]
	Low										
120 Vac	Mid				No cri	itical pea	aks found				
	High										

Voltage			Measured	Ant. Factor	C.L	Amp.	H.P.F.	D.F.		Measured	Result
supplied	Ch.	Freq.(MHz)	Level	Ant. Factor	U.L	Gain	11	D.F.	Pol.	Power	Result
to EUT			[dBuV/m]	[dB/m]	[dB]	[dB]	[dB]	[dB]		[dBm]	[dBm]
	Low										
-48 Vdc	Mid				No cr	itical pea	aks found				
	High										

11. FREQUENCY STABILITY OVER TEMPERATURE AND VOLTAGE VARIATIONS

FCC Rules

Test Requirement(s): §2.1055(a)(1), § 27.54

Test Procedures:

As required by 47 CFR 2.1055, *Frequency Stability measurements* were made at the RF output terminals using a Spectrum Analyzer.

The EUT was placed in the Environmental Chamber.

A CW signal was injected into the EUT at the appropriate RF level. The frequency counter option on the Spectrum Analyzer was used to measure frequency deviations.

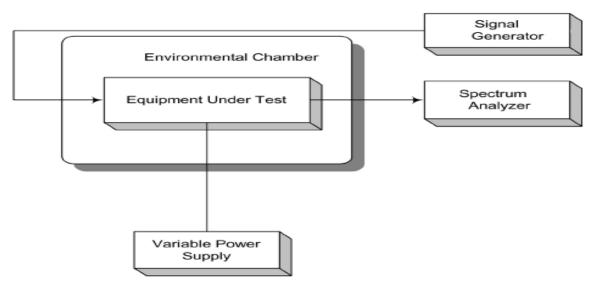
The frequency drift was investigated for every 10 °C increment until the unit is

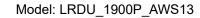
stabilized then recorded the reading in tabular format with the temperature range of -30 to 50 °C.

Voltage supplied to EUT is 110 Vac reference temperature was done at 20°C.

The voltage was varied by ± 15 % of nominal

Test Setup:







IC Rules

Test Requirement(s): RSS-131 6.5

A band translator is essentially a repeater station and should introduce as little frequency error as possible. The frequency stability should therefore meet the objectives of the overall land mobile or cellular service for which it serves. Better frequency stability than the minimum standard cited below will therefore be required in some cases.

The frequency stability shall be within 1.5 parts per million (0.00015%).

Test Procedures: RSS-131 4.5

In addition, the local oscillator frequency stability of the band translator shall be reported. Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. The following temperature and supply voltage ranges apply:

(a) at 10 degree intervals of temperatures between -30 °C and +50 °C, and at the manufacturer's rated-supply voltage; and

(b) at +20 °C temperature and 15% supply voltage variations.



Test Results:

The E.U.T was found in compliance for Frequency Stability and Voltage Test

Frequency Stability and Voltage Test Results

[AWS BAND]

Reference: 120 Vac at 20°C Freq. = 2145.00 MHz										
Voltage	Temp.	Frequency	Frequency	DDm						
(%)	(°°)	(Hz)	Error (Hz)	ppm						
	+20(Ref)	2145 000 000	-0.003	0.00000						
	-30	2145 000 000	0.021	0.00000						
	-20	2145 000 000	-0.056	-0.00003						
	-10	2145 000 000	0.011	0.00000						
100%	0	2145 000 000	0.103	0.00004						
	+10	2145 000 000	-0.082	-0.00004						
	+30	2145 000 000	0.007	0.00000						
	+40	2145 000 000	-0.114	-0.00005						
	+50	2145 000 000	0.001	0.00000						
115%	+20	2145 000 000	0.014	0.00000						
85%	+20	2145 000 000	0.020	0.00000						



[1900 PCS BAND]

Reference: 120 Vac at 20°C **Freq.** = 1962.50 MHz

Voltage	Temp.	Frequency	Frequency	
(%)	(°C)	(Hz)	Error (Hz)	ppm
	+20(Ref)	2145 000 000	0.012	0.00000
	-30	2145 000 000	-0.065	-0.00003
	-20	2145 000 000	-0.101	-0.00004
	-10	2145 000 000	-0.043	-0.00002
100%	0	2145 000 000	-0.013	-0.00001
	+10	2145 000 000	-0.046	-0.00002
	+30	2145 000 000	0.109	0.00004
	+40	2145 000 000	-0.150	-0.00006
	+50	2145 000 000	0.056	0.00002
115%	+20	2145 000 000	0.011	0.00000
85%	+20	2145 000 000	-0.031	-0.00002