2) CDMA modulation

2.1) Lowest frequency

a) Input signal

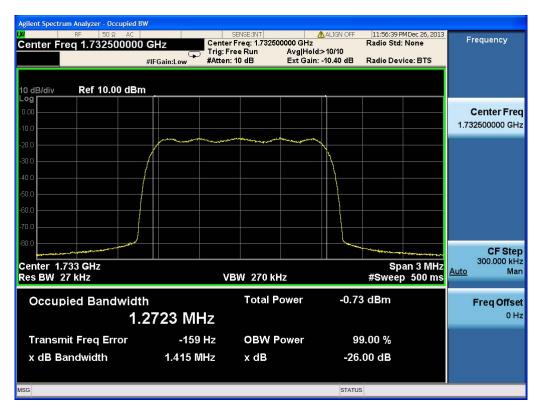
RF 50 Ω AC Span 3.0000 MHz	T	SENSE:INT enter Freq: 1.7120		11:56:04 PMDec Radio Std: Non		Span
		rig: Free Run Atten: 10 dB	Avg Hold:>10/10 Ext Gain: -10.40 dB	Radio Device: E	BTS	Spar
						3.0000 MHz
10 dB/div Ref 10.00 dBr	n					
0.00						
10.0						
20.0		and the second s				
30.0	1					Full Spa
40.0	/		\			r un opa
50.0						
60.0						
70.0						
80.0			- land			
warmen from the second				the second second second		Last Spa
Center 1.712 GHz Res BW 27 kHz		VBW 270 k	Hz	Span 3 #Sweep 50	8 MHZ 00 ms	
Occupied Bandwidt	th	Total I	ower -0.0	68 dBm		
1.	2716 MHz	-				
Transmit Freq Error	42 Hz	Z OBW I	Power	99.00 %		
x dB Bandwidth	1.416 MH	z xdB	-2	6.00 dB		
SG			STAT	us		

b) Output signal

pan 3.0000 MHz	IQ AC		SENSE:INT Freq: 1.71200 Free Run			01:32:55 AM Radio Std: I	Dec 27, 2013 None	Span
	#IFGa		n: 10 dB	Ext Gain: -10.		Radio Devi	ce: BTS	Spa 3.0000 MH
	0.00 dBm							
og 0.0								
		الموارير المراجع المرجع ومرود المرجع	and and the second second second	mon				
.0								
1.0	/			<u> </u>				Full Sp
.0					}			
.0					1			
0.0 marine marine and and	manand				mature	مريوريون وروريون		
10								
								L cot On
enter 1.712 GHz es BW 27 kHz		Ň	/BW 270 kH				n 3 MHz 500 ms	Last Sp
Occupied Ban	dwidth		Total P	ower	-29.6	dBm		
	1.272	23 MHz						
Transmit Freq E	rror	1.100 kHz	OBW P	ower	99.	00 %		
x dB Bandwidth		1.414 MHz	x dB		-26.0	0 dB		
3					STATUS			

2.2) Middle frequency

a) Input signal

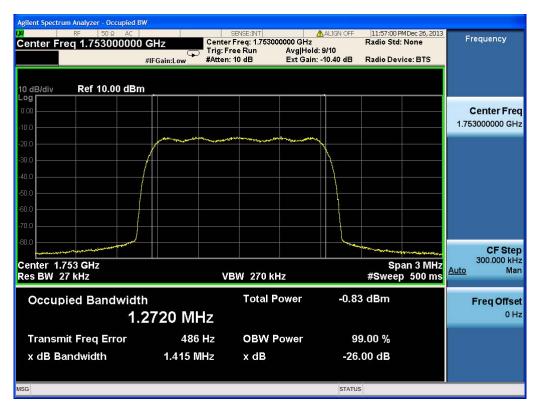


b) Output signal

Agilent Spectrum Analyzer - Occupied E	W	SENSE:INT	ALIGN OFF	01:33:28 AM Dec 27	2 2012
Center Freq 1.732500000) GHz #IFGain:Low	Center Freq: 1.7325		Radio Std: None Radio Device: B1	Frequency
10 dB/div Ref -20.00 dB	m _				
-30.0	or in a strange and the	and a state of the			Center Free 1.732500000 GH
-50.0					
-70.0 -80.0				-	
-100					
Center 1.733 GHz Res BW 27 kHz		VBW 270 k	Hz	Span 3 #Sweep 500	
Occupied Bandwidt	h	Total F	ower -24.	7 dBm	Freq Offse
1.	2713 MF	lz			0 H:
Transmit Freq Error	82	Hz OBW F	ower 9	9.00 %	
x dB Bandwidth	1.414 M	Hz xdB	-26	.00 dB	
MSG			STATU	s	

2.3) Highest frequency

a) Input signal



b) Output signal

Agilent Spectrum Analyzer - Occupied BV	v					
M RF 50 Ω AC Center Freg 1.753000000	GHz C	SENSE:INT enter Freg: 1.753000	ALIGN OF	F 01:34:32 A Radio Std	M Dec 27, 2013 : None	Frequency
		rig: Free Run Atten: 10 dB	Avg Hold:>10/10 Ext Gain: -10.40 dB	B Radio Dev	vice: BTS	
,	#IFGain:Low #r		Ext Gam: -10.40 dt		Ace. B13	
10 dB/div Ref -20.00 dBn	n					
-30.0						Center Freq
-40.0						1.753000000 GHz
-50.0						
-60.0	Λ					
-70.0						
-80.0						
-90.0						
					the second s	
-100						
-110						CF Step
Center 1.753 GHz Res BW 27 kHz		VBW 270 kH		Sp #Sweet	an 3 MHz p 500 ms	300.000 kHz <u>Auto</u> Man
		VBW 270 Ki	2	#OWCC	5 300 m3	
Occupied Bandwidth	1 I	Total P	ower -2	7.7 dBm		Freq Offset
1.2	2722 MHz					0 Hz
Transmit Freq Error	-76 Hz	Z OBW P	ower	99.00 %		
x dB Bandwidth	1.415 MHz	z xdB	-2	26.00 dB		
MSG			STA	TUS		

3) WCDMA modulation

3.1) Lowest frequency

a) Input signal

X RF 50 Ω AC Span 10.000 MHz	Tala	SENSE:INT ter Freq: 1.7125000 : Free Run	ALIGN OFF 00 GHz Avg Hold:>10/10	11:58:49 PME Radio Std: N		Span
	#IFGain:Low #Att		Ext Gain: -10.40 dB	Radio Device	BTS	Span
10 dB/div Ref 10.00 dBm						10.000 MHz
Log 0.00						
10.0						
20.0						
-30.0						Full Span
-50.0						
-60,0						
-70.0						
-80.0						L oot Oper
Center 1.713 GHz Res BW 91 kHz		VBW 910 kHz		Span #Sweep	10 MHz 500 ms	Last Spar
Occupied Bandwidth	า	Total Pov	wer -0.6	5 dBm		
4.7	1773 MHz					
Transmit Freq Error	-2.102 kHz	OBW Por	wer 9	9.00 %		
x dB Bandwidth	4.687 MHz	x dB	-26	.00 dB		

b) Output signal

pan 10.00	RF 50Ω AC 00 MHz		SENSE:INT Center Freq: 1.7125 Trig: Free Run	▲ ALIGN OFF 000000 GHz Avg Hold:>10/10	01:53:52 AM Dec 27, 20 Radio Std: None	13 Span
			Atten: 10 dB	Ext Gain: -10.40 dB	Radio Device: BTS	Spa
0 dB/div	Ref -20.00 dB	m				10.000 MI
og						
).0						
).0).0						
).0).0		1				Full Sp
).0	747	/		have		
00						
10						
						Last Sp
enter 1.7 [.] es BW 91			VBW 910 k	Hz	Span 10 MH #Sweep 500 m	2
Occupi	ed Bandwid	th	Total I	Power -29.	6 dBm	
	4	.1754 MH	Z			
Transmi	t Freq Error	9.039 kH	z OBW I	Power 9	9.00 %	
x dB Ba		4.685 MH	z xdB	-26	6.00 dB	
G				STATU	IS	

3.2) Middle frequency

a) Input signal

Agilent Spectrum Analyzer - Occupied	BW	SENSE:INT	ALIGN OFF	11-50-14 DM	Dec 26, 2013	
Center Freq 1.73250000	TIL	ter Freq: 1.73250000		Radio Std: 1		Frequency
			Ext Gain: -10.40 dB	Radio Devid	e: BTS	
10 dB/div Ref 10.00 dB	m					
0.00						Center Freq
-10.0						1.732500000 GHz
-20.0		·····				
-30.0						
-40.0						
-50.0						
-60.0						
-70.0						
-80.0			·····			CF Step
Center 1.733 GHz Res BW 91 kHz		VBW 910 kHz		Span #Sweep	10 MHz 500 ms	1.000000 MHz <u>Auto</u> Man
Occupied Bandwid	th	Total Pov	ver -0.7	1 dBm		Freq Offset
4	.1774 MHz					0 Hz
Transmit Freq Error	-2.750 kHz	OBW Pov	ver 9	9.00 %		
x dB Bandwidth	4.686 MHz	x dB	-26	.00 dB		
MSG			STATU	5		

b) Output signal

Agilent Spectrum Analyzer - Occupied XI RF 50 Ω AC		SENSE:INT	ALIGN OFF		M Dec 27, 2013	Francisco
Center Freq 1.73250000		ter Freq: 1.732500000 (: Free Run Avg	Hz Hold: 5/10	Radio Std	: None	Frequency
	#IFGain:Low #Att		Gain: -10.40 dB	Radio Dev	vice: BTS	
10 dB/div Ref -20.00 dE	3m					
Log						Center Fre
						1.732500000 GH
-40.0			man a			1.752500000 811
-50.0			-			
-60.0						
-70.0						
-80.0						
-90.0				and the second sectors		
-100						
-110						CF Ste
Center 1.733 GHz				Ena	n 10 MHz	1.000000 MH
Res BW 91 kHz		VBW 910 kHz		#Swee	p 500 ms	<u>Auto</u> Ma
Occupied Bandwid	th	Total Power	-25. ⁻	1 dBm		Freq Offse
	.1744 MHz					он
Transmit Freq Error	-2.052 kHz	OBW Powe	r 9	9.00 %		
x dB Bandwidth	4.685 MHz	x dB	-26	.00 dB		
	4.000 10012	X GD	-20	-00-0D		

3.3) Highest frequency

a) Input signal

Agilent Spectrum Analyzer - Occupier		SENSE:INT	ALIGN OFF	11:59:39 PM	Dec 26, 2013	
Center Freq 1.7525000	Trig: F	r Freq: 1.752500000 GHz Free Run Avg Hol I: 10 dB Ext Gair	d: 7/10 n: -10.40 dB	Radio Std: I Radio Devid		Frequency
10 dB/div Ref 10.00 dE	3m					
-10.0						Center Freq 1.752500000 GHz
-20.0						
-40.0						
-50.0						
-70.0					****	CF Step
Center 1.753 GHz Res BW 91 kHz	v	'BW 910 kHz		Span #Sweep	10 MHz 500 ms	1.000000 MHz <u>Auto</u> Man
Occupied Bandwig	dth I.1775 MHz	Total Power	-0.82	2 dBm		Freq Offset 0 Hz
Transmit Freq Error	-1.815 kHz	OBW Power	9	9.00 %		
x dB Bandwidth	4.683 MHz	x dB	-26	.00 dB		
MSG			STATUS	3		

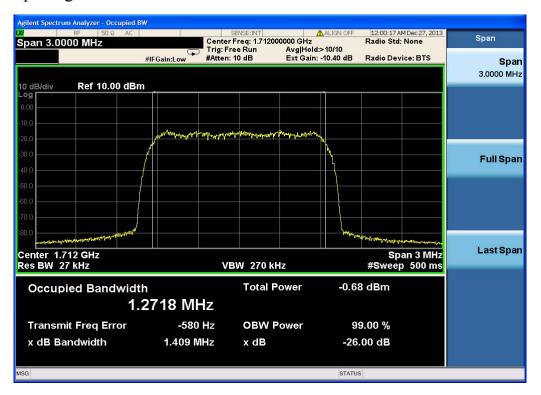
b) Output signal

	50 Ω AC		SENSE:INT		\rm ALIGN OFF	01:54:44 Radio Sto	AM Dec 27, 2013	Frequency
Center Freq 1.75		FGain:Low	Trig: Free Run #Atten: 10 dB	Avg Hold	l: 9/10 : -10.40 dB	Radio Sto		
	20.00 dBm							
. 0g 30.0								Center Fre
40.0								1.752500000 GH
50.0				and a second sec	- Ar			
60.0		/						
70.0	/							
30.0								
90.0								
100								
110								CF Ste
Center 1.753 GHz						Spa	an 10 MHz	1.000000 Mi Auto Mi
Res BW 91 kHz			VBW 910	Hz		#Swee	p 500 ms	Auto Ma
Occupied Ba	ndwidth		Total	Power	-28.	0 dBm		Freq Offs
	4.1	799 MH	z					01
Transmit Freq	Error	-5.913 k	Hz OBW	Power	9	9.00 %		
x dB Bandwidt	h	4.688 M	Hz xdB		-26	.00 dB		
SG					STATU	5		

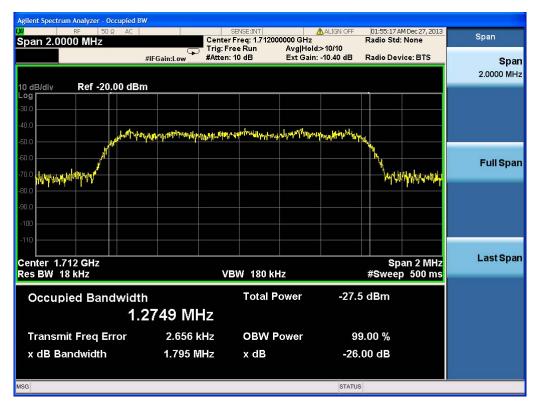
4) **1x EV-DO modulation**

4.1) Lowest frequency

a) Input signal

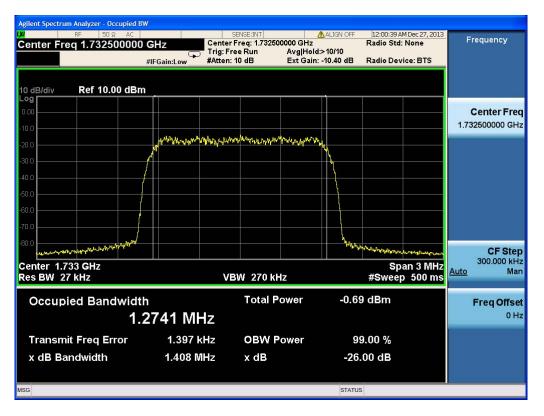


b) Output signal



4.2) Middle frequency

a) Input signal



b) Output signal

Agilent Spectrum Analyzer - Occupied						
04 RF 50 Ω AC Center Freq 1.73250000			▲ ALIGN OFF d:>10/10 n: -10.40 dB	D1:55:54 AM D Radio Std: No Radio Device	one	Frequency
10 dB/div Ref -20.00 dE Log -30.0	3m					Center Freq
-40.0 -50.0	wy and the state of the state o	ut Phangen and Phange	MAN MARINE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.732500000 GHz
-60.0 -70.0 -80.0				youndary	www.	
-90.0						
-110				Snan	2 MHz	CF Step 200.000 kHz
Res BW 18 kHz	VE	3W 180 kHz		#Sweep		<u>uto</u> Man
	Occupied Bandwidth Total Power -23.2 dBm 1.2848 MHz					
Transmit Freq Error x dB Bandwidth	1.129 kHz 1.977 MHz	OBW Power x dB		0.00 % 00 dB		
MSG			STATUS			

4.3) Highest frequency

a) Input signal

Agilent Spectrum Analyzer - Occupied BW W RF 50 Ω AC Center Freq 1.7530000000 (9		ALIGN OFF Hz Hold:>10/10 Gain: -10.40 dB	12:01:14 AM Radio Std: Radio Devi		Frequency
10 dB/div Ref 10.00 dBm						
Log 0.00 -10.0						Center Freq 1.753000000 GHz
-20.0	water water and the second	Mallin Marina Marina Marina Marina M	with I'm may			
-30.0	<u></u>		[%			
-40.0						
-60.0						
-70.0						
-80.0			Wighel.	New Window Martine Contraction	hermon	CF Step
Center 1.753 GHz Res BW 27 kHz	VE	3W 270 kHz			an 3 MHz 500 ms	300.000 kHz <u>Auto</u> Man
Occupied Bandwidth		Total Power	-0.8	5 dBm		Freq Offset
1.2	690 MHz					0 Hz
Transmit Freq Error	658 Hz	OBW Power	- 9	9.00 %		
x dB Bandwidth	1.415 MHz	x dB	-26	.00 dB		
MSG			STATU	3		

b) Output signal

Agilent Spectrum Analyzer - (XI RF 50	Occupied BW	SENSE	- TK 177	ALIGN OFF	01,52,01,01	M Dec 27, 2013		
Center Freq 1.753		Center Free Trig: Free R	: 1.753000000 GHz un Avg Hol		Radio Std: Radio Devi	None	Frequei	ncy
10 dB/div Ref -20	0.00 dBm						Cente	er Fre
40.0 50.0	Hard and the state of the second state of the	erdelandradindriden	Hanangganggangang berkelangga	^{yel} wi <mark>d</mark> forthologi	M. M.		1.7530000	100 GH
60.0 70.0 41444444444444444					"A work	rayapanahabu		
90.0								
-110 Center 1.753 GHz					Sn	an 2 MHz	200.0	F Ste 000 k⊦
Res BW 18 kHz		VBW	180 kHz			500 ms	<u>Auto</u>	Ma
Occupied Ban	Occupied Bandwidth Total Power -25.7 dBm 1.2779 MHz						Freq	Offse 0 H
Transmit Freq E x dB Bandwidth			BW Power dB		9.00 % 00 dB			
ISG				STATUS				

5.3.7 Out of Band Rejection

Test Date:	26 Dec, 2013 to 26 Dec, 2013
Ambient Temp:	20.0°C
Humid :	69%
Atmospheric Pressure:	1005mbar
Power supply:	AC 120V 60Hz
Test Method:	935210 D02 Signal Boosters Certification v01r01
Test Requirement:	935210 D02 Signal Boosters Certification v01r01
700MHz(Lower ABC) Band	Test for rejection of out of band signals. Filter freq. response plots are acceptable.
700MHz(Upper C) Band	935210 D02 Signal Boosters Certification v01r01
	Test for rejection of out of band signals. Filter freq. response plots are acceptable.
850MHz Band	935210 D02 Signal Boosters Certification v01r01
	Test for rejection of out of band signals. Filter freq. response plots are acceptable.
1900MHz Broadband PCS	935210 D02 Signal Boosters Certification v01r01
	Test for rejection of out of band signals. Filter freq. response plots are acceptable.
AWS Band	935210 D02 Signal Boosters Certification v01r01
	Test for rejection of out of band signals. Filter freq. response plots are acceptable.
EUT Operation:	The output power of EUT be set to maximum value, the gain of EUT be set to maximum value by software through the manufacture
Test conditions:	Normal conditions
Test configuration:	

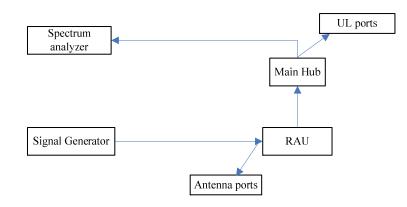


Figure 7: Uplink Out of Band Rejection Configuration

Test Procedure:

- 1) Connect the equipment as illustrated;
- 2) Test the background noise level with all the test facilities;
- 3) Keep one transmitting path, all other connectors shall be connected by normal power or RF leads;
- 4) Select the attenuator to avoid the test receiver or spectrum analyzer being destroyed;
- 5) Keep the EUT continuously transmitting in max power;
- 6) Signal generator sweep from the frequency more lower than the product frequency to the frequency more higher than it, find the product band filter characteristic;

.CW signal rather than typical signal is acceptable(for FM).

.Multiple band filter will need test each other.

5.3.7.1 Measurement Record

5.3.7.1.1 700MHz Lower ABC Band

Agilent Spectrum Analyzer - Swept SA				
RF 50 Ω AC Marker 2 716.000000000 I	MHz	T REF ALIGN Avg Type: Log-	Pwr TRACE 123456	Trace/Det
	PNO: Wide Trig: Free F IFGain:Low Atten: 6 dE			Select Trace
10 dB/div Ref 0.00 dBm			Mkr2 716.000 MHz -24.233 dBm	1
-10.0	◊1		2	Clear Write
40.0				Trace Average
70.0 80.0 90.0				Max Hold
Start 688.00 MHz #Res BW 300 kHz	#VBW 3.0 kHz		Stop 726.00 MHz ep 32.9 ms (1001 pts)	Min Hole
	8.000 MHz -23.048 dBr		WIDTH FUNCTION VALUE	
3 4 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6.000 MHz -24.233 dBr	n		View/Blank Trace On
7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8				Mor 1 of
sg			STATUS	

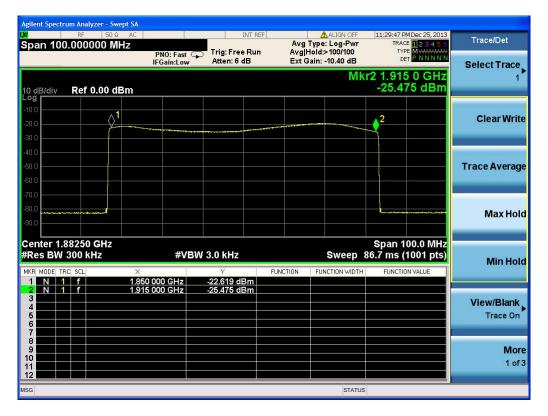
5.3.7.1.2 700MHz Upper C Band

pan 25.	rf 50Ω 0000000 MH		Trig: Free Run Atten: 6 dB	ALIGN OFF Avg Type: Log-Pwr Avg Hold>100/100 Ext Gain: -10.40 dB	10:44:38 PM Dec 25, 2013 TRACE 1 2 3 4 5 6 TYPE M	Trace/Det Select Trace
0 dB/div	Ref 0.00 dBi	m		Mkr	1 776.000 MHz -27.960 dBm	1
10.0 20.0 30.0		<u></u> 1		2 ²		Clear Writ
40.0 50.0 50.0						Trace Averaç
70.0 30.0 30.0	**************************************					Max Ho
Center 78	IC SCL	#VE × 776.000 MHz	W 3.0 kHz Y 1	Sweep 2	Span 25.00 MHz 21.7 ms (1001 pts) FUNCTION VALUE	Min Ho
2 N 1 3 4 5 6 7		787.000 MHz	-26.697 dBm			View/Blank Trace Or
8 9 10 11 12						Мо 1 о
SG				STATUS		

5.3.7.1.3 850MHz Band

	trum Analyzer -								
Marker	RF 5	0 Ω AC	Hz			ALIGN OFF	TRAC	MDec 25, 2013	Save
			PNO: Fast G FGain:Low	Trig: Free R Atten: 6 dB		Hold:>100/100 Gain: -10.40 dB		EM WAMAAN TPNNNNN	
						Mkr	1 824.0	00 MHz	State►
10 dB/div Log	Ref 0.00	dBm					-25.63	38 dBm	
-10.0									Trace
-20.0		≬ 1							(+ State)
-30.0									
-40.0									
-50.0									
-60.0									
-70.0									Data
-90.0									(Export) ► Trace 1
									Hacer
	4.00 MHz V 300 kHz		#\/B)	№ 3.0 kHz		Sween	Stop 85	9.00 MHz 1001 pts)	Screen
MKR MODE		×	# U E4	Y	FUNCTION	FUNCTION WIDTH	FUNCTIO		Image
1 N	1 f	824.0	00 MHz	-25.638 dBn	n		Toneno	IT TALOE	
3	1 f	849.0	00 MHz	-25.710 dBn	n				
4 5									
6 7									
8									
10									
12									
MSG						STATUS			

5.3.7.1.4 1900MHz Broadband PCS



5.3.7.1.5 AWS-1 Band

Agilent Spectrum Analyzer - Swept SA				
M RF 50 Ω AC Span 80.0000000 MHz		REF Avg Type: Log-Pwr	11:34:30 PM Dec 25, 2013 TRACE 1 2 3 4 5 6	Trace/Det
	PNO: Fast C Trig: Free Ri IFGain:Low Atten: 6 dB	Ext Gain: -10.40 dB		Select Trace
10 dB/div Ref 0.00 dBm		Mk	r1 1.710 00 GHz -30.913 dBm	1
-10.0 -20.0 -30.0			2	Clear Write
-40.0 -50.0 -60.0				Trace Average
-70.0				Max Hold
Center 1.73250 GHz #Res BW 300 kHz	#VBW 3.0 kHz	Sweep	Span 80.00 MHz 69.3 ms (1001 pts)	Min Hold
1 N 1 f 1.71 2 N 1 f 1.75 3 - - - - 4 - - - - 5 - - - - 6 - - - - 7 - - - - -	10 000 GHz -30.913 dBm 55 000 GHz -28.589 dBm			View/Blank Trace On
8 9 10 11 12 12				More 1 of 3

5.3.8 Radiated Spurious Emissions

Test Date:	15 Oct, 2013 to 16 Oct, 2013
Ambient Temp:	21.0°C
Humid :	71%
Atmospheric Pressure:	101kPa
Power supply:	AC 120V 60Hz
Test Method:	FCC part 2.1053
Test Requirement:	FCC part 27. 53
700MHz(Lower ABC) Band	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$, or -13 dBm.
700MHz(Upper C) Band	FCC part 27. 53
	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$, or -13 dBm.
850MHz Band	FCC part 22. 359
	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitting power (P) by at least 43 $+ 10 \log (P) dB$, or -13 dBm.
1900MHz Broadband PCS	FCC part 24. 238
	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P) dB$, or -13 dBm.
AWS Band	FCC part 27. 53
	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P) dB$, or -13 dBm.
EUT Operation:	The output power of EUT be set to maximum value, the gain of EUT be set to maximum value by software through the manufacture
Test conditions:	Normal conditions
Test configuration:	

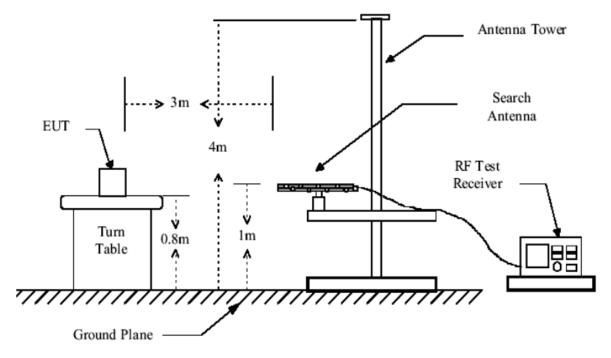


Figure 1: 30 MHz to 1 GHz radiated emissions test configuration

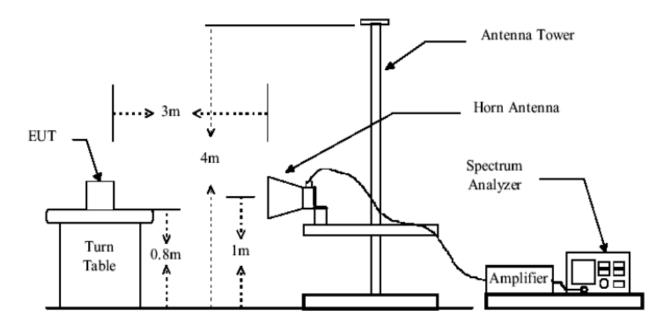


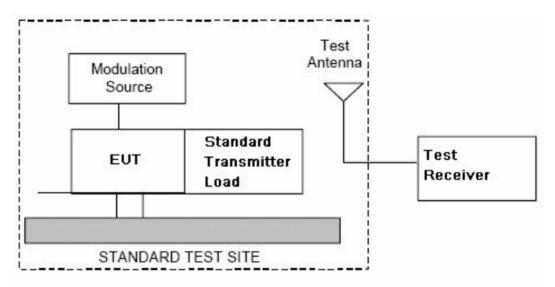
Figure 2: Above 1 GHz radiated emissions test configuration

Test Procedure:

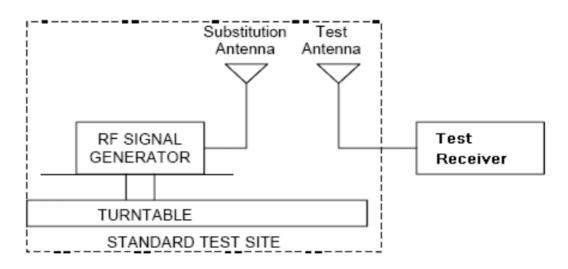
- 1) Test the background noise level with all the facilities;
- 2) Keep one transmitting path, all other connectors shall be connected by normal power or RF leads;
- Select the suitable RF notch filter to avoid the test receiver or spectrum analyzer produce unwanted spurious emissions;

4) Keep the EUT continuously transmitting in max power; Read the radiated emissions of the EUT enclosure;

Radiated spurious emissions test procedure:



- a) Connect the equipment as illustrated;
- b) Adjust the spectrum analyzer for the following setting;
 - 1) RBW=100kHz for spurious emission below 1 GHz, and 1MHz for spurious emission above 1GHz;
 - 2) VBW=300k for spurious emission below 1GHz, and 3MHz for spurious emission above 1GHz;
 - 3) Sweep speed slow enough to maintain measurement calibration;
 - 4) Detector Mode= Positive Peak;
- c) Place the transmitter to be tested on the turnable in the standard test site, The transmitter is transmitting into a nonradiating load that is placed on the turnable, the RF cable to this load should be of minimum length.
- d) Measurements shall be made from 30MHz to 10 times of fundamental carrier, except for the region close to the carrier equal to \pm the carrier bandwidth.
- e) Key the transmitter without modulation or normal modulation base the standard.
- f) For each spurious frequency, raise and lower the test antenna from 1 m to 4 m to obtain a maximum reading on the spectrum analyzer with the test antenna at horizontal polarity. Then the turnable should be rotated 360° to determine the maximum reading. Repeat this procedure to obtain the highest possible reading. Record this maximum reading.
- g) Repeat step f) for each spurious frequency with the test antenna polarized vertically.



- h) Reconnect the equipment as illustrated.
- i) Keep the spectrum analyzer adjusted as in step b).
- j) Remove the transmitter and replace it with a substitution antenna(the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At the lower frequencies where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically, In such case the lower end of the antenna should be 0.3m above the ground.
- k) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at he spectrum analyzer. Adjuest the level of the signal generator output until the previously recorded maximum reading or this set of conditions is obtained, This should be done carefully repeating the adjustment of the test antenna and generator output.
- 1) Repeat step k) with both antennasvertically polarized for each spurious frequency.
- m) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in step k) and i) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

Pd(dBm)=Pg(dBm)-cable loss(dB)+antenna gain(dB)

Where:

Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.

- NOTE: It is permissible to use other antennas provided they can be referenced to a dipole.
- NOTE: Effective radiated power(e.r.p) refers to the radiation of a half wave tuned dipole instead of and isotropic antenna. There is a constant difference of 2.15 dB between e.i.r.p and e.r.p.

e.r.p(dBm)=e.i.r.p(dB)-2.15

5.38.1 Measurement Record

Test Frequency	Measuring level(dBm)		Limit(dDm)	Margin(dB)		
(MHz)	Vertical	Horizontal	Limit(dBm)	Vertical	Horizontal	
30	-51.93	-59.80		38.93	36.80	
500	-50.87	-58.12		37.87	35.12	
1000	-58.39	-62.31		45.39	49.31	
2000	-52.48	-60.14	< 12 dDm	39.48	47.14	
5000	-48.44	-55.68	≤-13dBm	35.44	42.68	
10000	-46.28	-52.31		33.28	39.31	
15000	-40.89	-45.38		27.89	32.38	
20000	-40.22	-44.67		27.22	31.67	

5.3.8.1.1 700MHz Lower ABC Band

5.3.8.1.2 700MHz Upper C Band

Test Frequency	Measuring level(dBm)		I :: 4(JD)	Margin(dB)		
(MHz)	Vertical	Horizontal	Limit(dBm)	Vertical	Horizontal	
30	-50.68	-57.43		37.68	44.43	
500	-60.25	-64.65		47.25	51.65	
1000	-61.30	-61.30		48.30	48.30	
2000	-52.38	-60.37	< 12 JD	39.38	47.37	
5000	-53.45	-60.18	≤-13dBm	40.45	47.18	
10000	-49.14	-55.27		36.14	42.27	
15000	-44.38	-48.35		31.38	35.35	
20000	-43.58	-46.66		30.58	33.66	

Test Frequency	Measuring level(dBm)			Margin(dB)		
(MHz)	Vertical	Horizontal	Limit(dBm)	Vertical	Horizontal	
30	-50.77	-65.45		37.77	52.45	
500	-57.90	-60.16		44.90	47.16	
1000	-54.70	-63.39		41.70	50.39	
2000	-48.78	-55.47	< 12 ID	35.78	42.47	
5000	-47.38	-53.24	≤-13dBm	34.38	40.24	
10000	-44.57	-50.29		31.57	37.29	
15000	-42.38	-48.64		29.38	35.64	
20000	-43.06	-47.74		30.06	34.74	

5.3.8.1.3 850MHz Band

5.3.8.1.4 1900MHz Broadband PCS

Test Frequency	Measuring level(dBm)		Limit(dDm)	Margin(dB)		
(MHz)	Vertical	Horizontal	Limit(dBm)	Vertical	Horizontal	
30	-52.34	-66.60		39.34	53.60	
500	-59.88	-59.83		46.88	46.83	
1000	-51.62	-60.95		38.62	47.95	
2000	-50.57	-58.36	< 12 dDm	37.57	45.36	
5000	-48.59	-55.83	≤-13dBm	35.59	42.83	
10000	-44.71	-50.28		31.71	37.28	
15000	-42.34	-49.32		29.34	36.32	
20000	-40.65	-46.49		27.65	33.49	

Test Frequency	Measuring level(dBm)		I insit(dDm)	Margin(dB)		
(MHz)	Vertical	Horizontal	Limit(dBm)	Vertical	Horizontal	
30	-51.71	-66.73		38.71	53.73	
500	-61.08	-59.87		48.08	46.87	
1000	-61.06	-60.87		48.06	47.87	
2000	-55.69	-57.88	< 12 JD	42.69	44.88	
5000	-52.46	-55.38	≤-13dBm	39.46	42.38	
10000	-50.36	-54.29		37.36	41.29	
15000	-45.87	-50.77		32.87	37.77	
20000	-42.68	-46.48		29.68	33.48	

5.3.8.1.5 AWS-1 Band

Remark:

Sweep all the modulation types emissions in 700MHz Lower ABC and Upper C band & 850MHz Band & 1900MHz Broadband PCS & AWS-1 band , find the worse case to report it.

-----This is the last page of the report. -----