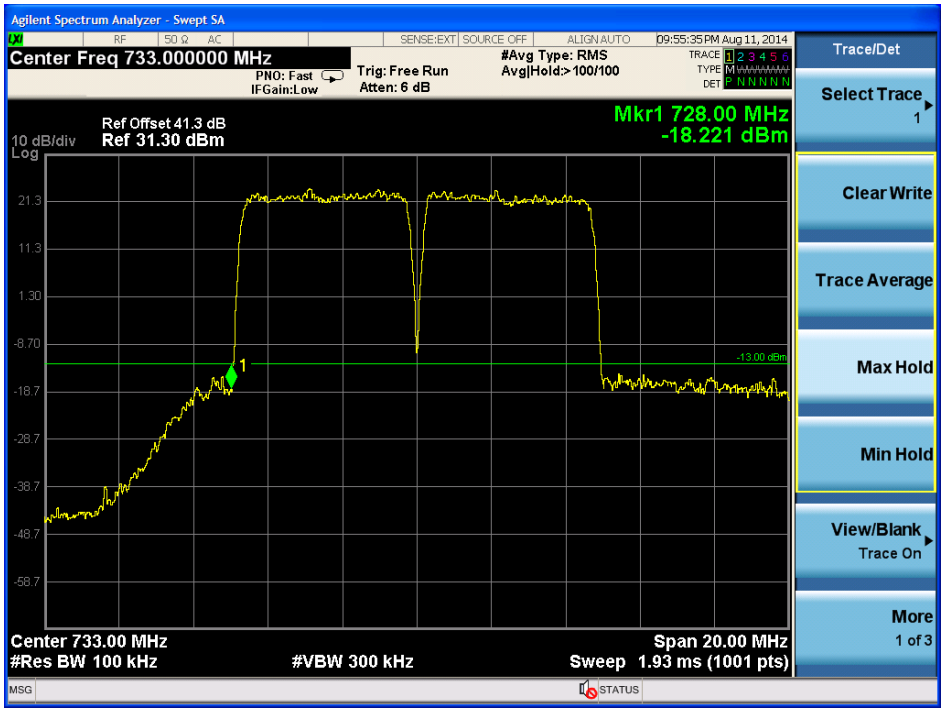
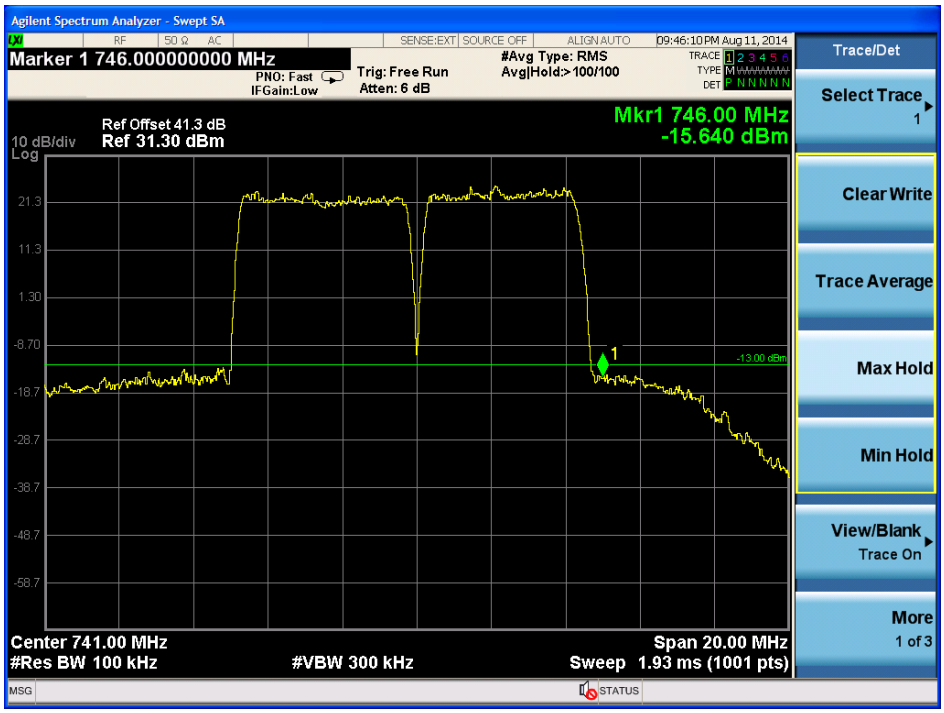
1.5 two signal input —Lower Edge（2 Carrier 5M modulation）



1.6 two signal input —Upper Edge



1.7 intermodulation spurious emissioins

1.7.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=730.5M modulationHz,f2=735.5M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=738.5M modulationHz,f2=743.5M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

a) in lower edge test, F1=2f1-(f1+Δf)=f1-Δf=lower edge frequency;
b) in higher edge test, F2=2f2-(f2-Δf)=f2+Δf=higher edge frequency.

F1=728MHz,F2=746MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

a) in lower edge test, F1=3f1-2(f1+Δf)=f1-2Δf=lower edge frequency;
b) in higher edge test, F2=3f2-2(f2-Δf)=f2+2Δf=higher edge frequency.

F1=723MHz,F2=751MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

a) in lower edge test, F1=4f1-3(f1+Δf)=f1-3Δf=lower edge frequency;
b) in higher edge test, F2=4f2-3(f2-Δf)=f2+3Δf=higher edge frequency.

F1=718MHz,F2=756MHz

1.7.2 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:728MHz	-18.23	-13dBm	5.23
	Higher:746MHz	-15.61		2.61
5rd	Lower:723MHz	-20.35	-13dBm	7.35
	Higher:749MHz	-20.54		7.54
7rd	Lower:718MHz	-23.72	-13dBm	10.72
	Higher:754MHz	-24.26		11.26

Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

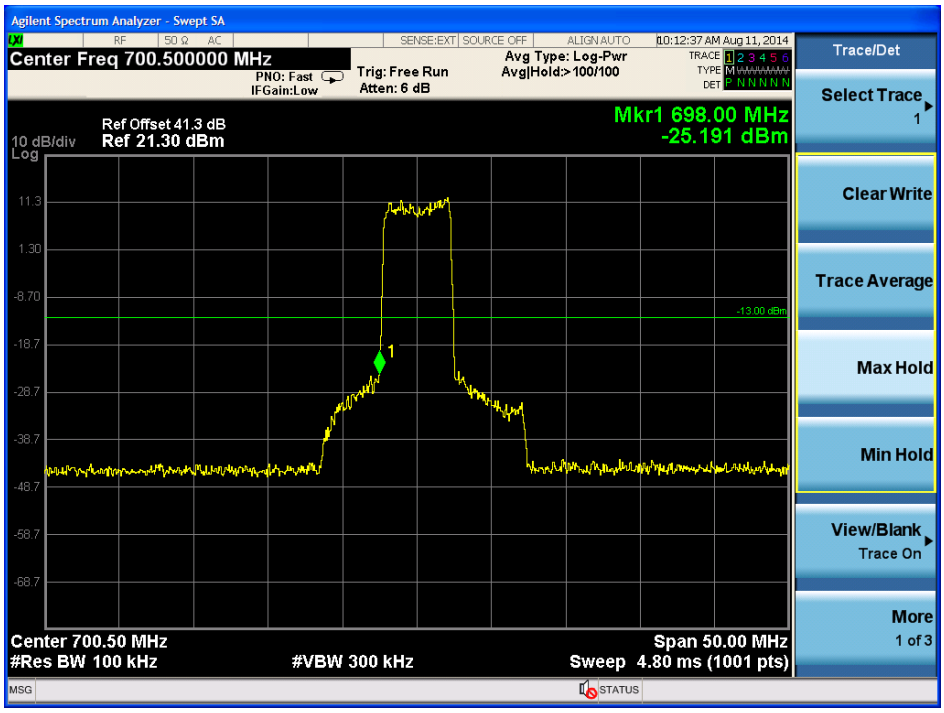
2)Uplink: 698MHz to 716MHz(LTE)

LTE Mode:

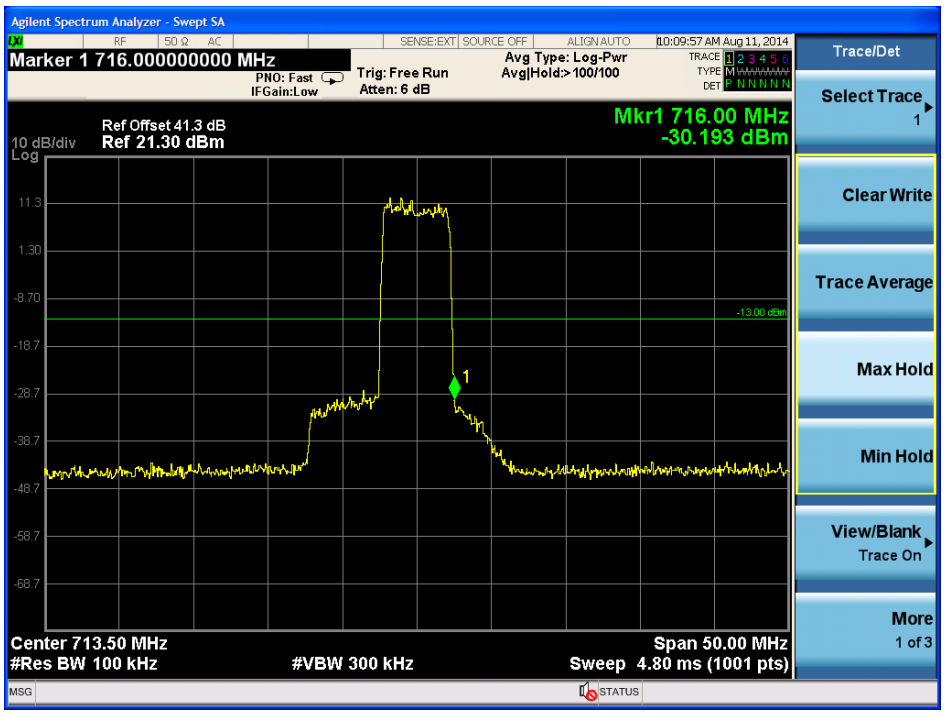
1.1 one signal input —Lower Edge（1 Carrier 15M modulation）

1.2 one signal input —Upper Edge

1.3 one signal input —Lower Edge（1 Carrier 5M modulation）

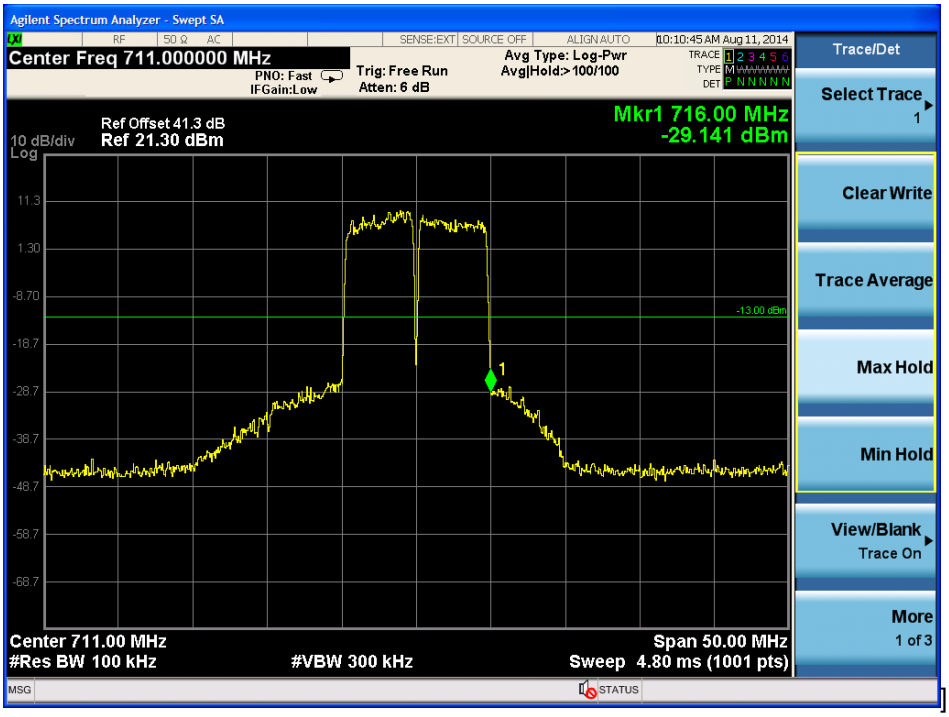


1.4 one signal input —Upper Edge



1.5 two signal input —Lower Edge（2 Carrier 5M modulation）

1.6 two signal input —Upper Edge



1.7 intermodulation spurious emissioins

1.7.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=730.5M modulationHz,f2=735.5M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=738.5M modulationHz,f2=743.5M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

c) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

d) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=728MHz,F2=746MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

c) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

d) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=723MHz,F2=751MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

c) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

d) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=718MHz,F2=756MHz

1.7.2 Input power:-57dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:728MHz	-26.13	-13dBm	-13.13
	Higher:746MHz	-29.15		-16.15
5rd	Lower:723MHz	-30.22	-13dBm	-17.22
	Higher:749MHz	-32.54		-19.54
7rd	Lower:718MHz	-34.62	-13dBm	-21.62
	Higher:754MHz	-35.71		-22.71

Remark:

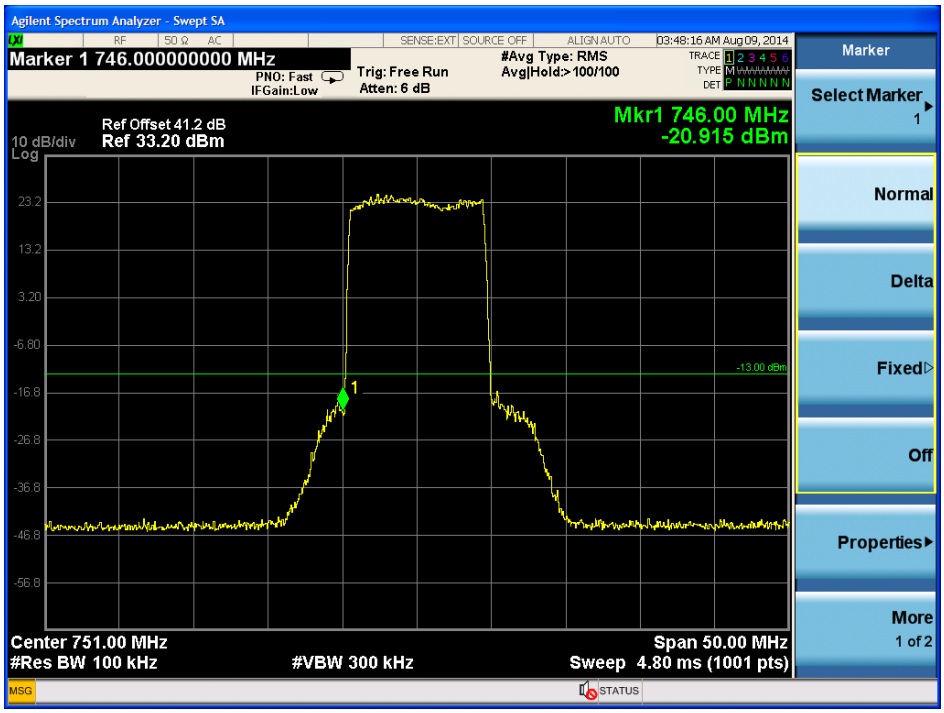
No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

3)Downlink: 746MHz to 757MHz(LTE)

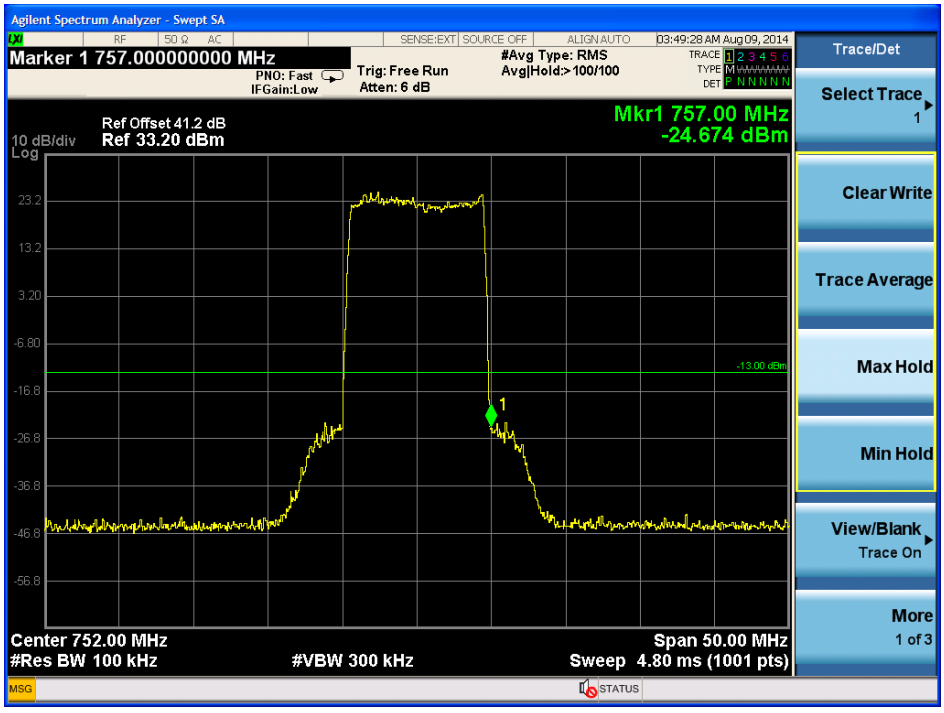
Pretest the EUT with Maximum Rated Output Power(27dBm,30dBm,33dBm),finally find the worst case as the EUT with Maximum Rated Output power(33dBm).

LTE Mode:

1.1 one signal input —Lower Edge(1 Carrier 10M modulation)

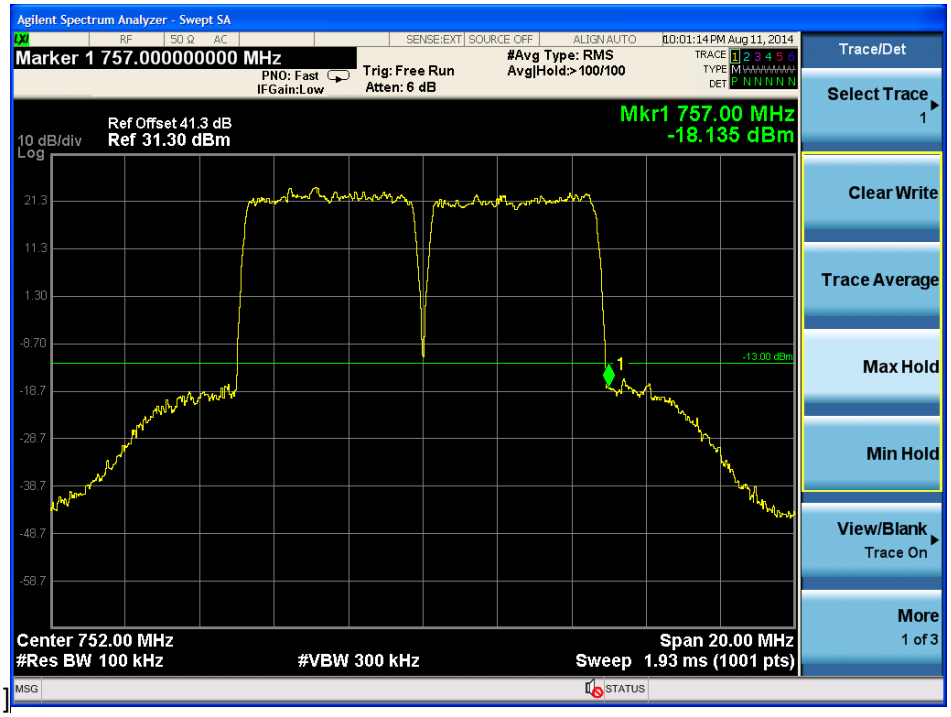


1.2 one signal input —Upper Edge



1.3 two signal input —Lower Edge**(LTE Mode)**（2 Carrier 5M modulation）

1.4 two signal input —Upper Edge



1.5 intermodulation spurious emissioins

1.5.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=748.5M modulationHz,f2=753.5M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=749.5M modulationHz,f2=754.5M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

e) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

f) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=746MHz,F2=757MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

e) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

f) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=741MHz,F2=762MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

e) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

f) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=736MHz,F2=767MHz

1.5.2 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:746MHz	-20.02	-13dBm	-7.02
	Higher:757MHz	-18.15		-5.15
5rd	Lower:741MHz	-22.94	-13dBm	-9.94
	Higher:762MHz	-21.92		-8.92
7rd	Lower:736MHz	-25.43	-13dBm	-12.43
	Higher:767MHz	-26.25		-13.25

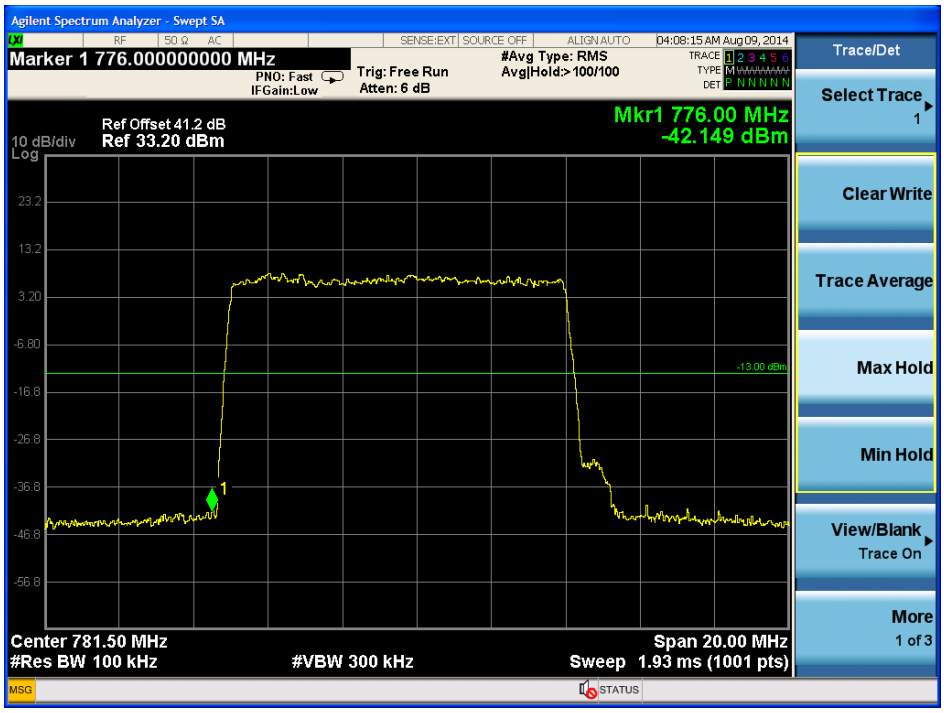
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

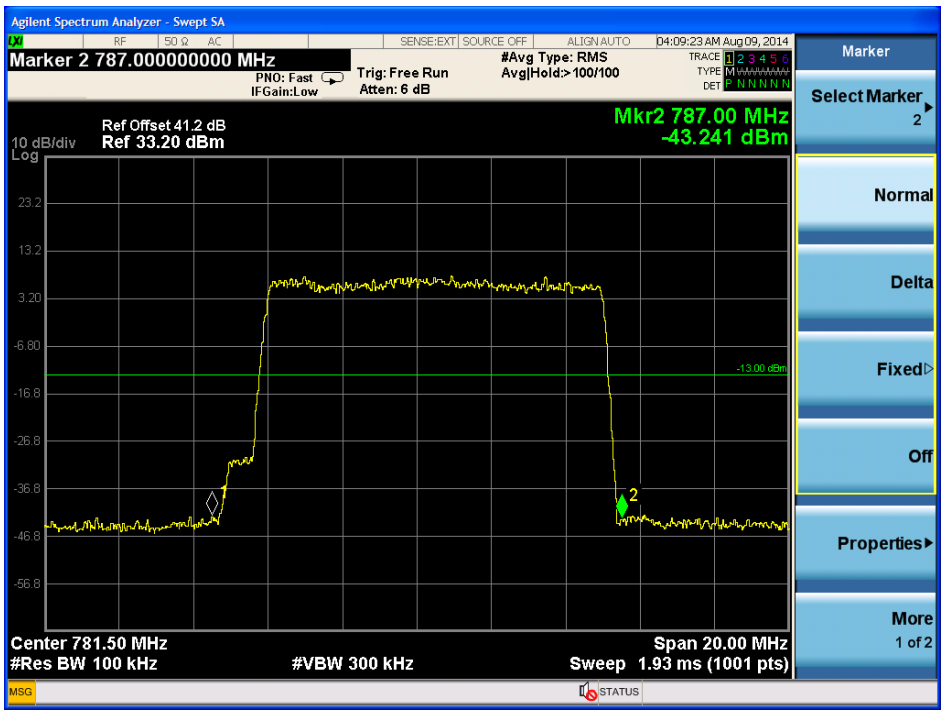
4) Uplink: 776MHz to 787MHz(LTE)

LTE Mode:

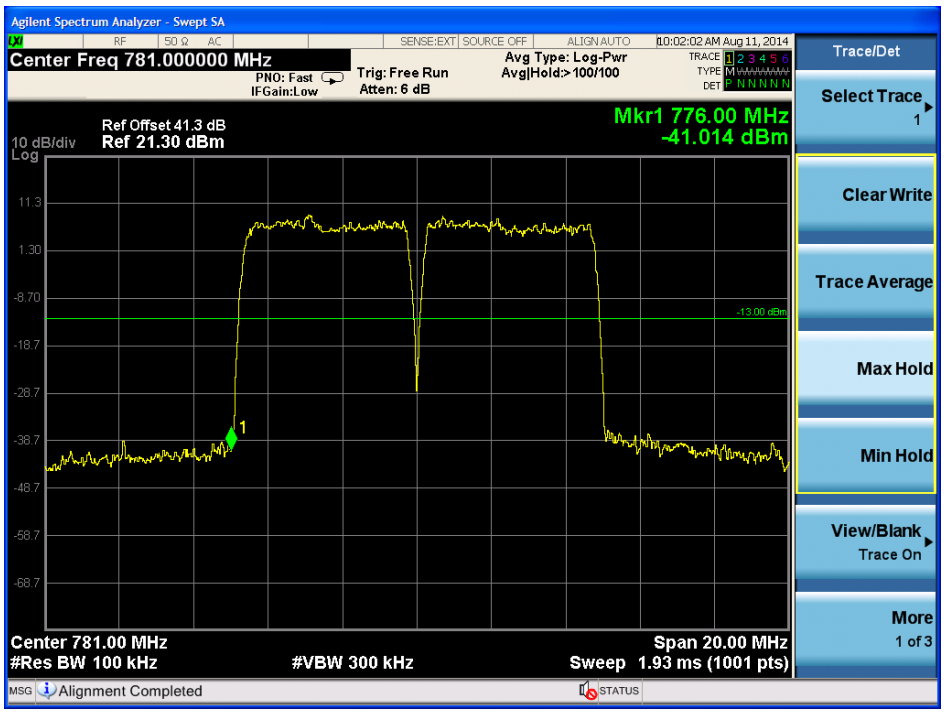
1.1 one signal input —Lower Edge(1 Carrier 10M modulation)



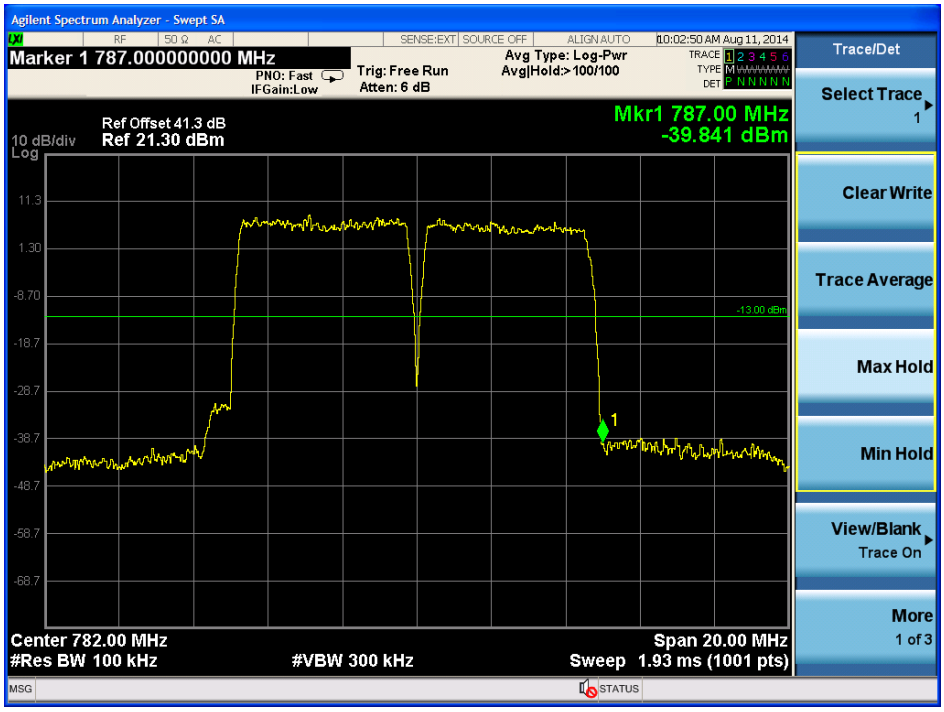
1.2 one signal input —Upper Edge



1.3 two signal input —Lower Edge（2 Carrier 5M modulation）



1.4 two signal input —Upper Edge



1.5 intermodulation spurious emissioins

For LTE mode:

1.5.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=778.5M modulationHz,f2=783.5M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=779.5M modulationHz,f2=784.5M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

g) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

h) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=776MHz,F2=787MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

g) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

h) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=771MHz,F2=792MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

g) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

h) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=766MHz,F2=797MHz

1.5.2 Input power:-63dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:776MHz	-41.05	-13dBm	-28.05
	Higher:787MHz	-39.87		-26.87
5rd	Lower:771MHz	-44.52	-13dBm	-31.52
	Higher:792MHz	-43.21		-30.21
7rd	Lower:766MHz	-46.57	-13dBm	-33.57
	Higher:797MHz	-45.63		-32.63

Remark:

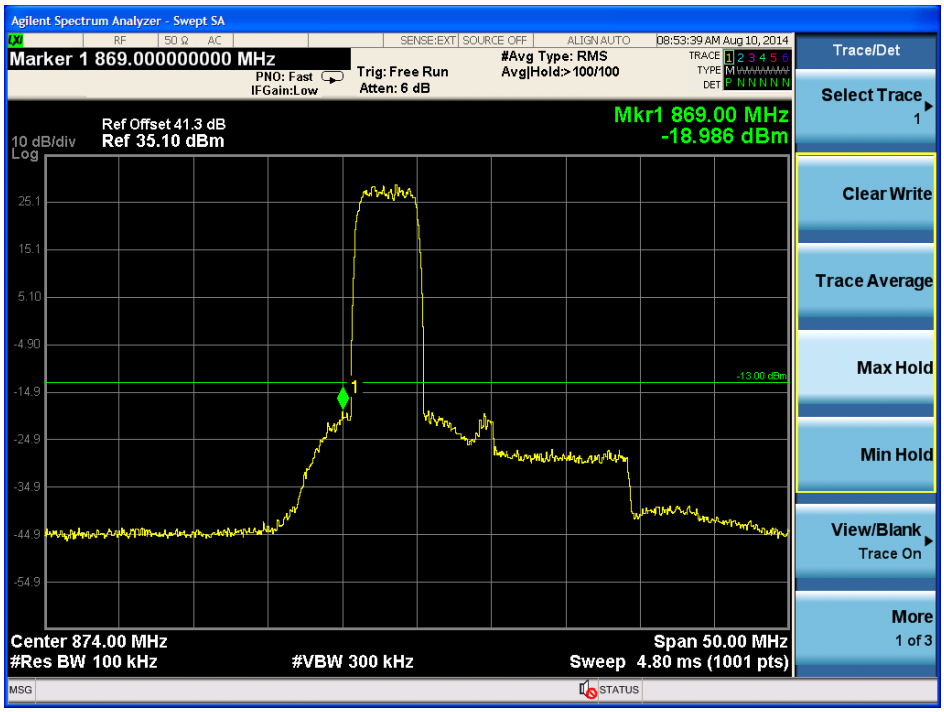
No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

5) Downlink: 869MHz to 894 MHz(WCDMA, LTE)

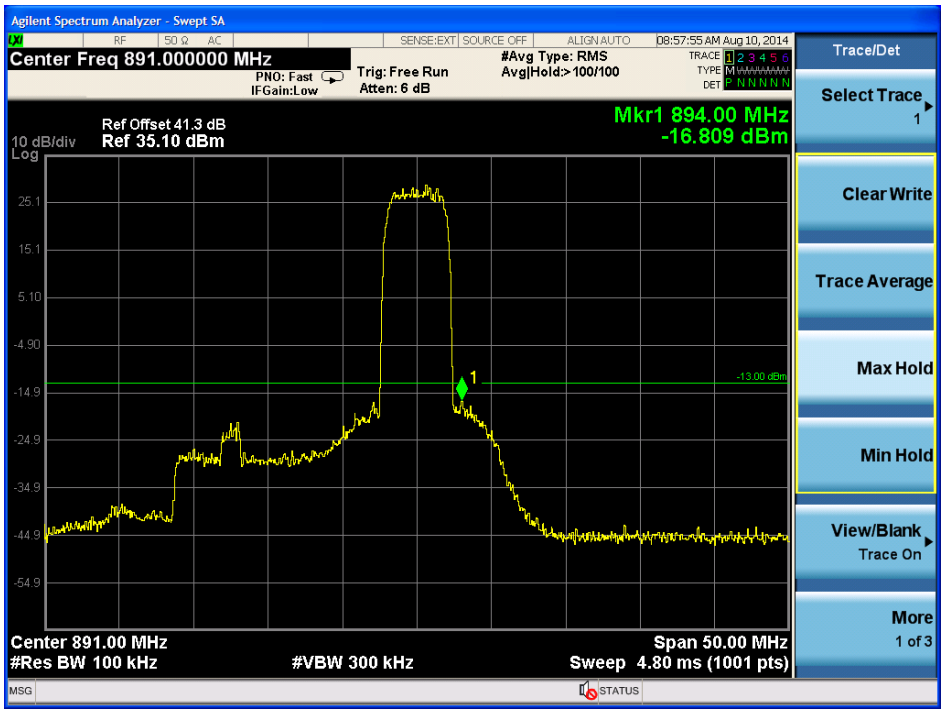
Pretest the EUT with Maximum Rated Output Power(27dBm,30dBm,33dBm),finally find the worst case as the EUT with Maximum Rated Output power(33dBm).

1.WCDMA Mode:

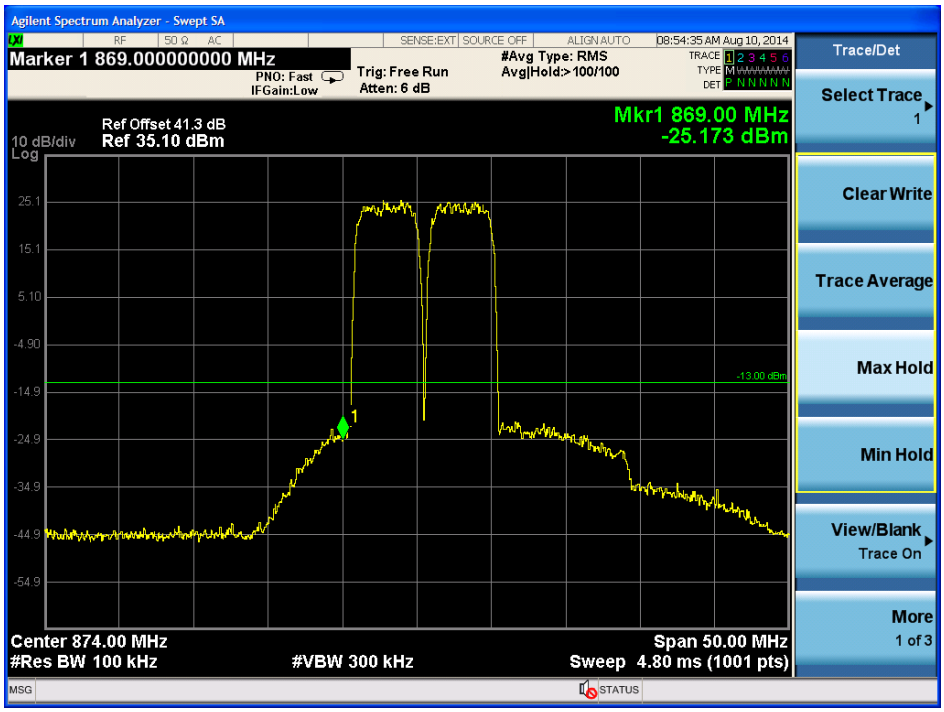
1.1 two signal input —Lower Edge（1 Carrier 5M modulation）



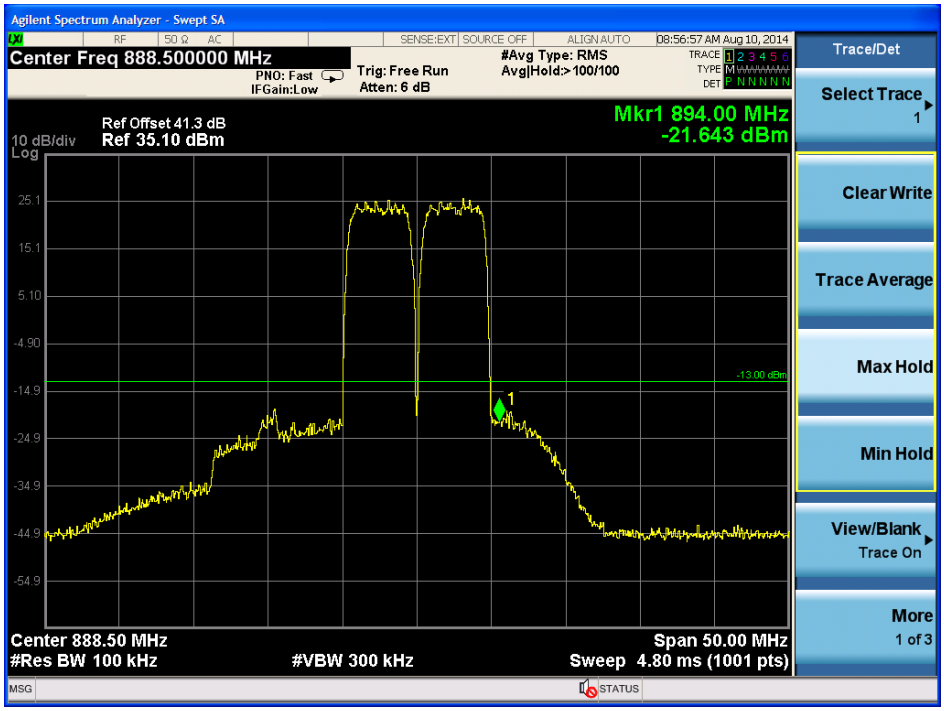
1.2 two signal input —Upper Edge



1.3 two signal input —Lower Edge（2 Carrier 5M modulation）

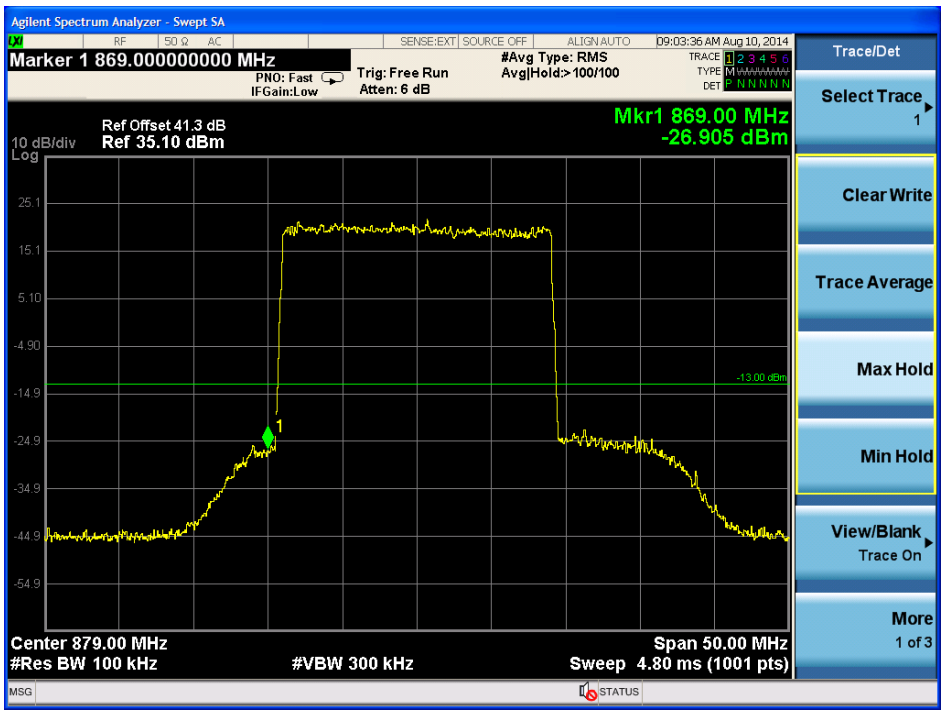


1.4 two signal input —Upper Edge

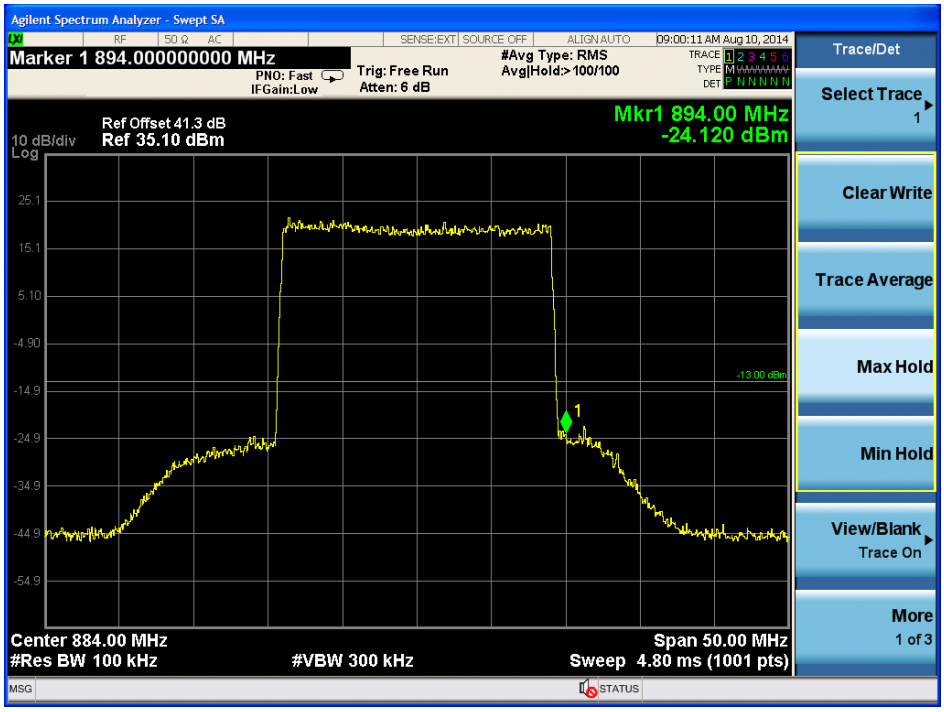


2.1 LTE Mode:

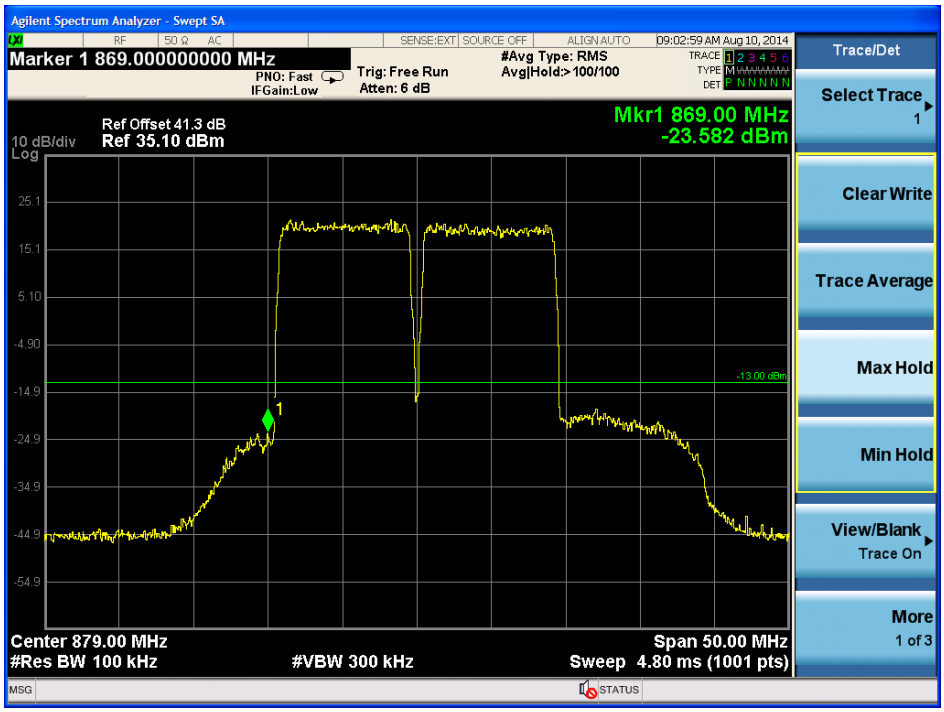
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



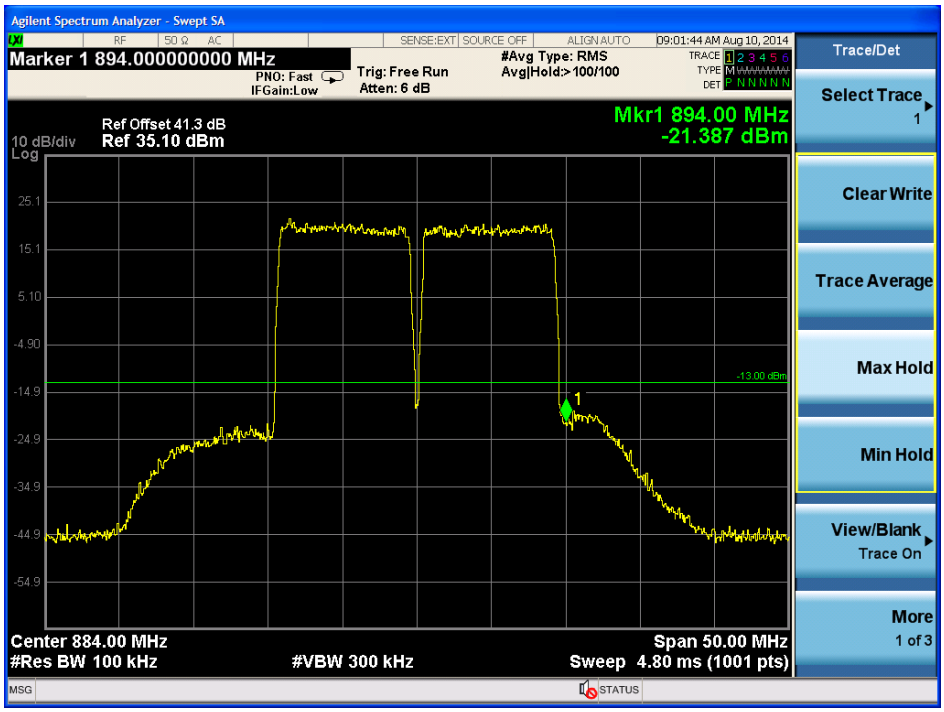
2.1.2 one signal input —Upper Edge



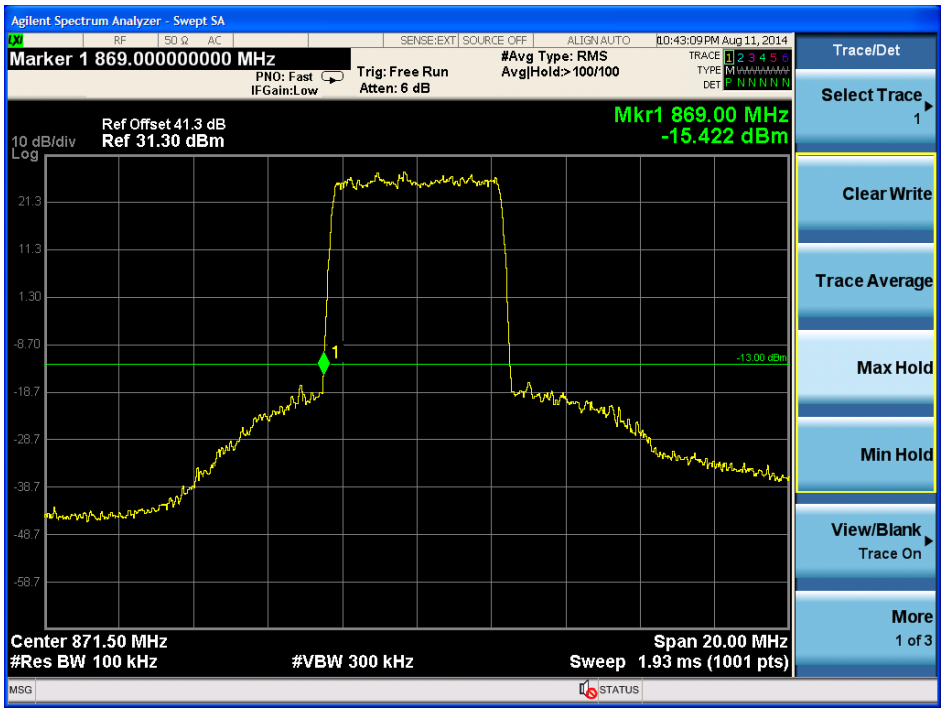
2.1.3 two signal input —Lower Edge（2 Carrier 10M modulation）



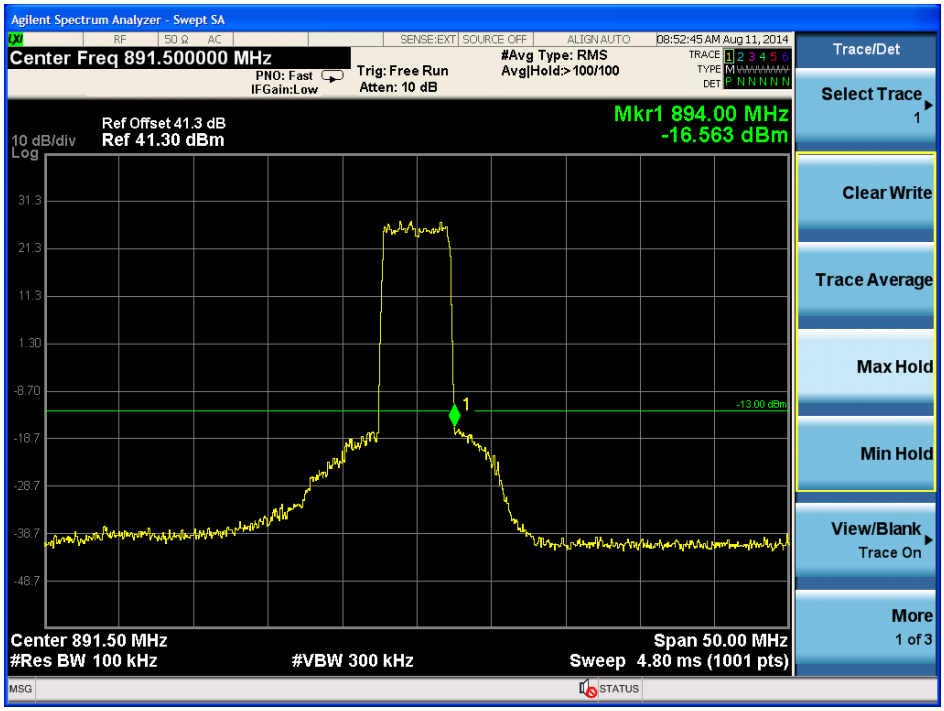
2.1.4 two signal input —Upper Edge



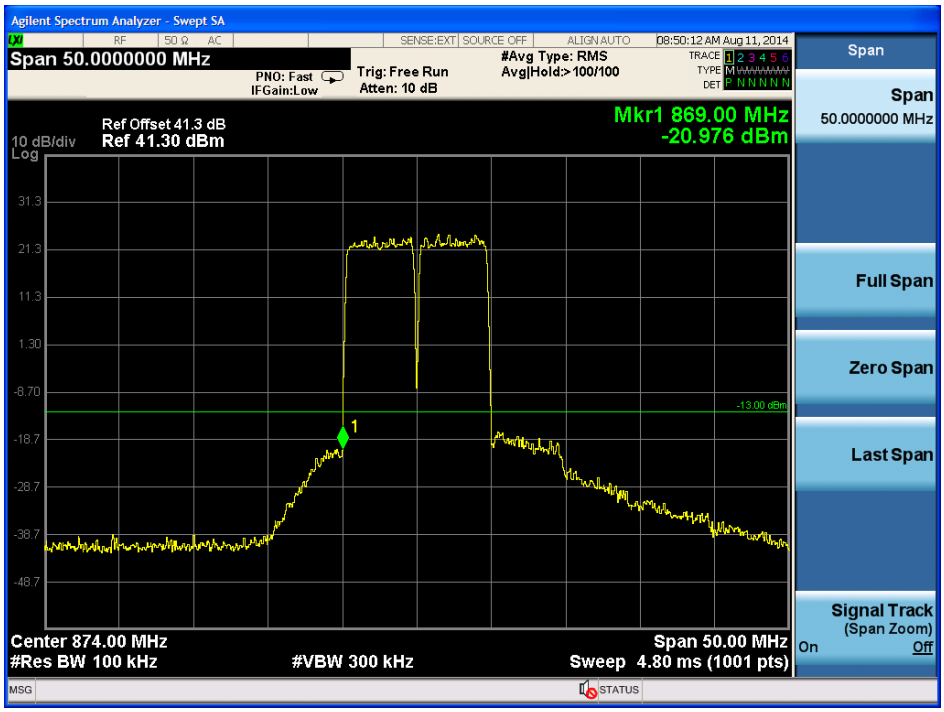
2.1.5 one signal input —Lower Edge（1 Carrier 5M modulation）



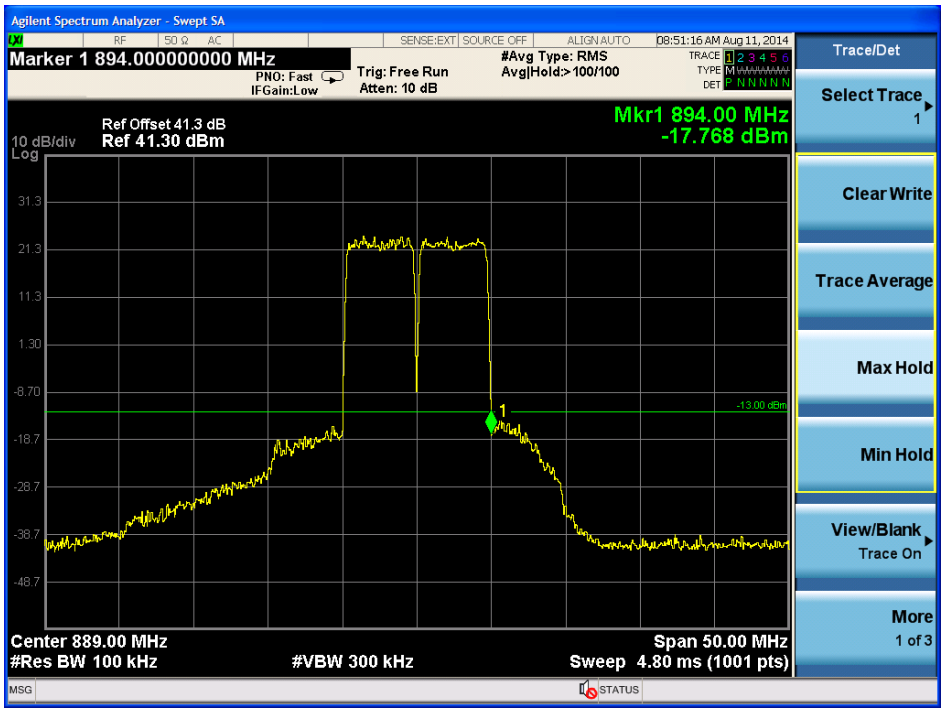
2.1.6 one signal input —Upper Edge



2.1.7 two signal input —Lower Edge（2 Carrier 5M modulation）



2.1.8 two signal input —Upper Edge



2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2.1Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=872MHz,f2=875M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=888MHz,f2=891MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

i) in lower edge test, F1=2f1-(f1+Δf)=f1-Δf=lower edge frequency;

j) in higher edge test, F2=2f2-(f2-Δf)=f2+Δf=higher edge frequency.

F1=869MHz,F2=894MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

i) in lower edge test, F1=3f1-2(f1+Δf)=f1-2Δf=lower edge frequency;

j) in higher edge test, F2=3f2-2(f2-Δf)=f2+2Δf=higher edge frequency.

F1=866MHz,F2=897MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

i) in lower edge test, F1=4f1-3(f1+Δf)=f1-3Δf=lower edge frequency;

j) in higher edge test, F2=4f2-3(f2-Δf)=f2+3Δf=higher edge frequency.

F1=863MHz,F2=900MHz

2.2.2 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:869MHz	-25.12	-13dBm	-12.12
	Higher:894MHz	-21.65		-8.65
5rd	Lower:866MHz	-28.45	-13dBm	-15.45
	Higher:897MHz	-24.36		-11.36
7rd	Lower:863MHz	-30.52	-13dBm	-17.52
	Higher:900MHz	-27.55		-14.55

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=874MHz,f2=884MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=879MHz,f2=889MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

k) in lower edge test, F1=2f1-(f1+Δf)=f1-Δf=lower edge frequency;

l) in higher edge test, F2=2f2-(f2-Δf)=f2+Δf=higher edge frequency.

F1=869MHz,F2=894MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

k) in lower edge test, F1=3f1-2(f1+Δf)=f1-2Δf=lower edge frequency;

l) in higher edge test, F2=3f2-2(f2-Δf)=f2+2Δf=higher edge frequency.

F1=859MHz,F2=904MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

k) in lower edge test, F1=4f1-3(f1+Δf)=f1-3Δf=lower edge frequency;

l) in higher edge test, F2=4f2-3(f2-Δf)=f2+3Δf=higher edge frequency.

F1=849MHz,F2=914MHz

2.2.4 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:869MHz	-20.92	-13dBm	7.92
	Higher:894MHz	-17.85		4.85
5rd	Lower:859MHz	-23.95	-13dBm	10.95
	Higher:904MHz	-21.34		8.34
7rd	Lower:849MHz	-26.32	-13dBm	13.32
	Higher:914MHz	-24.57		11.57

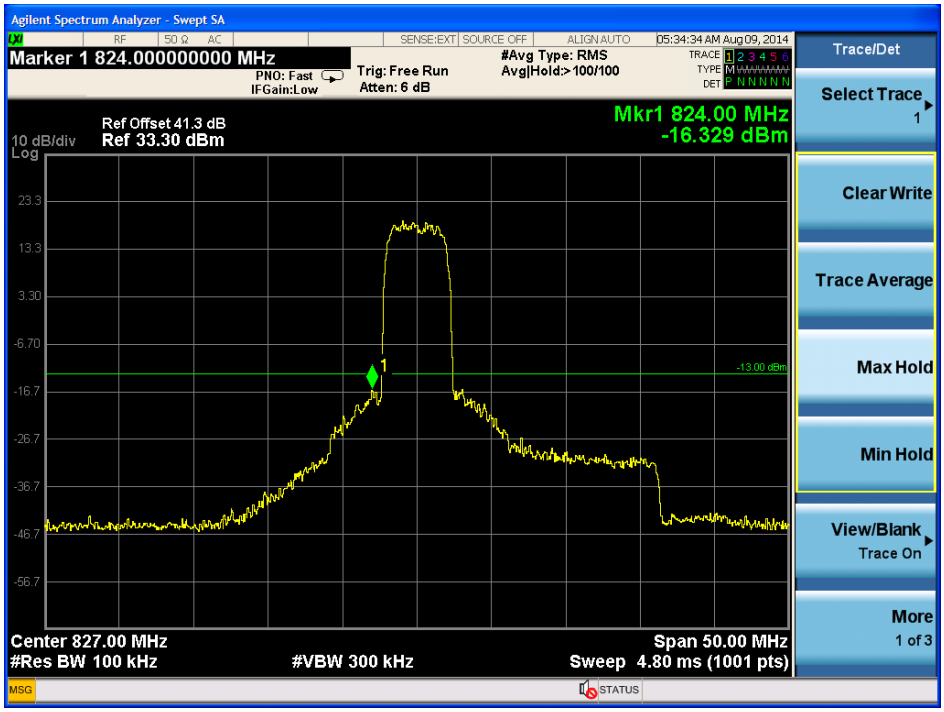
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

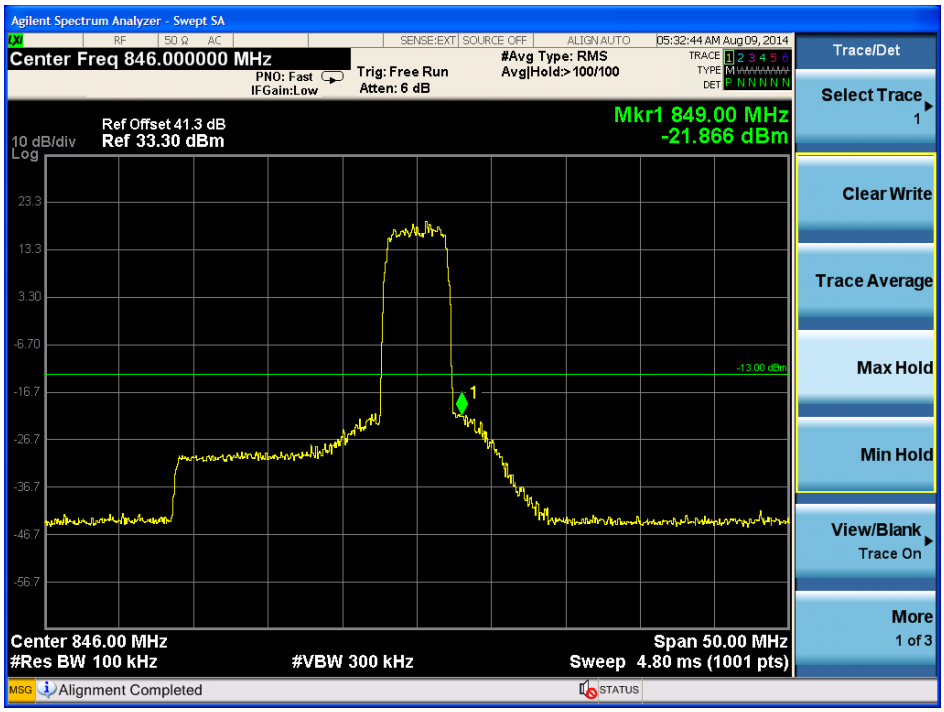
6) Uplink: 824MHz to 849 MHz(WCDMA, LTE)

1.1 WCDMA Mode

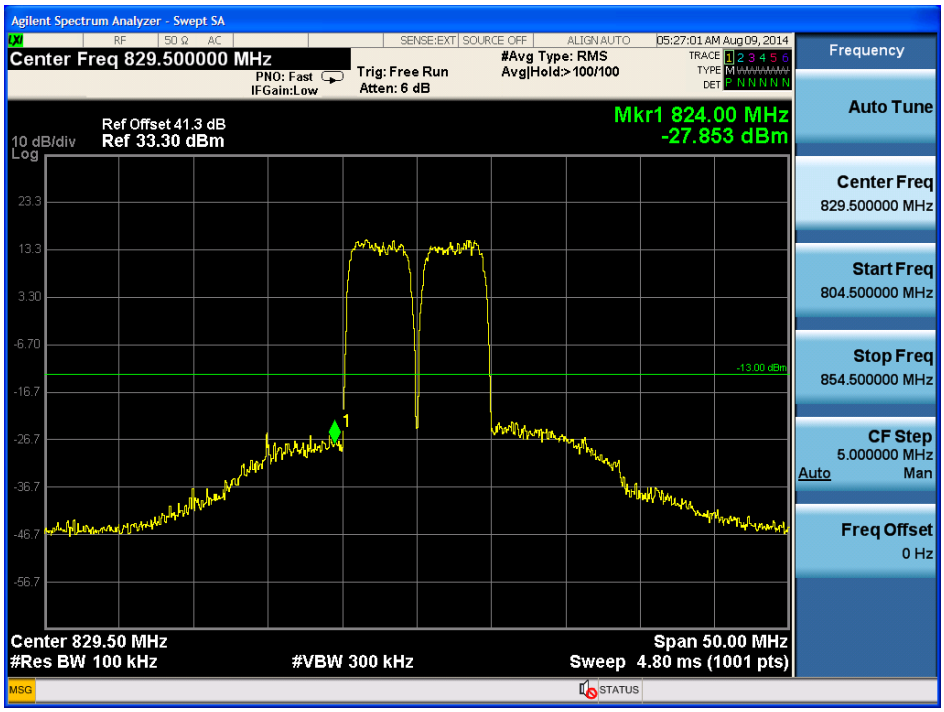
1.1.1 two signal input —Lower Edge（1 Carrier 5M modulation）



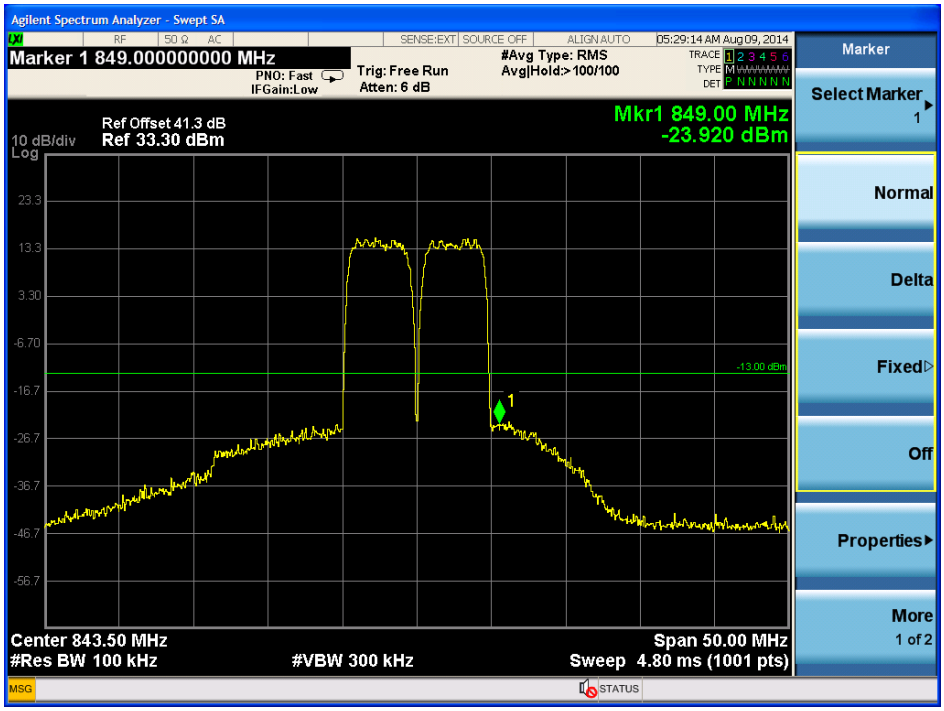
1.1.2 two signal input —Upper Edge



1.1.3 two signal input —Lower Edge（2 Carrier 5M modulation）

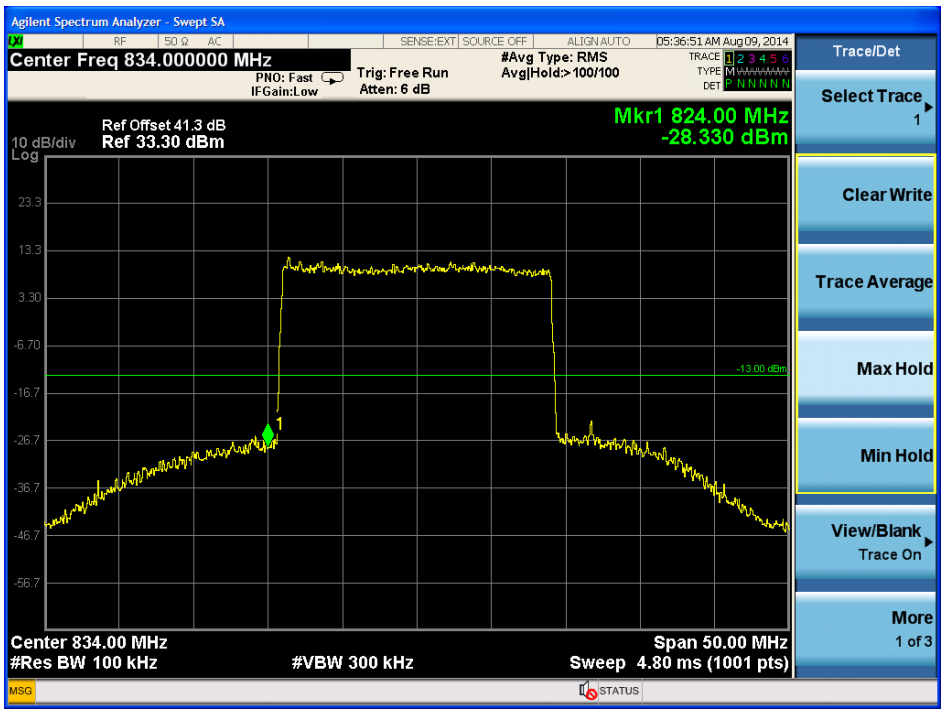


1.1.4 two signal input —Upper Edge

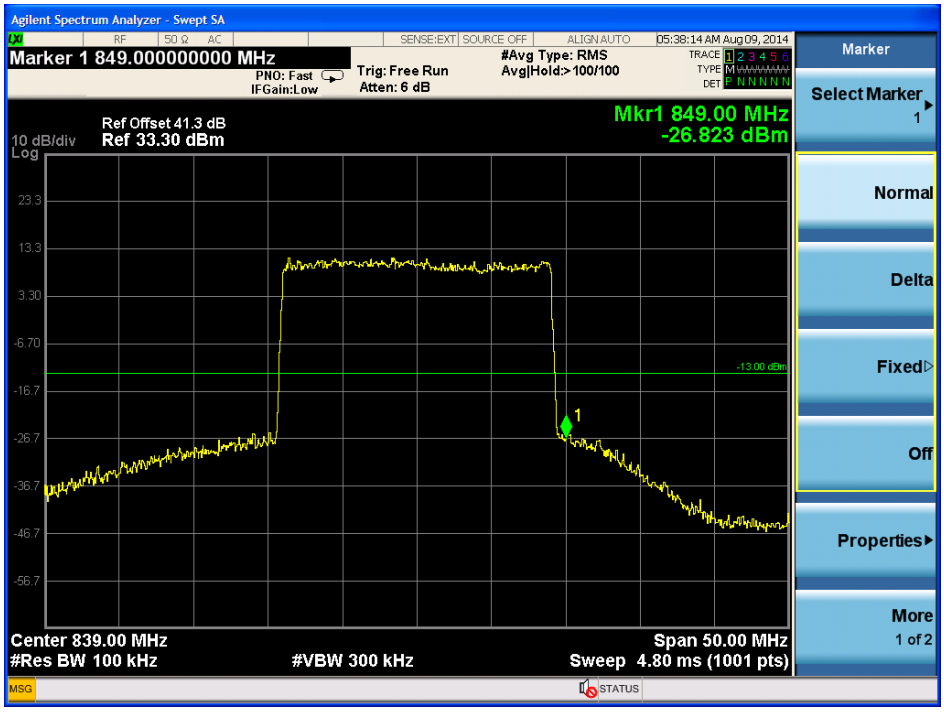


2.1 LTE mode:

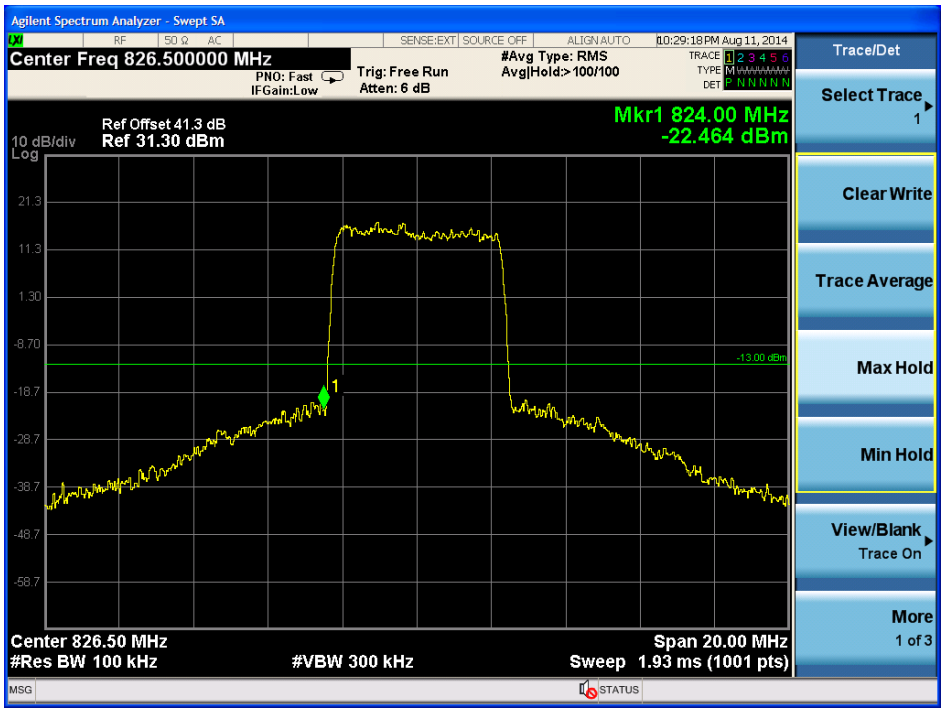
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



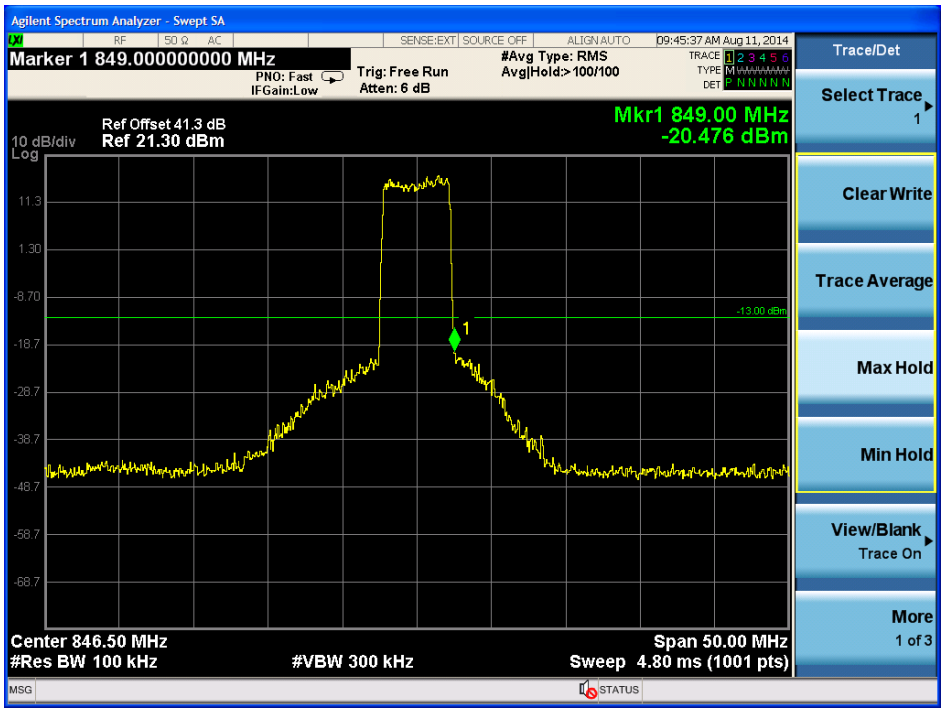
2.1.2 one signal input —Upper Edge



2.1.3 one signal input —Lower Edge（1 Carrier 5M modulation）

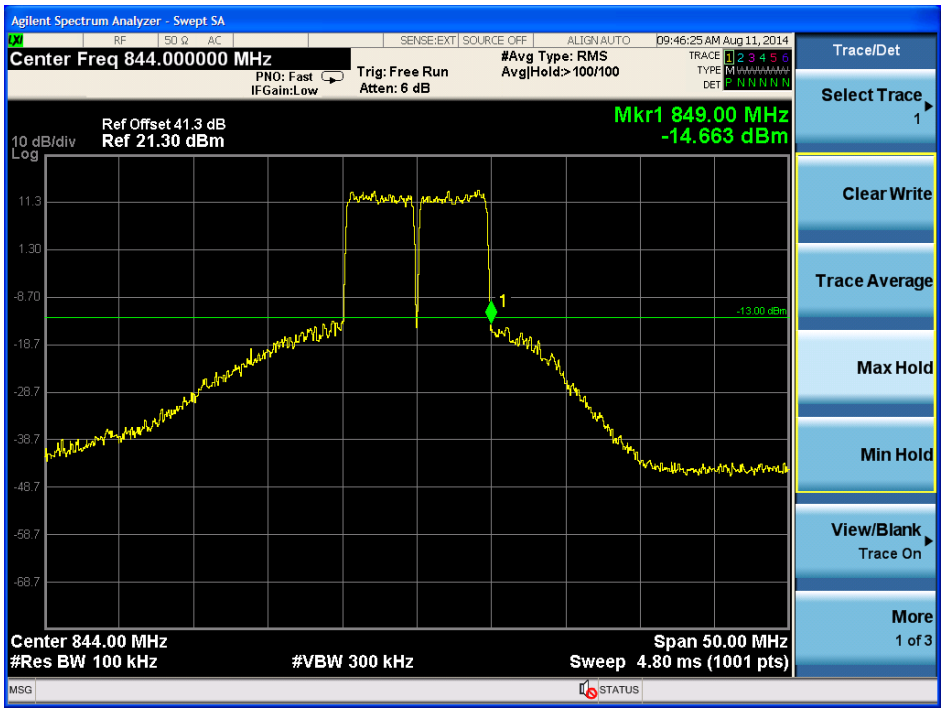


2.1.4 one signal input —Upper Edge



2.1.5 two signal input —Lower Edge（2 Carrier 5M modulation）

2.1.6 two signal input —Upper Edge



2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2 .1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=827MHz,f2=830MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=843MHz,f2=846MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

m) in lower edge test, F1=2f1-(f1+Δf)=f1-Δf=lower edge frequency;

n) in higher edge test, F2=2f2-(f2-Δf)=f2+Δf=higher edge frequency.

F1=824MHz,F2=849MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

m) in lower edge test, F1=3f1-2(f1+Δf)=f1-2Δf=lower edge frequency;

n) in higher edge test, F2=3f2-2(f2-Δf)=f2+2Δf=higher edge frequency.

F1=821MHz,F2=852MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

m) in lower edge test, F1=4f1-3(f1+Δf)=f1-3Δf=lower edge frequency;

n) in higher edge test, F2=4f2-3(f2-Δf)=f2+3Δf=higher edge frequency.

F1=818MHz,F2=855M modulationHz

2.2.2 Input power:-57dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:824MHz	-27.92	-13dBm	14.92
	Higher:849MHz	-23.85		10.85
5rd	Lower:821MHz	-30.63	-13dBm	17.63
	Higher:852MHz	-27.45		14.45
7rd	Lower:818MHz	-33.41	-13dBm	20.41
	Higher:855M modulationHz	-30.25		17.25

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=829MHz,f2=839MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=834MHz,f2=844MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

o) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

p) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=824MHz,F2=849MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

o) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

p) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=814MHz,F2=859MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

o) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

p) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=804MHz,F2=869MHz

2.2.4 Input power:-57dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:824MHz	-18.35	-13dBm	5.35
	Higher:849MHz	-14.62		1.62
5rd	Lower:814MHz	-21.23	-13dBm	8.23
	Higher:859MHz	-17.57		4.57
7rd	Lower:804MHz	-24.37	-13dBm	11.37
	Higher:869MHz	-20.62		7.62

Remark:

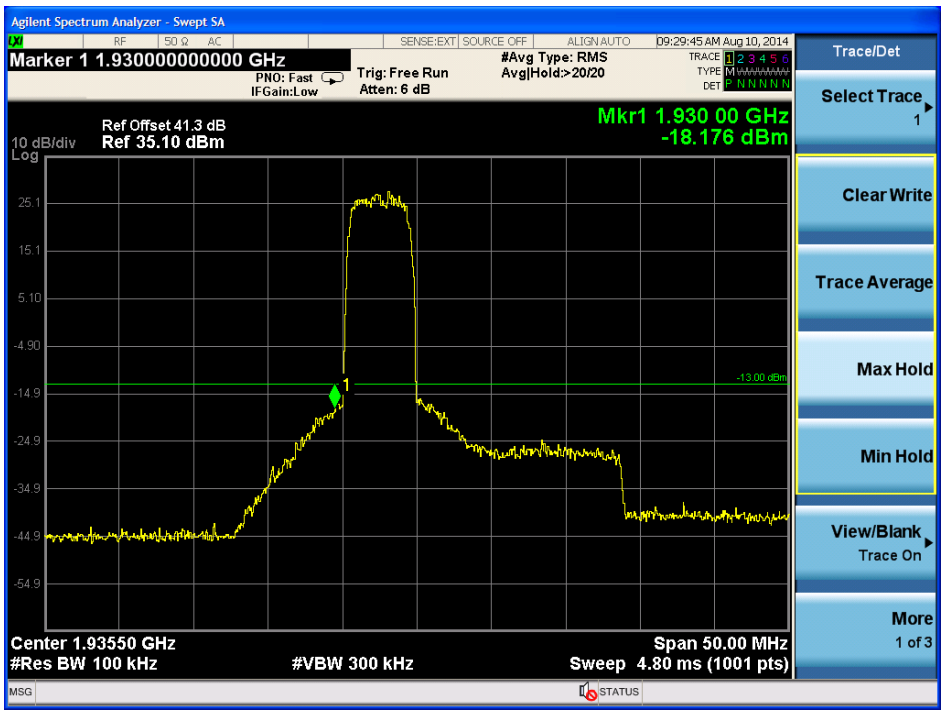
No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

7) Downlink: 1930MHz to1995M modulationHz(WCDMA, LTE)
Remark:

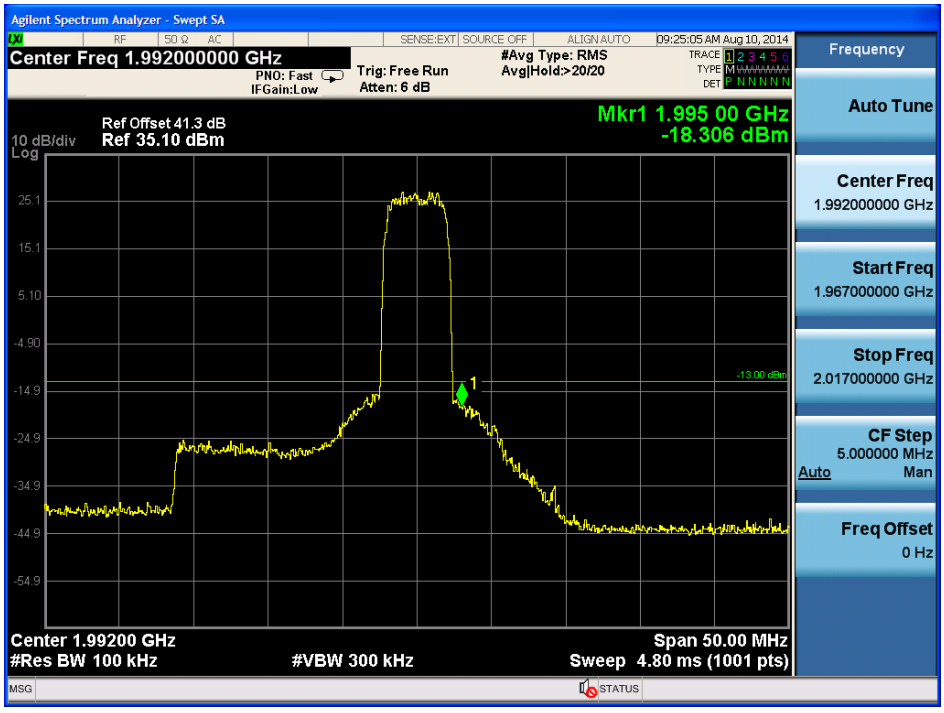
Pretest the EUT with Maximum Rated Output Power(27dBm,30dBm,33dBm),finally find the worst case as the EUT with Maximum Rated Output power(33dBm)

1.1 WCDMA Mode

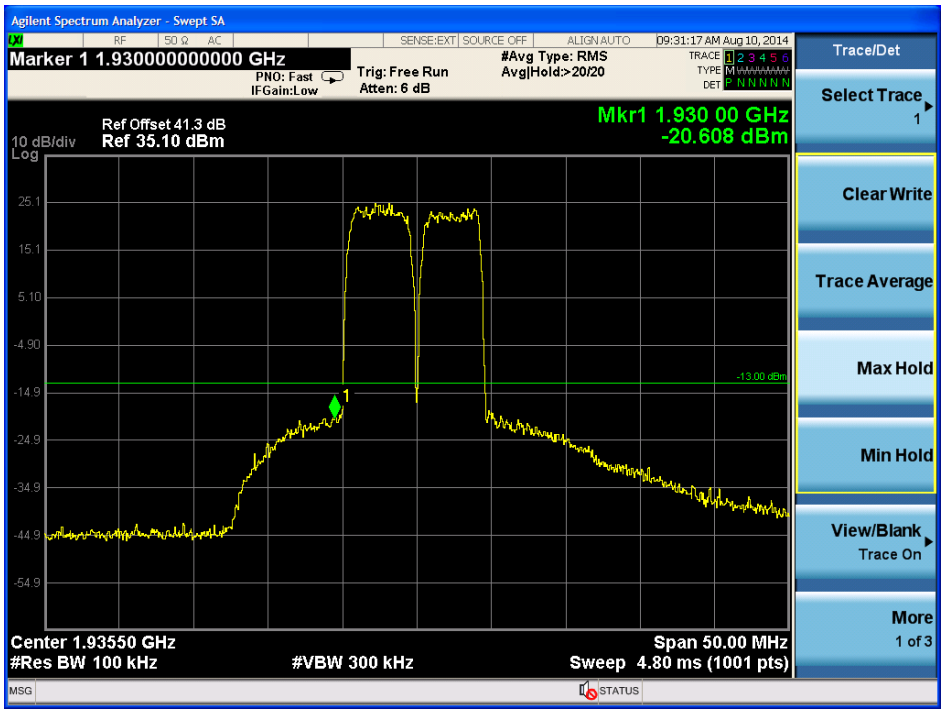
1.1.1 one signal input —Lower Edge（1 Carrier 5M modulation）



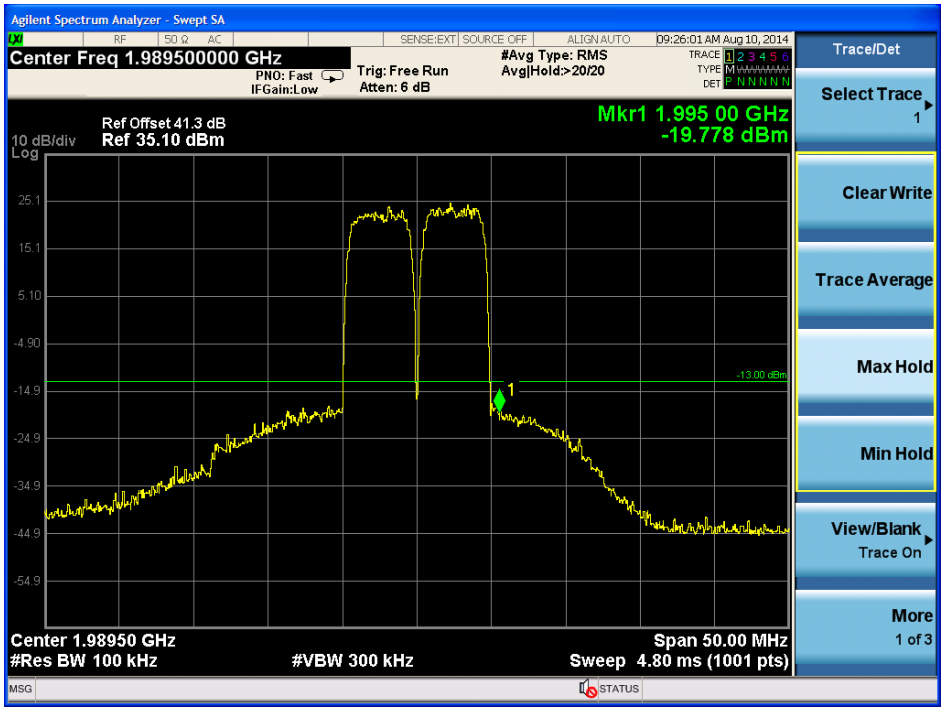
1.2.2 one signal input —Upper Edge



1.2.3 two signal input —Lower Edge

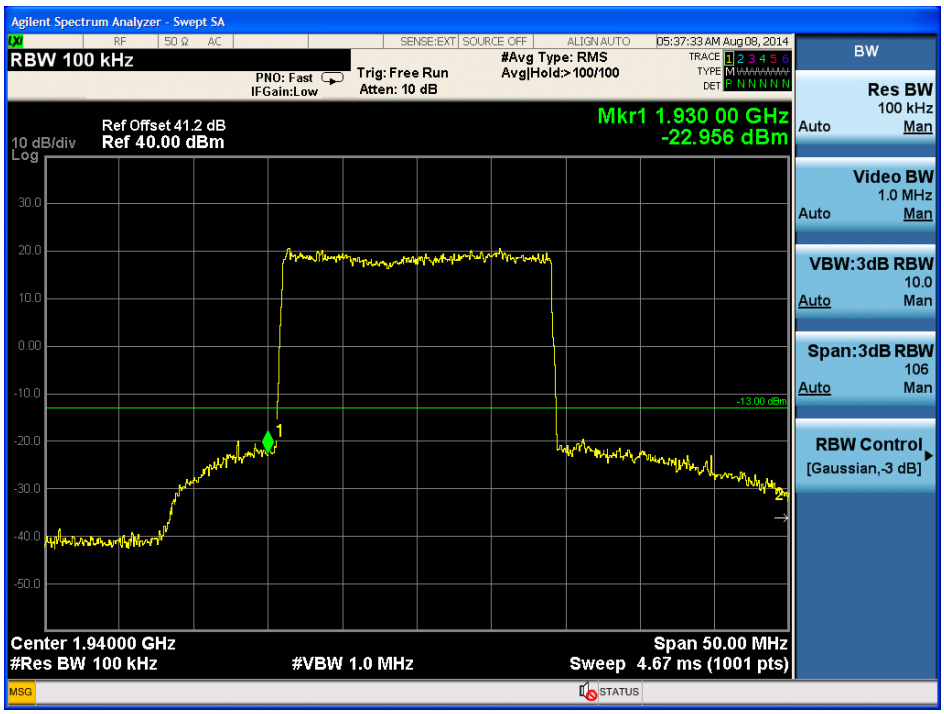


1.2.4 two signal input —Upper Edge

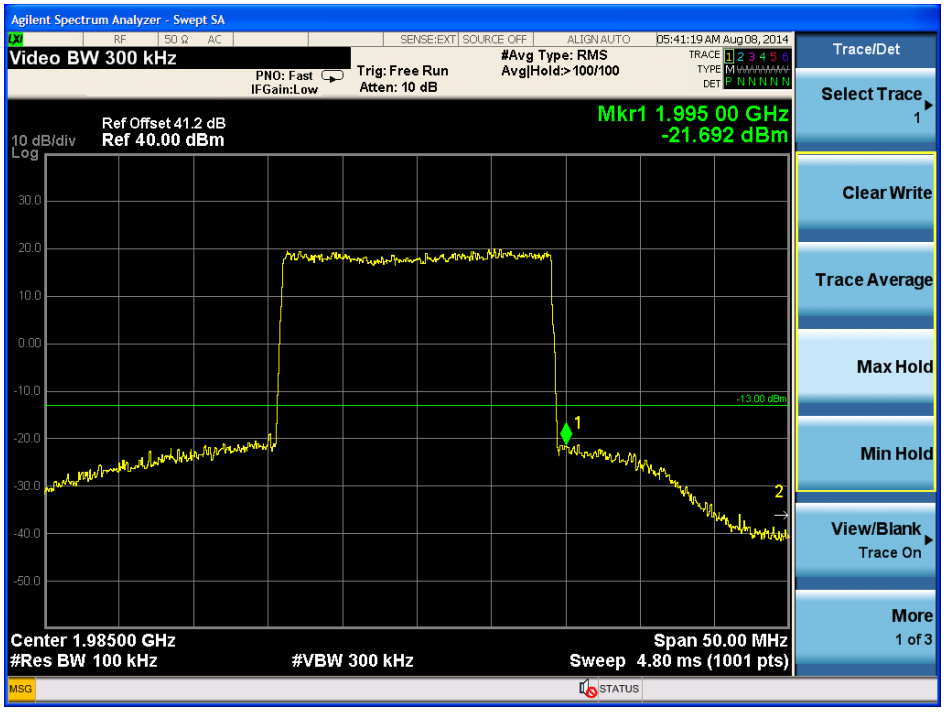


2.1 LTE Mode

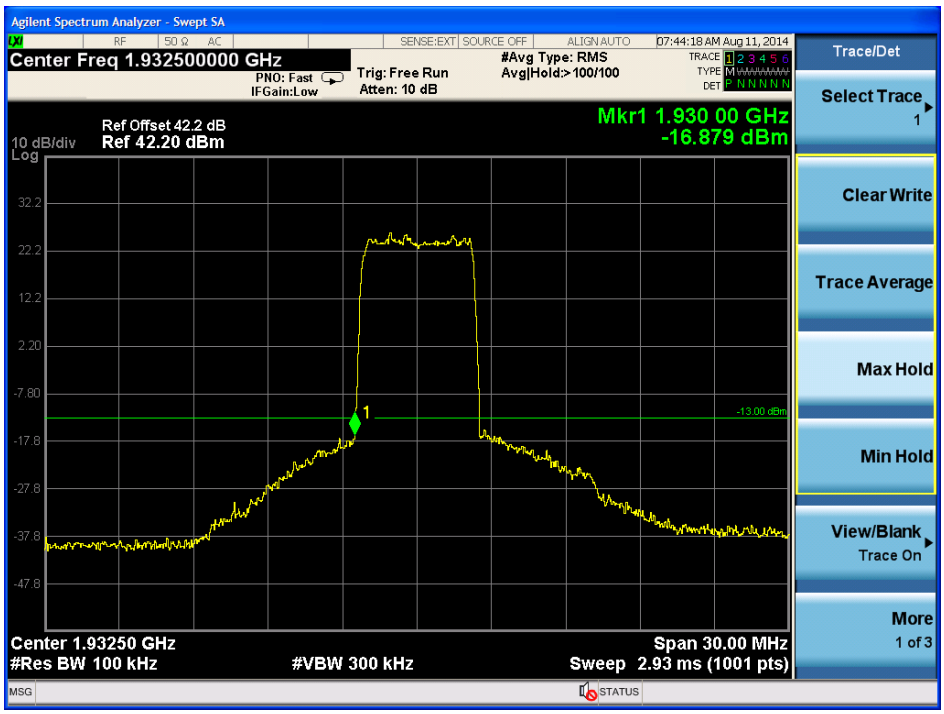
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



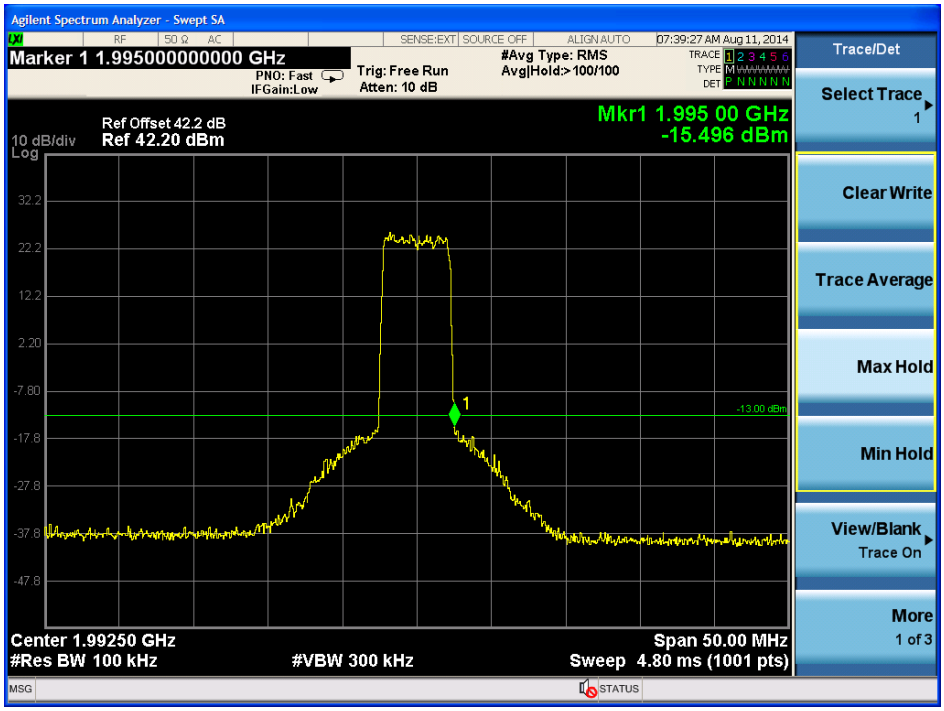
2.1.2 one signal input —Upper Edge



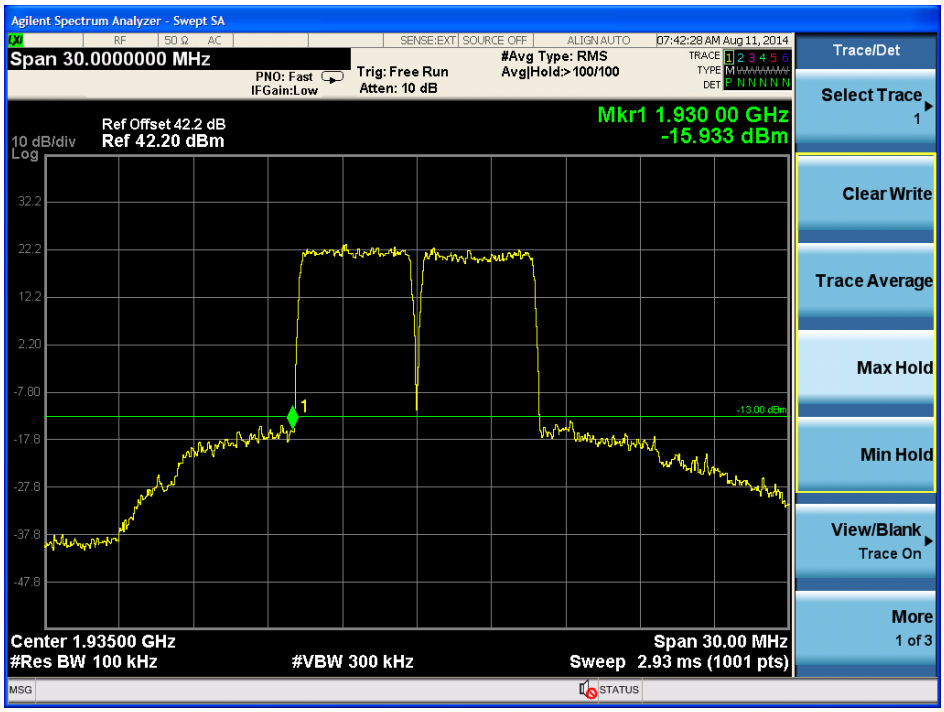
2.1.3 one signal input —Lower Edge（1 Carrier 5M modulation）



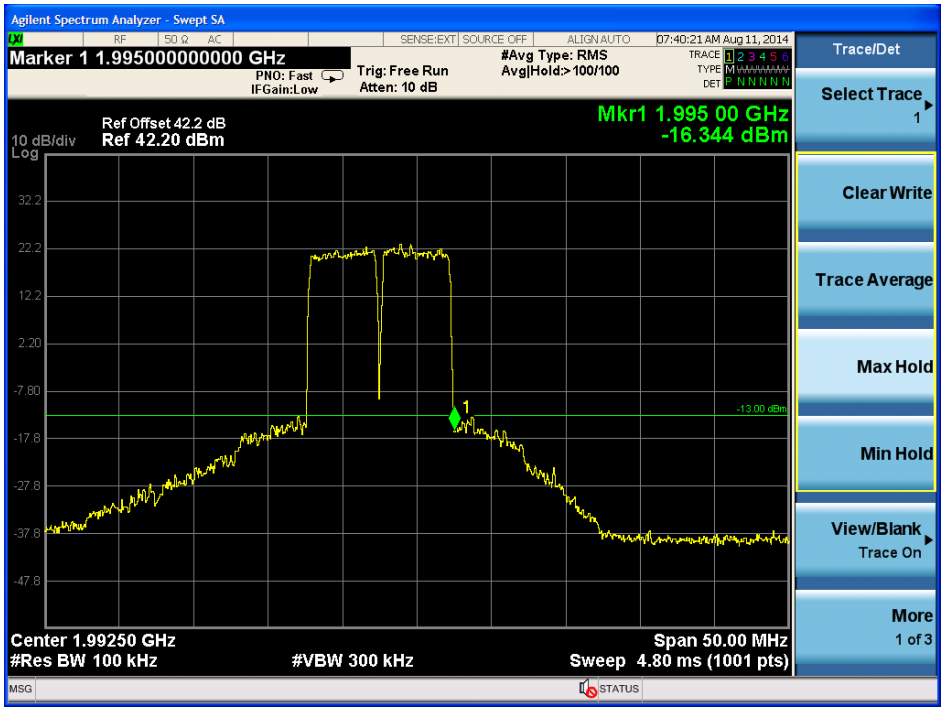
2.1.4 one signal input —Upper Edge



2.1.5 one signal input —Lower Edge（2 Carrier 5M modulation）



2.1.6 one signal input —Upper Edge



2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1933MHz,f2=1936MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1989MHz,f2=1992MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

q) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

r) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1930MHz,F2=1995M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

q) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

r) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1927MHz,F2=1998MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

q) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

r) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1924MHz,F2=2001MHz

2.2.2 Input power:-20dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1930MHz	-20.65	-13dBm	7.65
	Higher:1995M modulationHz	-19.83		6.83
5rd	Lower:1927MHz	-23.72	-13dBm	10.72
	Higher:1998MHz	-21.45		8.45
7rd	Lower:1924MHz	-26.23	-13dBm	13.23
	Higher:2001MHz	-24.69		11.69

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1935M modulationHz,f2=1945M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1980MHz,f2=1990MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

s) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

t) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1930MHz,F2=1995M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

s) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

t) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1920MHz,F2=2005M modulationHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

s) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

t) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1915M modulationHz,F2=2015M modulationHz

2.2.4 Input power:-20dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1930MHz	-15.94	-13dBm	2.94
	Higher:1995M modulationHz	-16.35		3.35
5rd	Lower:1920MHz	-19.62	-13dBm	6.62
	Higher:2005M modulationHz	-20.42		7.42
7rd	Lower:1920MHz	-23.21	-13dBm	10.21
	Higher:2015M modulationHz	-23.75		10.75

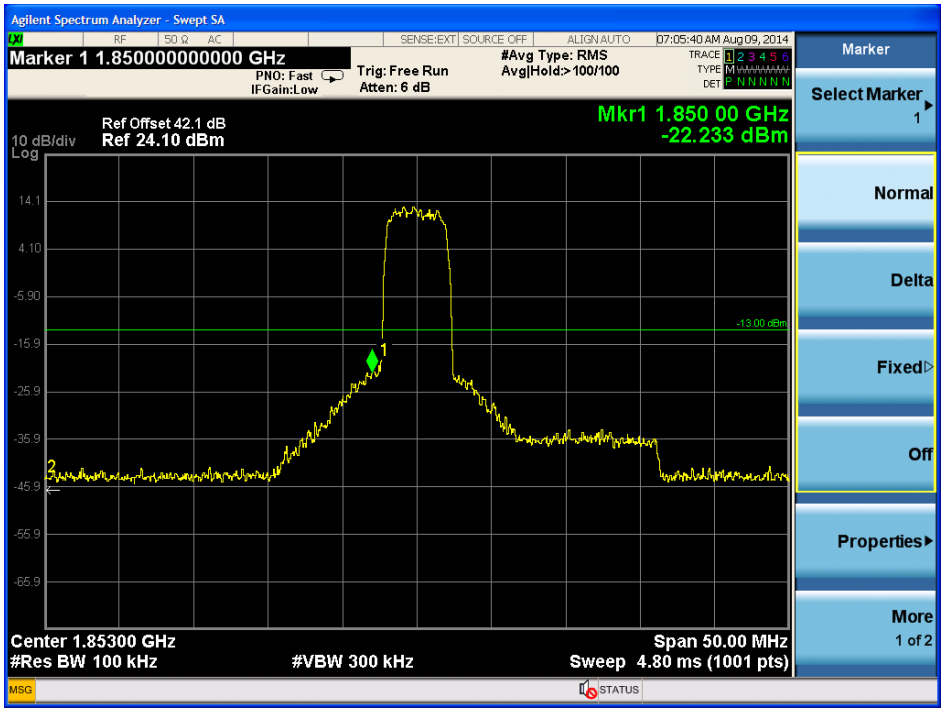
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

8) upink: 1850MHz to1915MHz(WCDMA, LTE)

1.1 WCDMA Mode

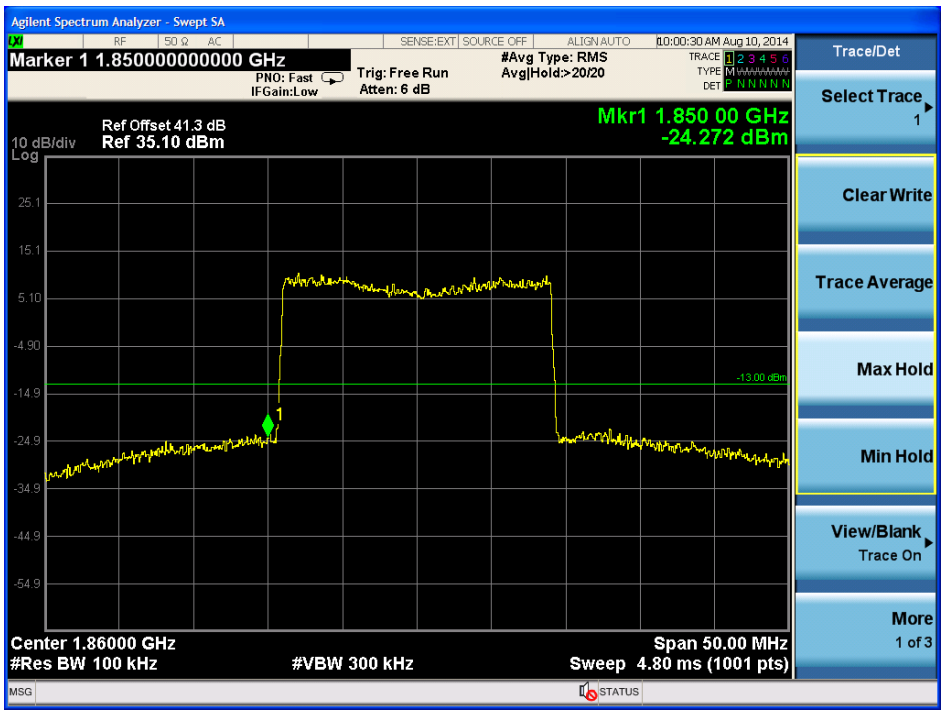
1.1.1 two signal input —Lower Edge（1 Carrier 5M modulation）



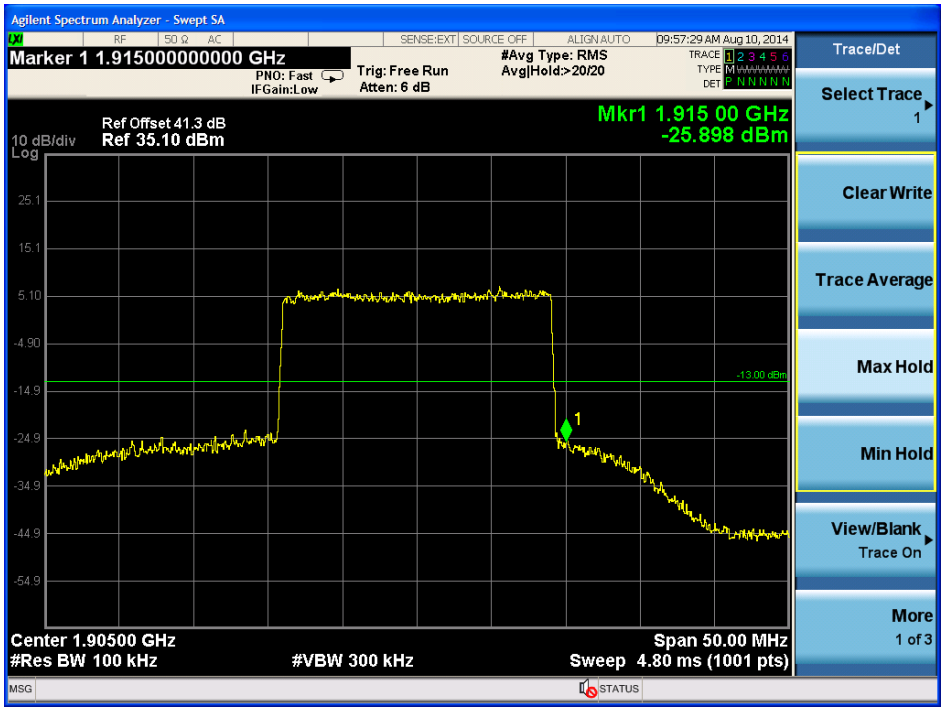
1.1.2 two signal input —Upper Edge

2.1 LTE Mode

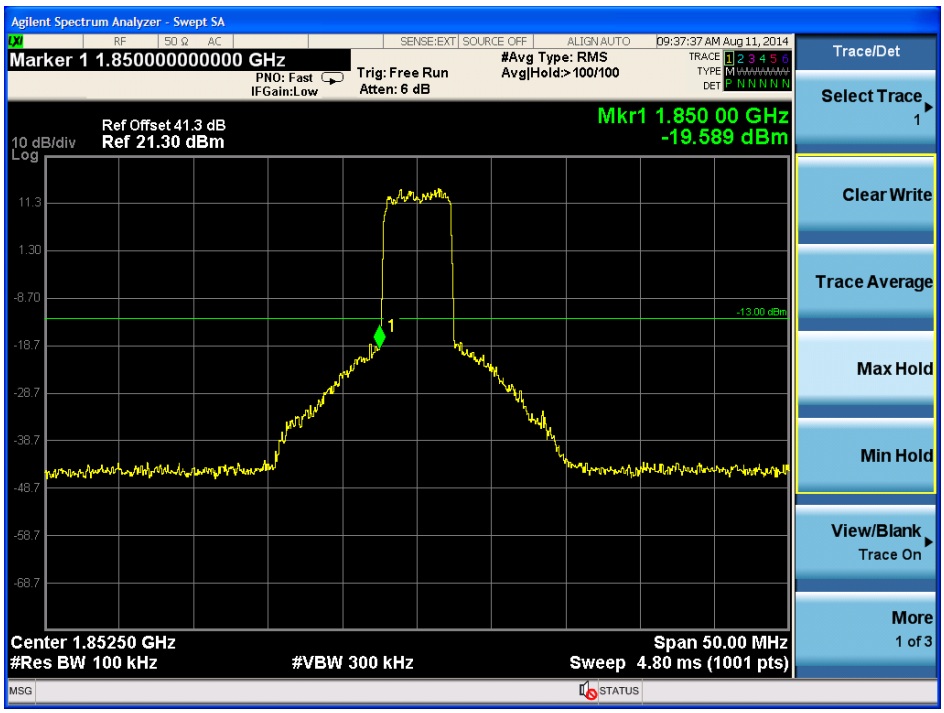
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



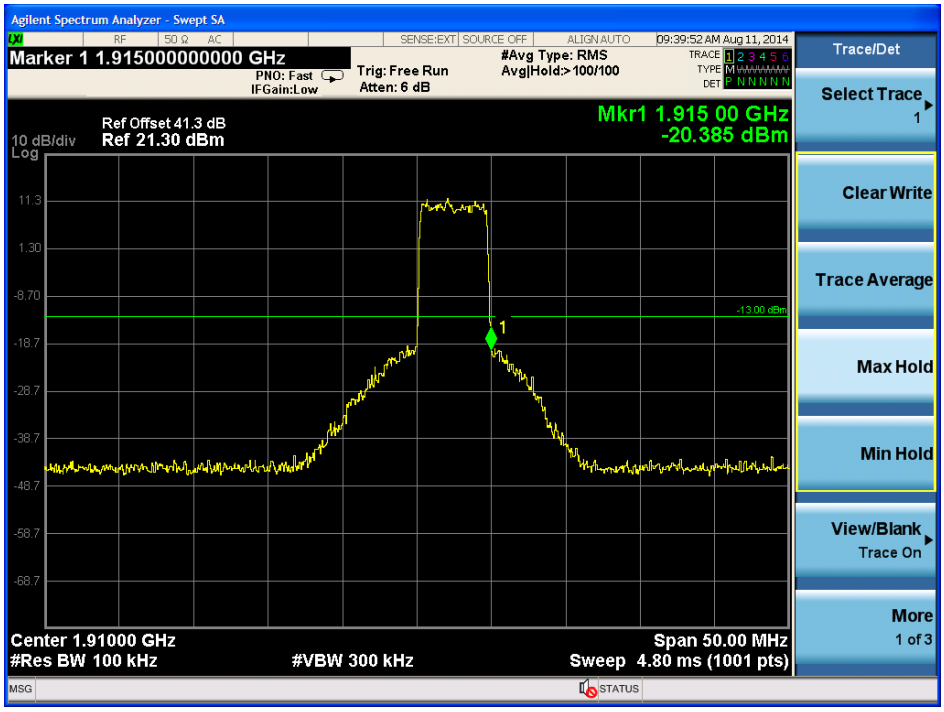
2.1.2 one signal input —Upper Edge



2.1.3 one signal input —Lower Edge（1 Carrier 5M modulation）



2.1.4 one signal input —Upper Edge



2.1.5 two signal input —Lower Edge（2 Carrier 5M modulation）

2.1.6 two signal input —Upper Edge

2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1853MHz,f2=1856MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1909MHz,f2=1912MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

u) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

v) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1850MHz,F2=1915M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

u) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

v) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1847MHz,F2=1918MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

u) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

v) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1844MHz,F2=1921MHz

2.2.2 Input power:-20dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1850MHz	-24.58	-13dBm	11.58
	Higher:1915M modulationHz	-25.54		12.54
5rd	Lower:1847MHz	-27.63	-13dBm	14.63
	Higher:1918MHz	-28.59		15.59
7rd	Lower:1844MHz	-30.42	-13dBm	17.42
	Higher:1921MHz	-31.75		18.75

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1855M modulationHz,f2=1865M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1900MHz,f2=1915M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

w) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

x) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1850MHz,F2=1915M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

w) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

x) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1840MHz,F2=1925M modulationHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

w) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

x) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1830MHz,F2=1935M modulationHz

2.2.4 Input power:-20dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1850MHz	-19.65	-13dBm	6.65
	Higher:1915MHz	-25.17		4.17
5rd	Lower:1840MHz	-22.42	-13dBm	9.42
	Higher:1925MHz	-27.56		14.56
7rd	Lower:1830MHz	-25.71	-13dBm	12.71
	Higher:1935MHz	-30.24		17.24

Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

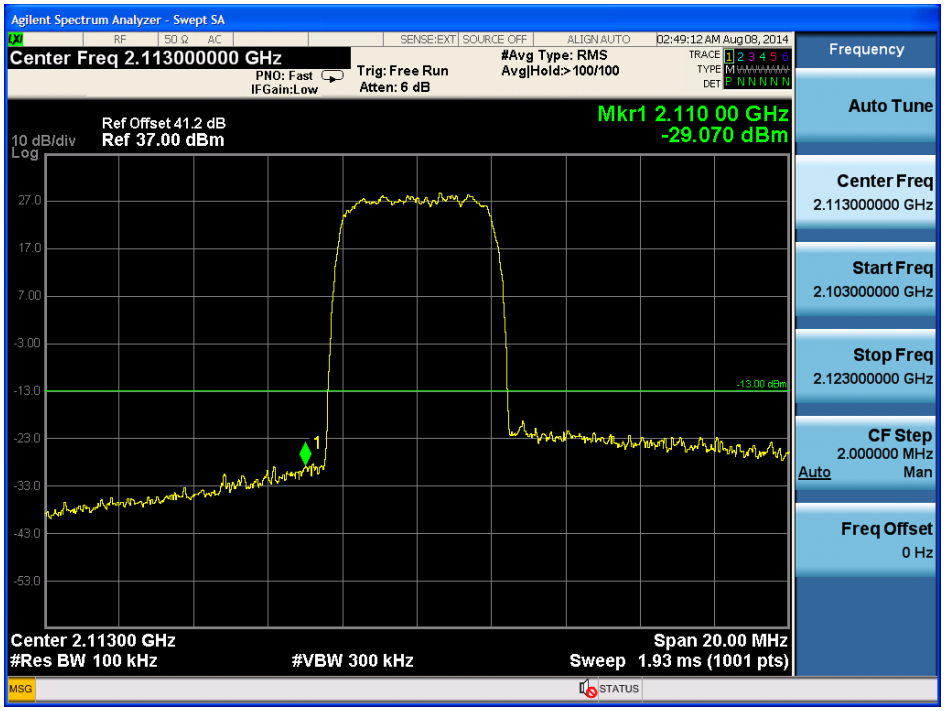
9) downlink: 2110MHz to2155MHz(WCDMA,TLE)

Remark:

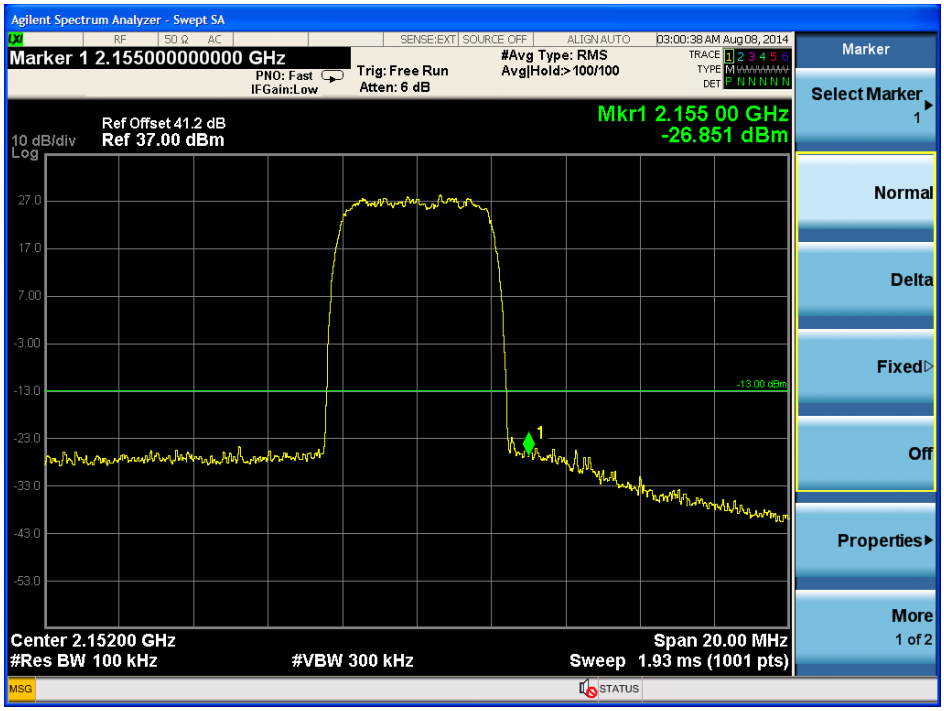
Pretest the EUT with Maximum Rated Output Power(27dBm,30dBm,33dBm),finally find the worst case as the EUT with Maximum Rated Output power(33dBm).

1.1 WCDMA Mode

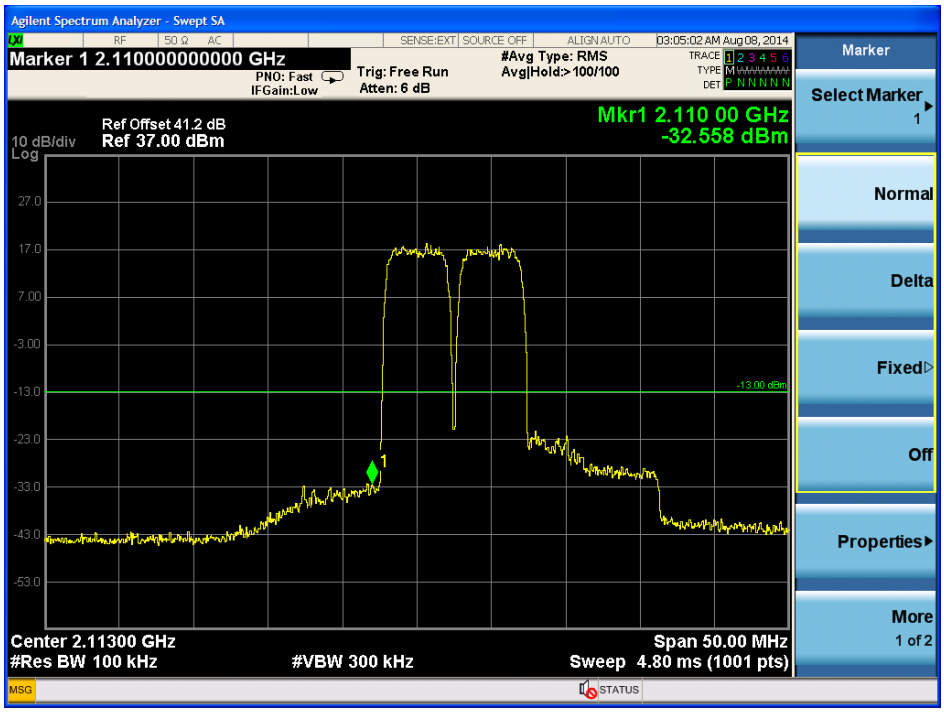
1.1.1 one signal input —Lower Edge



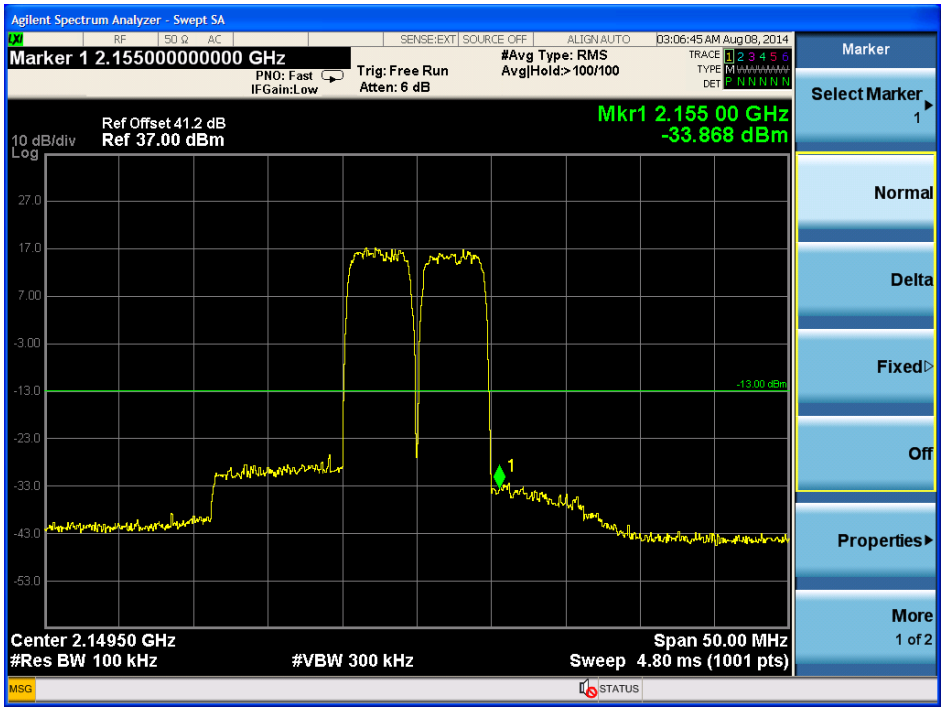
1.1.2 one signal input —Upper Edge



1.1.3 two signal input —Lower Edge（**2 Carriers 5M modulation**）

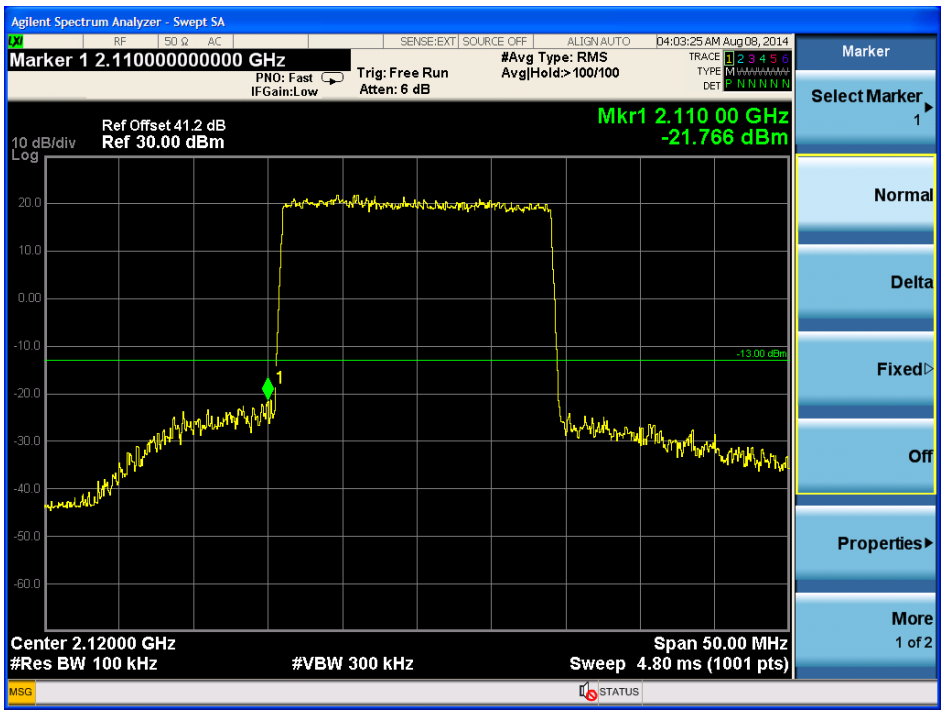


1.1.4 two signal input —Upper Edge

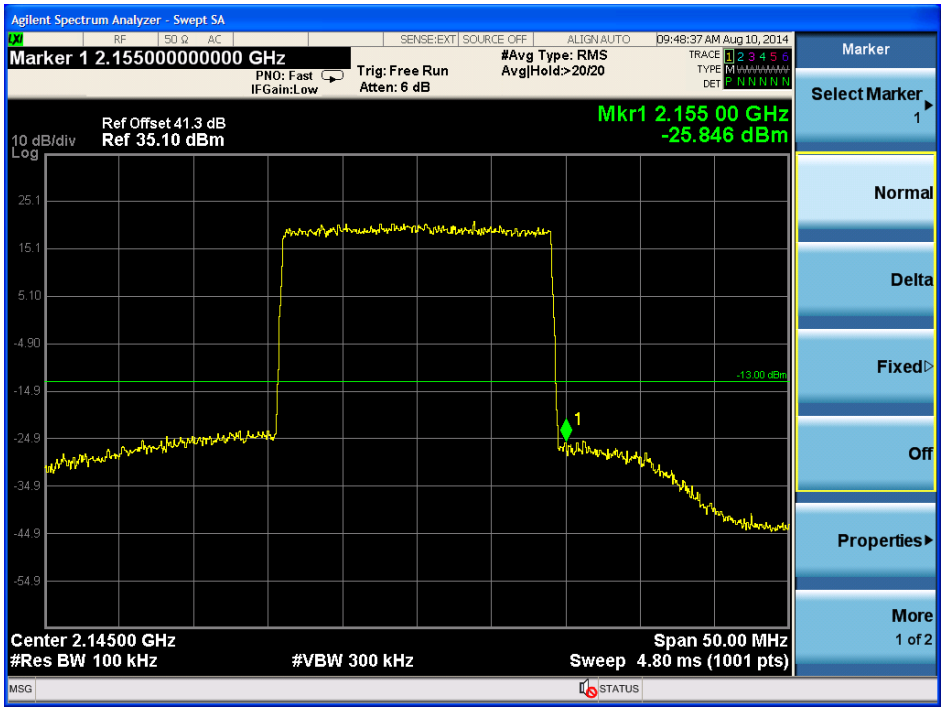


2.1 LTE Mode

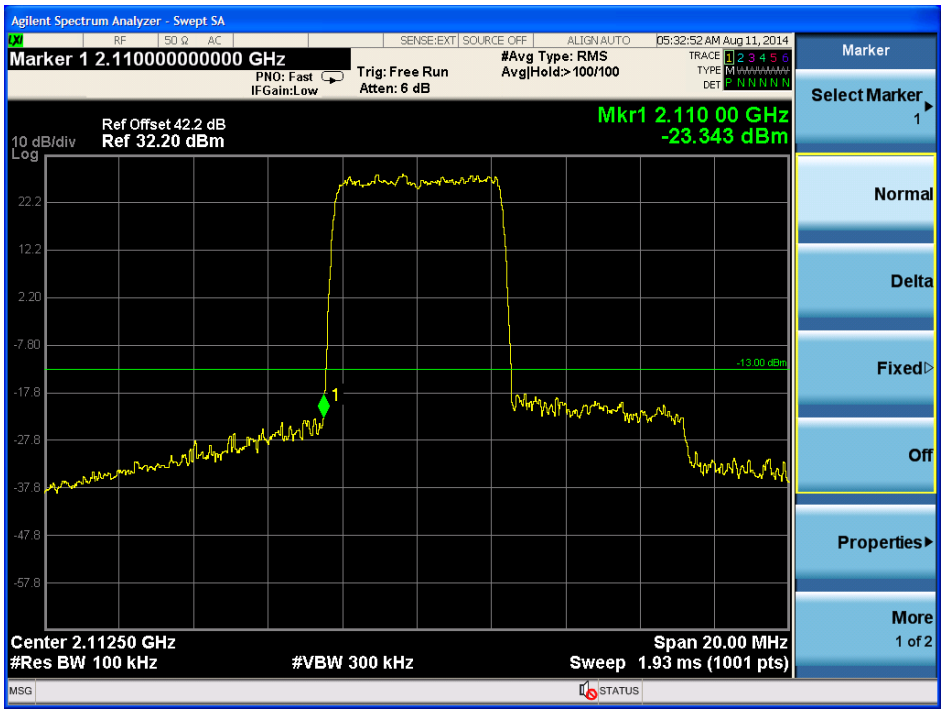
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



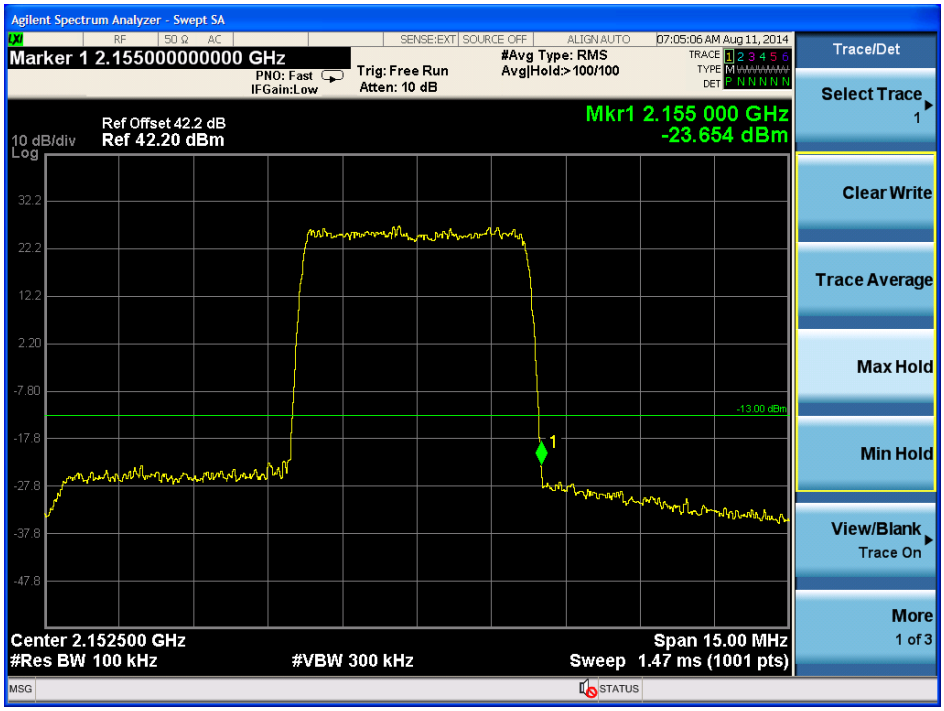
2.1.2 one signal input —Upper Edge



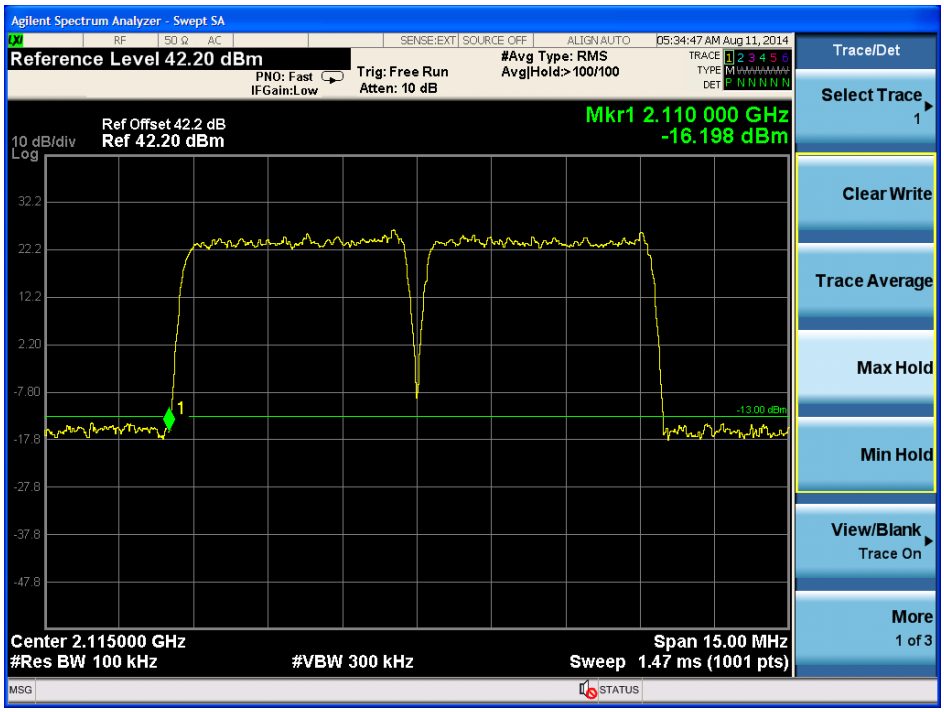
2.1.3 one signal input —Lower Edge



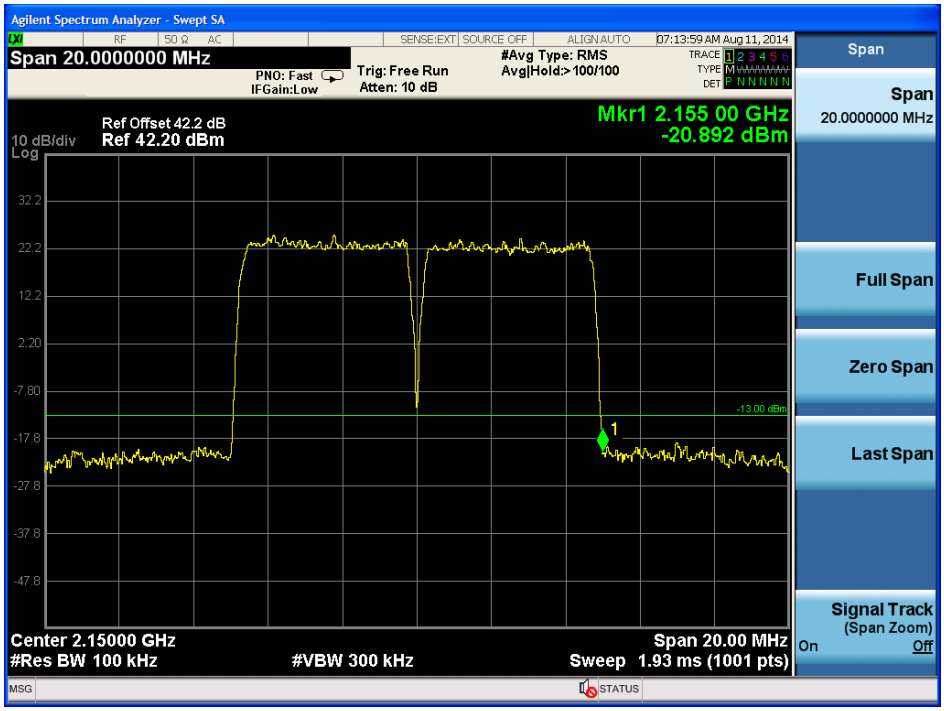
2.1.4 one signal input —Upper Edge



2.1.5 one signal input —Lower Edge（2 Carriers 5M modulation）



2.1.6 one signal input —Upper Edge



2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=2113MHz,f2=2116MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=2149MHz,f2=2152MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

y) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

z) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=2110M modulationHz,F2=2155M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

y) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

z) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=2107MHz,F2=2158MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

y) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

z) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=2104MHz,F2=2161MHz

2.2.2 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:2110M modulationHz	-32.65	-13dBm	9.65
	Higher:2155M modulationHz	-33.97		10.97
5rd	Lower:2107MHz	-35.21	-13dBm	12.21
	Higher:2158MHz	-34.65		11.65
7rd	Lower:2104MHz	-37.21	-13dBm	14.21
	Higher:2161MHz	-37.03		14.03

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=2115M modulationHz,f2=2125M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=2140MHz,f2=2150MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

aa) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

bb) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=2110M modulationHz,F2=2155M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

aa) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

bb) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=2100MHz,F2=2165M modulationHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

aa) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

bb) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=2090MHz,F2=2175M modulationHz

2.2.4 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:2110M modulationHz	-16.25	-13dBm	3.25
	Higher:2155M modulationHz	-20.91		7.91
5rd	Lower:2100MHz	-19.32	-13dBm	6.32
	Higher:2165M modulationHz	-22.47		9.47
7rd	Lower:2090MHz	-23.12	-13dBm	10.12
	Higher:2175M modulationHz	-25.21		12.21

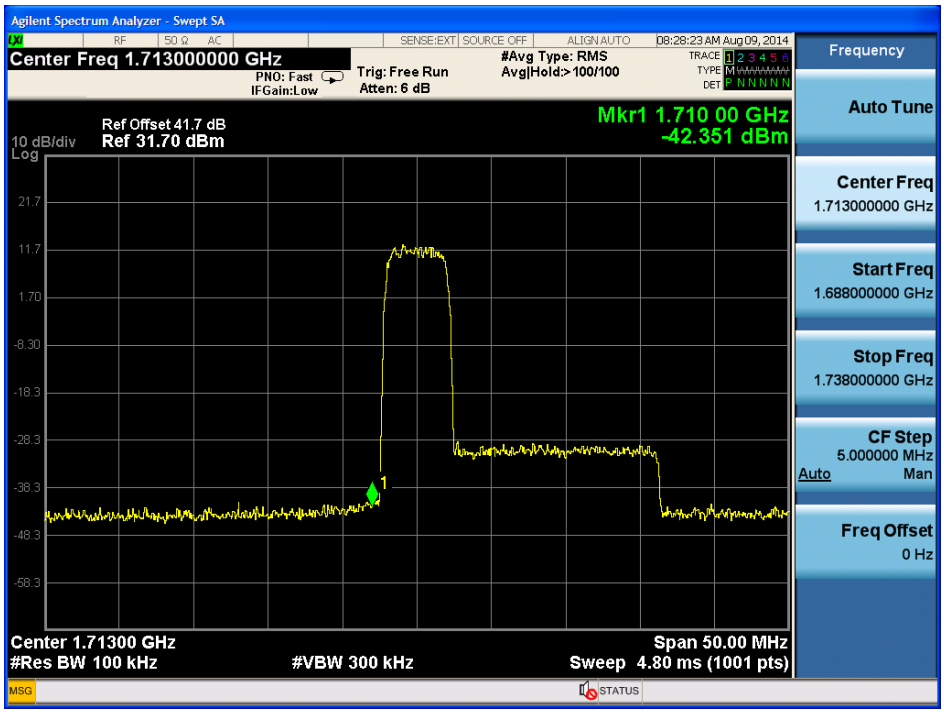
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

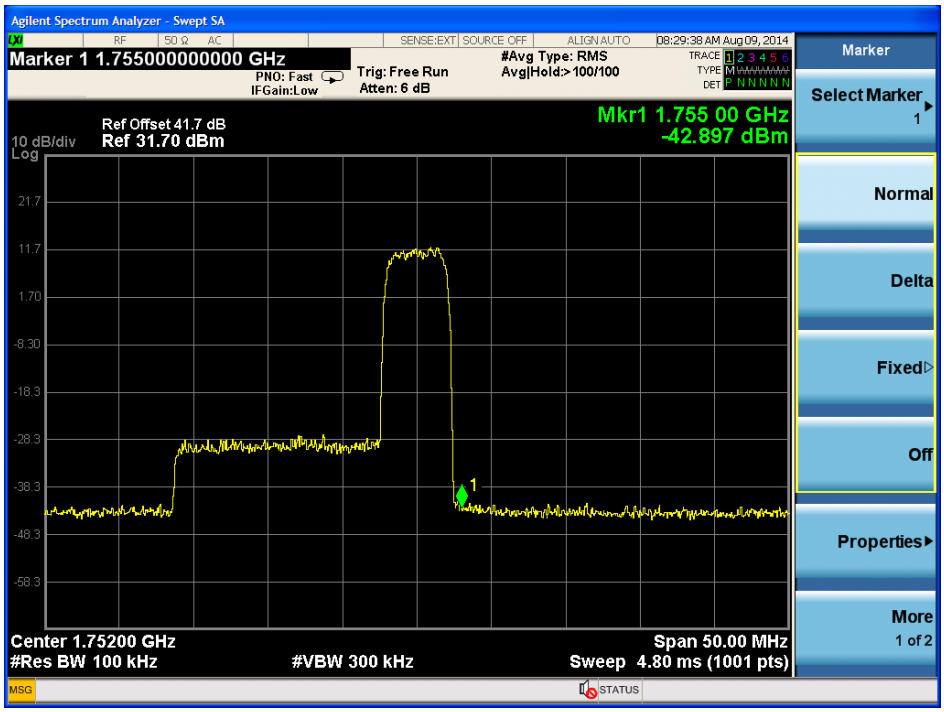
10) uplink: 1710MHz to1755MHz

1.1 WCDMA Mode

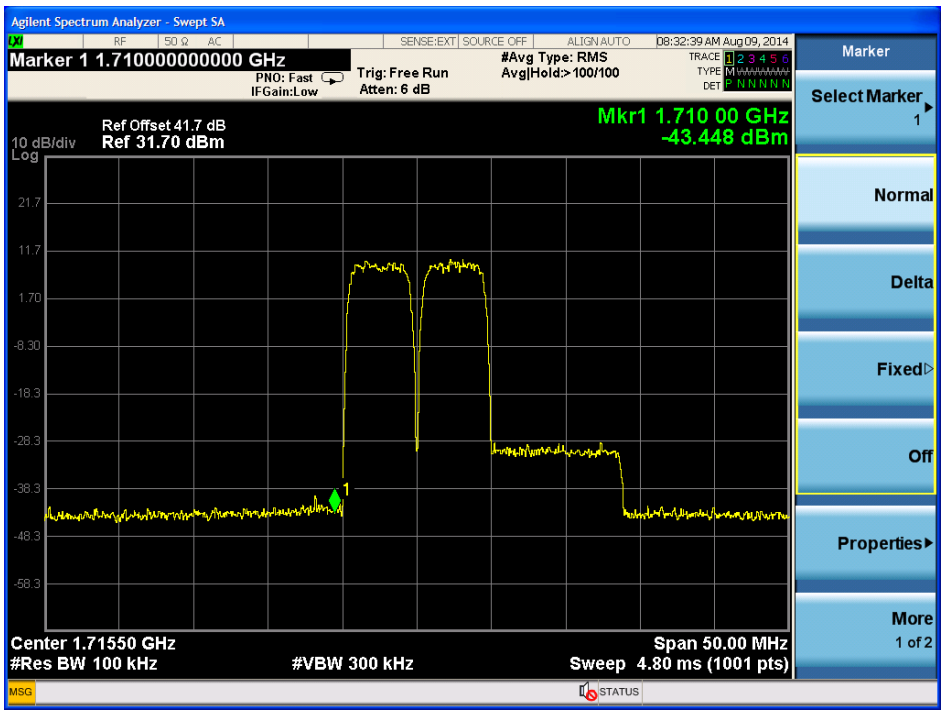
1.1.1 one signal input —Lower Edge（1 Carriers 5M modulation）



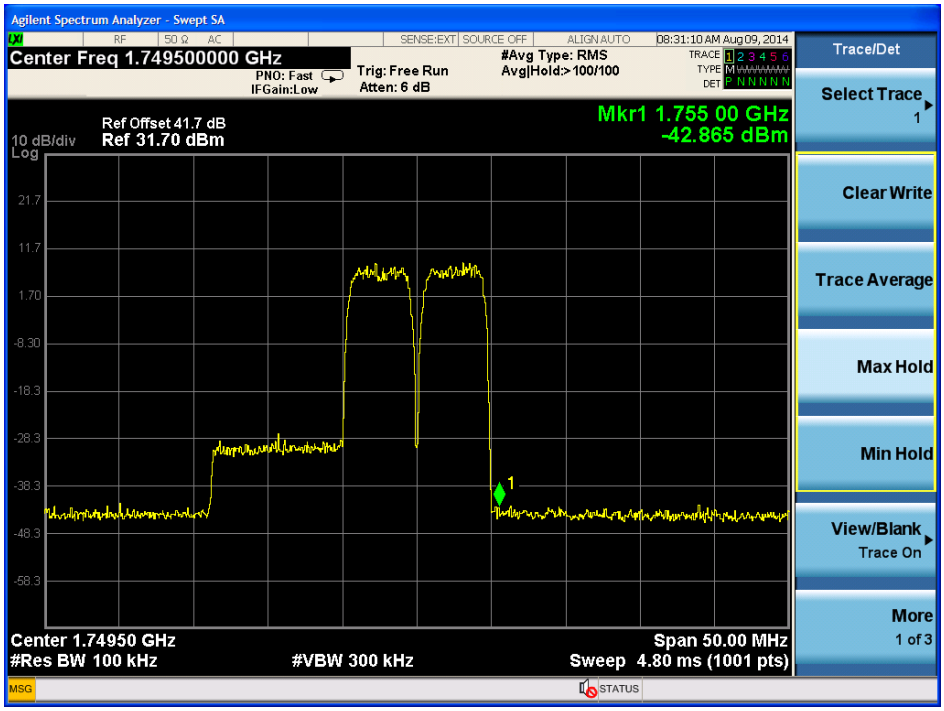
1.1.2 one signal input —Upper Edge



1.1.3 two signal input —Lower Edge（2 Carriers 5M modulation）

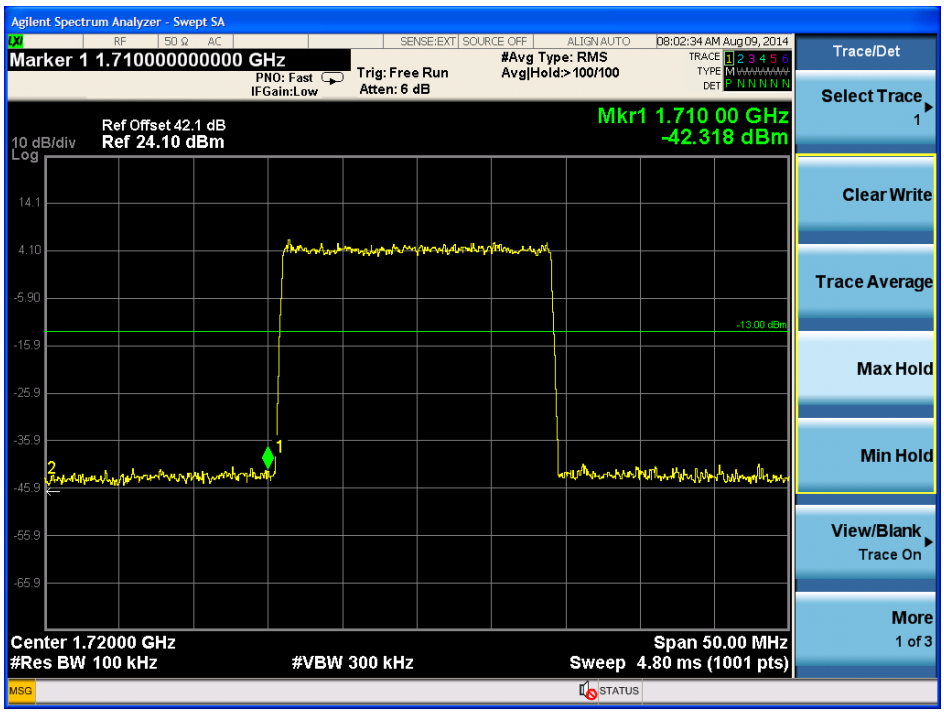


1.1.4 two signal input —Upper Edge

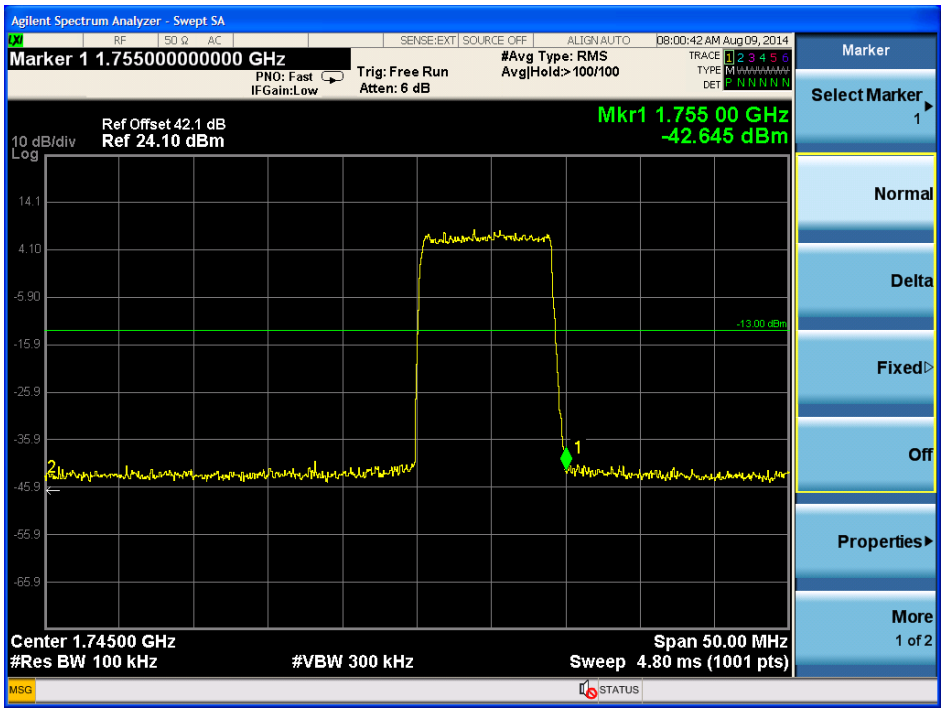


2.1 LTE Mode

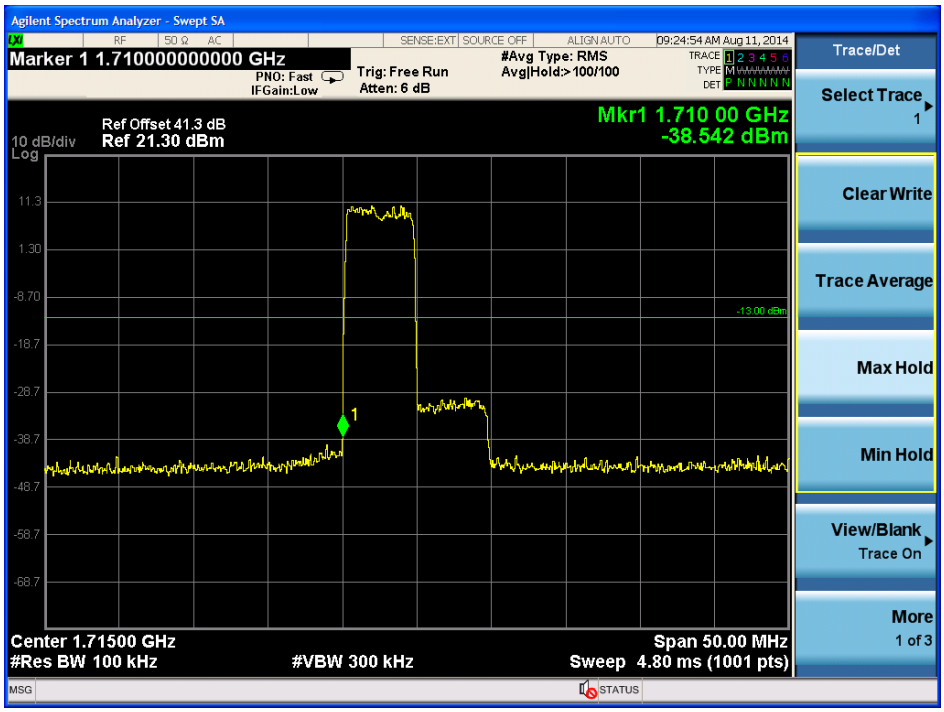
2.1.1 one signal input —Lower Edge（1 Carrier 20M modulation）



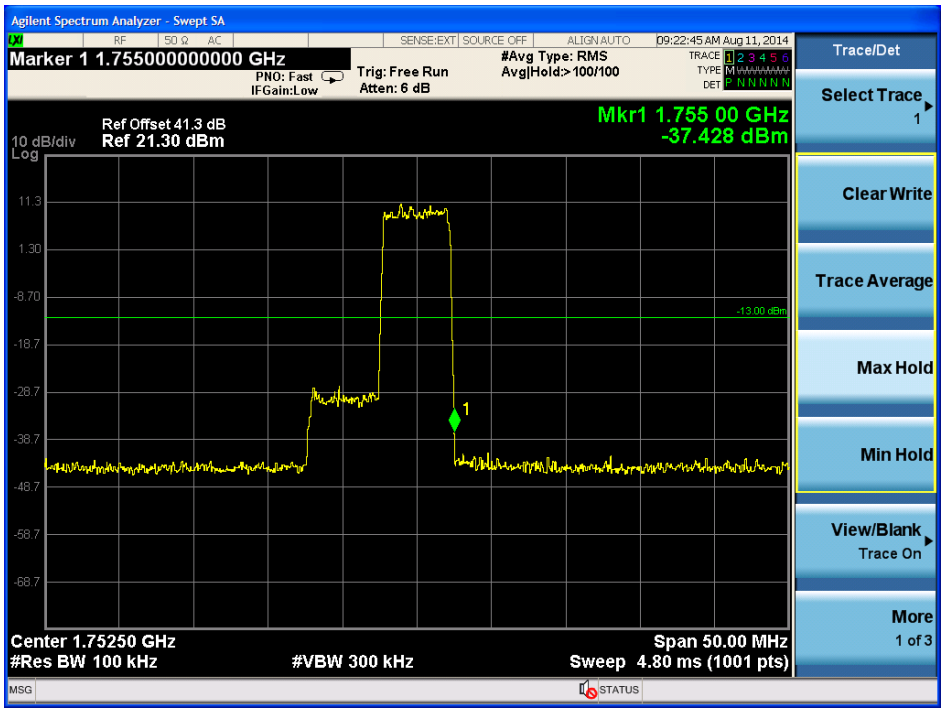
2.1.2 one signal input —Upper Edge



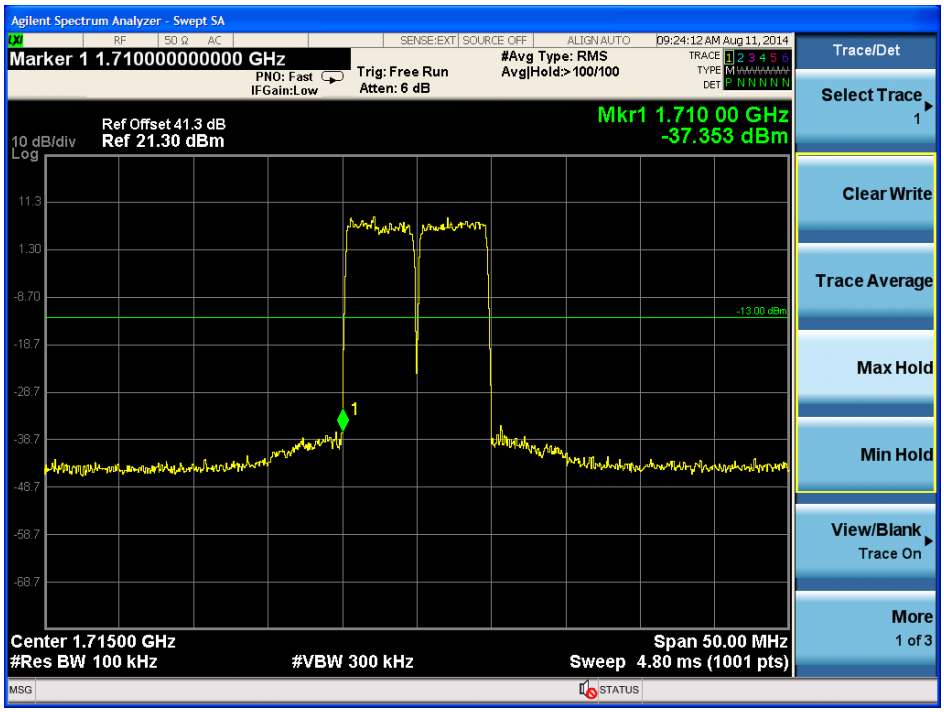
2.1.3 one signal input —Lower Edge（1 Carriers 5M modulation）



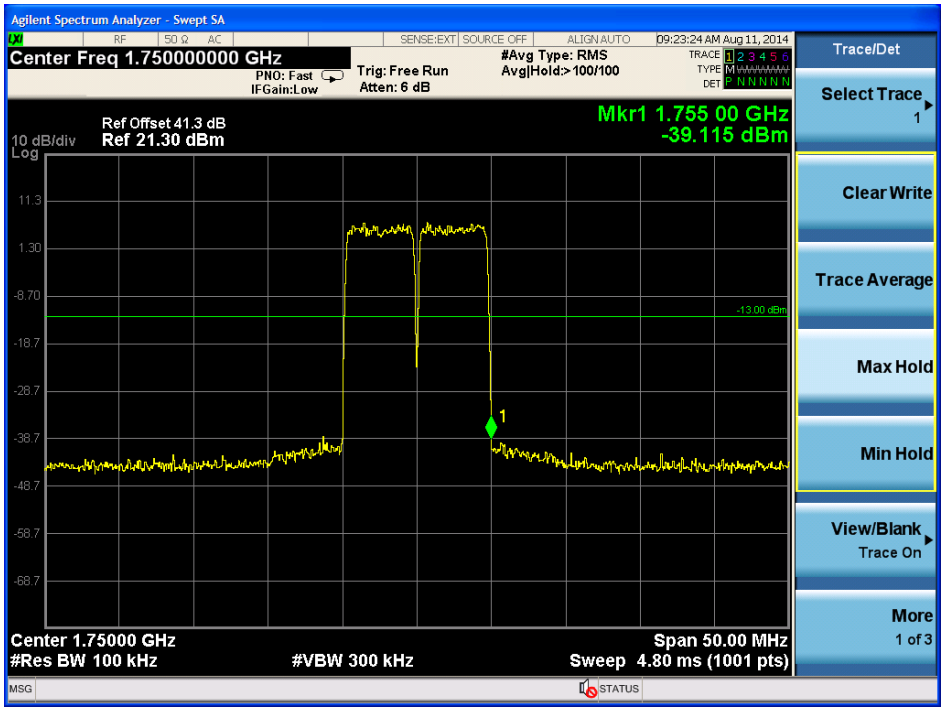
2.1.4 one signal input —Upper Edge



2.1.5 one signal input —Lower Edge（2 Carriers 5M modulation）



2.1.6 one signal input —Upper Edge



2.2 intermodulation spurious emissioins

For WCDMA mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1713MHz,f2=1716MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1749MHz,f2=1752MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

cc) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

dd) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1710M modulationHz,F2=1755M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

cc) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

dd) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1707MHz,F2=1758MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

cc) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

dd) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1704MHz,F2=1761MHz

2.2.2 Input power:-63dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1710M modulationHz	-43.45	-13dBm	30.45
	Higher:1755M modulationHz	-42.81		29.81
5rd	Lower:1707MHz	-45.31	-13dBm	12.31
	Higher:1758MHz	-46.15		13.15
7rd	Lower:1704MHz	-47.21	-13dBm	14.21
	Higher:1761MHz	-47.36		14.36

For LTE mode:

2.2.3 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=1715M modulationHz,f2=1725M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=1740MHz,f2=1750MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

ee) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

ff) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=1710M modulationHz,F2=1755M modulationHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

ee) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

ff) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=1700MHz,F2=1765M modulationHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

ee) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

ff) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=1690MHz,F2=1775M modulationHz

2.2.4 Input power:-63dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:1710M modulationHz	-37.32	-13dBm	24.32
	Higher:1755M modulationHz	-39.15		26.15
5rd	Lower:1700MHz	-40.12	-13dBm	27.12
	Higher:1765M modulationHz	-41.53		28.53
7rd	Lower:1690MHz	-42.16	-13dBm	29.16
	Higher:1775M modulationHz	-43.21		30.21

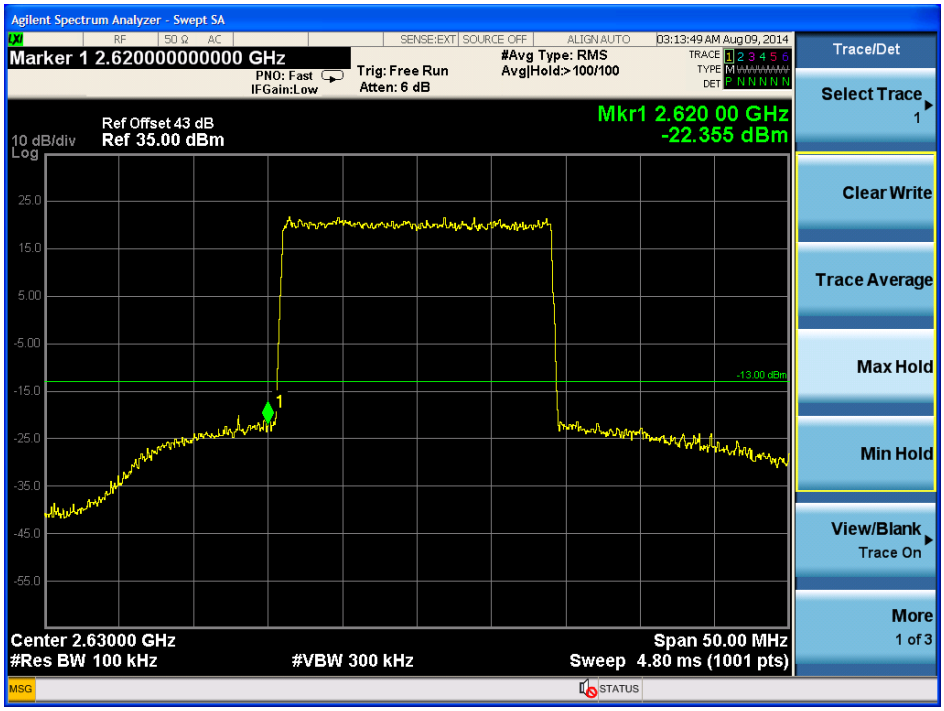
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

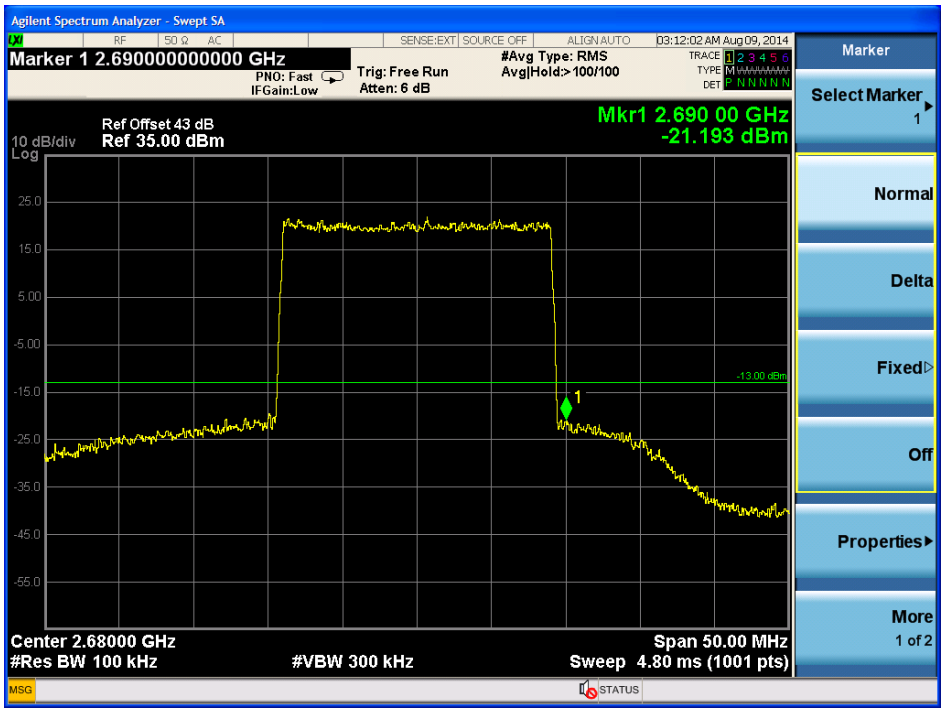
11) downlink: 2620MHz to 2690MHz(LTE Mode)

LTE Mode

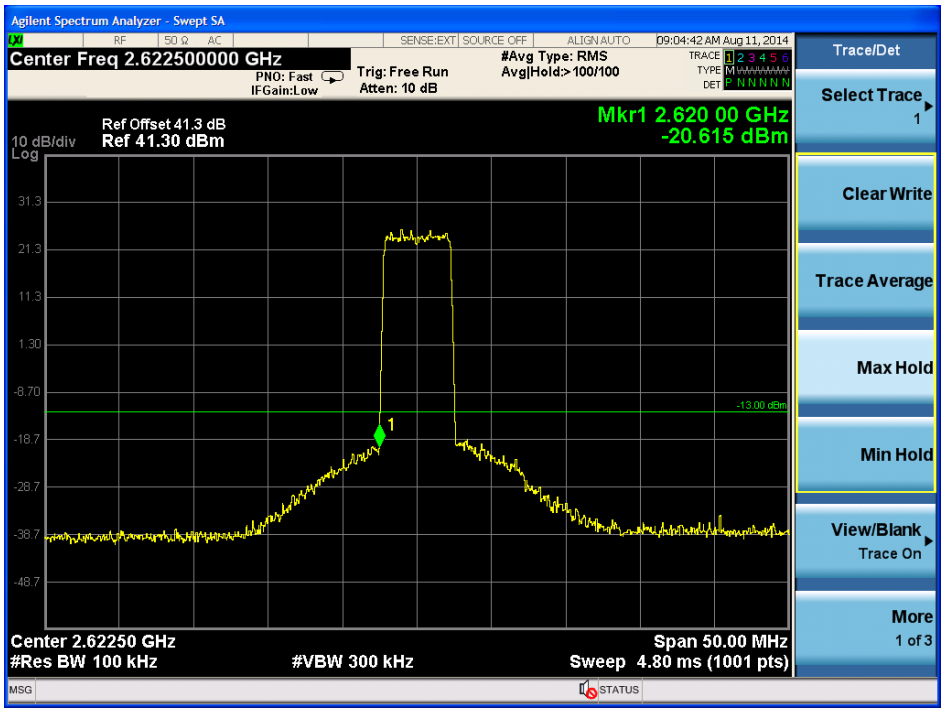
1.1 one signal input —Lower Edge（1 Carriers 20M modulation）



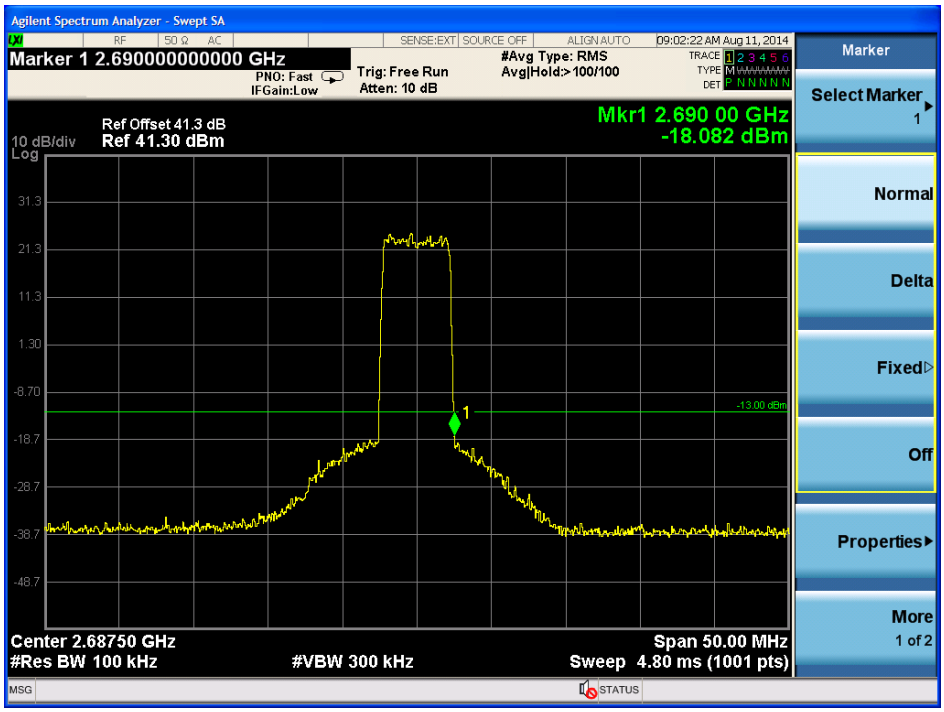
1.2 one signal input —Upper Edge



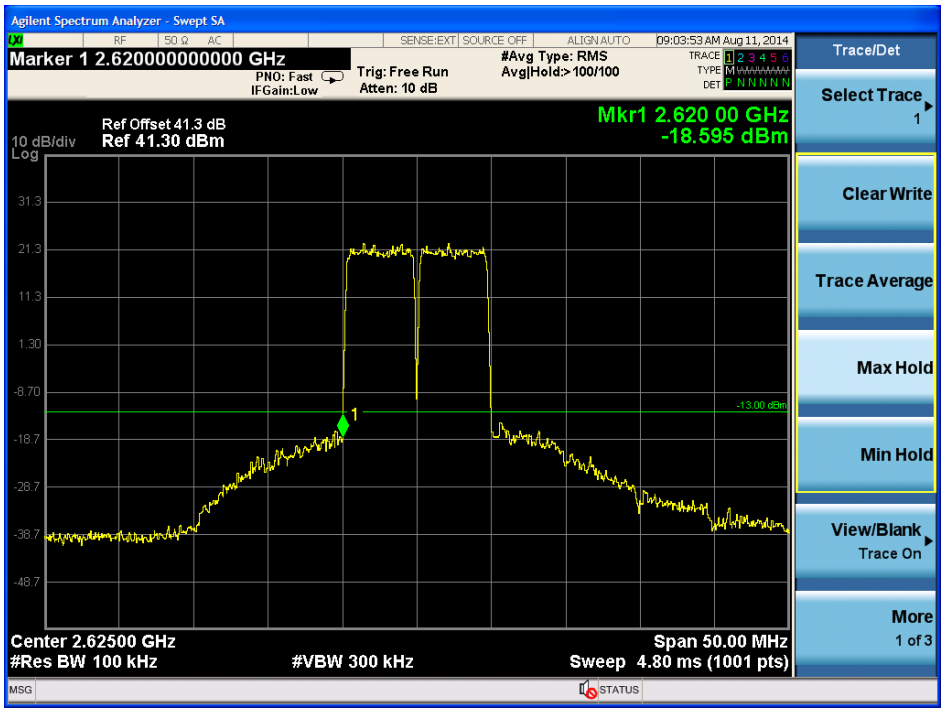
1.3 one signal input —Lower Edge（1 Carriers 5M modulation）



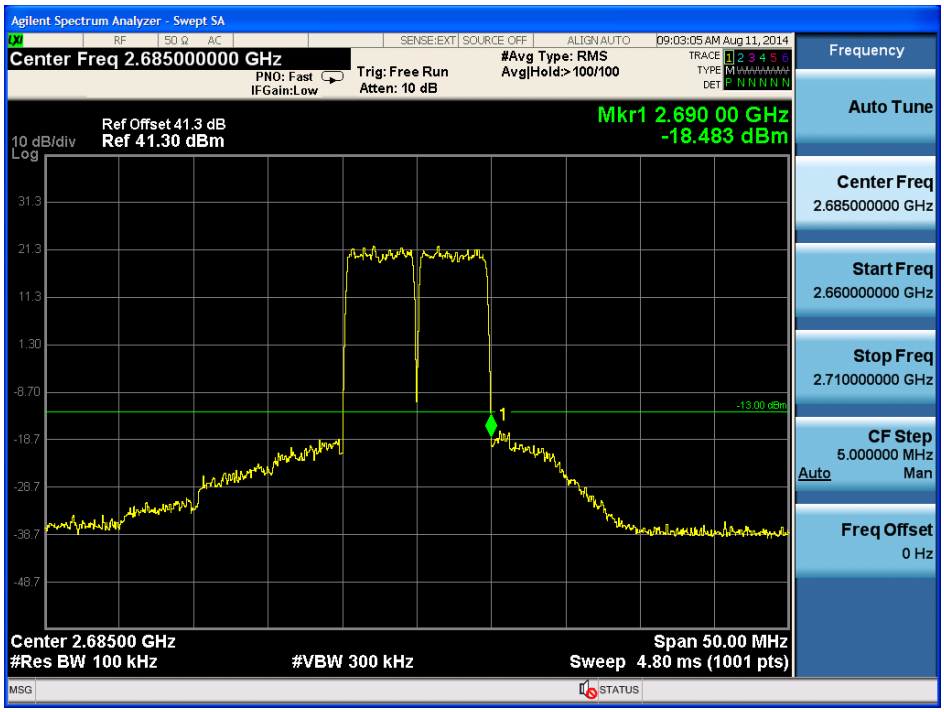
1.4 one signal input —Upper Edge



1.5 two signal input —Lower Edge（2 Carriers 5M modulation）



1.6 two signal input —Upper Edge



2.2 intermodulation spurious emissioins

For LTE mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=2625M modulationHz,f2=2635M modulationHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=2675M modulationHz,f2=2685M modulationHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

gg) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

hh) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=2620MHz,F2=2690MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

gg) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

hh) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=2610M modulationHz,F2=2700MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

gg) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

hh) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=2600MHz,F2=2710M modulationHz

2.2.2 Input power:-47dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:2620MHz	-18.64	-13dBm	5.64
	Higher:2690MHz	-18.52		5.52
5rd	Lower:2610M modulationHz	-21.23	-13dBm	8.23
	Higher:2700MHz	-22.15		9.15
7rd	Lower:2600MHz	-24.36	-13dBm	11.36
	Higher:2710M modulationHz	-25.37		12.37

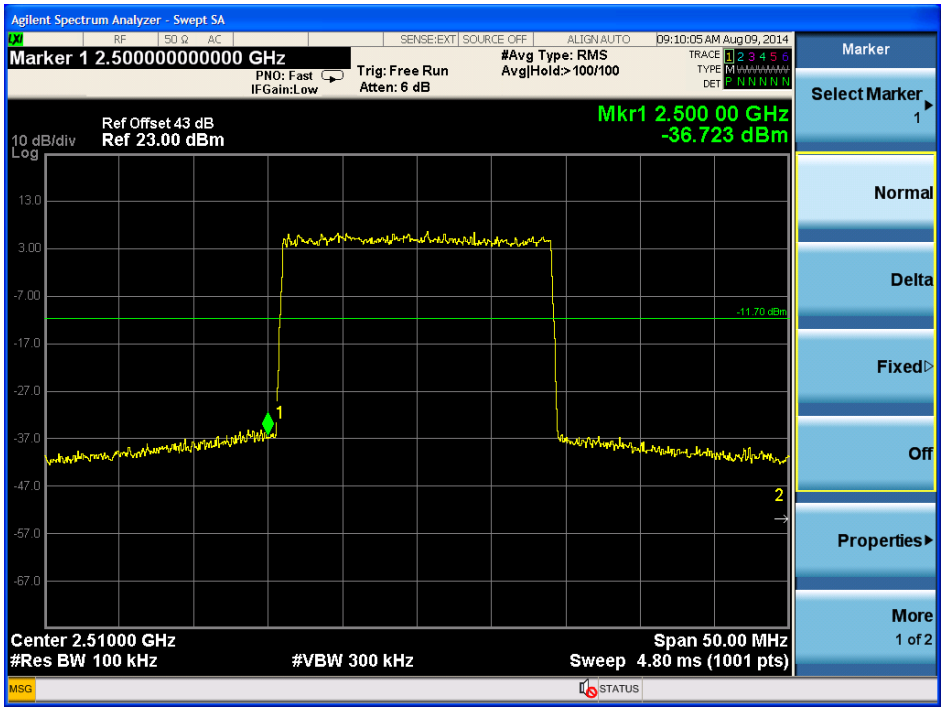
Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

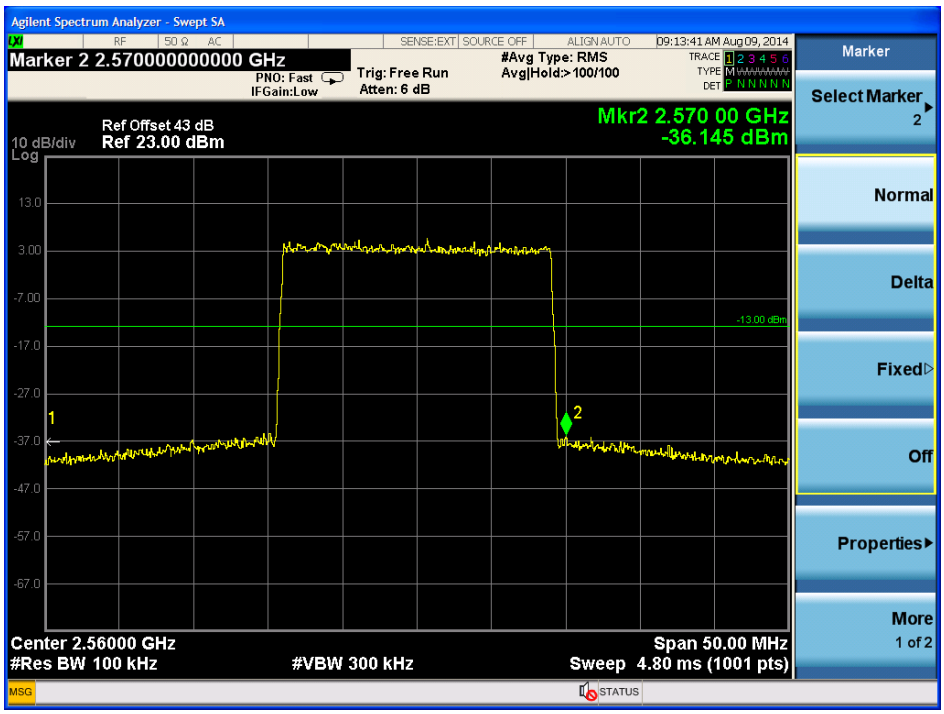
12) uplink: 2500MHz to2570MHz

1.1 **LTE Mode**

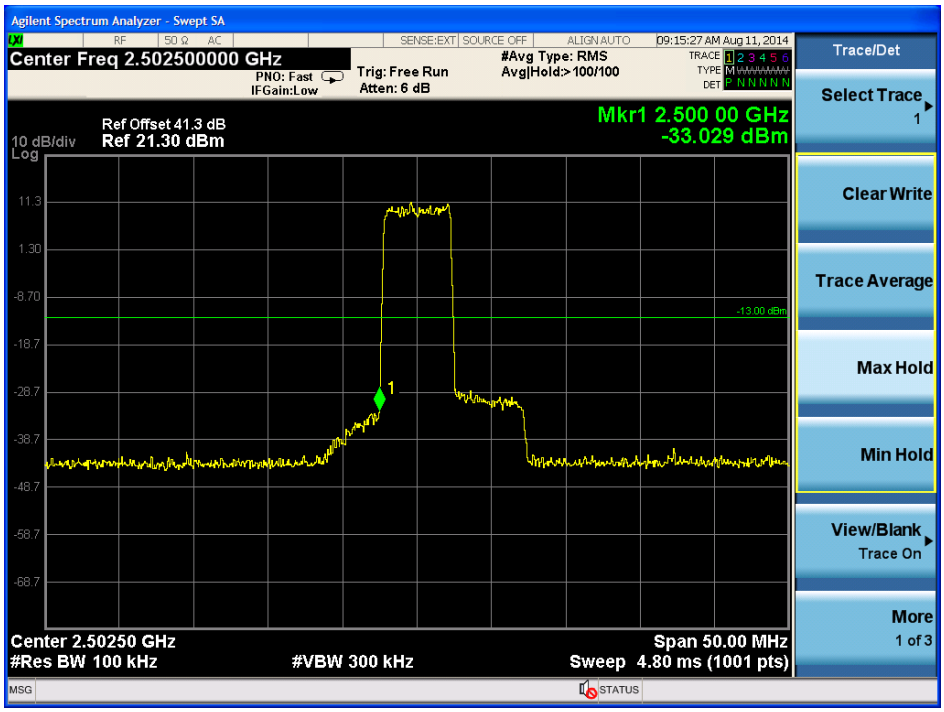
1.1 one signal input —Lower Edge（1 Carriers 20M modulation）



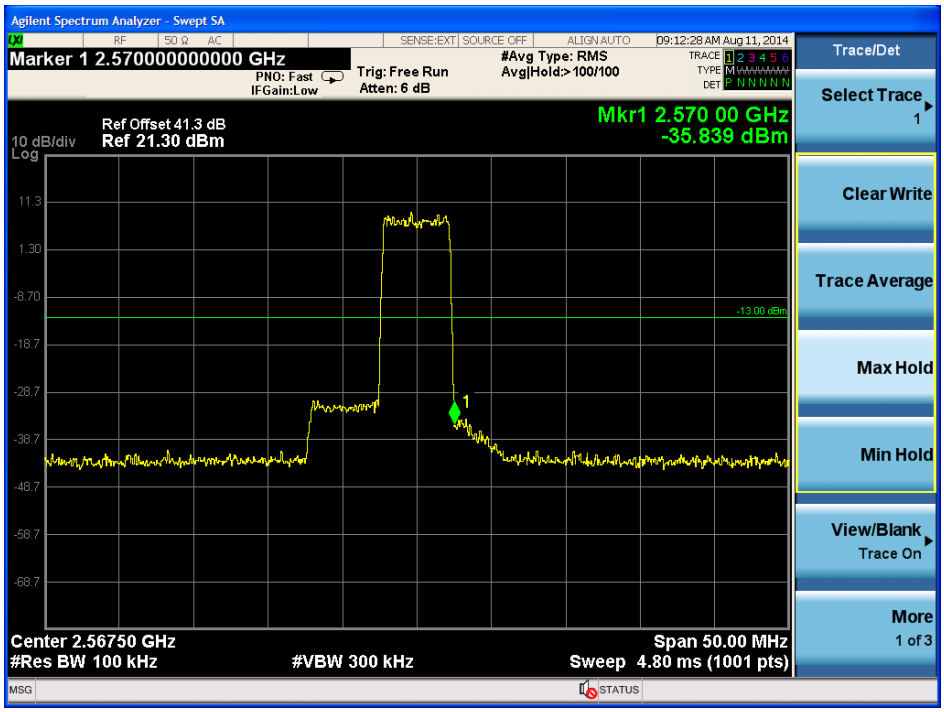
1.2 one signal input —Upper Edge



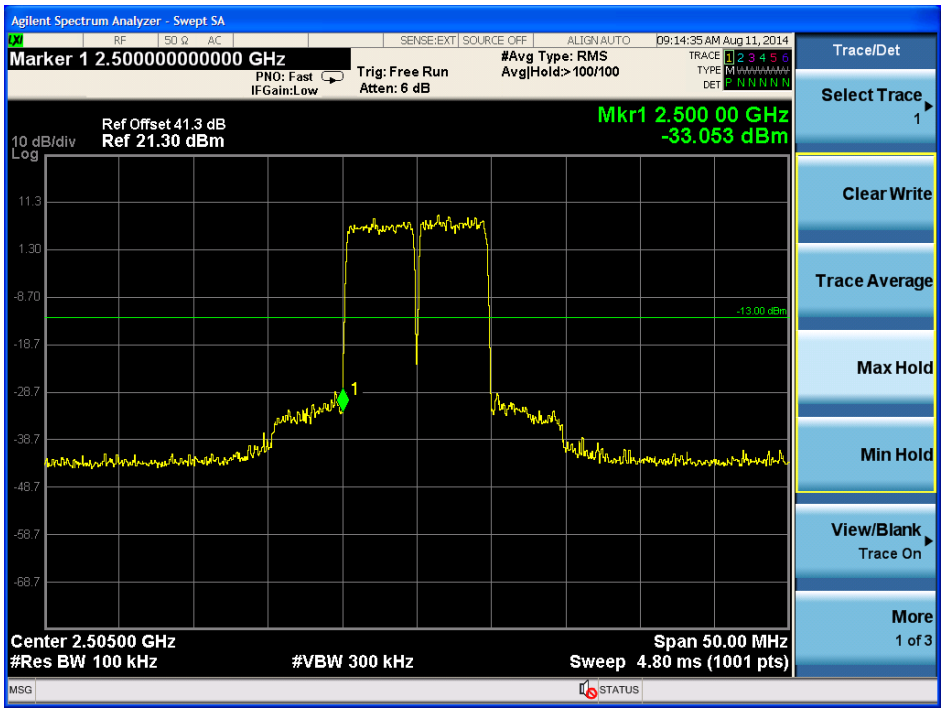
1.3 one signal input —Lower Edge（1 Carriers 5M modulation）



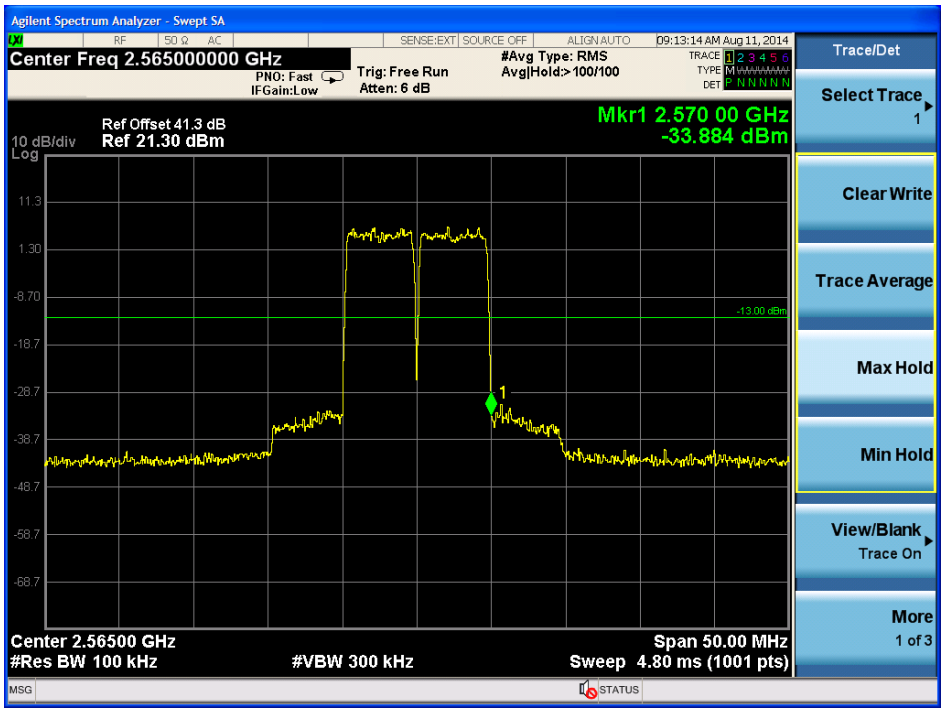
1.4 one signal input —Upper Edge



1.5 two signal input —Lower Edge（2 Carriers 5M modulation）



1.6 two signal input —Upper Edge



2.2 intermodulation spurious emissioins

For LTE mode:

2.2.1 Input frequency:

1)in lower edge test:f1 is the lower edge frequency +1 channel frequency, and f2 is +2 channel frequency

f1=2510M modulationHz,f2=2520MHz

2)in higher edge test:f1 is the higher edge frequency -2 channel frequency, and f2 is -1 channel frequency

f1=2550MHz,f2=2560MHz

base the 3rd product frequency F1= 2f1-f2 and F2=2f2-f1, when the f1 and f2 frequency select above,

ii) in lower edge test, F1=2f1-(f1+△f)=f1-△f=lower edge frequency;

jj) in higher edge test, F2=2f2-(f2-△f)=f2+△f=higher edge frequency.

F1=2500MHz,F2=2570MHz

base the 5rd product frequency F1= 3f1-2f2 and F2=3f2-2f1, when the f1 and f2 frequency select above,

ii) in lower edge test, F1=3f1-2(f1+△f)=f1-2△f=lower edge frequency;

jj) in higher edge test, F2=3f2-2(f2-△f)=f2+2△f=higher edge frequency.

F1=2490MHz,F2=2580MHz

base the 7rd product frequency F1= 4f1-3f2 and F2=4f2-3f1, when the f1 and f2 frequency select above,

ii) in lower edge test, F1=4f1-3(f1+△f)=f1-3△f=lower edge frequency;

jj) in higher edge test, F2=4f2-3(f2-△f)=f2+3△f=higher edge frequency.

F1=2580MHz,F2=2590MHz

2.2.2 Input power:-63dBm

measure frequency		product Value (dBm)	Limit (dBm)	Magin (dB)
3rd	Lower:2500MHz	-33.05	-13dBm	20.05
	Higher:2570MHz	-33.92		20.92
5rd	Lower:2490MHz	-36.23	-13dBm	23.23
	Higher:2580MHz	-35.74		22.74
7rd	Lower:2480MHz	-37.35	-13dBm	24.35
	Higher:2590MHz	-37.69		24.69

Remark:

No other intermodulation spurious emissioins of above 7rd have been found,so only record the test data about the 3rd, 5rdand 7rd

7.2.4 Radiated Spurious Emissions

Test Date: 2014-08-19 and 2014-08-23

Test Requirement: FCC part 22.917(a) & FCC part 24.238(a) & FCC part 27.53(h)

22.917(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

24.238(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

27.53(h)For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

Test Method: FCC part 2.1053

ANSI/TIA-603-C-2004

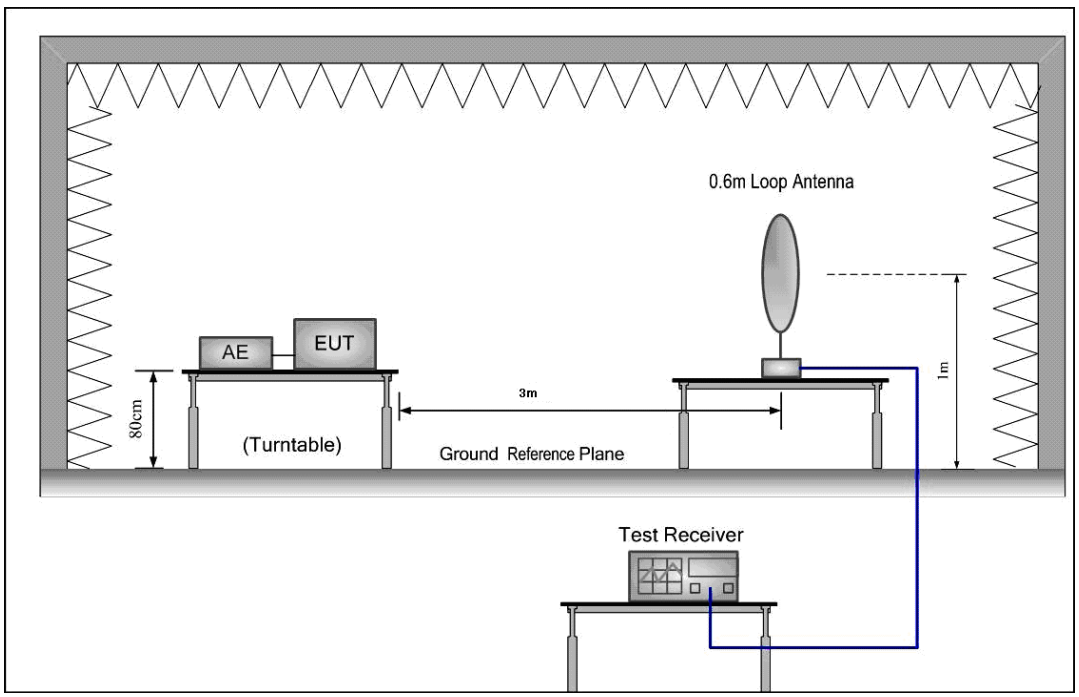
EUT Operation:

Status: Drive the EUT to maximum output power.

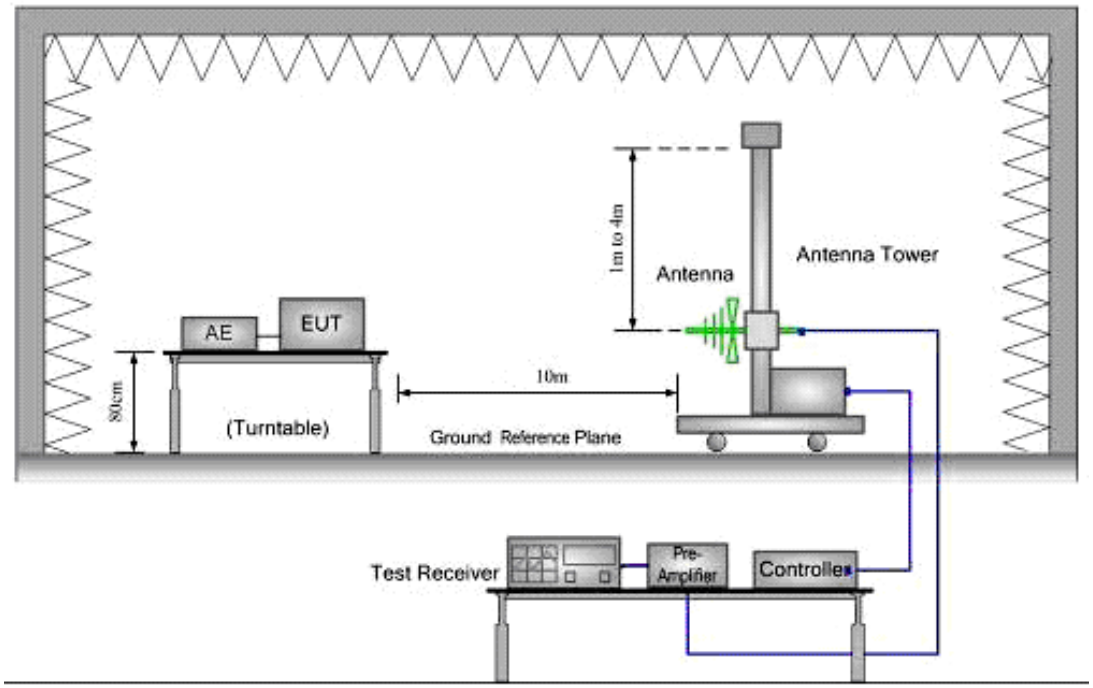
Conditions: Normal conditions

Application: Enclosure

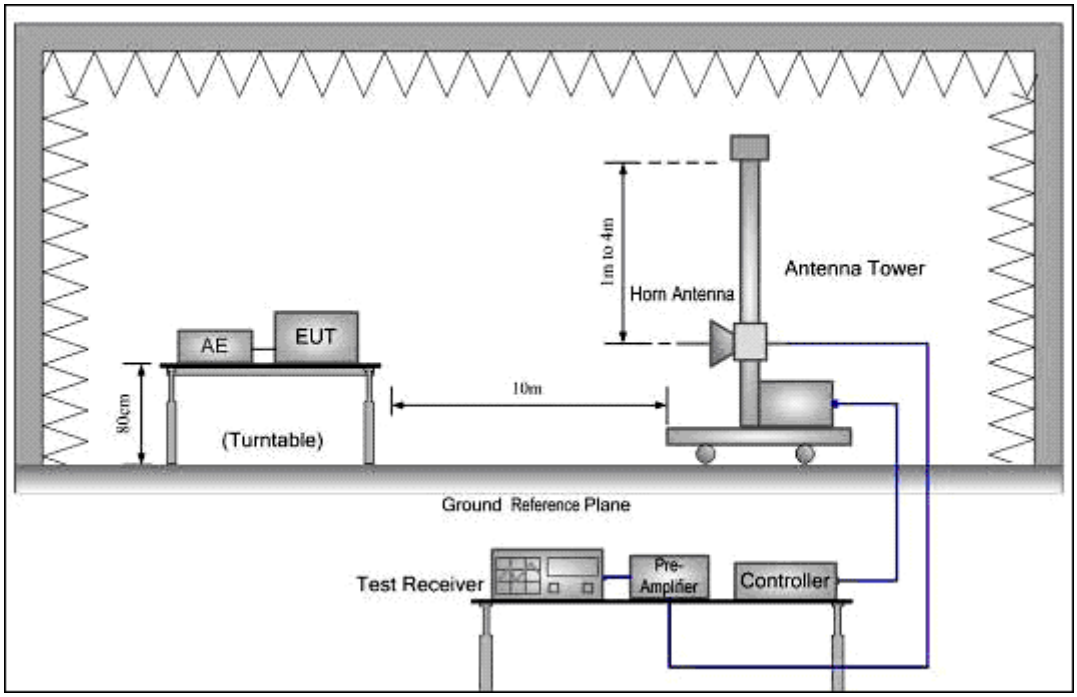
Test Configuration: 9 kHz to 30 MHz emissions:



30MHz to 1GHz emissions:



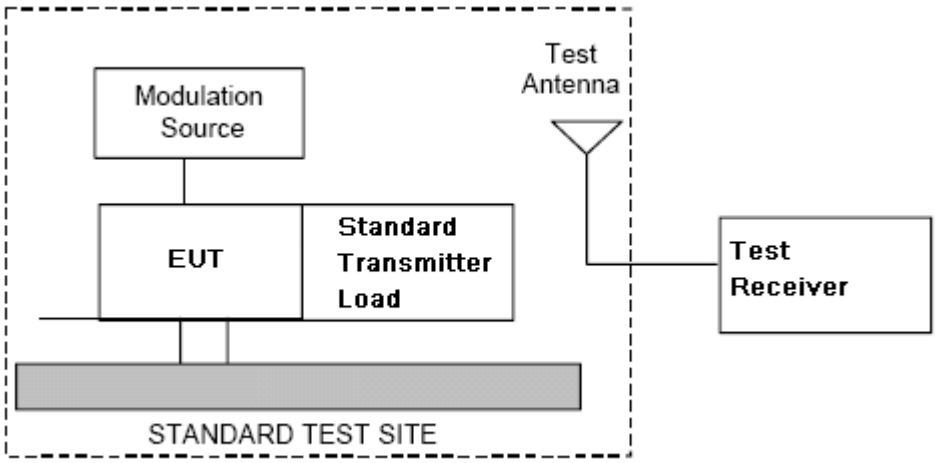
1GHz to 40GHz emissions:



Test Procedure:

1. Test the background noise level with all the test facilities;
2. Keep one transmitting path, all other connectors shall be connected by normal power or RF leads;
3. 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;
5. Read the radiated emissioins of the EUT enclosure.

Radiated Emissions Test Procedure:



a) Connect the equipment as illustrated.

b) Adjust the spectrum analyzer for the following settings:

1) Resolution Bandwidth = 100 kHz for spurious emissions below 1 GHz, and 1 MHz for spurious emissions above 1GHz.

2) Video Bandwidth = 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.

3) Sweep Speed slow enough to maintain measurement calibration.

4) Detector Mode = Positive Peak.

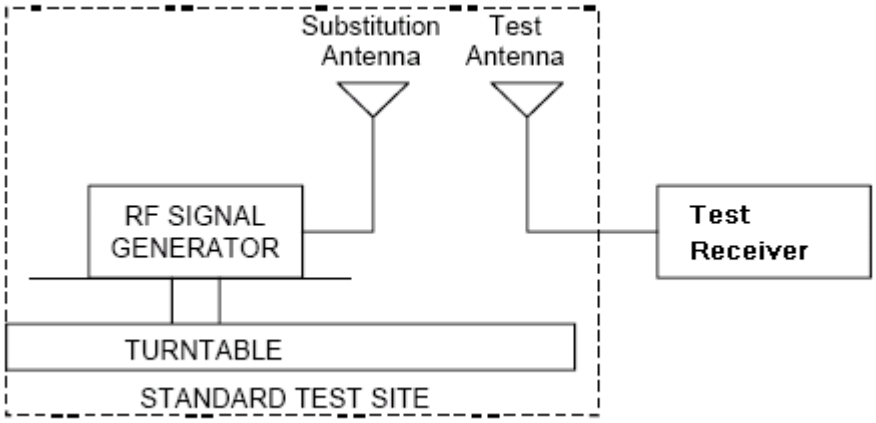
c) Place the transmitter to be tested on the turntable in the standard test site, The transmitter is transmitting into a nonradiating load that is placed on the turntable. The RF cable to this load should be of minimum length.

d) Measurements shall be made from30MHz to 10 tims of fundamental carrier, except for the region close to the carrier equal to ± 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 turntable 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 0.3 m 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 the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

l) Repeat step k) with both antennas vertically polarized for each spurious frequency.

m) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps k) and l) 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 an 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. (dBm) – 2.15

7.2.4.1 Measurement Record:

No emissions were detected within 20dB below the limit for the Downlink direction.

Remark:

The cabinet radiation was measured with the equipment transmitting a CW signal into a non-radiating 50 Ohm load at maximum output power on a signal frequency .

Measured were performed in the lowest, middle and hightest frequency for : the Downlink.

The spectrum was searched from 9KHz to 26GHz (10th Harmonic) for downlink;

7.2.5 Occupied Bandwidth

Test Date: 2014-08-19 to 2013-08-23

Test Requirement: KDB935210 D02

Test Method: FCC part 2.1049, KDB935210 D02

The spectral shape of the output should look similar to input for all modulations.

EUT Operation:

Status: Drive the EUT to maximum output power. .

Conditions: Normal conditions

Application: Cellular Band RF output ports

Test Configuration:

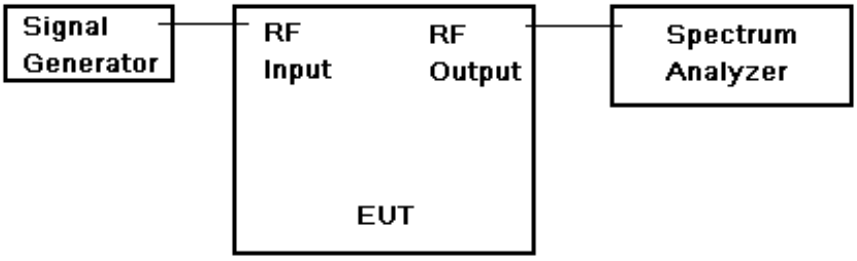


Fig.2. Conducted Spurious Emissions test configuration

Test Procedure:

a) Set the spectrum analyzer RBW 300 Hz or >1%&<2% emission bandwidth of carrier.

b) Capture the trace of input signal;

c) Connect the equipment as illustrated;

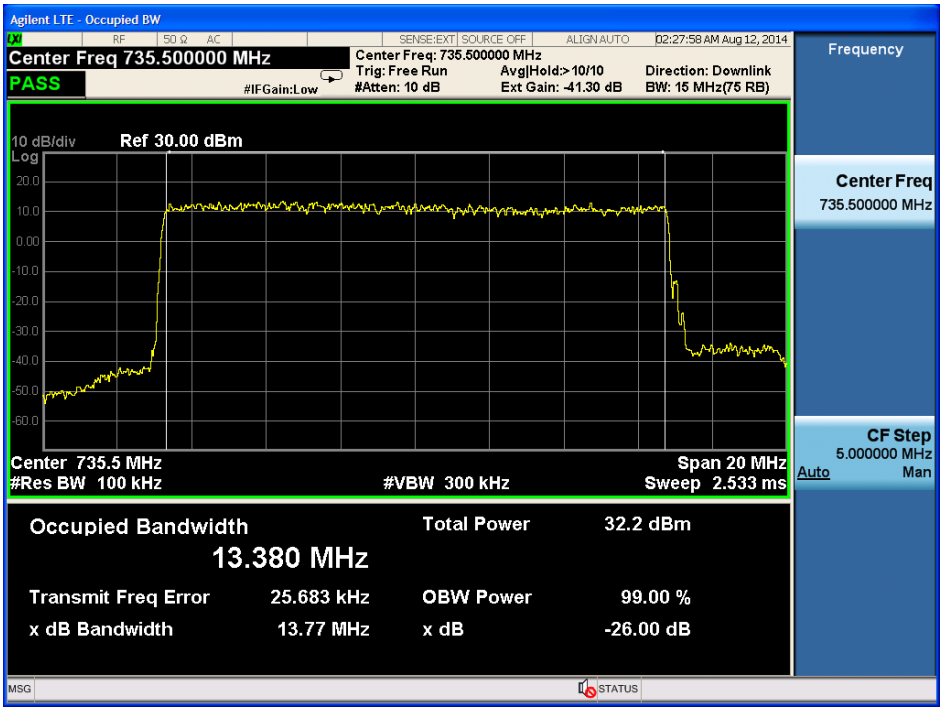
d) Capture the trace of output signal;

7.2.5.1 Measurement Record:

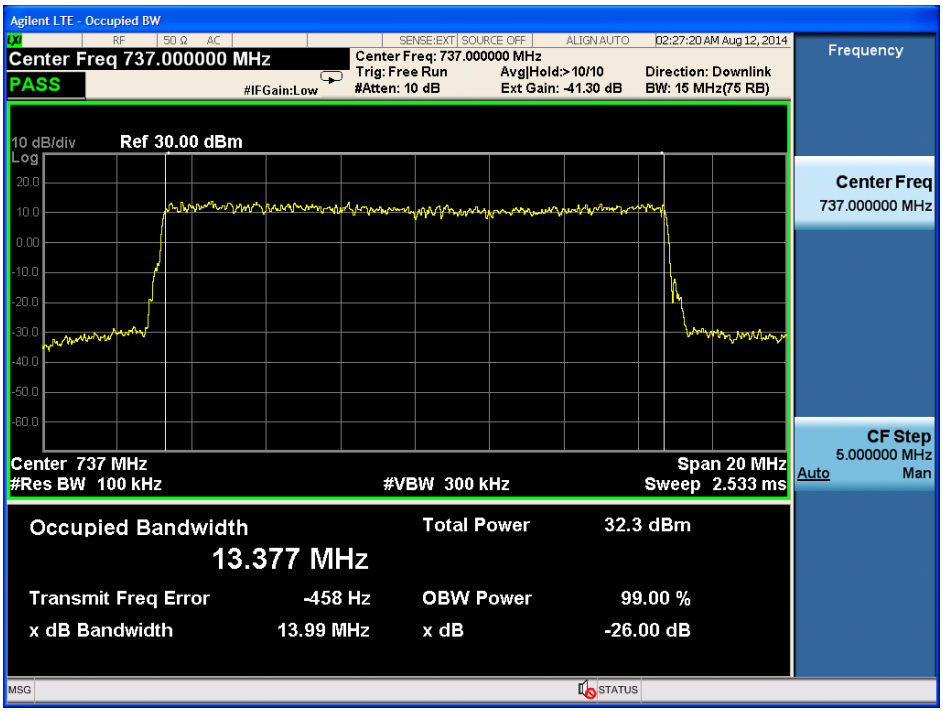
1)Downlink:728MHz to 746MHz(LTE mode)

Pretest the EUT with Maximum Rated Output Power(27dBm,30dBm,33dBm),finally find the worst case as the EUT with Maximum Rated Output power(33dBm).

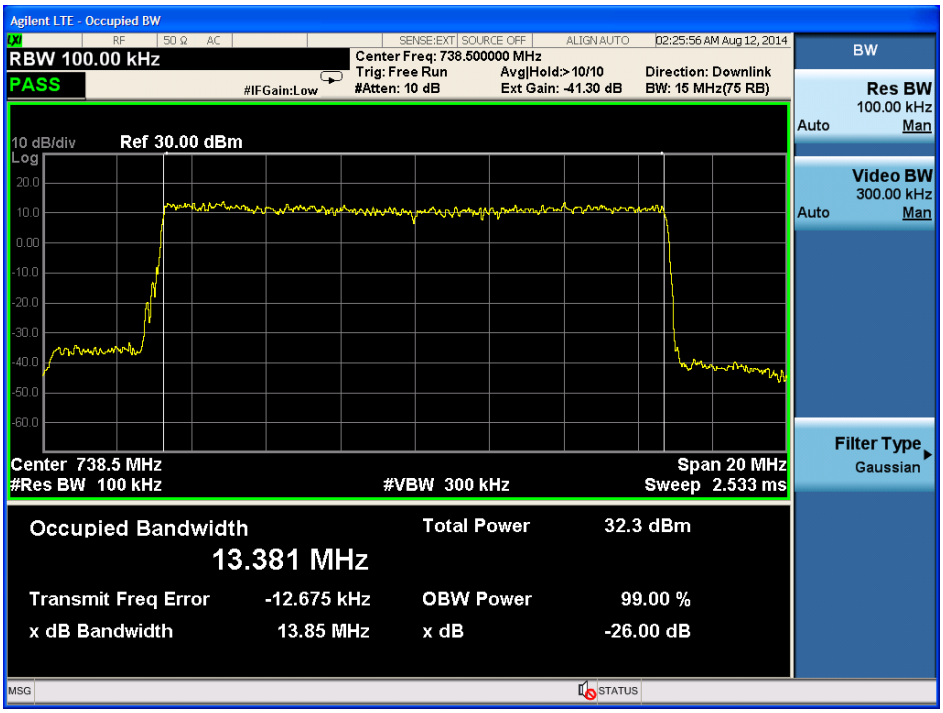
1.1 lowest frequency(15M modulation)



1.2 middle frequency



1.3 highest frequency



1.4 lowest frequency(**5M modulation**)