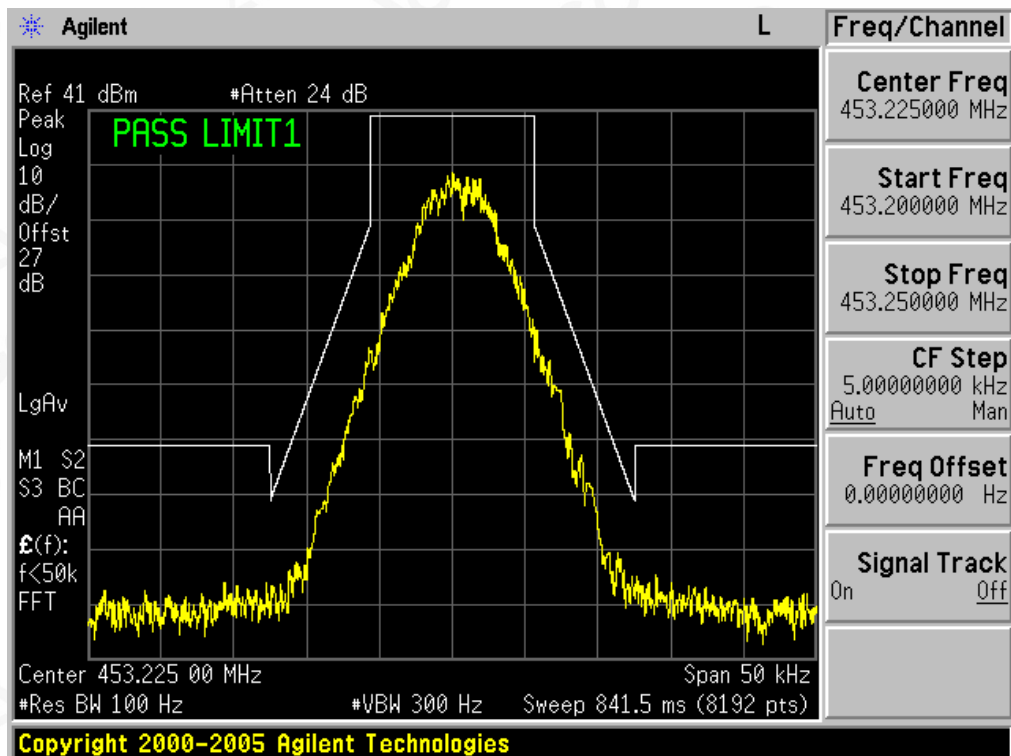
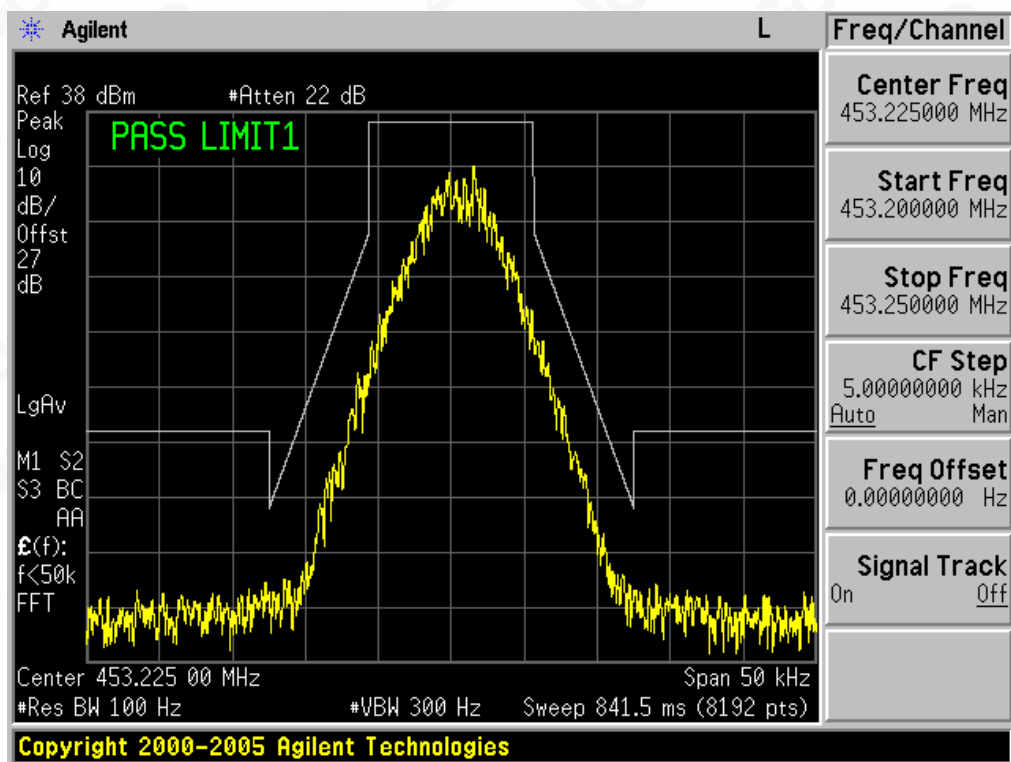


The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (10W)



The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (4W)



Agilent L

Ref 41 dBm #Atten 24 dB

Peak Log 10 dB/ Offst 27 dB

LgAv

M1 S2
S3 BC
AA

$\mathcal{E}(f)$:
f<50k
FFT

Center 454.025 00 MHz Span 50 kHz
#Res BW 100 Hz #VBW 300 Hz Sweep 841.5 ms (8192 pts)

Freq/Channel
Center Freq 454.025000 MHz
Start Freq 454.000000 MHz
Stop Freq 454.050000 MHz
CF Step 5.00000000 kHz
Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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Agilent T Freq/Channel

Ref 38 dBm #Atten 22 dB

Peak Log 10 dB/Offst 27 dB

PASS LIMIT1

LgRv

M1 S2 S3 BC AA

$E(f)$: f<50k FFT

Center 454.025 00 MHz Span 50 kHz

#Res BW 100 Hz #VBW 300 Hz Sweep 841.5 ms (8192 pts)

Center Freq 454.025000 MHz

Start Freq 454.000000 MHz

Stop Freq 454.050000 MHz

CF Step 5.00000000 kHz

Auto Man

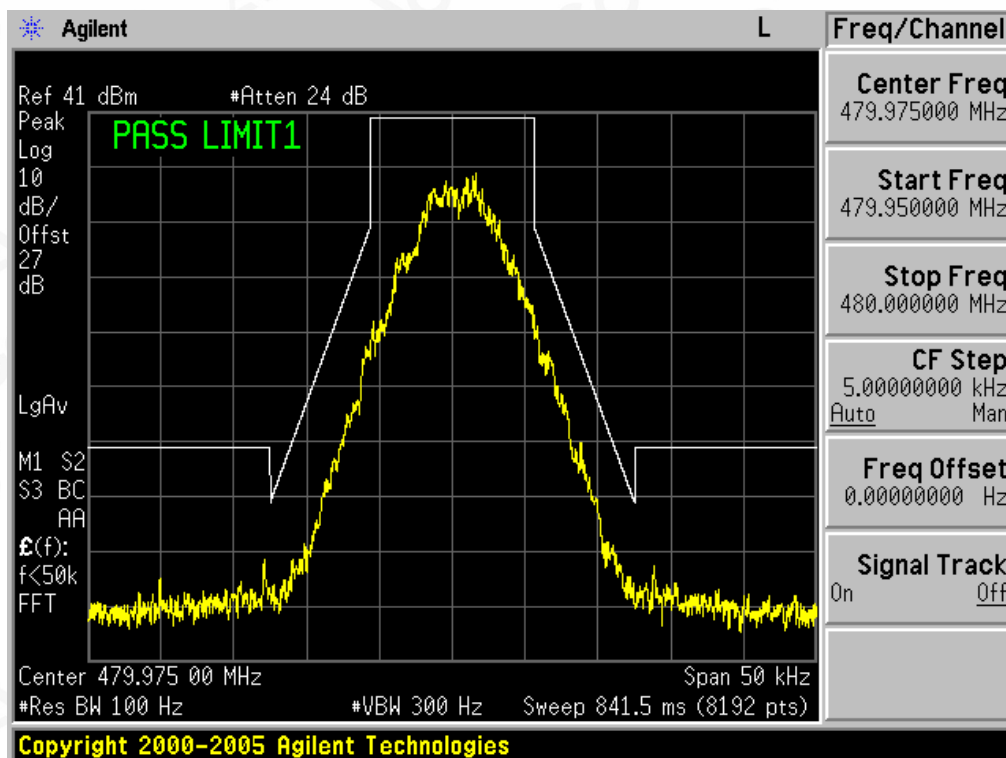
Freq Offset 0.00000000 Hz

Signal Track On Off

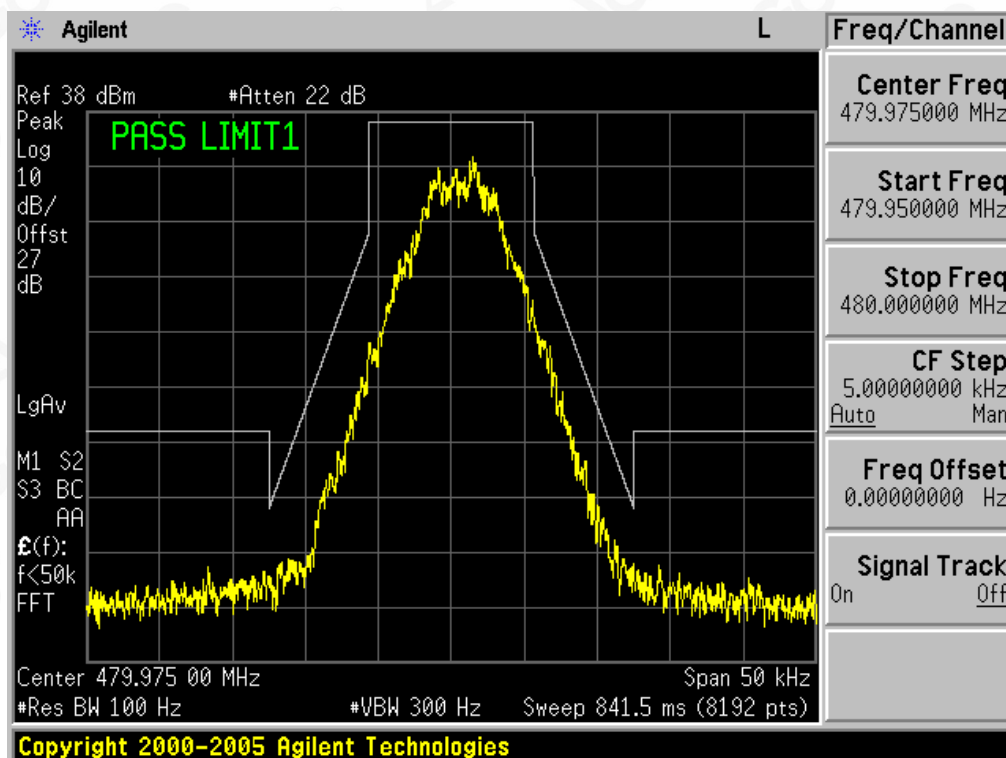
Copyright 2000-2005 Agilent Technologies



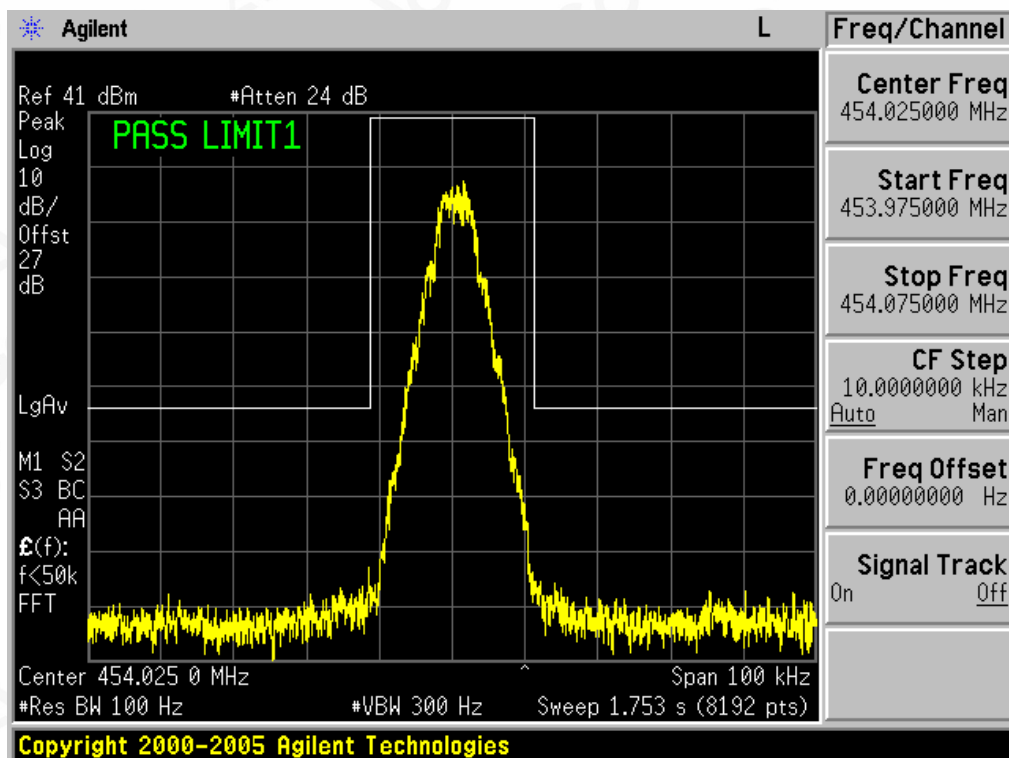
The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (10W)



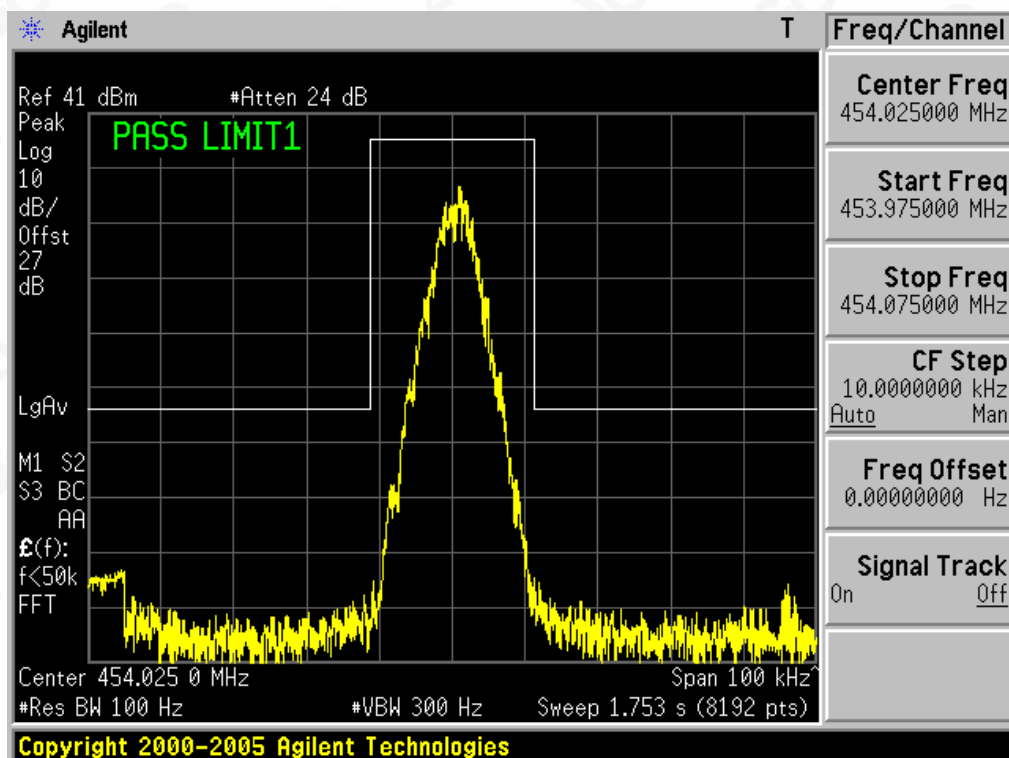
The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (4W)



The Worst Emission Mask § 22.359 for (454.025 MHz) of 12.5 KHz channel Separation (10W)



The Worst Emission Mask § 22.359 for (454.025 MHz) of 12.5 KHz channel Separation (4W)



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9. MODULATION CHARACTERISTICS

9.1 PROVISIONS APPLICABLE

According to FCC§2.1047 and §90.207, for Voice Modulation Communication Equipment, the frequency response of the audio modulation circuit over a range of 100 to 5000Hz shall be measured.

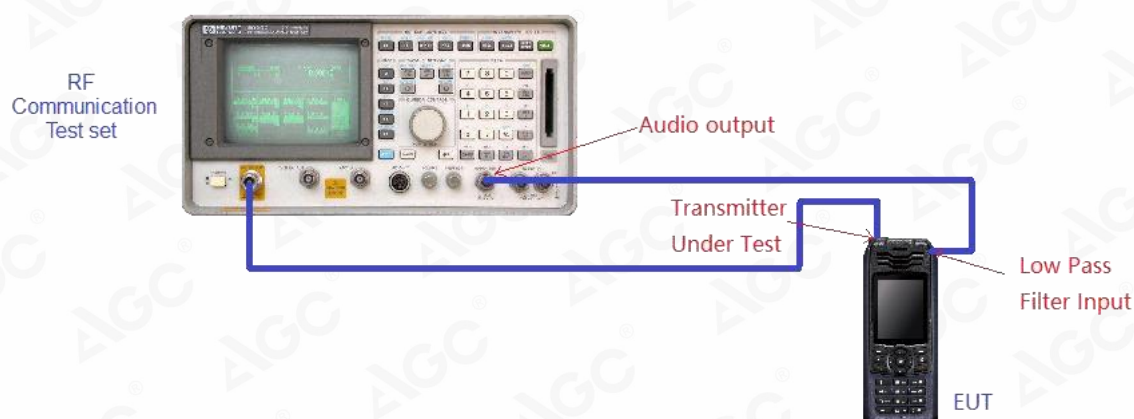
9.2 MEASUREMENT METHOD

9.2.1 Modulation Limit

- (1). Configure the EUT as shown in figure 1, adjust the audio input for 60% of rated system deviation at 1KHz using this level as a reference (0dB) and vary the input level from -20 to +20dB. Record the frequency deviation obtained as a function of the input level.
- (2). Repeat step 1 with input frequency changing to 300, 1000, 1500 and 3000Hz in sequence.

9.2.2 Audio Frequency Response

- (1). Configure the EUT as shown in figure 1.
- (2). Adjust the audio input for 20% of rated system deviation at 1 KHz using this level as a reference (0 dB).
- (3). Vary the Audio frequency from 100 Hz to 10 KHz and record the frequency deviation.
- (4). Audio Frequency Response = $20\log_{10}(\text{Deviation of test frequency}/\text{Deviation of 1 KHz reference})$.



9.3 MEASUREMENT RESULT

UHF:

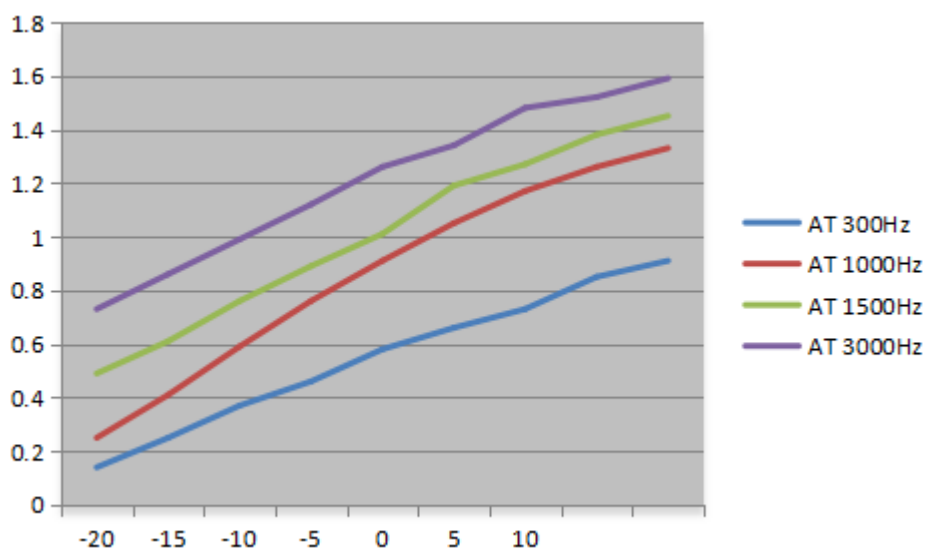
Analog:

TEST RESULT TS FOR H POWER H LEVEL

(A). MODULATION LIMIT:

Bottom Channel @ 12.5 KHz Channel Separations

Modulation Level (dB)	Peak Freq. Deviation At 300 Hz	Peak Freq. Deviation At 1000 Hz	Peak Freq. Deviation At 1500 Hz	Peak Freq. Deviation At 3000 Hz
-20	0.14	0.25	0.49	0.73
-15	0.25	0.41	0.61	0.86
-10	0.37	0.59	0.76	0.99
-5	0.46	0.76	0.89	1.12
0	0.58	0.91	1.01	1.26
+5	0.66	1.05	1.19	1.34
+10	0.73	1.17	1.27	1.48
+15	0.85	1.26	1.38	1.52
+20	0.91	1.33	1.45	1.59



Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Bottom Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.12	-12.40
400	0.19	-8.40
500	0.23	-6.74
600	0.29	-4.73
700	0.35	-3.10
800	0.47	-0.54
900	0.53	0.51
1000	0.64	2.14
1200	0.77	3.75
1400	0.86	4.71
1600	0.95	5.58
1800	1.19	7.53
2000	1.27	8.10
2400	1.36	8.69
2500	1.42	9.07
2800	1.59	10.05
3000	1.72	10.73
3200	1.63	10.26
3600	1.44	9.19
4000	1.06	6.53
4500	0.81	4.19
5000	0.78	3.86
5500	0.47	-0.54
6000	0.15	-10.46
6500	0.09	-14.89
7000	0.06	-18.42
7500	0.03	-24.44
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--



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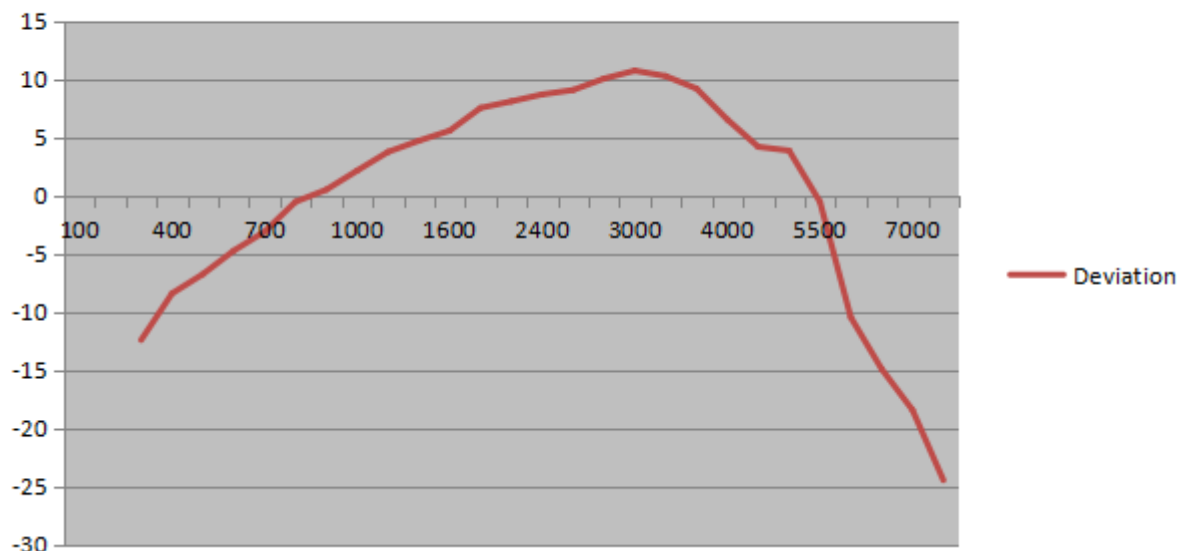
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Tel: +86-755 2523 4088

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Frequency Response of High Channel 12.5 KHz Channel Separations



Note: All the modes had been tested, but only the worst data recorded in the report.



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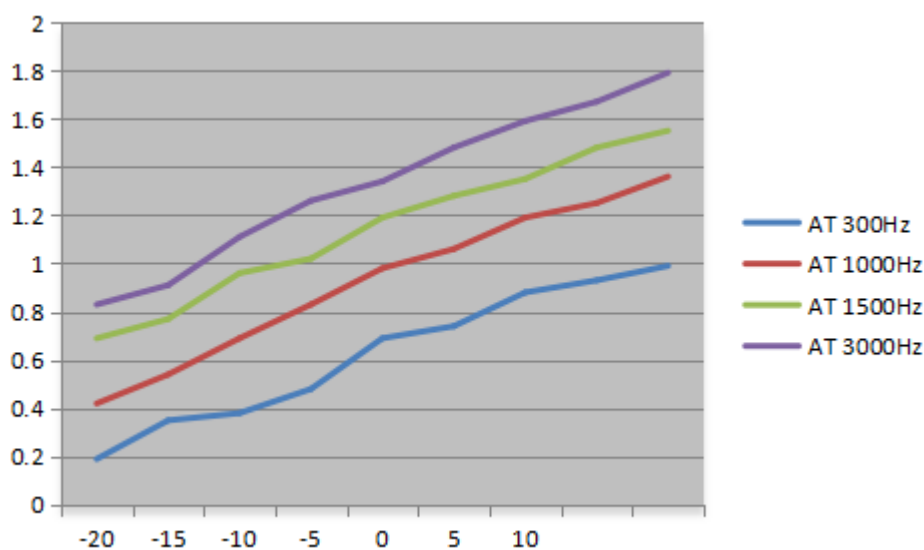
Service Hotline: 400 089 2118

Digital:

(A). MODULATION LIMIT:

Bottom Channel @ 12.5 KHz Channel Separations---H Power

Modulation Level (dB)	Peak Freq. Deviation At 300 Hz	Peak Freq. Deviation At 1000 Hz	Peak Freq. Deviation At 1500 Hz	Peak Freq. Deviation At 3000 Hz
-20	0.19	0.42	0.69	0.83
-15	0.35	0.54	0.77	0.91
-10	0.38	0.69	0.96	1.11
-5	0.48	0.83	1.02	1.26
0	0.69	0.98	1.19	1.34
+5	0.74	1.06	1.28	1.48
+10	0.88	1.19	1.35	1.59
+15	0.93	1.25	1.48	1.67
+20	0.99	1.36	1.55	1.79



Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Bottom Channel @ 12.5 KHz Channel Separations---H Power

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.21	-7.54
400	0.27	-5.35
500	0.35	-3.10
600	0.49	-0.18
700	0.57	1.14
800	0.64	2.14
900	0.76	3.64
1000	0.85	4.61
1200	0.93	5.39
1400	0.99	5.93
1600	1.08	6.69
1800	1.26	8.03
2000	1.37	8.76
2400	1.43	9.13
2500	1.59	10.05
2800	1.66	10.42
3000	1.79	11.08
3200	1.87	11.46
3600	1.62	10.21
4000	1.09	6.77
4500	0.81	4.19
5000	0.72	3.17
5500	0.45	-0.92
6000	0.24	-6.38
6500	0.17	-9.37
7000	0.09	-14.89
7500	0.04	-21.94
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--



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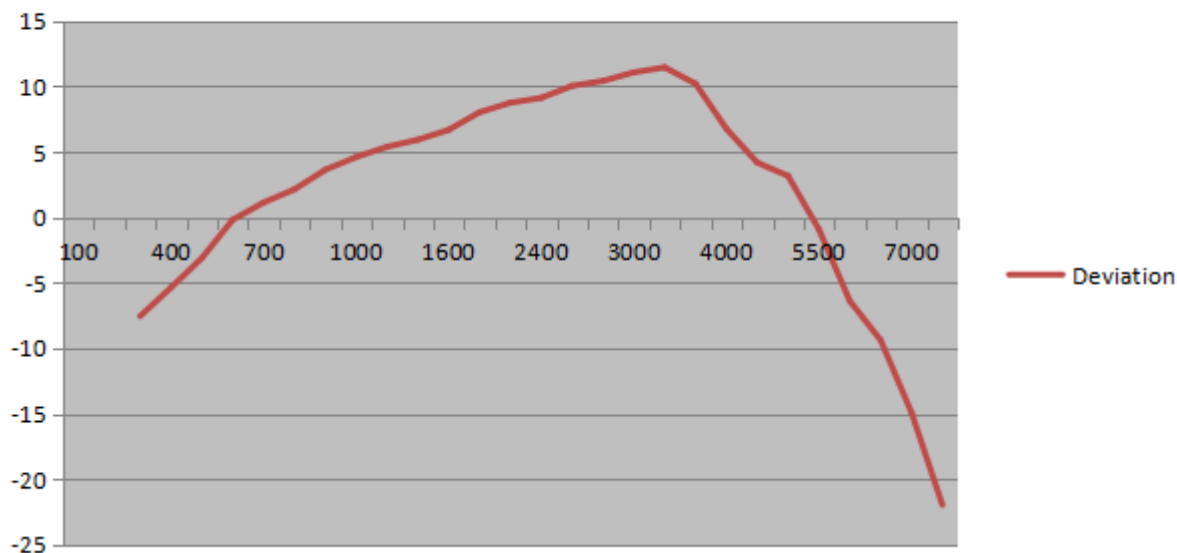
Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Frequency Response of High Channel---H Power

12.5 KHz Channel Separations



Note: All the modes had been tested, but only the worst data recorded in the report.



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8. MAXIMUM TRANSMITTER POWER (CONDUCTED OUTPUT POWER) PEAK POWER

10.1 PROVISIONS APPLICABLE

Per FCC §2.1046 § 22.565 and §90.205: Maximum ERP is dependent upon the station's antenna HAAT and required service area.

10.2 TEST PROCEDURE

The RF output of Two-way Radio was conducted to a spectrum analyzer through an appropriate attenuator.

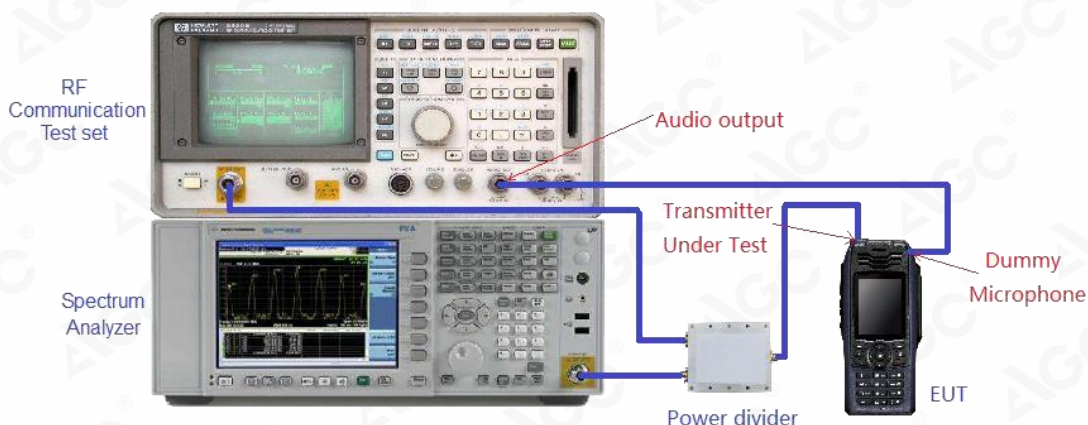
In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power for each degree interval. The "Read Value" is the spectrum reading of maximum power value.

The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.

$EIRP = \text{"Read Value"} + \text{Measured substitution value} + 2.15.$

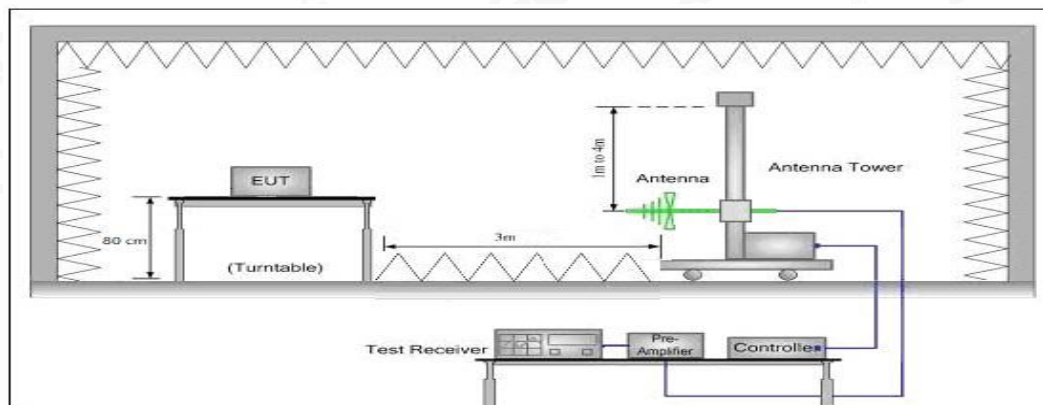
10.3 TEST CONFIGURATION

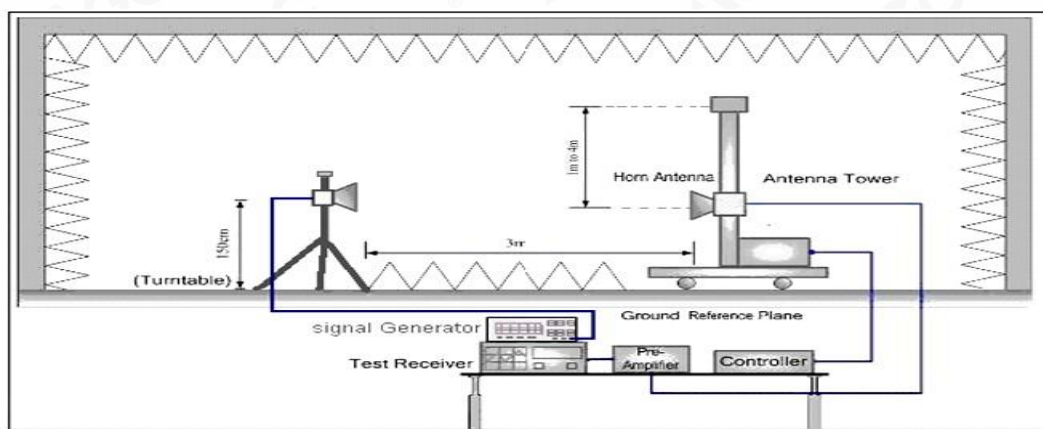
Conducted Output Power:



Effective Radiated Power

Radiated Below 1GHz





10.4 TEST RESULT

The maximum Conducted Power (CP) for VHF/UHF is
Analog: 10W/4 W for 12.5 KHz Channel Separation UHF
Digital: 10W/4 W for 12.5 KHz Channel Separation UHF
Calculation Formula: $CP = R + A + L$

Note:

CP: The final Conducted Power
R : The reading value from spectrum analyzer
A : The attenuation value of the used attenuator
L : The loss of all connection cables



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Service Hotline: 400 089 2118

UHF:
Analog:

Conducted Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.74
	Middle(453.225MHz)	39.82
	Middle(454.025MHz)	39.79
	Top (479.975MHz)	39.69

Radiated Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.66
	Middle(453.225MHz)	39.72
	Middle(454.025MHz)	39.65
	Top (479.975MHz)	39.55

Conducted Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.88
	Middle(453.225MHz)	35.91
	Middle(454.025MHz)	35.79
	Top (479.975MHz)	35.77

Radiated Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.75
	Middle(453.225MHz)	35.80
	Middle(454.025MHz)	35.63
	Top (479.975MHz)	35.62

Digital: Data + voice:

Conducted Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.59
	Middle(453.225MHz)	39.62
	Middle(454.025MHz)	39.54
	Top (479.975MHz)	39.51

Radiated Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.43
	Middle(453.225MHz)	39.49
	Middle(454.025MHz)	39.38
	Top (479.975MHz)	39.36

Data transmission mode:

Conducted Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.31
	Middle(453.225MHz)	39.35
	Middle(454.025MHz)	39.29
	Top (479.975MHz)	39.35

Radiated Power Measurement Results-10W		
Channel Separation	Channel	Measurement Result (dBm)
		For 40dBm(10W)
12.5 KHz	Bottom(400.025MHz)	39.24
	Middle(453.225MHz)	39.27
	Middle(454.025MHz)	39.22
	Top (479.975MHz)	39.29

Data + voice

Conducted Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.78
	Middle(453.225MHz)	35.83
	Middle(454.025MHz)	35.67
	Top (479.975MHz)	35.70

Radiated Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.67
	Middle(453.225MHz)	35.75
	Middle(454.025MHz)	35.58
	Top (479.975MHz)	35.61

Data transmission mode:

Conducted Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.61
	Middle(453.225MHz)	35.64
	Middle(454.025MHz)	35.52
	Top (479.975MHz)	35.56

Radiated Power Measurement Results-4W		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	35.49
	Middle(453.225MHz)	35.51
	Middle(454.025MHz)	35.44
	Top (479.975MHz)	35.47

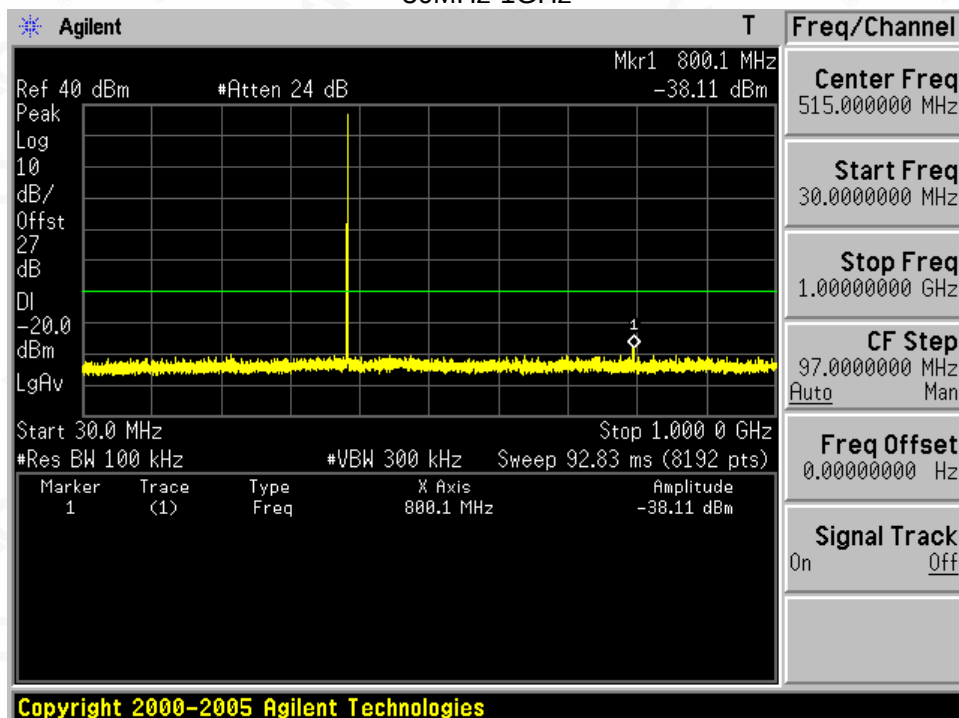
10.5 CONDUCT SPURIOUS PLOT

FCC PART 90:

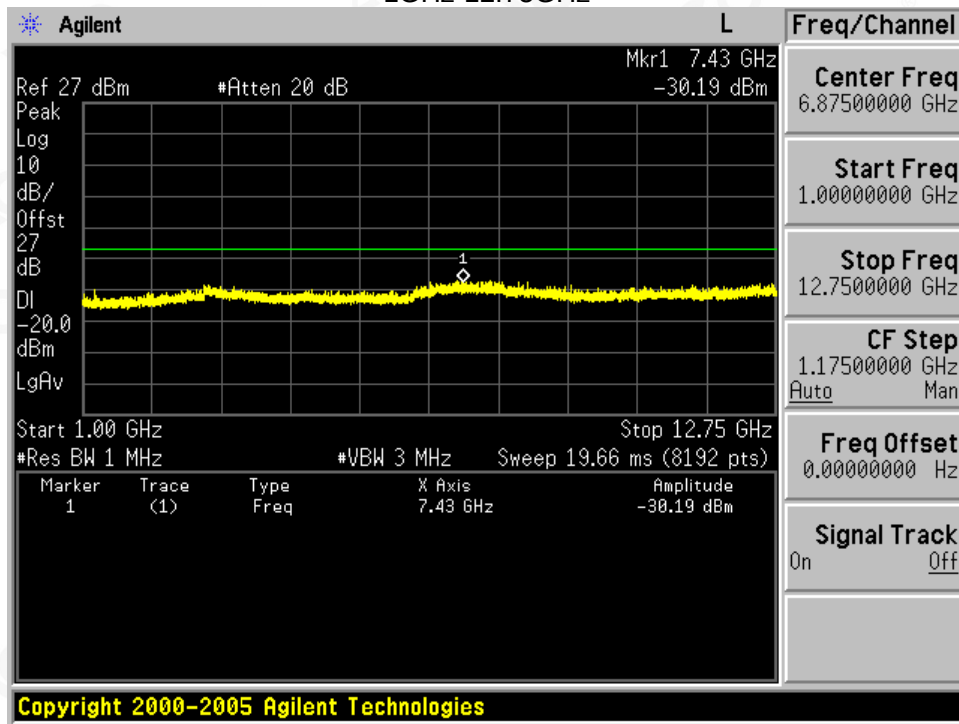
UHF:

Analog:

Conducted Spurious Emission (worst) @ 400.025MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



Conduct Spurious Emission (worst) @ 400.025MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



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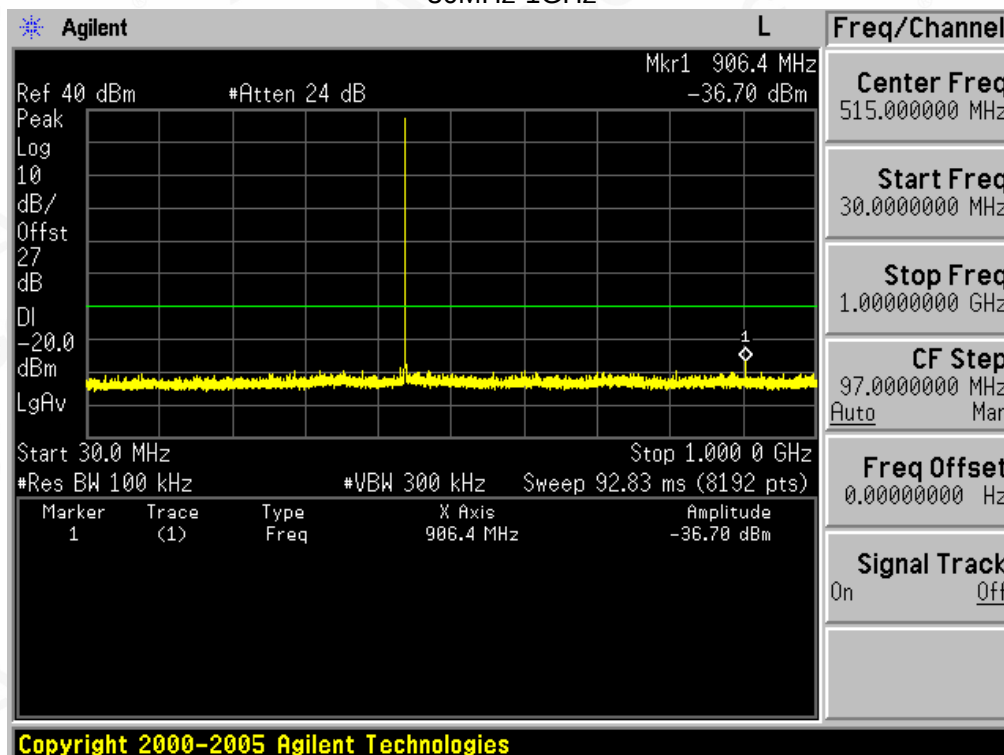
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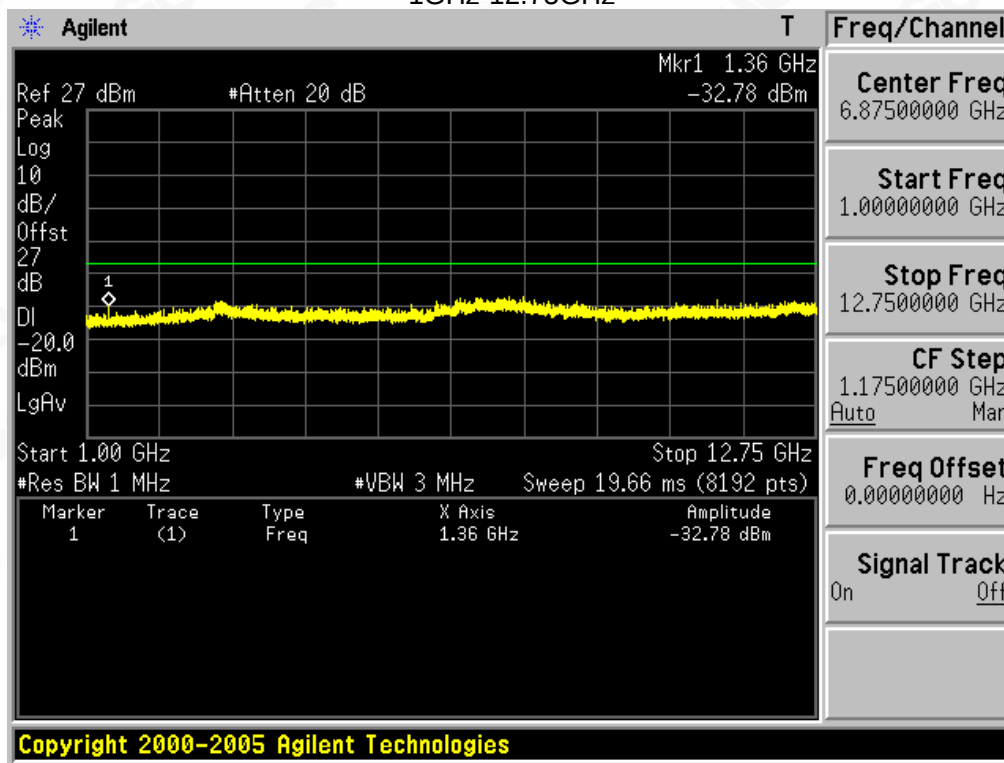
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Conducted Spurious Emission (worst) @ 453.225MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



Conduct Spurious Emission (worst) @ 453.225MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



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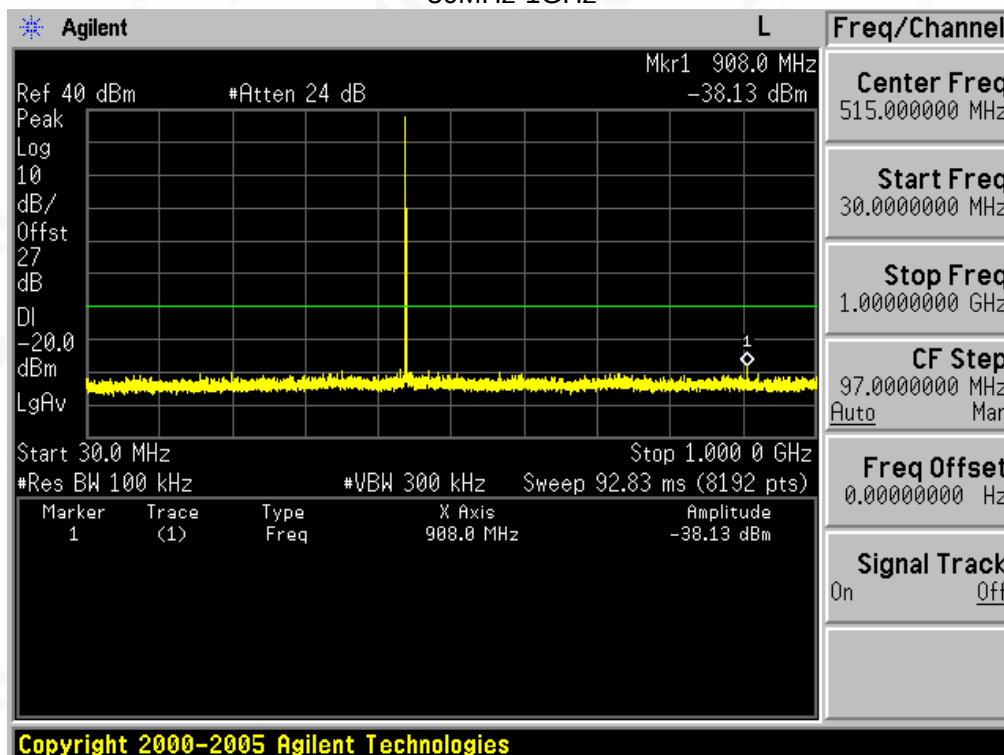
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Tel: +86-755 2523 4088

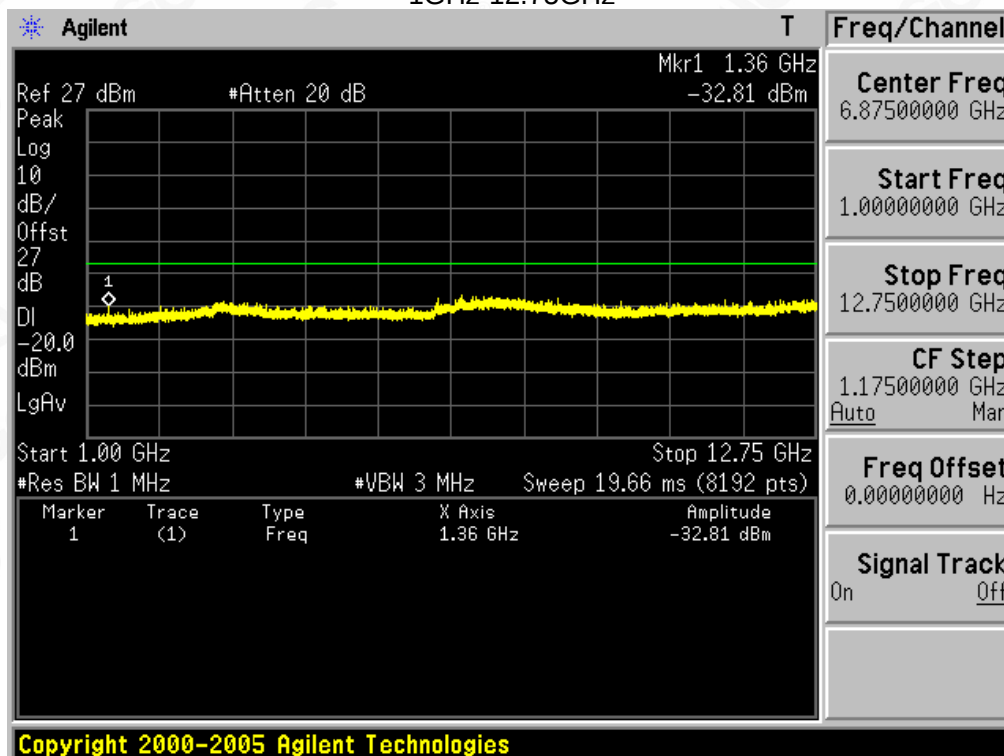
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Conducted Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



Conduct Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



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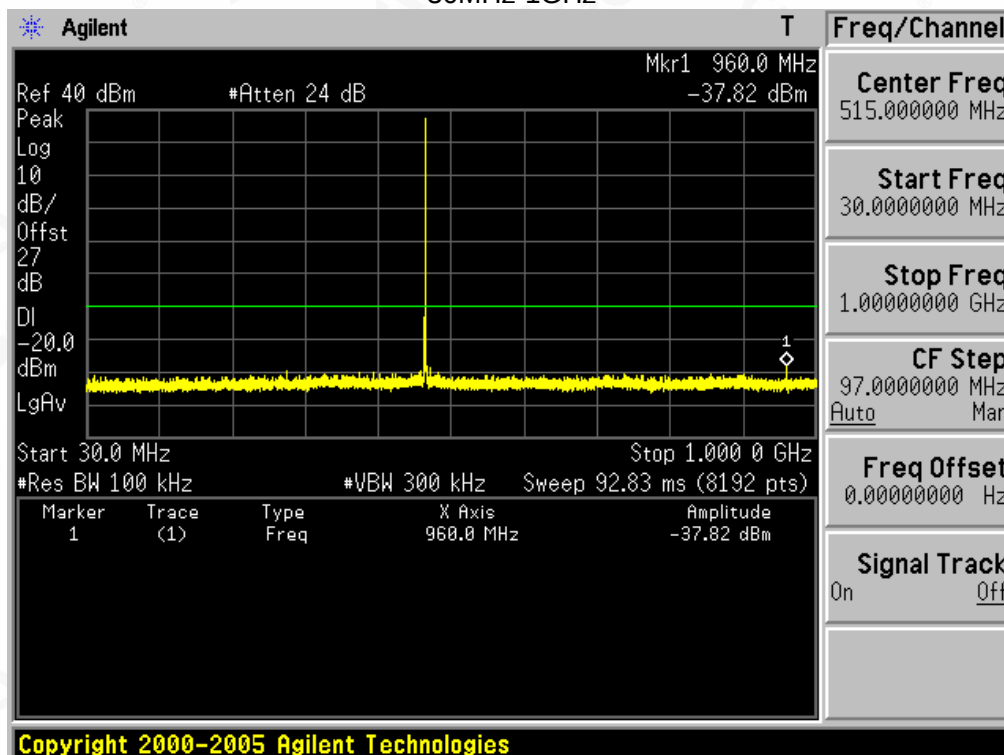
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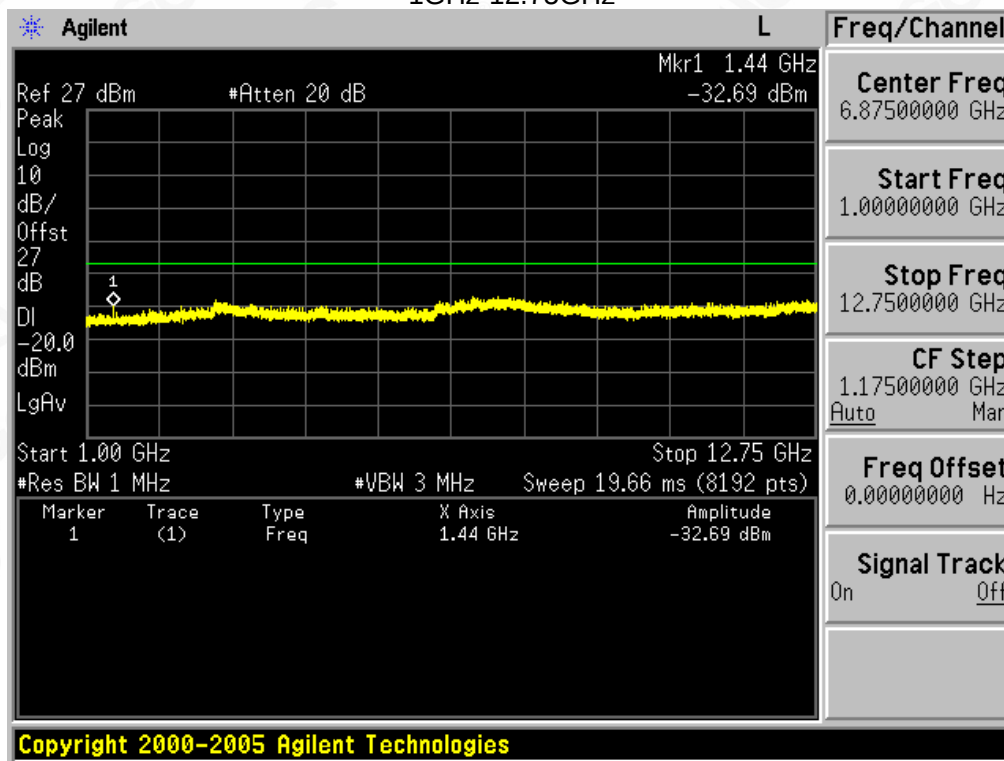
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

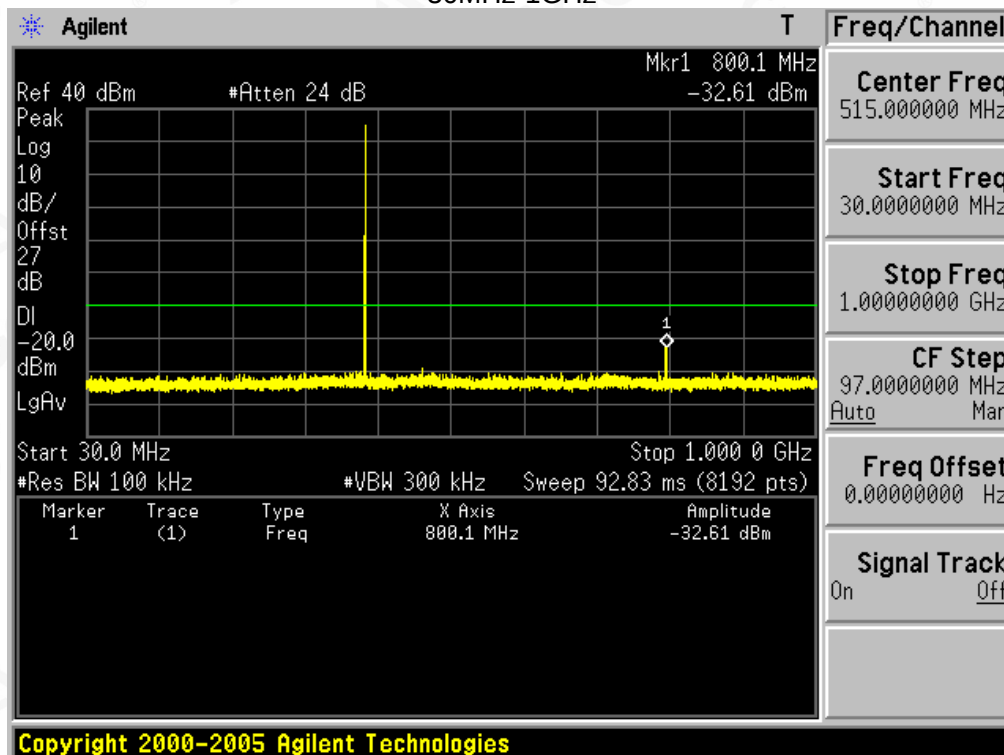
Conducted Spurious Emission (worst) @ 479.975MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



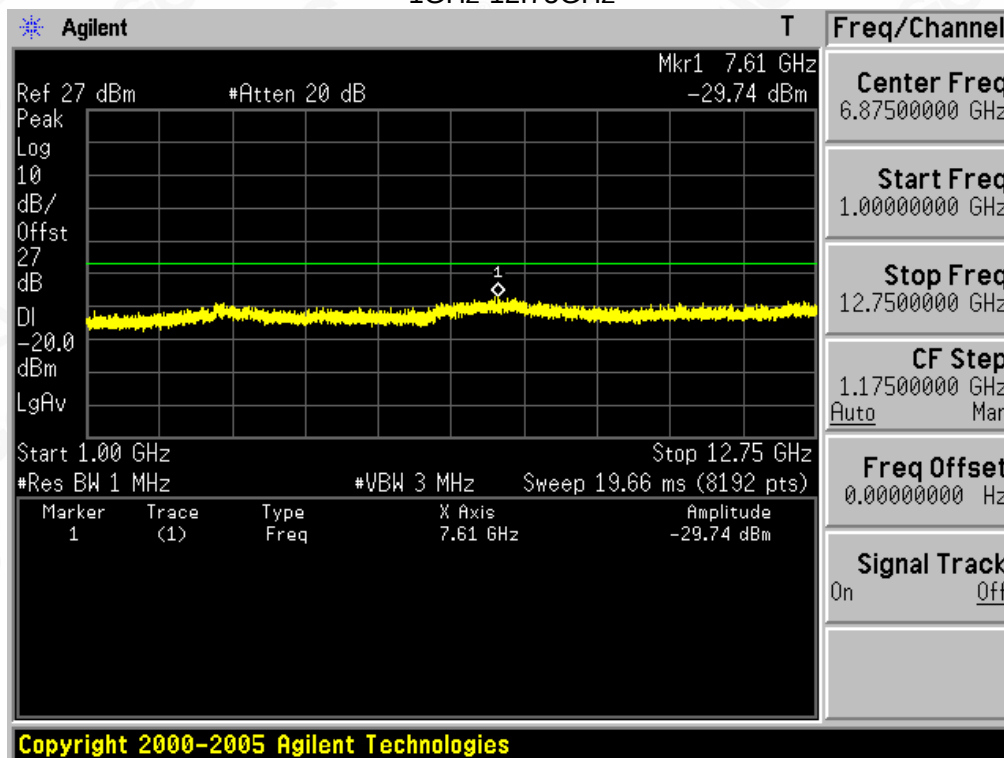
Conduct Spurious Emission (worst) @ 479.975MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



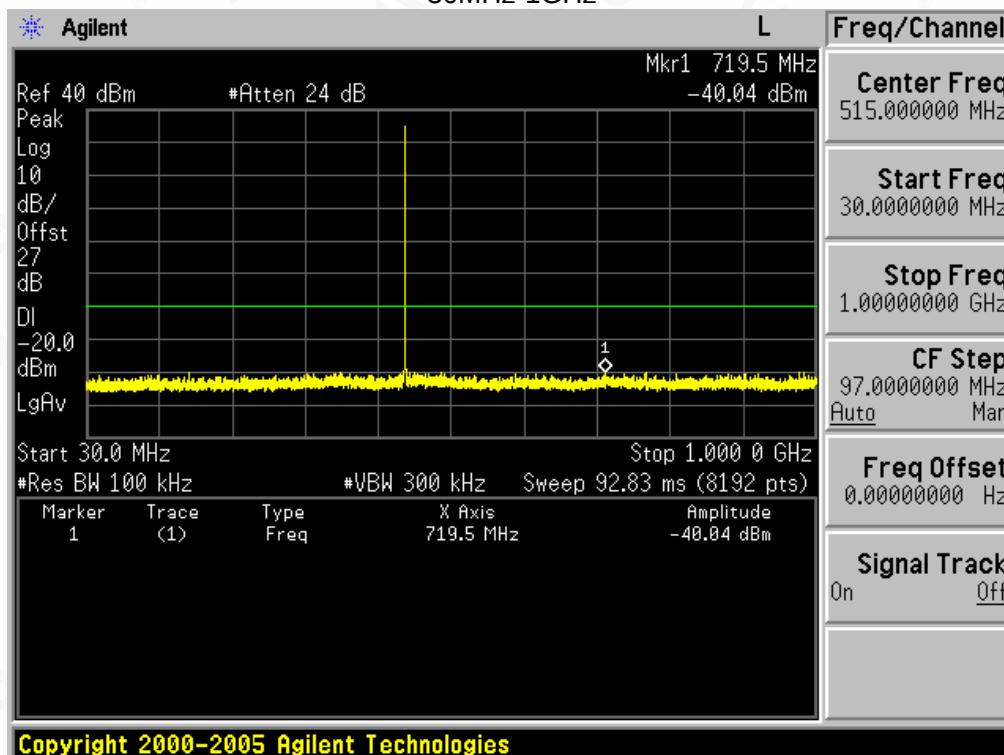
Conducted Spurious Emission (worst) @ 400.025MHz With 12.5 KHz Channel Separation-4W
30MHz-1GHz



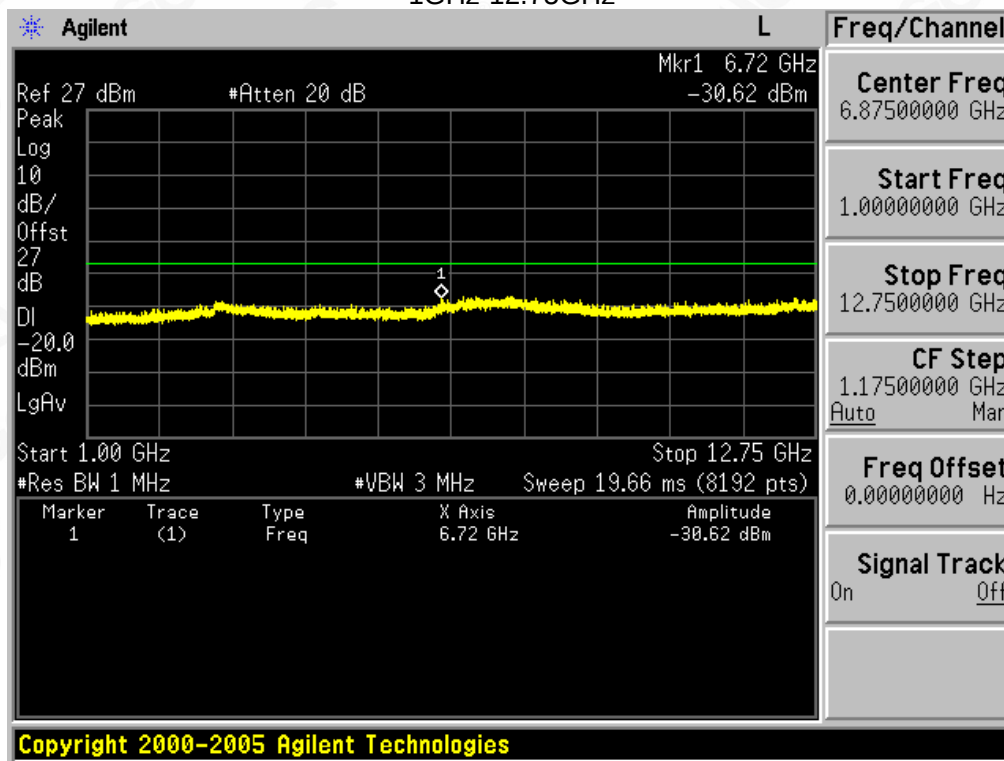
Conduct Spurious Emission (worst) @ 400.025MHz With 12.5 KHz Channel Separation4W
1GHz-12.75GHz



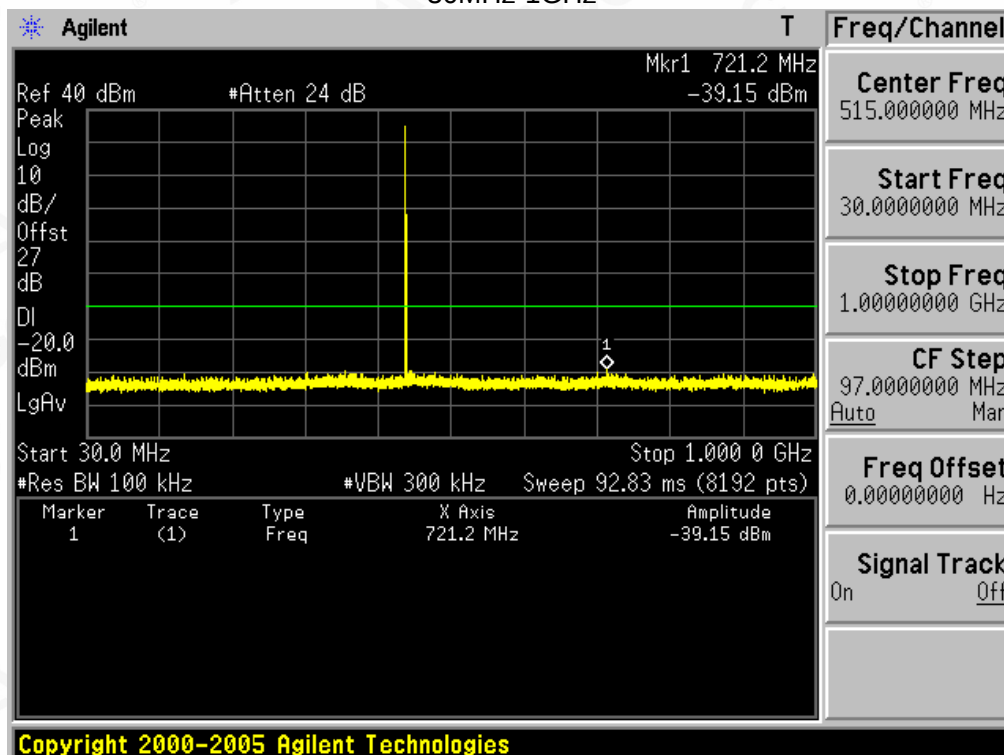
Conducted Spurious Emission (worst) @ 453.225MHz With 12.5 KHz Channel Separation-4W
30MHz-1GHz



Conduct Spurious Emission (worst) @ 453.225MHz With 12.5 KHz Channel Separation-4W
1GHz-12.75GHz



Conducted Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-4W
30MHz-1GHz



Conduct Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-4W
1GHz-12.75GHz

