

FCC Part 90& Part 22 Rules Test Report

Report No.: AGC02931190801FE10

FCC ID : POD-DMR5
PRODUCT DESIGNATION : DMR Digital Transceiver
BRAND NAME : TYT
MODEL NAME : MD-680D, MD-680
APPLICANT : TYT ELECTRONICS CO., LTD
DATE OF ISSUE : Oct. 16, 2019
STANDARD(S) : FCC Part 90 Rules
: FCC Part 22 Rules
REPORT VERSION : V 1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Oct. 16, 2019	Valid	Initial Release



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1. VERIFICATION OF COMPLIANCE

Applicant:	TYT ELECTRONICS CO., LTD
Address	Block 39-1, Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China.
Manufacturer:	TYT ELECTRONICS CO., LTD
Address	Block 39-1, Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China.
Factory	TYT ELECTRONICS CO., LTD
Address	Block 39-1, Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China.
Product Designation:	DMR Digital Transceiver
Brand Name:	TYT
Test Model	MD-680D
Serial Model	MD-680
Difference Description	All the same except the brand name and model name.
Date of Test:	Sept 10, 2019~Oct. 16, 2019

WE HEREBY CERTIFY THAT:

The above equipment was tested by Shenzhen Attestation of Global Compliance Science & Technology Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI/TIA-603-E (2016). The sample tested as described in this report is in compliance with the FCC Rules Part 90 and FCC Rules Part 22 requirements. The test results of this report relate only to the tested sample identified in this report.

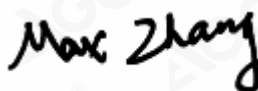
Prepared By



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Oct. 16, 2019

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Oct. 16, 2019

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Oct. 16, 2019

2. GENERAL INFORMATION

2.1 PRODUCT DESCRIPTION

The EUT is a **DMR Digital Transceiver** designed for voice/data communication. It is designed by way of utilizing the FM/4FSK modulation achieves the system operating.

A major technical description of EUT is described as following:

Communication Type	Voice / Data
Hardware Version	MD359S
Software Version	1.00
Modulation	FM/4FSK
Emission Type	7K60F1D/7K60F1E/11K0F3E
Emission Bandwidth	Analog:10.268 KHz(10W-12.5 KHz), 10.283 KHz(4W-12.5 KHz) Digital: 9.874 KHz(10W-12.5KHz), 9.898 KHz(4W-12.5KHz)
Peak Frequency Deviation	1.79KHz
Audio Frequency Response	11.46dB
Maximum Transmitter Power	Analog: 39.82dBm(10W-12.5 KHz), 35.91dBm (4W-12.5 KHz) Digital: 39.62dBm(10W-12.5KHz), 35.83dBm (4W-12.5KHz)
Output power Modification	10W/4W (It was fixed by the manufacturer, any individual can't arbitrarily change it.)
Data Rate	9600bps/12.5KHz(Channel Spacing)
Antenna Designation	Detachable
Antenna Gain	1.5dBi
Power Supply	DC 7.4V, 2200mAh (by battery) charging for DC 8.4V
Limiting Voltage	DC 6.29V-8.51V
Operation Frequency Range and Channel	Frequency Range:400 MHz to 480 MHz (UHF) Channel Separation: 12.5KHz(Digital/ Analog) Bottom Channel: 400.025MHz Middle Channel: 453.225MHz Middle Channel: 454.025MHz High Channel: 479.975MHz
Frequency Tolerance	1.188ppm

Frequency Range (MHz)	Rated Transmit Power(W)(Conducted)	Transmit Mode/Emission Designator
400-480	10W/4W	11K0F3E(Analog Voice;NB)
400-480	10W/4W	7K60FXD/7K60FXW(9600Data/Digital Voice NB)

Channel No. (6.25KHz)	Channel No. (12.5KHz)	12.5KHz Channel Spaced 400MHz Band Plan(MHz)
1	1-2	400.025
2		
3	3-4	440.025
4		
5	5-6	479.975
6		



FCC Rules and Regulations Part 2.202: Necessary Bandwidth and Emission Bandwidth

For FM Mode (Channel Spacing: 12.5 kHz)

Emission Designator 11K0F3E

In this case, the maximum modulating frequency is 3.0 kHz with a 2.5 kHz deviation.

$$BW = 2(M+D) = 2*(3.0 \text{ kHz} + 2.5 \text{ kHz}) = 11 \text{ kHz} = 11K0$$

F3E portion of the designator represents an FM voice transmission

Therefore, the entire designator for 12.5 kHz channel spacing FM mode is 11K0F3E.

For FM Mode (Channel Spacing: 25 kHz)

Emission Designator 16K0F3E

In this case, the maximum modulating frequency is 3.0 kHz with a 5.0 kHz deviation.

$$BW = 2(M+D) = 2*(3.0 \text{ kHz} + 5.0 \text{ kHz}) = 16 \text{ kHz} = 16K0$$

F3E portion of the designator represents an FM voice transmission

Therefore, the entire designator for 25 kHz channel spacing FM mode is 16K0F3E.

For Digital Mode (Channel Spacing: 12.5 kHz)

Emission Designator 7K60F1D and 7K60F1E

The 99% energy rule was used for digital mode. It basically states that 99% of the modulation energy falls within X kHz, in this case, 7.60 kHz.

F1D and F1E portion of the designator indicates digital information.

Therefore, the entire designator for 12.5 kHz channel spacing digital mode is 7K60F1D and 7K60F1E.



2.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for FCC ID: **POD-DMR5**, filing to comply with Part 2, Part 22, and Part 90 of the Federal Communication Commission rules.

2.3 TEST METHODOLOGY

The radiated emission testing was performed according to the procedures of ANSI/TIA-603-E (2016).

2.4 TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

2.5 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. SYSTEM TEST CONFIGURATION

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

3.3 GENERAL TECHNICAL REQUIREMENTS

For FCC Part 90& Part 22 requirements:

- (1). Section 90.205 & 22.565: RF Output Power
- (2). Section 90.207: Modulation Characteristic
- (3). Section 90.209 & 22.359: Occupied Bandwidth
- (4). Section 90.210 & 22.359: Emission Mask
- (5). Section 90.213 & 22.355: Frequency Tolerance
- (6). Section 90.214: Transient Frequency Behavior



3.4 CONFIGURATION OF TESTED SYSTEM

Fig. 2-1 Configuration of Tested System



Table 2-1 Equipment Used in Tested System

Item	Equipment	Model No.	Identifier	Note
1	DMR Digital Transceiver	MD-680D	FCC ID: POD-DMR5	EUT
2	Desktop charger	N/A	DC 8.4V, 300mA	Accessory
3	Adapter	T-1206	Input: AC 100-240V, 50/60Hz, 0.3A Output: DC 12.5V 500mA	Accessory
4	Battery	DM-V1	DC 7.4V 2200mAh	Accessory
5	Back clip	N/A	N/A	Accessory



4. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§90.205 & 22.565	Maximum Transmitter Power	Compliant
§90.207	Modulation Characteristic	Compliant
§90.209& 22.359	Occupied Bandwidth	Compliant
§90.210& 22.359	Emission Mask	Compliant
§90.213& 22.355	Frequency Tolerance	Compliant
§90.214	Transient Frequency Behavior	Compliant



LIST OF EQUIPMENTS USED

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2019	Jun.11 , 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.18, 2018	Sep.17, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.16, 2019	Sep.15, 2020
preamplifier	ChengYi	EMC184045SE	980508	Oct.31, 2018	Oct 30, 2019
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 26, 2018	May. 25, 2020
Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-205	Jun. 12, 2019	Jun.11 , 2020
HORN ANTENNA	EM	EM-AH-10180	/	Mar.01, 2018	Feb.29, 2020
SIGNAL GENERATOR	AGILENT	E4421B	122501288	May. 13, 2019	May. 12, 2020
SIGNAL GENERATOR	R&S	SMT03	A0304261	Jun. 12, 2019	Jun.11 , 2020
ANTENNA	SCHWARZBECK	VULB9168	VULB9168-494	Jan. 09, 2019	Jan. 08, 2020
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.26, 2018	Sep.25, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.24, 2019	Sep.23, 2020
Modulation Domain Analyzer	HP	53310A	3121A02467	Nov. 01, 2018	Oct. 31, 2019
Small environmental tester	ESPEC	SH-242	--	Feb. 25, 2019	Feb. 24, 2020
RF Communication Test Set	HP	8920B	--	Jun. 12, 2019	Jun.11 , 2020
Attenuator	Weinachel Corp	58-30-33	ML030	Jun. 12, 2019	Jun.11 , 2020
Vector Analyzer	Agilent	E4440A	--	Feb. 27, 2019	Feb. 26, 2020
RF Cable	R&S	1#	--	Each time	N/A
RF Cable	R&S	2#	--	Each time	N/A

5. DESCRIPTION OF TEST MODES

RF TEST MODES

The EUT (**DMR Digital Transceiver**) has been tested under normal operating condition. (The top channel, the middle channel and the bottom channel) are chosen for testing at each channel separation.

Analog:

No.	TEST MODES	CHANNEL SEPARATION
1	Low Channel	12.5 KHz
2	Middle Channel	12.5 KHz
3	High Channel	12.5 KHz

Digital:

No.	TEST MODES	CHANNEL SEPARATION
1	Low Channel	12.5 KHz
2	Middle Channel	12.5 KHz
3	High Channel	12.5 KHz

Note: Only the result of the worst case was recorded in the report.

6. FREQUENCY TOLERANCE

6.1 PROVISIONS APPLICABLE

- According to FCC §2.1055, § 22.355 and §90.213, the frequency stability shall be measured with variation of ambient temperature from -30°C to $+50^{\circ}\text{C}$ centigrade.
- According to FCC Part 2 Section 2.1055(d)(2), for battery powered equipment, the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacturer.
- According to FCC Part 90 Section 90.213, the frequency tolerance must be maintained within 0.00025% for 12.5 KHz channel separation and 0.0001% for 6.25 KHz channel separation.
- According to FCC Part 22 Section 22.355, Frequency error must be kept within plus or minus 5ppm.

6.2 MEASUREMENT PROCEDURE

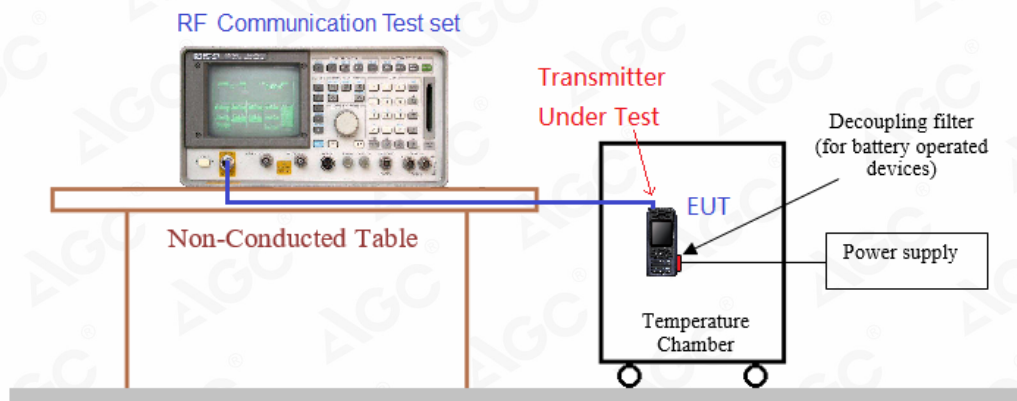
6.2.1 Frequency stability versus environmental temperature

- Setup the configuration per figure 1 for frequencies measurement inside an environment chamber, Install new battery in the EUT.
- Turn on EUT and set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1KHz and Video Resolution Bandwidth to 1KHz and Frequency Span to 50KHz. Record this frequency as reference frequency.
- Set the temperature of chamber to 50°C . Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
- Repeat step 2 with a 10°C decreased per stage until the lowest temperature -30°C is measured, record all measured frequencies on each temperature step.

6.2.2 Frequency stability versus input voltage

- Setup the configuration per figure 1 for frequencies measured at temperature if it is within 15°C to 25°C . Otherwise, an environment chamber set for a temperature of 20°C shall be used. The EUT shall be powered by DC 7.4V.
- Set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1 KHz and Video Resolution Bandwidth to 1KHz. Record this frequency as reference frequency.
- Supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.

6.3 TEST SETUP BLOCK DIAGRAM



6.4 TEST RESULTS

FCC PART 90:

UHF:

Analog:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-10W-12.5KHz

2) Frequency Stability: Voltage Input Voltage (Supply nominal voltage is 7.40V) 2017-2018					
Environment Temperature(°C)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40V	0.389	0.653	0.672	2.5
40	DC 7.40V	1.086	0.605	0.569	
30	DC 7.40V	0.988	0.563	0.627	
20	DC 7.40V	1.009	0.882	0.632	
10	DC 7.40V	0.858	0.997	1.010	
0	DC 7.40V	1.084	0.522	0.837	
-10	DC 7.40V	0.734	0.741	0.586	
-20	DC 7.40V	0.874	1.092	0.770	
-30	DC 7.40V	0.893	0.937	0.827	
Result	Pass				

(2) Frequency stability versus input voltage (Battery endpoint is 6.29V) -10W-12.5KHz

Environment Temperature(°C)	Power Supply	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29 V	0.871	0.482	0.576	2.5
40	DC 6.29 V	0.439	0.887	0.805	
30	DC 6.29 V	0.653	0.425	0.519	
20	DC 6.29 V	0.947	0.786	0.395	
10	DC 6.29 V	0.444	0.368	0.468	
0	DC 6.29 V	0.665	0.542	0.334	
-10	DC 6.29 V	0.710	0.606	0.670	
-20	DC 6.29 V	0.663	0.673	0.679	
-30	DC 6.29 V	0.647	0.867	0.609	
Result	Pass				



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Digital:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-10W-12.5KHz

Environment Temperature(°C)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40V	0.681	0.653	0.922	2.5
40	DC 7.40V	0.659	1.043	0.640	
30	DC 7.40V	0.602	0.700	1.094	
20	DC 7.40V	0.634	0.672	0.583	
10	DC 7.40V	1.035	0.976	0.812	
0	DC 7.40V	0.586	0.702	0.962	
-10	DC 7.40V	0.510	0.692	0.631	
-20	DC 7.40V	1.058	0.786	0.959	
-30	DC 7.40V	0.901	1.036	0.796	
Result	Pass				

(2) Frequency stability versus input voltage(Battery endpoint is 6.29V) -10W-12.5KHz

Environment Temperature(°C)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29 V	0.534	0.538	0.634	2.5
40	DC 6.29 V	0.570	0.457	0.547	
30	DC 6.29 V	0.524	0.514	0.862	
20	DC 6.29 V	0.983	0.783	0.767	
10	DC 6.29 V	0.302	0.426	0.470	
0	DC 6.29 V	0.867	0.950	0.434	
-10	DC 6.29 V	0.358	0.620	0.527	
-20	DC 6.29 V	0.805	0.723	0.795	
-30	DC 6.29 V	0.640	0.806	0.626	
Result	Pass				



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Analog:
(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-4W-12.5KHz

Environment Temperature(°C)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40V	0.936	0.653	1.098	2.5
40	DC 7.40V	0.954	0.968	0.885	
30	DC 7.40V	0.646	0.970	0.826	
20	DC 7.40V	0.911	0.816	1.023	
10	DC 7.40V	0.966	0.686	1.055	
0	DC 7.40V	0.864	0.771	0.733	
-10	DC 7.40V	1.045	0.801	0.543	
-20	DC 7.40V	0.771	0.852	0.691	
-30	DC 7.40V	0.775	0.542	0.976	
Result	Pass				

(2) Frequency stability versus input voltage (Battery endpoint is 6.29V) -4W-12.5KHz

(2) Frequency Stability: Voltage Input Voltage (Battery) Change Point is 0.125V / 1V 2.500MHz					
Environment Temperature(℃)	Power Supply	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29 V	0.736	0.748	0.631	2.5
40	DC 6.29 V	0.779	0.417	0.382	
30	DC 6.29 V	0.674	0.399	0.375	
20	DC 6.29 V	0.741	0.867	0.559	
10	DC 6.29 V	0.304	0.982	0.959	
0	DC 6.29 V	0.559	0.998	0.486	
-10	DC 6.29 V	0.326	0.632	0.368	
-20	DC 6.29 V	0.632	0.959	0.865	
-30	DC 6.29 V	0.739	0.591	0.392	
Result	Pass				



Digital:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-4W-12.5KHz

2) Frequency Stability: Power Input Voltage (Supply Nominal Voltage is 7.40V) At 20MHz					
Environment Temperature(℃)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40V	0.696	0.653	0.541	2.5
40	DC 7.40V	0.507	0.999	0.950	
30	DC 7.40V	0.823	0.677	0.977	
20	DC 7.40V	0.845	0.979	1.188	
10	DC 7.40V	1.007	0.756	0.665	
0	DC 7.40V	0.547	1.074	0.710	
-10	DC 7.40V	1.075	0.557	0.779	
-20	DC 7.40V	0.665	1.093	0.990	
-30	DC 7.40V	0.779	0.531	0.871	
Result	Pass				

(2) Frequency stability versus input voltage(Battery endpoint is 6.29V) -4W-12.5KHz

Environment Temperature(°C)	Power	Reference Frequency			Limit:
	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29 V	0.938	0.451	0.927	2.5
40	DC 6.29 V	0.418	0.678	0.344	
30	DC 6.29 V	0.766	0.809	0.858	
20	DC 6.29 V	0.899	0.559	0.506	
10	DC 6.29 V	0.441	0.339	0.648	
0	DC 6.29 V	0.799	0.956	0.723	
-10	DC 6.29 V	0.721	0.721	0.581	
-20	DC 6.29 V	0.898	0.826	0.473	
-30	DC 6.29 V	0.391	0.510	0.755	
Result	Pass				



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FCC PART 22:

UHF:

Analog:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V) **-10W-12.5KHz**

(2) Frequency stability: Power input voltage (Supply nominal voltage is 7.40V) 20V ±10%			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 7.40V	0.817	5
40	DC 7.40V	0.681	
30	DC 7.40V	0.841	
20	DC 7.40V	0.773	
10	DC 7.40V	0.925	
0	DC 7.40V	0.660	
-10	DC 7.40V	0.571	
-20	DC 7.40V	0.661	
-30	DC 7.40V	1.062	
Result	Pass		

(2) Frequency stability versus input voltage (Battery endpoint is 6.29V) **-10W-12.5KHz**

(2) Frequency Stability Versus Input Voltage (Battery Chargepoint is 5120V, 20V Error)			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 6.29V	0.653	5
40	DC 6.29V	0.570	
30	DC 6.29V	0.725	
20	DC 6.29V	1.040	
10	DC 6.29V	0.997	
0	DC 6.29V	0.872	
-10	DC 6.29V	0.664	
-20	DC 6.29V	0.904	
-30	DC 6.29V	1.000	
Result	Pass		



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E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

(3) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-4W-12.5KHz

3) Frequency Stability: Vcc=Input Voltage (Supply Nominal Voltage is 7.40V) At 454.025MHz			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 7.40V	0.919	5
40	DC 7.40V	0.699	
30	DC 7.40V	0.648	
20	DC 7.40V	0.995	
10	DC 7.40V	1.020	
0	DC 7.40V	0.749	
-10	DC 7.40V	0.877	
-20	DC 7.40V	0.613	
-30	DC 7.40V	0.924	
Result	Pass		

(4) Frequency stability versus input voltage (Battery endpoint is 6.29V) -4W-12.5KHz

(4) Frequency Stability Versus Input Voltage (Battery endpoint is 6.29V) 4W 12.0KHz			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 6.29V	0.738	5
40	DC 6.29V	0.625	
30	DC 6.29V	0.641	
20	DC 6.29V	0.480	
10	DC 6.29V	0.530	
0	DC 6.29V	0.745	
-10	DC 6.29V	0.673	
-20	DC 6.29V	0.411	
-30	DC 6.29V	0.479	
Result	Pass		



Digital:
(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-10W-12.5KHz

2) Frequency Stability: Varies Input Voltage (Supply Nominal Voltage is 7.40V) 20W 220V/50Hz			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 7.40V	0.512	5
40	DC 7.40V	0.818	
30	DC 7.40V	0.821	
20	DC 7.40V	0.519	
10	DC 7.40V	0.767	
0	DC 7.40V	0.942	
-10	DC 7.40V	0.334	
-20	DC 7.40V	0.410	
-30	DC 7.40V	0.713	
Result	Pass		

(2) Frequency stability versus input voltage (Battery endpoint is 6.29V) -10W-12.5KHz

(2) Frequency Stability Versus Input Voltage (Battery endpoint is 3.20V, 20V, 22.0V, 24.0V)			
Environment Temperature(°C)	Power (V)	Reference Frequency 454.025MHz	Limit: ppm
50	DC 6.29V	0.963	5
40	DC 6.29V	0.450	
30	DC 6.29V	0.773	
20	DC 6.29V	0.468	
10	DC 6.29V	0.570	
0	DC 6.29V	0.301	
-10	DC 6.29V	0.534	
-20	DC 6.29V	0.493	
-30	DC 6.29V	0.906	
Result	Pass		



(3) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)-4W-12.5KHz

⑤ Frequency stability versus input voltage (Supply nominal voltage is 7.40V) 4W 220KHz			
Environment Temperature(°C)	Power (V)	Reference Frequency 454.025MHz	Limit: ppm
50	DC 7.40V	0.512	5
40	DC 7.40V	1.069	
30	DC 7.40V	0.535	
20	DC 7.40V	0.803	
10	DC 7.40V	0.813	
0	DC 7.40V	1.018	
-10	DC 7.40V	0.950	
-20	DC 7.40V	0.612	
-30	DC 7.40V	0.868	
Result	Pass		

(4) Frequency stability versus input voltage (Battery endpoint is 6.29V) -4W-12.5KHz

(4) Frequency stability versus input voltage (Battery endpoint is 6.29V) -4W-12.5KHz			
Environment	Power	Reference Frequency	Limit:
Temperature(°C)	(V)	454.025MHz	ppm
50	DC 6.29V	0.653	5
40	DC 6.29V	0.590	
30	DC 6.29V	1.065	
20	DC 6.29V	0.845	
10	DC 6.29V	0.886	
0	DC 6.29V	1.013	
-10	DC 6.29V	0.833	
-20	DC 6.29V	1.031	
-30	DC 6.29V	0.861	
Result	Pass		



7. EMISSION BANDWIDTH

7.1 PROVISIONS APPLICABLE

FCC Part 90 & FCC Part 22:

The authorized bandwidth shall be 11.25 KHz for 12.5 KHz channel separation and 6 KHz for 6.25 KHz channel separation.

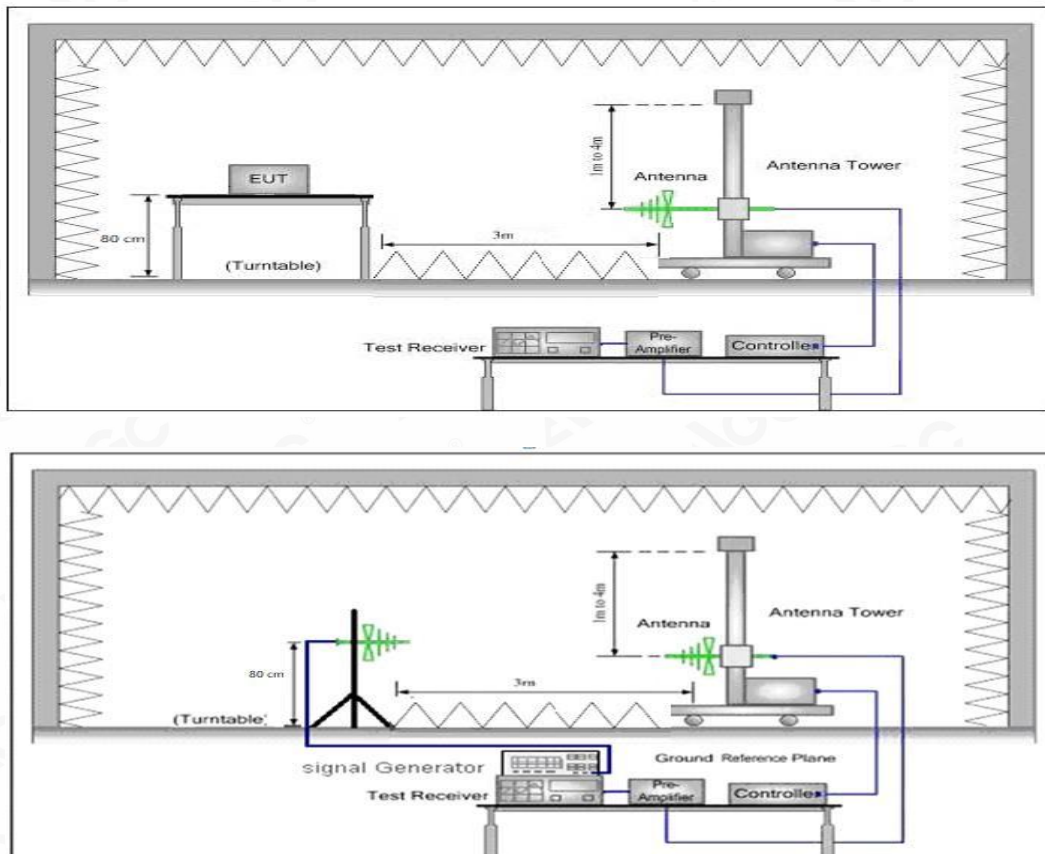
7.2 MEASUREMENT PROCEDURE

- 1). The EUT was placed on a turn table which is 0.8m above ground plane.
- 2). The EUT was modulated by 2.5 KHz Sine wave audio signal, The level of the audio signal employed is 16 dB greater than that necessary to produce 50% of rated system deviation. Rated system deviation is 2.5 kHz (12.5 kHz channel spacing).
- 3). Set SPA Center Frequency = fundamental frequency, RBW=100Hz.VBW= 300 Hz, Span =50 KHz.
- 4). Set SPA Max hold. Mark peak, -26 dB.

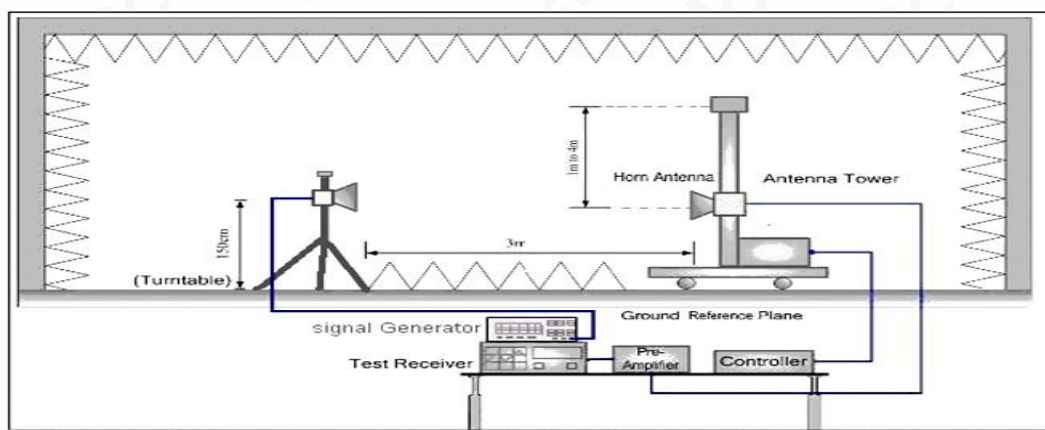
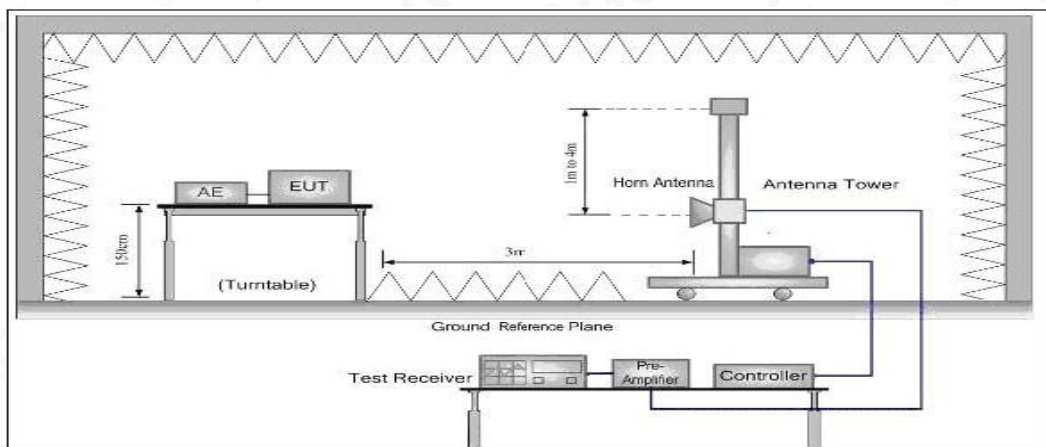
7.3 TEST SETUP BLOCK DIAGRAM

Radiation method:

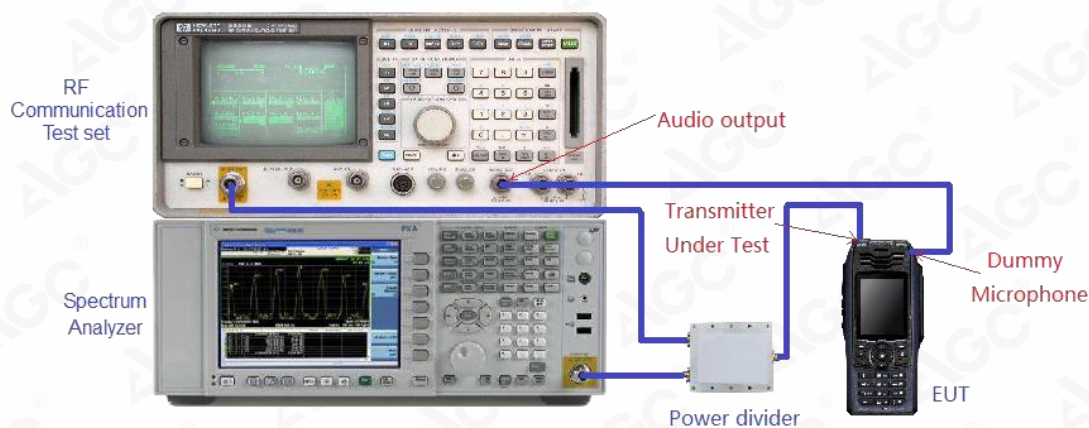
Radiated Below1GHz



Radiated Above 1 GHz



Conduction method:



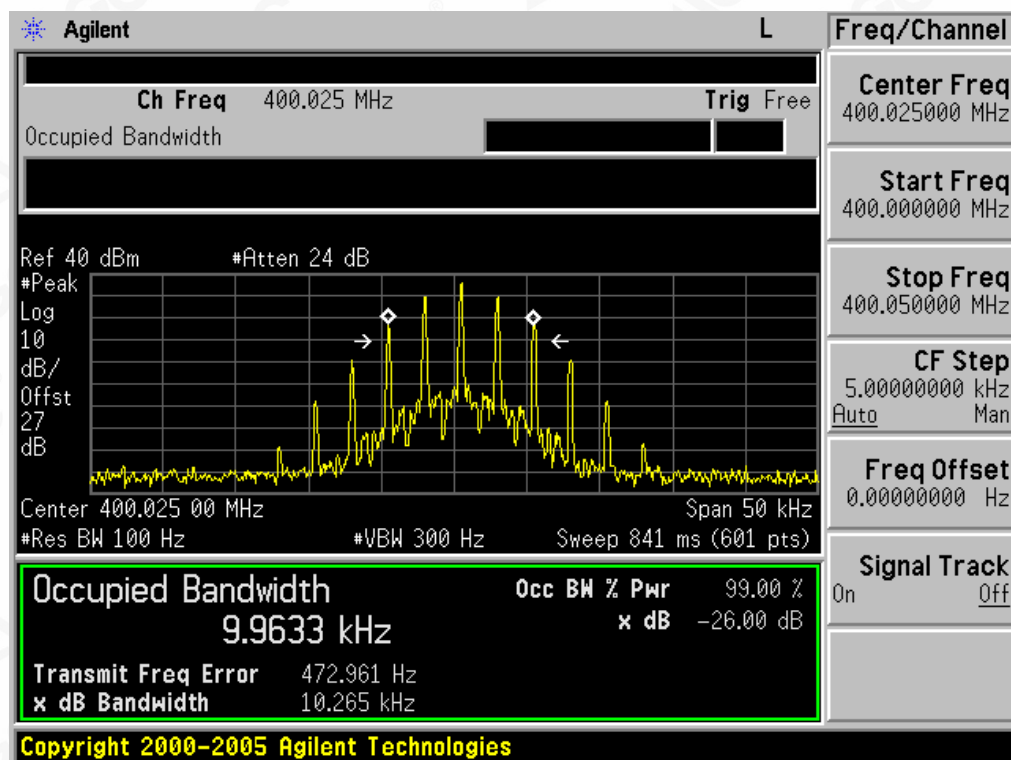
7.4 MEASUREMENT RESULT

UHF:

Analog:

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.265 KHz	11.25 KHz	Pass
453.225MHz	10.260 KHz	11.25 KHz	Pass
454.025MHz	10.268 KHz	11.25 KHz	Pass
479.975MHz	10.229 KHz	11.25 KHz	Pass

Occupied bandwidth of Bottom Channel (400.025MHz)-10W



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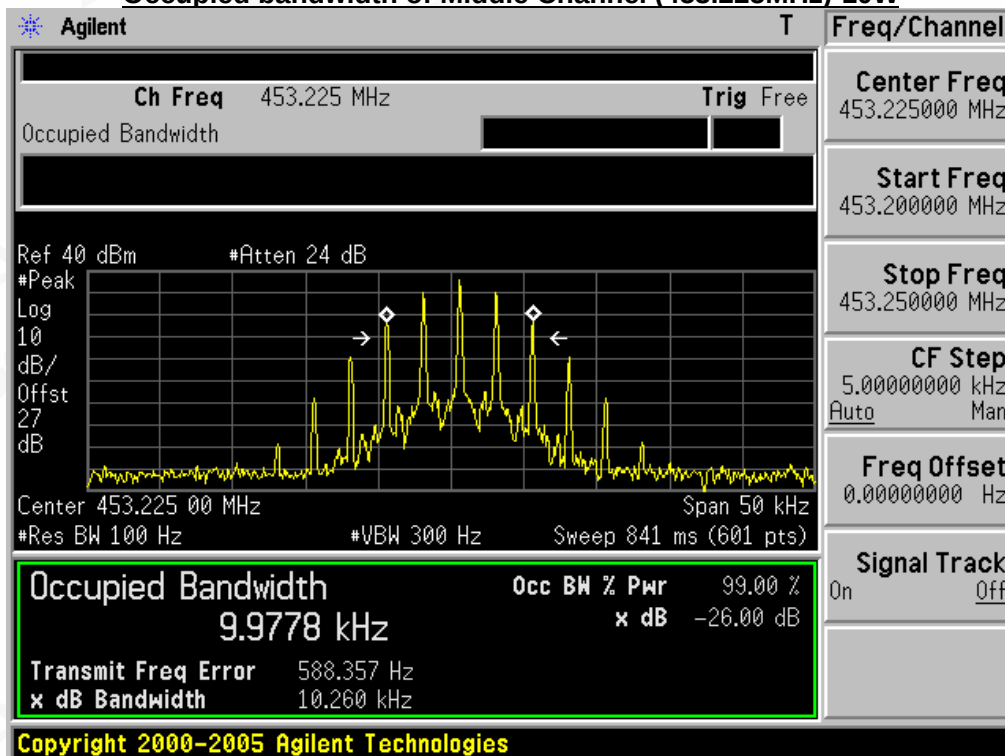
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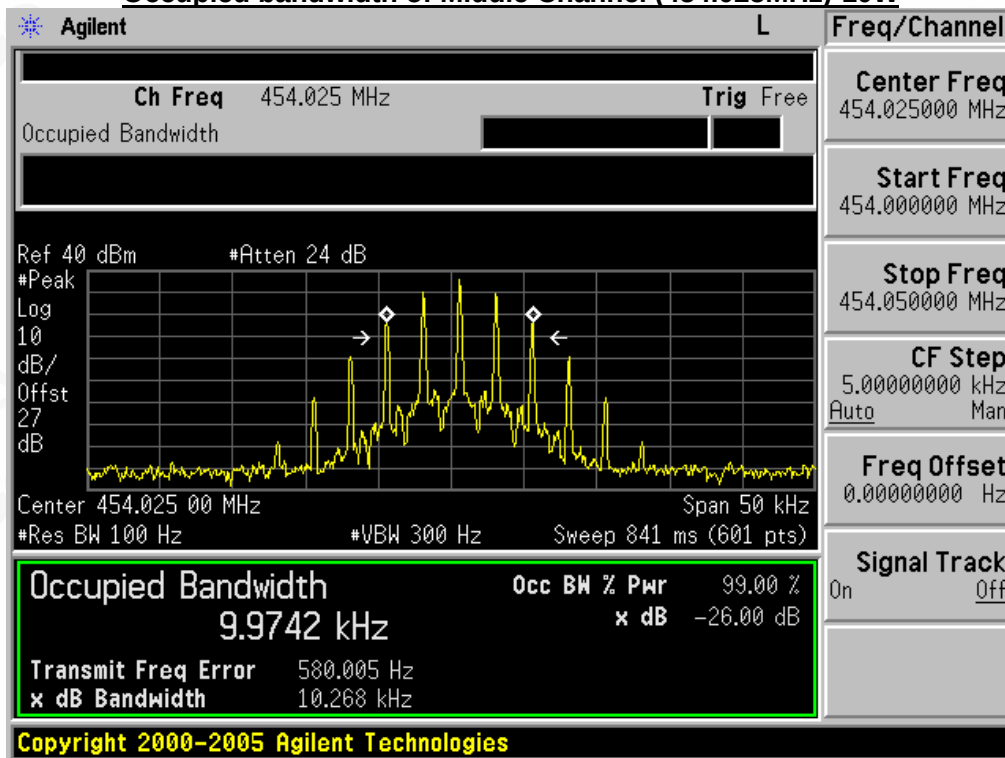
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

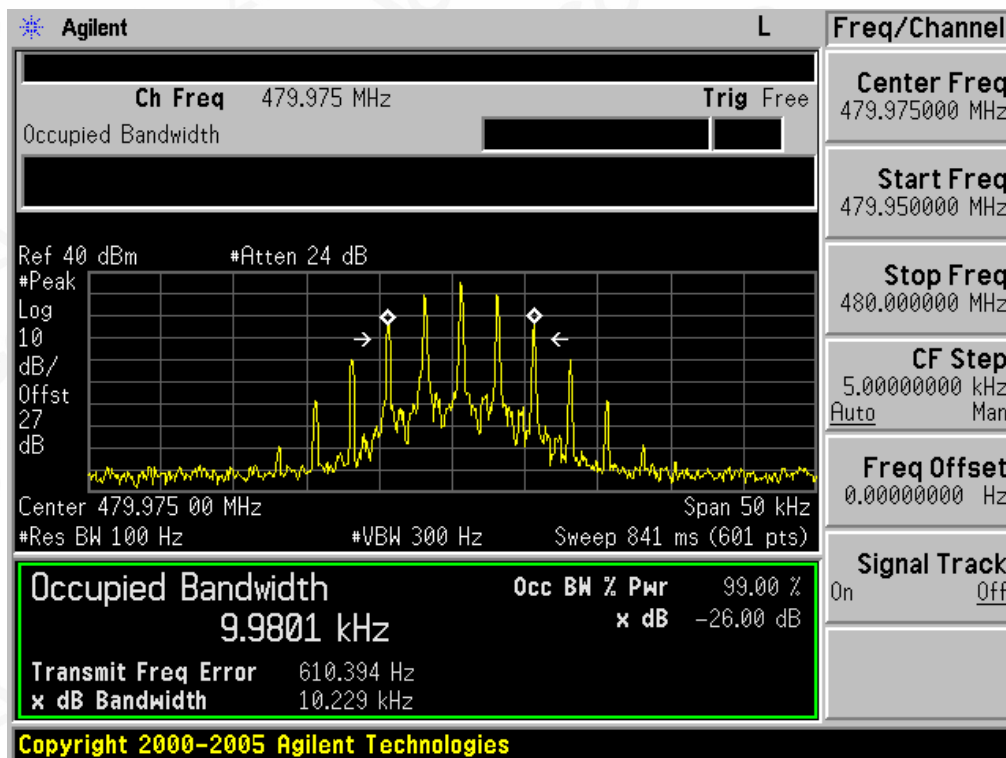
Occupied bandwidth of Middle Channel (453.225MHz)-10W



Occupied bandwidth of Middle Channel (454.025MHz)-10W

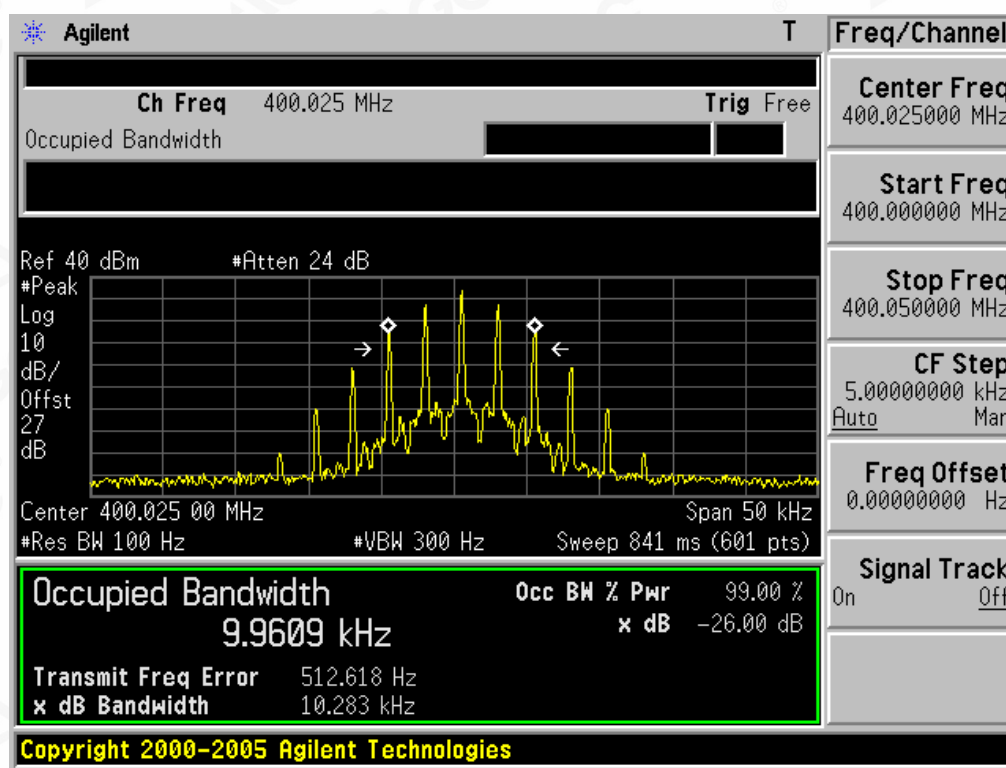


Occupied bandwidth of Top Channel (479.975MHz)-10W

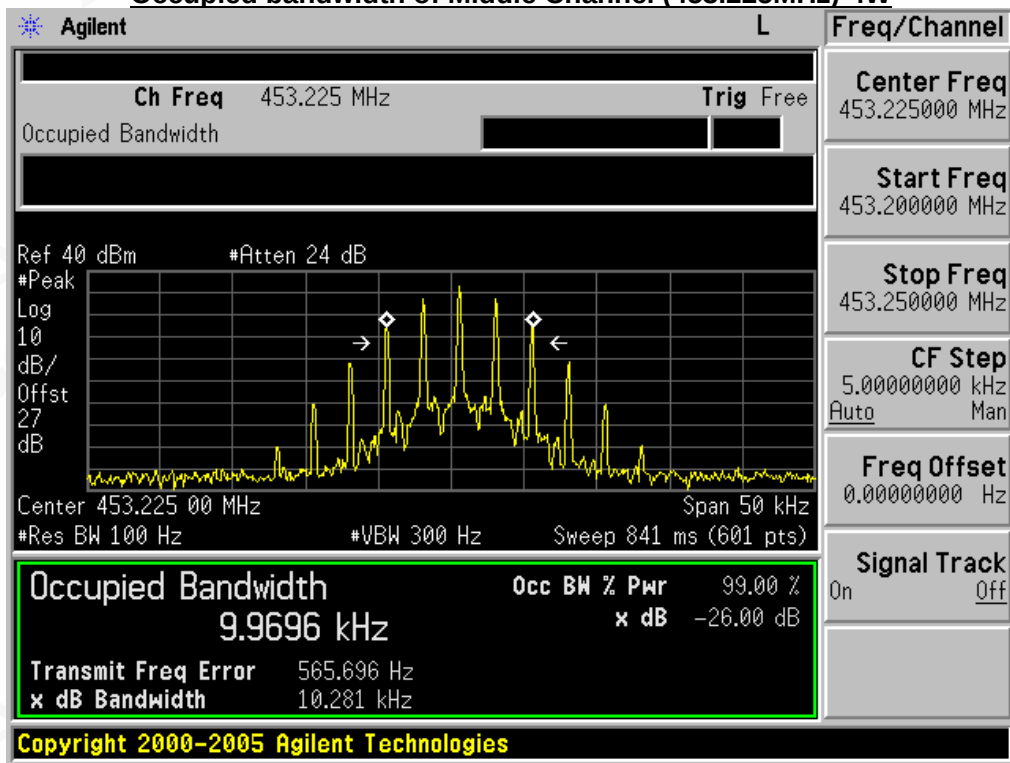


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.283 KHz	11.25 KHz	Pass
453.225MHz	10.281 KHz	11.25 KHz	Pass
454.025MHz	10.233 KHz	11.25 KHz	Pass
479.975MHz	10.261 KHz	11.25 KHz	Pass

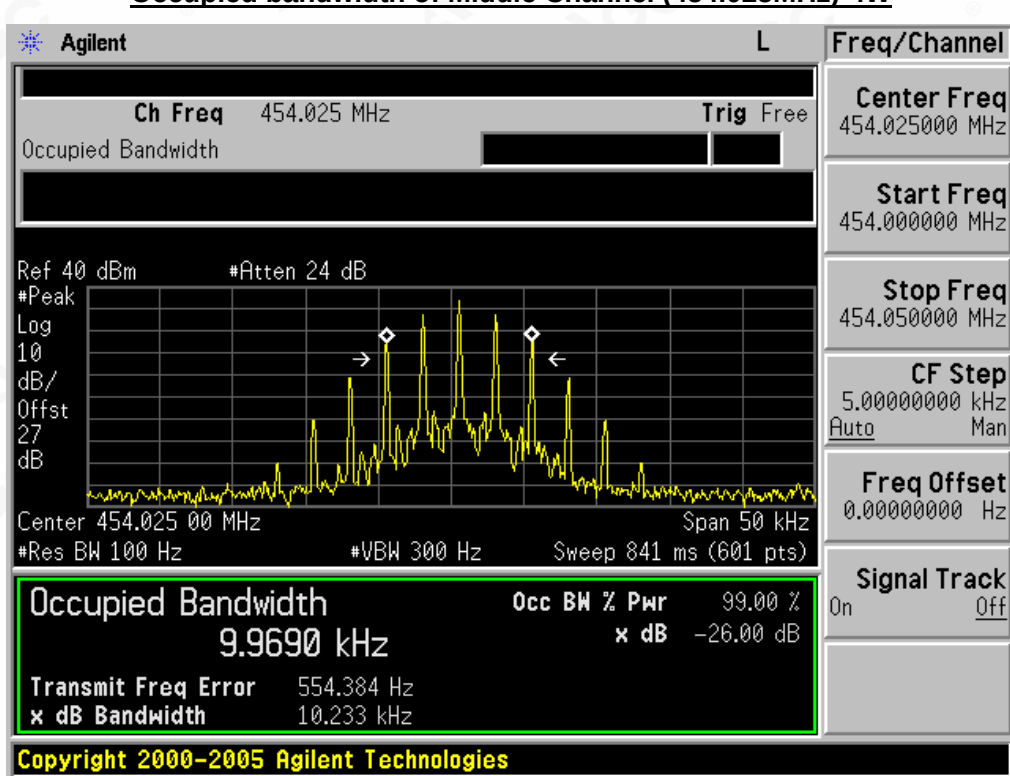
Occupied bandwidth of Bottom Channel (400.025MHz)-4W



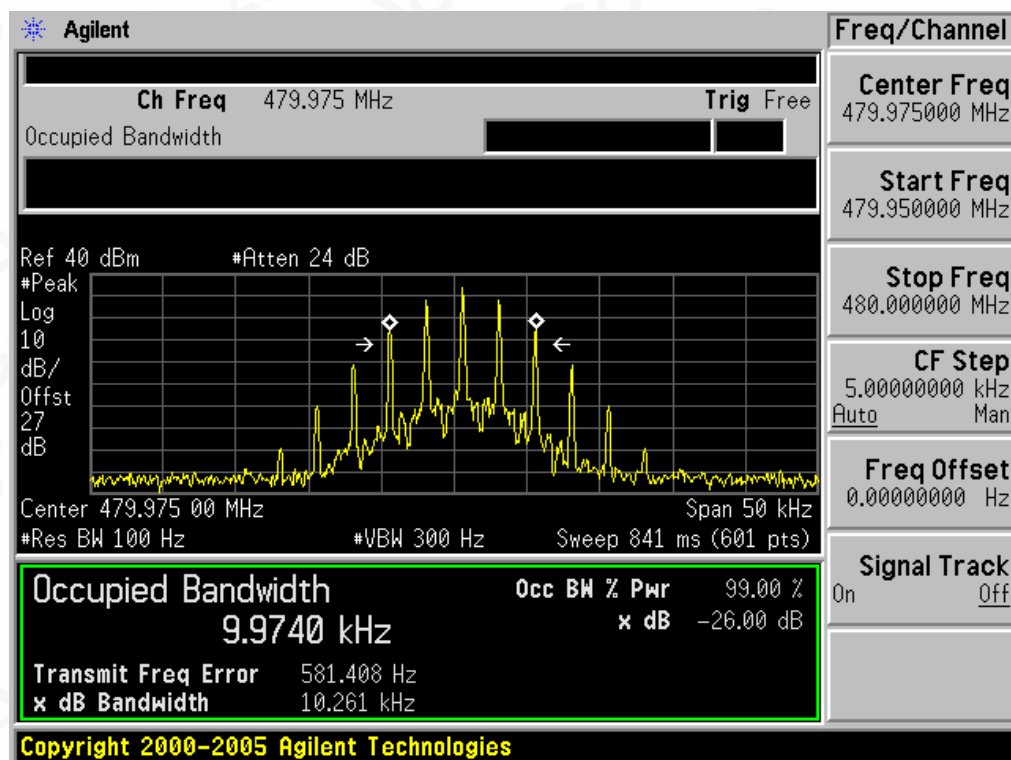
Occupied bandwidth of Middle Channel (453.225MHz)-4W



Occupied bandwidth of Middle Channel (454.025MHz)-4W



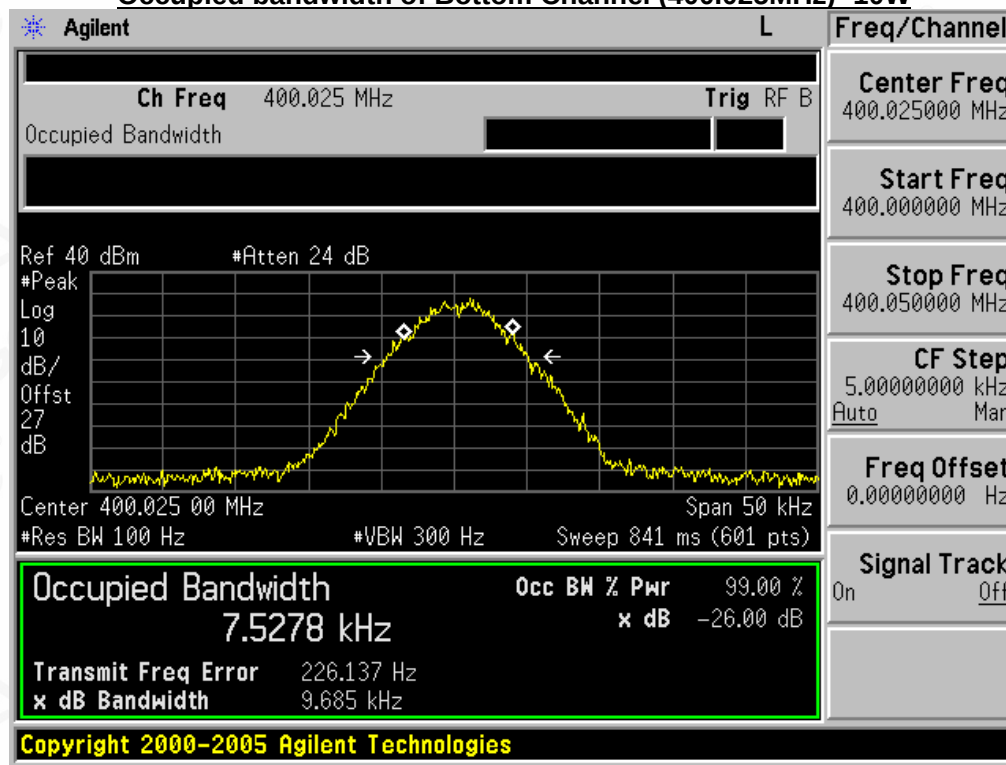
Occupied bandwidth of Top Channel (479.975MHz)-4W



**Digital:
TEST RESULTS**

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	9.685 KHz	11.25 KHz	Pass
453.225MHz	9.827 KHz	11.25 KHz	Pass
454.025MHz	9.520 KHz	11.25 KHz	Pass
479.975MHz	9.874 KHz	11.25 KHz	Pass

Occupied bandwidth of Bottom Channel (400.025MHz) -10W



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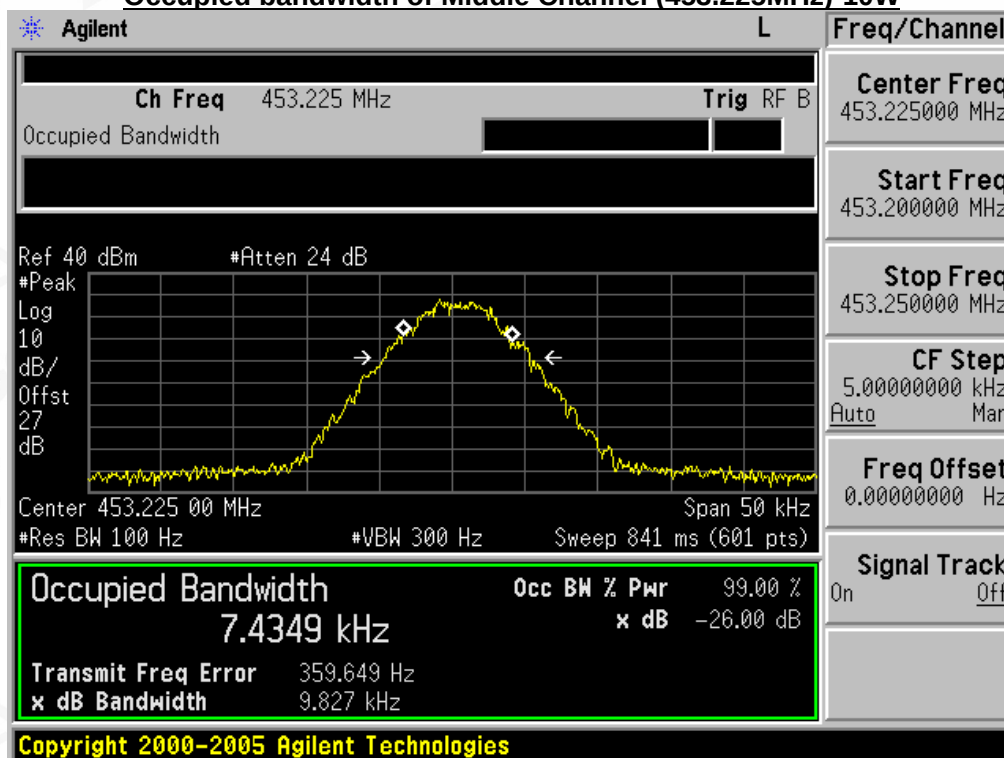
Add: 2/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
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Tel: +86-755 2523 4088

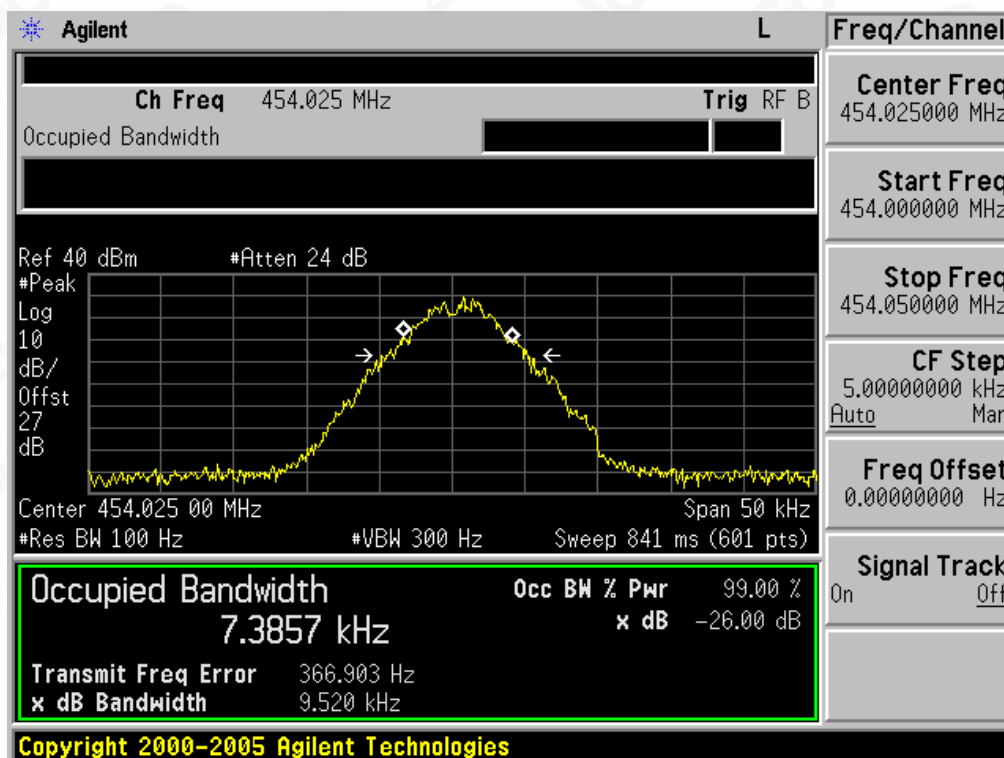
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

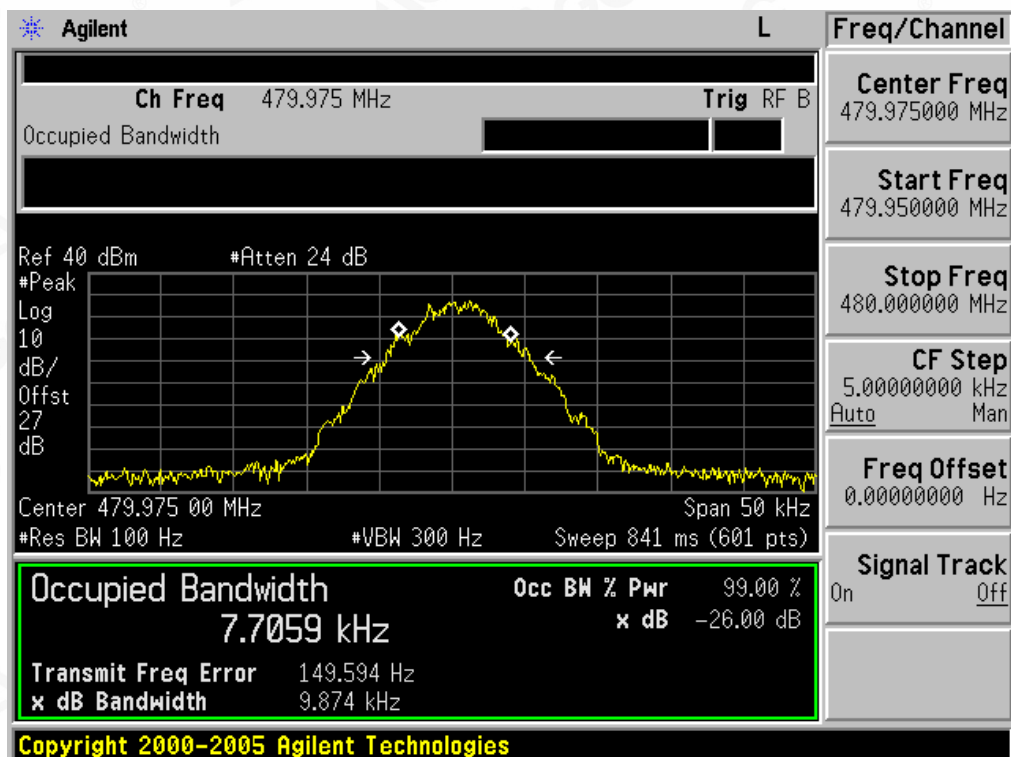
Occupied bandwidth of Middle Channel (453.225MHz)-10W



Occupied bandwidth of Middle Channel (454.025MHz)-10W

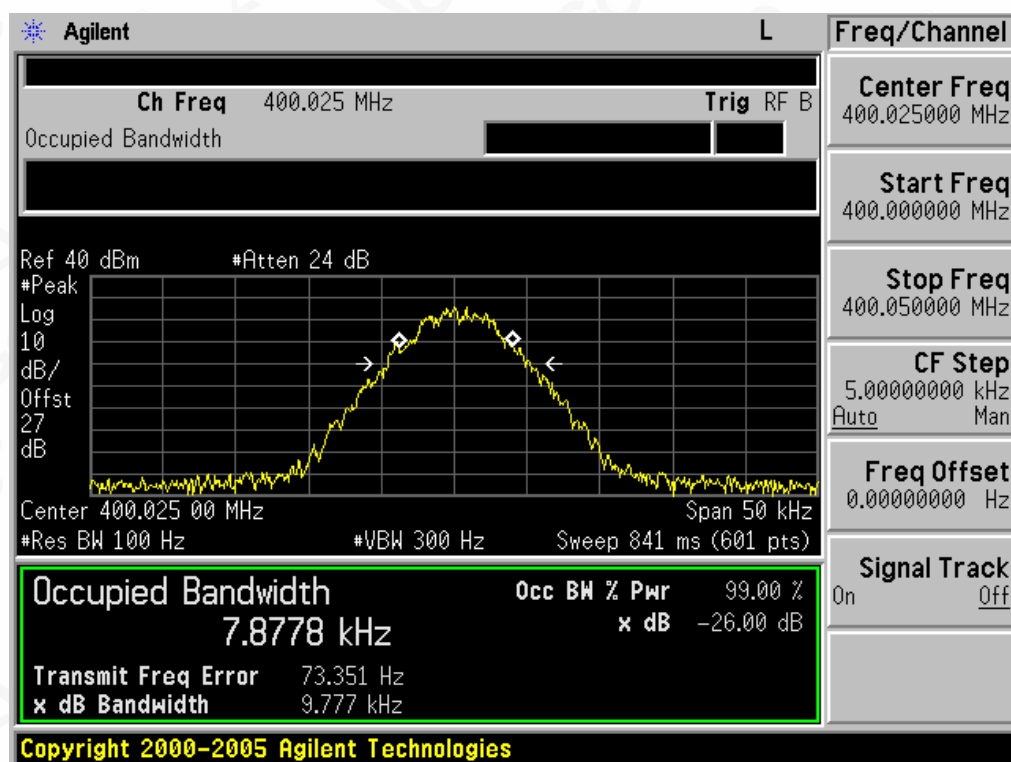


Occupied bandwidth of Top Channel (479.975MHz)-10W

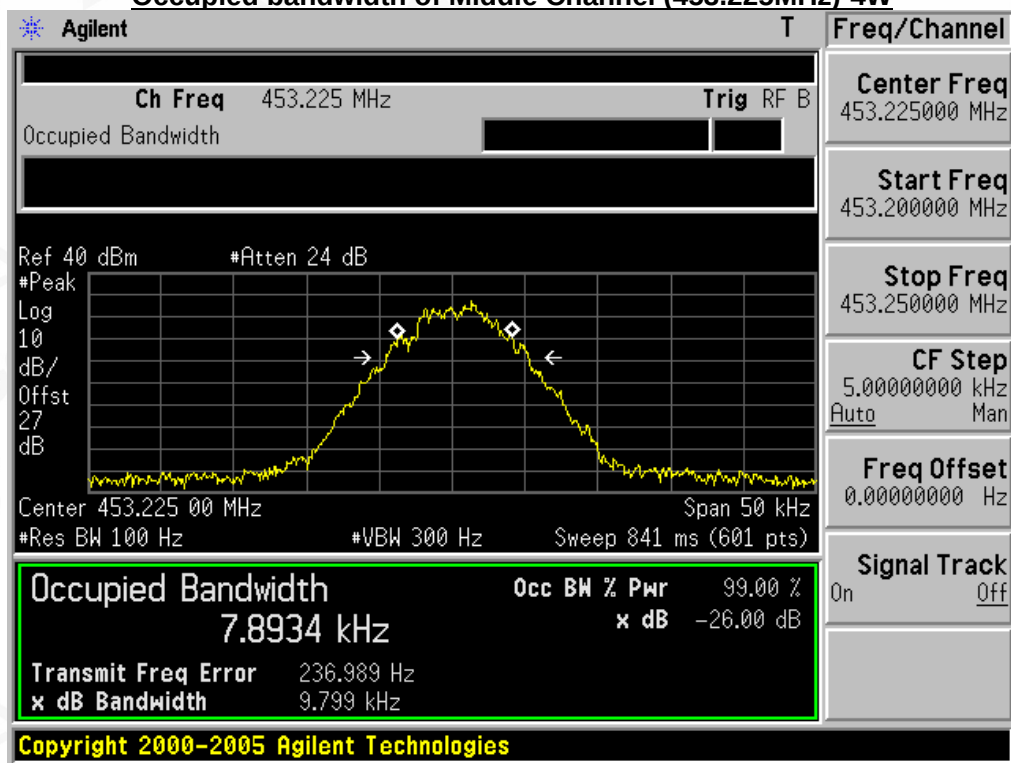


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	9.777 KHz	11.25 KHz	Pass
453.225MHz	9.799 KHz	11.25 KHz	Pass
454.025MHz	9.592 KHz	11.25 KHz	Pass
479.975MHz	9.898 KHz	11.25 KHz	Pass

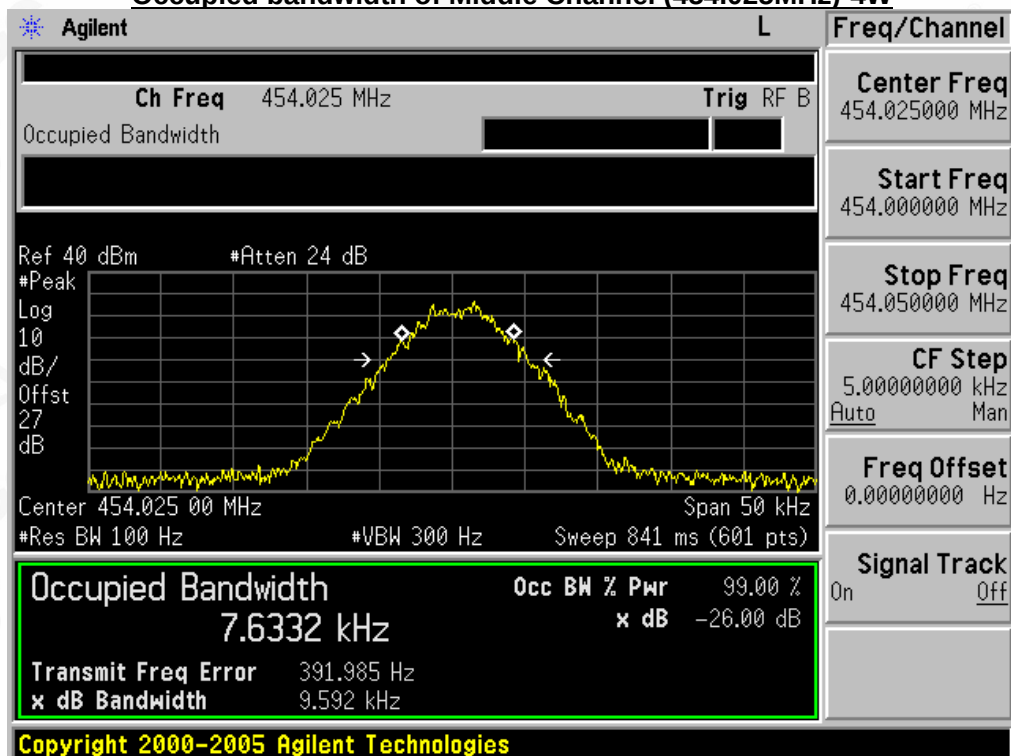
Occupied bandwidth of Bottom Channel (400.025MHz)-4W



Occupied bandwidth of Middle Channel (453.225MHz)-4W



Occupied bandwidth of Middle Channel (454.025MHz)-4W



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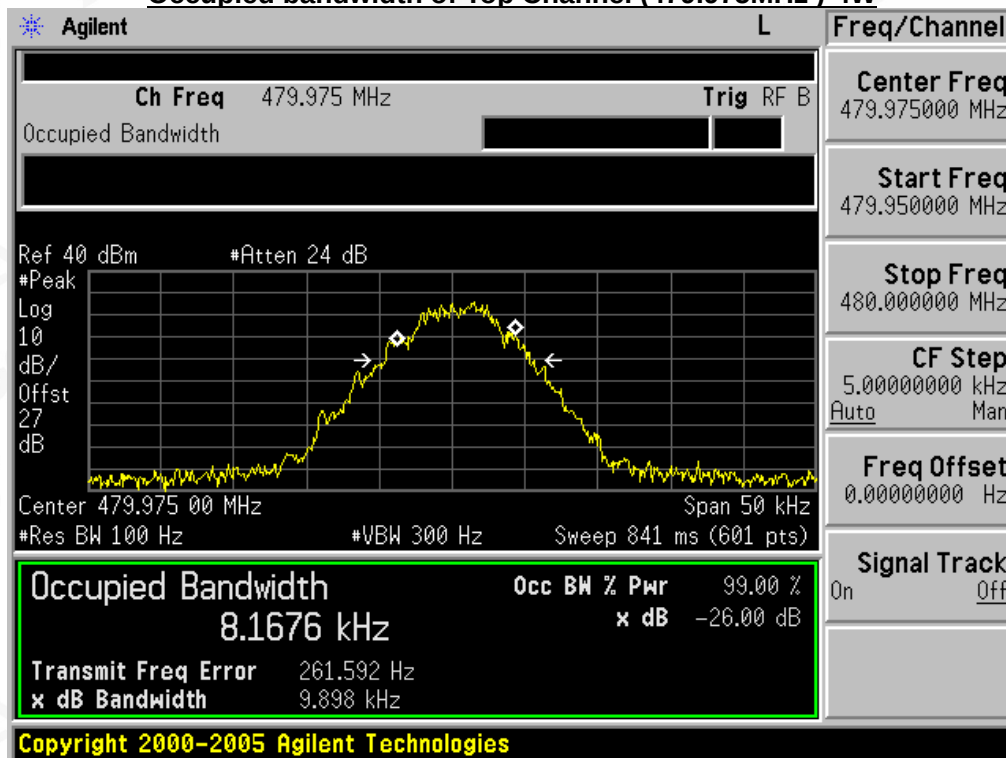
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Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Occupied bandwidth of Top Channel (479.975MHz)-4W



7. UNWANTED RADIATION

8.1 PROVISIONS APPLICABLE

According to FCC §2.1049, §22.359 and §90.210, the power of each unwanted emission shall be less than Transmitted Power as specified below for transmitters designed to operate with each channel separation.

Emission Mask D -for 12.5 KHz Channel Separation:

- (1). On any frequency removed from the center of the authorized bandwidth f_0 to 5.625 KHz removed from f_0 : Zero dB.
- (2). On any frequency removed from the center of the authorized bandwidth by a displacement Frequency (f_d in KHz) f_0 of more than 5.625 KHz but no more than 12.5 KHz: At least $7.27(f_d - 2.88 \text{ KHz})$ dB
- (3). On any frequency removed from the center of the authorized bandwidth by a displacement Frequency (f_d in KHz) f_0 of more than 12.5 KHz: At least $50 + 10 \log(P)$ dB or 70 dB, whichever is lesser attenuation.

According to FCC §22.359:

- (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.

8.2 MEASUREMENT PROCEDURE

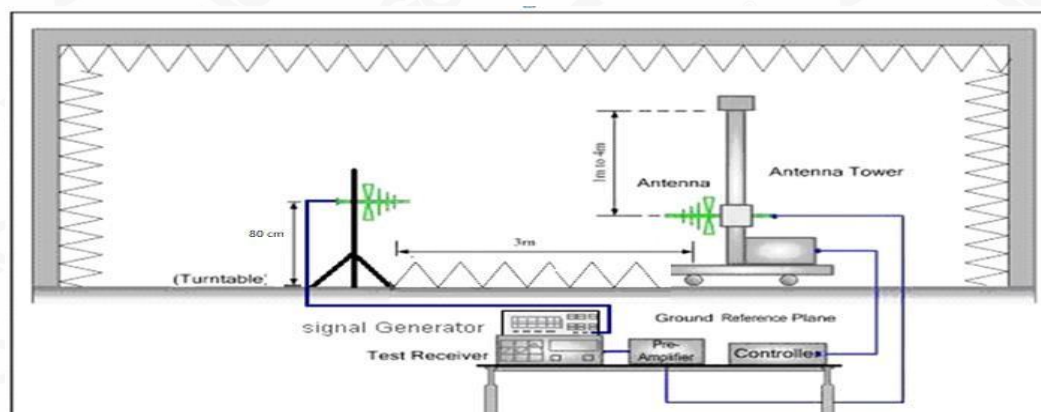
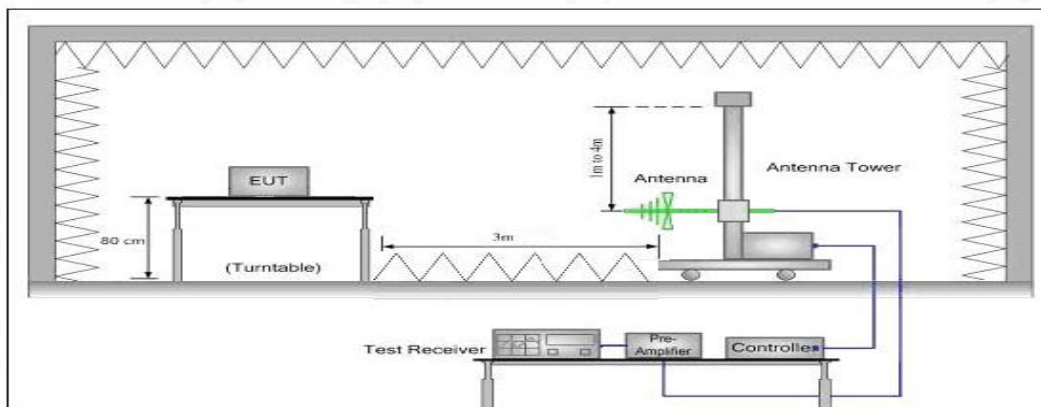
- (1) On a test site, the EUT shall be placed on a turntable, and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3) The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7) The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11) The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14) The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15) The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17) The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

8.3 TEST SETUP BLOCK DIAGRAM

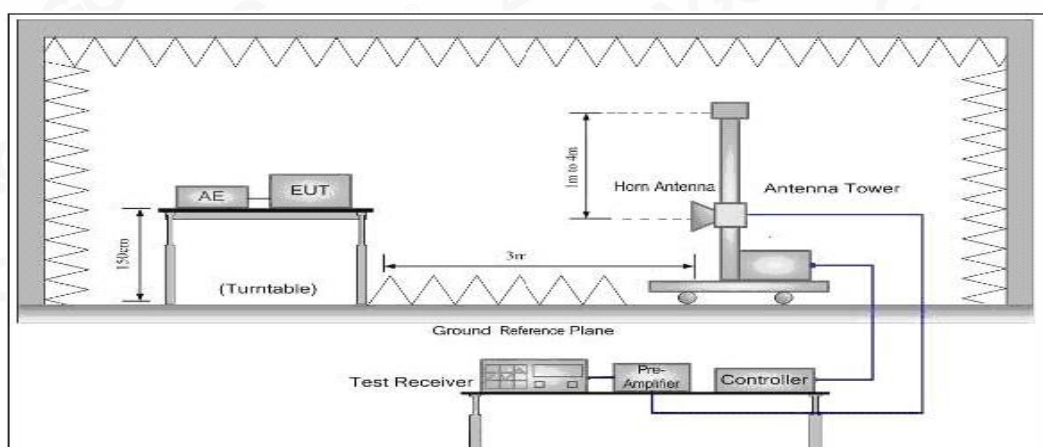
SUBSTITUTION METHOD: (Radiated Emissions)

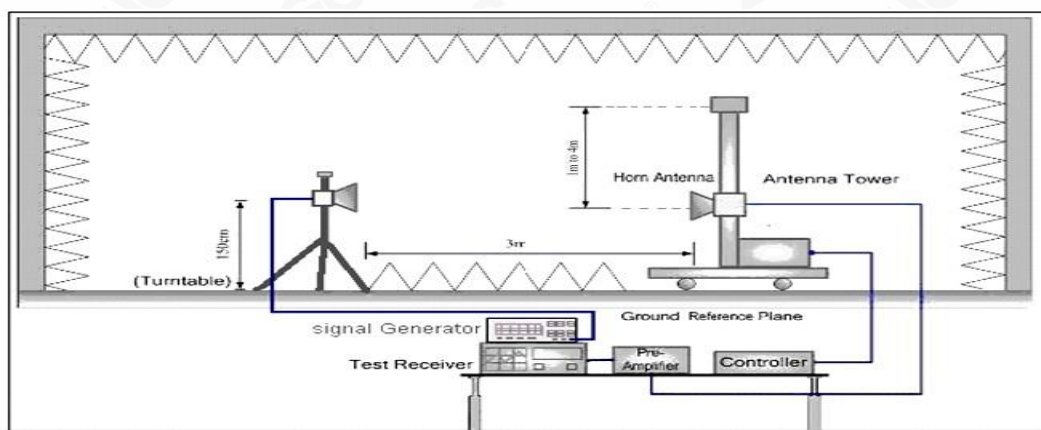
Radiation method:

Radiated Below 1GHz



Radiated Above 1 GHz





8.4 MEASUREMENT RESULTS:

Applicable Standard

FCC §2.1053, §22.359 and §90.210

On any frequency removed from the center of the authorized bandwidth by a displacement

Frequency (f_d in KHz) for of more than 12.5 KHz: at least $50+10 \log(P)$ dB or 70 dB, whichever is lesser attenuation.

Test Procedure

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for below 1GHz and 1MHz for above 1GHz. Sufficient scans were taken to show any out of band emissions up to 10 harmonic.

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.

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

Limit: FCC PART 90:

At least $50+10 \log(P) = 50+10 \log(10) = 60$ (dB)—10W 40-60=-20 dBm

At least $50+10 \log(P) = 50+10 \log(4) = 56.02$ (dB)—4W 36.02-56.02=-20dBm

FCC PART 22:

At least $43+10 \log(P) = 43+10 \log(10) = 53$ (dB)—10W 40-53=-13 dBm

At least $43+10 \log(P) = 43+10 \log(4) = 49.02$ (dB)—10W 36.02-49.02=-13 dBm



FCC PART 90:
UHF:
Analog:

TEST RESULTS--10W
Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	H	0		pass
800.050	H	-34.2	-20	pass
1200.075	H	-35.3	-20	pass
1600.100	H	-36.8	-20	pass
2000.125	H	-39.1	-20	pass
2400.150	H	-39.4	-20	pass
2800.175	H	-40.2	-20	pass
3200.200	H	-51.8	-20	pass
3600.225	H	-51.9	-20	pass
4000.250	H	-52.8	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	V	0		pass
800.050	V	-33.5	-20	pass
1200.075	V	-35.7	-20	pass
1600.100	V	-37.6	-20	pass
2000.125	V	-40.3	-20	pass
2400.150	V	-41.7	-20	pass
2800.175	V	-47.5	-20	pass
3200.200	V	-51.2	-20	pass
3600.225	V	-52.2	-20	pass
4000.250	V	-53.4	-20	pass



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Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-33.1	-20	pass
1362.075	V	-34.7	-20	pass
1816.100	V	-36.1	-20	pass
2270.125	V	-43.7	-20	pass
2724.150	V	-45.9	-20	pass
3178.175	V	-47.4	-20	pass
3632.200	V	-51.3	-20	pass
4086.225	V	-52.1	-20	pass
4540.250	V	-53.5	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-32.9	-20	pass
1362.075	H	-34.6	-20	pass
1816.100	H	-37.9	-20	pass
2270.125	H	-38.6	-20	pass
2724.150	H	-40.7	-20	pass
3178.175	H	-41.3	-20	pass
3632.200	H	-43.8	-20	pass
4086.225	H	-48.9	-20	pass
4540.250	H	-51.1	-20	pass


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Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	H	0		pass
959.950	H	-35.2	-20	pass
1439.925	H	-38.6	-20	pass
1919.900	H	-39.7	-20	pass
2399.875	H	-40.2	-20	pass
2879.850	H	-43.4	-20	pass
3359.825	H	-44.7	-20	pass
3839.800	H	-47.9	-20	pass
4319.775	H	-51.4	-20	pass
4799.750	H	-52.5	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	V	0		pass
959.950	V	-34.6	-20	pass
1439.925	V	-35.2	-20	pass
1919.900	V	-37.7	-20	pass
2399.875	V	-38.3	-20	pass
2879.850	V	-41.2	-20	pass
3359.825	V	-42.3	-20	pass
3839.800	V	-47.9	-20	pass
4319.775	V	-48.6	-20	pass
4799.750	V	-50.1	-20	pass



TEST RESULTS—4W

Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	H	0		pass
800.050	H	-36.3	-20	pass
1200.075	H	-38.5	-20	pass
1600.100	H	-39.4	-20	pass
2000.125	H	-41.5	-20	pass
2400.150	H	-42.3	-20	pass
2800.175	H	-45.9	-20	pass
3200.200	H	-48.0	-20	pass
3600.225	H	-49.2	-20	pass
4000.250	H	-50.7	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	V	0		pass
800.050	V	-36.9	-20	pass
1200.075	V	37.2	-20	pass
1600.100	V	-40.3	-20	pass
2000.125	V	-41.9	-20	pass
2400.150	V	-42.5	-20	pass
2800.175	V	-43.6	-20	pass
3200.200	V	-48.7	-20	pass
3600.225	V	-49.5	-20	pass
4000.250	V	-51.4	-20	pass



Attestation of Global Compliance

Attestation of Global Compliance(Shenzhen)Co.,Ltd.

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

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E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-37.4	-20	pass
1362.075	H	-38.1	-20	pass
1816.100	H	-39.5	-20	pass
2270.125	H	-40.7	-20	pass
2724.150	H	-41.4	-20	pass
3178.175	H	-45.8	-20	pass
3632.200	H	-47.6	-20	pass
4086.225	H	-49.9	-20	pass
4540.250	H	-51.3	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-37.6	-20	pass
1362.075	V	-38.5	-20	pass
1816.100	V	-39.9	-20	pass
2270.125	V	-41.2	-20	pass
2724.150	V	-46.3	-20	pass
3178.175	V	-48.5	-20	pass
3632.200	V	-49.7	-20	pass
4086.225	V	-50.4	-20	pass
4540.250	V	-50.8	-20	pass



Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
469.975	H	0		pass
939.950	H	-37.4	-20	pass
1409.925	H	-38.0	-20	pass
1879.900	H	-39.5	-20	pass
2349.875	H	-40.1	-20	pass
2819.850	H	-41.3	-20	pass
3289.825	H	-45.5	-20	pass
3759.800	H	-46.7	-20	pass
4229.775	H	-50.1	-20	pass
4699.750	H	-52.3	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
469.975	V	0		pass
939.950	V	-35.1	-20	pass
1409.925	V	-35.8	-20	pass
1879.900	V	-37.3	-20	pass
2349.875	V	-38.1	-20	pass
2819.850	V	-39.5	-20	pass
3289.825	V	-40.2	-20	pass
3759.800	V	-41.3	-20	pass
4229.775	V	-45.5	-20	pass
4699.750	V	-49.9	-20	pass



Digital:

TEST RESULTS-10W
Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	H	0		pass
800.050	H	-35.5	-20	pass
1200.075	H	-36.3	-20	pass
1600.100	H	-37.5	-20	pass
2000.125	H	-39.1	-20	pass
2400.150	H	-42.2	-20	pass
2800.175	H	-45.3	-20	pass
3200.200	H	-47.4	-20	pass
3600.225	H	-50.0	-20	pass
4000.250	H	-51.9	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	V	0		pass
800.050	V	-36.2	-20	pass
1200.075	V	-35.8	-20	pass
1600.100	V	-37.3	-20	pass
2000.125	V	-38.6	-20	pass
2400.150	V	-41.4	-20	pass
2800.175	V	-42.8	-20	pass
3200.200	V	-45.7	-20	pass
3600.225	V	-48.9	-20	pass
4000.250	V	-50.4	-20	pass



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E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-36.1	-20	pass
1362.075	H	-37.4	-20	pass
1816.100	H	-38.4	-20	pass
2270.125	H	-39.7	-20	pass
2724.150	H	-40.8	-20	pass
3178.175	H	-42.6	-20	pass
3632.200	H	-45.3	-20	pass
4086.225	H	-47.8	-20	pass
4540.250	H	-50.9	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-36.7	-20	pass
1362.075	V	-37.9	-20	pass
1816.100	V	-39.2	-20	pass
2270.125	V	-41.5	-20	pass
2724.150	V	-42.3	-20	pass
3178.175	V	-43.8	-20	pass
3632.200	V	-46.7	-20	pass
4086.225	V	-50.1	-20	pass
4540.250	V	-51.3	-20	pass



Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	H	0		pass
959.950	H	-36.5	-20	pass
1439.925	H	-37.8	-20	pass
1919.900	H	-38.9	-20	pass
2399.875	H	-39.4	-20	pass
2879.850	H	-40.5	-20	pass
3359.825	H	-42.5	-20	pass
3839.800	H	-47.6	-20	pass
4319.775	H	-49.7	-20	pass
4799.750	H	-50.0	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	V	0		pass
959.950	V	-36.7	-20	pass
1439.925	V	-37.9	-20	pass
1919.900	V	-38.9	-20	pass
2399.875	V	-40.5	-20	pass
2879.850	V	-42.9	-20	pass
3359.825	V	-44.4	-20	pass
3839.800	V	-46.8	-20	pass
4319.775	V	-49.3	-20	pass
4799.750	V	-51.2	-20	pass



TEST RESULTS-4W
Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	H	0		pass
800.050	H	-36.9	-20	pass
1200.075	H	-38.3	-20	pass
1600.100	H	-39.4	-20	pass
2000.125	H	-40.5	-20	pass
2400.150	H	-43.3	-20	pass
2800.175	H	-47.6	-20	pass
3200.200	H	-49.8	-20	pass
3600.225	H	-50.2	-20	pass
4000.250	H	-51.7	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
400.025	V	0		pass
800.050	V	-37.1	-20	pass
1200.075	V	-38.8	-20	pass
1600.100	V	-39.4	-20	pass
2000.125	V	-40.2	-20	pass
2400.150	V	-41.9	-20	pass
2800.175	V	-44.5	-20	pass
3200.200	V	-48.7	-20	pass
3600.225	V	-50.1	-20	pass
4000.250	V	-51.3	-20	pass



Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-36.4	-20	pass
1362.075	H	-37.6	-20	pass
1816.100	H	-38.9	-20	pass
2270.125	H	-40.2	-20	pass
2724.150	H	-41.3	-20	pass
3178.175	H	-45.7	-20	pass
3632.200	H	-47.3	-20	pass
4086.225	H	-49.8	-20	pass
4540.250	H	-50.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-36.9	-20	pass
1362.075	V	-37.5	-20	pass
1816.100	V	-39.6	-20	pass
2270.125	V	-40.2	-20	pass
2724.150	V	-43.4	-20	pass
3178.175	V	-45.6	-20	pass
3632.200	V	-47.9	-20	pass
4086.225	V	-49.3	-20	pass
4540.250	V	-51.1	-20	pass



Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	H	0		pass
959.950	H	-36.3	-20	pass
1439.925	H	-38.2	-20	pass
1919.900	H	-39.6	-20	pass
2399.875	H	-42.7	-20	pass
2879.850	H	-46.8	-20	pass
3359.825	H	-48.2	-20	pass
3839.800	H	-49.4	-20	pass
4319.775	H	-51.6	-20	pass
4799.750	H	-52.3	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
479.975	V	0		pass
959.950	V	-36.5	-20	pass
1439.925	V	-37.3	-20	pass
1919.900	V	-39.8	-20	pass
2399.875	V	-40.1	-20	pass
2879.850	V	-44.3	-20	pass
3359.825	V	-47.5	-20	pass
3839.800	V	-48.5	-20	pass
4319.775	V	-50.7	-20	pass
4799.750	V	-52.1	-20	pass



**FCC PART 22:
Analog:**

TEST RESULTS--10W

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-36.4	-13	pass
1362.075	H	-37.6	-13	pass
1816.100	H	-38.4	-13	pass
2270.125	H	-39.8	-13	pass
2724.150	H	-41.0	-13	pass
3178.175	H	-42.9	-13	pass
3632.200	H	-45.3	-13	pass
4086.225	H	-48.0	-13	pass
4540.250	H	-51.1	-13	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-37.2	-13	pass
1362.075	V	-37.9	-13	pass
1816.100	V	-39.5	-13	pass
2270.125	V	-41.5	-13	pass
2724.150	V	-42.5	-13	pass
3178.175	V	-43.8	-13	pass
3632.200	V	-46.5	-13	pass
4086.225	V	-50.0	-13	pass
4540.250	V	-51.2	-13	pass



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Service Hotline: 400 089 2118

TEST RESULTS--4W

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-36.1	-13	pass
1362.075	H	-37.9	-13	pass
1816.100	H	-38.6	-13	pass
2270.125	H	-40.1	-13	pass
2724.150	H	-41.1	-13	pass
3178.175	H	-42.7	-13	pass
3632.200	H	-45.3	-13	pass
4086.225	H	-48.1	-13	pass
4540.250	H	-51.2	-13	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-36.9	-13	pass
1362.075	V	-38.0	-13	pass
1816.100	V	-39.5	-13	pass
2270.125	V	-41.5	-13	pass
2724.150	V	-42.3	-13	pass
3178.175	V	-44.1	-13	pass
3632.200	V	-46.5	-13	pass
4086.225	V	-49.8	-13	pass
4540.250	V	-50.9	-13	pass



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Digital:

TEST RESULTS--10W

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-35.8	-13	pass
1362.075	H	-37.3	-13	pass
1816.100	H	-38.4	-13	pass
2270.125	H	-39.5	-13	pass
2724.150	H	-40.4	-13	pass
3178.175	H	-42.6	-13	pass
3632.200	H	-44.9	-13	pass
4086.225	H	-47.6	-13	pass
4540.250	H	-50.7	-13	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-37.2	-13	pass
1362.075	V	-37.9	-13	pass
1816.100	V	-39.3	-13	pass
2270.125	V	-41.7	-13	pass
2724.150	V	-42.3	-13	pass
3178.175	V	-44.2	-13	pass
3632.200	V	-47.0	-13	pass
4086.225	V	-50.1	-13	pass
4540.250	V	-51.6	-13	pass



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TEST RESULTS--4W

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	H	0		pass
908.050	H	-36.2	-13	pass
1362.075	H	-37.6	-13	pass
1816.100	H	-38.9	-13	pass
2270.125	H	-40.0	-13	pass
2724.150	H	-41.3	-13	pass
3178.175	H	-42.9	-13	pass
3632.200	H	-45.0	-13	pass
4086.225	H	-47.4	-13	pass
4540.250	H	-50.4	-13	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
454.025	V	0		pass
908.050	V	-36.6	-13	pass
1362.075	V	-37.8	-13	pass
1816.100	V	-39.1	-13	pass
2270.125	V	-41.4	-13	pass
2724.150	V	-42.1	-13	pass
3178.175	V	-43.5	-13	pass
3632.200	V	-46.3	-13	pass
4086.225	V	-49.8	-13	pass
4540.250	V	-51.1	-13	pass



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8.5 EMISSION MASK PLOT

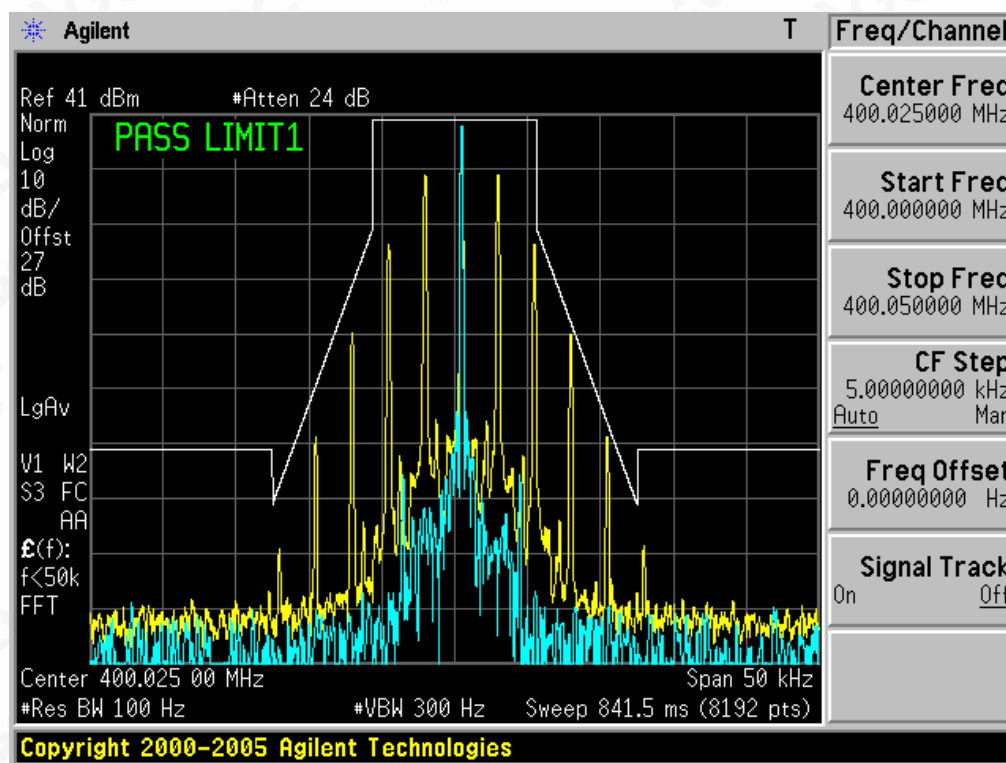
The detailed procedure employed for Emission Mask measurements are specified as following:

- The transmitter shall be modulated by a 2.5 kHz audio signal,
- The level of the audio signal employed is 16 dB greater than that necessary to produce 50% of rated system deviation. Rated system deviation is 2.5 kHz.

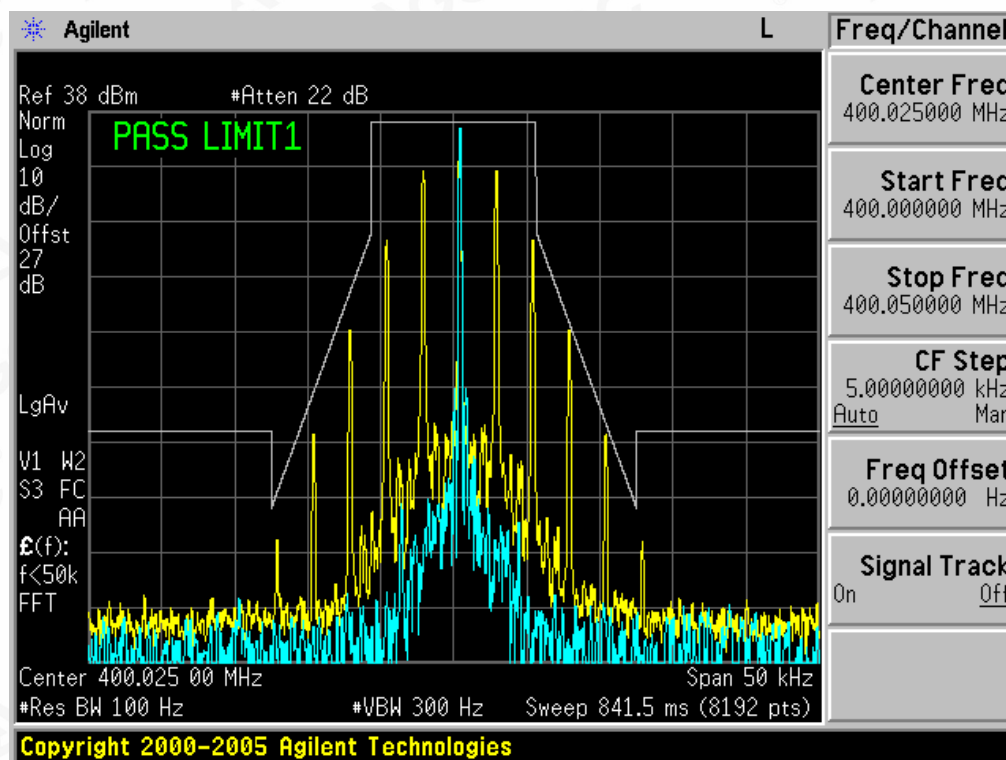


UHF:
Analog:

The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (10W)



The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (4W)



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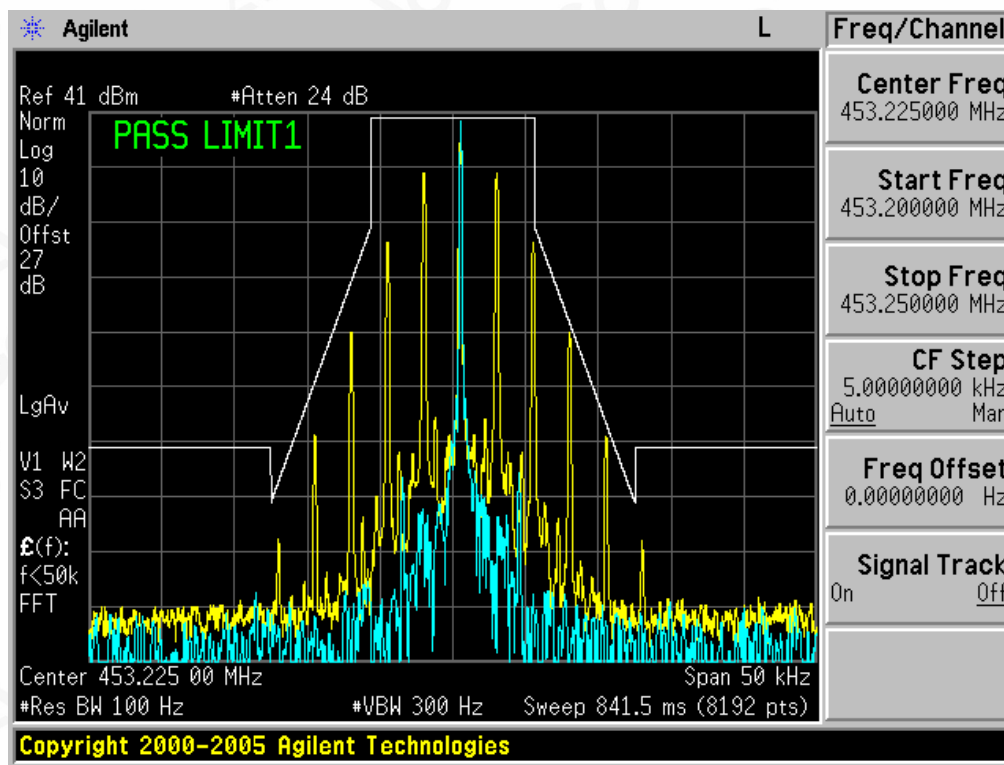
Add: 2/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

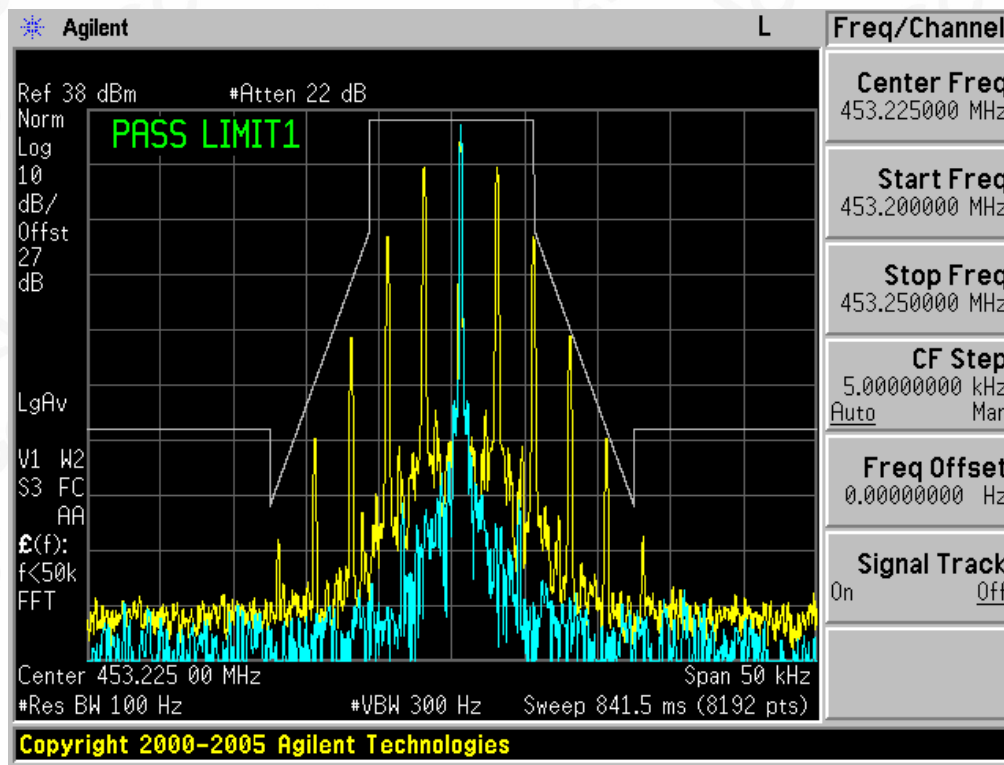
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

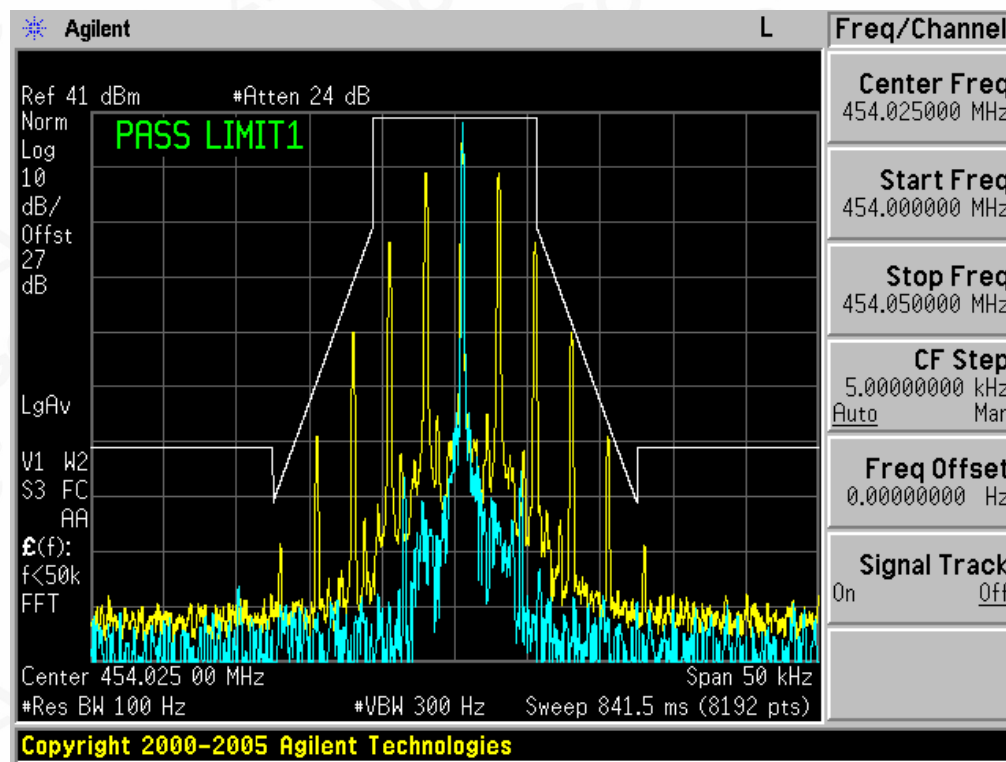
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (10W)



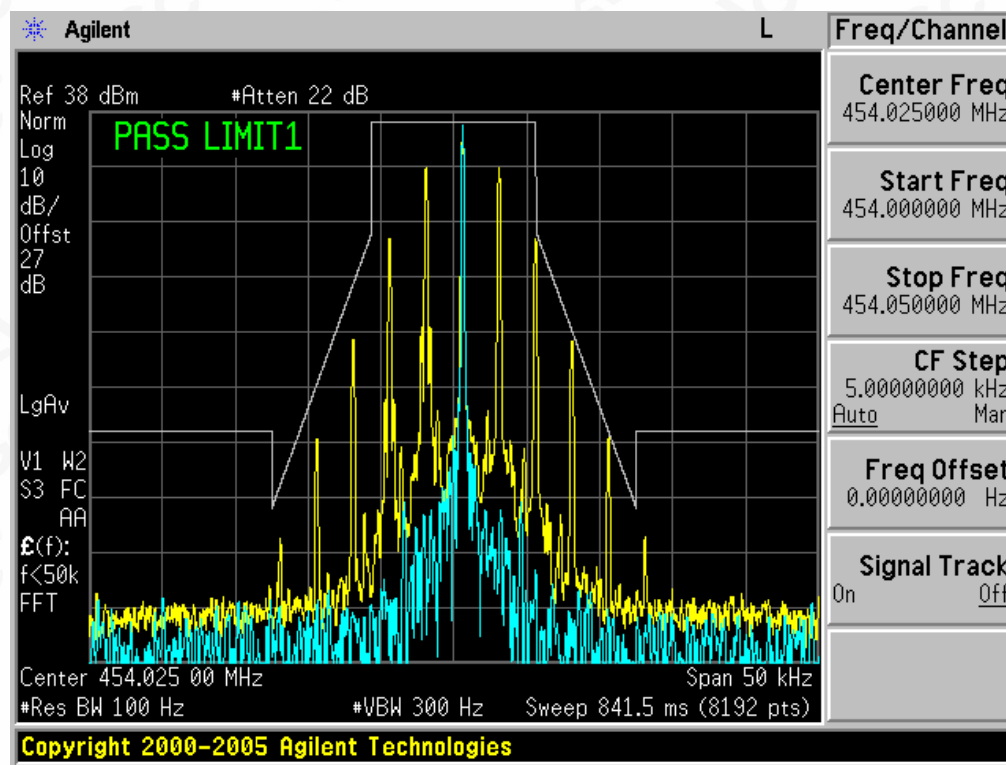
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (4W)



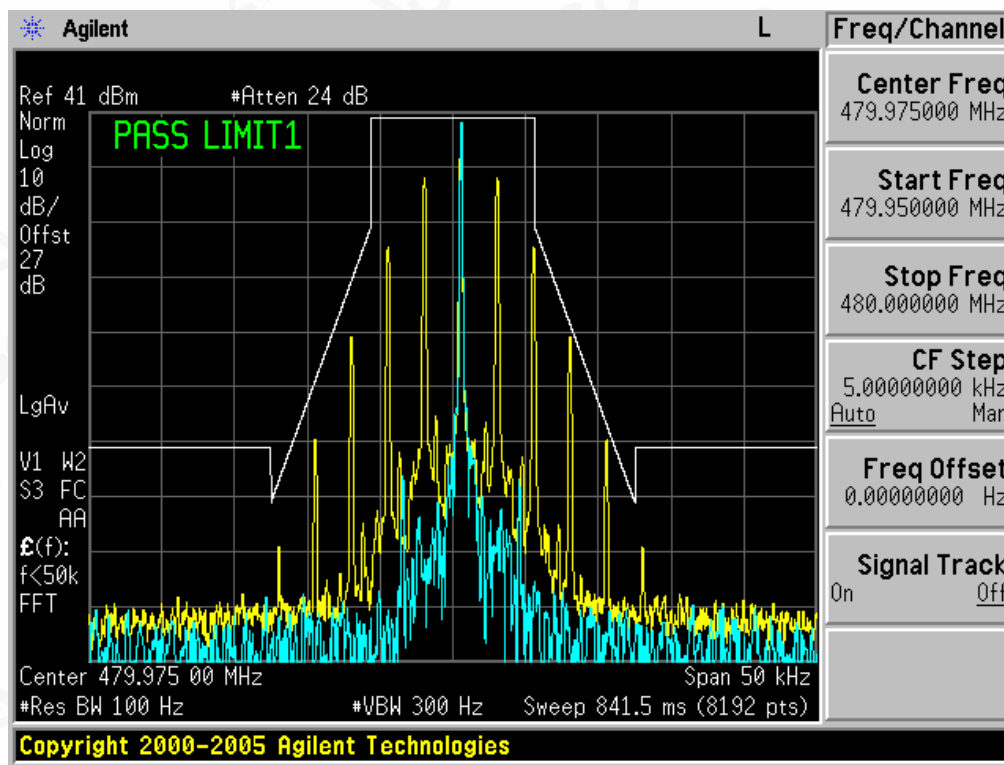
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (10W)



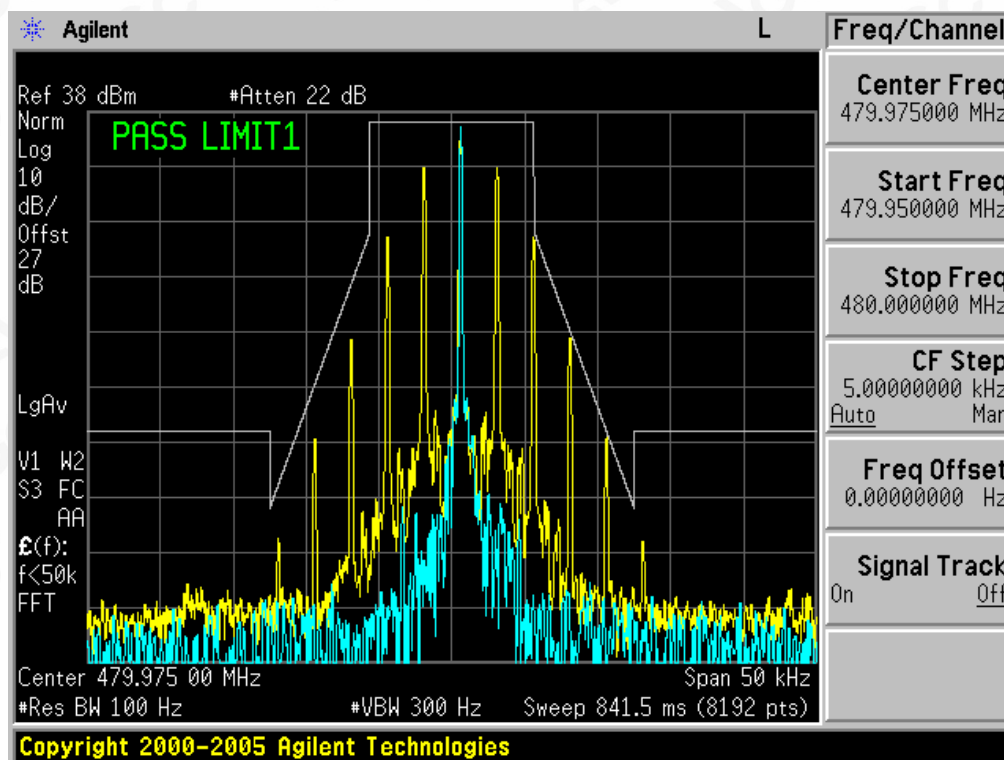
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (4W)



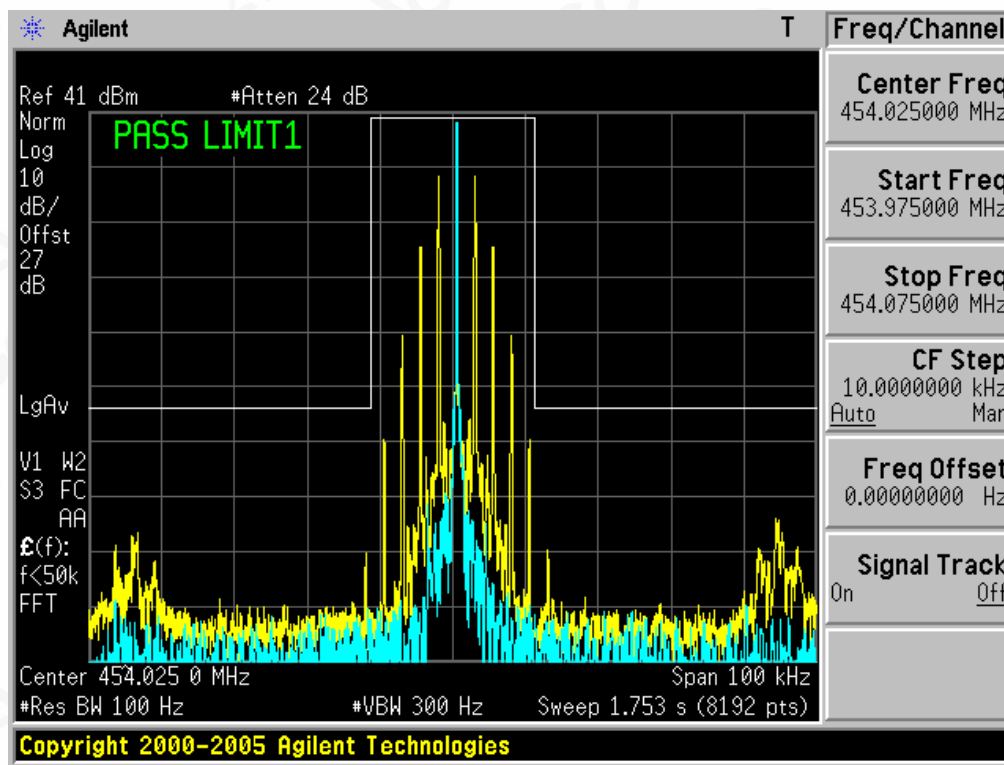
The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (10W)



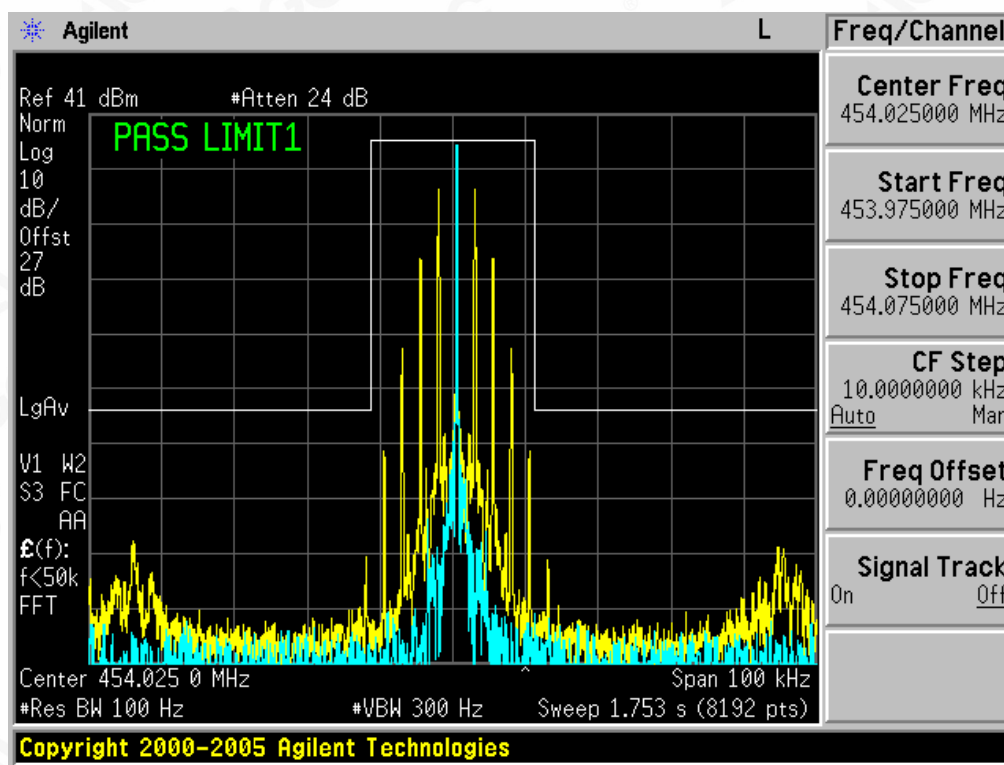
The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (4W)



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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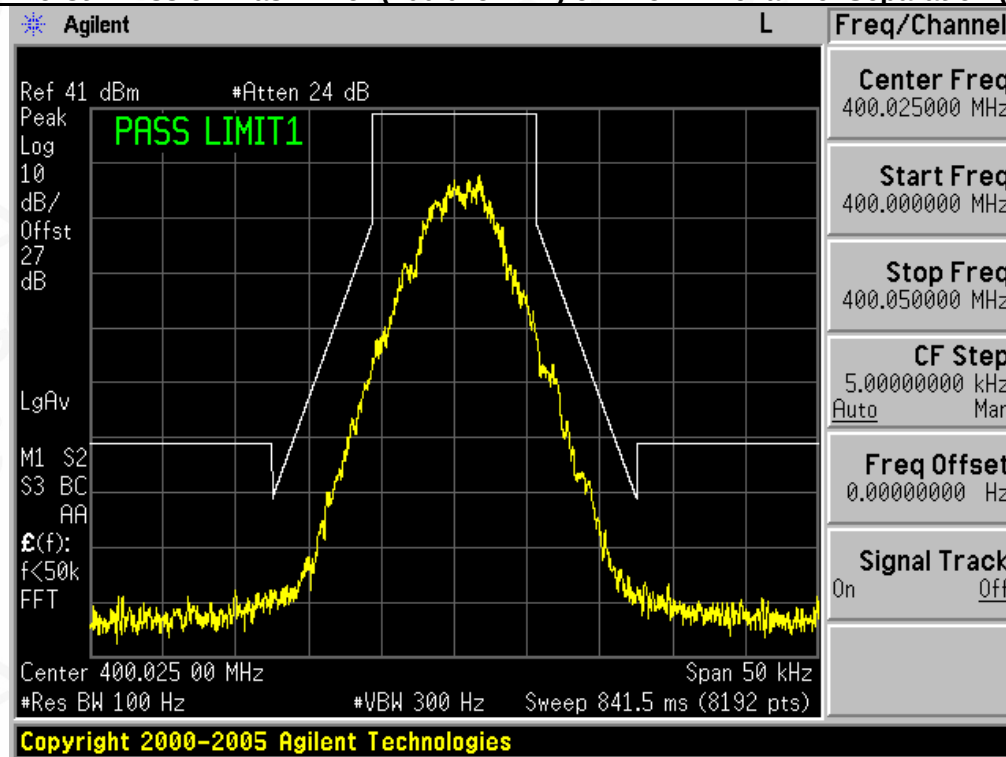
Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

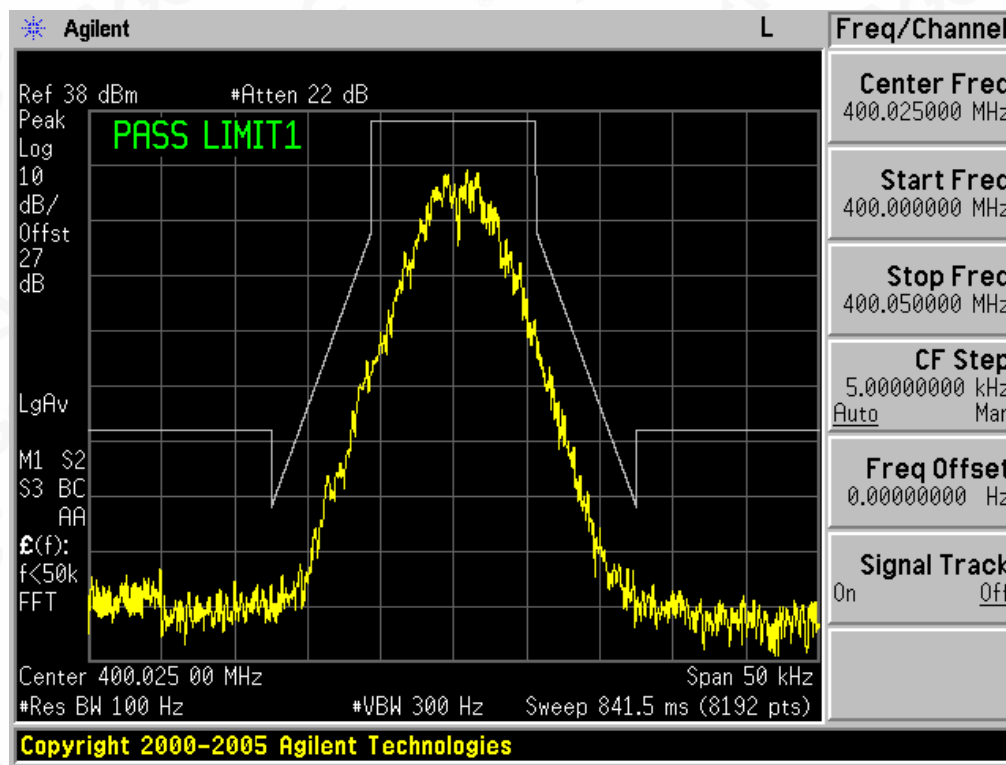
Service Hotline: 400 089 2118

Digital:

The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (10W)



The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (4W)



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E-mail: agc@agc-cert.com

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Agilent L

Ref 41 dBm #Atten 24 dB

Peak Log

PASS LIMIT1

dB/ Offst 27 dB

LgAv

M1 S2
S3 BC
AA

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

Center 453.225 00 MHz Span 50 kHz
#Res BW 100 Hz #VBW 300 Hz Sweep 841.5 ms (8192 pts)

Freq/Channel

Center Freq
453.225000 MHz

Start Freq
453.200000 MHz

Stop Freq
453.250000 MHz

CF Step
5.00000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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Agilent L

Ref 38 dBm #Atten 22 dB

Peak Log

10 dB/Offst 27 dB

LgAv

M1 S2

S3 BC

AA

£(f): f<50k FFT

Center 453.225 00 MHz Span 50 kHz

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

PASS LIMIT1

Freq/Channel

Center Freq 453.225000 MHz

Start Freq 453.200000 MHz

Stop Freq 453.250000 MHz

CF Step 5.00000000 kHz

Auto Man

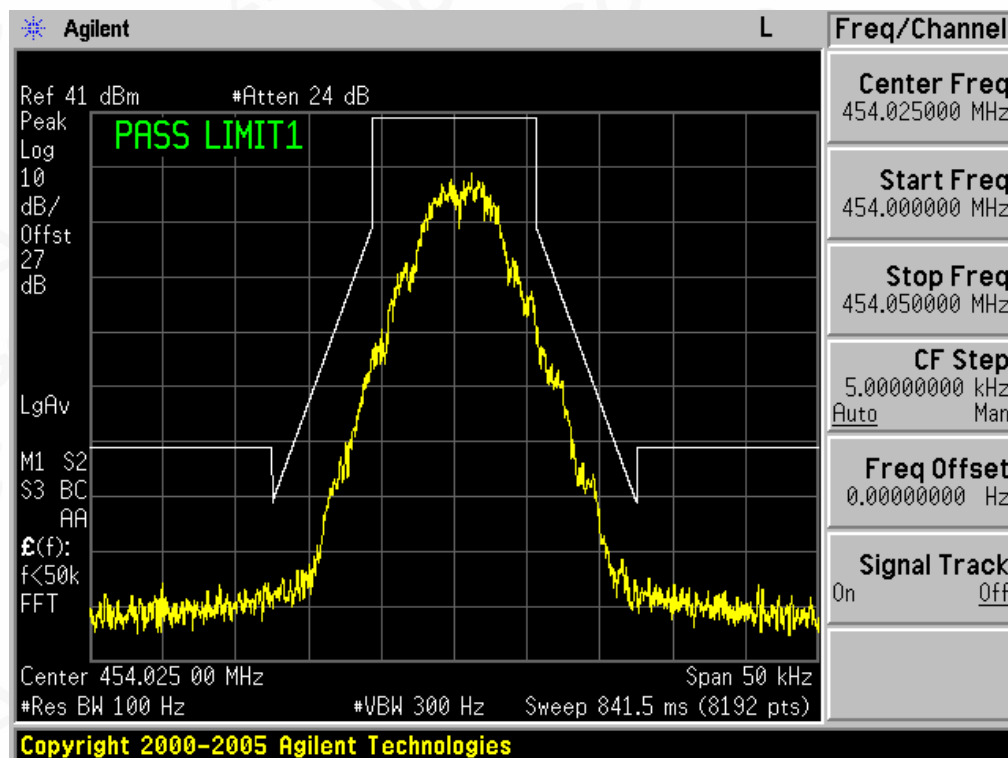
Freq Offset 0.00000000 Hz

Signal Track On Off

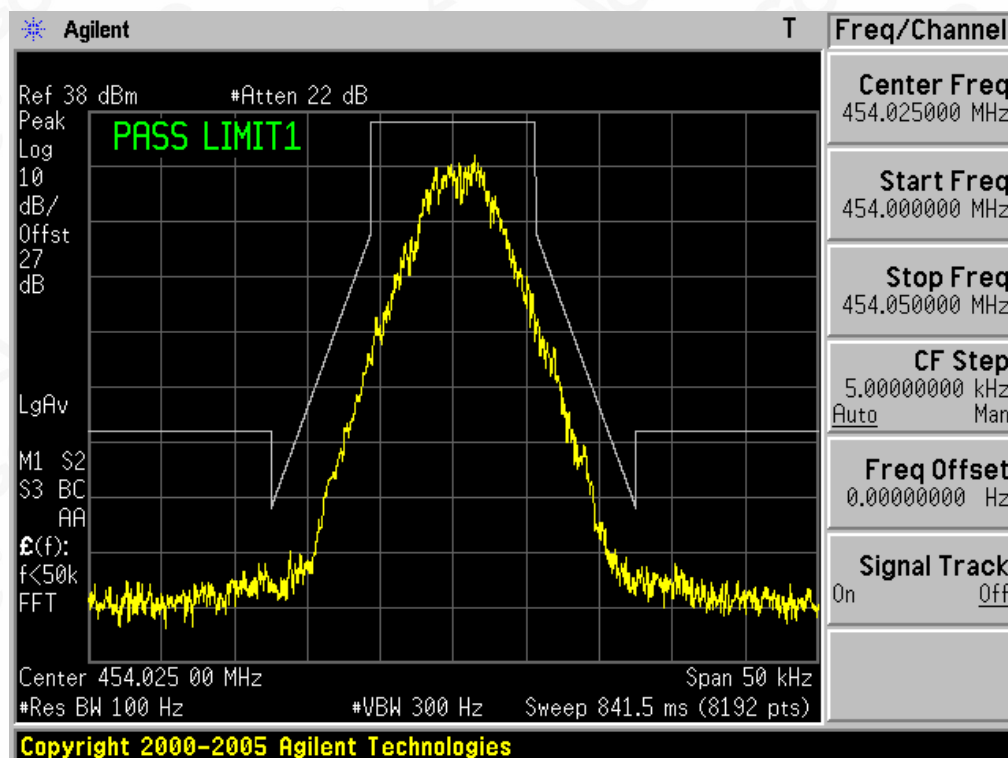
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The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (10W)



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



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Agilent L

Ref 41 dBm #Atten 24 dB

Peak Log 10 dB/ Offst 27 dB

PASS LIMIT1

LgAv

M1 S2
S3 BC
AA

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

Center 479.975 00 MHz Span 50 kHz
#Res BW 100 Hz #VBW 300 Hz Sweep 841.5 ms (8192 pts)

Freq/Channel

Center Freq
479.975000 MHz

Start Freq
479.950000 MHz

Stop Freq
480.000000 MHz

CF Step
5.00000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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Agilent L

Ref 38 dBm #Atten 22 dB

PASS LIMIT1

Peak Log 10 dB/ Offst 27 dB

LgAv

M1 S2
S3 BC
AA

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

Center 479.975 00 MHz Span 50 kHz
#Res BW 100 Hz #VBW 300 Hz Sweep 841.5 ms (8192 pts)

Freq/Channel

Center Freq
479.975000 MHz

Start Freq
479.950000 MHz

Stop Freq
480.000000 MHz

CF Step
5.00000000 kHz
Auto Man

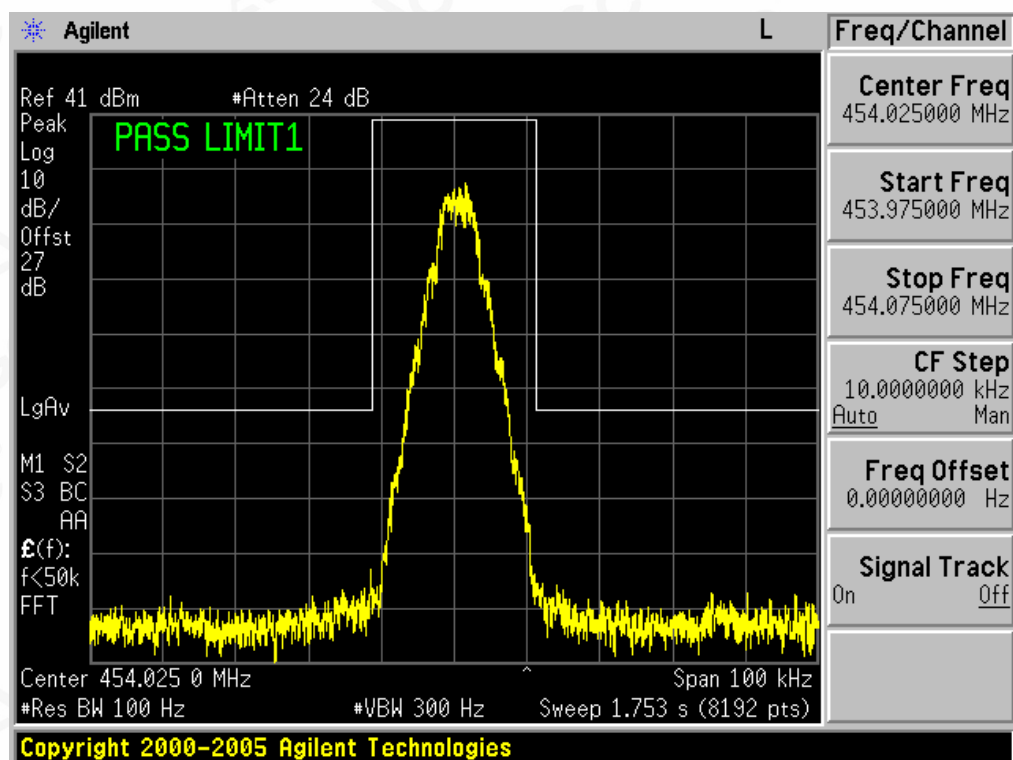
Freq Offset
0.00000000 Hz

Signal Track
On Off

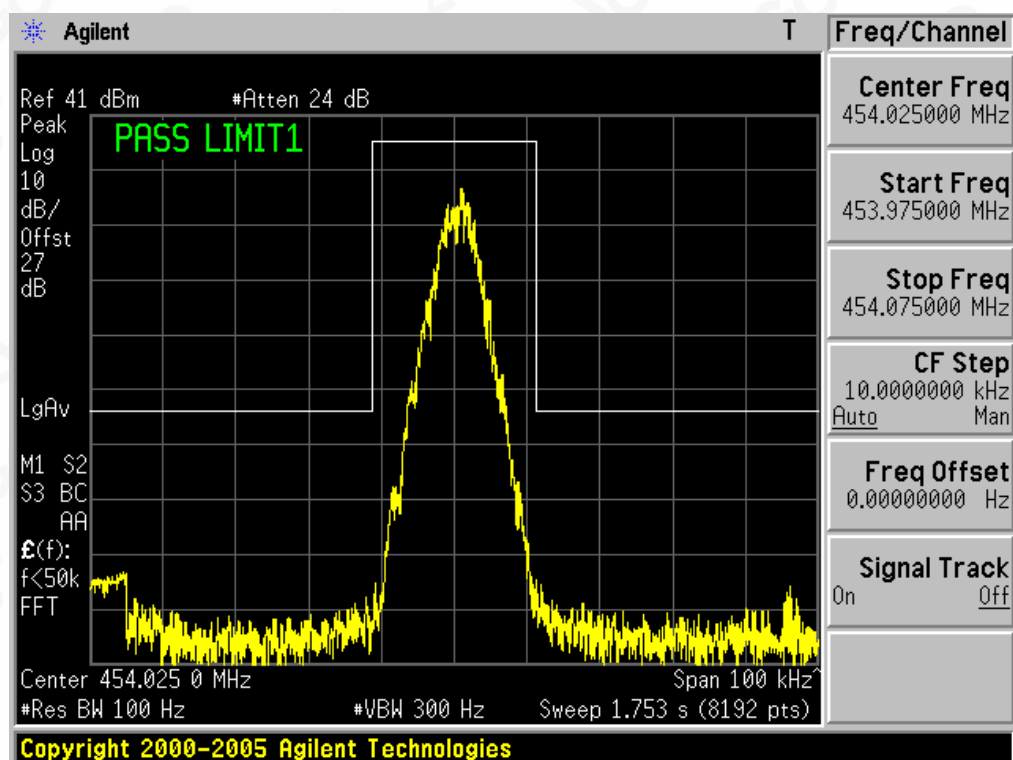
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The Worst Emission Mask § 22.359 for (454.025 MHz) of 12.5 KHz channel Separation (10W)



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.

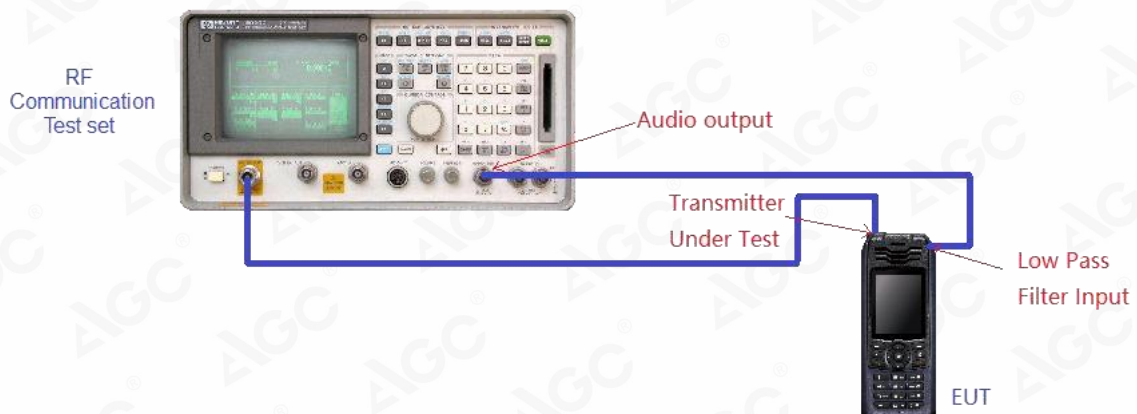
9.2 MEASUREMENT METHOD

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:

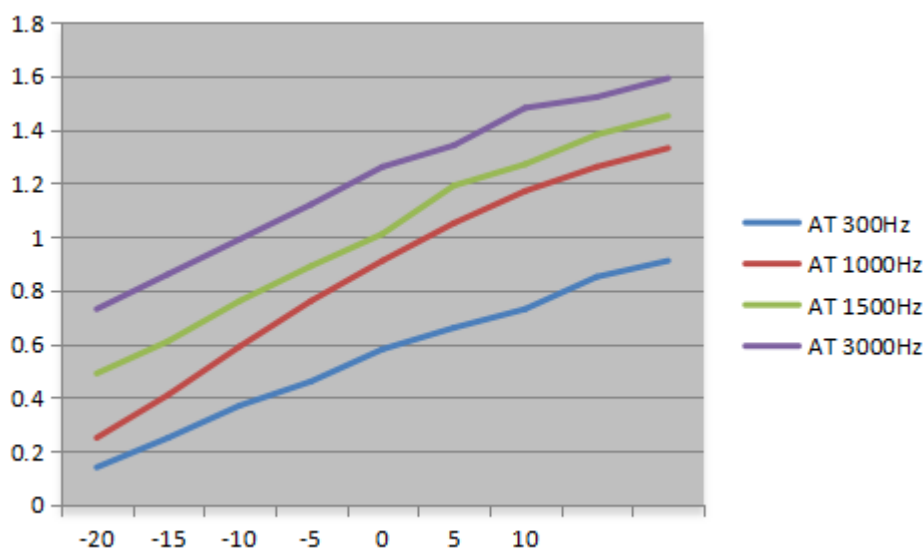
Analog:

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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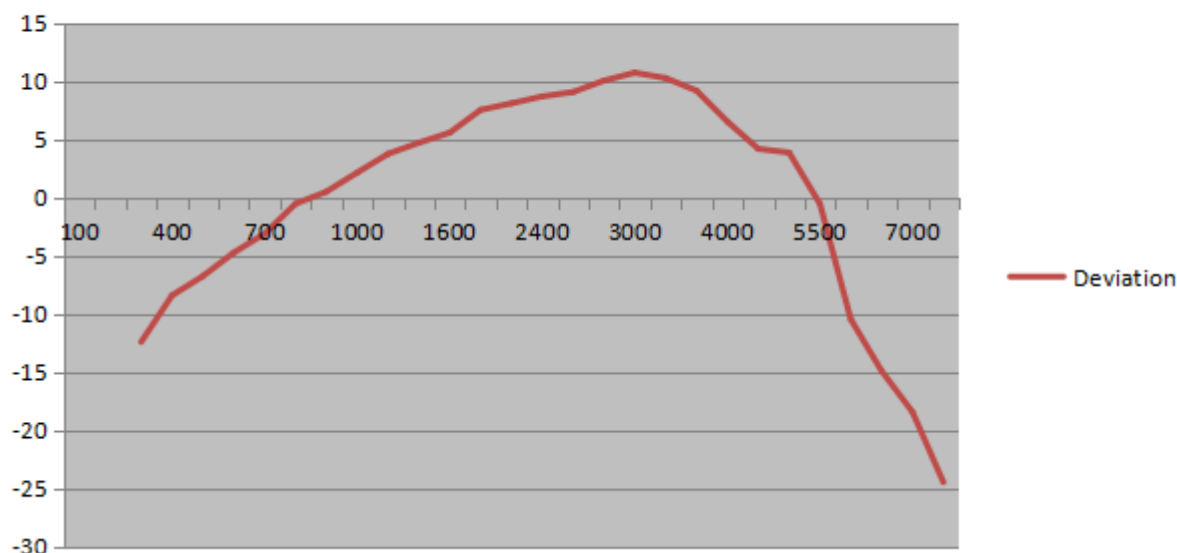
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Frequency Response of High Channel 12.5 KHz Channel Separations



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



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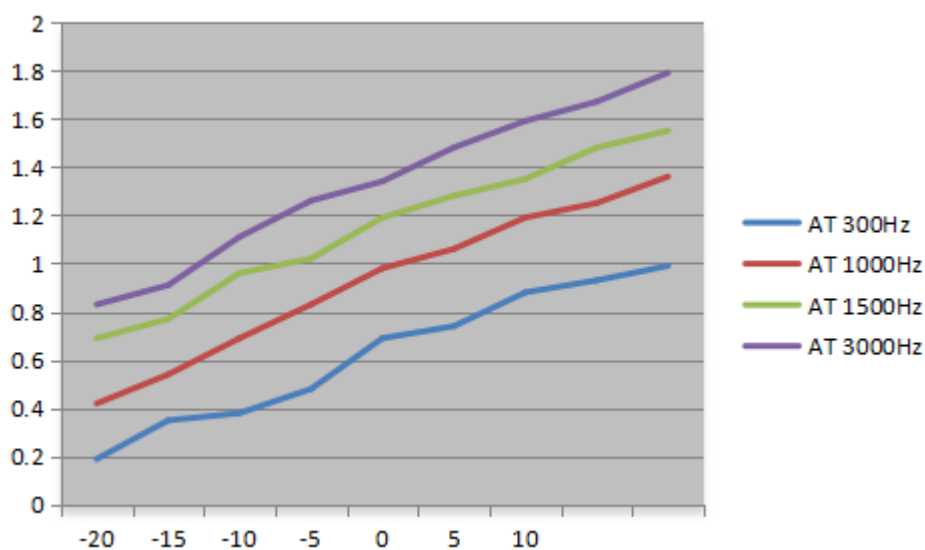
Service Hotline: 400 089 2118

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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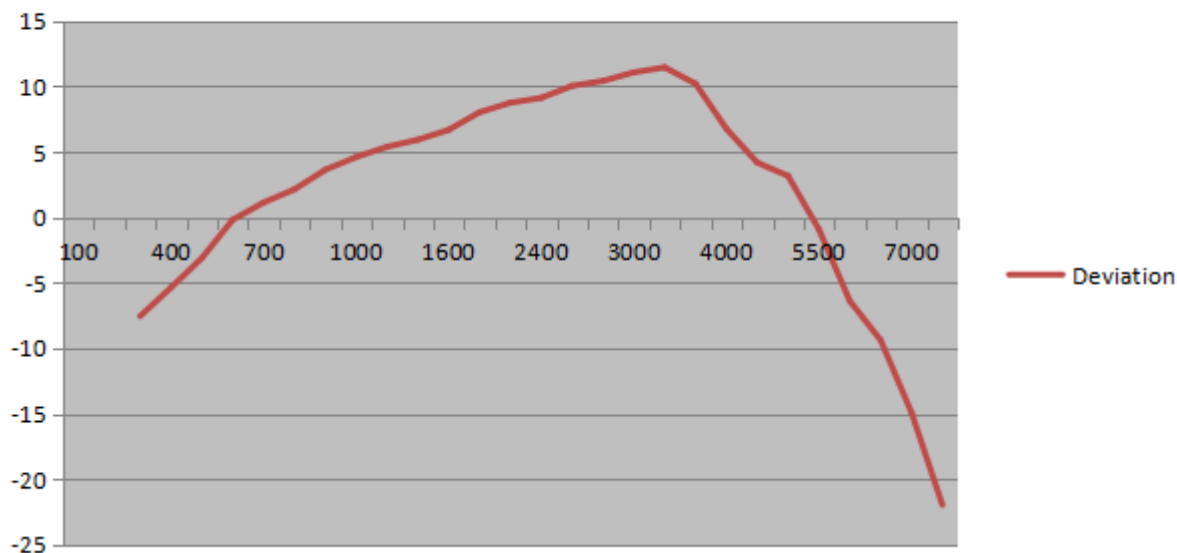
Tel: +86-755 2523 4088

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.

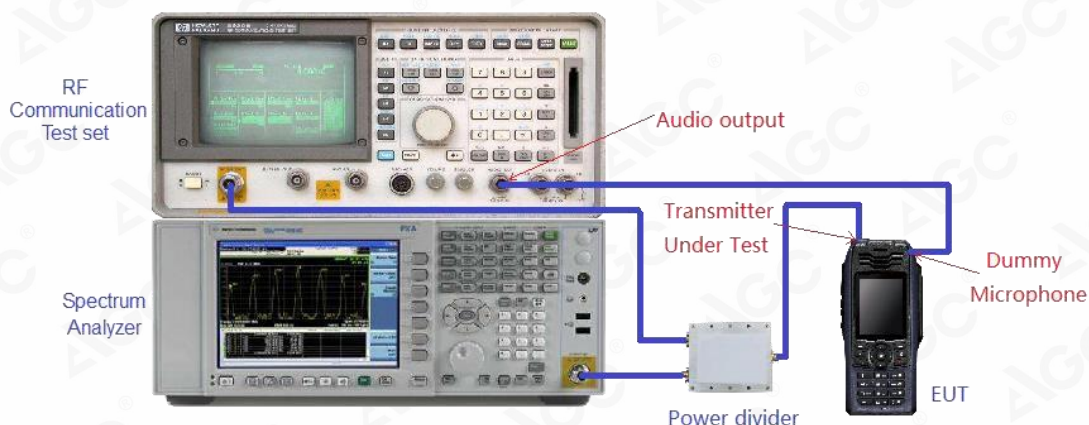
In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the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

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

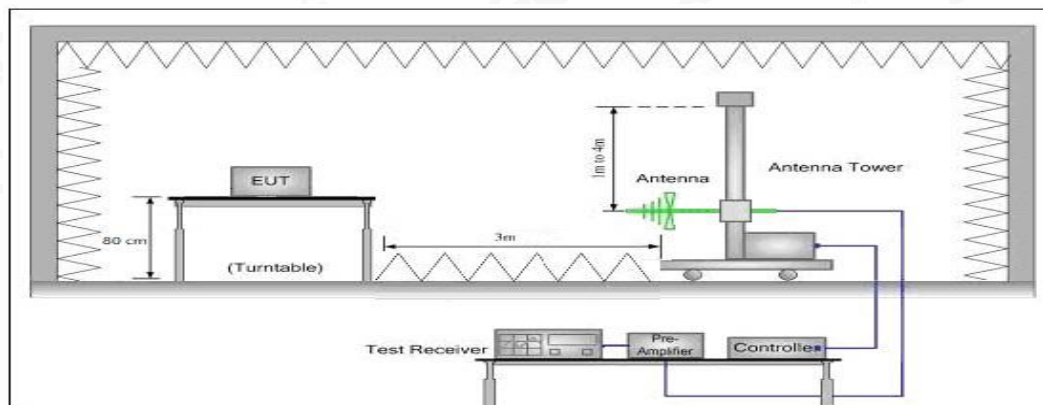
10.3 TEST CONFIGURATION

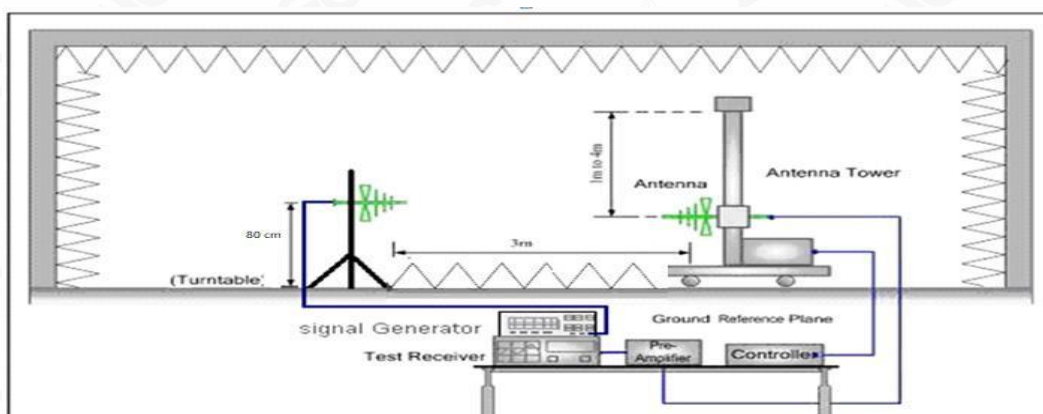
Conducted Output Power:



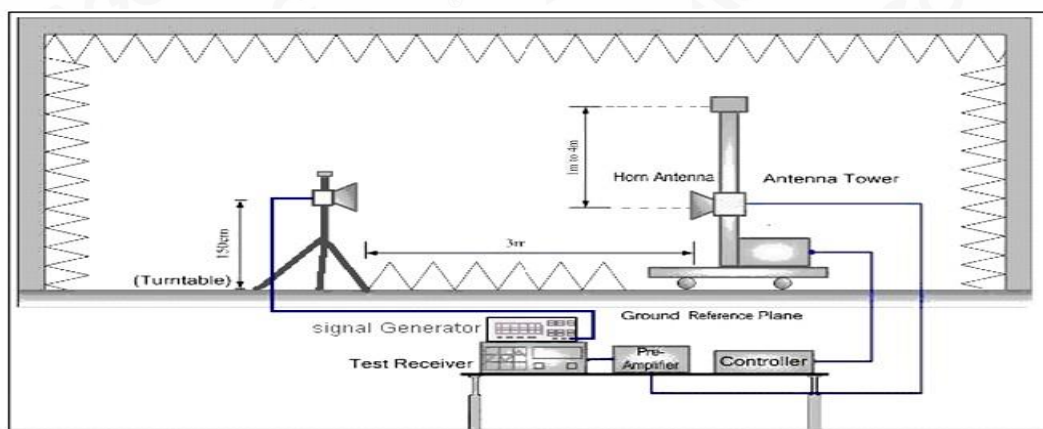
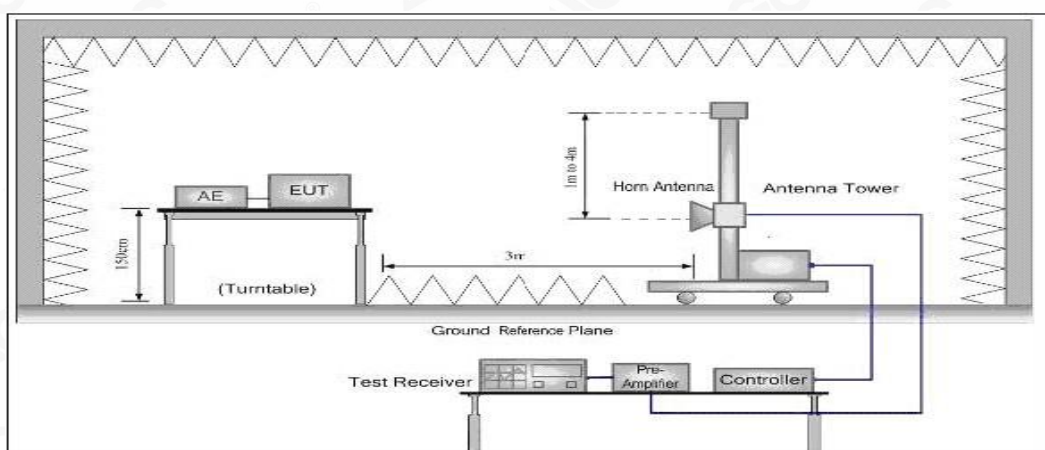
Effective Radiated Power

Radiated Below 1GHz





Radiated Above 1 GHz



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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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

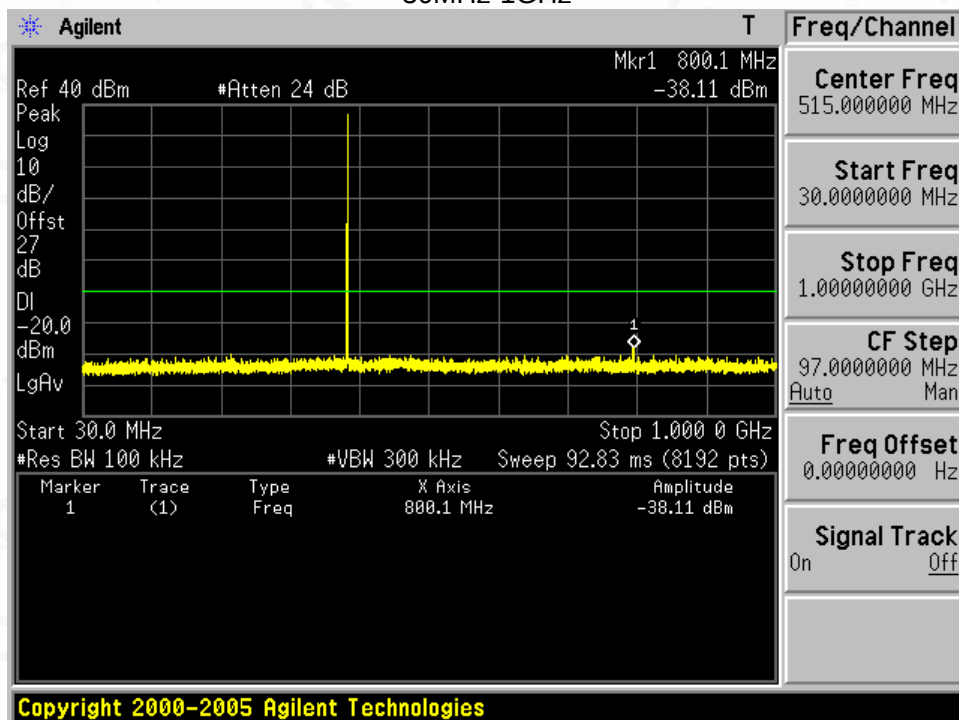
10.5 CONDUCT SPURIOUS PLOT

FCC PART 90:

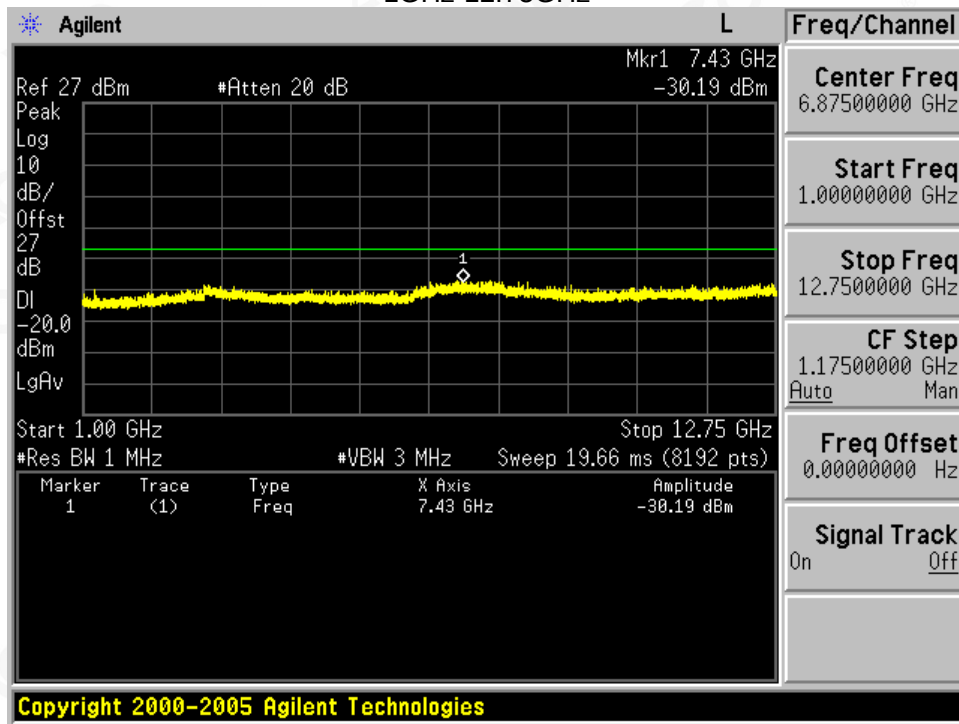
UHF:

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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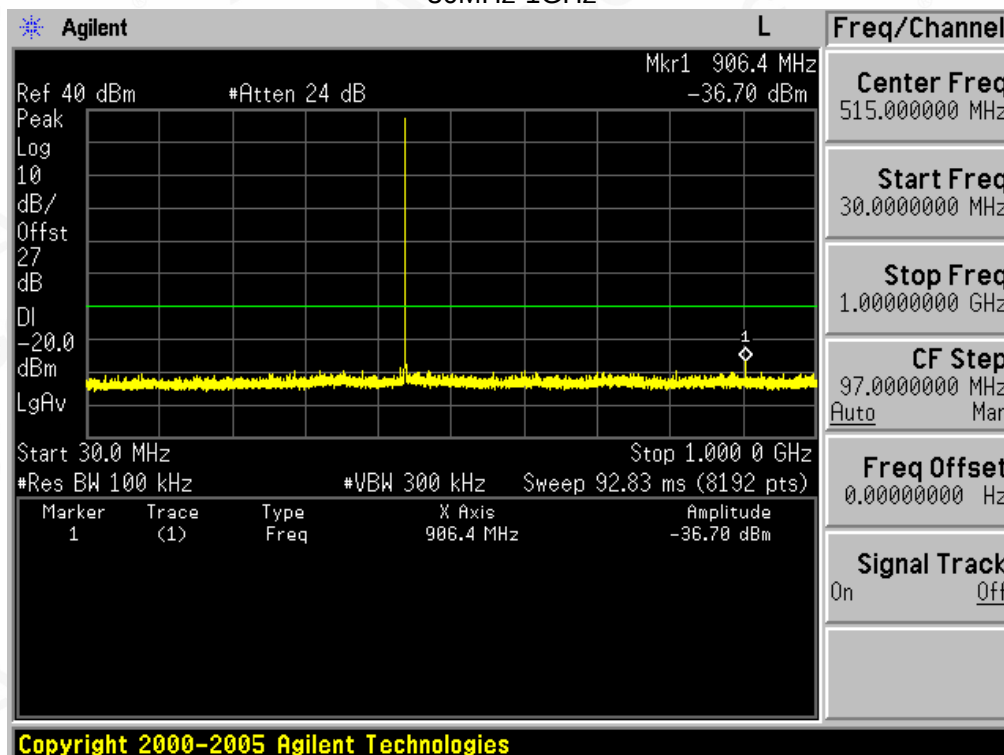
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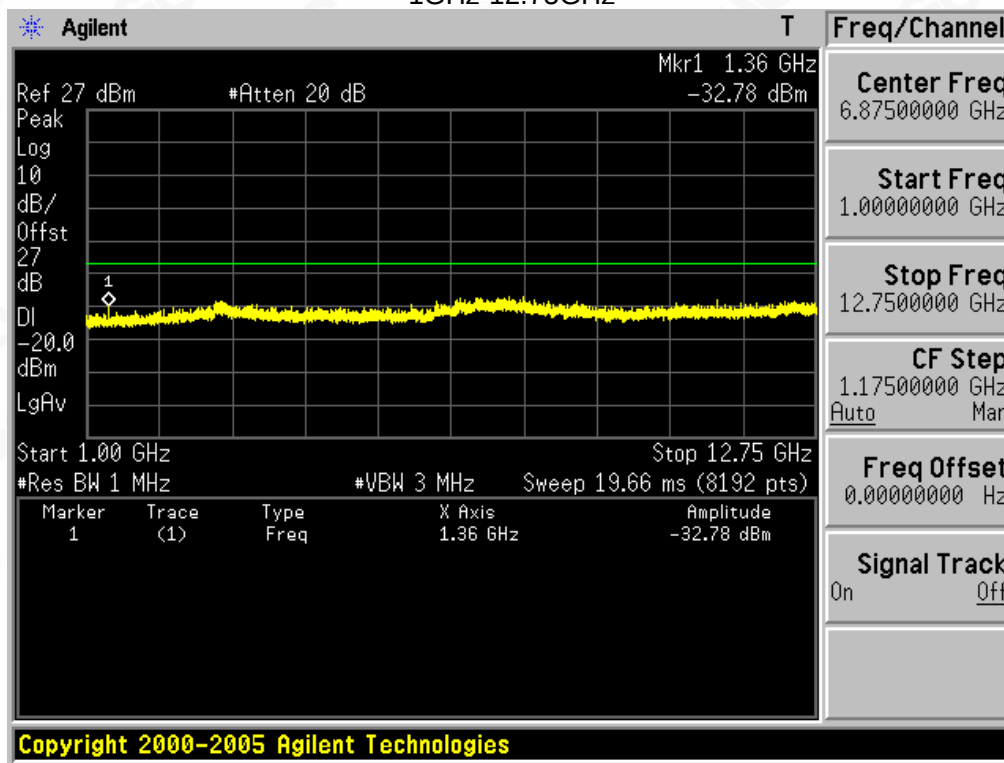
E-mail: agc@agc-cert.com

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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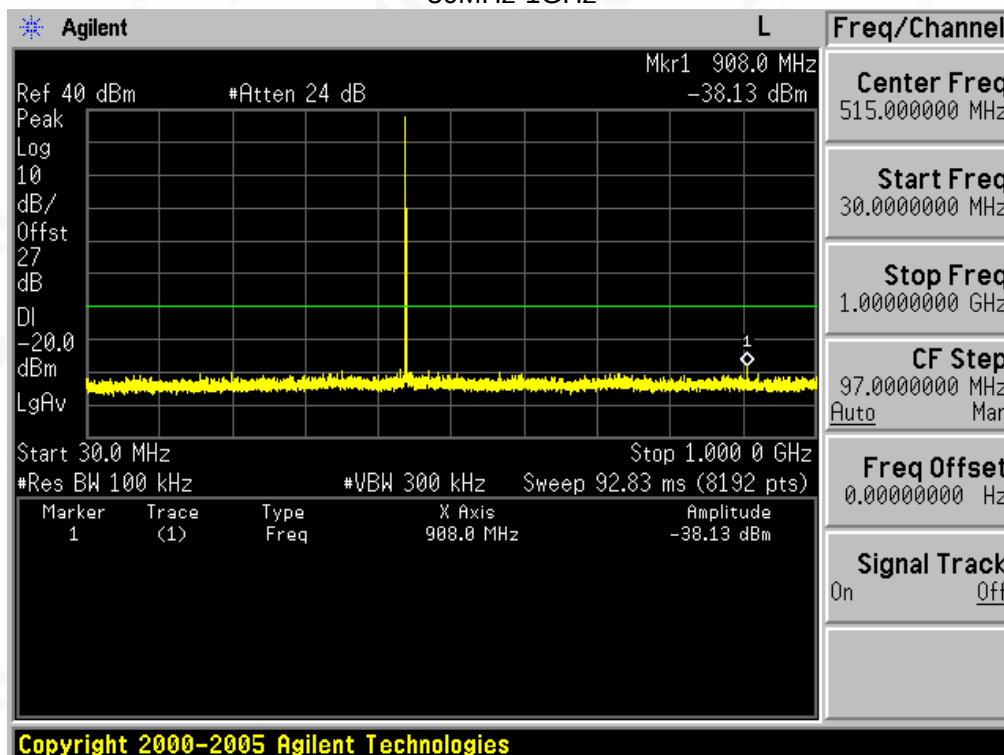
Add: 2/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
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Tel: +86-755 2523 4088

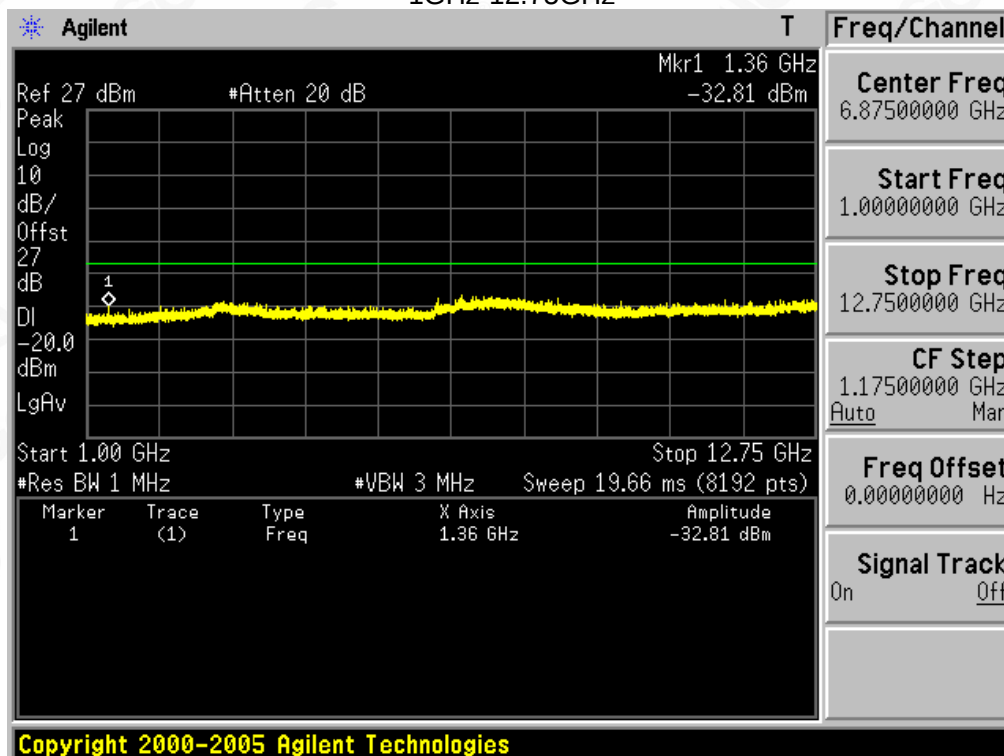
E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

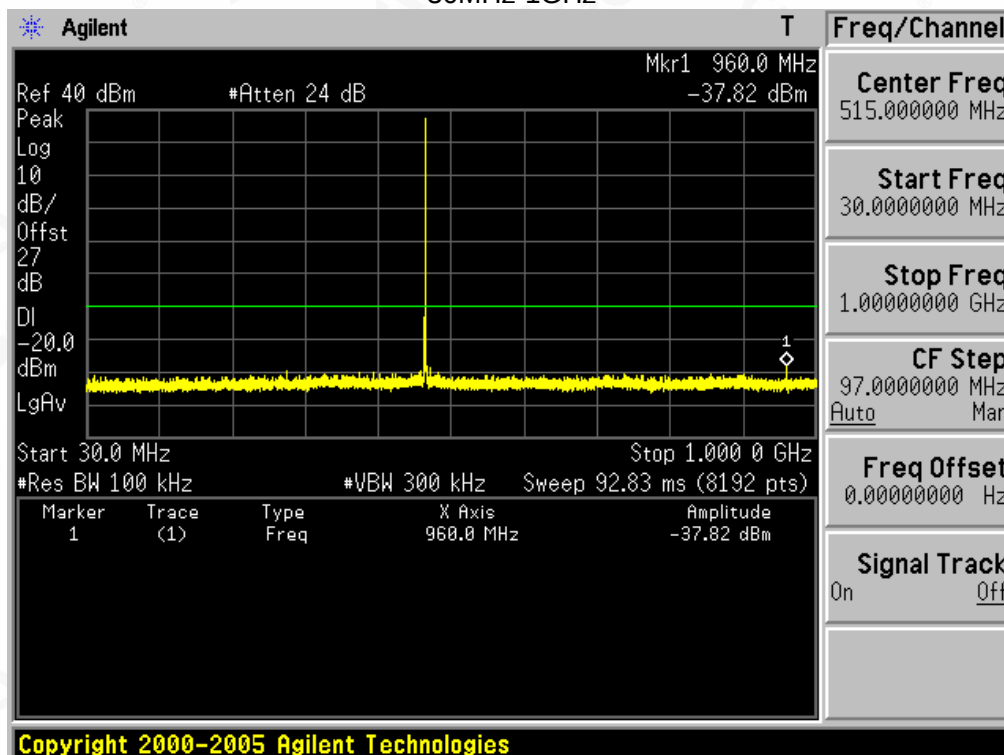
Conducted Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



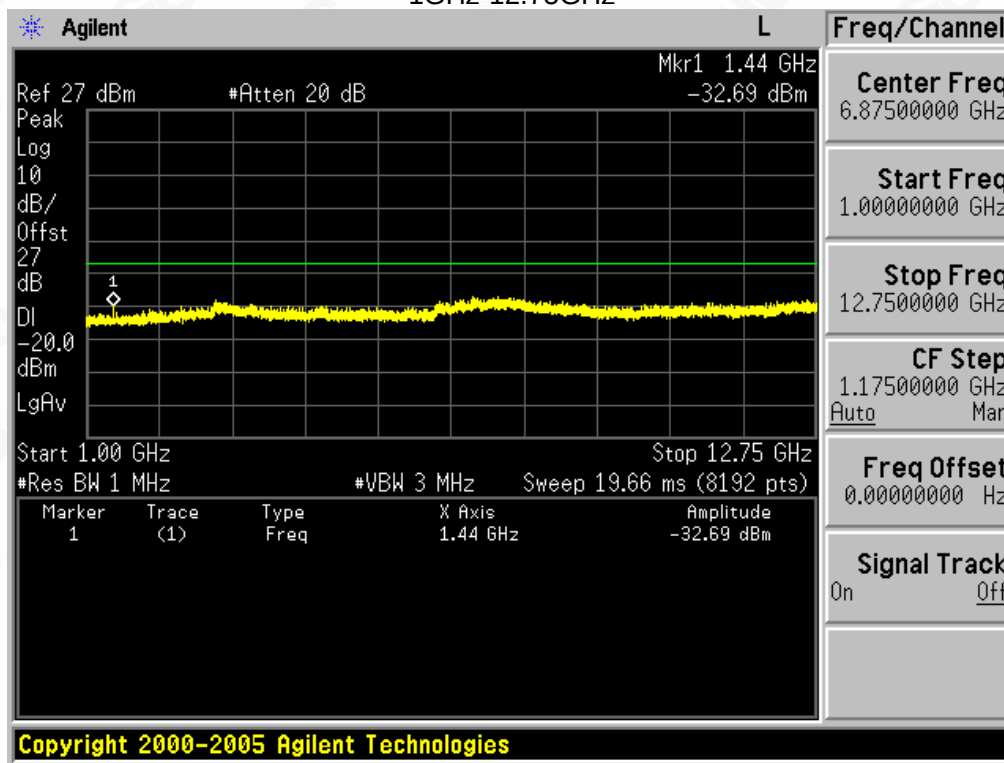
Conduct Spurious Emission (worst) @ 454.025MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



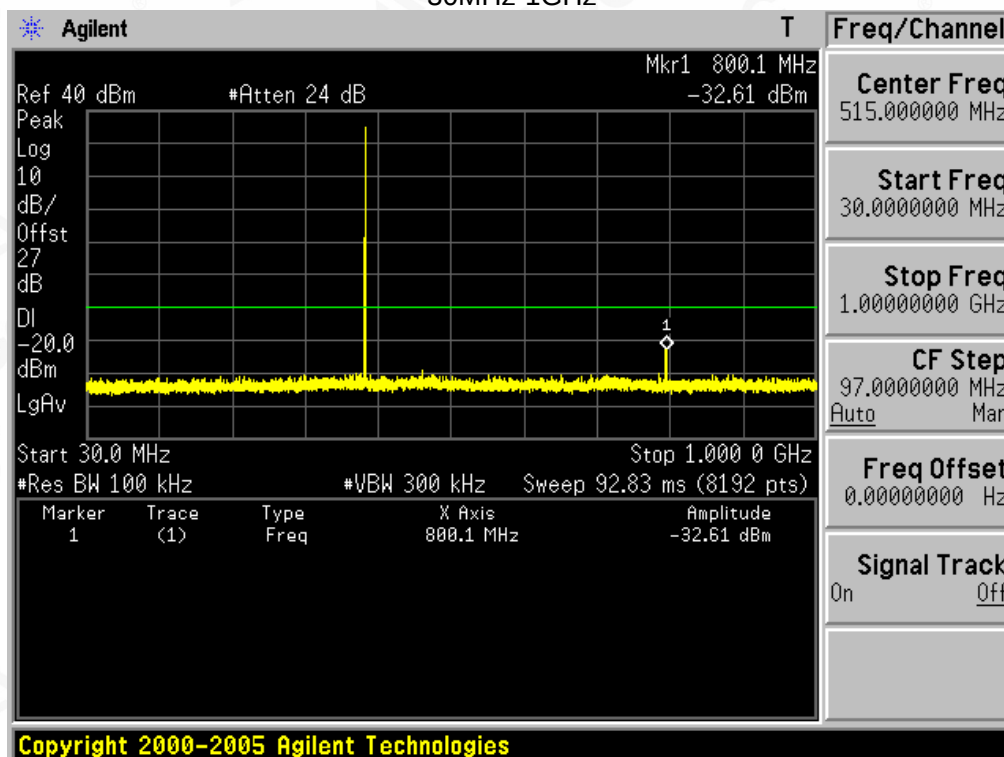
Conducted Spurious Emission (worst) @ 479.975MHz With 12.5 KHz Channel Separation-10W
30MHz-1GHz



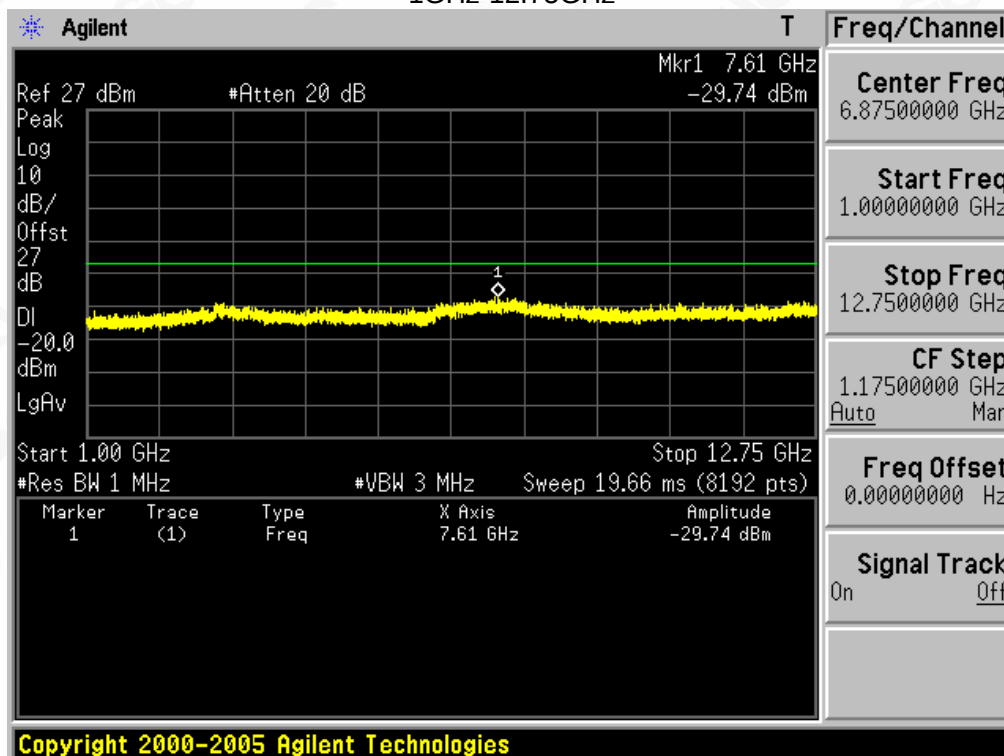
Conduct Spurious Emission (worst) @ 479.975MHz With 12.5 KHz Channel Separation-10W
1GHz-12.75GHz



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



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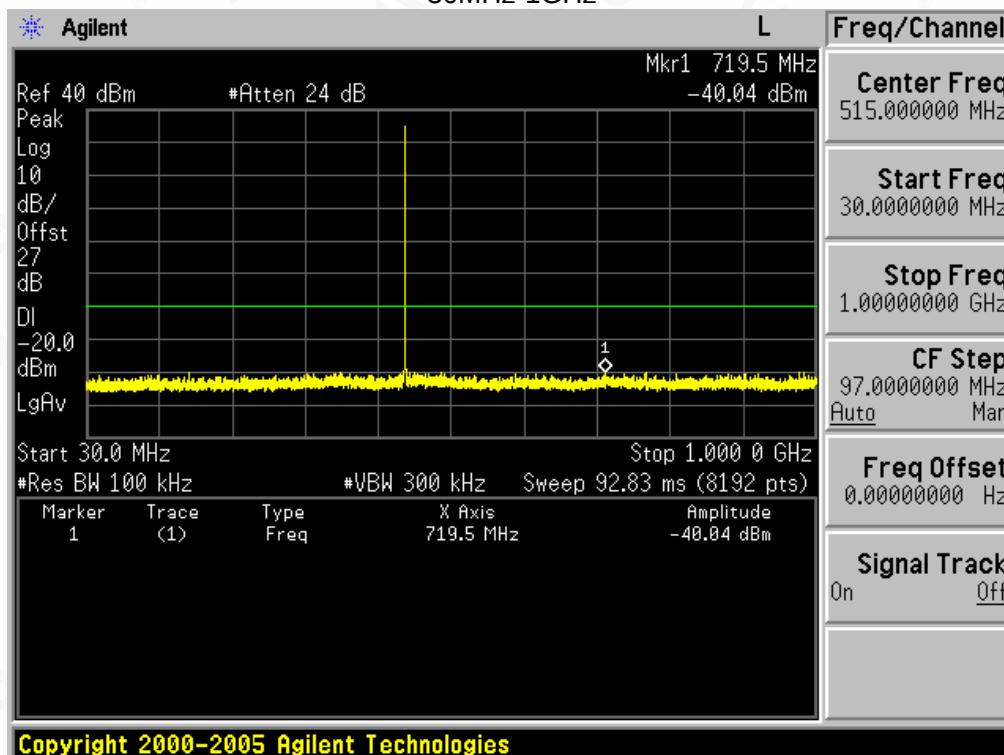
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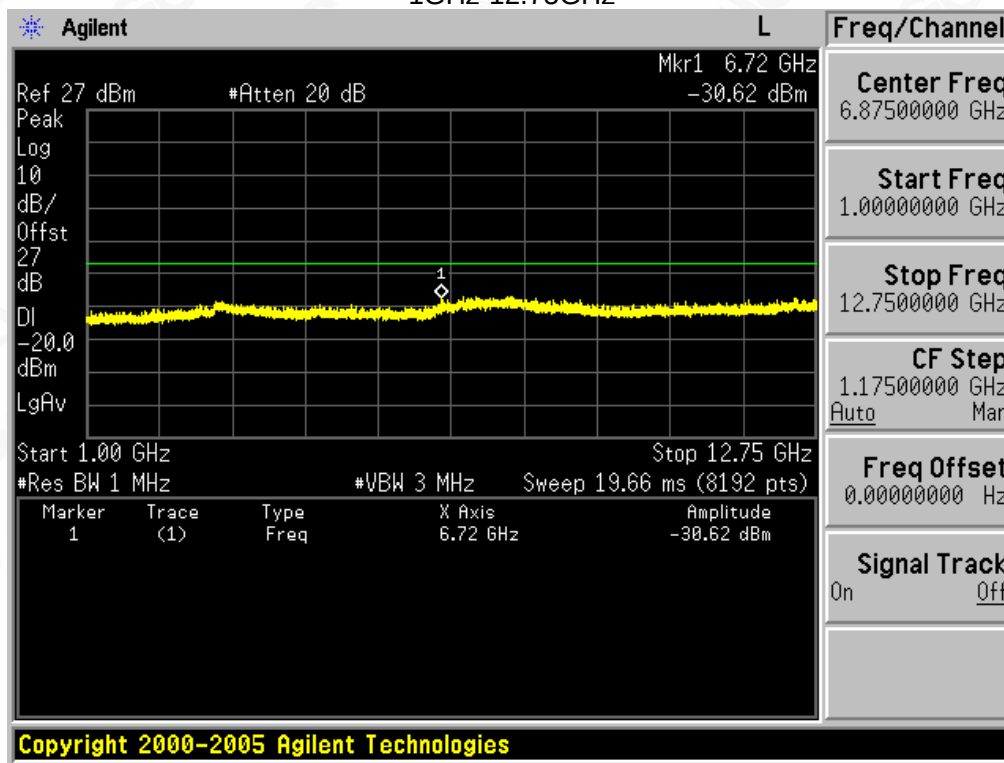
E-mail: agc@agc-cert.com

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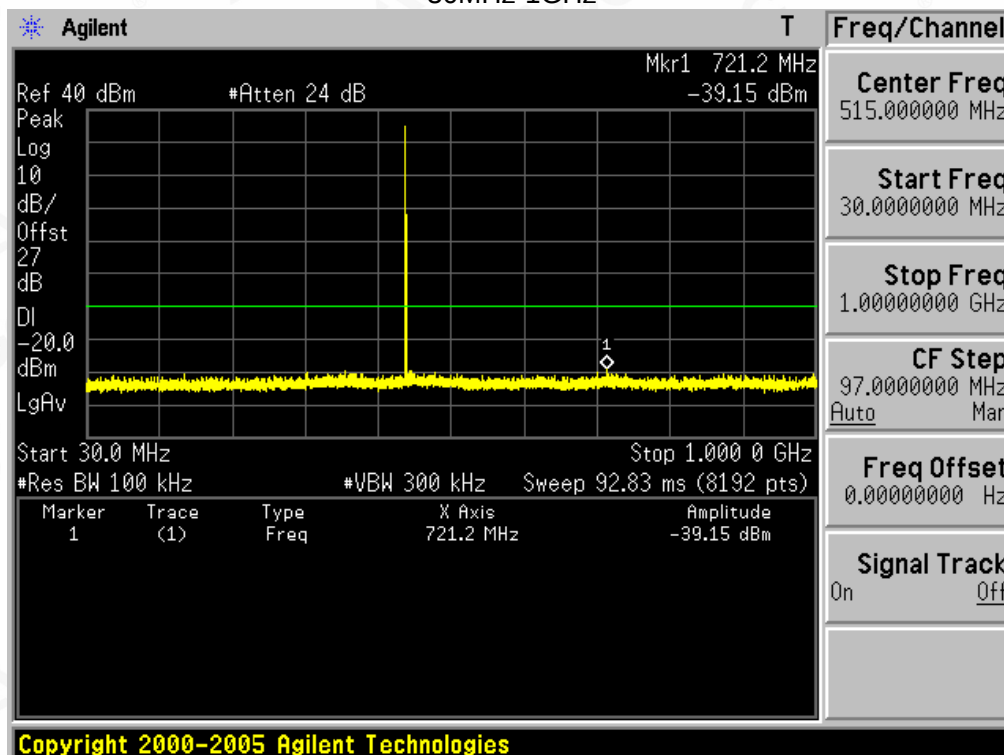
Conducted Spurious Emission (worst) @ 453.225MHz With 12.5 KHz Channel Separation-4W
30MHz-1GHz



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

