FCC Part 90& Part 22 Rules
Test Report

Test report
On Behalf of
Fujian Juston Electronic Equipment Co.,Ltd.
For
DMR Digital two way radio
Model No.: D2000,D2100,D2200,D2300

FCC ID: 2AB4FD2000

Prepared for :	**Fujian Juston Electronic Equipment Co.,Ltd.** **No.66 Changtai Road,Shudou Industrial Park,Jiangnan Licheng District,Quanzhou ,China**
Prepared By :	**Shenzhen HUAK Testing Technology Co., Ltd.** **1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China**
Date of Test:	**Oct. 25, 2018~Dec. 07, 2018**
Date of Report:	**Dec. 10, 2018**
Report Number:	**HK1812101834E**

TEST RESULT CERTIFICATION

Applicant's name ..... :	Fujian Juston Electronic Equipment Co.,Ltd.
Address ..... :	No.66 Changtai Road,Shudou Industrial Park,Jiangnan Licheng District,Quanzhou ,China
Manufacture's Name ..... :	Fujian Juston Electronic Equipment Co.,Ltd.
Address ..... :	No.66 Changtai Road,Shudou Industrial Park,Jiangnan Licheng District,Quanzhou ,China
Product description	DMR Digital two way radio
Brand Name	HYDX
Mode Name	D2000
Serial Name	D2100 ,D2200 ,D2300
Difference Description	Model, body speaker position shell style is different, only D2000 has SOS
Standards ..... :	FCC Part 90& Part 22 Rules

Date of Test ..... :	
Date (s) of performance of tests ..... :	Oct. 25, 2018~Dec. 07, 2018
Date of Issue ..... :	Dec. 10, 2018
Test Result ..... :	**Pass**

Testing Engineer : 

(Gary Qian)

Technical Manager : 

(Eden Hu)

Authorized Signatory : 

(Jason Zhou)

Revision	Issue Date	Revisions	Revised By
V1.0	Dec.10, 2018	Initial Issue	Jason Zhou

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The EUT is a **DMR Digital two way radio** 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	JST-HD-D2000-V2.	
Software Version	JST-SW-D2000-V1-3	
Modulation	FM/4FSK	
Emission Type	7K60FXD/7K60FXE/11K0F3E	
Emission Bandwidth	Analog:10.219(4W-12.5 KHz), 10.218KHz(1W-12.5 KHz) ---VHF Digital: 8.901KHz(4W),9.008 KHz(1W) ---VHF Analog:10.230KHz(4W-12.5 KHz), 10.215KHz(1W-12.5 KHz) ---UHF Digital: 8.920KHz(4W), 8.969KHz(1W) ---UHF	
Peak Frequency Deviation	2.76KHz	
Audio Frequency Response	11.32dB	
Maximum Transmitter Power	Analog:35.56 dBm(4W-12.5 KHz), 28.84dBm (1W-12.5 KHz) ---VHF Digital: 35.57 dBm(4W), 28.91dBm (1W) ---VHF Analog:34.99 dBm(4W-12.5 KHz), 28.75dBm (1W-12.5 KHz) ---UHF Digital: 34.97 dBm(4W), 28.73dBm (1W) ---UHF	
Output power Modification	4W/1W (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	2.15 dBi	
Power Supply	DC 7.4V, 2200mAh (by battery) charging: DC 8.4V 400~450mA	
Adapter Parameter	INPUT：AC 100V-240V , 50/60Hz , 0.3A OUTPUT：DC 12V , 500mA	
Limiting Voltage	DC 6V-8.51V	
Operation Frequency Range and Channel	Frequency Range: 136 MHz to 174 MHz (VHF) 400 MHz to 480 MHz (UHF) Channel Separation: 12.5KHz(Digital/ Analog)	
	Bottom Channel: 136.025MHz Middle Channel:151.85MHz Middle Channel:155.025MHz Middle Channel:161.61MHz (Top)High Channel: 173.975MHz	Bottom Channel: 400.025MHz Middle Channel: 453.225MHz Middle Channel: 454.025MHz (Top)High Channel: 479.975MHz
Frequency Tolerance	1.098ppm	

Frequency Range (MHz)	Rated Transmit Power(W)(Conducted)	Transmit Mode/Emission Designator
400-480	1W/4W	11K0F3E(Analog Vioce;NB)
400-480	1W/4W	7K60FXD/7K60FXW(9600Data/Digital Voice NB)

Frequency Range (MHz)	Rated Transmit Power(W)(Conducted)	Transmit Mode/Emission Designator
136-174	1W/4W	11K0F3E(Analog Vioce;NB)
136-174	1W/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		

Channel No. (6.25KHz)	Channel No. (12.5KHz)	12.5KHz Channel Spaced 136MHz Band Plan(MHz)
1	1-2	136.025
2		
3	3-4	155.025
4		
5	5-6	173.975
6		

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

Voice –FM Analog (12.5KHz)

Calculation:

Max modulation (M) in kHz : 3.0

Max deviation(D) in kHz:2.5

Constant factor (K): 1(assumed)

Bn= 2XM +2XDK=11.0 KHz

Emission designator: 11K0F3E

9600 Digital Vioce/date (12.5KHz)

Calculation:

Data rate in bps(R)=9600

Deviation Peak deviation of carrier(D)=2359.585

Constant factor (K): 1 (default)

Bn= 3.86D+1.27RK= 3.86(2359.585)+0.27(9600)(1)=11.7KHz

Emission designator: 11K0FXD

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for FCC ID: **2AB4FD2000,** filing to comply with Part 2, Part 22, and Part 90 of the Federal Communication Commission rules.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

Site	Shenzhen HUAK Testing Technology Co., Ltd.
Location	1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China
Designation Number	CN1229
Test Firm Registration Number : 616276	

1.5 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

1.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 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.

2.2 EUT EXERCISE

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

2.3 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

2.4 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 two way radio	D2000	FCC ID: 2AB4FD2000	EUT
2	Adapter	CG-D120050	DC 12V 500mA	Accessory
3	Battery	D50	DC7.4V, 2200mAh	Accessory
4	Desktop charger	N/A	DC 8.4V, 400~450mA	Accessory
5	High gain antenna	SMA-K7-D2000-UV	N/A	Accessory
6	Back clip	N/A	N/A	Accessory
7	lanyard	N/A	N/A	Accessory

3. 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
Receiver	R&S	ESCI 7	HKE-010	Dec. 29, 2017	Dec. 28, 2018
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 29, 2017	Dec. 28, 2018
Horn Antenna	Schewarzbeck	9120D	HKE-013	Dec. 29, 2017	Dec. 28, 2018
Preamplifier	EMCI	EMC051845SE	HKE-015	Dec. 29, 2017	Dec. 28, 2018
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	HKE-087	Dec. 29, 2017	Dec. 28, 2018
Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 29, 2017	Dec. 28, 2018
Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Dec. 29, 2017	Dec. 28, 2018
Loop Antenna	Schewarzbeck	FMZB 1519 B	HKE-014	Dec. 29, 2017	Dec. 28, 2018
Small environmental tester	ESPEC	SH-242	HKE-088	Mar. 02, 2018	Mar. 01, 2019
RF Communication Test Set	HP	HP8920B	HKE-089	June 12, 2018	June 11, 2019
ANTENNA	A.H.	SAS-521-4	HKE-091	Mar. 01, 2018	Feb. 28, 2020
ANTENNA	Schwarzbeck	9168	HKE-095	Mar. 01, 2018	Feb. 28, 2020
HORN ANTENNA	E.M.	EM-AH-10180	HKE-090	Mar. 01, 2018	Feb. 28, 2020
Signal generator	Agilent	N5183A	HKE-071	Dec. 29, 2017	Dec. 28, 2018
Attenuator	JFW	50FHC-006-50	HKE-098	June 12, 2018	June 11, 2019
Vector Analyzer	Agilent	E4440A	HKE-079	2018/03/01	2019/02/28
RF Cable	R&S	1#	N/A	Each time	N/A
RF Cable	R&S	2#	N/A	Each time	N/A

4. DESCRIPTION OF TEST MODES

RF TEST MODES

The EUT (**DMR Digital two way radio**) 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.

5. FREQUENCY TOLERANCE

5.1 PROVISIONS APPLICABLE

a). According to FCC §2.1055, § 22.355 and §90.213, the frequency stability shall be measured with variation of ambient temperature from –30℃ to +50℃ centigrade.

b). 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.

c). 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.

5.2 MEASUREMENT PROCEDURE

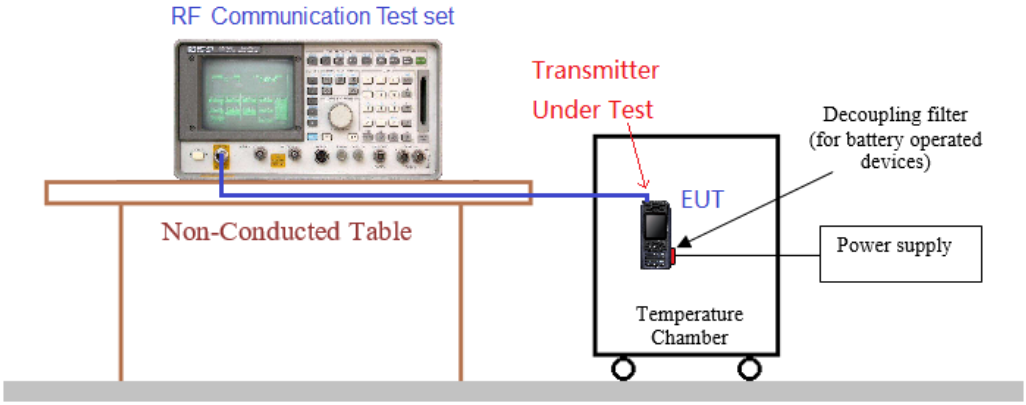
5.2.1 Frequency stability versus environmental temperature

1. Setup the configuration per figure 1 for frequencies measurement inside an environment chamber, Install new battery in the EUT.
2. 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.
3. Set the temperature of chamber to 50℃. 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.
4. Repeat step 2 with a 10℃ decreased per stage until the lowest temperature -30℃ is measured, record all measured frequencies on each temperature step.

5.2.2 Frequency stability versus input voltage

1. Setup the configuration per figure 1 for frequencies measured at temperature if it is within 15℃ to 25℃. Otherwise, an environment chamber set for a temperature of 20℃ shall be used. The EUT shall be powered by DC 7.4V.
2. 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.
3. Supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.

5.3 TEST SETUP BLOCK DIAGRAM



5.4 TEST RESULTS

VHF-Analog:

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

Environment Temperature(℃)	Power Supply (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40 V	0.560	0.653	0.821	5
40	DC 7.40 V	1.078	0.922	0.533	
30	DC 7.40 V	0.933	0.596	0.859	
20	DC 7.40 V	0.674	1.030	0.836	
10	DC 7.40 V	0.968	0.852	0.658	
0	DC 7.40 V	0.612	0.844	0.848	
-10	DC 7.40 V	0.964	0.513	1.004	
-20	DC 7.40 V	0.912	0.877	0.878	
-30	DC 7.40 V	0.647	0.945	0.507	
Result	Pass				

Environment Temperature(℃)	Power Supply (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.699	0.646	5
40	DC 7.40 V	0.772	0.315	
30	DC 7.40 V	0.389	0.524	
20	DC 7.40 V	0.907	0.870	
10	DC 7.40 V	0.703	0.986	
0	DC 7.40 V	0.397	0.463	
-10	DC 7.40 V	0.395	0.606	
-20	DC 7.40 V	0.364	0.917	
-30	DC 7.40 V	0.846	0.582	
Result	Pass			

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-4W-12.5KHz**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00 V	0.553	0.640	0.892	5
40	DC 6.00 V	0.641	0.749	0.674	
30	DC 6.00 V	0.728	1.032	0.909	
20	DC 6.00 V	1.004	0.990	0.876	
10	DC 6.00 V	0.970	0.673	0.969	
0	DC 6.00 V	0.811	0.695	0.932	
-10	DC 6.00 V	0.817	0.554	0.742	
-20	DC 6.00 V	0.970	1.056	0.517	
-30	DC 6.00 V	1.031	0.605	0.974	
Result	Pass				

Environment	Power Supply	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.00 V	0.518	0.566	5
40	DC 6.00 V	0.962	0.561	
30	DC 6.00 V	0.370	0.333	
20	DC 6.00 V	0.760	0.873	
10	DC 6.00 V	0.681	0.360	
0	DC 6.00 V	0.996	0.591	
-10	DC 6.00 V	0.818	0.403	
-20	DC 6.00 V	0.957	0.683	
-30	DC 6.00 V	0.747	0.461	
Result	Pass			

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

Environment Temperature(℃)	Power Supply (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40 V	0.985	0.872	0.514	5
40	DC 7.40 V	0.765	0.823	0.804	
30	DC 7.40 V	0.755	0.913	0.500	
20	DC 7.40 V	1.055	0.960	1.082	
10	DC 7.40 V	0.616	0.873	0.899	
0	DC 7.40 V	0.989	0.970	1.096	
-10	DC 7.40 V	0.976	0.523	0.532	
-20	DC 7.40 V	0.956	1.063	0.804	
-30	DC 7.40 V	0.869	0.559	0.823	
Result	Pass				

Environment Temperature(℃)	Power Supply (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.921	0.858	5
40	DC 7.40 V	0.334	0.318	
30	DC 7.40 V	0.977	0.847	
20	DC 7.40 V	0.567	0.782	
10	DC 7.40 V	0.649	0.769	
0	DC 7.40 V	0.747	0.460	
-10	DC 7.40 V	0.734	0.691	
-20	DC 7.40 V	0.324	0.698	
-30	DC 7.40 V	0.554	0.625	
Result	Pass			

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-12.5KHz**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00 V	0.843	0.658	0.602	5
40	DC 6.00 V	0.706	0.647	0.590	
30	DC 6.00 V	0.773	0.808	0.889	
20	DC 6.00 V	0.803	0.895	0.685	
10	DC 6.00 V	0.871	0.663	0.652	
0	DC 6.00 V	0.926	0.728	0.785	
-10	DC 6.00 V	0.689	1.079	1.060	
-20	DC 6.00 V	0.935	0.996	0.584	
-30	DC 6.00 V	0.729	0.529	0.854	
Result	Pass				

Environment	Power Supply	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.00 V	0.755	0.857	5
40	DC 6.00 V	0.514	0.616	
30	DC 6.00 V	0.993	0.809	
20	DC 6.00 V	0.834	0.732	
10	DC 6.00 V	0.729	0.345	
0	DC 6.00 V	0.710	0.412	
-10	DC 6.00 V	0.375	0.328	
-20	DC 6.00 V	0.483	0.400	
-30	DC 6.00 V	0.361	0.402	
Result	Pass			

Digital:

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

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40 V	0.827	0.758	0.827	5
40	DC 7.40 V	1.009	0.646	1.009	
30	DC 7.40 V	0.732	0.963	0.732	
20	DC 7.40 V	0.548	0.755	0.548	
10	DC 7.40 V	1.001	0.850	1.001	
0	DC 7.40 V	0.995	0.704	0.995	
-10	DC 7.40 V	0.792	0.730	0.792	
-20	DC 7.40 V	0.744	0.605	0.744	
-30	DC 7.40 V	0.961	0.794	0.961	
Result	Pass				

Environment Temperature(℃)	Power Supply (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.305	0.680	5
40	DC 7.40 V	0.808	0.646	
30	DC 7.40 V	0.450	0.662	
20	DC 7.40 V	0.346	0.560	
10	DC 7.40 V	0.708	0.482	
0	DC 7.40 V	0.659	0.386	
-10	DC 7.40 V	0.368	0.668	
-20	DC 7.40 V	0.363	0.877	
-30	DC 7.40 V	0.870	0.923	
Result	Pass			

(2) Frequency stability versus input voltage(Battery endpoint is 6V) **-4W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00 V	1.061	0.922	0.987	5
40	DC 6.00 V	0.991	0.729	1.087	
30	DC 6.00 V	0.844	0.654	1.013	
20	DC 6.00 V	0.541	0.565	0.520	
10	DC 6.00 V	0.999	1.088	1.024	
0	DC 6.00 V	1.051	0.880	1.044	
-10	DC 6.00 V	0.548	1.074	1.057	
-20	DC 6.00 V	0.845	0.613	1.050	
-30	DC 6.00 V	0.837	0.564	0.594	
Result	Pass				

Environment Temperature(℃)	Power Supply (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00 V	0.891	1.028	5
40	DC 6.00 V	0.534	0.665	
30	DC 6.00 V	0.744	0.619	
20	DC 6.00 V	0.791	0.622	
10	DC 6.00 V	0.695	0.651	
0	DC 6.00 V	0.713	0.797	
-10	DC 6.00 V	1.034	0.923	
-20	DC 6.00 V	0.546	0.570	
-30	DC 6.00 V	0.804	0.686	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 7.40 V	0.717	0.736	0.567	5
40	DC 7.40 V	1.058	0.829	1.051	
30	DC 7.40 V	0.703	0.734	0.932	
20	DC 7.40 V	0.970	0.711	1.013	
10	DC 7.40 V	1.007	0.630	0.696	
0	DC 7.40 V	0.931	0.604	0.805	
-10	DC 7.40 V	0.590	1.041	0.729	
-20	DC 7.40 V	0.997	0.995	0.697	
-30	DC 7.40 V	0.750	0.637	1.017	
Result	Pass				

Environment	Power Supply	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 7.40 V	0.769	1.070	5
40	DC 7.40 V	0.970	0.845	
30	DC 7.40 V	0.677	0.710	
20	DC 7.40 V	0.919	1.041	
10	DC 7.40 V	1.049	0.663	
0	DC 7.40 V	0.861	0.777	
-10	DC 7.40 V	0.798	0.648	
-20	DC 7.40 V	0.871	0.578	
-30	DC 7.40 V	0.660	0.765	
Result	Pass			

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00 V	0.789	0.960	0.830	5
40	DC 6.00 V	0.721	1.049	1.079	
30	DC 6.00 V	0.843	0.820	0.727	
20	DC 6.00 V	0.703	0.539	0.611	
10	DC 6.00 V	0.567	0.771	0.794	
0	DC 6.00 V	0.950	0.650	1.063	
-10	DC 6.00 V	0.826	0.751	0.686	
-20	DC 6.00 V	1.022	0.743	0.556	
-30	DC 6.00 V	0.783	0.680	0.601	
Result	Pass				

Environment Temperature(℃)	Power Supply (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00 V	0.548	0.556	5
40	DC 6.00 V	0.575	1.036	
30	DC 6.00 V	0.569	0.963	
20	DC 6.00 V	0.685	0.741	
10	DC 6.00 V	0.655	0.826	
0	DC 6.00 V	0.813	0.827	
-10	DC 6.00 V	0.854	0.809	
-20	DC 6.00 V	0.548	0.619	
-30	DC 6.00 V	0.854	0.845	
Result	Pass			

UHF:

Analog:

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40 V	1.088	0.527	0.803	2.5
40	DC 7.40 V	0.931	0.752	0.934	
30	DC 7.40 V	0.685	0.648	0.561	
20	DC 7.40 V	0.712	0.780	0.781	
10	DC 7.40 V	0.901	0.966	0.713	
0	DC 7.40 V	1.077	1.067	0.657	
-10	DC 7.40 V	0.576	1.012	0.711	
-20	DC 7.40 V	0.605	0.640	0.600	
-30	DC 7.40 V	0.575	0.532	0.543	
Result	Pass				

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-4W-12.5KHz**

Environment	Power Supply	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00 V	0.616	1.052	0.652	2.5
40	DC 6.00 V	0.860	0.755	0.566	
30	DC 6.00 V	1.006	0.609	0.545	
20	DC 6.00 V	0.748	0.854	0.517	
10	DC 6.00 V	0.721	0.618	0.718	
0	DC 6.00 V	0.757	0.860	1.024	
-10	DC 6.00 V	0.516	0.768	0.743	
-20	DC 6.00 V	0.881	1.094	0.883	
-30	DC 6.00 V	0.934	0.578	0.527	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40 V	1.053	0.751	0.896	2.5
40	DC 7.40 V	0.834	0.718	0.507	
30	DC 7.40 V	0.662	0.643	0.880	
20	DC 7.40 V	1.072	0.893	0.598	
10	DC 7.40 V	0.691	0.589	0.557	
0	DC 7.40 V	0.562	0.802	0.860	
-10	DC 7.40 V	0.871	0.559	0.808	
-20	DC 7.40 V	0.888	0.837	1.087	
-30	DC 7.40 V	0.507	0.640	0.857	
Result	Pass				

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-12.5KHz**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00 V	0.965	0.551	0.525	2.5
40	DC 6.00 V	0.517	0.681	0.705	
30	DC 6.00 V	1.019	0.788	0.584	
20	DC 6.00 V	0.504	0.702	1.061	
10	DC 6.00 V	1.042	0.551	1.056	
0	DC 6.00 V	0.559	0.517	0.956	
-10	DC 6.00 V	1.040	0.879	1.044	
-20	DC 6.00 V	0.984	0.535	0.967	
-30	DC 6.00 V	0.942	0.711	0.907	
Result	Pass				

Digital:

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

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		400.025MHz	454.025MHz	479.975MHz	
50	DC 7.40 V	0.774	1.024	0.804	2.5
40	DC 7.40 V	1.040	1.085	0.693	
30	DC 7.40 V	1.054	0.950	1.083	
20	DC 7.40 V	1.005	0.765	0.974	
10	DC 7.40 V	0.936	0.532	0.814	
0	DC 7.40 V	0.864	0.831	0.688	
-10	DC 7.40 V	0.817	0.934	0.573	
-20	DC 7.40 V	0.723	0.932	0.694	
-30	DC 7.40 V	0.976	0.686	0.959	
Result	Pass				

(2) Frequency stability versus input voltage(Battery endpoint is 6V) **-4W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		400.025MHz	454.025MHz	479.975MHz	
50	DC 6.00 V	0.916	1.045	1.081	2.5
40	DC 6.00 V	0.574	1.062	0.524	
30	DC 6.00 V	1.078	0.700	1.016	
20	DC 6.00 V	1.028	0.975	1.036	
10	DC 6.00 V	0.995	0.673	0.677	
0	DC 6.00 V	0.890	1.096	0.906	
-10	DC 6.00 V	0.638	1.029	0.543	
-20	DC 6.00 V	1.058	1.045	0.654	
-30	DC 6.00 V	0.622	0.732	0.832	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40 V	0.569	0.611	0.781	2.5
40	DC 7.40 V	0.888	0.860	1.098	
30	DC 7.40 V	0.682	0.652	0.637	
20	DC 7.40 V	1.024	1.052	0.758	
10	DC 7.40 V	0.697	0.852	0.890	
0	DC 7.40 V	0.524	0.502	0.627	
-10	DC 7.40 V	0.794	0.887	1.058	
-20	DC 7.40 V	0.806	0.792	0.853	
-30	DC 7.40 V	0.873	0.824	0.898	
Result	Pass				

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-12.5KHz**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00 V	0.569	0.899	0.997	2.5
40	DC 6.00 V	0.867	0.735	0.946	
30	DC 6.00 V	0.910	0.740	0.526	
20	DC 6.00 V	0.696	1.056	0.947	
10	DC 6.00 V	1.019	0.875	0.912	
0	DC 6.00 V	0.782	0.602	0.846	
-10	DC 6.00 V	0.554	0.675	0.943	
-20	DC 6.00 V	1.078	0.982	0.524	
-30	DC 6.00 V	0.895	0.552	0.971	
Result	Pass				

6. EMISSION BANDWIDTH

6.1 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.

6.2 MEASUREMENT PROCEDURE

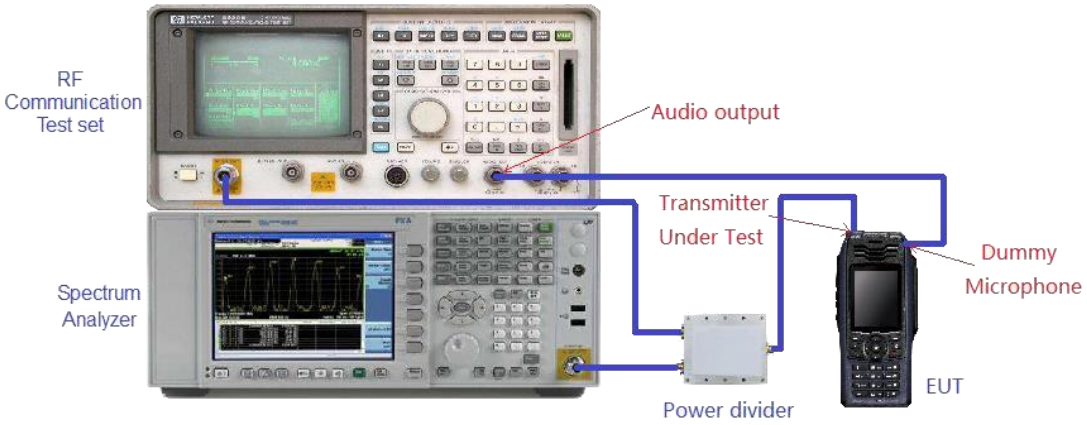
1). The EUT was placed on a turn table which is 0.8m above ground plane.

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.

6.3 TEST SETUP BLOCK DIAGRAM



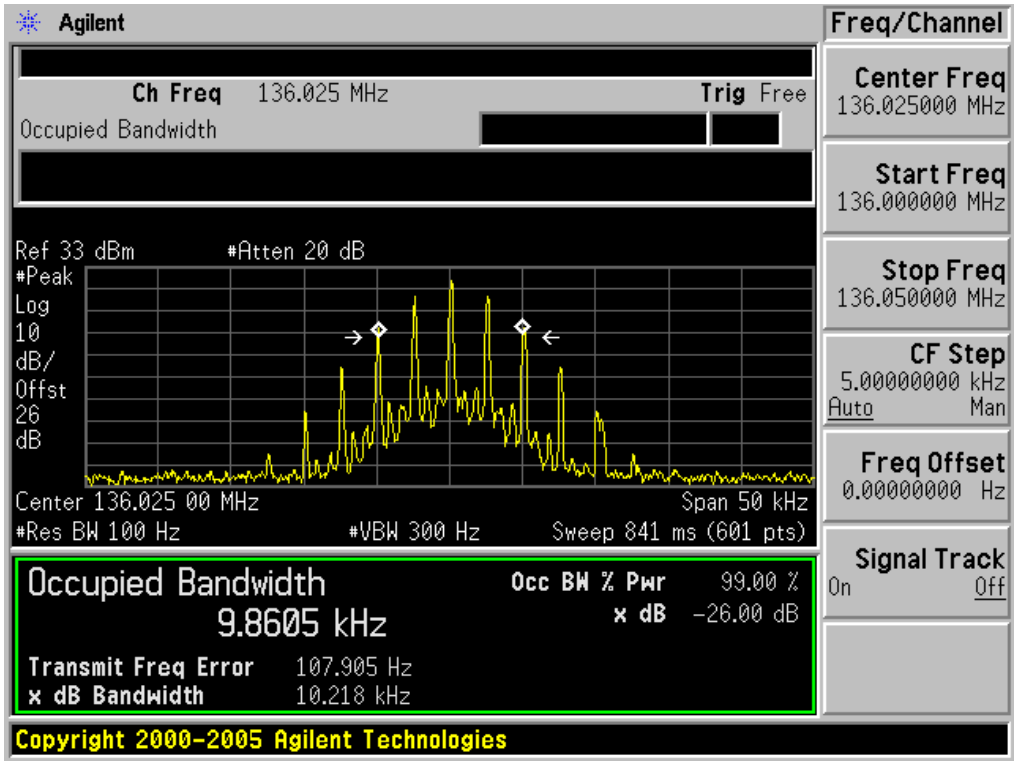
6.4 MEASUREMENT RESULT

VHF:

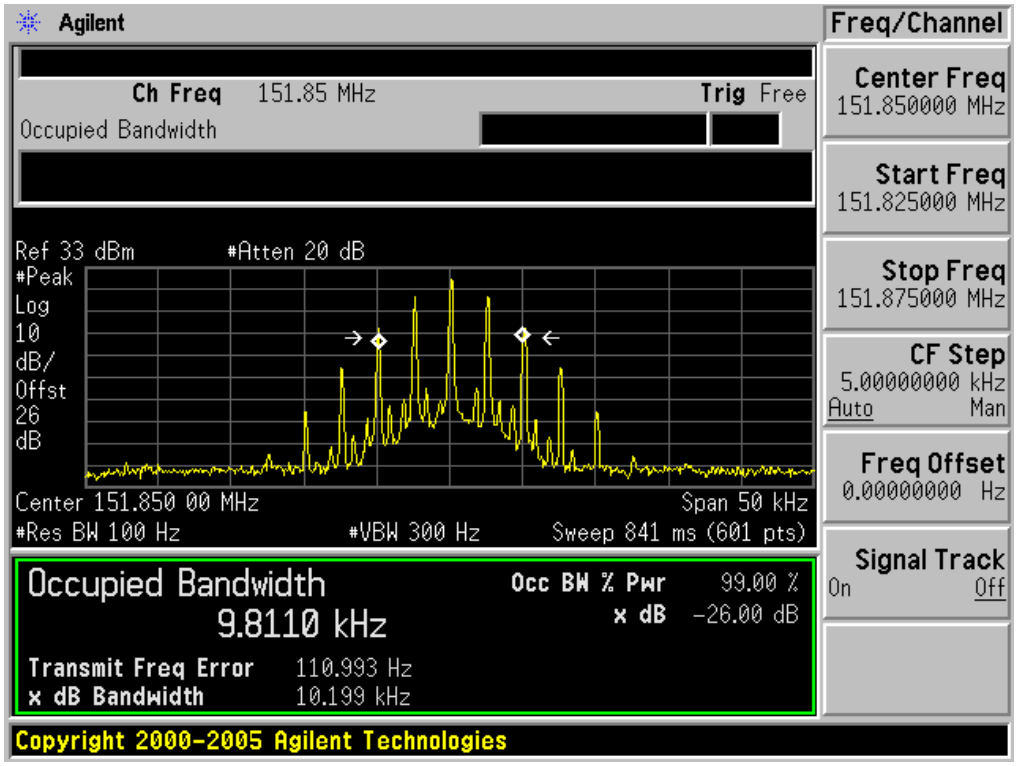
Analog:12.5KHz

26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.218KHz	11.25 KHz	Pass
151.850MHz	10.199KHz	11.25 KHz	Pass
161.610MHz	10.196KHz	11.25 KHz	Pass
173.975MHz	10.201KHz	11.25 KHz	Pass

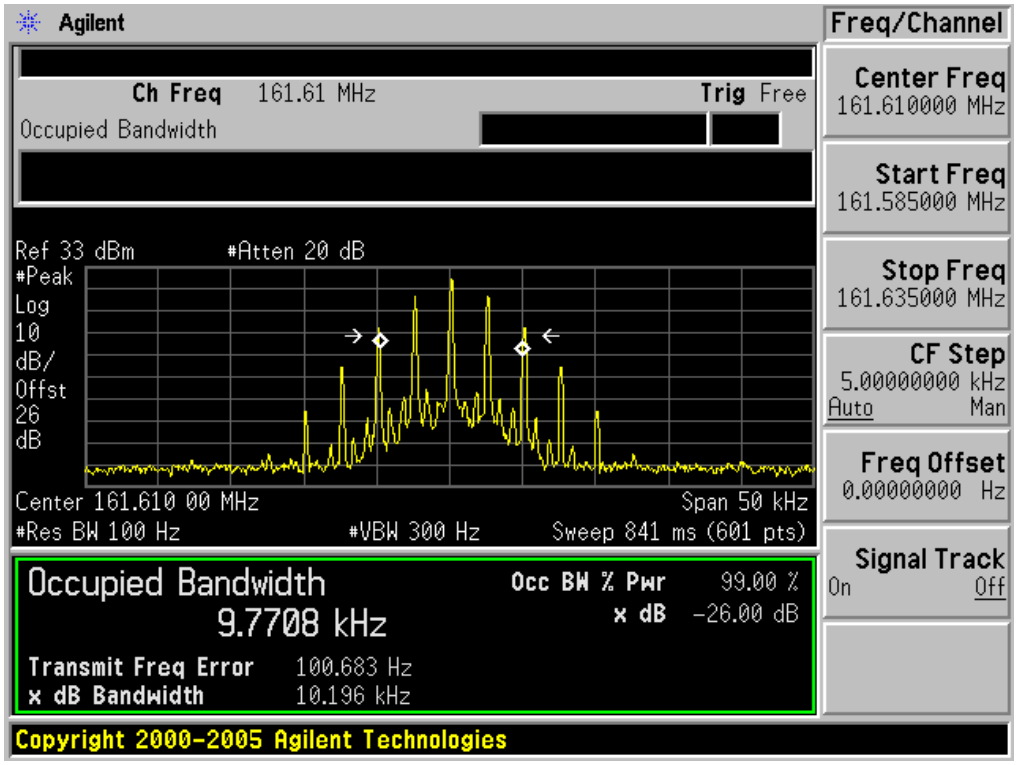
Occupied bandwidth of Middle Channel (Maximum)-1W



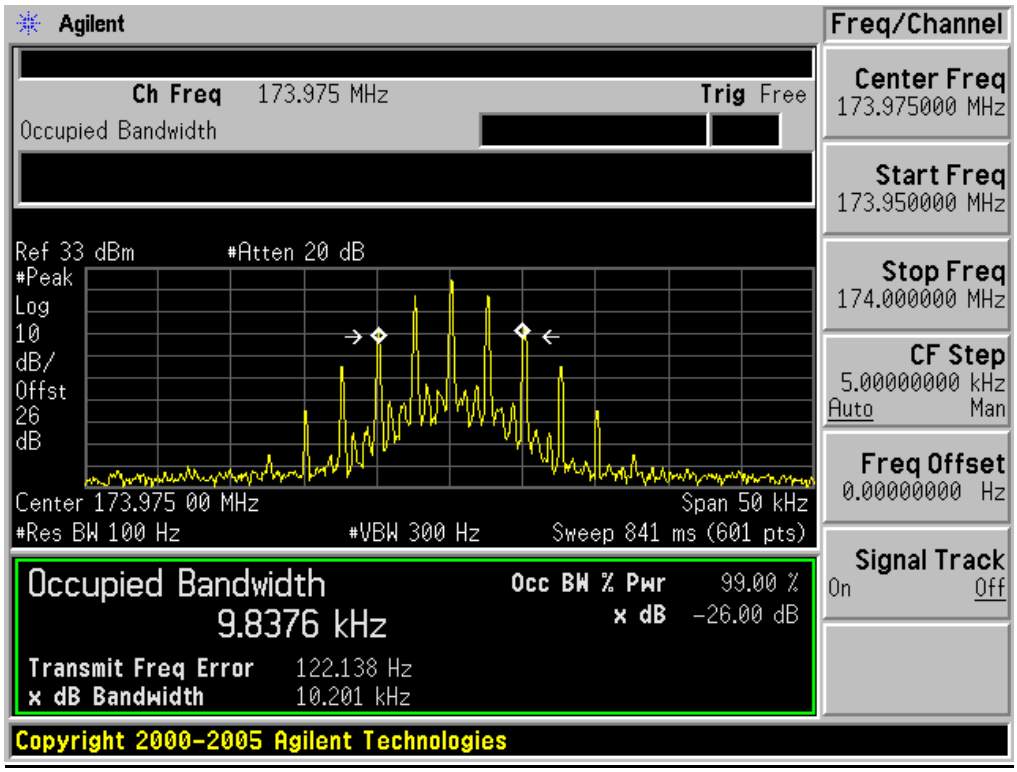
Occupied bandwidth of Bottom Channel (151.850 MHz)-1W



Occupied bandwidth of Middle Channel (161.610 MHz)-1W

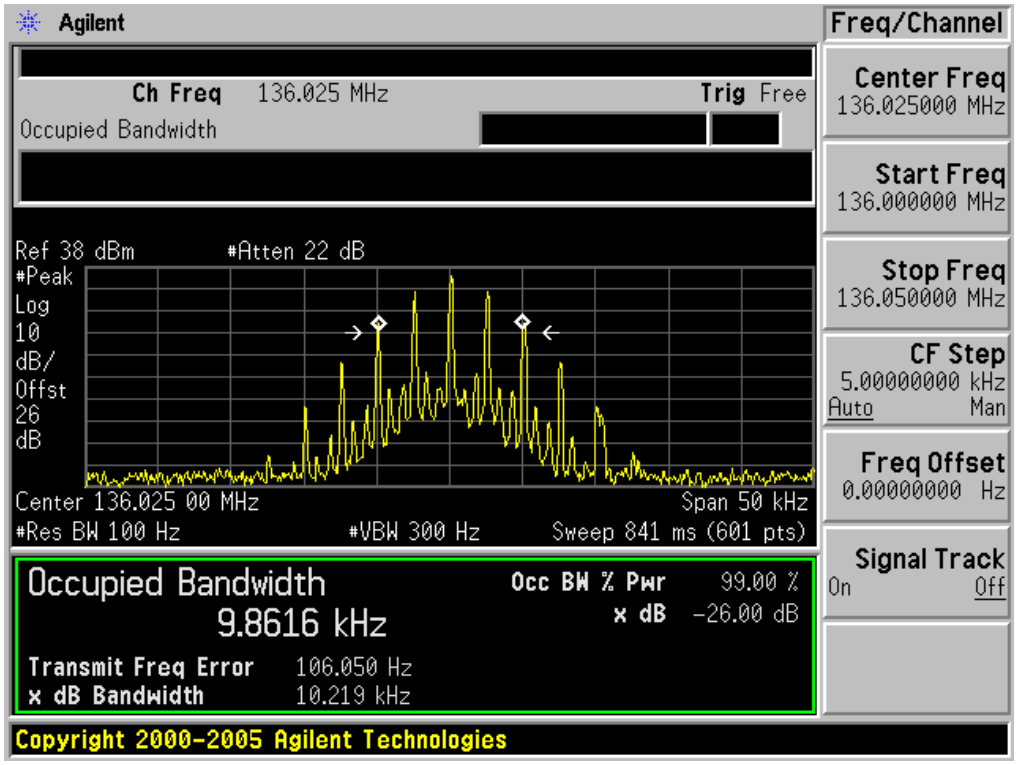


Occupied bandwidth of Top Channel (173.975 MHz)-1W

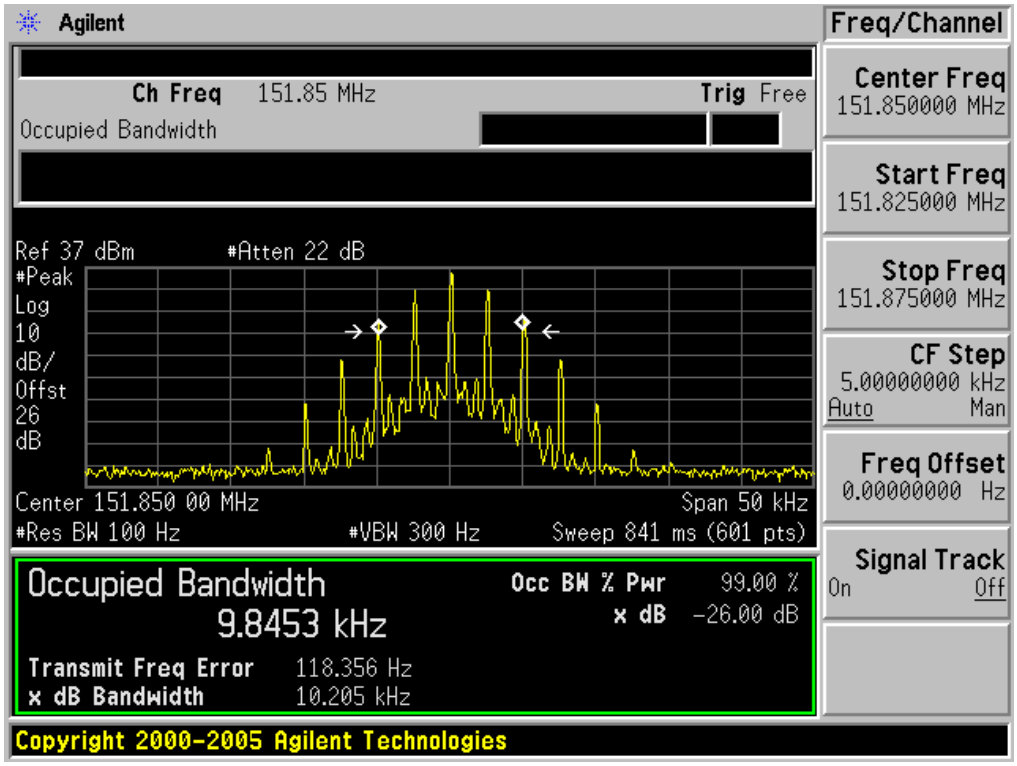


26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.219KHz	11.25 KHz	Pass
151.850MHz	10.205KHz	11.25 KHz	Pass
161.610MHz	10.197KHz	11.25 KHz	Pass
173.975MHz	10.203KHz	11.25 KHz	Pass

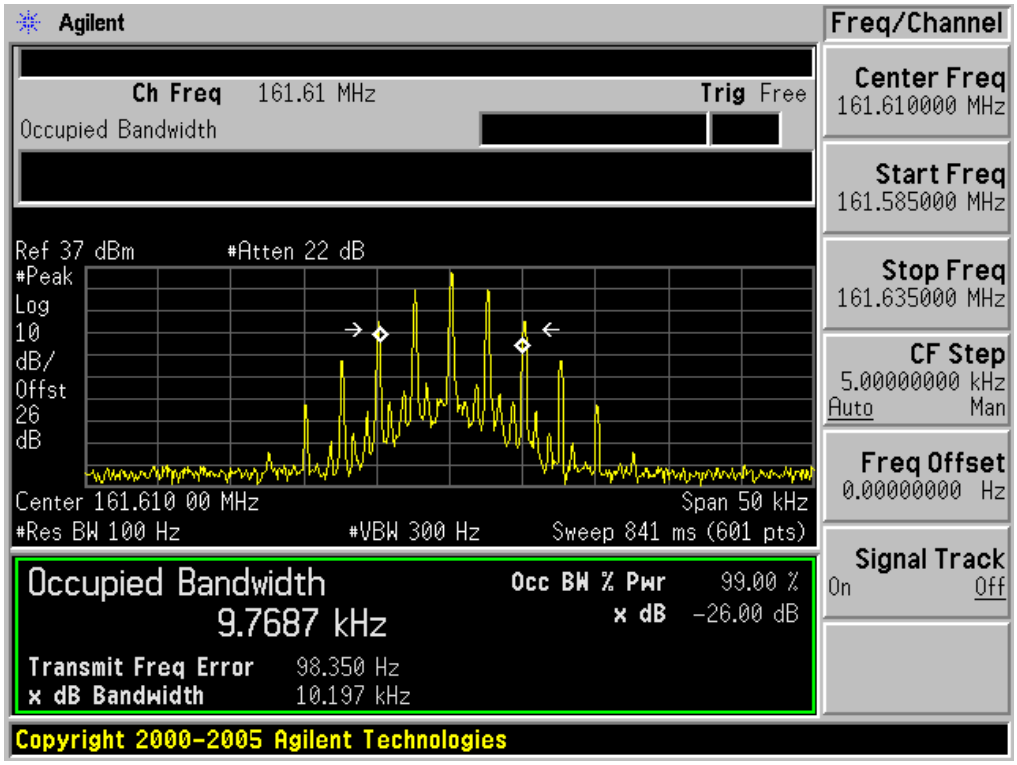
Occupied bandwidth of Bottom Channel (Maximum)-4W



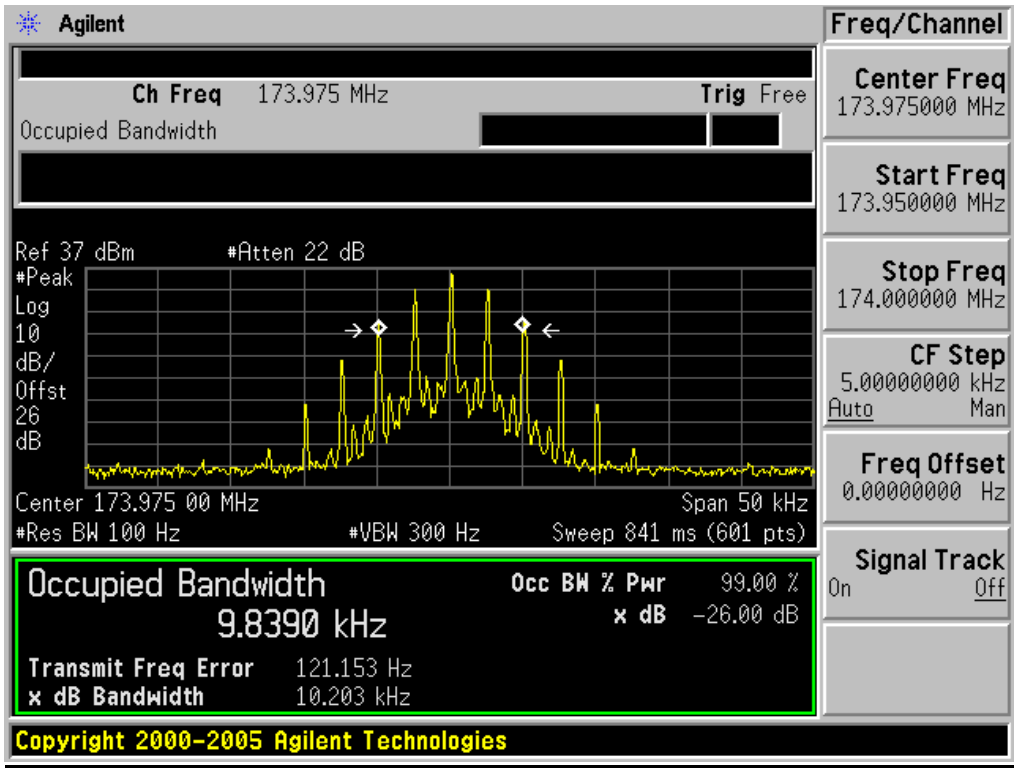
Occupied bandwidth of Middle Channel (151.850 MHz)-4W



Occupied bandwidth of Middle Channel (161.610 MHz)-4W



Occupied bandwidth of Top Channel (173.975 MHz)-4W

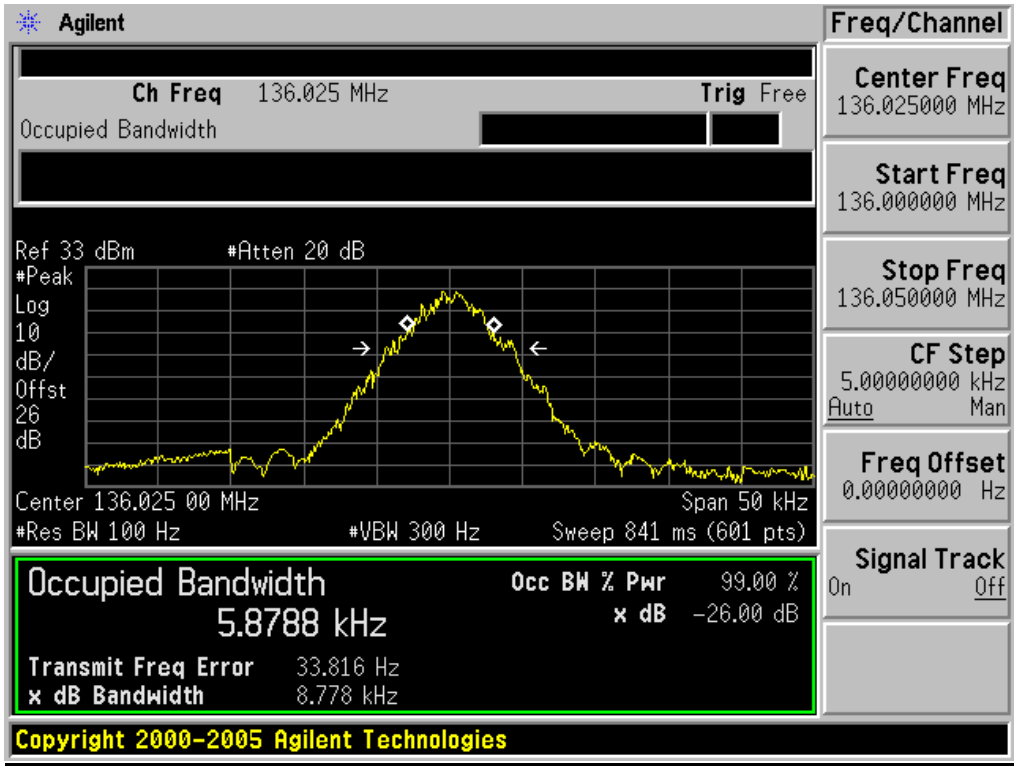


Digital:

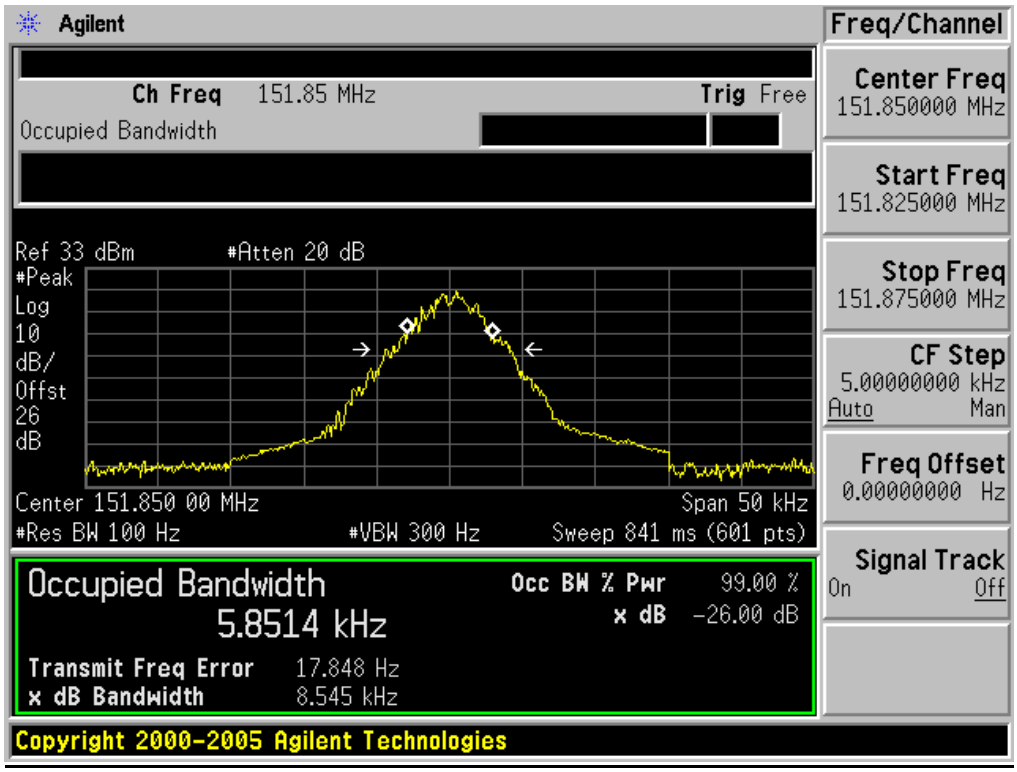
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	8.778KHz	11.25 KHz	Pass
151.850MHz	8.545KHz	11.25 KHz	Pass
161.610MHz	8.803KHz	11.25 KHz	Pass
173.975MHz	9.008KHz	11.25 KHz	Pass

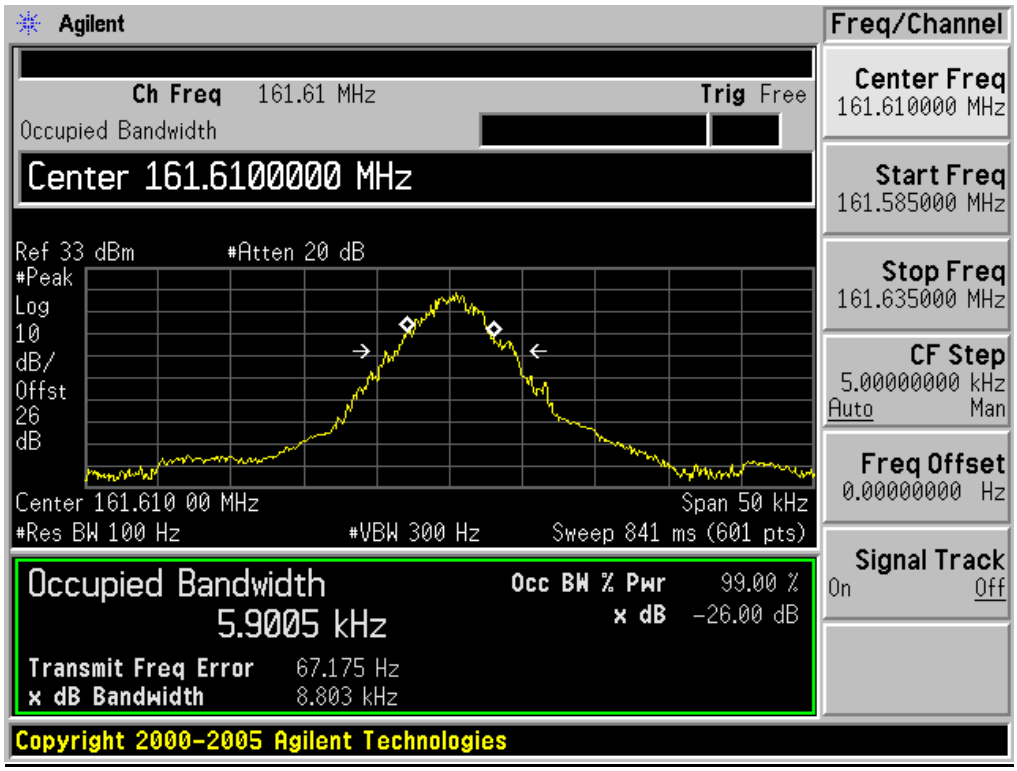
Occupied bandwidth of Bottom Channel (Maximum)-1W



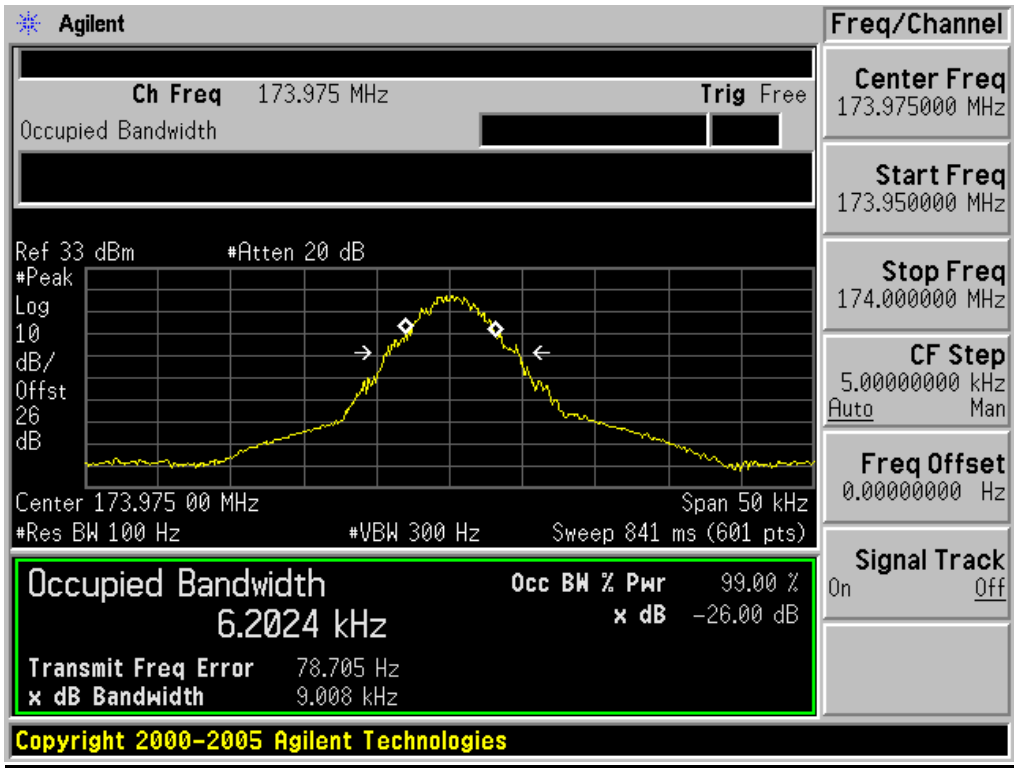
Occupied bandwidth of Middle Channel (151.850 MHz)-1W



Occupied bandwidth of Middle Channel (161.610 MHz)-1W



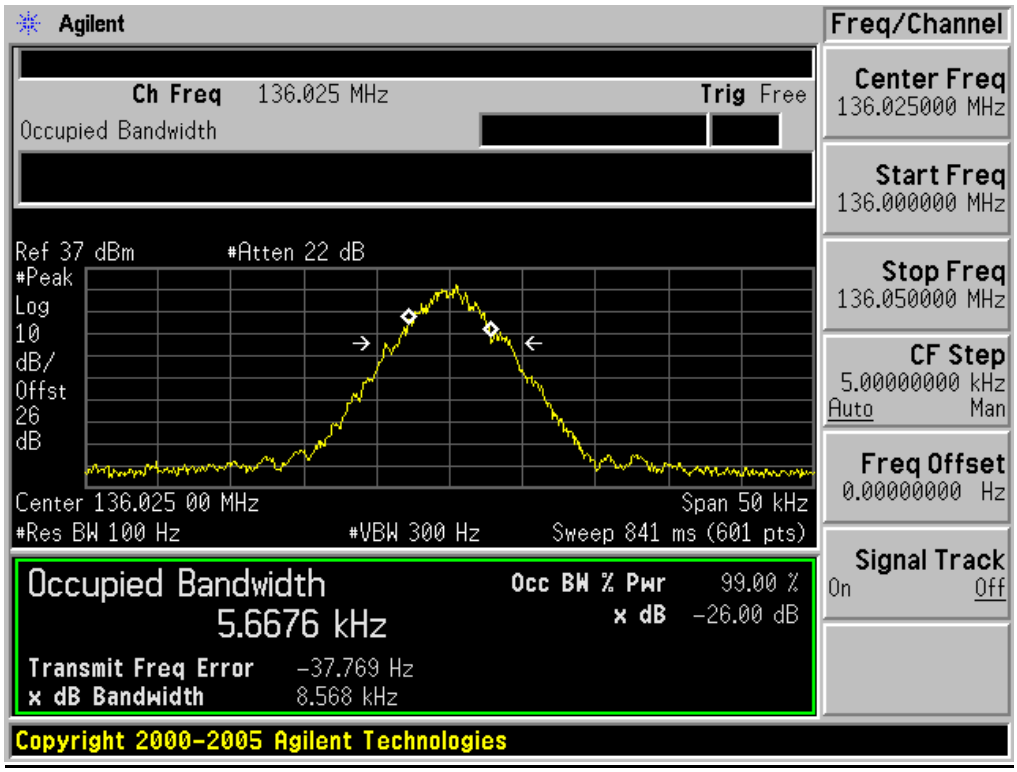
Occupied bandwidth of Top Channel (173.975 MHz)-1W



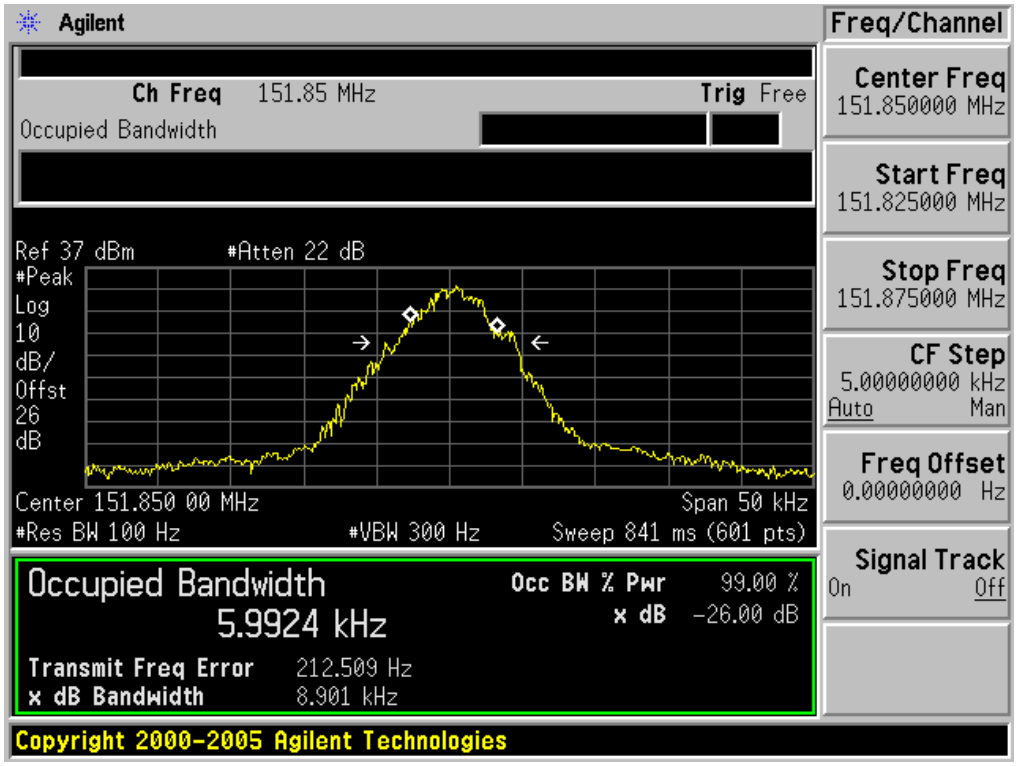
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	8.568KHz	11.25 KHz	Pass
151.850MHz	8.901KHz	11.25 KHz	Pass
161.610MHz	8.486KHz	11.25 KHz	Pass
173.975MHz	8.630KHz	11.25 KHz	Pass

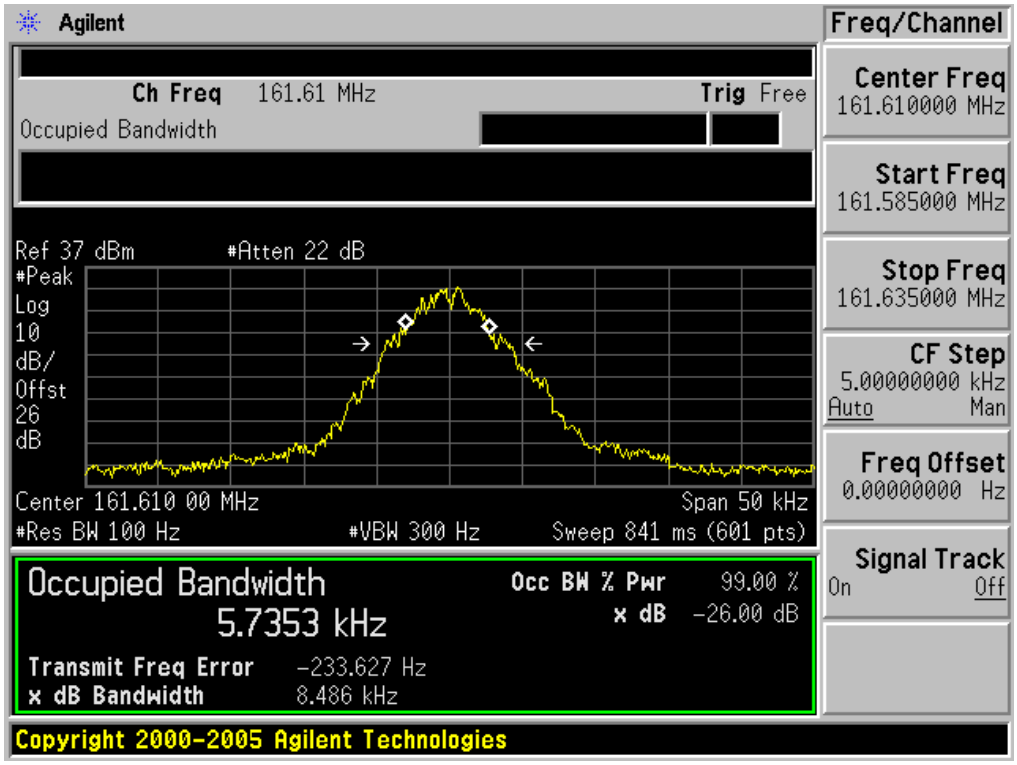
Occupied bandwidth of Bottom Channel (Maximum)-4W



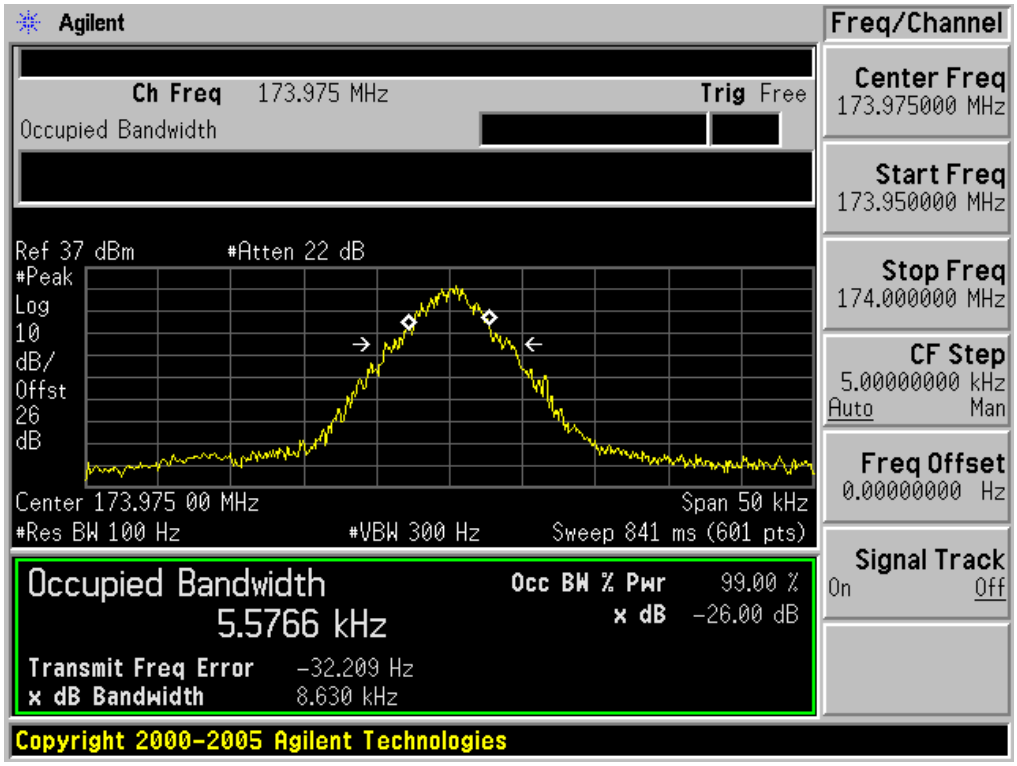
Occupied bandwidth of Middle Channel (151.850 MHz)-4W



Occupied bandwidth of Middle Channel (161.610 MHz)-4W



Occupied bandwidth of Top Channel (173.975 MHz)-4W

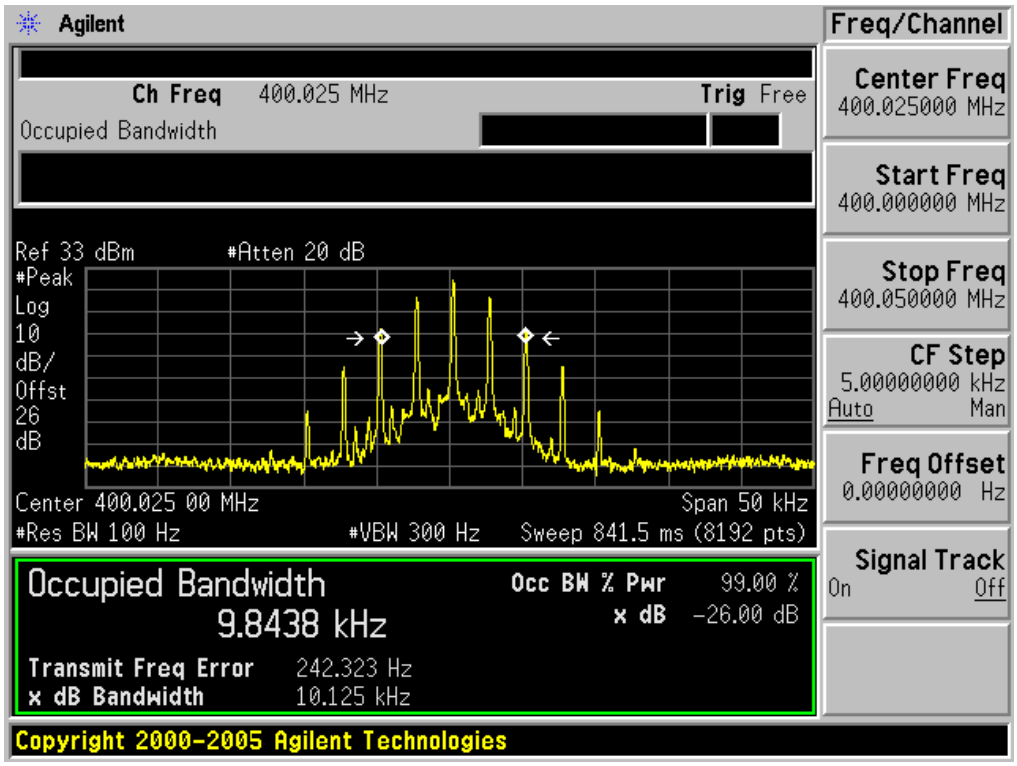


UHF:

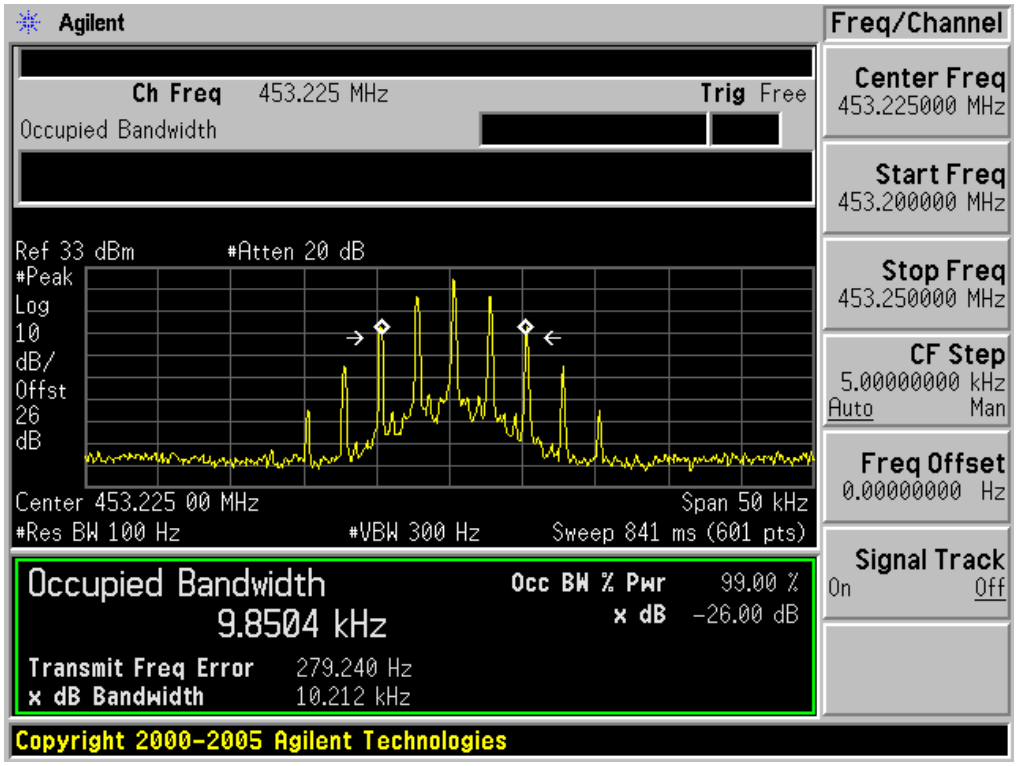
Analog:12.5KHz

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.125KHz	11.25 KHz	Pass
453.225MHz	10.212KHz	11.25 KHz	Pass
454.025MHz	10.215KHz	11.25 KHz	Pass
479.975MHz	10.203KHz	11.25 KHz	Pass

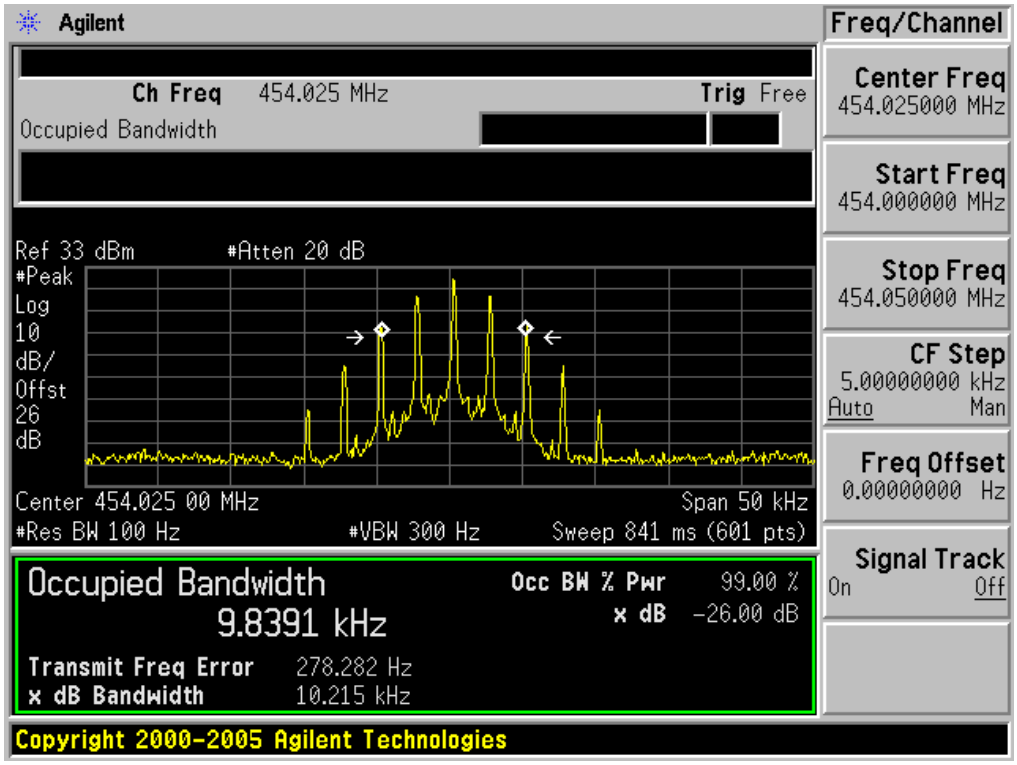
Occupied bandwidth of Bottom Channel (400.025MHz)-1W



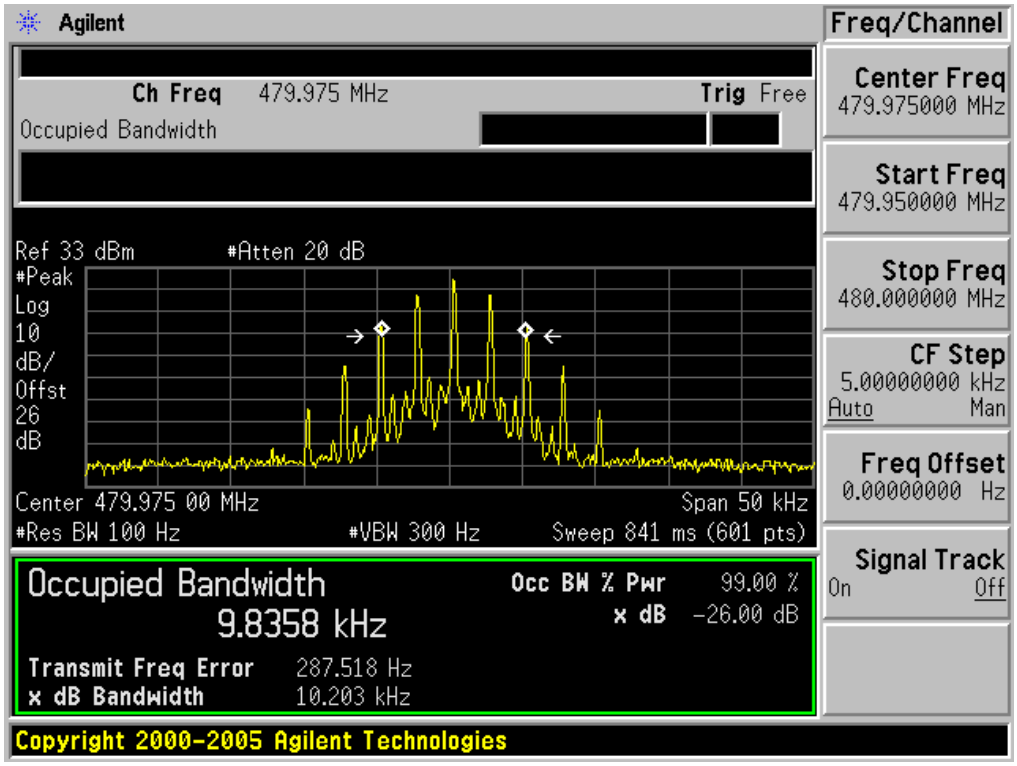
Occupied bandwidth of Middle Channel (453.225MHz)-1W



Occupied bandwidth of Middle Channel (454.025MHz)-1W

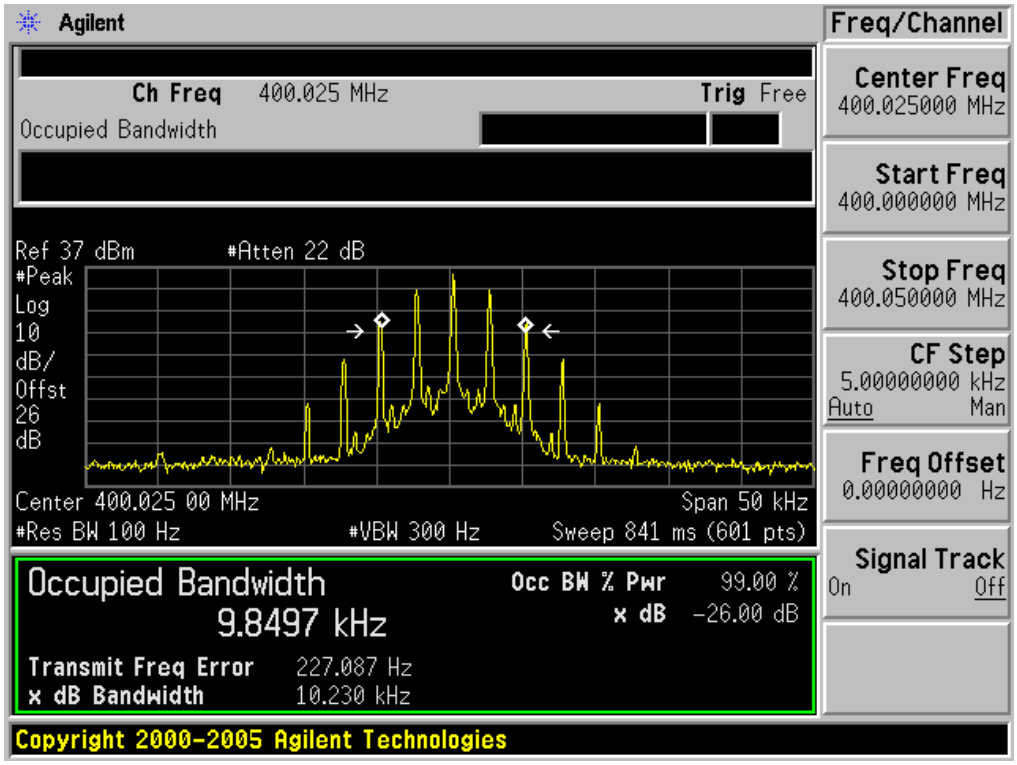


Occupied bandwidth of Top Channel (479.975MHz)-1W

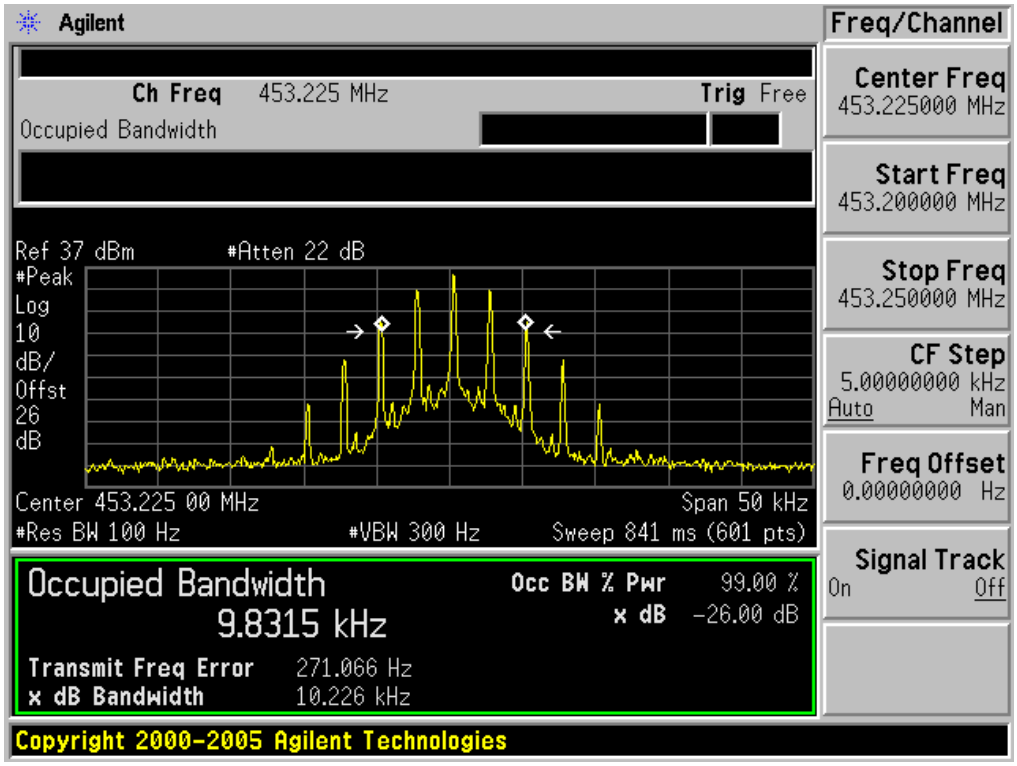


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.230KHz	11.25 KHz	Pass
453.225MHz	10.226KHz	11.25 KHz	Pass
454.025MHz	10.216KHz	11.25 KHz	Pass
479.975MHz	10.212MHz	11.25 KHz	Pass

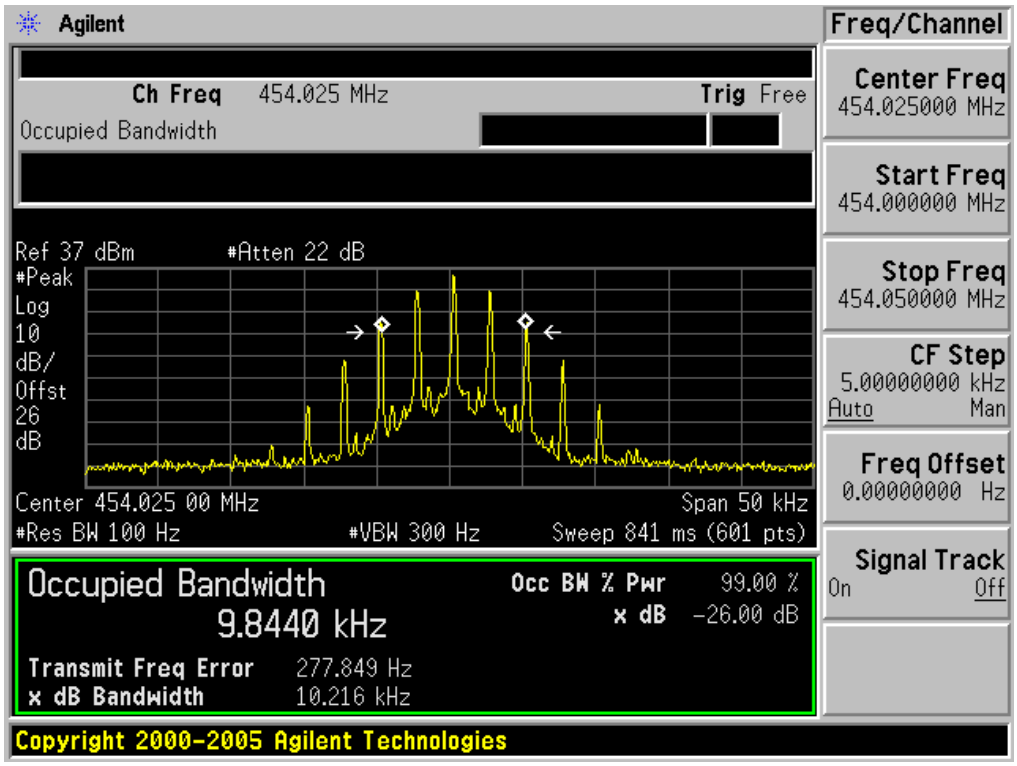
Occupied bandwidth of Bottom Channel (400.025MHz)-4W



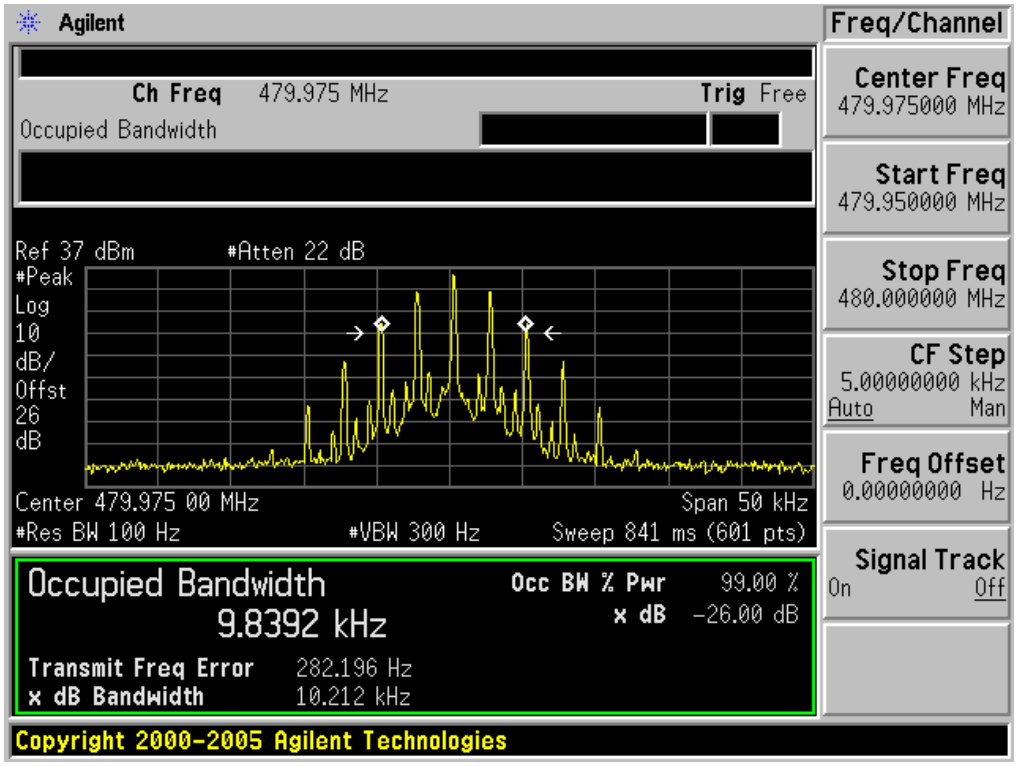
Occupied bandwidth of Middle Channel (453.225MHz)-4W



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



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

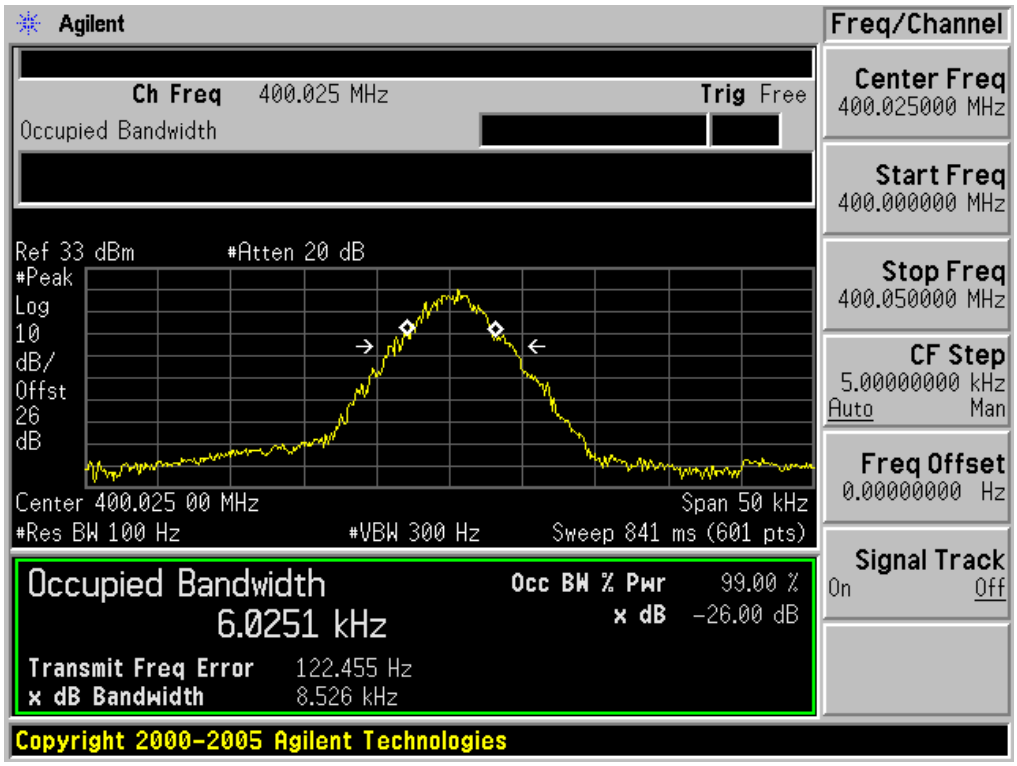


Digital:

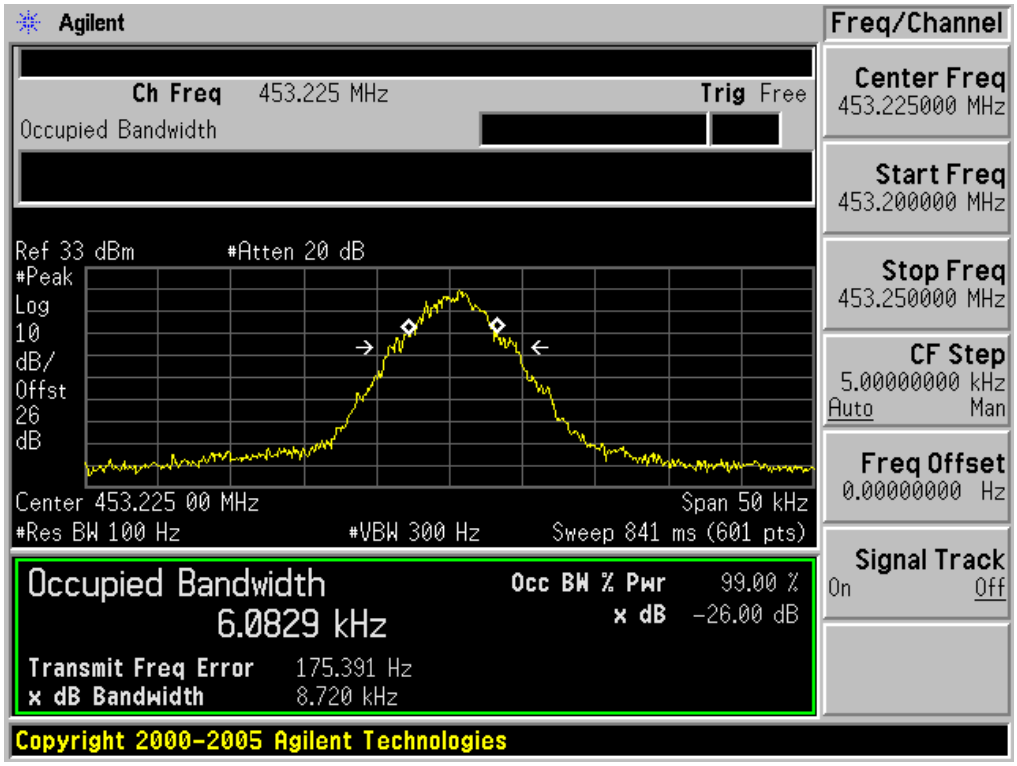
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	8.526KHz	11.25 KHz	Pass
453.225MHz	8.720KHz	11.25 KHz	Pass
454.025MHz	8.848KHz	11.25 KHz	Pass
479.975MHz	8.969KHz	11.25 KHz	Pass

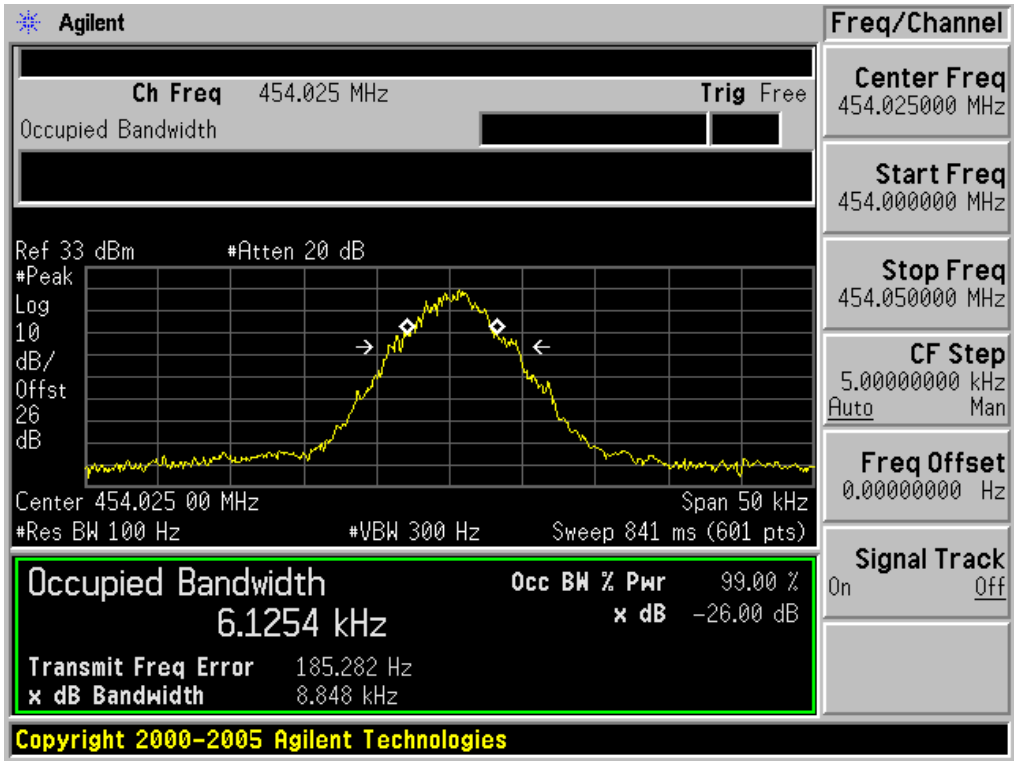
Occupied bandwidth of Bottom Channel (400.025MHz) -1W



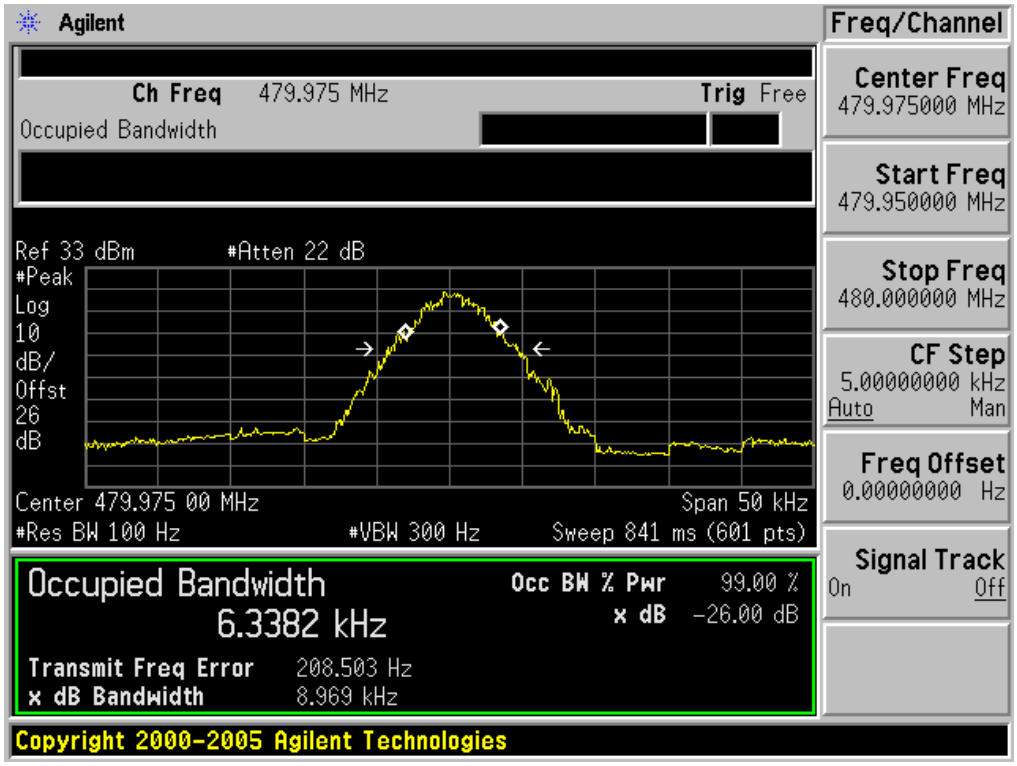
Occupied bandwidth of Middle Channel (453.225MHz)-1W



Occupied bandwidth of Middle Channel (454.025MHz)-1W



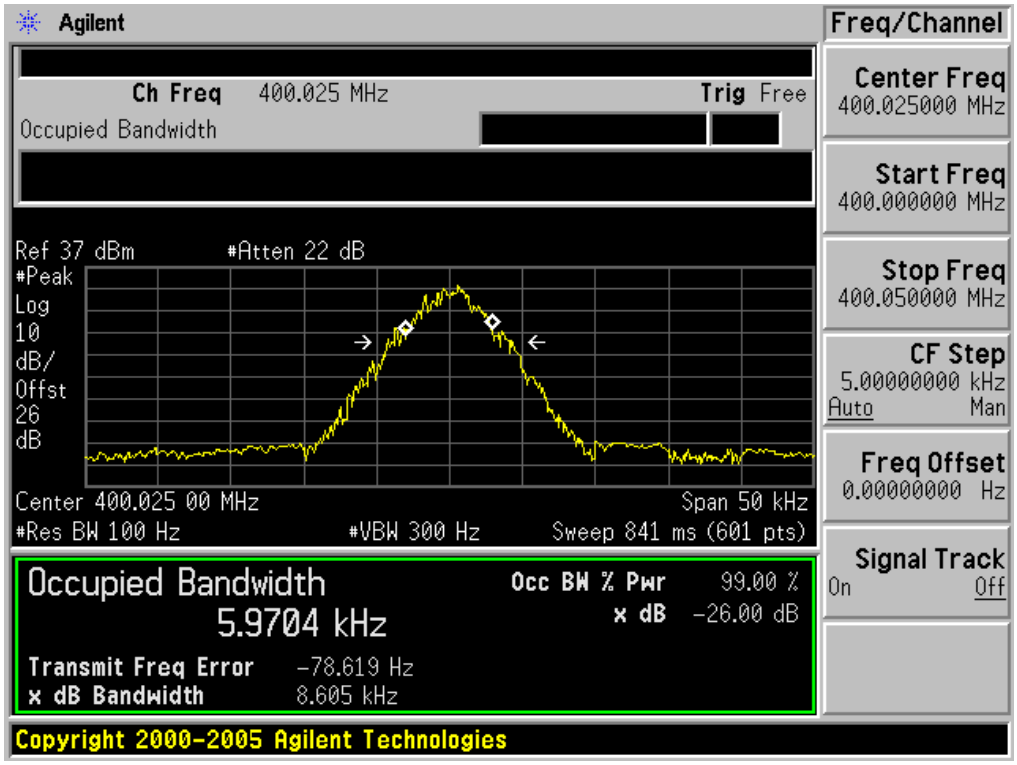
Occupied bandwidth of Top Channel (479.975MHz)-1W



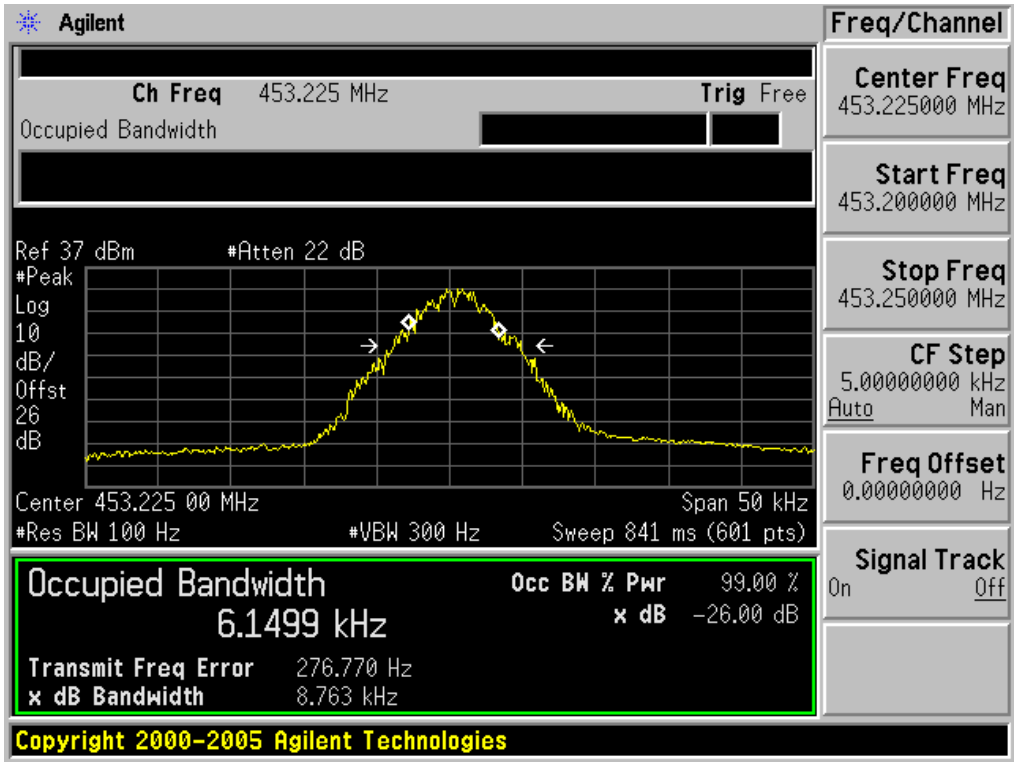
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	8.605KHz	11.25 KHz	Pass
453.225MHz	8.763KHz	11.25 KHz	Pass
454.025MHz	8.920KHz	11.25 KHz	Pass
479.975MHz	8.624KHz	11.25 KHz	Pass

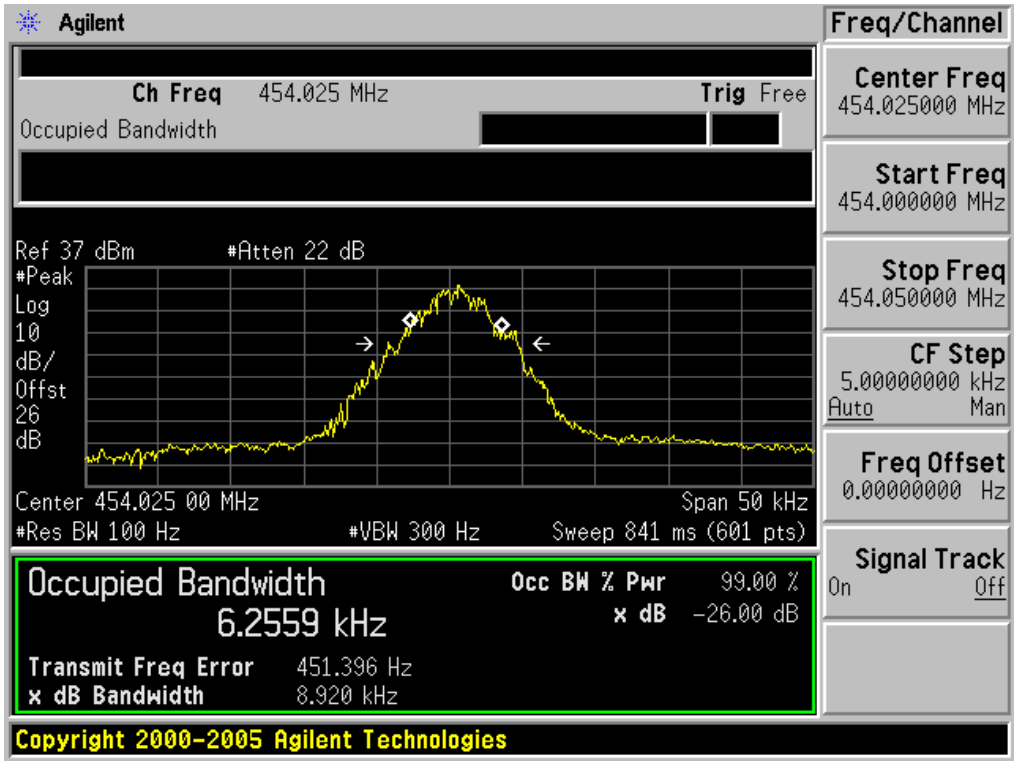
Occupied bandwidth of Bottom Channel (400.025MHz)-4W



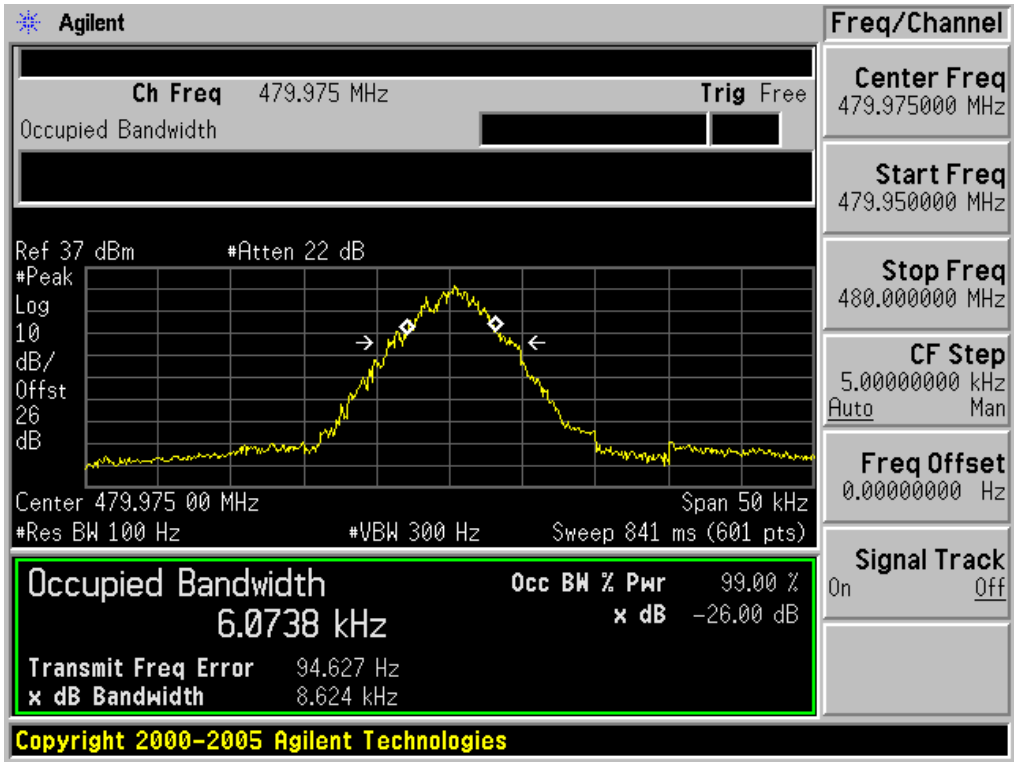
Occupied bandwidth of Middle Channel (453.225MHz)-4W



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



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



7. UNWANTED RADIATION

7.1 PROVISIONS APPLICABLE

8.1.1 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 fo to 5.625 KHz removed from fo: Zero dB.

(2).On any frequency removed from the center of the authorized bandwidth by a displacement Frequency (fd in KHz) fo of more than 5.625 KHz but no more than 12.5 KHz: At least 7.27(fd-2.88 KHz) dB

(3).On any frequency removed from the center of the authorized bandwidth by a displacement Frequency (fd in KHz)fo of more than 12.5 KHz: At least 50+10 log(P) dB or 70 dB, whichever is lesser attenuation.

7.2 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 than 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.

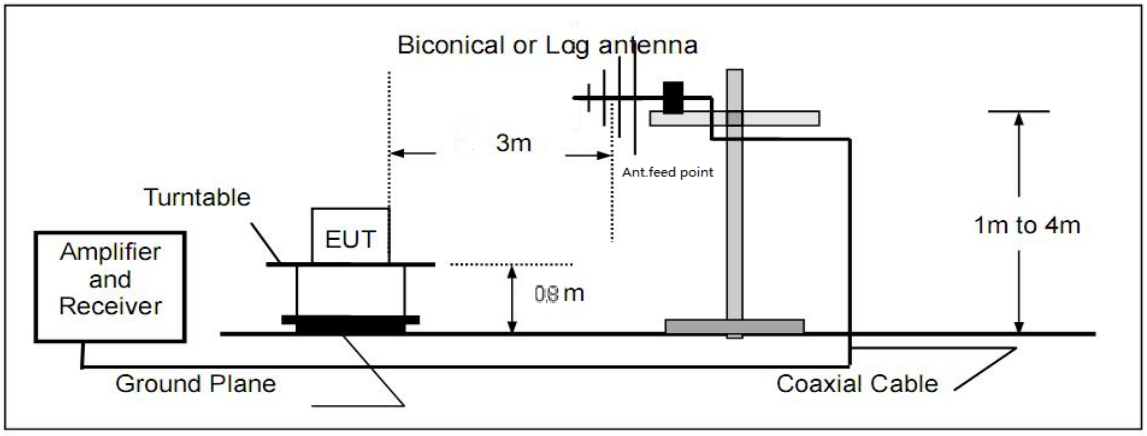
(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.

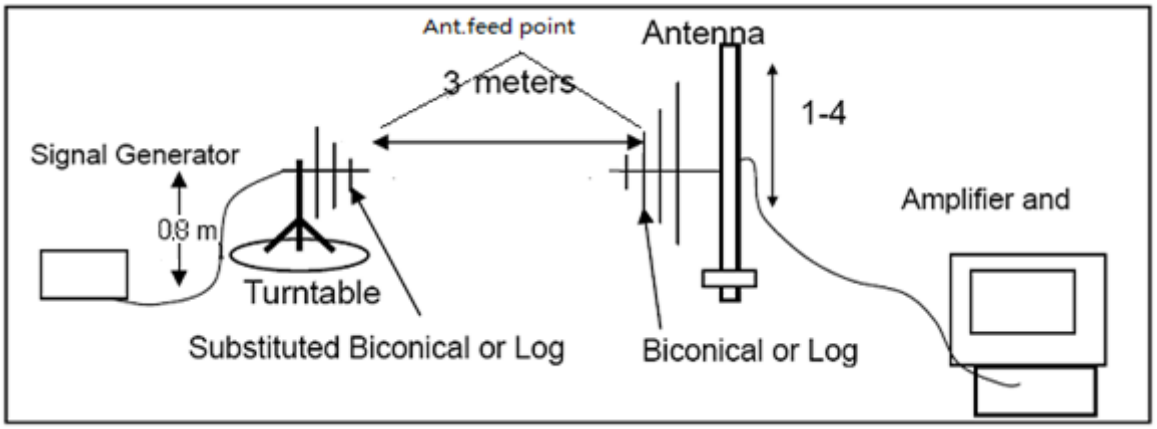
(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

7.3 TEST SETUP BLOCK DIAGRAM

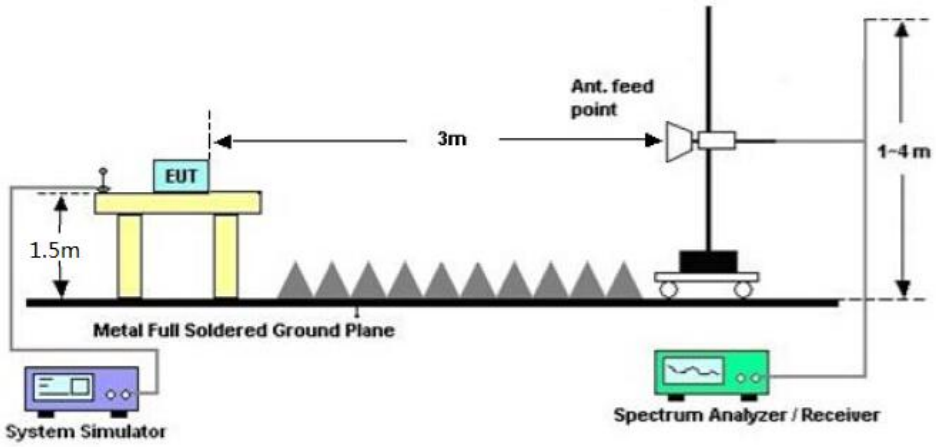
SUBSTITUTION METHOD: (Radiated Emissions)

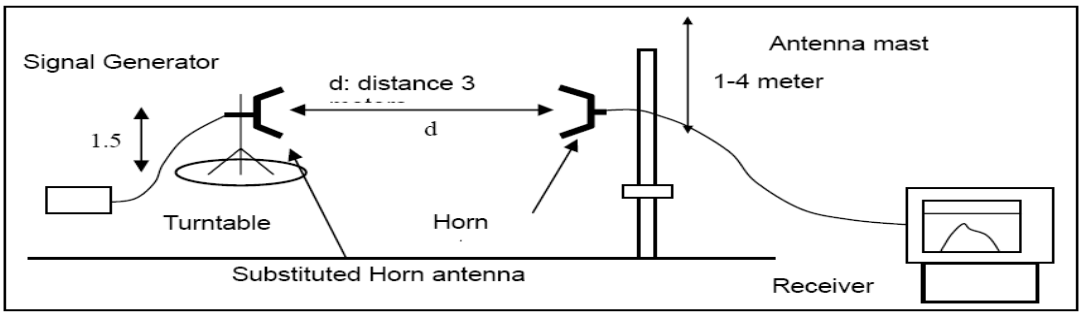
Radiated Below1GHz





Radiated Above 1 GHz





7.4 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 (fd 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 = “Read Value” + Measured substitution value + 2.15.

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

At least 50+10 log (P) =50+10log (1) =50 (dB)—1W 30-50=-20dBm

VHF:

Analog:

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	H	0		pass
272.050	H	-36.7	-20	pass
408.08	H	-33.2	-20	pass
544.100	H	-36.3	-20	pass
680.125	H	-40.1	-20	pass
816.150	H	-40.5	-20	pass
952.175	H	-52.2	-20	pass
1088.200	H	-43.9	-20	pass
1224.225	H	-38.9	-20	pass
1360.250	H	-44.6	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	V	0		pass
272.050	V	-31.7	-20	pass
408.08	V	-29.2	-20	pass
544.100	V	-32.3	-20	pass
680.125	V	-37.1	-20	pass
816.150	V	-39.5	-20	pass
952.175	V	-46.2	-20	pass
1088.200	V	-44.9	-20	pass
1224.225	V	-39.9	-20	pass
1360.250	V	-44.2	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	H	0		pass
303.700	H	-29.8	-20	pass
455.550	H	-35.2	-20	pass
607.400	H	-32.7	-20	pass
759.250	H	-37.9	-20	pass
911.100	H	-36.6	-20	pass
1062.950	H	-40.4	-20	pass
1214.800	H	-42.8	-20	pass
1366.650	H	-42.9	-20	pass
1518.500	H	-45.8	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	V	0		pass
303.700	V	-27.1	-20	pass
455.550	V	-33.9	-20	pass
607.400	V	-35.2	-20	pass
759.250	V	-30.3	-20	pass
911.100	V	-37.2	-20	pass
1062.950	V	-41.4	-20	pass
1214.800	V	-43.8	-20	pass
1366.650	V	-44.9	-20	pass
1518.500	V	-48.8	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	H	0		pass
310.050	H	-32.8	-20	pass
465.075	H	-28.7	-20	pass
620.100	H	-30.5	-20	pass
775.125	H	-34.4	-20	pass
930.150	H	-39.1	-20	pass
1085.175	H	-40.5	-20	pass
1240.200	H	-47.5	-20	pass
1395.225	H	-48.3	-20	pass
1550.250	H	-49.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	V	0		pass
310.050	V	-33.5	-20	pass
465.075	V	-32.1	-20	pass
620.100	V	-36.2	-20	pass
775.125	V	-37.5	-20	pass
930.150	V	-38.4	-20	pass
1085.175	V	-35.5	-20	pass
1240.200	V	-40.8	-20	pass
1395.225	V	-42.9	-20	pass
1550.250	V	-46.1	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.610MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	H	0		pass
323.220	H	-34.3	-20	pass
484.83	H	-35.4	-20	pass
646.440	H	-36.8	-20	pass
808.050	H	-37.1	-20	pass
969.660	H	-38.0	-20	pass
1131.270	H	-39.6	-20	pass
1292.880	H	-44.9	-20	pass
1454.490	H	-45.7	-20	pass
1616.100	H	-45.0	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	V	0		pass
323.220	V	-34.9	-20	pass
484.83	V	-34.2	-20	pass
646.440	V	-36.6	-20	pass
808.050	V	-35.4	-20	pass
969.660	V	-37.4	-20	pass
1131.270	V	-39.5	-20	pass
1292.880	V	-38.2	-20	pass
1454.490	V	-42.8	-20	pass
1616.100	V	-42.2	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	H	0		pass
347.950	H	-35.6	-20	pass
521.925	H	-35.3	-20	pass
695.900	H	-36.1	-20	pass
869.875	H	-39.8	-20	pass
1043.850	H	-38.9	-20	pass
1217.825	H	-42.3	-20	pass
1391.800	H	-41.5	-20	pass
1565.775	H	-44.1	-20	pass
1739.750	H	-45.4	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	V	0		pass
347.950	V	-34.2	-20	pass
521.925	V	-35.7	-20	pass
695.900	V	-39.8	-20	pass
869.875	V	-38.7	-20	pass
1043.850	V	-40.1	-20	pass
1217.825	V	-41.4	-20	pass
1391.800	V	-43.3	-20	pass
1565.775	V	-44.6	-20	pass
1739.750	V	-45.5	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	H	0		pass
272.050	H	-41.2	-20	pass
408.08	H	-40.4	-20	pass
544.100	H	-43.9	-20	pass
680.125	H	-45.4	-20	pass
816.150	H	-44.9	-20	pass
952.175	H	-46.1	-20	pass
1088.200	H	-49.1	-20	pass
1224.225	H	-50.7	-20	pass
1360.250	H	-51.5	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	V	0		pass
272.050	V	-40.7	-20	pass
408.08	V	-41.5	-20	pass
544.100	V	-43.1	-20	pass
680.125	V	-44.6	-20	pass
816.150	V	-46.4	-20	pass
952.175	V	-47.2	-20	pass
1088.200	V	-48.6	-20	pass
1224.225	V	-50.1	-20	pass
1360.250	V	-51.8	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	H	0		pass
303.700	H	-39.3	-20	pass
455.550	H	-40.6	-20	pass
607.400	H	-41.2	-20	pass
759.250	H	-42.7	-20	pass
911.100	H	-45.2	-20	pass
1062.950	H	-48.3	-20	pass
1214.800	H	-49.7	-20	pass
1366.650	H	-51.5	-20	pass
1518.500	H	-50.9	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.85	V	0		pass
303.7	V	-40.8	-20	pass
455.55	V	-41.9	-20	pass
607.4	V	-43.4	-20	pass
759.25	V	-43.1	-20	pass
911.1	V	-45.6	-20	pass
1062.95	V	-46.2	-20	pass
1214.8	V	-47.7	-20	pass
1366.65	V	-48.4	-20	pass
1518.5	V	-50.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	H	0		pass
310.050	H	-40.1	-20	pass
465.075	H	-40.9	-20	pass
620.100	H	-41.4	-20	pass
775.125	H	-43.6	-20	pass
930.150	H	-46.1	-20	pass
1085.175	H	-47.8	-20	pass
1240.200	H	-50.1	-20	pass
1395.225	H	-51.9	-20	pass
1550.250	H	-51.8	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	V	0		pass
310.050	V	-40.8	-20	pass
465.075	V	-41.2	-20	pass
620.100	V	-43.4	-20	pass
775.125	V	-44.1	-20	pass
930.150	V	-46.1	-20	pass
1085.175	V	-45.5	-20	pass
1240.200	V	-49.5	-20	pass
1395.225	V	-50.2	-20	pass
1550.250	V	-51.6	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.610MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	H	0		pass
323.220	H	-41.4	-20	pass
484.830	H	-42.2	-20	pass
646.440	H	-43.1	-20	pass
808.050	H	-46.2	-20	pass
969.660	H	-44.2	-20	pass
1131.270	H	-49.6	-20	pass
1292.880	H	-48.4	-20	pass
1454.490	H	-50.2	-20	pass
1616.100	H	-51.7	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	V	0		pass
347.950	V	-41.0	-20	pass
521.925	V	-42.2	-20	pass
695.900	V	-43.2	-20	pass
869.875	V	-45.2	-20	pass
1043.850	V	-46.6	-20	pass
1217.825	V	-47.2	-20	pass
1391.800	V	-49.1	-20	pass
1565.775	V	-51.1	-20	pass
1739.750	V	-52.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	H	0		pass
347.950	H	-41.9	-20	pass
521.925	H	-42.2	-20	pass
695.900	H	-44.9	-20	pass
869.875	H	-45.1	-20	pass
1043.850	H	-46.2	-20	pass
1217.825	H	-48.5	-20	pass
1391.800	H	-49.2	-20	pass
1565.775	H	-50.3	-20	pass
1739.750	H	-50.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	V	0		pass
347.950	V	-40.3	-20	pass
521.925	V	-42.2	-20	pass
695.900	V	-43.3	-20	pass
869.875	V	-45.4	-20	pass
1043.850	V	-46.9	-20	pass
1217.825	V	-47.1	-20	pass
1391.800	V	-49.8	-20	pass
1565.775	V	-52.0	-20	pass
1739.750	V	-52.8	-20	pass

Digital:

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	H	0		pass
272.050	H	-33.1	-20	pass
408.08	H	-35.4	-20	pass
544.100	H	-40.7	-20	pass
680.125	H	-36.2	-20	pass
816.150	H	-38.4	-20	pass
952.175	H	-39.8	-20	pass
1088.200	H	-45.6	-20	pass
1224.225	H	-44.2	-20	pass
1360.250	H	-45.4	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	V	0		pass
272.050	V	-35.7	-20	pass
408.08	V	-34.2	-20	pass
544.100	V	-36.3	-20	pass
680.125	V	-37.7	-20	pass
816.150	V	-38.2	-20	pass
952.175	V	-39.1	-20	pass
1088.200	V	-42.8	-20	pass
1224.225	V	-44.4	-20	pass
1360.250	V	-44.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	H	0		pass
303.700	H	-34.2	-20	pass
455.55	H	-35.2	-20	pass
607.400	H	-37.9	-20	pass
759.250	H	-36.3	-20	pass
911.100	H	-38.6	-20	pass
1062.950	H	-39.1	-20	pass
1214.800	H	-45.2	-20	pass
1366.650	H	-44.5	-20	pass
1518.500	H	-45.6	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	V	0		pass
303.700	V	-35.1	-20	pass
455.55	V	-34.6	-20	pass
607.400	V	-36.5	-20	pass
759.250	V	-36.5	-20	pass
911.100	V	-38.1	-20	pass
1062.950	V	-39.3	-20	pass
1214.800	V	-41.7	-20	pass
1366.650	V	-43.1	-20	pass
1518.500	V	-45.8	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	H	0		pass
310.050	H	-35.2	-20	pass
465.075	H	-35.1	-20	pass
620.100	H	-36.4	-20	pass
775.125	H	-39.9	-20	pass
930.150	H	-40.7	-20	pass
1085.175	H	-42.1	-20	pass
1240.200	H	-43.4	-20	pass
1395.225	H	-44.7	-20	pass
1550.250	H	-44.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	V	0		pass
310.050	V	-33.7	-20	pass
465.08	V	-34.8	-20	pass
620.100	V	-35.2	-20	pass
775.125	V	-34.3	-20	pass
930.150	V	-35.6	-20	pass
1085.175	V	-39.8	-20	pass
1240.200	V	-41.1	-20	pass
1395.225	V	-42.6	-20	pass
1550.250	V	-44.6	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.61MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	H	0		pass
323.220	H	-33.2	-20	pass
484.83	H	-35.6	-20	pass
646.440	H	-36.5	-20	pass
808.050	H	-35.2	-20	pass
969.660	H	-37.5	-20	pass
1131.270	H	-41.1	-20	pass
1292.880	H	-44.6	-20	pass
1454.490	H	-45.2	-20	pass
1616.100	H	-44.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	V	0		pass
323.220	V	-34.8	-20	pass
484.83	V	-34.9	-20	pass
646.440	V	-35.3	-20	pass
808.050	V	-36.6	-20	pass
969.660	V	-37.1	-20	pass
1131.270	V	-40.2	-20	pass
1292.880	V	-41.7	-20	pass
1454.490	V	-45.1	-20	pass
1616.100	V	-45.1	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-4W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	H	0		pass
347.950	H	-35.2	-20	pass
521.925	H	-35.2	-20	pass
695.900	H	-37.5	-20	pass
869.875	H	-38.2	-20	pass
1043.850	H	-39.2	-20	pass
1217.825	H	-40.9	-20	pass
1391.800	H	-43.1	-20	pass
1565.775	H	-46.7	-20	pass
1739.750	H	-44.5	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	V	0		pass
347.950	V	-35.5	58.45	pass
521.925	V	-35.4	58.45	pass
695.900	V	-38.9	58.45	pass
869.875	V	-37.7	58.45	pass
1043.850	V	-39.2	58.45	pass
1217.825	V	-40.5	58.45	pass
1391.800	V	-42.0	58.45	pass
1565.775	V	-44.2	58.45	pass
1739.750	V	-43.9	58.45	pass

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
136.025	V	0		pass
272.050	V	-42.0	-20	pass
408.08	V	-42.1	-20	pass
544.100	V	-44.2	-20	pass
680.125	V	-45.1	-20	pass
816.150	V	-48.1	-20	pass
952.175	V	-47.3	-20	pass
1088.200	V	-48.9	-20	pass
1224.225	V	-50.2	-20	pass
1360.250	V	-51.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	H	0		pass
303.700	H	-39.8	-20	pass
455.55	H	-42.2	-20	pass
607.400	H	-43.9	-20	pass
759.250	H	-45.3	-20	pass
911.100	H	-45.7	-20	pass
1062.950	H	-46.2	-20	pass
1214.800	H	-46.9	-20	pass
1366.650	H	-48.2	-20	pass
1518.500	H	-51.2	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
151.850	V	0		pass
303.700	V	-41.1	-20	pass
455.55	V	-42.8	-20	pass
607.400	V	-43.3	-20	pass
759.250	V	-45.1	-20	pass
911.100	V	-44.2	-20	pass
1062.950	V	-46.1	-20	pass
1214.800	V	-46.0	-20	pass
1366.650	V	-51.8	-20	pass
1518.500	V	-50.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	H	0		pass
310.050	H	-39.9	-20	pass
465.075	H	-41.3	-20	pass
620.100	H	-42.2	-20	pass
775.125	H	-45.7	-20	pass
930.150	H	-45.3	-20	pass
1085.175	H	-48.2	-20	pass
1240.200	H	-48.6	-20	pass
1395.225	H	-51.9	-20	pass
1550.250	H	-50.7	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
155.025	V	0		pass
310.050	V	-39.3	-20	pass
465.075	V	-42.0	-20	pass
620.100	V	-43.5	-20	pass
775.125	V	-45.7	-20	pass
930.150	V	-47.3	-20	pass
1085.175	V	-46.9	-20	pass
1240.200	V	-49.2	-20	pass
1395.225	V	-51.6	-20	pass
1550.250	V	-52.3	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.610MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	H	0		pass
323.220	H	-39.1	-20	pass
484.83	H	-41.6	-20	pass
646.440	H	-43.3	-20	pass
808.050	H	-44.8	-20	pass
969.660	H	-45.9	-20	pass
1131.270	H	-46.2	-20	pass
1292.880	H	-46.9	-20	pass
1454.490	H	-48.3	-20	pass
1616.100	H	-51.8	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
161.610	V	0		pass
323.220	V	-41.4	-20	pass
484.83	V	-42.2	-20	pass
646.440	V	-44.5	-20	pass
808.050	V	-44.1	-20	pass
969.660	V	-46.6	-20	pass
1131.270	V	-45.1	-20	pass
1292.880	V	-46.4	-20	pass
1454.490	V	-50.0	-20	pass
1616.100	V	-50.4	-20	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	H	0		pass
347.950	H	-39.8	-20	pass
521.925	H	-39.1	-20	pass
695.900	H	-41.8	-20	pass
869.875	H	-43.2	-20	pass
1043.850	H	-47.0	-20	pass
1217.825	H	-47.3	-20	pass
1391.800	H	-48.9	-20	pass
1565.775	H	-49.3	-20	pass
1739.750	H	-51.0	-20	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result (dBm)	Limit (dBm)	Result(P/F)
173.975	V	0		pass
347.950	V	-40.3	-20	pass
521.925	V	-40.8	-20	pass
695.900	V	-42.2	-20	pass
869.875	V	-45.2	-20	pass
1043.850	V	-46.0	-20	pass
1217.825	V	-48.2	-20	pass
1391.800	V	-49.3	-20	pass
1565.775	V	-51.9	-20	pass
1739.750	V	-50.5	-20	pass

UHF:

Analog:

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	-32.3	-20	pass
1200.075	H	-33.8	-20	pass
1600.100	H	-35.2	-20	pass
2000.125	H	-36.6	-20	pass
2400.150	H	-39.3	-20	pass
2800.175	H	-41.2	-20	pass
3200.200	H	-43.8	-20	pass
3600.225	H	-42.8	-20	pass
4000.250	H	-45.5	-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	-34.2	-20	pass
1200.075	V	-36.5	-20	pass
1600.100	V	-35.2	-20	pass
2000.125	V	-39.8	-20	pass
2400.150	V	-40.4	-20	pass
2800.175	V	-39.1	-20	pass
3200.200	V	-41.2	-20	pass
3600.225	V	-43.7	-20	pass
4000.250	V	-44.2	-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	-31.1	-20	pass
1362.075	H	-34.8	-20	pass
1816.100	H	-34.5	-20	pass
2270.125	H	-38.2	-20	pass
2724.150	H	-39.9	-20	pass
3178.175	H	-43.4	-20	pass
3632.200	H	-42.3	-20	pass
4086.225	H	-45.5	-20	pass
4540.250	H	-45.3	-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	-34.5	-20	pass
1362.075	V	-35.5	-20	pass
1816.100	V	-38.3	-20	pass
2270.125	V	-37.4	-20	pass
2724.150	V	-38.2	-20	pass
3178.175	V	-39.0	-20	pass
3632.200	V	-43.1	-20	pass
4086.225	V	-42.8	-20	pass
4540.250	V	-45.2	-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	-31.4	-20	pass
1439.925	H	-32.1	-20	pass
1919.900	H	-33.8	-20	pass
2399.875	H	-35.0	-20	pass
2879.850	H	-36.1	-20	pass
3359.825	H	-39.4	-20	pass
3839.800	H	-40.7	-20	pass
4319.775	H	-43.8	-20	pass
4799.750	H	-45.8	-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	-31.8	-20	pass
1439.925	V	-33.2	-20	pass
1919.900	V	-34.6	-20	pass
2399.875	V	-35.3	-20	pass
2879.850	V	-37.9	-20	pass
3359.825	V	-39.2	-20	pass
3839.800	V	-40.1	-20	pass
4319.775	V	-42.5	-20	pass
4799.750	V	-44.6	-20	pass

TEST RESULTS—1W

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	-40.8	-20	pass
1200.075	H	-41.2	-20	pass
1600.100	H	-43.5	-20	pass
2000.125	H	-45.3	-20	pass
2400.150	H	-46.6	-20	pass
2800.175	H	-47.9	-20	pass
3200.200	H	-49.0	-20	pass
3600.225	H	-50.4	-20	pass
4000.250	H	-51.2	-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	-40.6	-20	pass
1200.075	V	-41.8	-20	pass
1600.100	V	-43.2	-20	pass
2000.125	V	-44.6	-20	pass
2400.150	V	-45.9	-20	pass
2800.175	V	-46.4	-20	pass
3200.200	V	-47.7	-20	pass
3600.225	V	-49.7	-20	pass
4000.250	V	-50.2	-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	-40.8	-20	pass
1362.075	H	-40.2	-20	pass
1816.100	H	-44.8	-20	pass
2270.125	H	-44.5	-20	pass
2724.150	H	-46.2	-20	pass
3178.175	H	-45.3	-20	pass
3632.200	H	-46.7	-20	pass
4086.225	H	-49.5	-20	pass
4540.250	H	-50.1	-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	-38.1	-20	pass
1362.075	V	-39.2	-20	pass
1816.100	V	-40.8	-20	pass
2270.125	V	-43.0	-20	pass
2724.150	V	-46.9	-20	pass
3178.175	V	-48.1	-20	pass
3632.200	V	-49.6	-20	pass
4086.225	V	-50.3	-20	pass
4540.250	V	-50.7	-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	-40.8	-20	pass
1439.925	H	-41.6	-20	pass
1919.900	H	-43.7	-20	pass
2399.875	H	-45.1	-20	pass
2879.850	H	-46.7	-20	pass
3359.825	H	-48.5	-20	pass
3839.800	H	-49.2	-20	pass
4319.775	H	-50.2	-20	pass
4799.750	H	-51.1	-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	-40.5	-20	pass
1439.925	V	-41.4	-20	pass
1919.900	V	-42.2	-20	pass
2399.875	V	-44.2	-20	pass
2879.850	V	-46.8	-20	pass
3359.825	V	-47.7	-20	pass
3839.800	V	-48.5	-20	pass
4319.775	V	-49.9	-20	pass
4799.750	V	-50.8	-20	pass

Digital:

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	-34.8	-20	pass
1200.075	H	-35.2	-20	pass
1600.100	H	-36.5	-20	pass
2000.125	H	-38.8	-20	pass
2400.150	H	-39.1	-20	pass
2800.175	H	-41.4	-20	pass
3200.200	H	-42.5	-20	pass
3600.225	H	-43.2	-20	pass
4000.250	H	-44.5	-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	-34.4	-20	pass
1200.075	V	-35.8	-20	pass
1600.100	V	-36.4	-20	pass
2000.125	V	-39.8	-20	pass
2400.150	V	-40.4	-20	pass
2800.175	V	-39.9	-20	pass
3200.200	V	-42.2	-20	pass
3600.225	V	-43.7	-20	pass
4000.250	V	-44.2	-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	-34.2	-20	pass
1362.075	H	-35.6	-20	pass
1816.100	H	-38.2	-20	pass
2270.125	H	-38.2	-20	pass
2724.150	H	-40.5	-20	pass
3178.175	H	-41.4	-20	pass
3632.200	H	-43.5	-20	pass
4086.225	H	-45.2	-20	pass
4540.250	H	-44.0	-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	-34.7	-20	pass
1362.075	V	-35.2	-20	pass
1816.100	V	-36.5	-20	pass
2270.125	V	-37.6	-20	pass
2724.150	V	-39.7	-20	pass
3178.175	V	-38.3	-20	pass
3632.200	V	-41.2	-20	pass
4086.225	V	-42.5	-20	pass
4540.250	V	-45.0	-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	-35.8	-20	pass
1439.925	H	-34.8	-20	pass
1919.900	H	-37.3	-20	pass
2399.875	H	-39.5	-20	pass
2879.850	H	-42.0	-20	pass
3359.825	H	-41.2	-20	pass
3839.800	H	-43.7	-20	pass
4319.775	H	-43.1	-20	pass
4799.750	H	-44.7	-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	-35.0	-20	pass
1439.925	V	-36.3	-20	pass
1919.900	V	-38.7	-20	pass
2399.875	V	-39.9	-20	pass
2879.850	V	-40.4	-20	pass
3359.825	V	-41.6	-20	pass
3839.800	V	-42.1	-20	pass
4319.775	V	-43.7	-20	pass
4799.750	V	-44.2	-20	pass

TEST RESULTS-1W

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	-36.5	-20	pass
2000.125	H	-37.4	-20	pass
2400.150	H	-38.2	-20	pass
2800.175	H	-39.2	-20	pass
3200.200	H	-40.6	-20	pass
3600.225	H	-42.4	-20	pass
4000.250	H	-43.9	-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	-34.7	-20	pass
1200.075	V	-35.4	-20	pass
1600.100	V	-38.2	-20	pass
2000.125	V	-39.0	-20	pass
2400.150	V	-40.5	-20	pass
2800.175	V	-42.6	-20	pass
3200.200	V	-45.3	-20	pass
3600.225	V	-44.8	-20	pass
4000.250	V	-45.4	-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	-40.7	-20	pass
1362.075	H	-42.3	-20	pass
1816.100	H	-43.7	-20	pass
2270.125	H	-46.5	-20	pass
2724.150	H	-45.8	-20	pass
3178.175	H	-47.2	-20	pass
3632.200	H	-48.7	-20	pass
4086.225	H	-51.2	-20	pass
4540.250	H	-50.5	-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	-39.2	-20	pass
1362.075	V	-41.1	-20	pass
1816.100	V	-40.7	-20	pass
2270.125	V	-42.8	-20	pass
2724.150	V	-44.1	-20	pass
3178.175	V	-46.6	-20	pass
3632.200	V	-47.7	-20	pass
4086.225	V	-48.0	-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	-40.4	-20	pass
1439.925	H	-41.6	-20	pass
1919.900	H	-44.1	-20	pass
2399.875	H	-46.6	-20	pass
2879.850	H	-48.0	-20	pass
3359.825	H	-48.6	-20	pass
3839.800	H	-49.7	-20	pass
4319.775	H	-50.4	-20	pass
4799.750	H	-52.9	-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	-39.9	-20	pass
1439.925	V	-41.2	-20	pass
1919.900	V	-42.6	-20	pass
2399.875	V	-44.7	-20	pass
2879.850	V	-45.6	-20	pass
3359.825	V	-46.4	-20	pass
3839.800	V	-47.7	-20	pass
4319.775	V	-48.7	-20	pass
4799.750	V	-50.9	-20	pass

7.5 EMISSION MASK PLOT

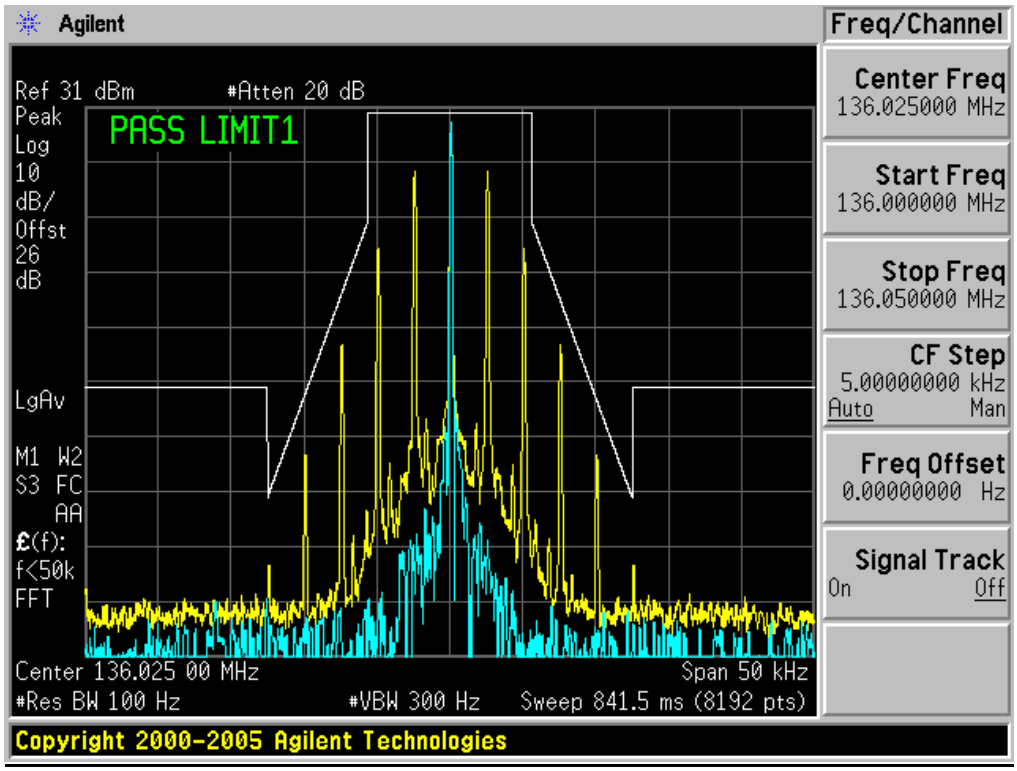
The detailed procedure employed for Emission Mask measurements are specified as following:

- 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.

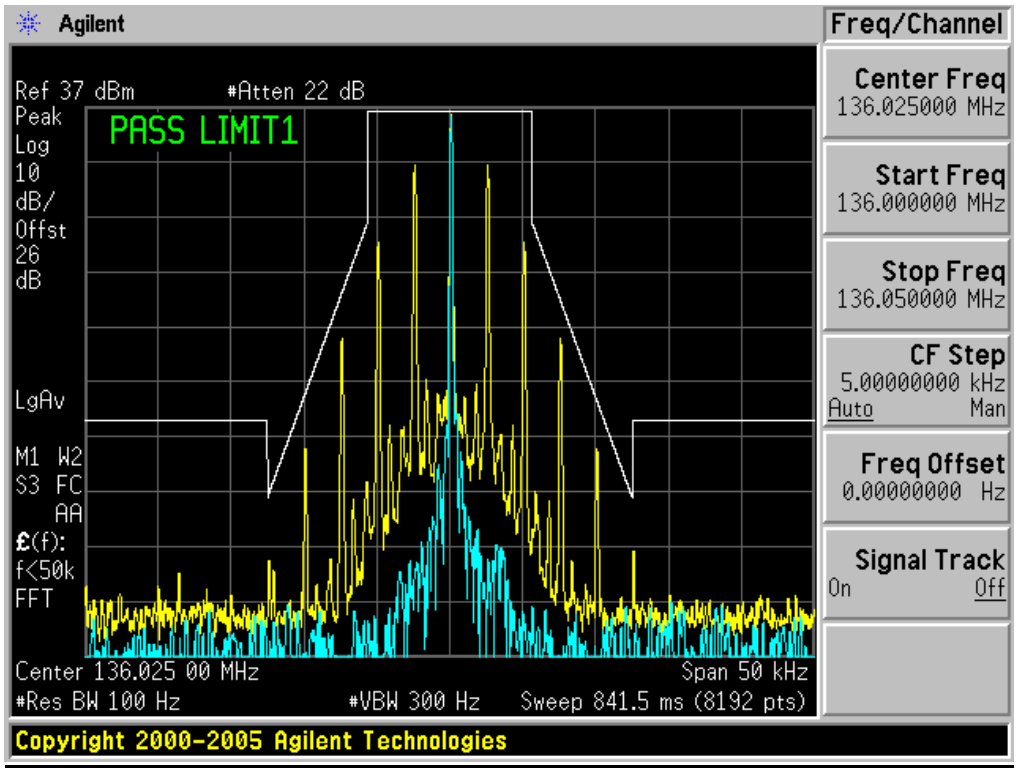
VHF:

Analog:

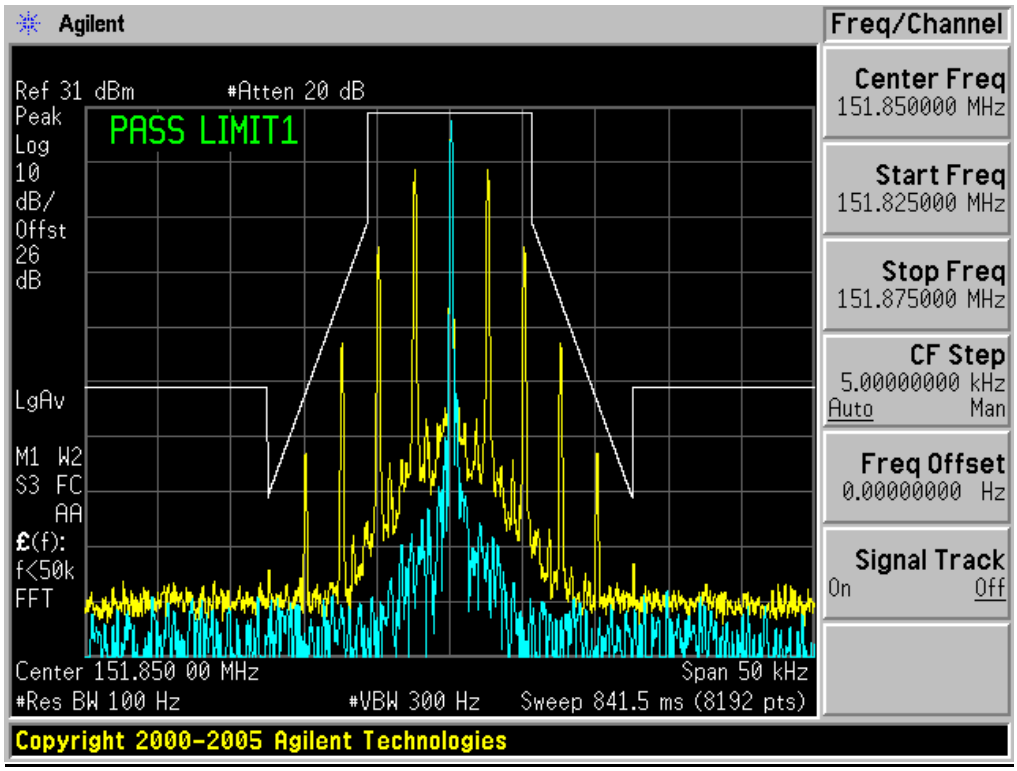
The Worst Emission Mask D for (136.025MHz) of 12.5 KHz channel Separation (1W)



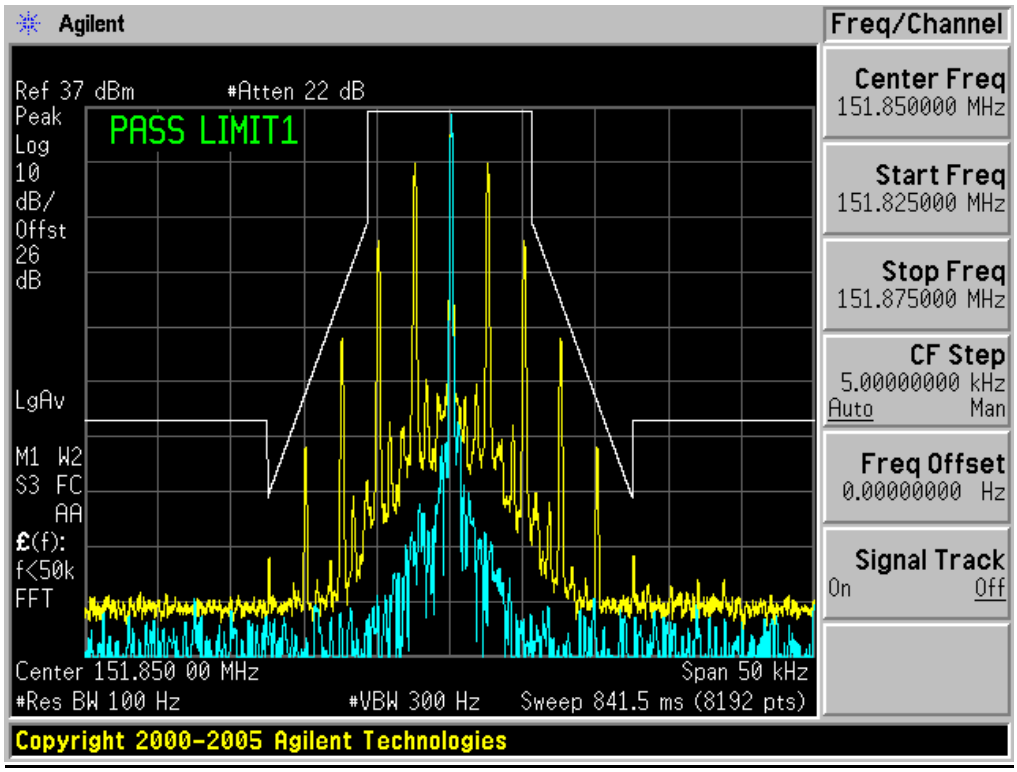
The Worst Emission Mask D for (136.025MHz) of 12.5 KHz channel Separation (4W)



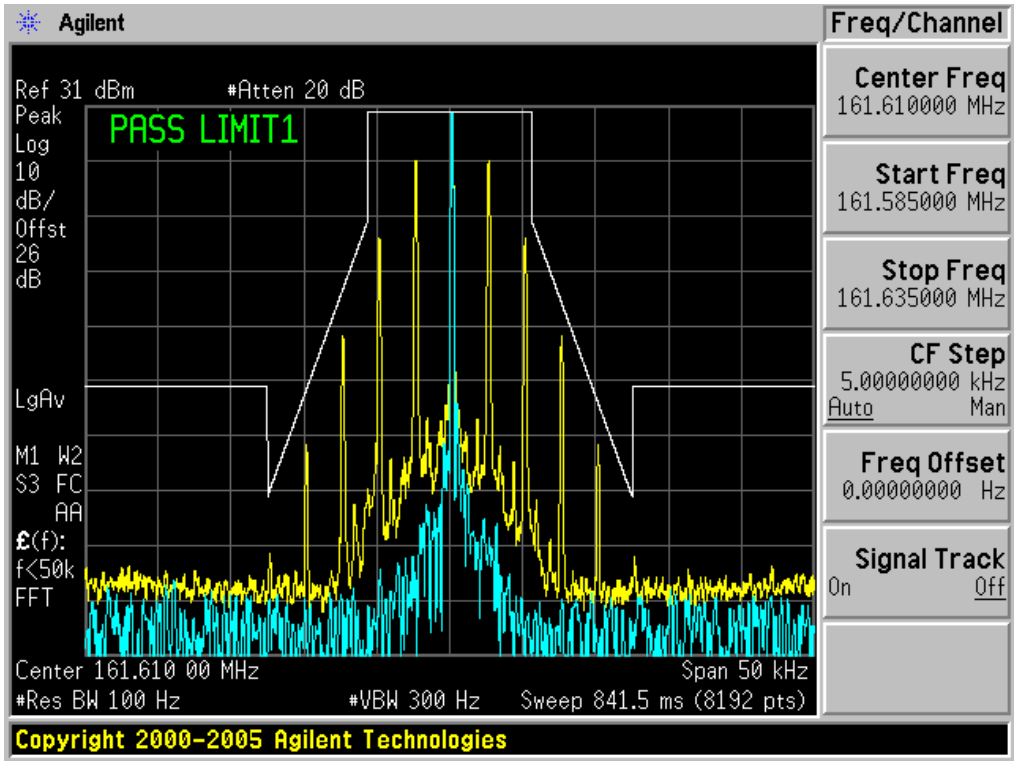
The Worst Emission Mask D for (151.85MHz) of 12.5 KHz channel Separation (1W)



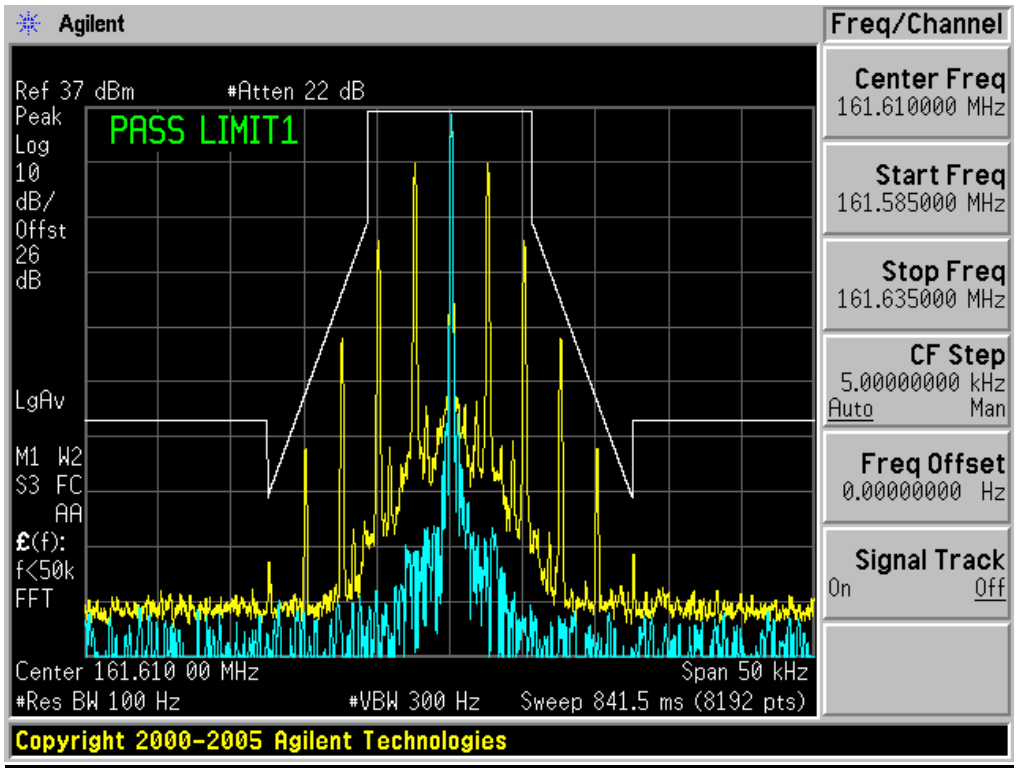
The Worst Emission Mask D for (151.85MHz) of 12.5 KHz channel Separation (4W)



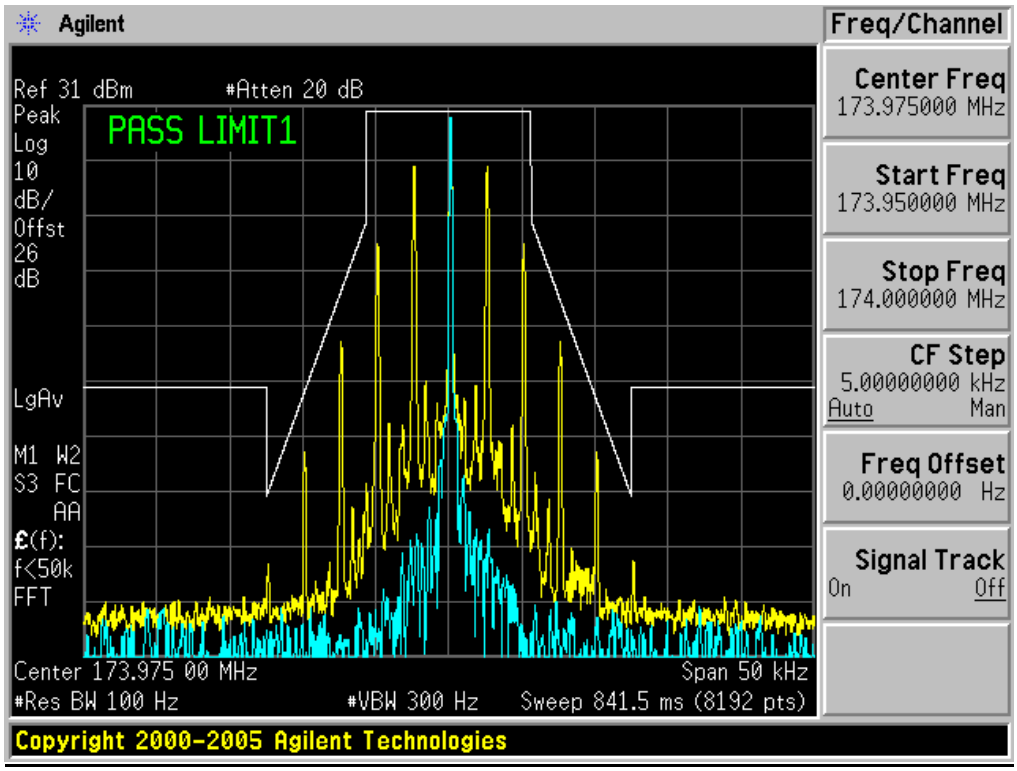
The Worst Emission Mask D for (161.61MHz) of 12.5 KHz channel Separation (1W)



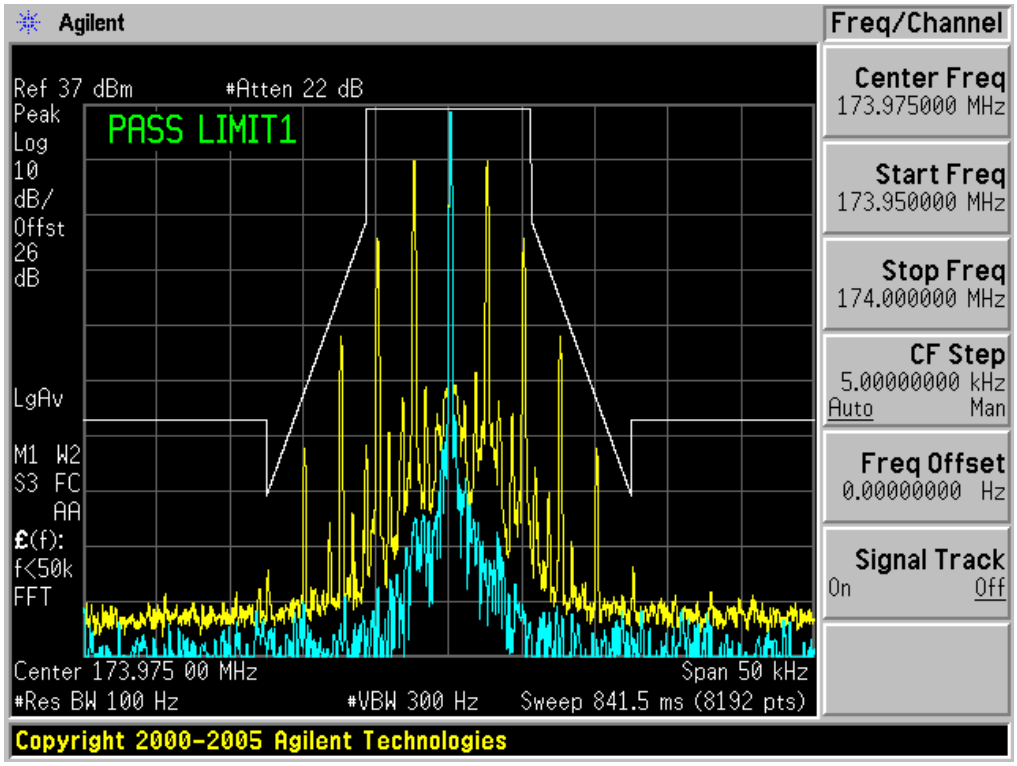
The Worst Emission Mask for (161.61MHz) of 12.5 KHz channel Separation (4W)



The Worst Emission Mask D for (173.975MHz) of 12.5 KHz channel Separation (1W)

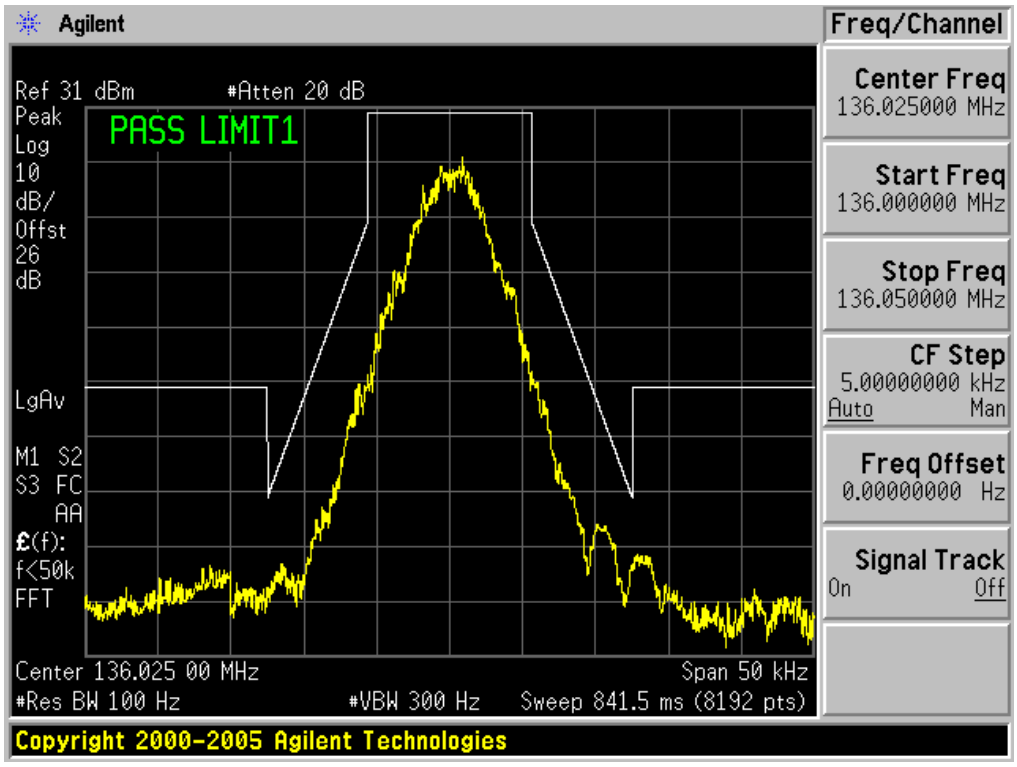


The Worst Emission Mask D for (173.975MHz) of 12.5 KHz channel Separation (4W)

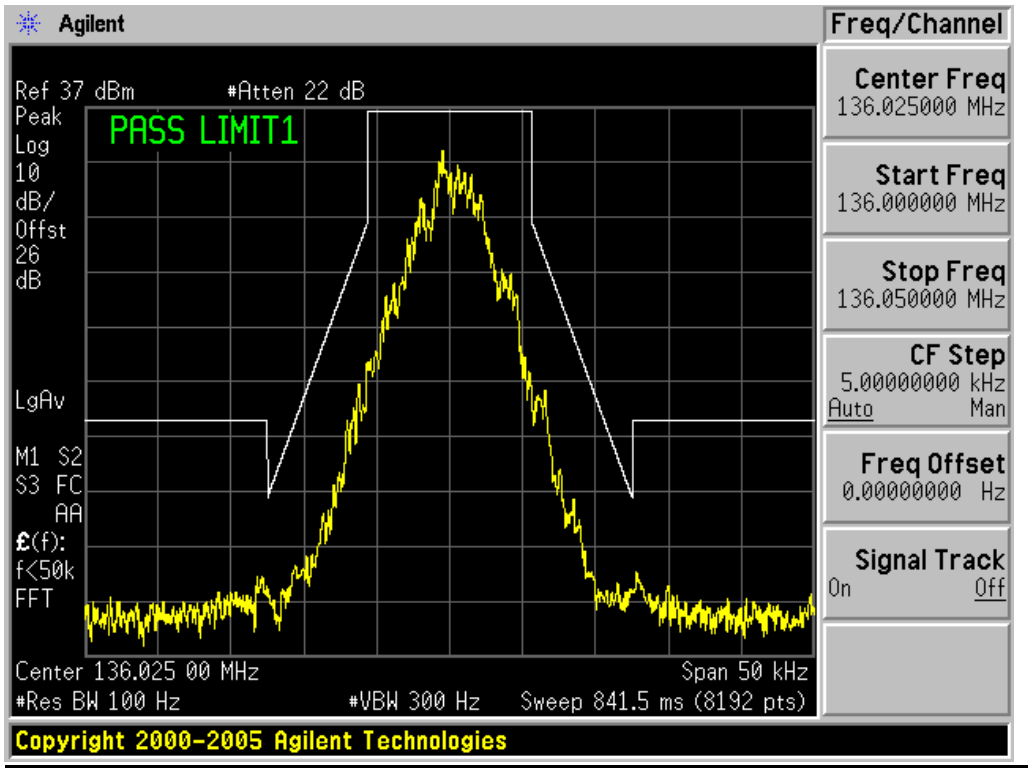


Digital：

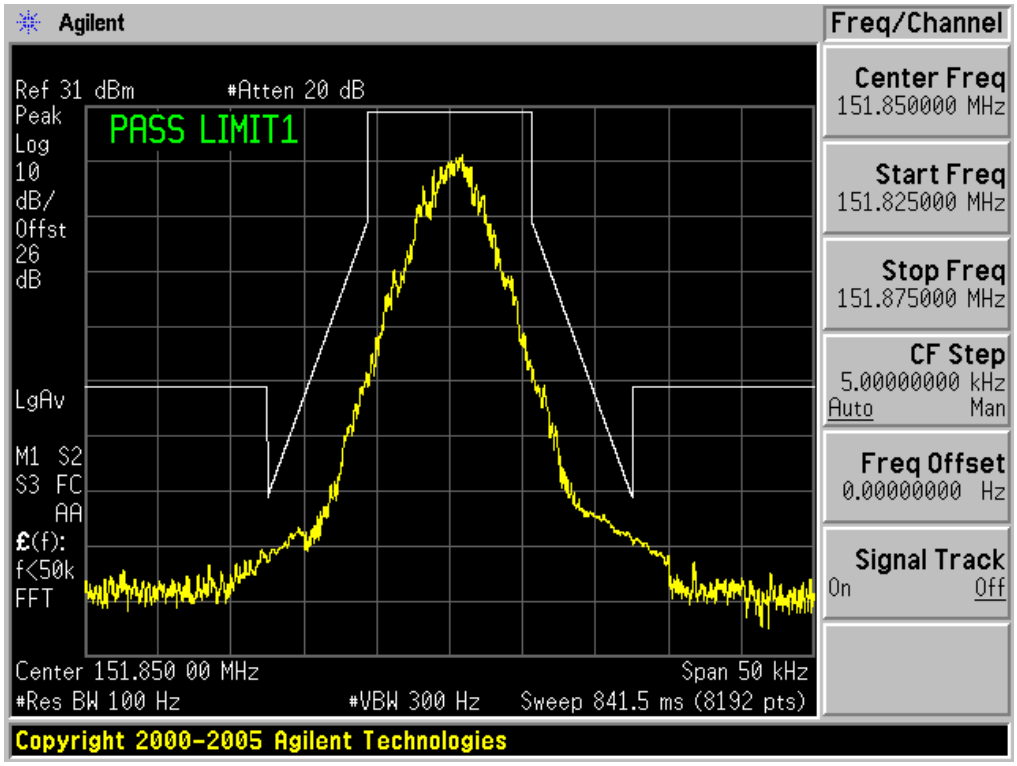
The Worst Emission Mask D for (136.025MHz) of 12.5 KHz channel Separation (1W)



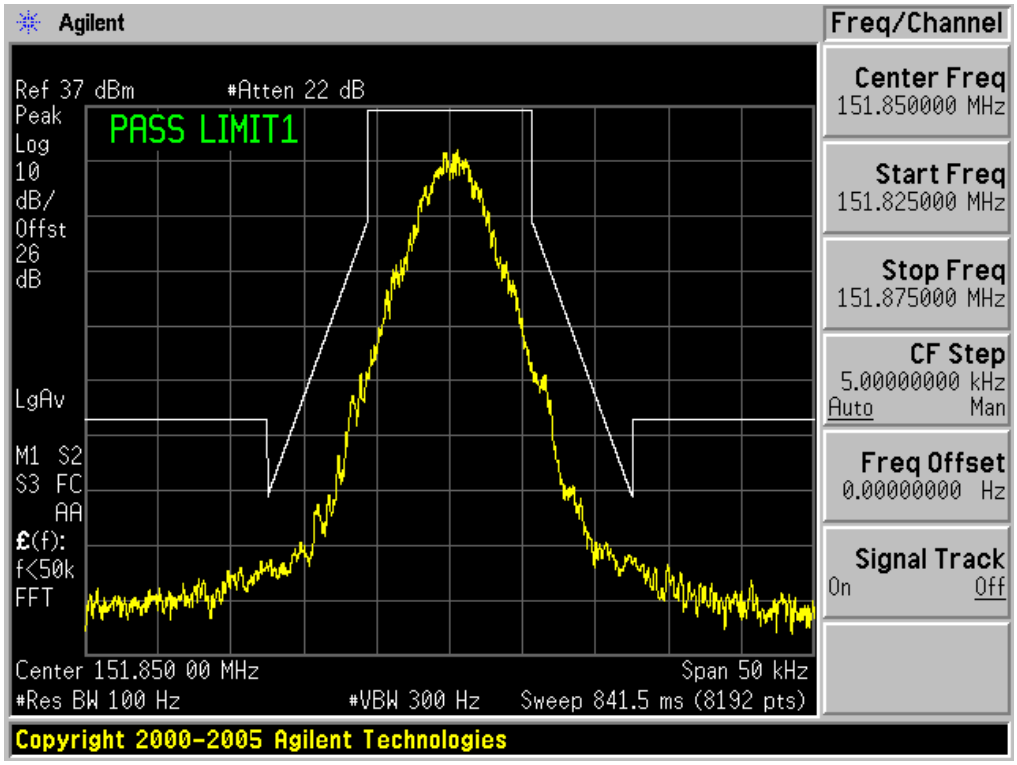
The Worst Emission Mask D for (136.025MHz) of 12.5 KHz channel Separation (4W)



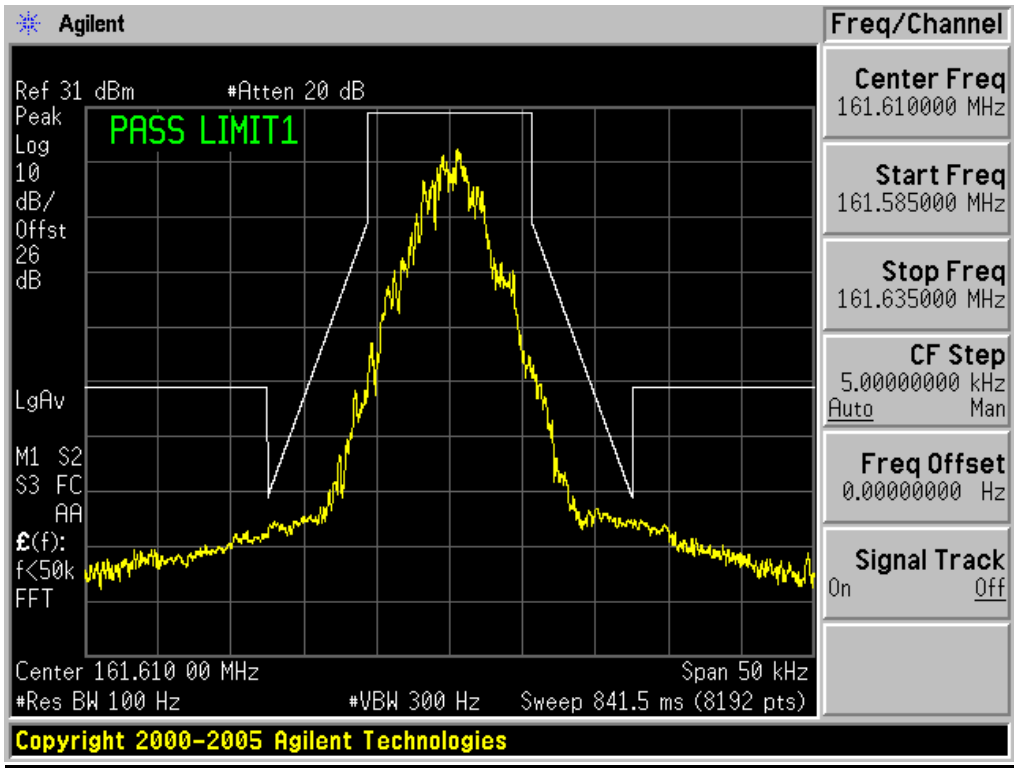
The Worst Emission Mask D for (151.85MHz) of 12.5 KHz channel Separation (1W)



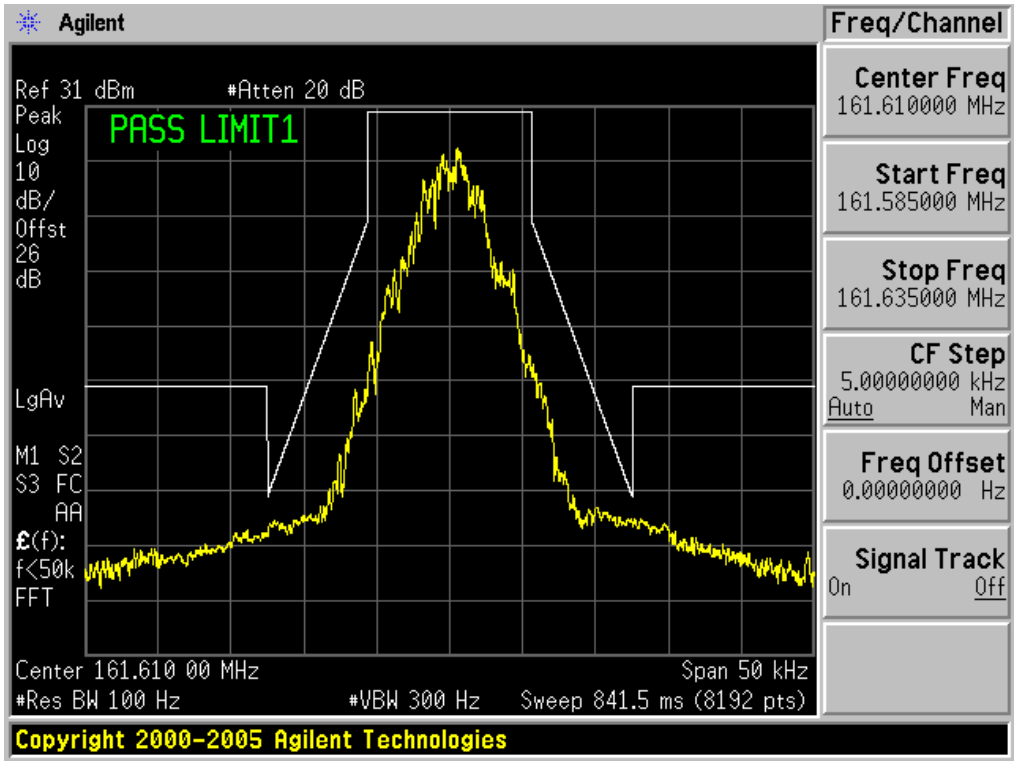
The Worst Emission Mask D for (151.85MHz) of 12.5 KHz channel Separation (4W)



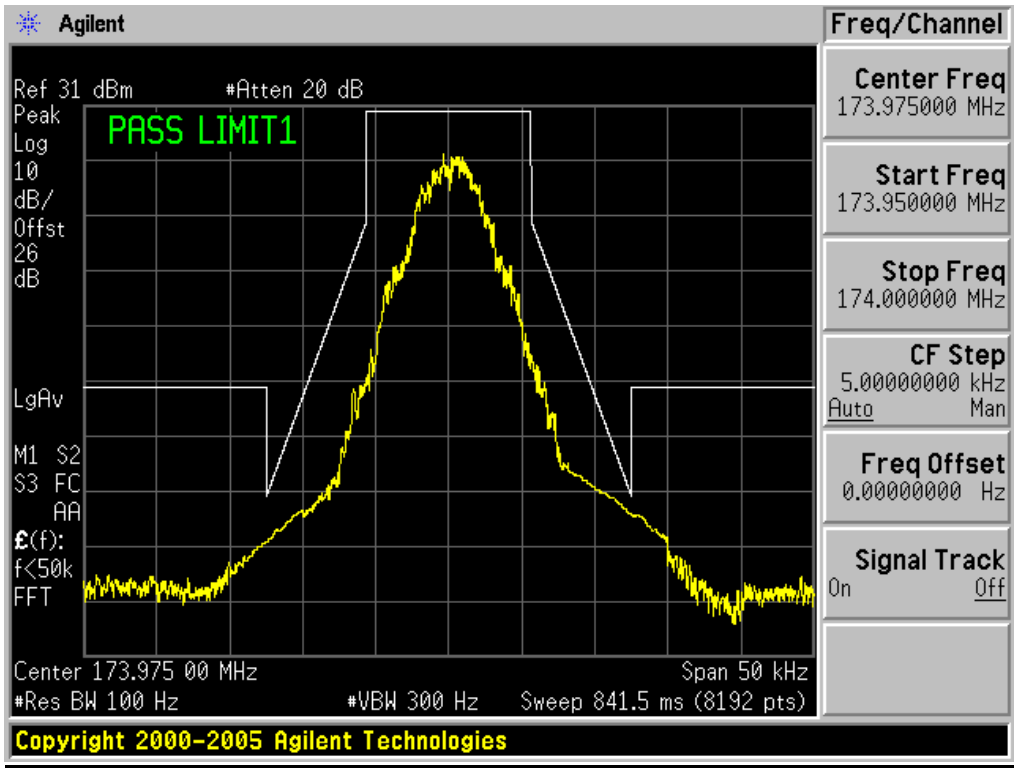
The Worst Emission Mask D for (161.61MHz) of 12.5 KHz channel Separation (1W)



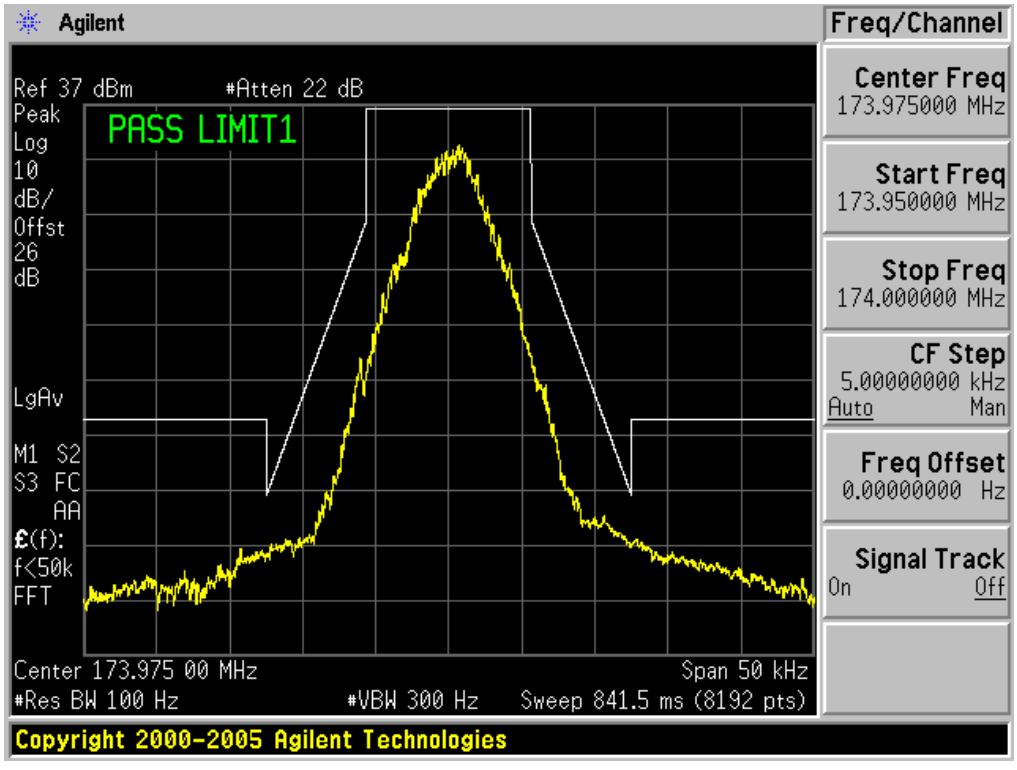
The Worst Emission Mask D for (161.61MHz) of 12.5 KHz channel Separation (4W)



The Worst Emission Mask D for (173.975MHz) of 12.5 KHz channel Separation (1W)



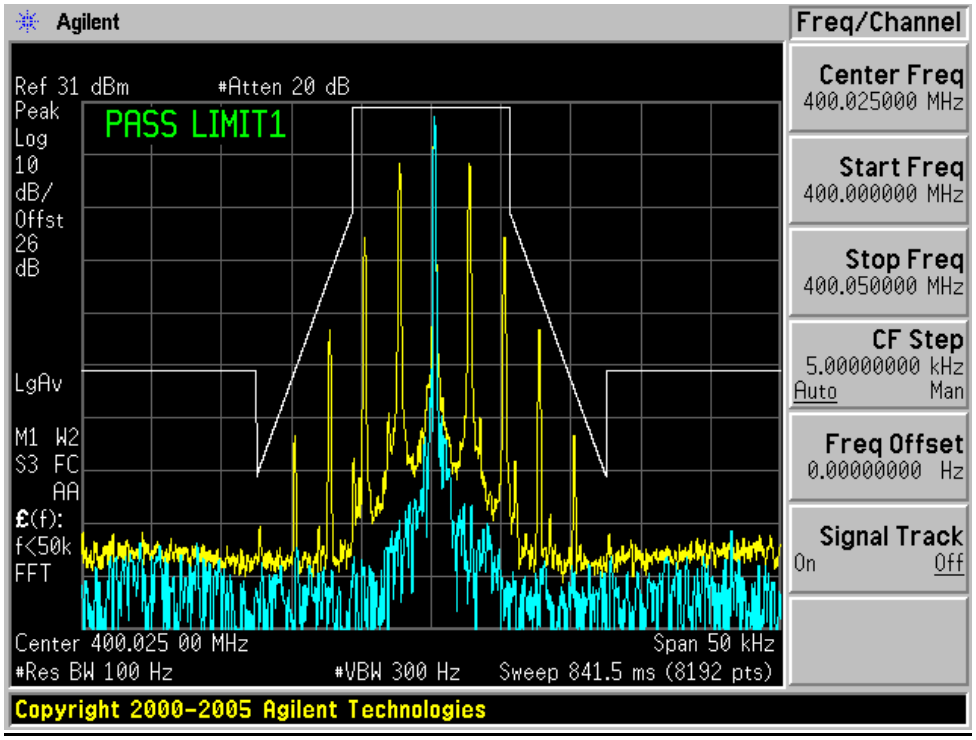
The Worst Emission Mask D for (173.975MHz) of 12.5 KHz channel Separation (4W)



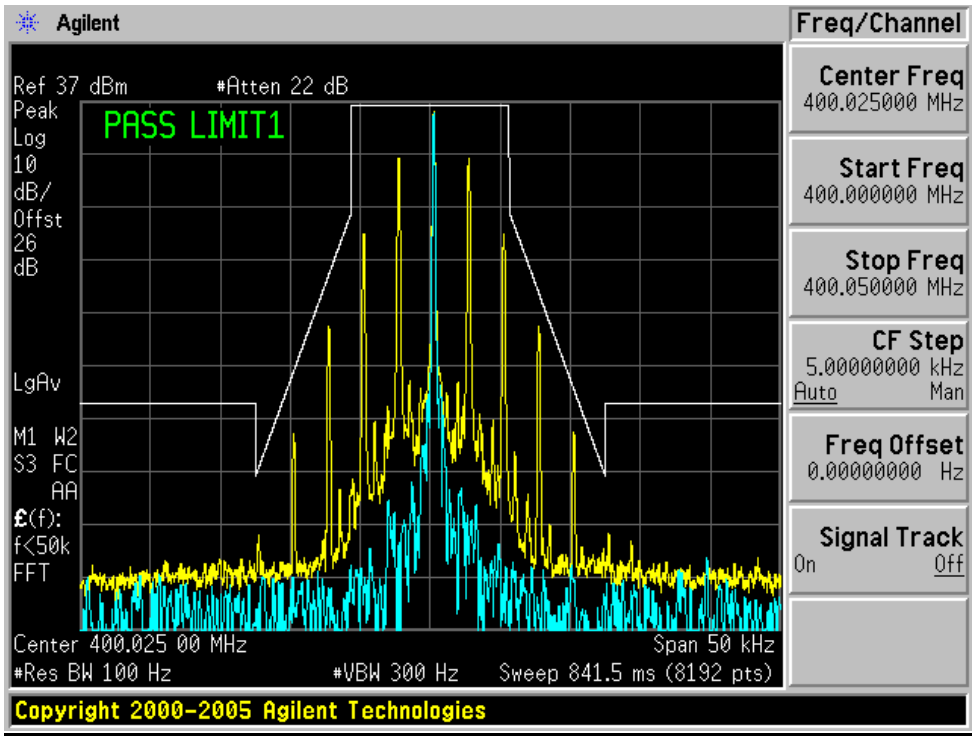
UHF:

Analog:

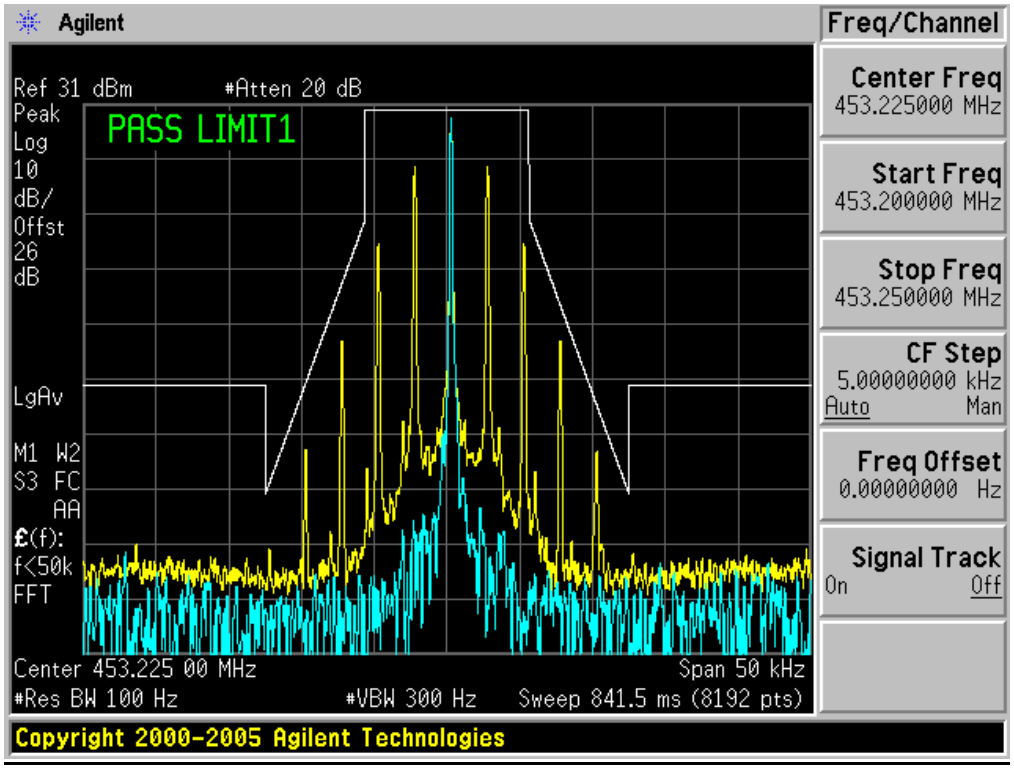
The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (1W)



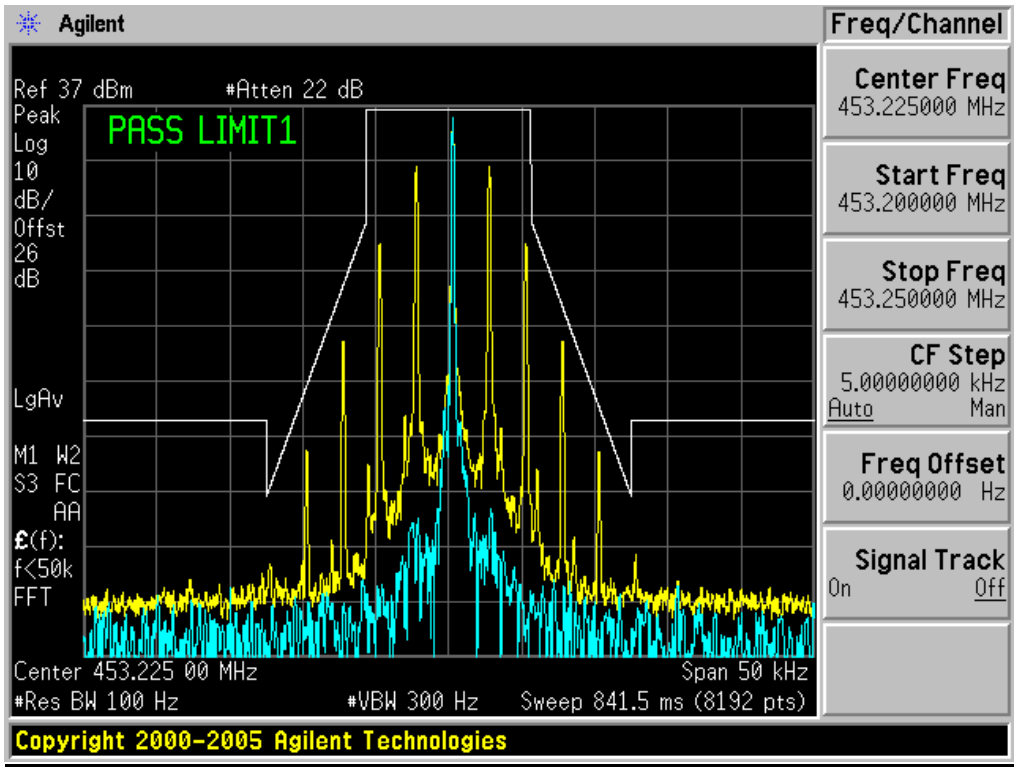
The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (4W)



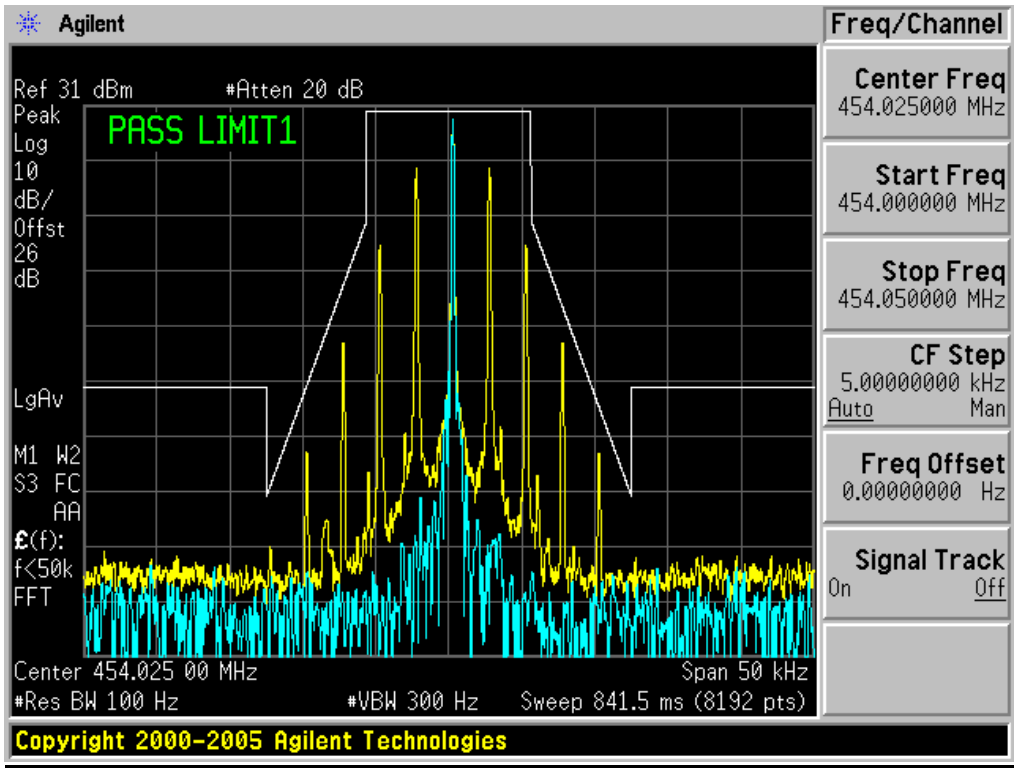
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (1W)



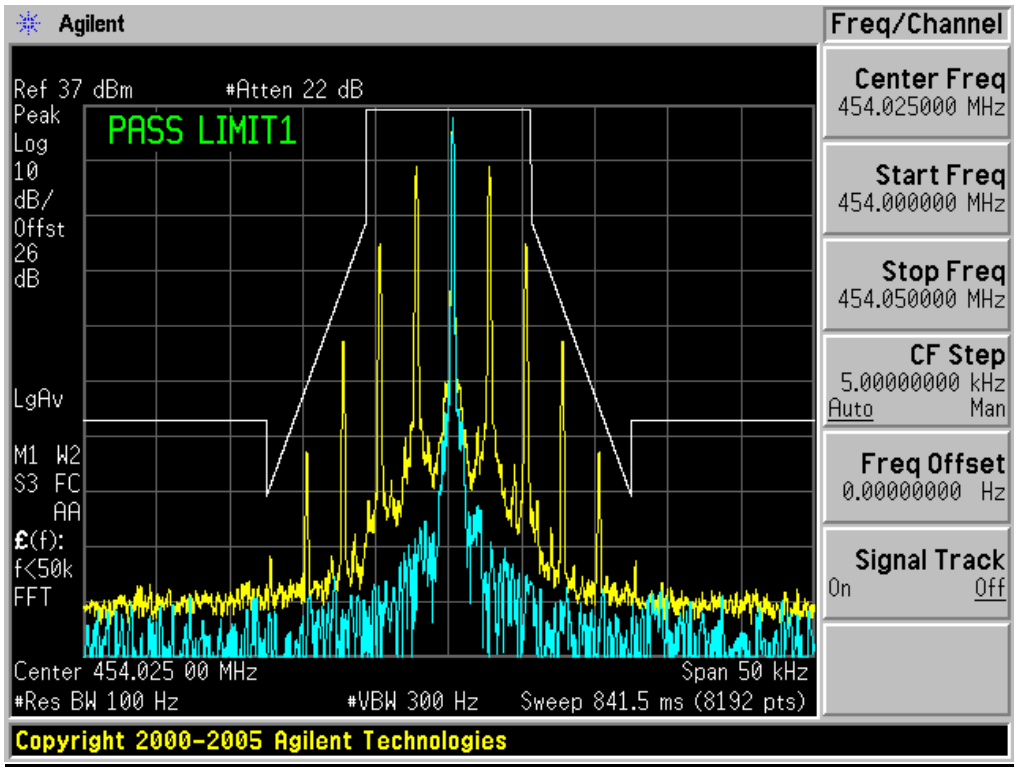
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (1W)



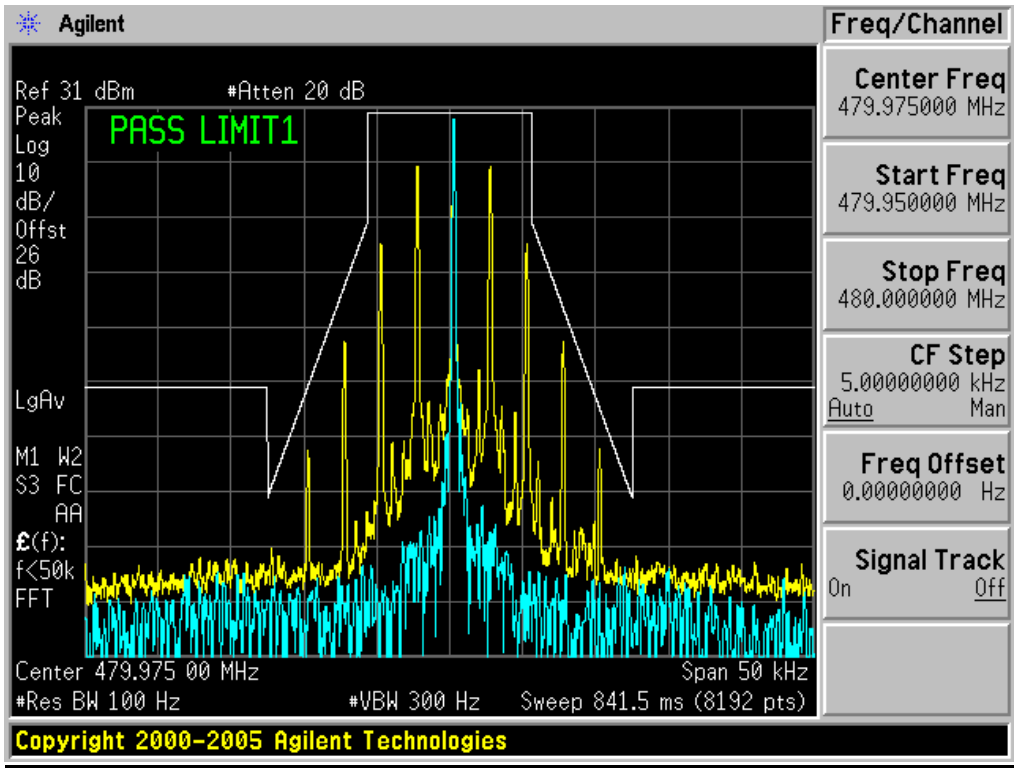
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (1W)



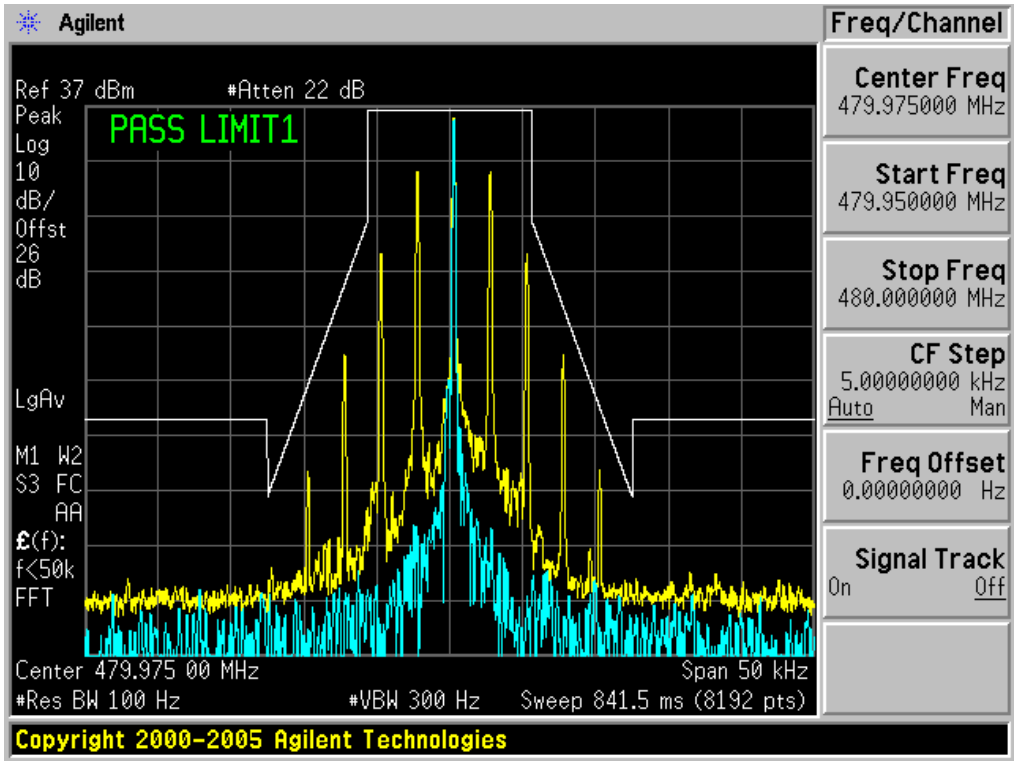
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (4W)



The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (1W)

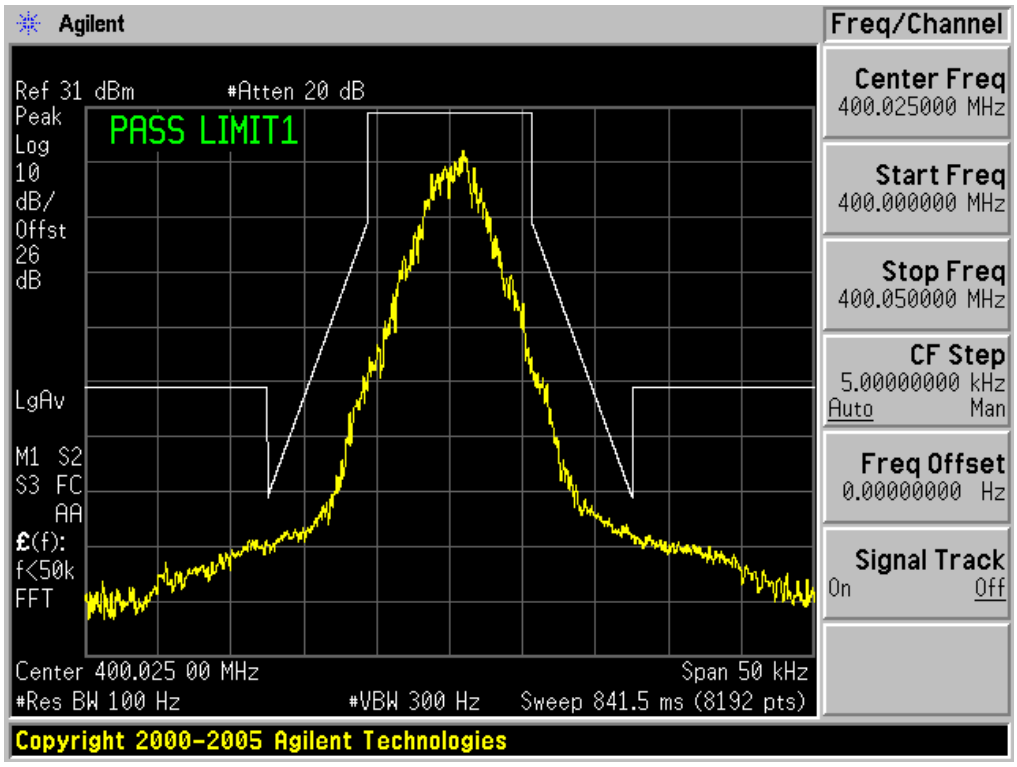


The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (4W)

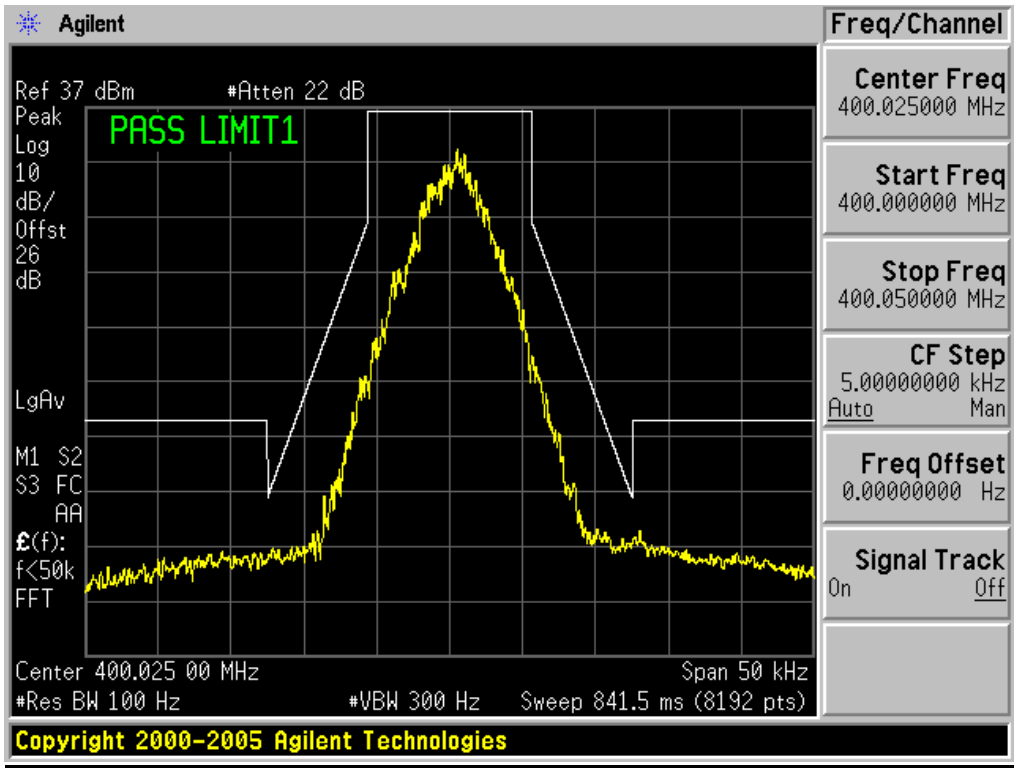


Digital：

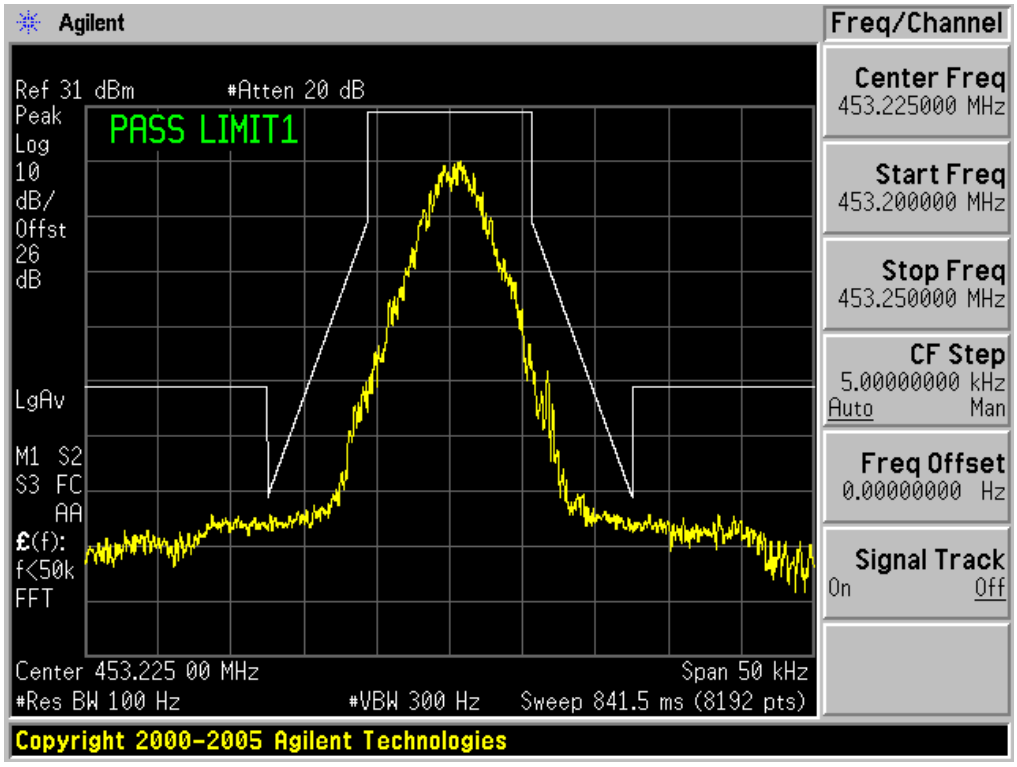
The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (1W)



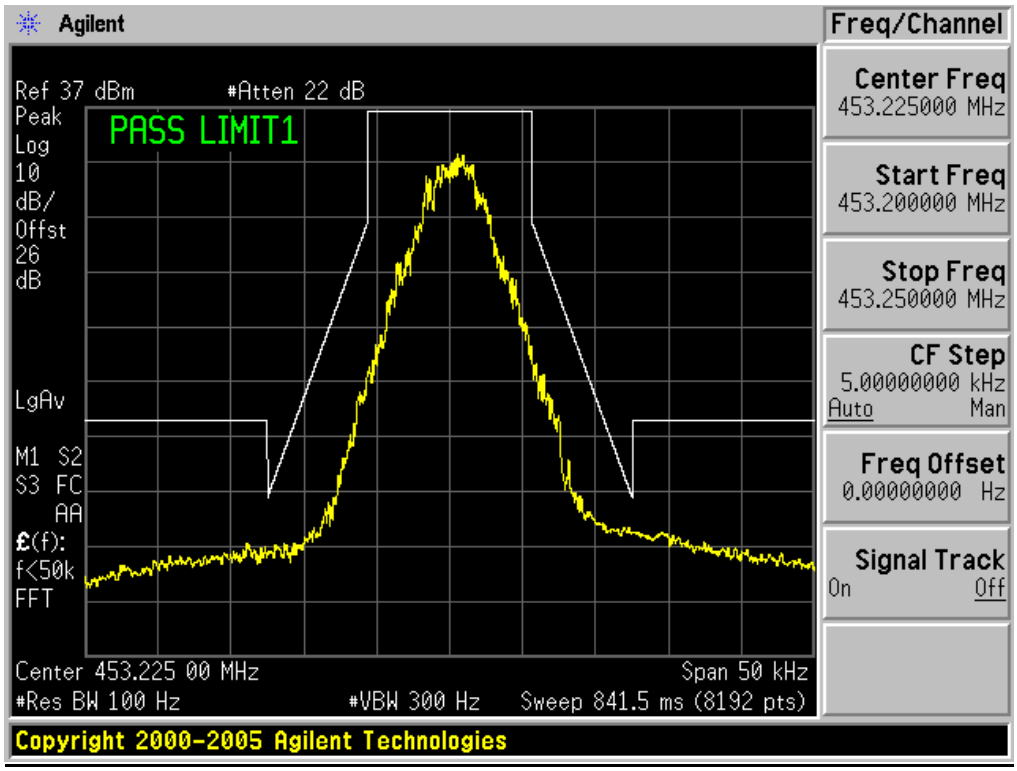
The Worst Emission Mask D for (400.025 MHz) of 12.5 KHz channel Separation (4W)



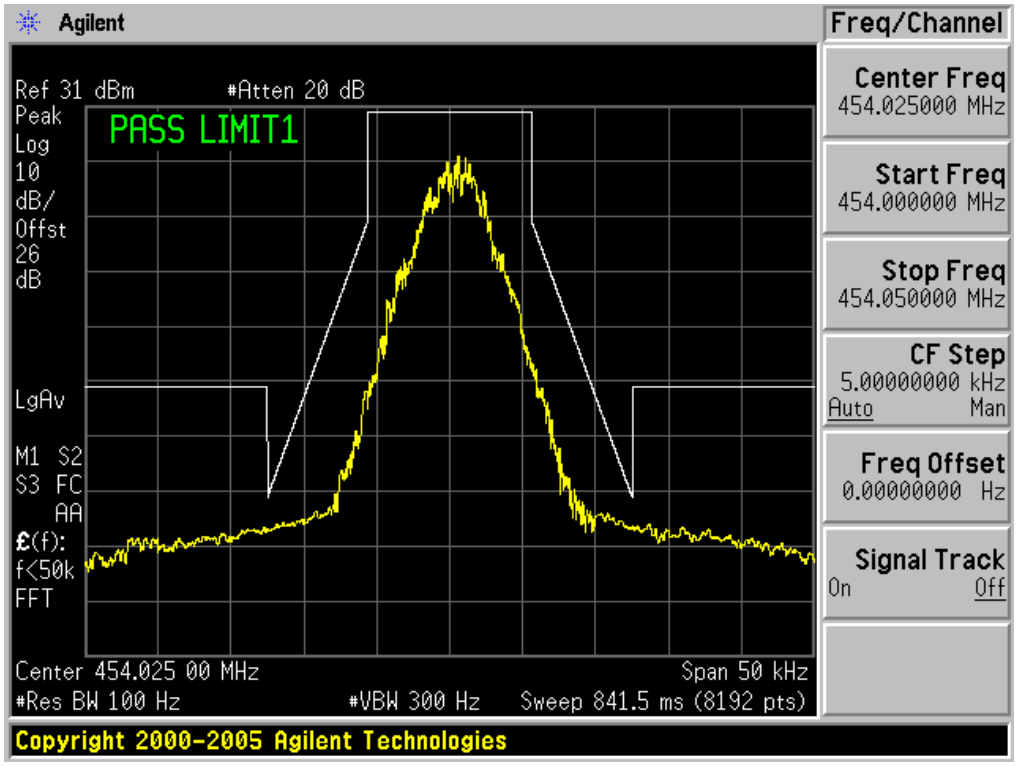
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (1W)



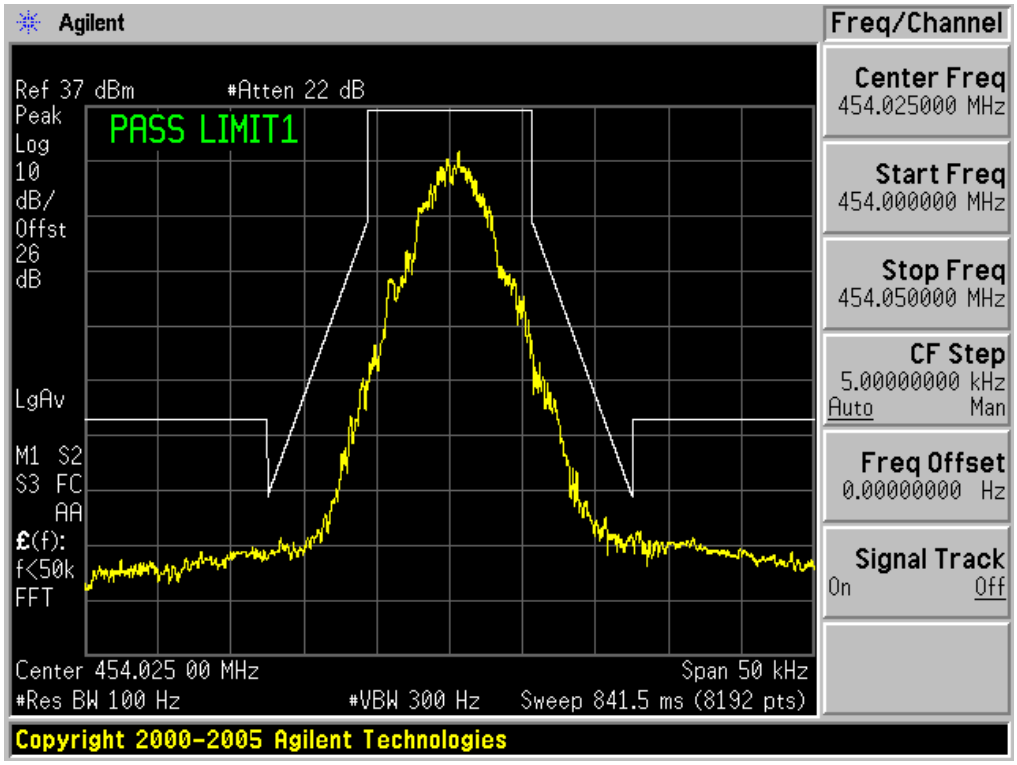
The Worst Emission Mask D for (453.225 MHz) of 12.5 KHz channel Separation (6W)



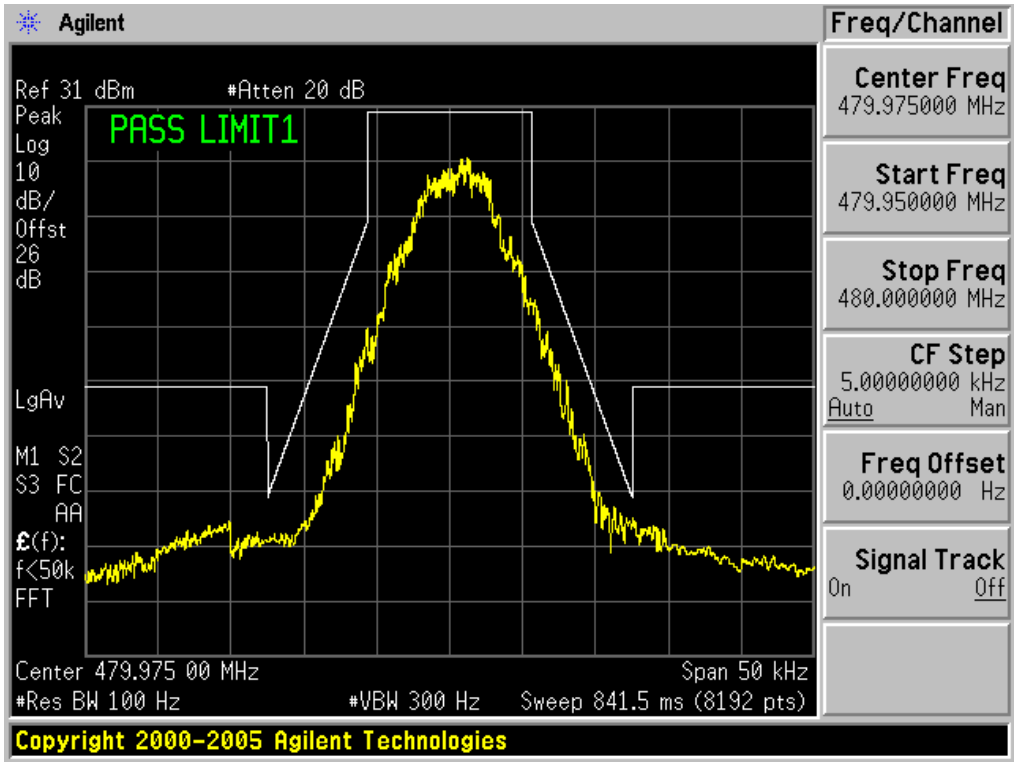
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (0.2W)



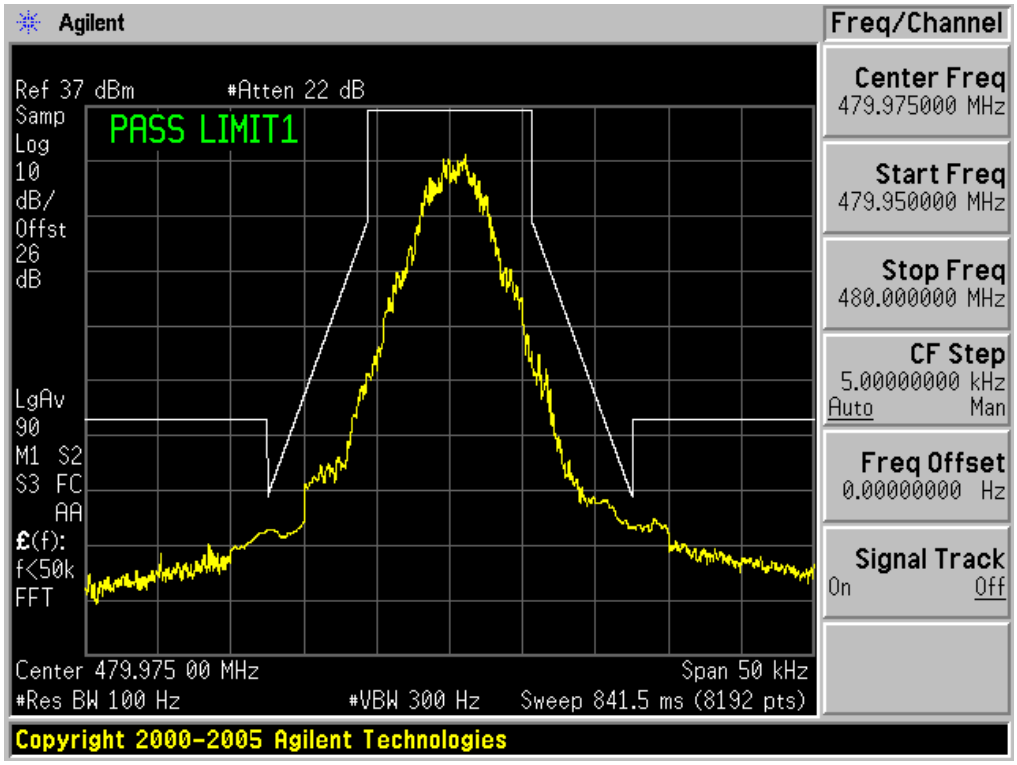
The Worst Emission Mask D for (454.025 MHz) of 12.5 KHz channel Separation (6W)



The Worst Emission Mask D for (479.975 MHz) of 12.5 KHz channel Separation (1W)



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



8. MODULATION CHARACTERISTICS

8.1 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.

8.2 MEASUREMENT METHOD

8.2.1 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.

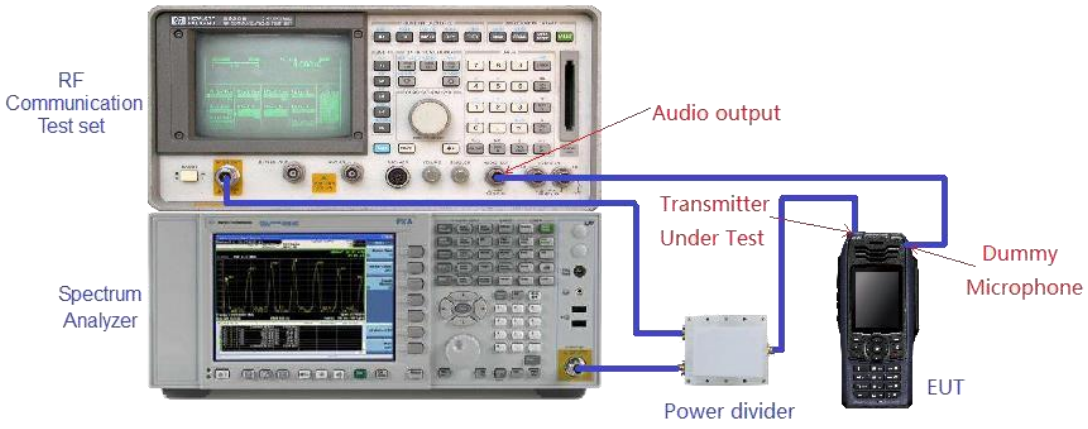
8.2.2 Audio Frequency Response

(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 = 20log10 (Deviation of test frequency/Deviation of 1 KHz reference).



8.3 MEASUREMENT RESULT

VHF:

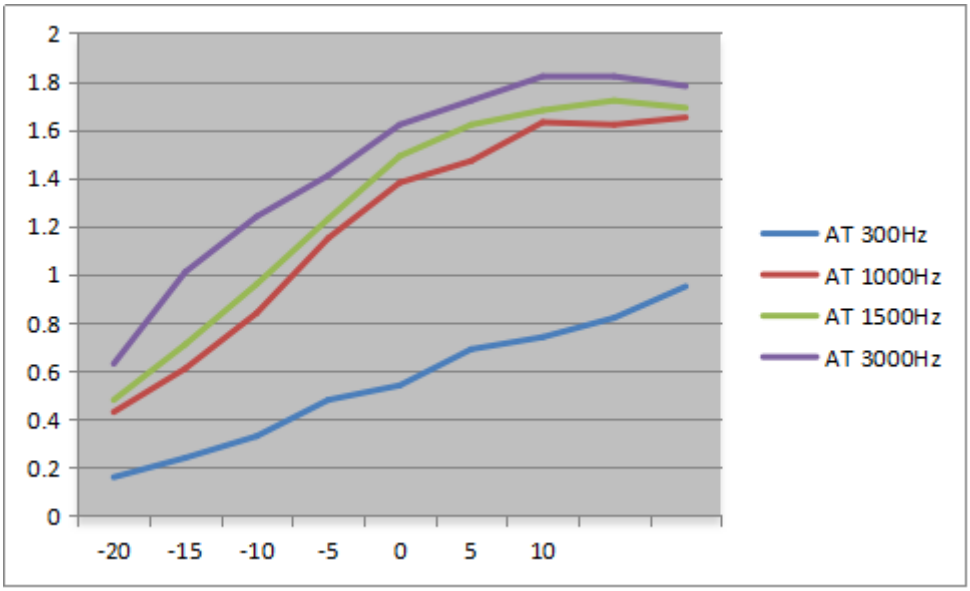
Analog:

TEST RESULTS FOR H POWER

(A). MODULATION LIMIT:

Middle 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	0.16	0.43	0.48	0.63
-15	0.24	0.61	0.71	1.01
-10	0.33	0.84	0.96	1.24
-5	0.48	1.15	1.23	1.41
0	0.54	1.38	1.49	1.62
+5	0.69	1.47	1.62	1.72
+10	0.74	1.63	1.68	1.82
+15	0.82	1.62	1.72	1.82
+20	0.95	1.65	1.69	1.78



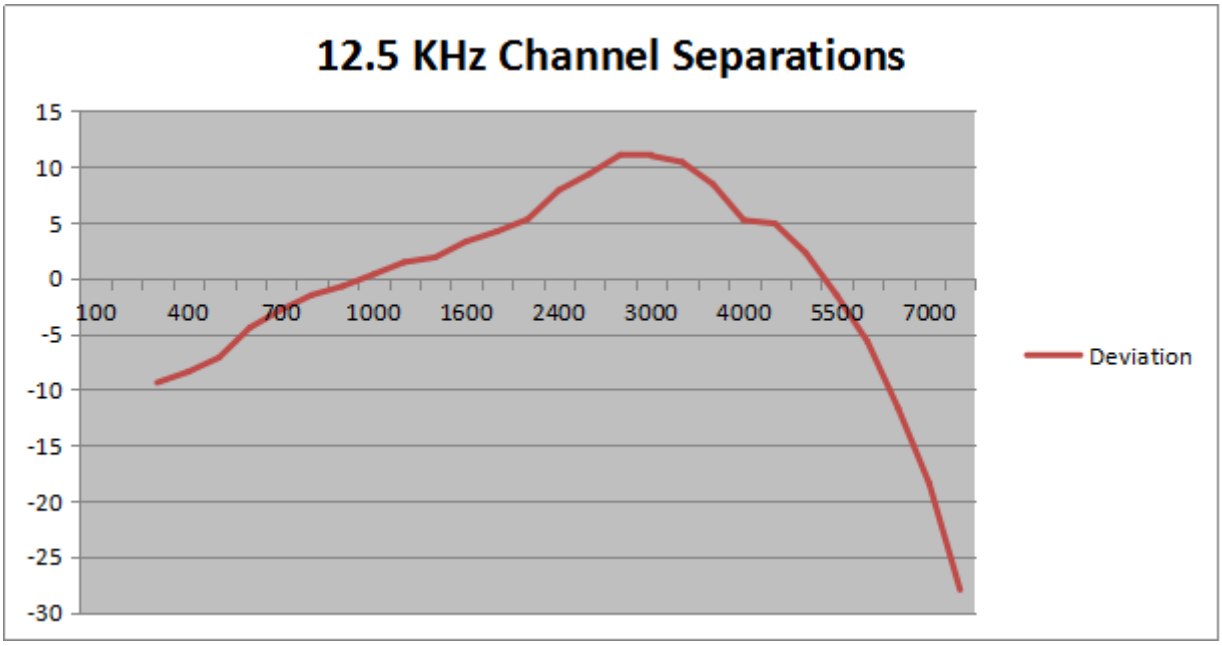
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Middle Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.17	-9.90
400	0.19	-8.40
500	0.22	-7.13
600	0.3	-5.68
700	0.36	-3.61
800	0.42	-1.72
900	0.46	-1.11
1000	0.52	0.34
1200	0.59	0.98
1400	0.62	1.58
1600	0.73	3.05
1800	0.81	4.40
2000	0.92	5.20
2400	1.24	7.75
2500	1.47	9.13
2800	1.79	11.32
3000	1.77	10.73
3200	1.66	10.26
3600	1.32	8.69
4000	0.91	5.39
4500	0.88	4.19
5000	0.65	2.54
5500	0.42	-0.92
6000	0.26	-6.74
6500	0.13	-9.90
7000	0.06	-20.00
7500	0.02	-27.96
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--

Frequency Response of Middle Channel



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

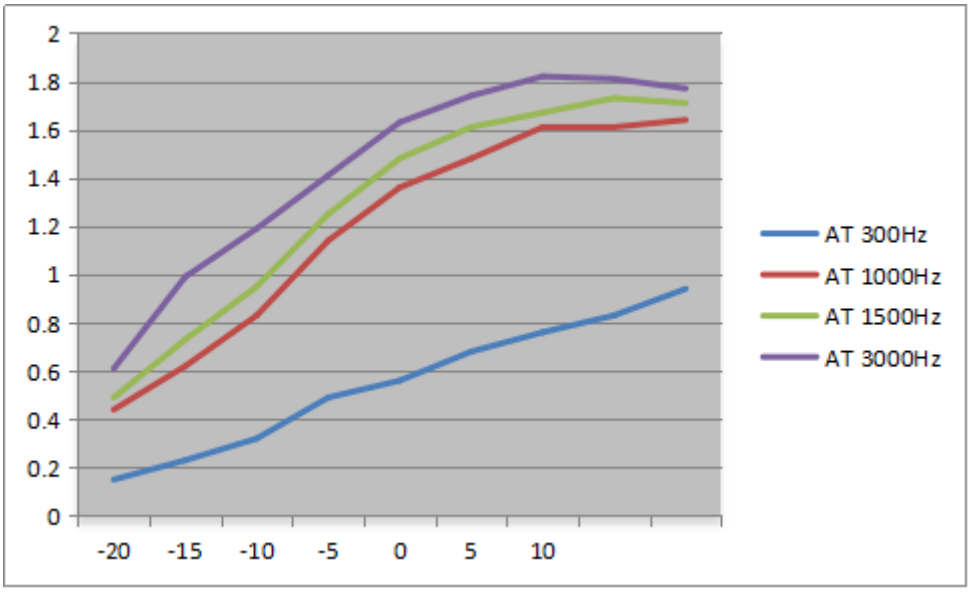
Digital:

TEST RESULTS FOR H POWER

(A). MODULATION LIMIT:

Middle 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	0.15	0.44	0.49	0.61
-15	0.23	0.62	0.73	0.99
-10	0.32	0.83	0.95	1.19
-5	0.49	1.14	1.25	1.41
0	0.56	1.36	1.48	1.63
+5	0.68	1.48	1.61	1.74
+10	0.76	1.61	1.67	1.82
+15	0.83	1.61	1.73	1.81
+20	0.94	1.64	1.71	1.77



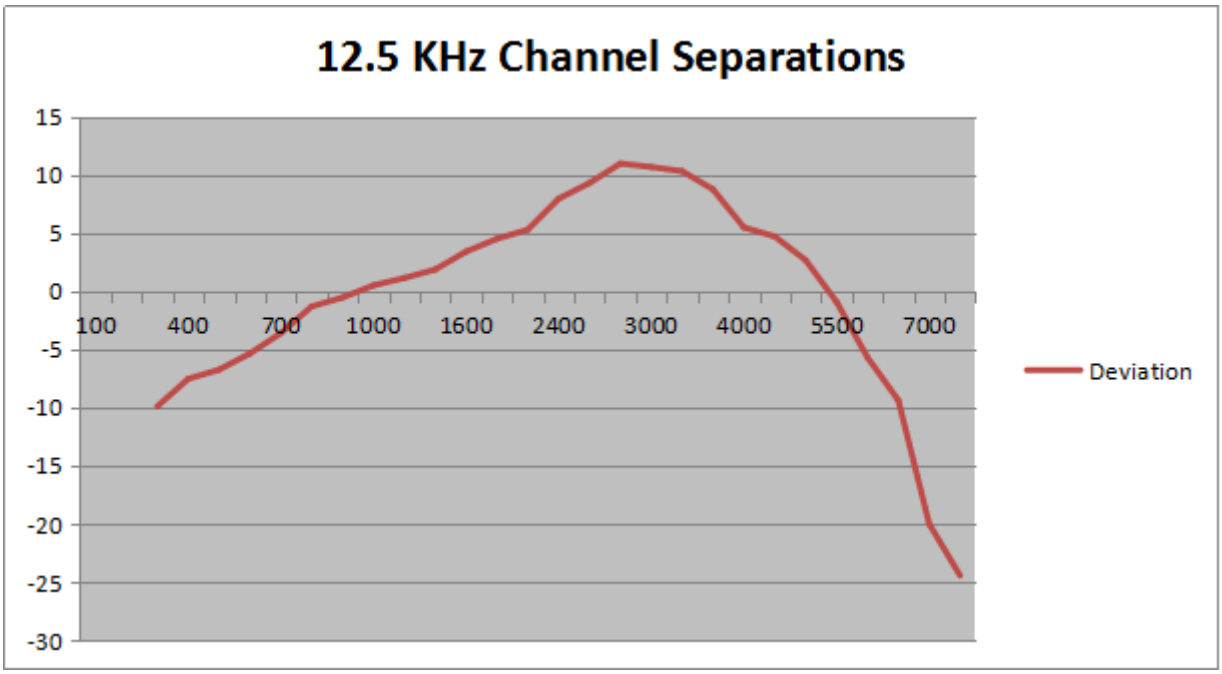
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Bottom Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.16	-9.90
400	0.21	-7.54
500	0.23	-6.74
600	0.27	-5.35
700	0.33	-3.61
800	0.43	-1.31
900	0.47	-0.54
1000	0.53	0.51
1200	0.57	1.14
1400	0.62	1.87
1600	0.74	3.41
1800	0.84	4.51
2000	0.92	5.30
2400	1.25	7.96
2500	1.46	9.31
2800	1.77	10.98
3000	1.71	10.68
3200	1.64	10.32
3600	1.37	8.76
4000	0.94	5.48
4500	0.86	4.71
5000	0.68	2.67
5500	0.45	-0.92
6000	0.26	-5.68
6500	0.17	-9.37
7000	0.05	-20.00
7500	0.03	-24.44
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--

Frequency Response of Bottom Channel



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

UHF:

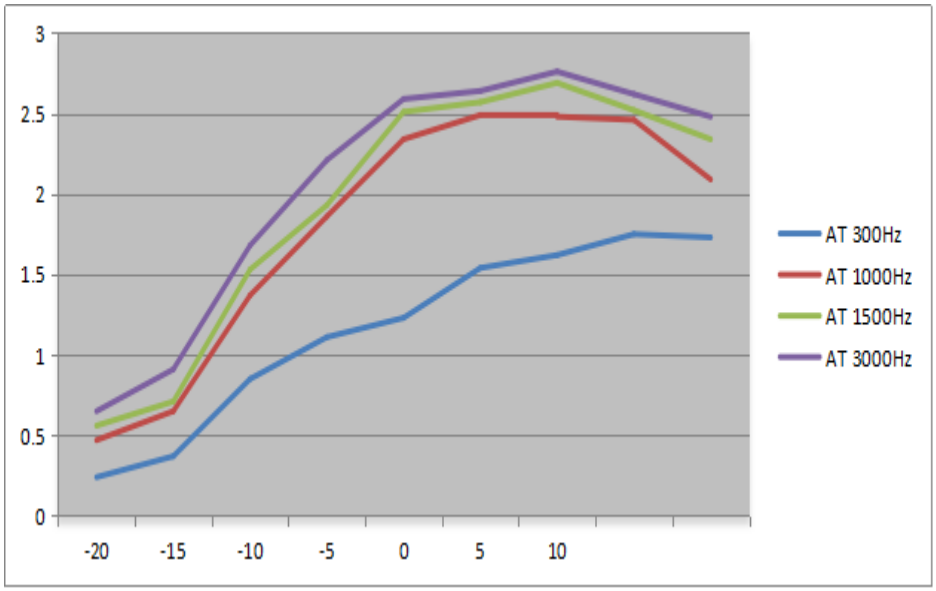
Analog:

TEST RESULT TS FOR H POWER H LEVEL

(A). MODULATION LIMIT:

Middle 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	0.24	0.47	0.56	0.65
-15	0.37	0.65	0.71	0.91
-10	0.85	1.37	1.53	1.68
-5	1.11	1.86	1.93	2.21
0	1.23	2.34	2.51	2.59
+5	1.54	2.49	2.57	2.64
+10	1.62	2.48	2.69	2.76
+15	1.75	2.46	2.52	2.62
+20	1.73	2.09	2.34	2.48



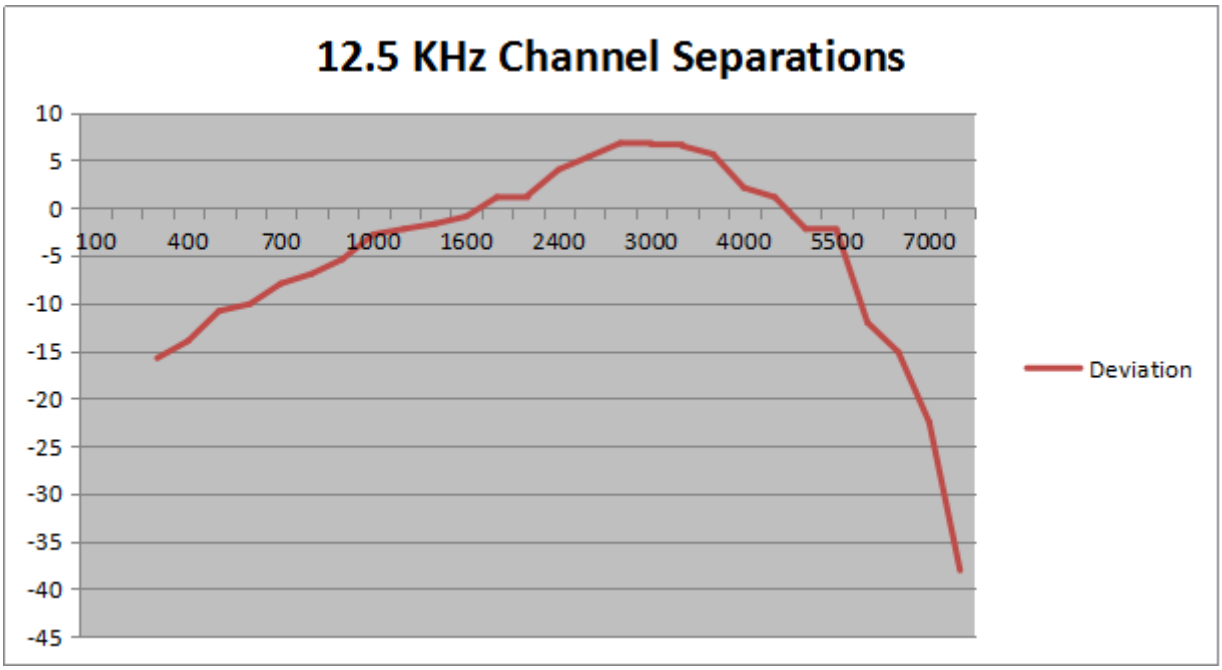
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Middle Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.13	-15.78
400	0.16	-13.98
500	0.23	-10.83
600	0.25	-10.10
700	0.32	-7.96
800	0.36	-6.94
900	0.43	-5.39
1000	0.58	-2.79
1200	0.62	-2.21
1400	0.66	-1.67
1600	0.72	-0.92
1800	0.91	1.12
2000	0.93	1.31
2400	1.27	4.01
2500	1.49	5.40
2800	1.75	6.80
3000	1.72	6.65
3200	1.69	6.50
3600	1.53	5.63
4000	1.02	2.11
4500	0.91	1.12
5000	0.62	-2.21
5500	0.61	-2.36
6000	0.2	-12.04
6500	0.14	-15.14
7000	0.06	-22.50
7500	0.01	-38.06
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--

Frequency Response of High Channel



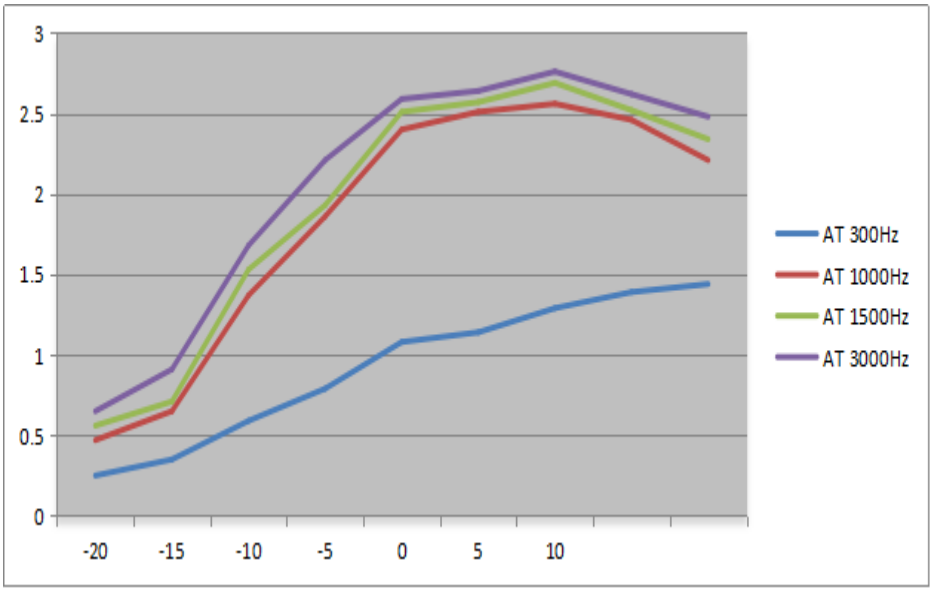
Note: All the modes had been tested, but only the worst data recorded in the report.

Digital:

(A). MODULATION LIMIT:

Middle 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	0.25	0.47	0.56	0.65
-15	0.35	0.65	0.71	0.91
-10	0.59	1.37	1.53	1.68
-5	0.79	1.86	1.93	2.21
0	1.08	2.4	2.51	2.59
+5	1.14	2.51	2.57	2.64
+10	1.29	2.56	2.69	2.76
+15	1.39	2.46	2.52	2.62
+20	1.44	2.21	2.34	2.48



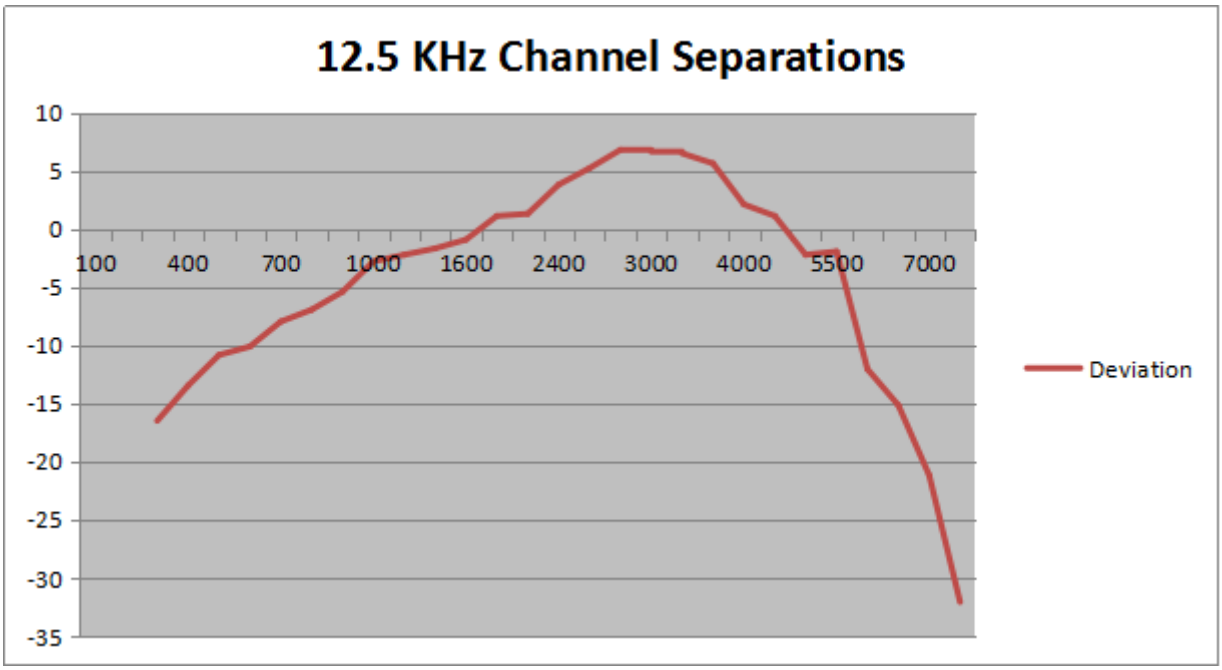
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

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

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.12	-16.48
400	0.17	-13.45
500	0.23	-10.83
600	0.25	-10.10
700	0.32	-7.96
800	0.36	-6.94
900	0.43	-5.39
1000	0.58	-2.79
1200	0.62	-2.21
1400	0.66	-1.67
1600	0.72	-0.92
1800	0.91	1.12
2000	0.93	1.31
2400	1.24	3.81
2500	1.46	5.23
2800	1.75	6.80
3000	1.72	6.65
3200	1.69	6.50
3600	1.53	5.63
4000	1.02	2.11
4500	0.91	1.12
5000	0.62	-2.21
5500	0.64	-1.94
6000	0.2	-12.04
6500	0.14	-15.14
7000	0.07	-21.16
7500	0.02	-32.04
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--

Frequency Response of Bottom Channel---H Power



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

9. MAXIMUMN TRANSMITTER POWER (CONDUCTED OUTPUT POWER) PEAK POWER

9.1 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.

9.2 TEST PROCEDURE

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

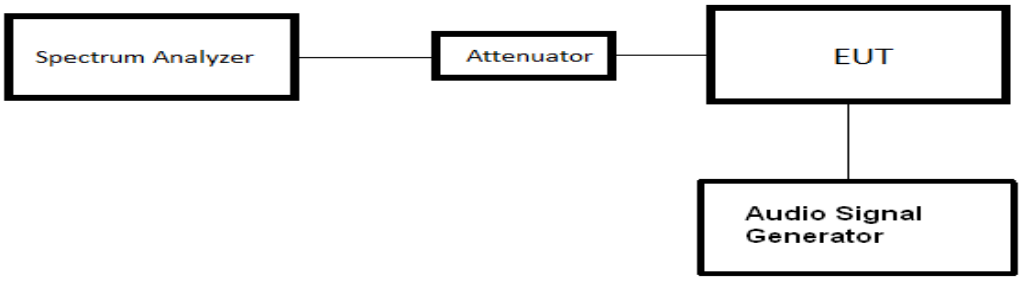
In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the 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 = "Read Value" + Measured substitution value + 2.15.

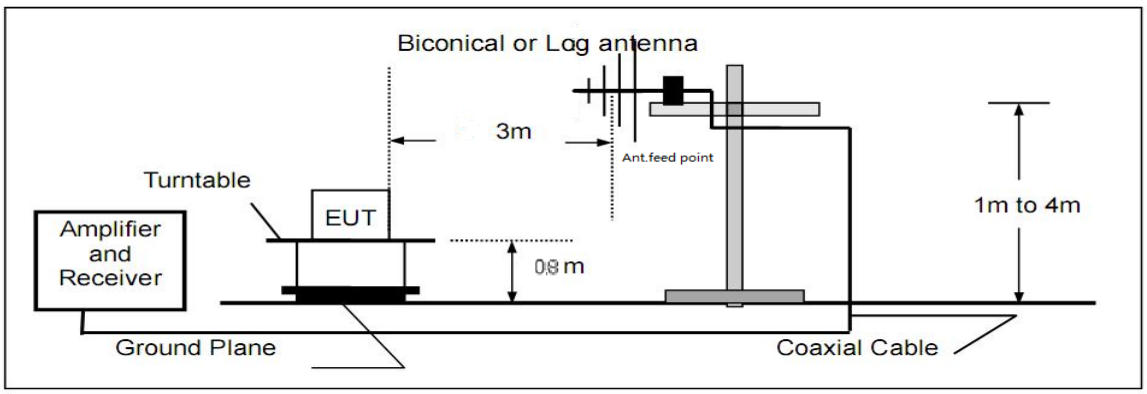
9.3 TEST CONFIGURATION

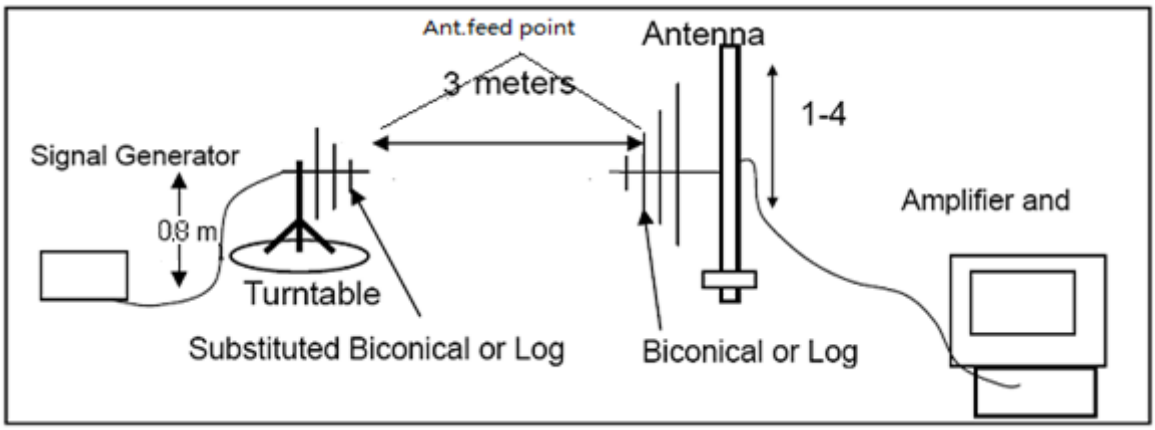
Conducted Output Power:



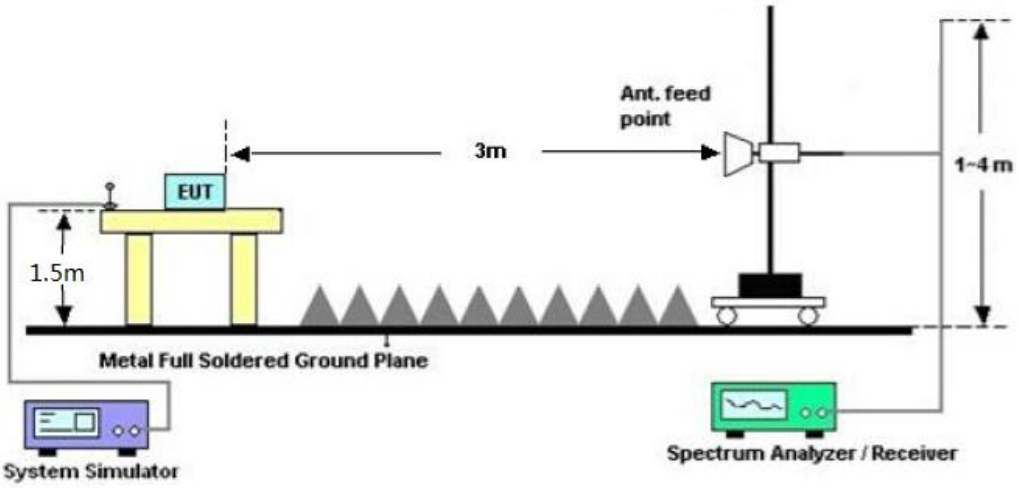
Effective Radiated Power

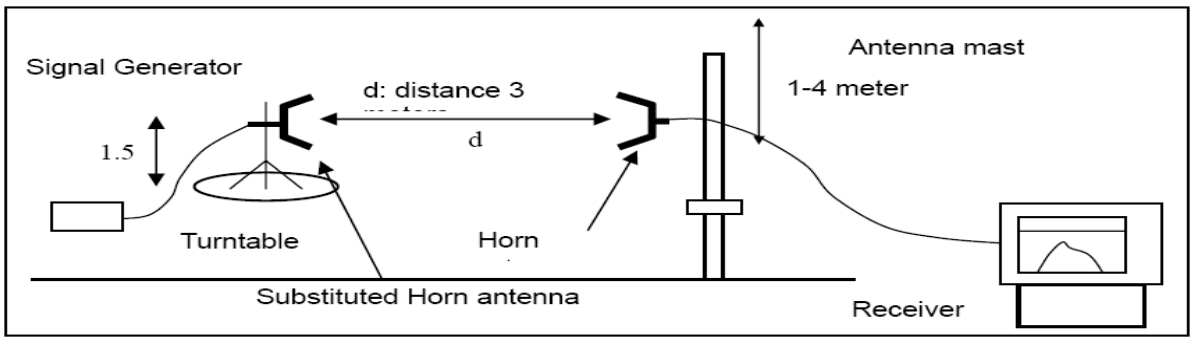
Radiated Below1GHz





Radiated Above 1 GHz





9.4 TEST RESULT

The maximum Conducted Power (CP) for VHF/UHF is

Analog: 4W/1 W for 12.5 KHz Channel Separation VHF

Analog: 4W/1 W for 12.5 KHz Channel Separation UHF

Digital: 4W/1 W for 12.5 KHz Channel Separation VHF

Digital: 4W/1 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

VHF:

Analog:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.52
	Middle(151.850MHz)	35.56
	Middle(155.025MHz)	35.48
	Middle(161.610MHz)	35.52
	Top (173.975MHz)	35.55

Radiated Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.50
	Middle(151.850MHz)	35.54
	Middle(155.025MHz)	35.46
	Middle(161.610MHz)	35.50
	Top (173.975MHz)	35.53

Conducted Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.38
	Middle(151.850MHz)	28.56
	Middle(155.025MHz)	28.63
	Middle(161.610MHz)	28.58
	Top (173.975MHz)	28.84

Radiated Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.35
	Middle(151.850MHz)	28.54
	Middle(155.025MHz)	28.61
	Middle(161.610MHz)	28.56
	Top (173.975MHz)	28.82

Digital:

Date + voice:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.38
	Middle(151.850MHz)	35.45
	Middle(155.025MHz)	35.40
	Middle(161.610MHz)	35.46
	Top (173.975MHz)	35.57

Radiated Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.37
	Middle(151.850MHz)	35.44
	Middle(155.025MHz)	35.38
	Middle(161.610MHz)	35.44
	Top (173.975MHz)	35.56

Date transmission mode:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.35
	Middle(151.850MHz)	35.42
	Middle(155.025MHz)	35.37
	Middle(161.610MHz)	35.43
	Top (173.975MHz)	35.54

Radiated Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(136.025MHz)	35.33
	Middle(151.850MHz)	35.40
	Middle(155.025MHz)	35.35
	Middle(161.610MHz)	35.42
	Top (173.975MHz)	35.51

Date + voice:

Conducted Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.42
	Middle(151.850MHz)	28.60
	Middle(155.025MHz)	28.60
	Middle(161.610MHz)	28.56
	Top (173.975MHz)	28.91

Radiated Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.40
	Middle(151.850MHz)	28.58
	Middle(155.025MHz)	28.59
	Middle(161.610MHz)	28.54
	Top (173.975MHz)	28.88

Date transmission mode:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.41
	Middle(151.850MHz)	28.57
	Middle(155.025MHz)	28.58
	Middle(161.610MHz)	28.52
	Top (173.975MHz)	28.87

Radiated Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(136.025MHz)	28.39
	Middle(151.850MHz)	28.56
	Middle(155.025MHz)	28.56
	Middle(161.610MHz)	28.51
	Top (173.975MHz)	28.86

UHF:
Analog:

Conducted Power Measurement Results-4W		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.99
	Middle(453.225MHz)	34.90
	Middle(454.025MHz)	34.83
	Top (479.975MHz)	34.38

Radiated Power Measurement Results-4W		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.97
	Middle(453.225MHz)	34.89
	Middle(454.025MHz)	34.89
	Top (479.975MHz)	34.37

Conducted Power Measurement Results-1W		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.45
	Middle(453.225MHz)	28.32
	Middle(454.025MHz)	28.33
	Top (479.975MHz)	28.75

Radiated Power Measurement Results-1W		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.42
	Middle(453.225MHz)	28.30
	Middle(454.025MHz)	28.31
	Top (479.975MHz)	28.72

Digital:

Date + voice:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.97
	Middle(453.225MHz)	34.90
	Middle(454.025MHz)	34.85
	Top (479.975MHz)	34.40

Radiated Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.96
	Middle(453.225MHz)	34.88
	Middle(454.025MHz)	34.84
	Top (479.975MHz)	34.38

Date transmission mode:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.96
	Middle(453.225MHz)	34.85
	Middle(454.025MHz)	34.84
	Top (479.975MHz)	34.37

Radiated Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 36.02dBm(4W)
12.5 KHz	Bottom(400.025MHz)	34.94
	Middle(453.225MHz)	34.83
	Middle(454.025MHz)	34.82
	Top (479.975MHz)	34.36

Date + voice:

Conducted Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.47
	Middle(453.225MHz)	28.38
	Middle(454.025MHz)	28.36
	Top (479.975MHz)	28.73

Radiated Power Measurement Results		
Channel Separation	Channel	Measurement Result (dBm)
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.45
	Middle(453.225MHz)	28.37
	Middle(454.025MHz)	28.34
	Top (479.975MHz)	28.71

Date transmission mode:

Conducted Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.44
	Middle(453.225MHz)	28.38
	Middle(454.025MHz)	28.35
	Top (479.975MHz)	28.70

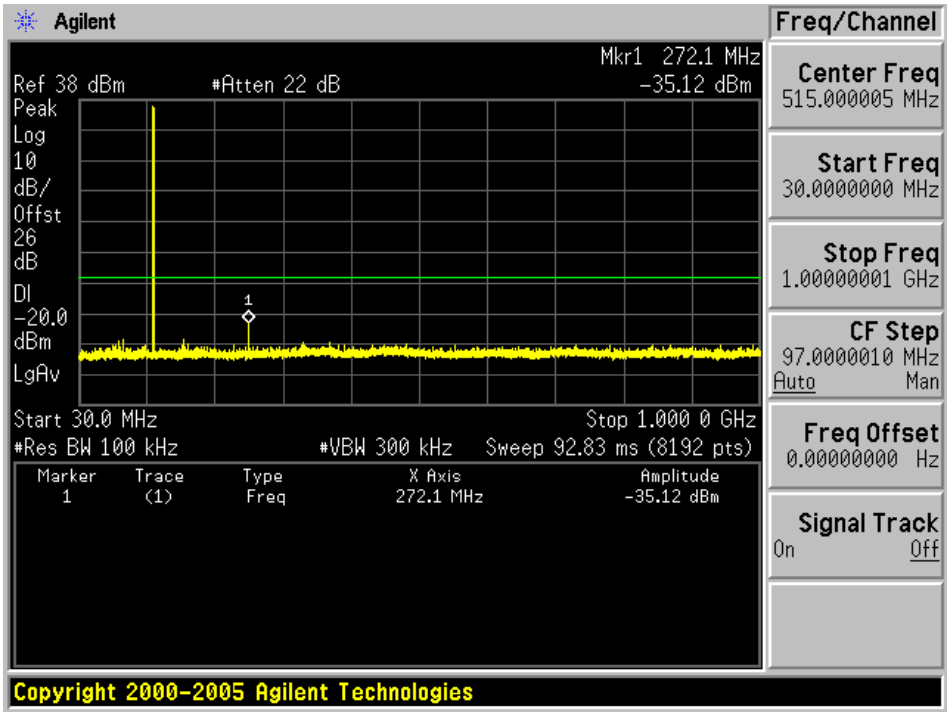
Radiated Power Measurement Results		
Channel Separation	**Channel**	**Measurement Result (dBm)**
		For 30dBm(1W)
12.5 KHz	Bottom(400.025MHz)	28.43
	Middle(453.225MHz)	28.37
	Middle(454.025MHz)	28.34
	Top (479.975MHz)	28.69

9.5 CONDUCT SPURIOUS PLOT

VHF:Analog:

Conducted Spurious Emission (worst) @136.025MHz With 12.5 KHz Channel Separation-4W

30MHz-1GHz



Conduct Spurious Emission (worst) @ 136.025MHz With 12.5 KHz Channel Separation-4W

1GHz-12.75GHz