FCC Part 90& Part 22 Rules Test Report

Report No.: AGC02931180502FE10

FCC ID	:	POD-MDUV380
PRODUCT DESIGNATION	:	DMR Digital Transceiver
BRAND NAME	:	TYT
MODEL NAME	:	MD-UV380, MD-UV380G
CLIENT	:	TYT ELECTRONICS CO., LTD
DATE OF ISSUE	:	Oct. 15, 2018
STANDARD(S)	:	FCC Part 90 Rules FCC Part 22 Rules
REPORT VERSION	:	V 1.3

***A**ttestation of **G**lobal **C**ompliance (Shenzhen) Co., Ltd*

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 05, 2018	Invalid	Initial Release
V1.1	1st	Aug. 08, 2018	Invalid	Update the comments.
V1.2	2nd	Sep. 20, 2018	Invalid	Revise Report
V1.3	3rd	Oct. 15, 2018	Valid	Revise Report

VERIFICATION OF COMPLIANCE

Applicant:	TYT ELECTRONICS CO., LTD
	Block 39-1,Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China
Manufacturer:	TYT ELECTRONICS CO., LTD
	Block 39-1,Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China
Product Designation:	DMR Digital Transceiver
Brand Name:	TYT
Test Model	MD-UV380
Series Model	MD-UV380G
Difference description	All the same except for the model name.
Date of Test:	Jun. 28, 2018 to Jul. 05, 2018

WE HEREBY CERTIFY THAT:

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

The test results of this report relate only to the tested sample identified in this report.

Tested by Steven Zhou

Steven Zhou(Zhou Pengyun) Jul. 05, 2018

Reviewed by Bart Xie

Bart Xie(Xie Xiaobin) Oct. 15, 2018

Approved by Forrest Lei

Forrest Lei(Lei Yonggang)
Authorized Officer Oct. 15, 2018

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

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

A major technical description of EUT is described as following:

Communication Type	Voice / Data
Hardware Version	UV-V2.1-171109
Software Version	V1.06
Modulation	FM/4FSK
Emission Type	11K0F3E, 7K60FXD, 7K60FXW
Emission Bandwidth	Analog:10.15KHz(5W-12.5 KHz),10.18KHz(1W-12.5 KHz) ---VHF Analog:15.24KHz(5W-25 KHz),15.24KHz(1W-25 KHz) ---VHF Digital: 9.121KHz(5W),8.789 KHz(1W) ---VHF Analog:10.28KHz(5W-12.5 KHz),10.29KHz(1W-12.5 KHz) ---UHF Analog:15.35KHz(5W-25 KHz),15.33KHz(1W-25 KHz) ---UHF Digital:9.018KHz(5W), 8.565KHz(1W) ---UHF
Peak Frequency Deviation	1.98KHz
Audio Frequency Response	11.41 dB
Maximum Transmitter Power	Analog:36.89 dBm(5W-12.5 KHz), 29.89dBm (1W-12.5 KHz) ---VHF Analog:36.89 dBm(5W-25 KHz), 29.88dBm (1W-25 KHz) ---VHF Digital: 36.84 dBm(5W), 29.81dBm (1W) ---VHF Analog:36.89 dBm(5W-12.5 KHz), 29.91dBm (1W-12.5 KHz) ---UHF Analog:36.88 dBm(5W-25 KHz), 29.88dBm (1W-25 KHz) ---UHF Digital: 36.82 dBm(5W), 29.81dBm (1W) ---UHF
Output power Modification	UHF/VHF:1W/5W (It was fixed by the manufacturer, any individual can't arbitrarily change it.)
Data Rate	9600bps/12.5KHz(Channel Spacing)
Antenna Designation	Detachable
Antenna Gain	1.5 dBi
Power Supply	DC 7.4V, 2000mAh (by battery)
Adapter Parameter	INPUT：AC 100V-240V , 50/60Hz , 0.6A OUTPUT：DC 12V , 0.5A
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, 25 KHz(Analog), 12.5KHz(Digital)

	Bottom Channel: 136.025MHz Middle Channel:151.85MHz Middle Channel:155.025MHz Middle Channel:161.61MHz Top Channel: 173.975MHz	Bottom Channel: 400.025MHz Middle Channel: 453.225MHz Middle Channel: 454.025MHz Top Channel: 479.975MHz
Frequency Tolerance	1.142ppm	

Frequency Range (MHz)	Rated Transmit Power(W)(Conducted)	Transmit Mode/Emission Designator
400-480	1W/5W	11K0F3E(Analog Vioce;NB)
400-480	1W/5W	7K60FXD/7K60FXW(9600Data/Digital Voice NB)

Frequency Range (MHz)	Rated Transmit Power(W)(Conducted)	Transmit Mode/Emission Designator
136-174	1W/5W	11K0F3E(Analog Vioce;NB)
136-174	1W/5W	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

Note: This EUT is capable of supporting a voice channel and a minimum data rate of 4800 bits per second per 6.25 kHz of channel bandwidth. DMR interphone’s bandwidth is 12.5 kHz, and it has a double timeslot, one is the speech time slot, one is thedata time slot, just language sequence is satisfied with 4800 bps/6.25 kHz BW.

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for FCC ID: POD-MDUV380, 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

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2F., Bldg.2, No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District B112-B113, Bldg.12, Baoan Bldg Materials Center, No.1 of Xixiang Inner Ring Road, Baoan District, Shenzhen 518012
NVLAP LAB CODE	600153-0
Designation Number	CN5028
FCC Test Firm Registration Number	682566
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by National Voluntary Laboratory Accreditation program, NVLAP Code 600153-0

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 Transceiver	MD-UV380	FCC ID: POD-MDUV380	EUT

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
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2018	Jun. 11, 2019
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec.08, 2017	Dec.07, 2018
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.20, 2017	Sep.19, 2018
preamplifier	ChengYi	EMC184045SE	980508	Sep.15, 2017	Sep.14, 2018
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May 18, 2017	May 17, 2019
Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-205	Jun. 12, 2018	Jun. 11, 2019
HORN ANTENNA	EM	EM-AH-10180	/	Mar.01, 2018	Feb.29, 2020
SIGNAL GENERATOR	AGILENT	E4421B	122501288	Jun. 12, 2018	Jun. 11, 2019
SIGNAL GENERATOR	R&S	SMT03	A0304261	Jun. 12, 2018	Jun. 11, 2019
ANTENNA	SCHWARZBECK	VULB9168	VULB9168-494	Mar.01, 2018	Feb.29, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.28, 2017	Sep.27, 2018
Modulation Domain Analyzer	HP	53310A	3121A02467	May. 17, 2017	May. 18, 2019
Small environmental tester	ESPEC	SH-242	--	Mar.02, 2018	Mar. 01, 2019
RF Communication Test Set	HP	8920B	--	Jun. 20, 2017	Jun. 19, 2018
Loop Antenna	A.H.Systems,Inc	SAS-562B	--	Mar.01, 2018	Feb.28, 2019

Note: 8920B can generate audio modulation frequency.

4. DESCRIPTION OF TEST MODES

RF TEST MODES

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

Analog:

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

No.	TEST MODES	CHANNEL SEPARATION
1	Low Channel	25 KHz
2	Middle Channel	25 KHz
3	High Channel	25 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

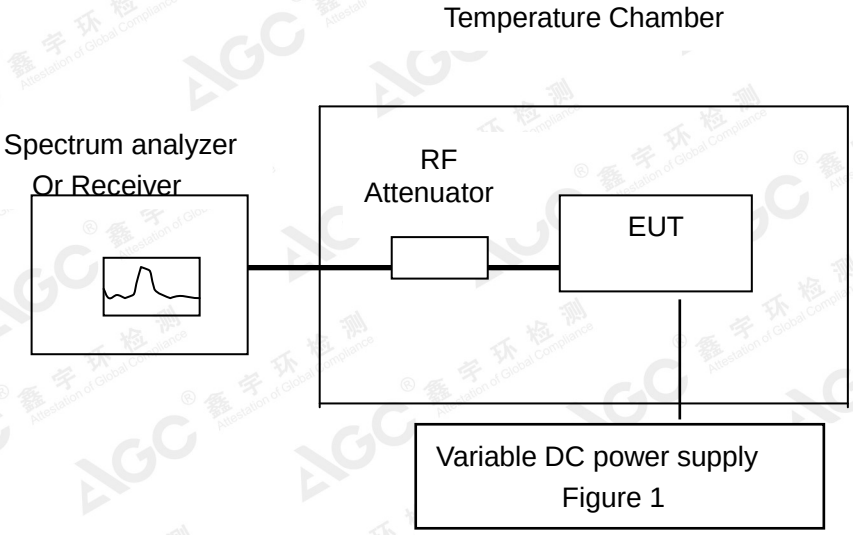


Figure 1

TEST RESULT

VHF-Analog:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-12.5KHz**

Environment Temperature(℃)	Power Supply (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40 V	0.803	0.382	0.561	5
40	DC 7.40 V	0.885	0.499	0.794	
30	DC 7.40 V	0.878	0.449	0.648	
20	DC 7.40 V	0.870	0.658	0.417	
10	DC 7.40 V	0.513	0.713	0.763	
0	DC 7.40 V	0.716	0.327	0.431	
-10	DC 7.40 V	0.821	0.784	0.858	
-20	DC 7.40 V	0.966	0.950	0.762	
-30	DC 7.40 V	0.962	0.702	0.921	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.348	0.334	5
40	DC 7.40 V	0.333	0.968	
30	DC 7.40 V	0.974	0.839	
20	DC 7.40 V	0.849	0.883	
10	DC 7.40 V	0.976	0.885	
0	DC 7.40 V	0.916	0.840	
-10	DC 7.40 V	0.504	0.502	
-20	DC 7.40 V	0.491	0.471	
-30	DC 7.40 V	0.343	0.467	
Result	Pass			

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00 V	0.658	0.564	0.988	5
40	DC 6.00 V	0.937	0.948	0.729	
30	DC 6.00 V	0.570	0.553	0.844	
20	DC 6.00 V	0.655	0.950	1.017	
10	DC 6.00 V	0.664	0.800	1.042	
0	DC 6.00 V	0.512	0.833	0.928	
-10	DC 6.00 V	0.703	1.020	0.569	
-20	DC 6.00 V	0.929	1.010	0.977	
-30	DC 6.00 V	0.670	0.659	0.942	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency 151.85MHz	Reference Frequency 161.61MHz	Limit: ppm
50	DC 6.00 V	0.707	0.898	5
40	DC 6.00 V	0.620	0.802	
30	DC 6.00 V	0.925	0.472	
20	DC 6.00 V	0.962	0.469	
10	DC 6.00 V	0.391	0.995	
0	DC 6.00 V	0.352	0.678	
-10	DC 6.00 V	0.657	0.935	
-20	DC 6.00 V	0.705	0.892	
-30	DC 6.00 V	0.521	0.619	
Result	Pass			

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

Environment Temperature(℃)	Power (V)	Reference Frequency 136.025MHz	Reference Frequency 155.025MHz	Reference Frequency 173.975MHz	Limit: ppm
50	DC 7.40 V	0.771	0.973	0.486	5
40	DC 7.40 V	0.493	0.998	0.948	
30	DC 7.40 V	0.630	0.319	0.917	
20	DC 7.40 V	0.859	0.479	0.961	
10	DC 7.40 V	0.410	0.426	0.787	
0	DC 7.40 V	0.391	0.523	0.426	
-10	DC 7.40 V	0.486	0.444	0.636	
-20	DC 7.40 V	0.363	0.832	0.418	
-30	DC 7.40 V	0.390	0.555	0.445	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency 151.85MHz	Reference Frequency 161.61MHz	Limit: ppm
50	DC 7.40 V	0.620	0.529	5
40	DC 7.40 V	0.951	0.888	
30	DC 7.40 V	0.722	0.590	
20	DC 7.40 V	0.900	0.812	
10	DC 7.40 V	0.952	0.507	
0	DC 7.40 V	0.506	0.333	
-10	DC 7.40 V	0.674	0.469	
-20	DC 7.40 V	0.328	0.442	
-30	DC 7.40 V	0.302	0.533	
Result	Pass			

(2) 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	0.419	0.818	0.653	5
40	DC 6.00	0.817	0.783	0.693	
30	DC 6.00	0.721	0.870	0.741	
20	DC 6.00	0.595	0.510	0.604	
10	DC 6.00	0.609	0.730	0.843	
0	DC 6.00	0.706	0.973	0.919	
-10	DC 6.00	0.495	0.392	0.386	
-20	DC 6.00	0.856	0.765	0.435	
-30	DC 6.00	0.758	0.464	0.666	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00 V	0.431	0.653	5
40	DC 6.00 V	0.424	0.748	
30	DC 6.00 V	0.577	0.732	
20	DC 6.00 V	0.993	0.715	
10	DC 6.00 V	0.794	0.890	
0	DC 6.00 V	0.713	0.462	
-10	DC 6.00 V	0.740	0.381	
-20	DC 6.00 V	0.810	0.570	
-30	DC 6.00 V	0.519	0.929	
Result	Pass			

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-25KHz**

Environment Temperature(℃)	Power Supply (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40 V	0.742	0.653	1.088	5
40	DC 7.40 V	0.732	0.683	0.755	
30	DC 7.40 V	0.912	0.946	0.720	
20	DC 7.40 V	1.082	0.602	0.579	
10	DC 7.40 V	0.620	1.063	0.838	
0	DC 7.40 V	0.593	0.968	0.728	
-10	DC 7.40 V	0.601	0.988	0.871	
-20	DC 7.40 V	0.622	0.969	0.635	
-30	DC 7.40 V	0.749	0.640	0.950	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.493	0.317	5
40	DC 7.40 V	0.645	0.844	
30	DC 7.40 V	0.764	0.546	
20	DC 7.40 V	0.922	0.391	
10	DC 7.40 V	0.596	0.399	
0	DC 7.40 V	0.614	0.852	
-10	DC 7.40 V	0.341	0.814	
-20	DC 7.40 V	0.699	0.565	
-30	DC 7.40 V	0.968	0.516	
Result	Pass			

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-5W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00 V	0.586	1.094	0.646	5
40	DC 6.00 V	0.736	0.536	0.936	
30	DC 6.00 V	0.534	0.818	0.960	
20	DC 6.00 V	0.587	0.883	0.659	
10	DC 6.00 V	0.712	0.675	0.695	
0	DC 6.00 V	0.721	0.991	0.754	
-10	DC 6.00 V	0.796	0.880	0.695	
-20	DC 6.00 V	0.656	0.885	0.779	
-30	DC 6.00 V	0.749	0.721	1.082	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency 151.85MHz	Reference Frequency 161.61MHz	Limit: ppm
50	DC 6.00 V	0.642	0.382	5
40	DC 6.00 V	0.890	0.800	
30	DC 6.00 V	0.740	0.403	
20	DC 6.00 V	0.609	0.853	
10	DC 6.00 V	0.302	0.437	
0	DC 6.00 V	0.445	0.944	
-10	DC 6.00 V	0.856	0.431	
-20	DC 6.00 V	0.459	0.572	
-30	DC 6.00 V	0.436	0.650	
Result	Pass			

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-1W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 136.025MHz	Reference Frequency 155.025MHz	Reference Frequency 173.975MHz	Limit: ppm
50	DC 7.40	0.513	0.563	1.042	5
40	DC 7.40	1.005	1.065	0.725	
30	DC 7.40	0.712	1.041	0.873	
20	DC 7.40	0.633	0.523	0.821	
10	DC 7.40	1.013	0.696	0.842	
0	DC 7.40	0.756	0.691	0.827	
-10	DC 7.40	0.892	0.602	0.889	
-20	DC 7.40	0.675	0.726	0.689	
-30	DC 7.40	0.843	1.084	0.781	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency 151.85MHz	Reference Frequency 161.61MHz	Limit: ppm
50	DC 7.40 V	0.890	0.477	5
40	DC 7.40 V	0.642	0.801	
30	DC 7.40 V	0.915	0.513	
20	DC 7.40 V	0.841	0.613	
10	DC 7.40 V	0.566	0.841	
0	DC 7.40 V	0.438	0.449	
-10	DC 7.40 V	0.554	0.559	
-20	DC 7.40 V	0.959	0.406	
-30	DC 7.40 V	0.647	0.337	
Result	Pass			

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00	0.974	0.744	0.820	5
40	DC 6.00	0.664	0.613	0.498	
30	DC 6.00	0.891	0.840	0.623	
20	DC 6.00	0.922	0.957	0.436	
10	DC 6.00	0.717	0.456	0.944	
0	DC 6.00	0.569	0.306	0.338	
-10	DC 6.00	0.626	0.359	0.467	
-20	DC 6.00	0.569	0.629	0.379	
-30	DC 6.00	0.953	0.399	0.404	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00 V	0.653	0.997	5
40	DC 6.00 V	0.889	0.643	
30	DC 6.00 V	0.894	0.892	
20	DC 6.00 V	0.854	0.870	
10	DC 6.00 V	0.753	0.854	
0	DC 6.00 V	0.587	0.627	
-10	DC 6.00 V	0.874	0.838	
-20	DC 6.00 V	0.573	1.071	
-30	DC 6.00 V	0.895	0.649	
Result	Pass			

Digital:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40	0.967	0.653	0.703	5
40	DC 7.40	0.937	0.527	0.898	
30	DC 7.40	0.893	0.777	0.744	
20	DC 7.40	0.761	0.592	0.669	
10	DC 7.40	0.804	0.875	0.550	
0	DC 7.40	0.618	0.829	0.709	
-10	DC 7.40	0.629	1.097	0.939	
-20	DC 7.40	0.848	0.897	0.824	
-30	DC 7.40	0.939	0.623	0.826	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.982	0.865	5
40	DC 7.40 V	0.740	0.560	
30	DC 7.40 V	0.806	0.827	
20	DC 7.40 V	0.514	0.514	
10	DC 7.40 V	0.397	0.533	
0	DC 7.40 V	0.640	0.847	
-10	DC 7.40 V	0.612	0.913	
-20	DC 7.40 V	0.316	0.761	
-30	DC 7.40 V	0.974	0.568	
Result	Pass			

(2) Frequency stability versus input voltage(Battery endpoint is 6V) **-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 6.00	0.719	0.330	0.658	5
40	DC 6.00	0.324	0.329	0.856	
30	DC 6.00	0.416	0.763	0.897	
20	DC 6.00	0.618	0.953	0.887	
10	DC 6.00	0.624	0.887	0.381	
0	DC 6.00	0.593	0.801	0.729	
-10	DC 6.00	0.372	0.313	0.737	
-20	DC 6.00	0.717	0.638	0.377	
-30	DC 6.00	0.855	0.969	0.459	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00	0.377	0.649	5
40	DC 6.00	0.383	0.570	
30	DC 6.00	0.333	0.537	
20	DC 6.00	0.763	0.978	
10	DC 6.00	0.699	0.706	
0	DC 6.00	0.507	0.563	
-10	DC 6.00	0.544	0.635	
-20	DC 6.00	0.585	0.560	
-30	DC 6.00	0.571	0.768	
Result	Pass			

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

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		136.025MHz	155.025MHz	173.975MHz	
50	DC 7.40	0.734	0.653	0.670	5
40	DC 7.40	0.986	0.646	0.940	
30	DC 7.40	1.096	1.044	0.742	
20	DC 7.40	0.619	0.982	0.755	
10	DC 7.40	0.844	0.857	0.980	
0	DC 7.40	0.813	0.617	0.868	
-10	DC 7.40	0.987	0.669	0.746	
-20	DC 7.40	0.779	1.003	0.951	
-30	DC 7.40	1.142	0.727	0.532	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 7.40 V	0.407	0.822	5
40	DC 7.40 V	0.704	0.471	
30	DC 7.40 V	0.553	0.449	
20	DC 7.40 V	0.324	0.971	
10	DC 7.40 V	0.473	0.918	
0	DC 7.40 V	0.877	0.693	
-10	DC 7.40 V	0.814	0.446	
-20	DC 7.40 V	0.546	0.693	
-30	DC 7.40 V	0.550	0.319	
Result	Pass			

(2) 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	0.752	0.902	0.948	5
40	DC 6.00	0.674	0.872	0.560	
30	DC 6.00	0.719	0.977	0.593	
20	DC 6.00	0.881	0.760	0.773	
10	DC 6.00	0.806	0.834	0.813	
0	DC 6.00	0.539	0.723	0.861	
-10	DC 6.00	0.638	0.698	1.035	
-20	DC 6.00	0.975	0.678	0.777	
-30	DC 6.00	0.808	1.028	0.938	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency 151.85MHz	Reference Frequency 161.61MHz	Limit: ppm
50	DC 6.00	0.322	0.968	5
40	DC 6.00	0.570	0.782	
30	DC 6.00	0.904	0.470	
20	DC 6.00	0.466	0.988	
10	DC 6.00	0.785	0.774	
0	DC 6.00	0.414	0.924	
-10	DC 6.00	0.362	0.546	
-20	DC 6.00	0.541	0.307	
-30	DC 6.00	0.384	0.433	
Result	Pass			

UHF:

Analog:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	Reference Frequency 454.025MHz	Reference Frequency 479.975MHz	Limit: ppm
50	DC 7.40	0.339	0.712	0.725	2.5
40	DC 7.40	0.412	0.639	0.929	
30	DC 7.40	0.654	0.365	0.814	
20	DC 7.40	0.605	0.396	0.326	
10	DC 7.40	0.503	0.989	0.749	
0	DC 7.40	0.901	0.716	0.423	
-10	DC 7.40	0.685	0.598	0.912	
-20	DC 7.40	0.588	0.842	0.653	
-30	DC 7.40	0.380	0.964	0.900	
Result	Pass				

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	Reference Frequency 454.025MHz	Reference Frequency 479.975MHz	Limit: ppm
50	DC 6.00 V	0.906	0.425	0.458	2.5
40	DC 6.00 V	0.469	0.957	0.502	
30	DC 6.00 V	0.713	0.604	0.716	
20	DC 6.00 V	0.580	0.479	0.627	
10	DC 6.00 V	0.430	0.494	0.873	
0	DC 6.00 V	0.454	0.743	0.737	
-10	DC 6.00 V	0.767	0.403	0.768	
-20	DC 6.00 V	0.942	0.320	0.465	
-30	DC 6.00 V	0.746	0.824	0.953	
Result	Pass				

(1) 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	0.827	0.528	0.827	2.5
40	DC 7.40	0.598	0.890	0.569	
30	DC 7.40	0.640	0.960	0.997	
20	DC 7.40	0.622	0.849	0.599	
10	DC 7.40	0.766	0.647	0.644	
0	DC 7.40	0.701	0.693	0.628	
-10	DC 7.40	0.801	0.811	0.726	
-20	DC 7.40	0.675	0.807	0.874	
-30	DC 7.40	0.989	0.639	0.337	
Result	Pass				

(2) 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	0.564	0.521	0.586	2.5
40	DC 6.00 V	0.534	0.336	0.936	
30	DC 6.00 V	0.849	0.780	0.384	
20	DC 6.00 V	0.322	0.613	0.814	
10	DC 6.00 V	0.417	0.735	0.945	
0	DC 6.00 V	0.680	0.427	0.714	
-10	DC 6.00 V	0.677	0.550	0.484	
-20	DC 6.00 V	0.678	0.451	0.728	
-30	DC 6.00 V	0.928	0.530	0.708	
Result	Pass				

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 7.40	0.893	0.833	0.999	2.5
40	DC 7.40	0.483	0.705	0.694	
30	DC 7.40	0.516	0.476	0.343	
20	DC 7.40	0.687	0.664	0.999	
10	DC 7.40	0.396	0.834	0.582	
0	DC 7.40	0.411	0.708	0.372	
-10	DC 7.40	0.358	0.576	0.851	
-20	DC 7.40	0.883	0.341	0.413	
-30	DC 7.40	0.736	0.451	0.315	
Result	Pass				

(2) Frequency stability versus input voltage (Battery endpoint is 6V) **-5W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 6.00	0.451	0.396	0.665	2.5
40	DC 6.00	0.736	0.398	0.753	
30	DC 6.00	0.909	0.910	0.981	
20	DC 6.00	0.857	0.769	0.418	
10	DC 6.00	0.392	0.929	0.392	
0	DC 6.00	0.502	0.524	0.976	
-10	DC 6.00	0.868	0.579	0.892	
-20	DC 6.00	0.606	0.832	0.918	
-30	DC 6.00	0.702	0.573	0.771	
Result	Pass				

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-1W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 7.40	0.745	0.785	0.902	2.5
40	DC 7.40	0.757	0.652	0.510	
30	DC 7.40	0.715	0.856	0.522	
20	DC 7.40	0.907	0.795	0.645	
10	DC 7.40	0.545	0.901	0.720	
0	DC 7.40	0.436	0.678	0.710	
-10	DC 7.40	0.995	0.700	0.814	
-20	DC 7.40	0.372	0.840	0.888	
-30	DC 7.40	0.774	0.765	0.995	
Result	Pass				

(4) Frequency stability versus input voltage (Battery endpoint is 6V) **-1W-25KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 6.00	0.620	0.843	0.382	2.5
40	DC 6.00	0.971	0.862	0.380	
30	DC 6.00	0.393	0.863	0.321	
20	DC 6.00	0.672	0.406	0.429	
10	DC 6.00	0.641	0.321	0.712	
0	DC 6.00	0.537	0.518	0.672	
-10	DC 6.00	0.731	0.426	0.606	
-20	DC 6.00	0.392	0.980	0.545	
-30	DC 6.00	0.488	0.722	0.389	
Result	Pass				

Digital:

(1) Frequency stability versus input voltage (Supply nominal voltage is 7.40V)**-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 7.40	0.377	0.935	0.540	2.5
40	DC 7.40	0.440	0.399	0.409	
30	DC 7.40	0.580	0.511	0.972	
20	DC 7.40	0.569	0.540	0.591	
10	DC 7.40	0.594	0.301	0.929	
0	DC 7.40	0.803	0.931	0.697	
-10	DC 7.40	0.899	0.708	0.380	
-20	DC 7.40	0.990	0.651	0.340	
-30	DC 7.40	0.884	0.474	0.364	
Result	Pass				

(2) Frequency stability versus input voltage(Battery endpoint is 6V) **-5W-12.5KHz**

Environment Temperature(℃)	Power (V)	Reference Frequency 400.025MHz	454.025MHz	479.975MHz	Limit: ppm
50	DC 6.00	0.442	0.487	0.450	2.5
40	DC 6.00	0.628	0.521	0.852	
30	DC 6.00	0.472	0.472	0.729	
20	DC 6.00	0.682	0.466	0.691	
10	DC 6.00	0.901	0.339	0.996	
0	DC 6.00	0.321	0.944	0.511	
-10	DC 6.00	0.518	0.824	0.354	
-20	DC 6.00	0.358	0.586	0.922	
-30	DC 6.00	0.573	0.784	0.440	
Result	Pass				

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

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		400.025MHz	454.025MHz	479.975MHz	
50	DC 7.40	0.943	0.943	0.973	2.5
40	DC 7.40	1.078	0.556	0.914	
30	DC 7.40	0.991	0.747	0.776	
20	DC 7.40	0.934	0.936	0.811	
10	DC 7.40	0.918	0.823	0.824	
0	DC 7.40	0.973	0.912	1.008	
-10	DC 7.40	0.920	0.618	0.968	
-20	DC 7.40	0.981	0.947	0.997	
-30	DC 7.40	0.742	0.730	0.778	
Result	Pass				

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

Environment Temperature(℃)	Power (V)	Reference Frequency			Limit: ppm
		400.025MHz	454.025MHz	479.975MHz	
50	DC 6.00	0.567	0.520	0.411	2.5
40	DC 6.00	0.763	0.607	0.460	
30	DC 6.00	0.750	0.987	0.948	
20	DC 6.00	0.714	0.701	0.358	
10	DC 6.00	0.820	0.664	0.328	
0	DC 6.00	0.352	0.811	0.533	
-10	DC 6.00	0.625	0.617	0.972	
-20	DC 6.00	0.642	0.380	0.576	
-30	DC 6.00	0.597	0.745	0.419	
Result	Pass				

Note：The unit in frequency stability result is ppm.

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.

6.2 MEASUREMENT PROCEDURE

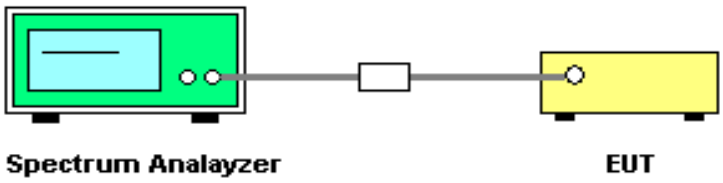
1). The EUT was placed on a turn table which is 0.8m above ground plane.

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



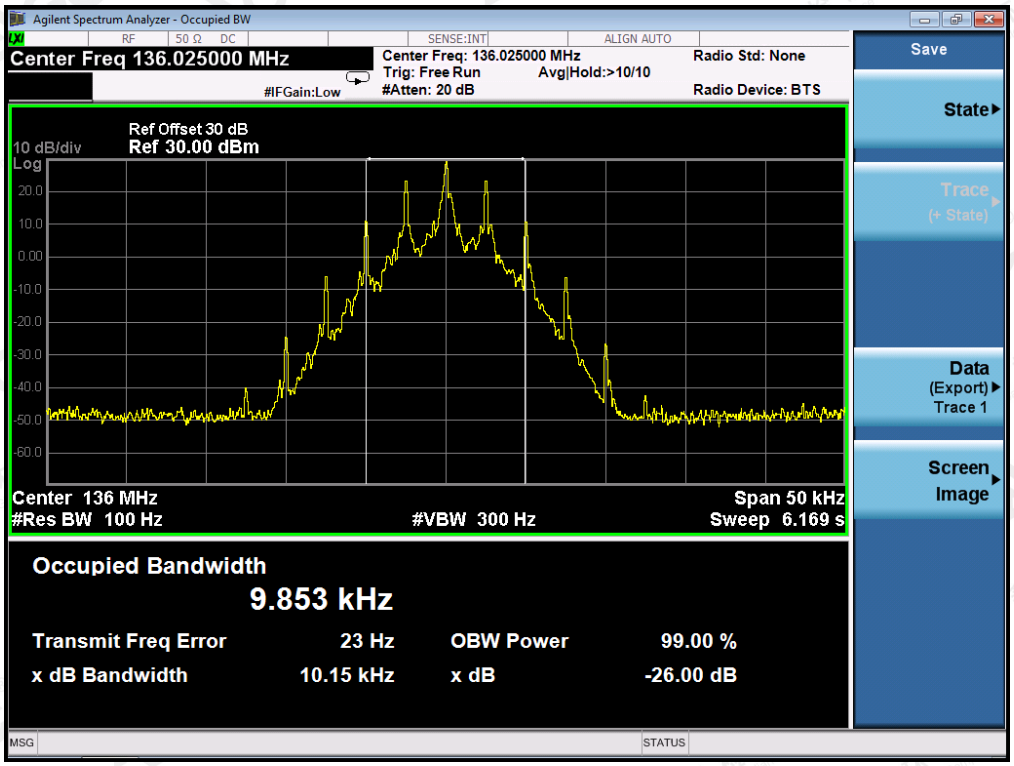
6.4 MEASUREMENT RESULT

VHF:

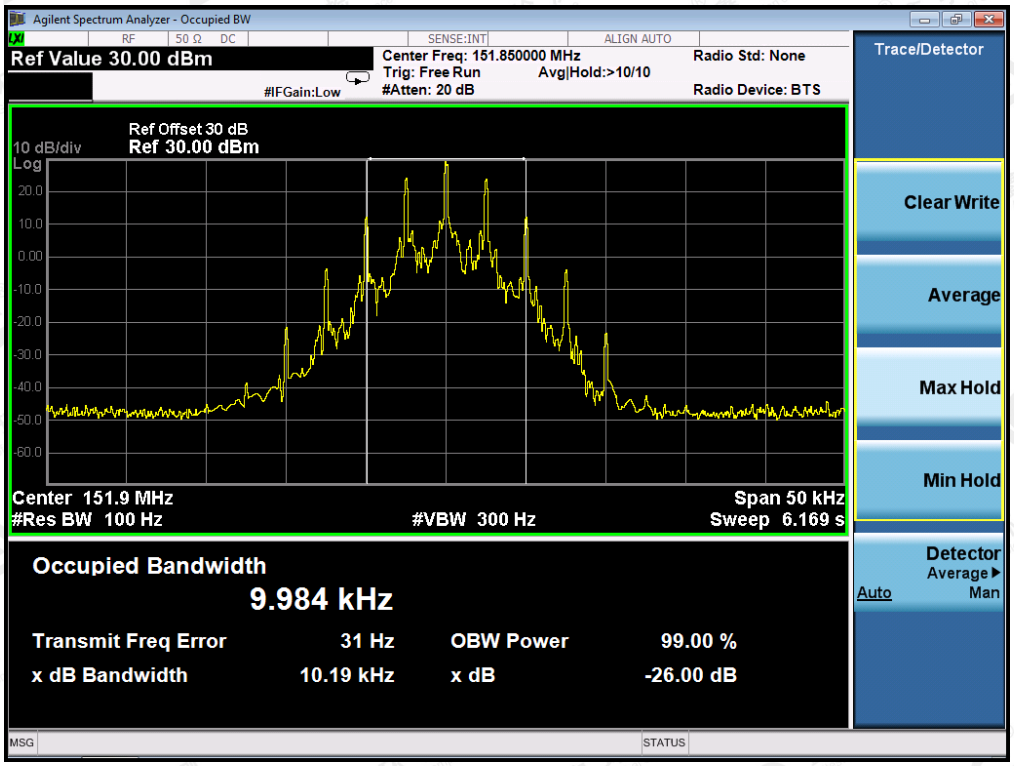
Analog:12.5KHz

26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.15KHz	11.25 KHz	Pass
151.850MHz	10.19KHz	11.25 KHz	Pass
161.61MHz	10.19KHz	11.25 KHz	Pass

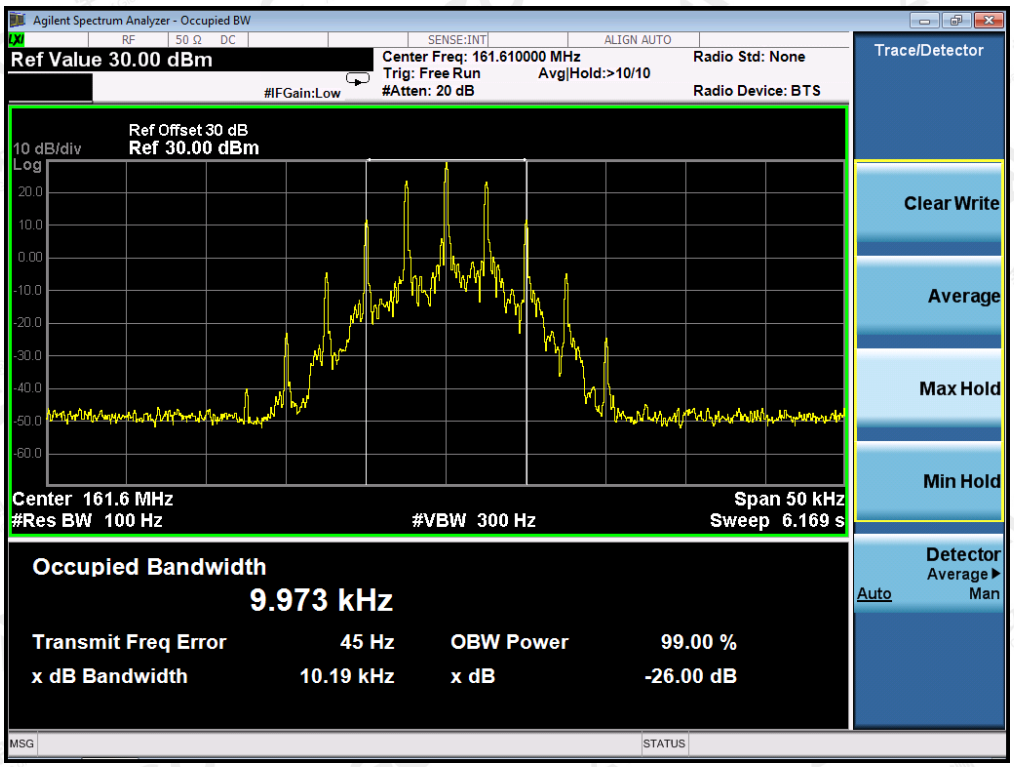
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (151.850 MHz)-5W

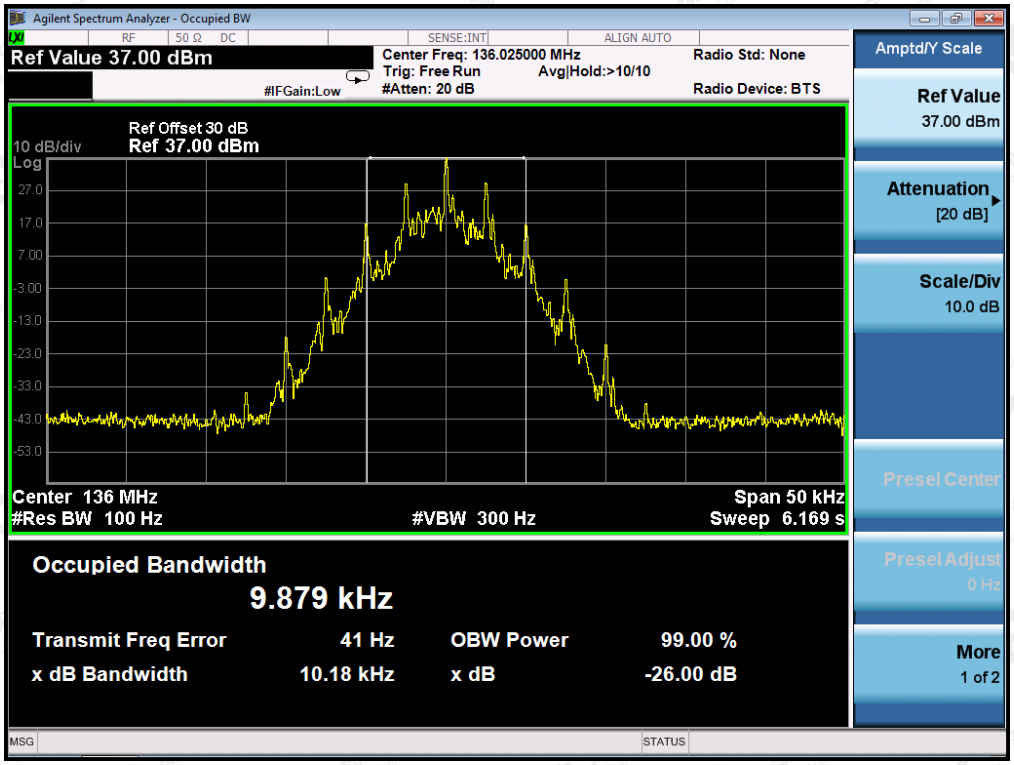


Occupied bandwidth of Middle Channel (161.610 MHz)-5W

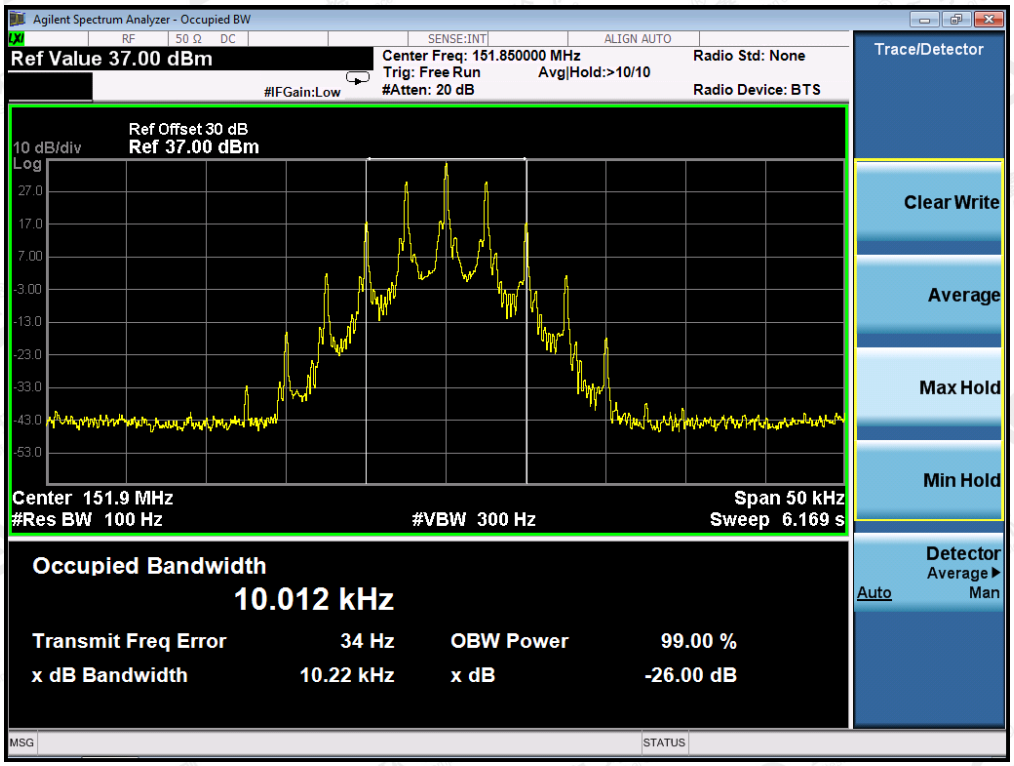


26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.18KHz	11.25 KHz	Pass
151.850MHz	10.22KHz	11.25 KHz	Pass
161.61MHz	10.18KHz	11.25 KHz	Pass

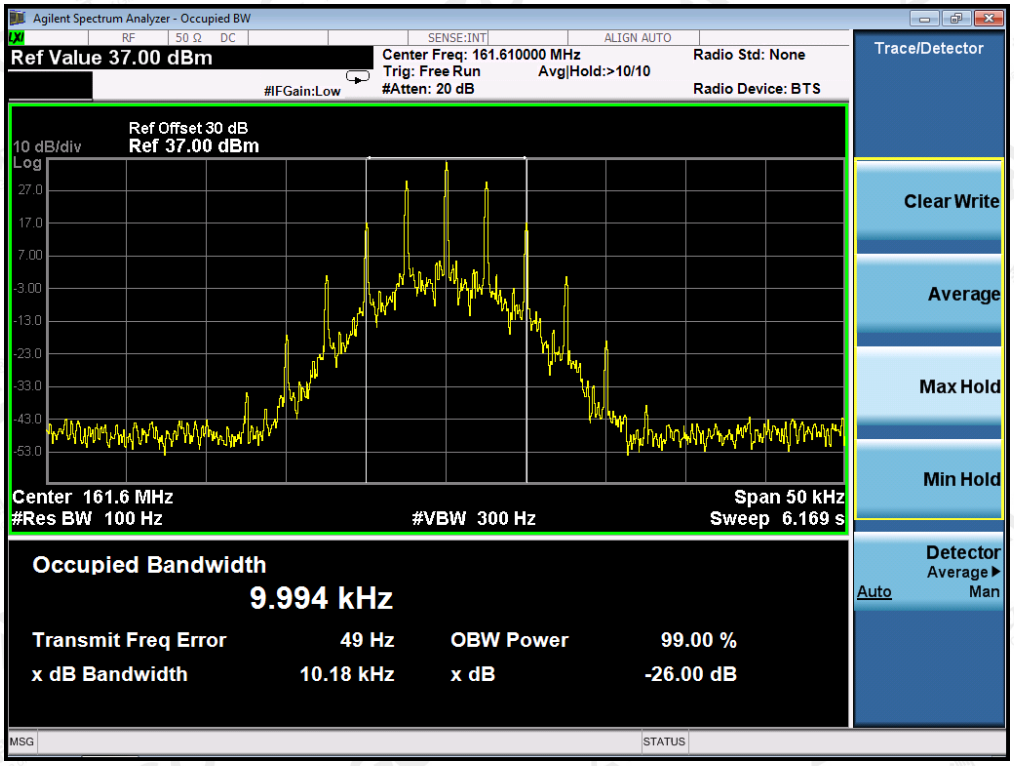
Occupied bandwidth of Bottom Channel (Maximum)-1W



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



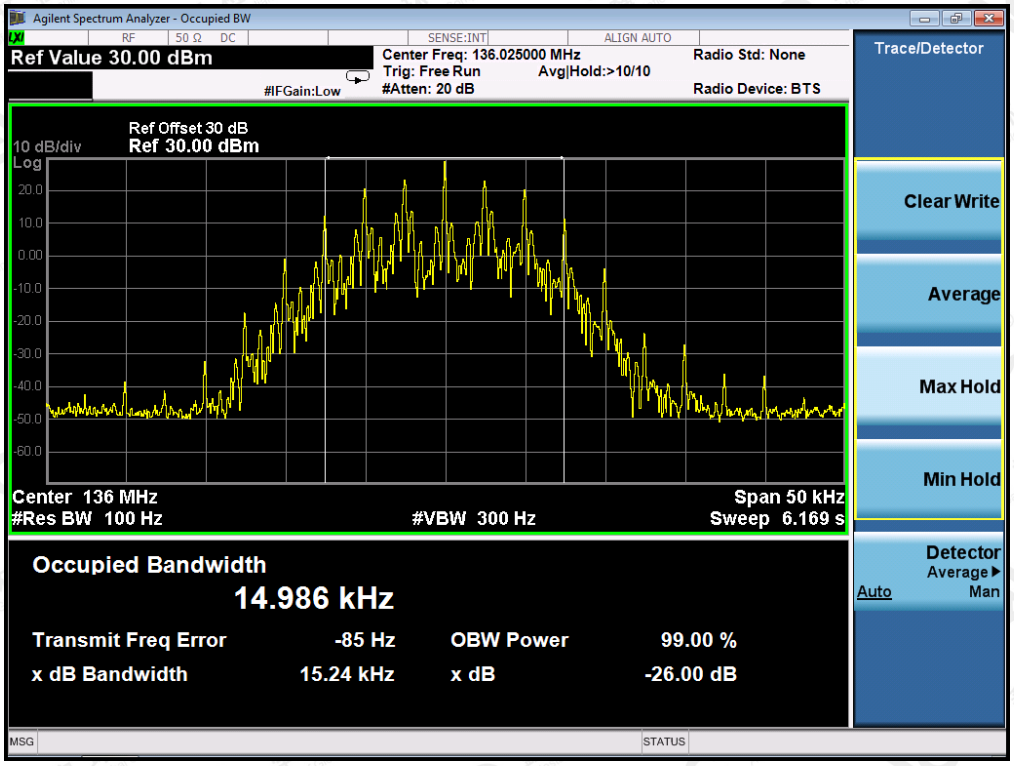
Occupied bandwidth of Middle Channel (161.610 MHz)-1W



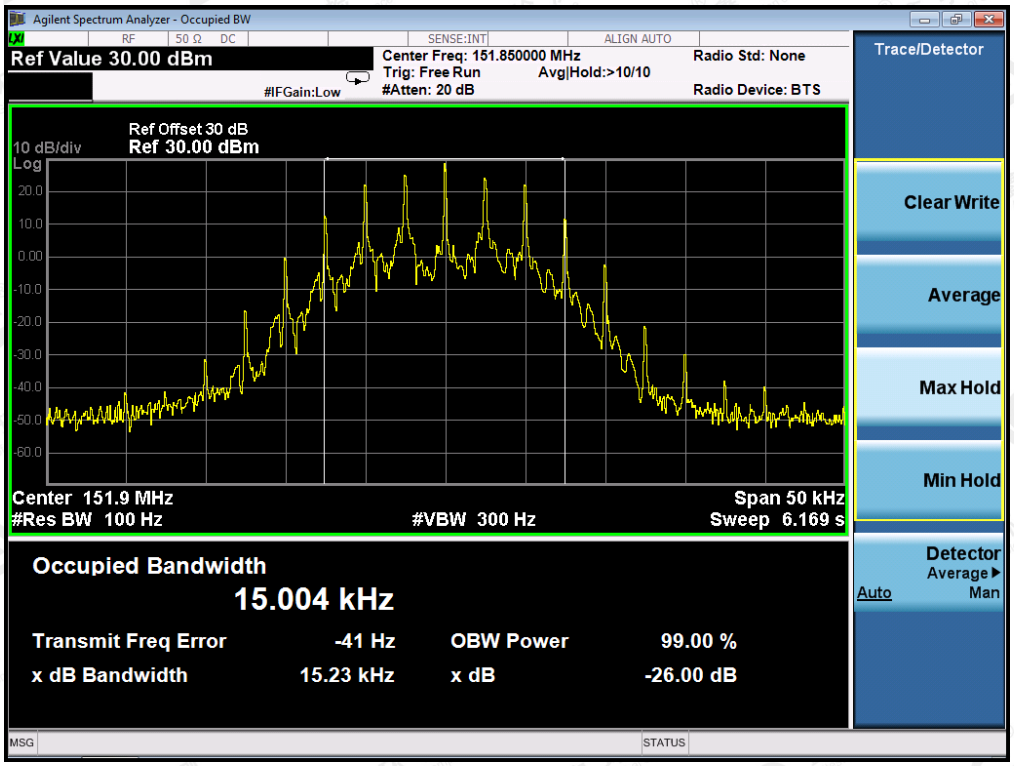
Analog:25KHz

26 dB Bandwidth Measurement Result			
Operating Frequency	25 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	15.24KHz	20 KHz	Pass
151.850MHz	15.23KHz	20 KHz	Pass
161.61MHz	15.10KHz	20 KHz	Pass

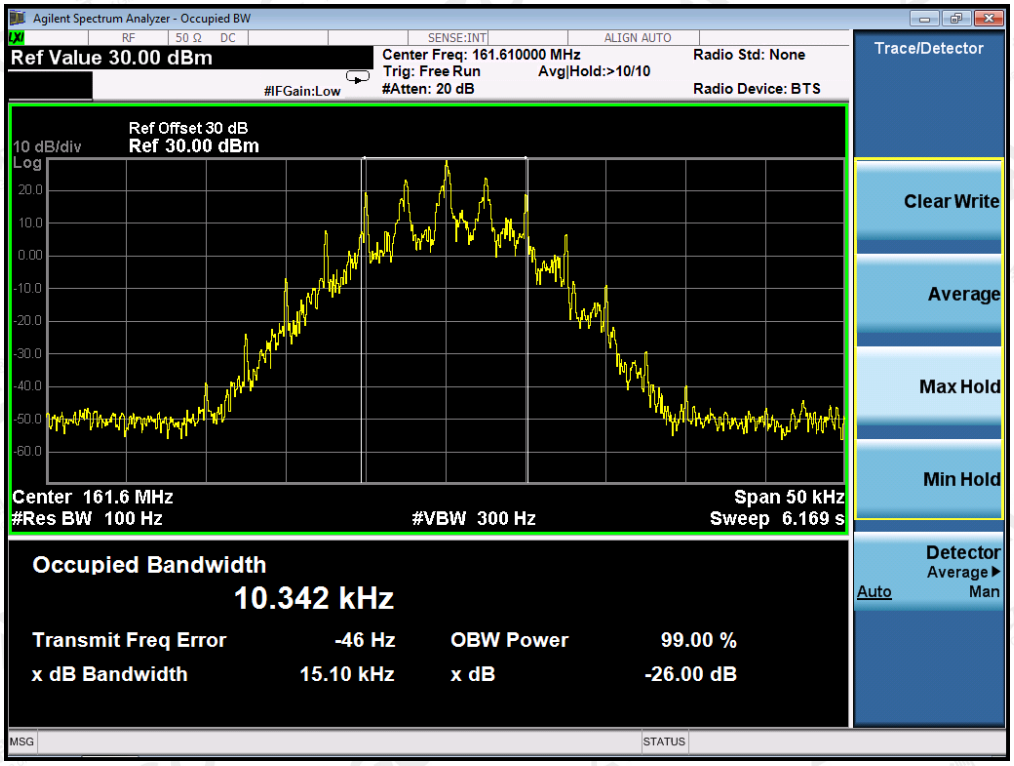
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (151.850 MHz)-5W

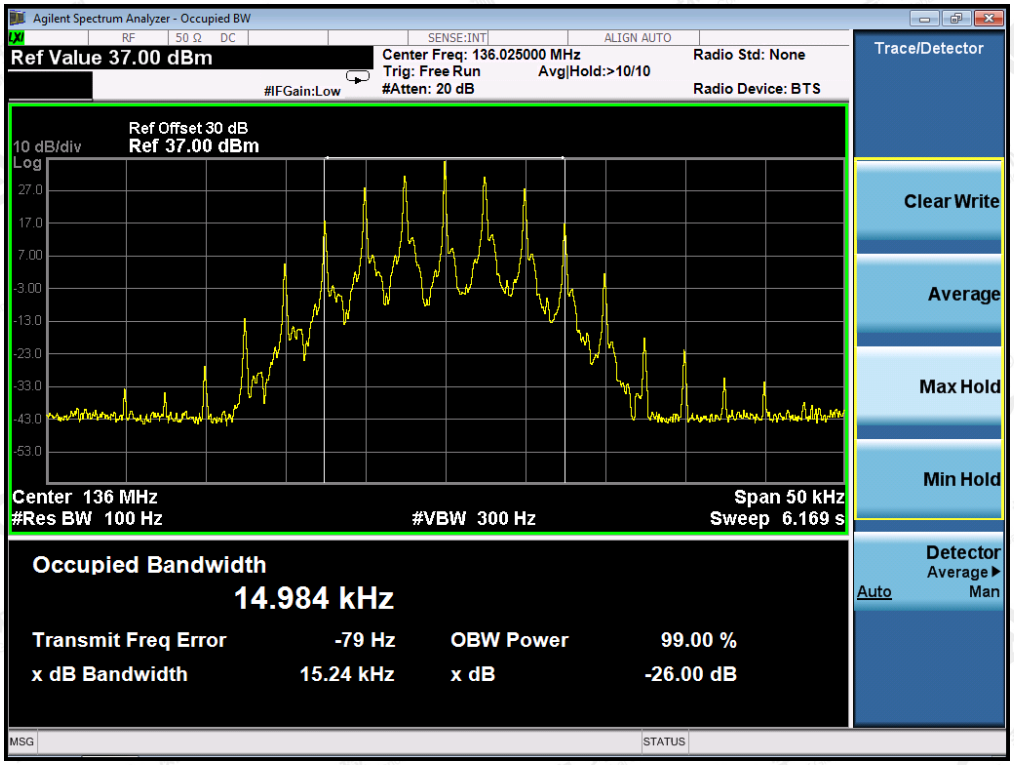


Occupied bandwidth of Middle Channel (161.610 MHz)-5W

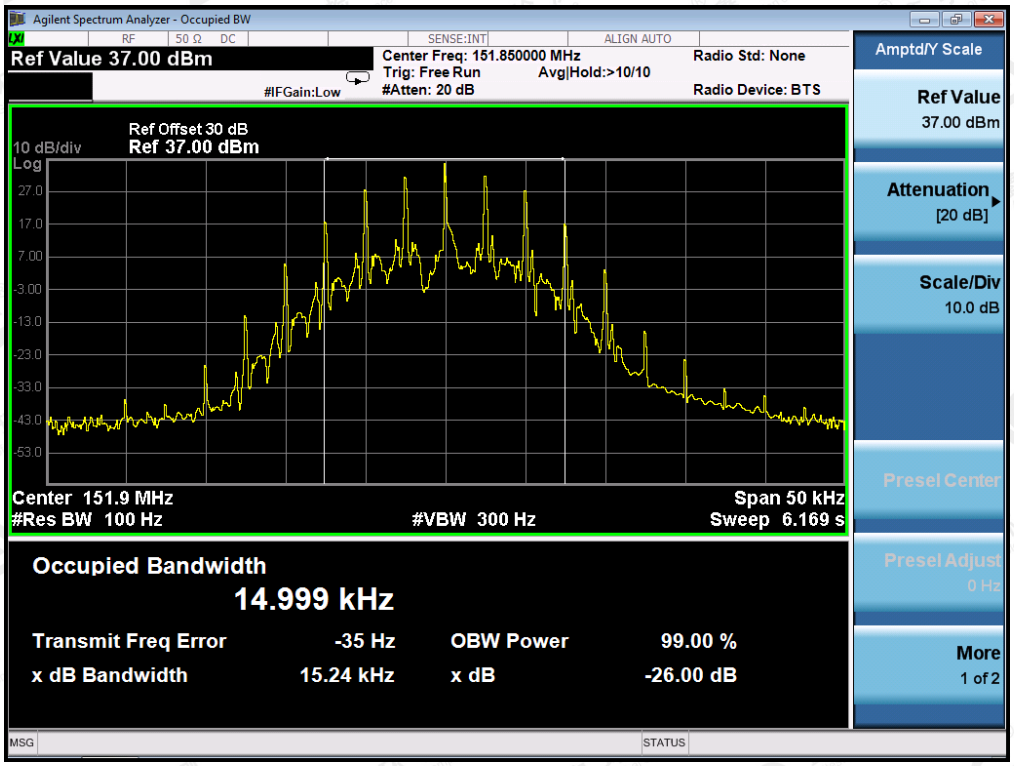


26 dB Bandwidth Measurement Result			
Operating Frequency	25 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	15.24KHz	20 KHz	Pass
151.850MHz	15.24KHz	20 KHz	Pass
161.61MHz	15.19KHz	20 KHz	Pass

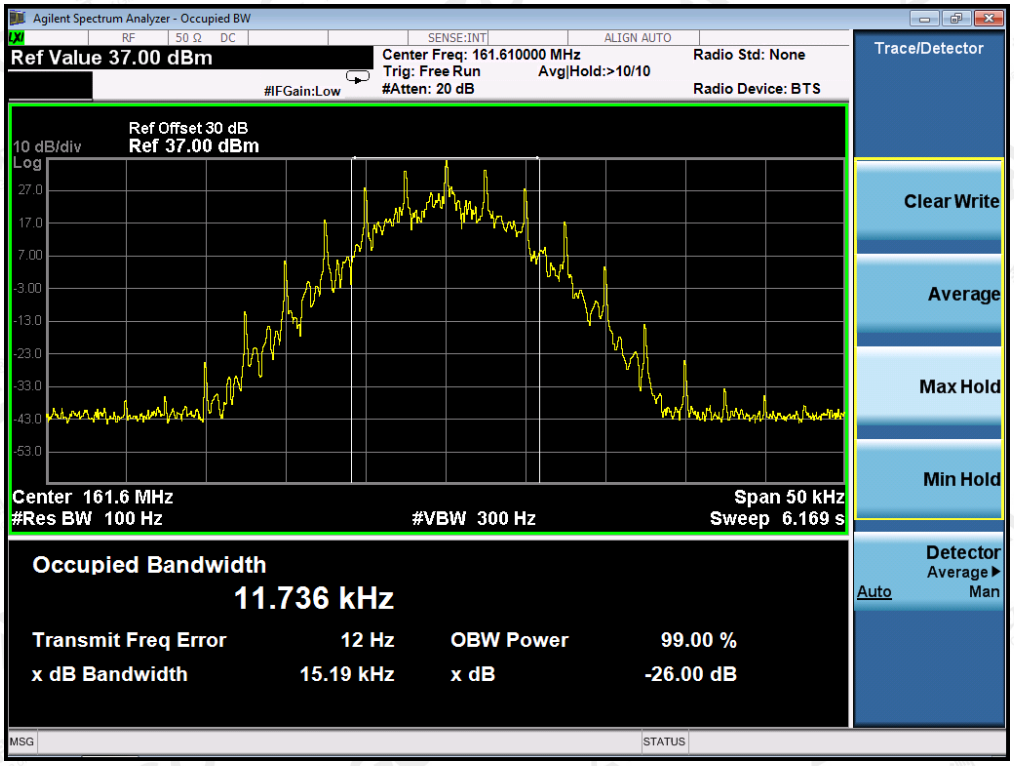
Occupied bandwidth of Bottom Channel (Maximum)-1W



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



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

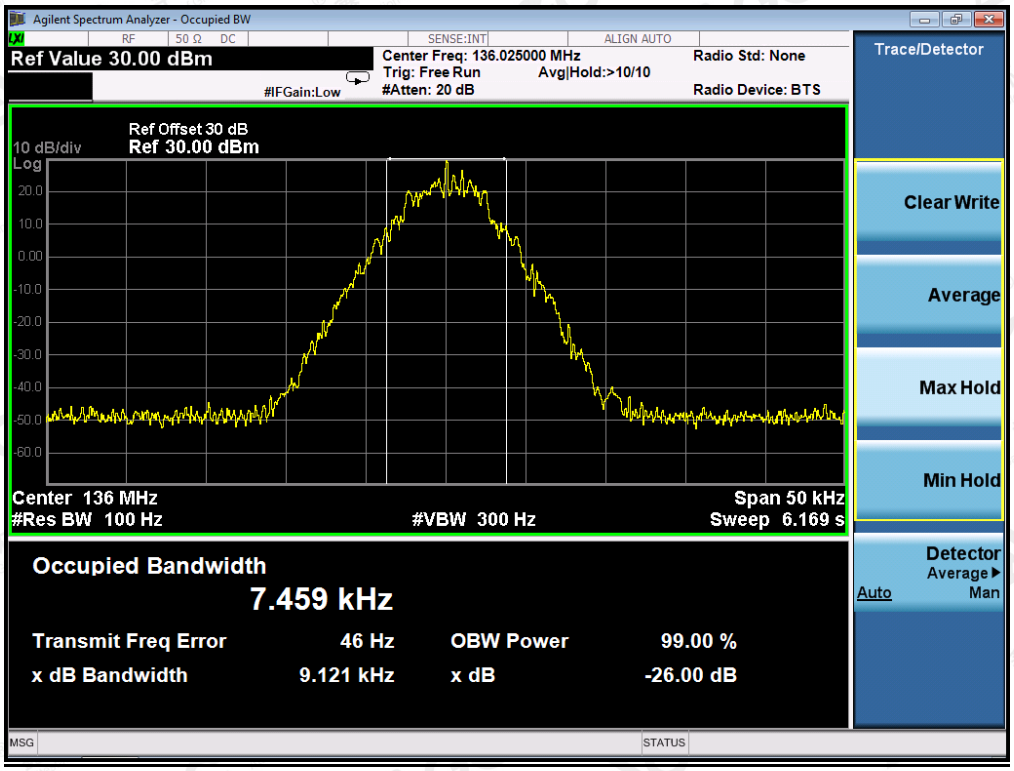


Digital:

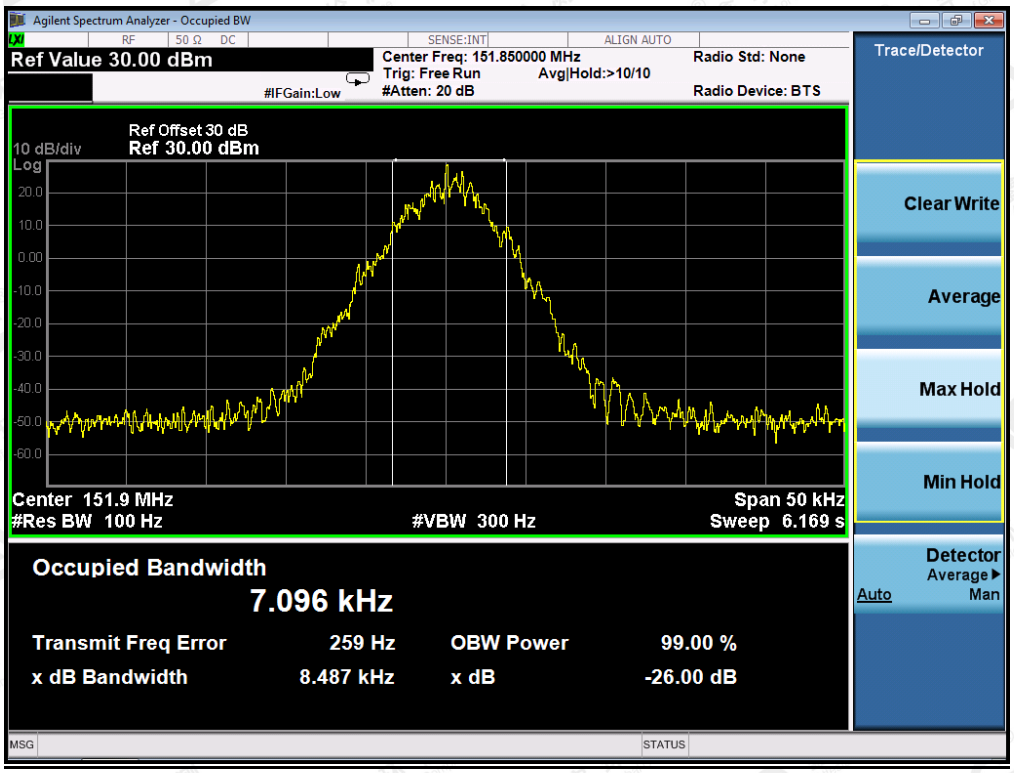
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	9.121KHz	11.25 KHz	Pass
151.850MHz	8.487KHz	11.25 KHz	Pass
161.61 MHz	9.188KHz	11.25 KHz	Pass

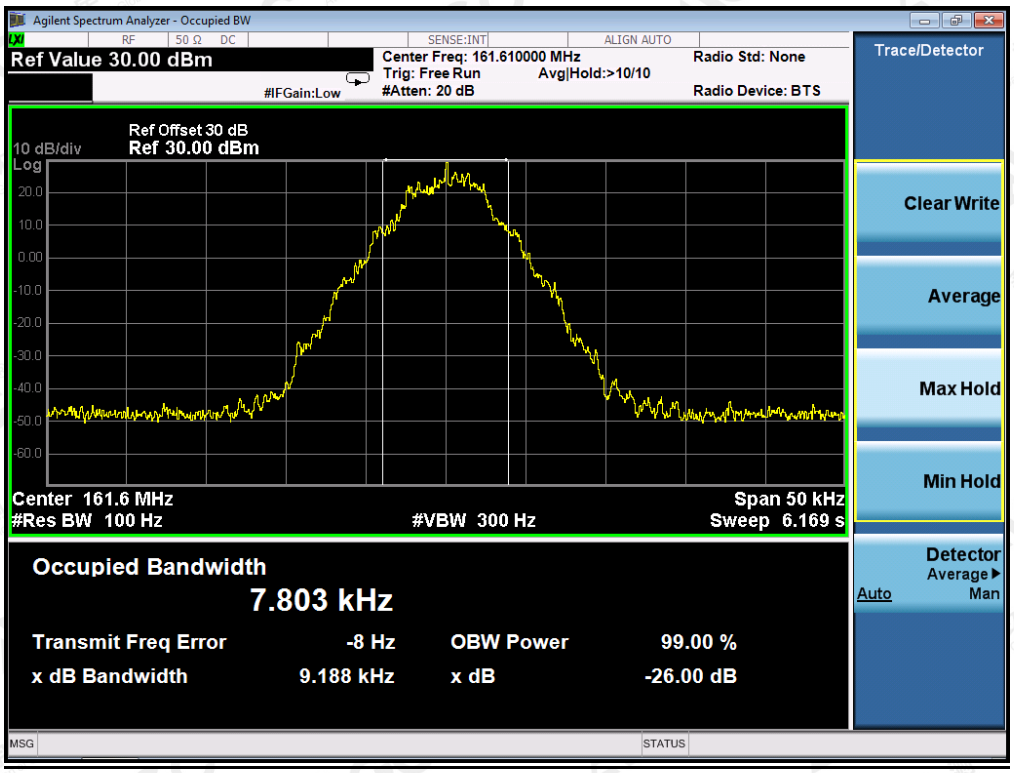
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (151.850 MHz)-5W



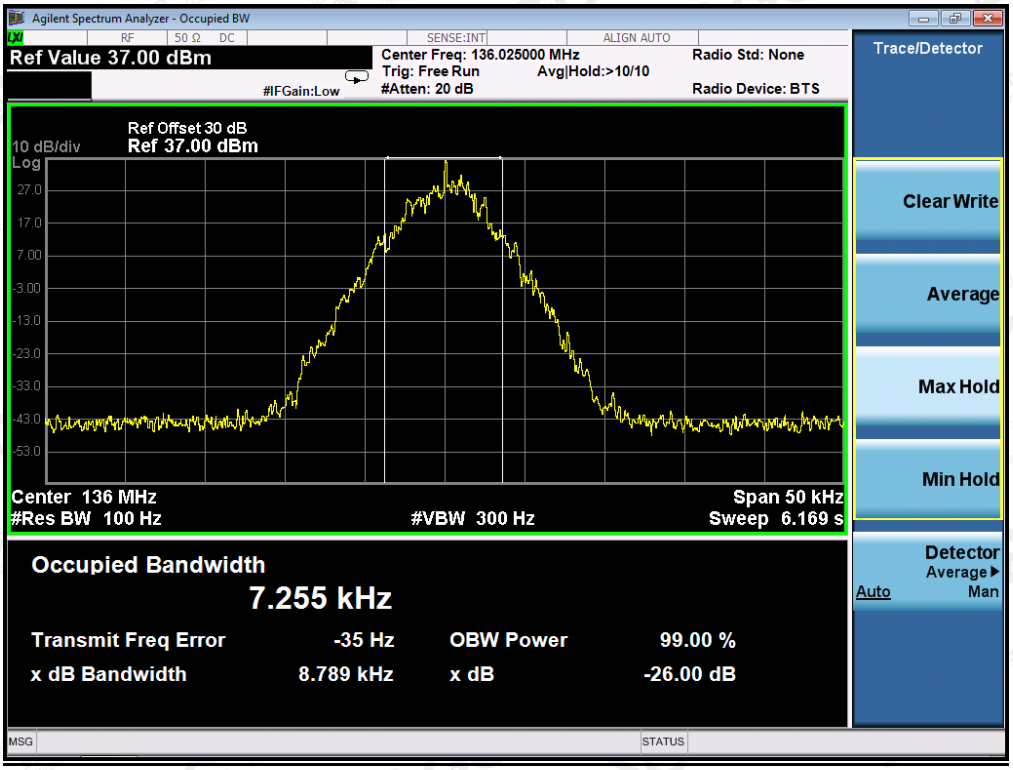
Occupied bandwidth of Middle Channel (161.610 MHz)-5W



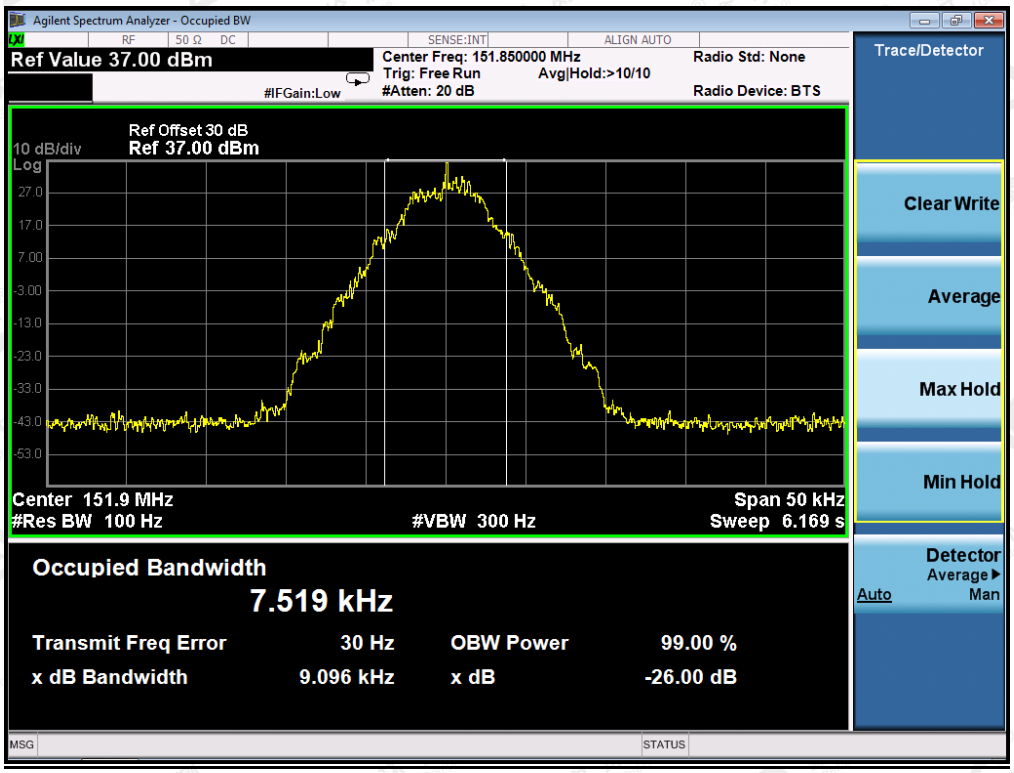
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	8.789KHz	11.25 KHz	Pass
151.850MHz	9.096KHz	11.25 KHz	Pass
161.610MHz	8.887KHz	11.25 KHz	Pass

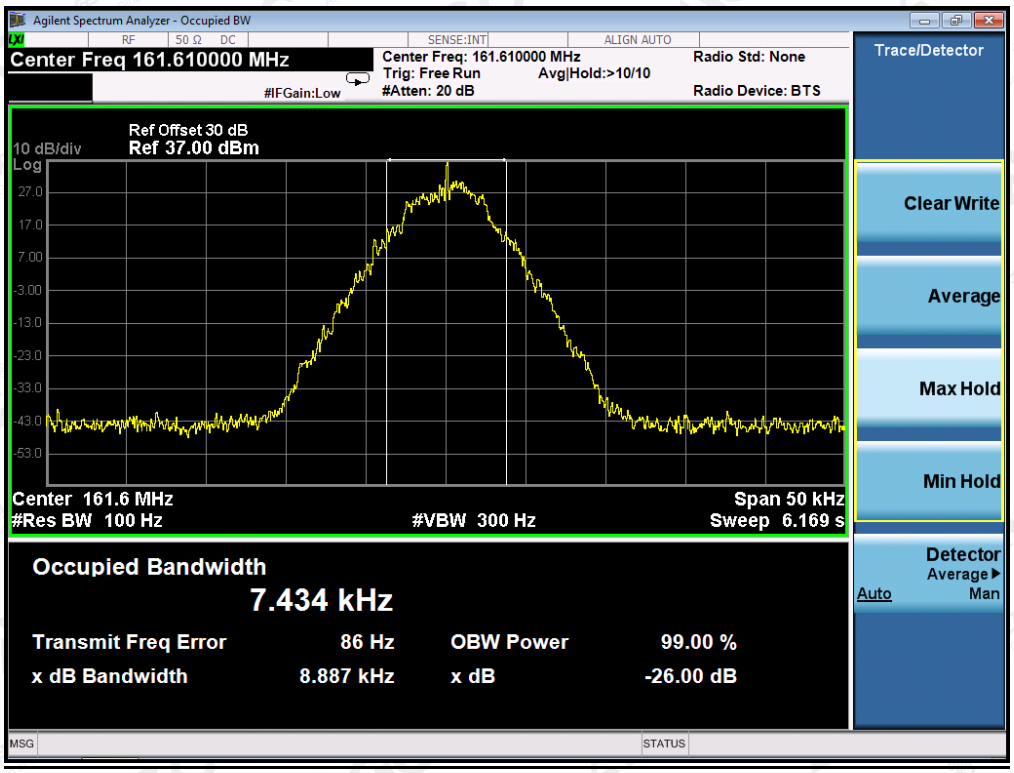
Occupied bandwidth of Bottom Channel (Maximum)-1W



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



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

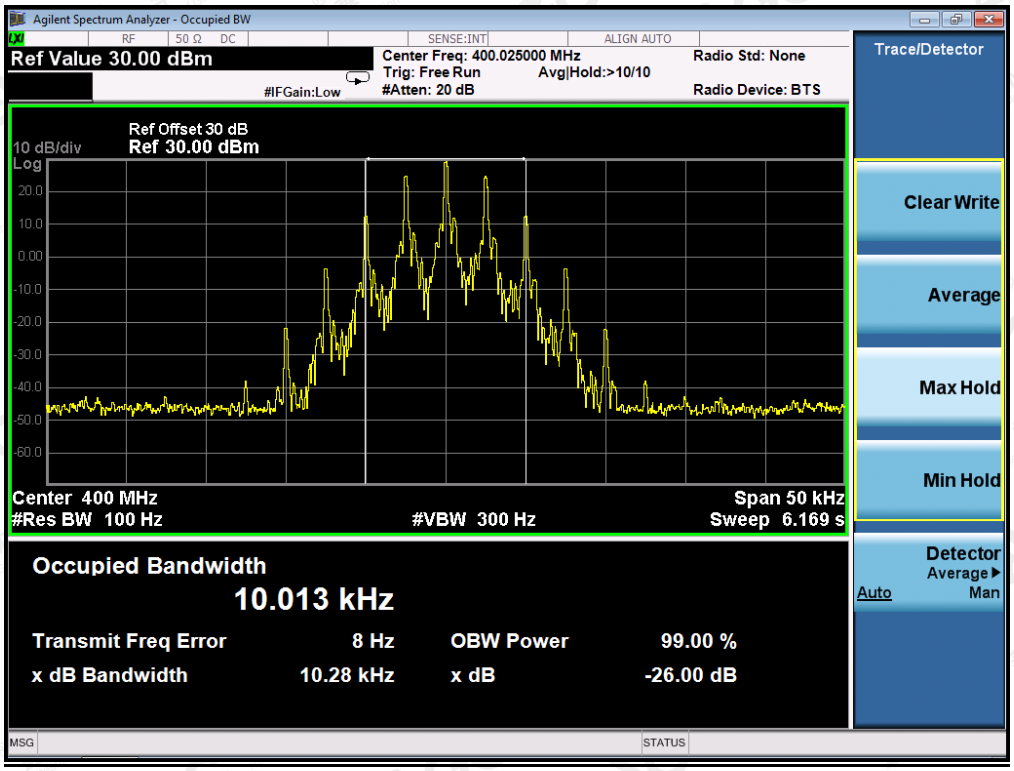


UHF:

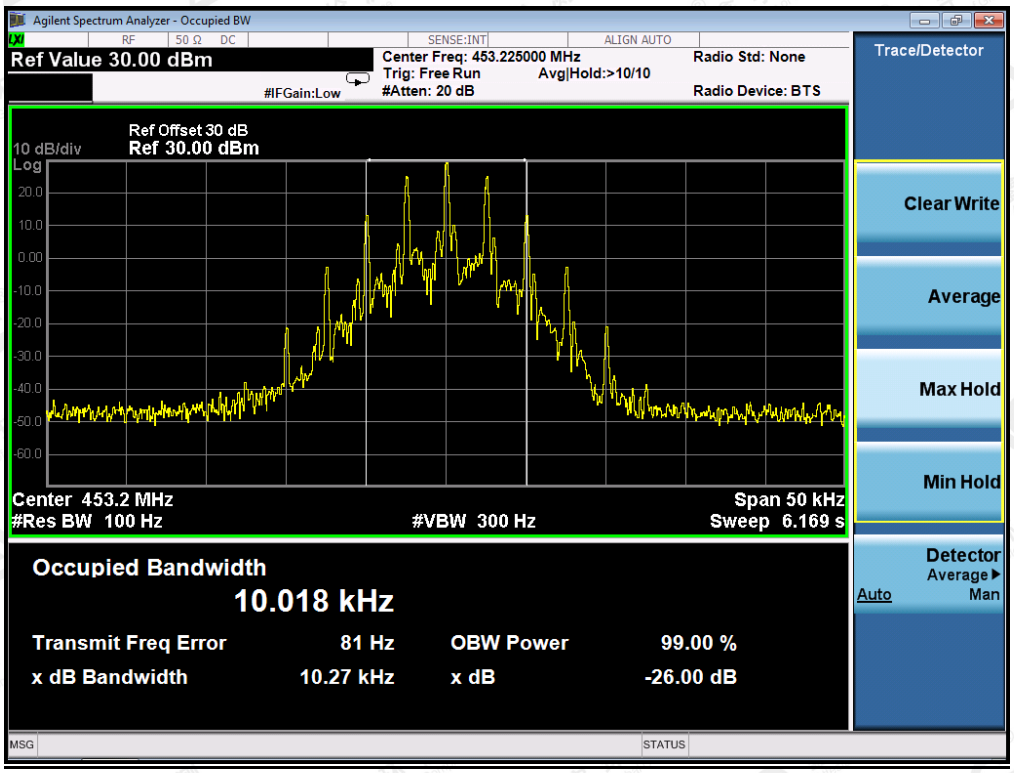
Analog:12.5KHz

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.28KHz	11.25 KHz	Pass
453.225MHz	10.27KHz	11.25 KHz	Pass
454.025MHz	10.29KHz	11.25 KHz	Pass

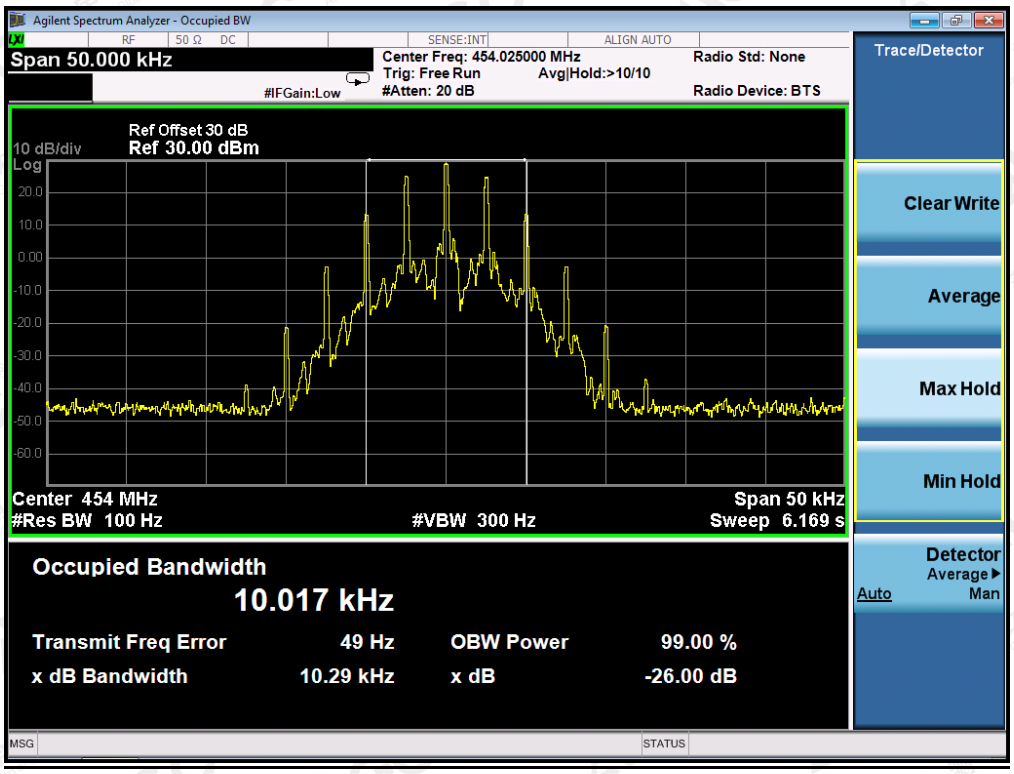
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (Maximum)-5W

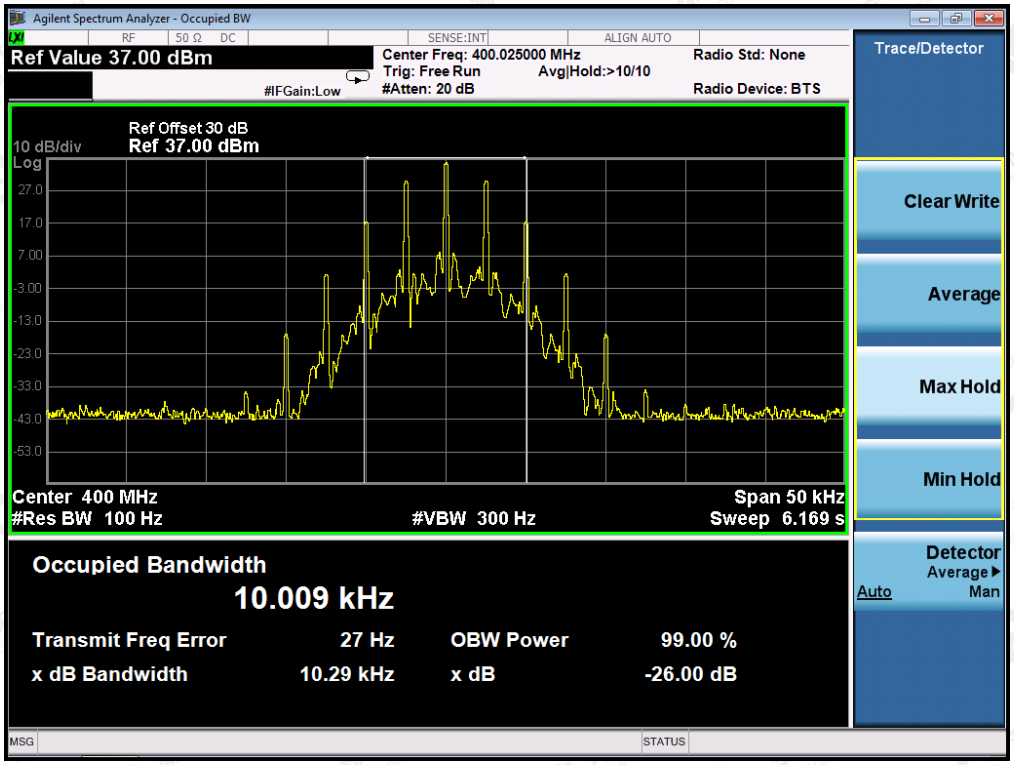


Occupied bandwidth of Middle Channel (Maximum)-5W

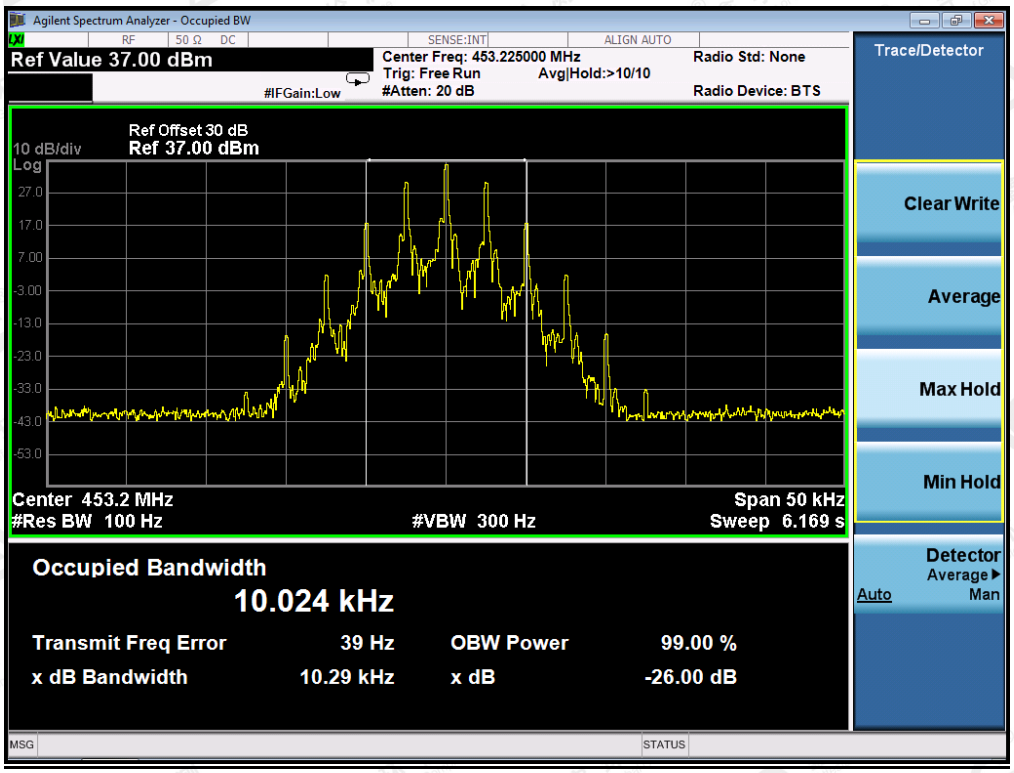


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.29KHz	11.25 KHz	Pass
453.225MHz	10.29KHz	11.25 KHz	Pass
454.025MHz	10.29KHz	11.25 KHz	Pass

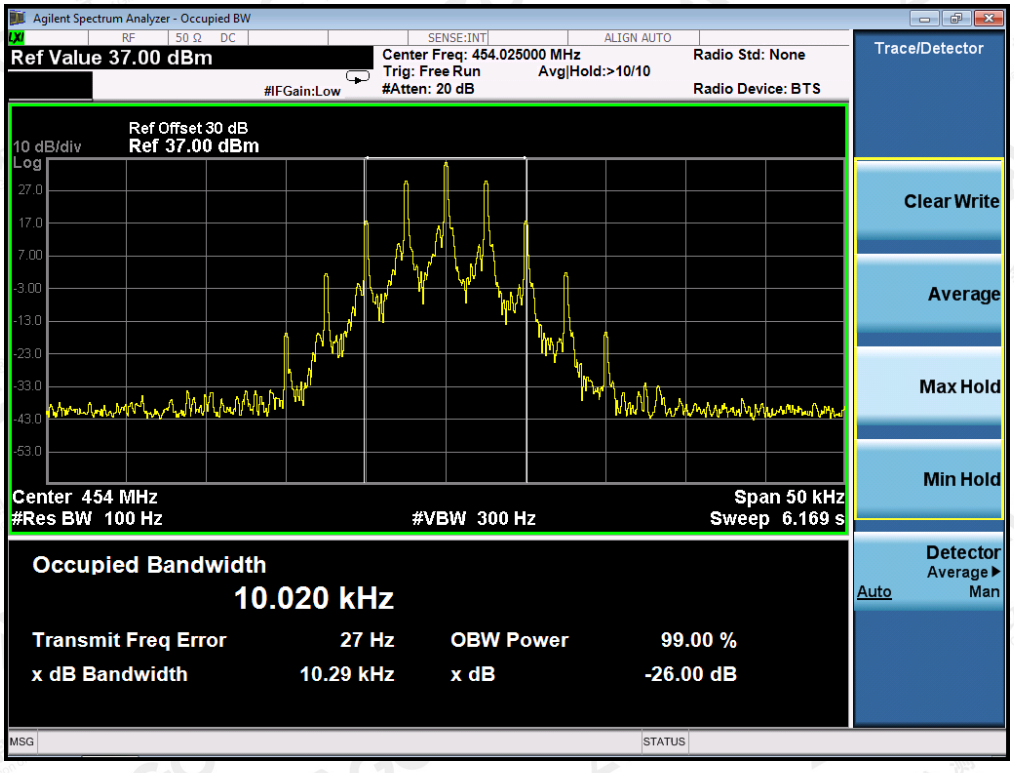
Occupied bandwidth of Bottom Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W



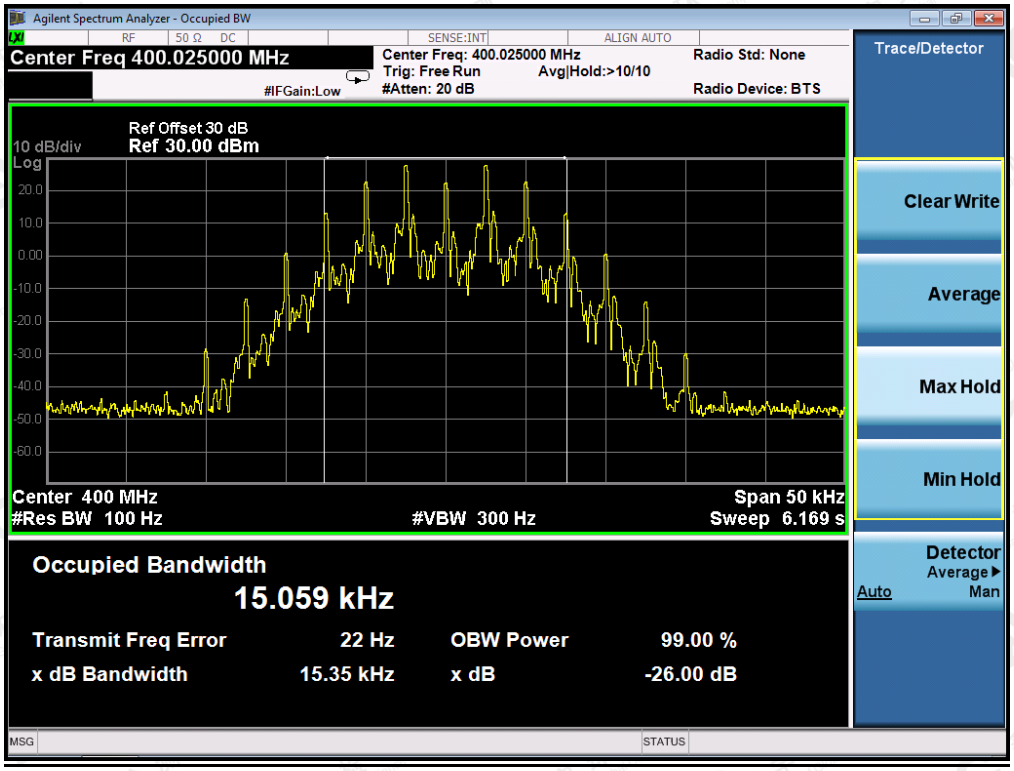
Occupied bandwidth of Middle Channel (Maximum)-1W



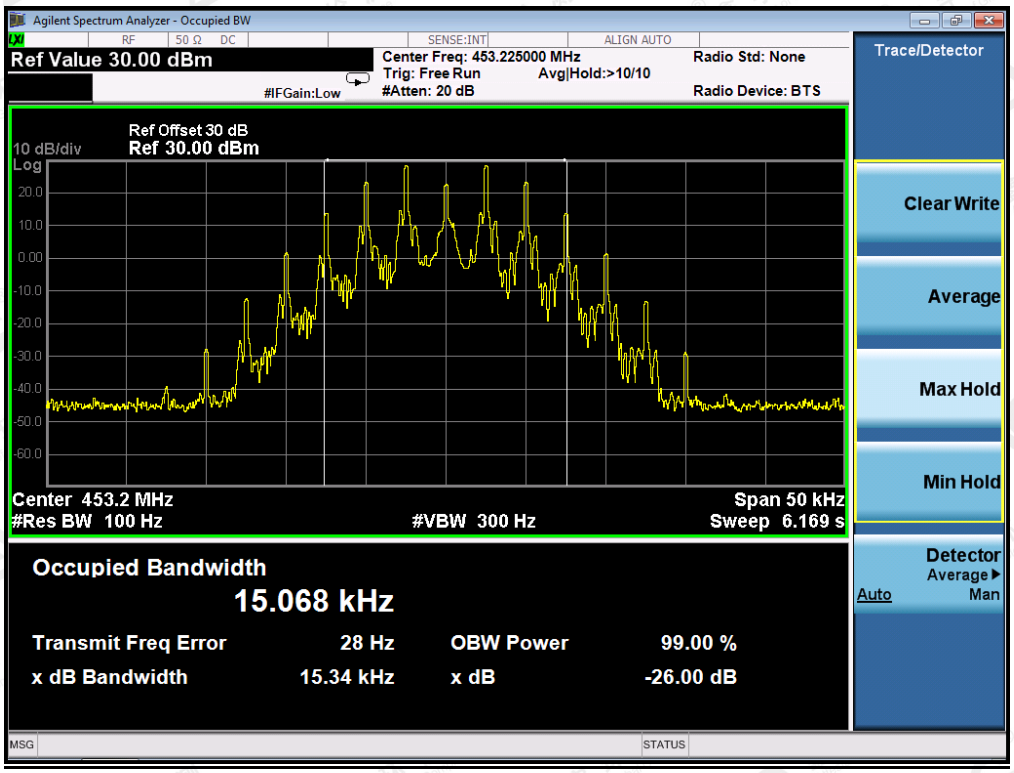
Analog:25KHz

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	25 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	15.35KHz	20 KHz	Pass
453.225MHz	15.34KHz	20 KHz	Pass
454.025MHz	15.38KHz	20 KHz	Pass

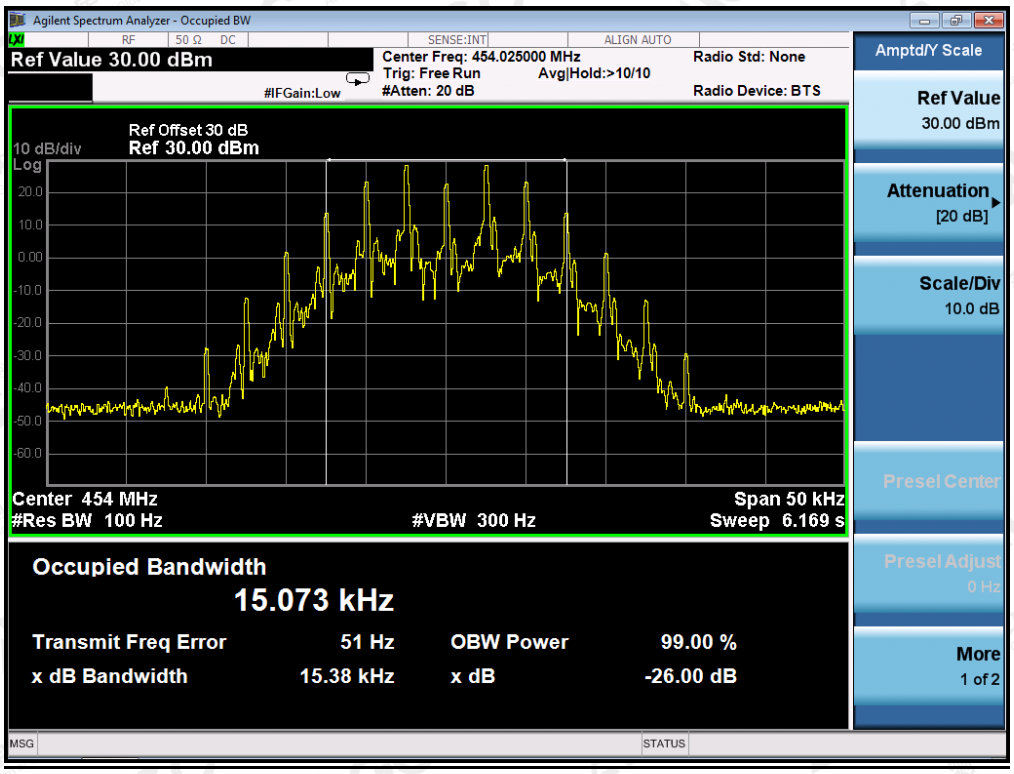
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (Maximum)-5W

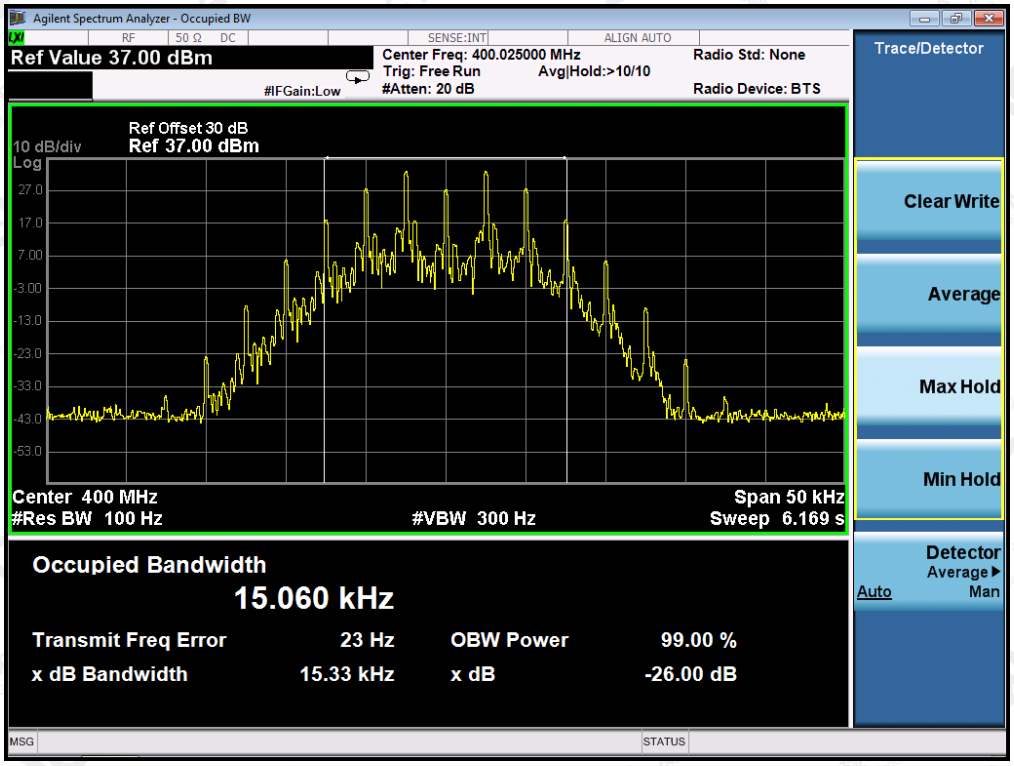


Occupied bandwidth of Middle Channel (Maximum)-5W

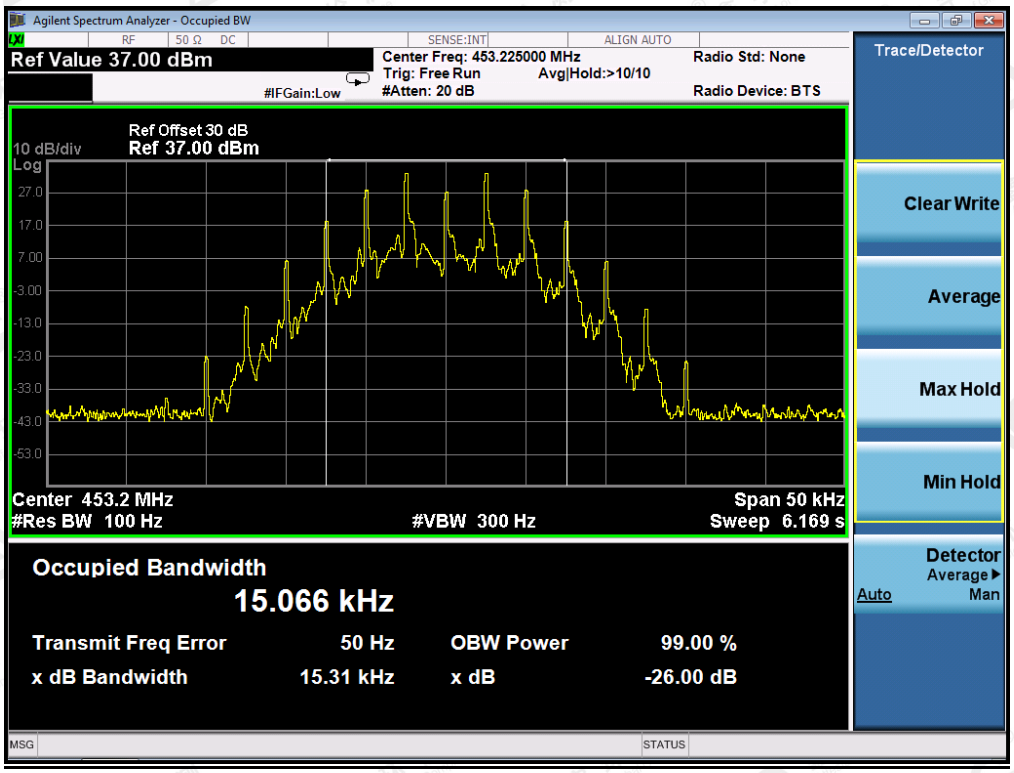


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	25 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	15.33KHz	20 KHz	Pass
453.225MHz	15.31KHz	20 KHz	Pass
454.025MHz	15.33KHz	20 KHz	Pass

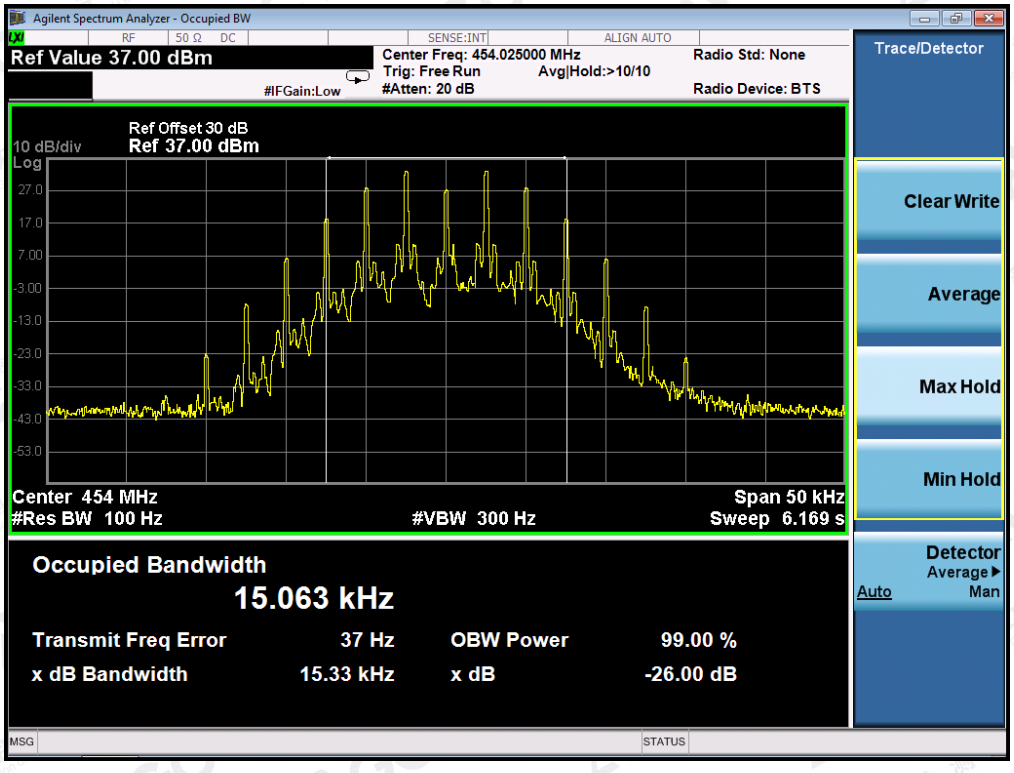
Occupied bandwidth of Bottom Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W

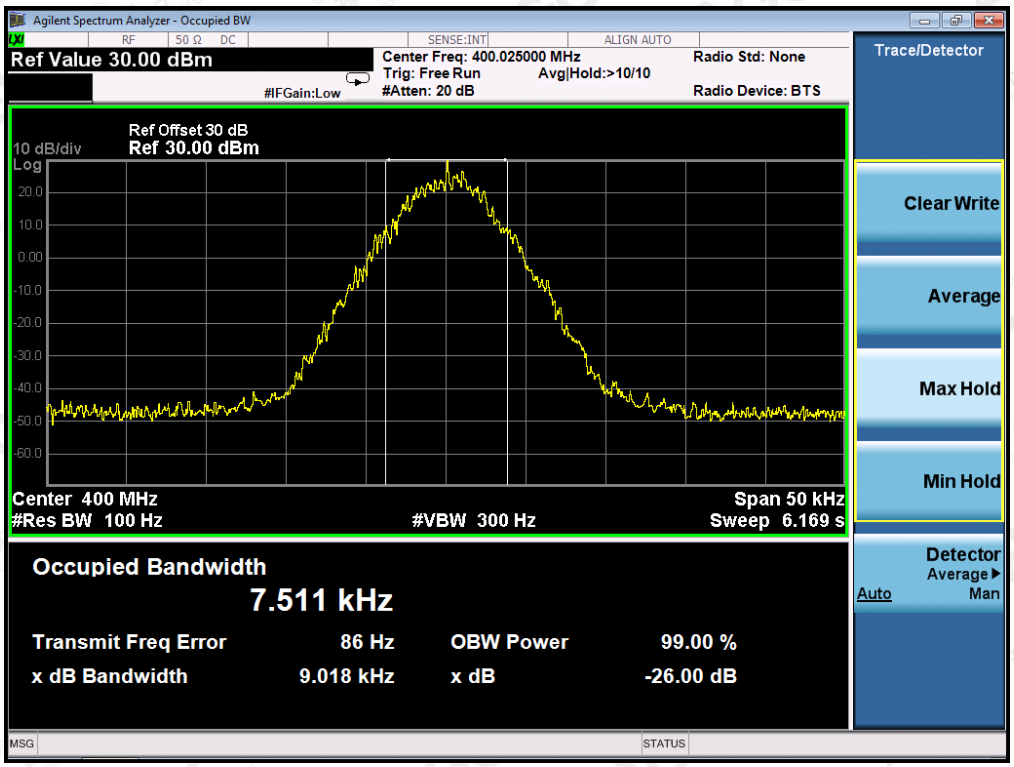


Digital:

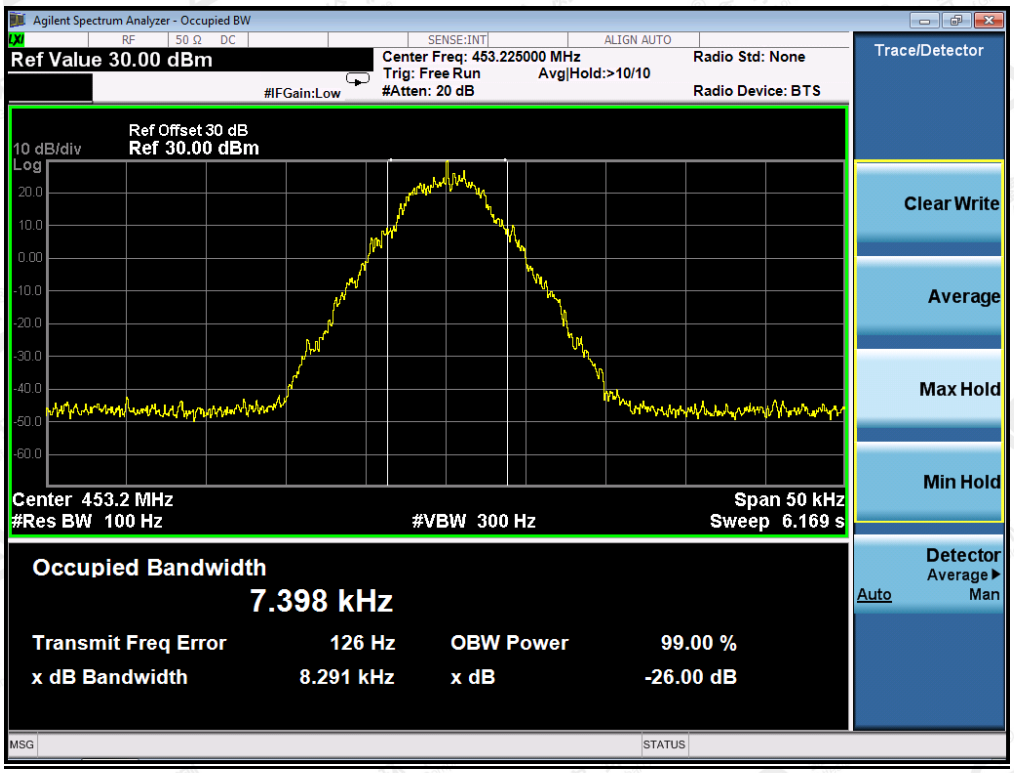
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	9.018KHz	11.25 KHz	Pass
453.225MHz	8.291KHz	11.25 KHz	Pass
454.025MHz	8.966KHz	11.25 KHz	Pass

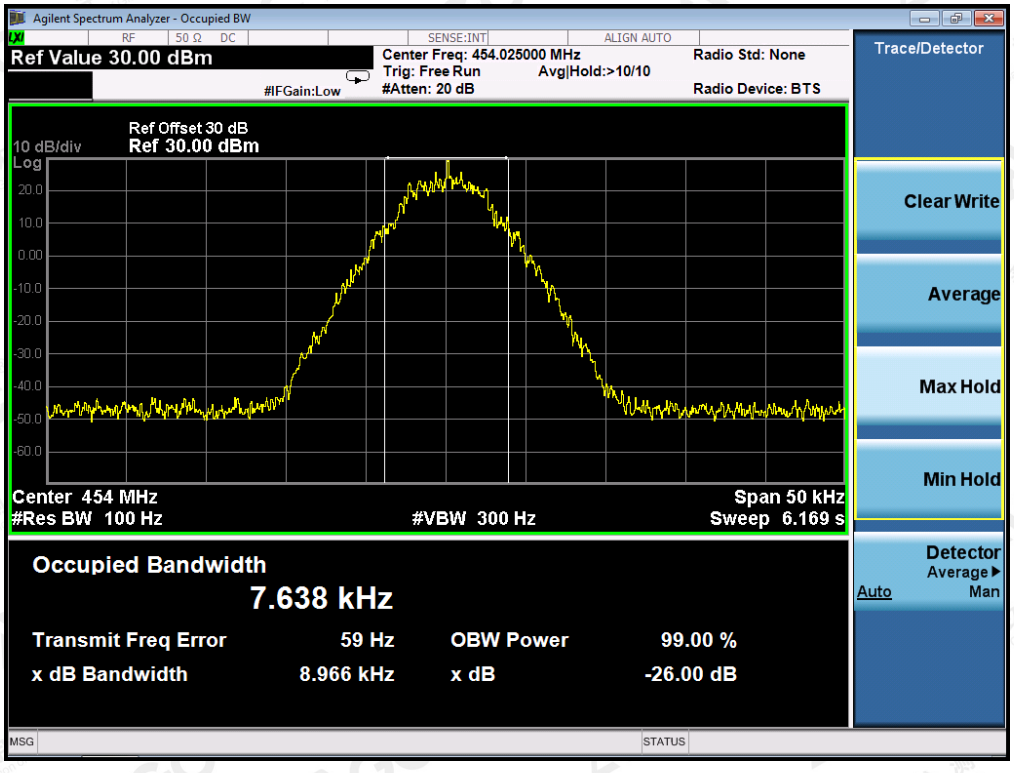
Occupied bandwidth of Bottom Channel (Maximum) -5W



Occupied bandwidth of Middle Channel (Maximum)-5W



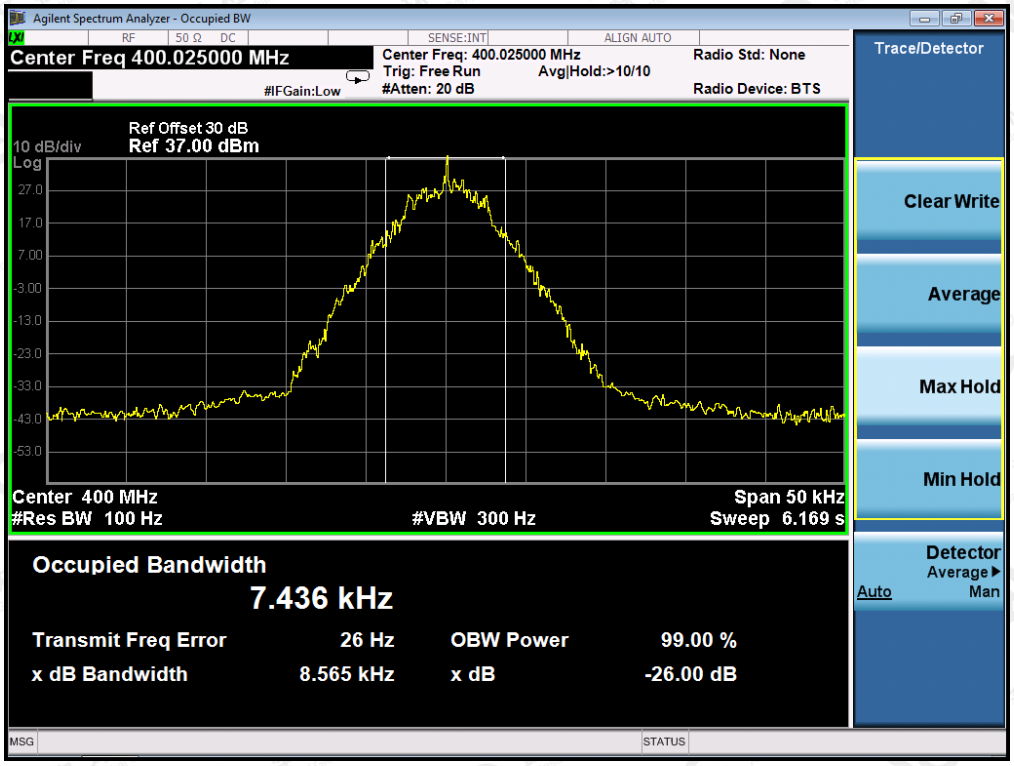
Occupied bandwidth of Middle Channel (Maximum)-5W



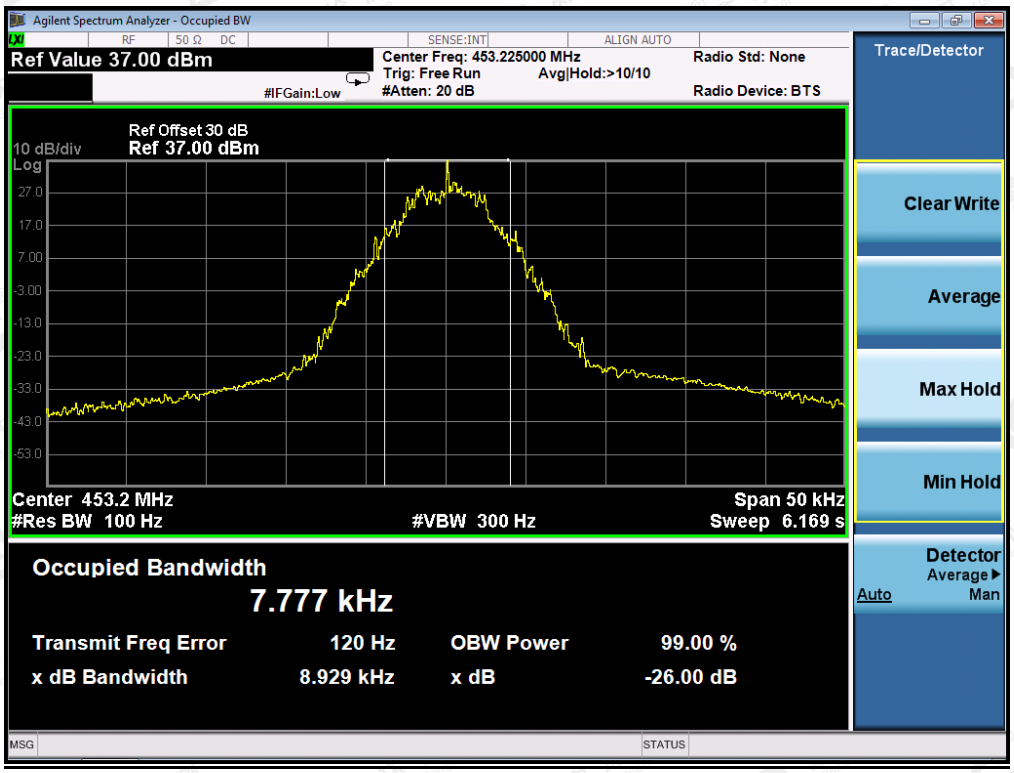
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	8.565KHz	11.25 KHz	Pass
453.225MHz	8.929KHz	11.25 KHz	Pass
454.025MHz	8.947KHz	11.25 KHz	Pass

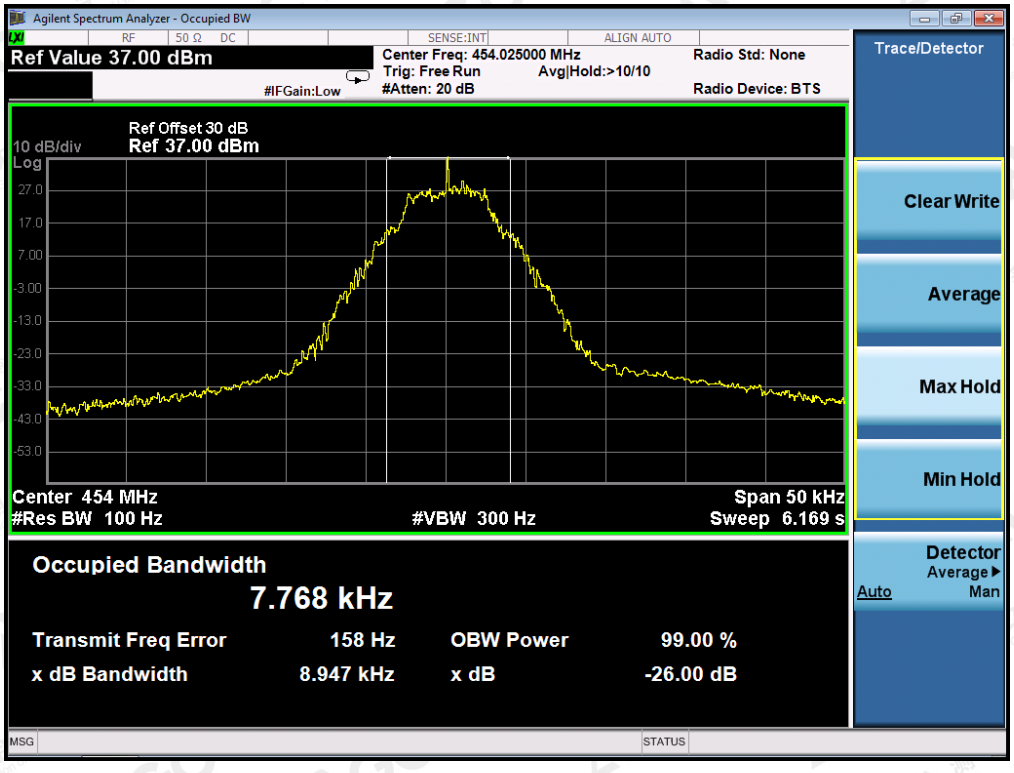
Occupied bandwidth of Bottom Channel (Maximum) -1W



Occupied bandwidth of Middle Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W



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.

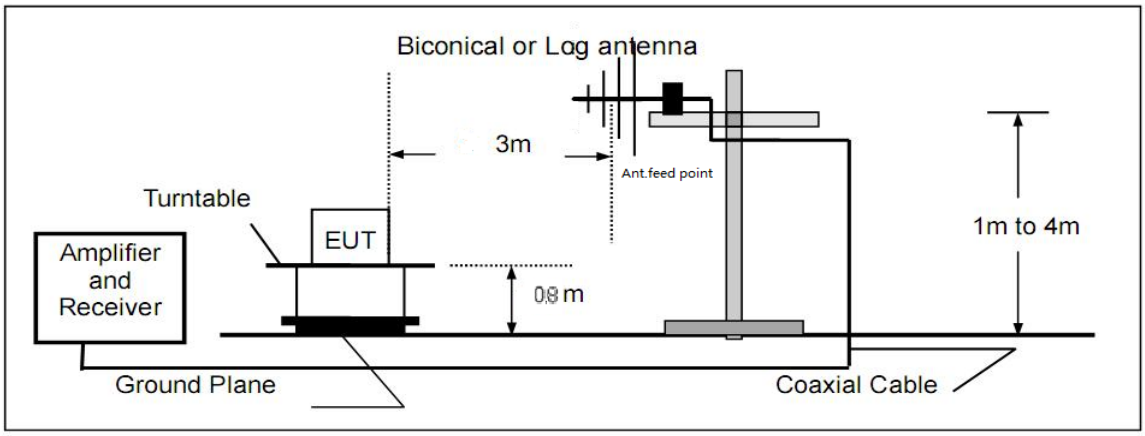
(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.

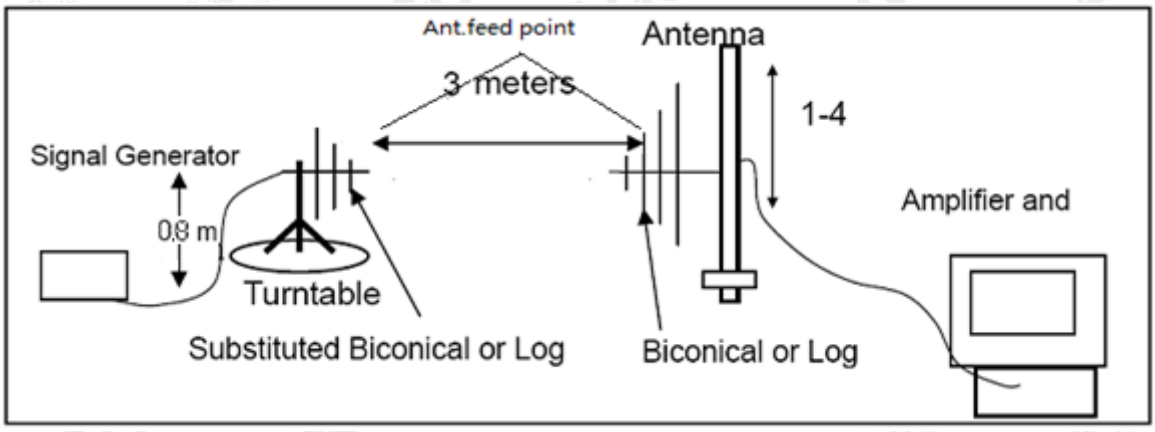
(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

7.3 TEST SETUP BLOCK DIAGRAM

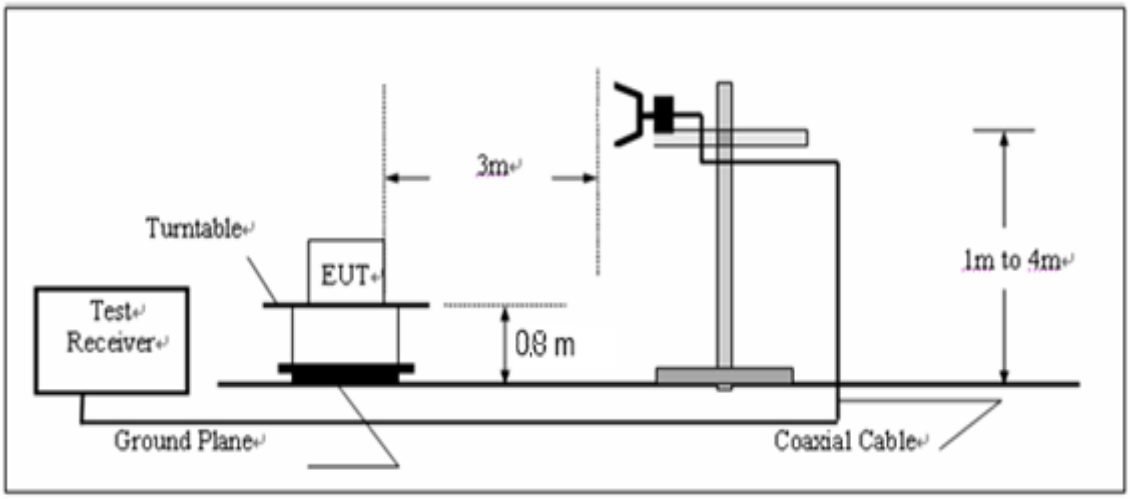
SUBSTITUTION METHOD: (Radiated Emissions)

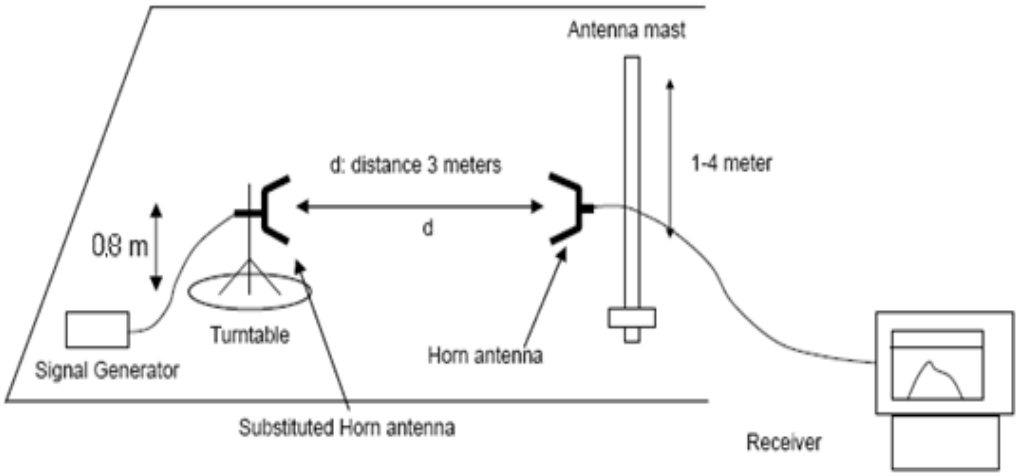
Radiated Below1GHz





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.

Limit: At least 50+10 log (P) =50+10log (5) =57 (dB)—5W

At least 50+10 log (P) =50+10log (1) =50 (dB)—1W

VHF:

Analog:

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	71.14	57	pass
408.08	H	71.31	57	pass
544.100	H	72.57	57	pass
680.125	H	73.62	57	pass
816.150	H	74.59	57	pass
952.175	H	76.37	57	pass
1088.200	H	81.81	57	pass
1224.225	H	82.18	57	pass
1360.250	H	82.21	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	70.24	57	pass
408.08	V	71.88	57	pass
544.100	V	72.36	57	pass
680.125	V	70.74	57	pass
816.150	V	74.81	57	pass
952.175	V	76.12	57	pass
1088.200	V	75.37	57	pass
1224.225	V	78.55	57	pass
1360.250	V	79.64	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	69.43	57	pass
455.550	H	70.71	57	pass
607.400	H	70.35	57	pass
759.250	H	73.26	57	pass
911.100	H	76.82	57	pass
1062.950	H	77.11	57	pass
1214.800	H	78.47	57	pass
1366.650	H	81.73	57	pass
1518.500	H	80.19	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	V	0		pass
303.700	V	69.41	57	pass
455.550	V	69.63	57	pass
607.400	V	70.18	57	pass
759.250	V	73.47	57	pass
911.100	V	75.59	57	pass
1062.950	V	78.37	57	pass
1214.800	V	77.57	57	pass
1366.650	V	82.48	57	pass
1518.500	V	81.76	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	69.42	57	pass
465.075	H	70.39	57	pass
620.100	H	71.11	57	pass
775.125	H	72.52	57	pass
930.150	H	75.67	57	pass
1085.175	H	78.82	57	pass
1240.200	H	73.43	57	pass
1395.225	H	81.17	57	pass
1550.250	H	81.09	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	69.13	57	pass
465.075	V	69.47	57	pass
620.100	V	71.58	57	pass
775.125	V	74.21	57	pass
930.150	V	76.37	57	pass
1085.175	V	77.44	57	pass
1240.200	V	79.68	57	pass
1395.225	V	80.71	57	pass
1550.250	V	80.59	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.610MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	70.34	57	pass
484.83	H	71.47	57	pass
646.440	H	72.69	57	pass
808.050	H	73.27	57	pass
969.660	H	73.43	57	pass
1131.270	H	75.91	57	pass
1292.880	H	80.64	57	pass
1454.490	H	81.27	57	pass
1616.100	H	80.36	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	V	0		pass
323.220	V	70.27	57	pass
484.83	V	70.43	57	pass
646.440	V	72.16	57	pass
808.050	V	71.37	57	pass
969.660	V	73.72	57	pass
1131.270	V	75.55	57	pass
1292.880	V	74.71	57	pass
1454.490	V	78.49	57	pass
1616.100	V	78.11	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	70.38	57	pass
521.925	H	71.71	57	pass
695.900	H	72.29	57	pass
869.875	H	75.88	57	pass
1043.850	H	74.74	57	pass
1217.825	H	78.63	57	pass
1391.800	H	77.41	57	pass
1565.775	H	80.08	57	pass
1739.750	H	81.21	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	71.34	57	pass
521.925	V	70.89	57	pass
695.900	V	75.61	57	pass
869.875	V	74.85	57	pass
1043.850	V	76.52	57	pass
1217.825	V	77.68	57	pass
1391.800	V	79.24	57	pass
1565.775	V	80.53	57	pass
1739.750	V	81.04	57	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	71.04	50	pass
408.08	H	70.21	50	pass
544.100	H	73.64	50	pass
680.125	H	75.77	50	pass
816.150	H	74.53	50	pass
952.175	H	76.18	50	pass
1088.200	H	79.83	50	pass
1224.225	H	80.55	50	pass
1360.250	H	81.17	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	69.85	50	pass
408.08	V	71.11	50	pass
544.100	V	73.76	50	pass
680.125	V	74.41	50	pass
816.150	V	76.58	50	pass
952.175	V	77.33	50	pass
1088.200	V	78.24	50	pass
1224.225	V	80.68	50	pass
1360.250	V	81.75	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	69.35	50	pass
455.550	H	70.61	50	pass
607.400	H	71.03	50	pass
759.250	H	72.27	50	pass
911.100	H	75.43	50	pass
1062.950	H	78.76	50	pass
1214.800	H	79.48	50	pass
1366.650	H	81.64	50	pass
1518.500	H	80.93	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.85	V	0		pass
303.7	V	70.06	50	pass
455.55	V	71.84	50	pass
607.4	V	73.63	50	pass
759.25	V	73.12	50	pass
911.1	V	75.89	50	pass
1062.95	V	76.54	50	pass
1214.8	V	77.17	50	pass
1366.65	V	78.26	50	pass
1518.5	V	80.38	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	69.53	50	pass
465.075	H	70.71	50	pass
620.100	H	72.26	50	pass
775.125	H	73.41	50	pass
930.150	H	76.83	50	pass
1085.175	H	77.69	50	pass
1240.200	H	80.27	50	pass
1395.225	H	81.38	50	pass
1550.250	H	81.79	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	70.26	50	pass
465.075	V	71.51	50	pass
620.100	V	73.82	50	pass
775.125	V	74.11	50	pass
930.150	V	76.63	50	pass
1085.175	V	75.82	50	pass
1240.200	V	79.46	50	pass
1395.225	V	80.77	50	pass
1550.250	V	81.61	50	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.10MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	71.85	50	pass
484.830	H	72.63	50	pass
646.440	H	73.47	50	pass
808.050	H	76.52	50	pass
969.660	H	74.61	50	pass
1131.270	H	79.07	50	pass
1292.880	H	78.69	50	pass
1454.490	H	80.51	50	pass
1616.100	H	81.37	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	70.41	50	pass
521.925	V	72.76	50	pass
695.900	V	73.52	50	pass
869.875	V	75.16	50	pass
1043.850	V	76.39	50	pass
1217.825	V	77.58	50	pass
1391.800	V	79.77	50	pass
1565.775	V	81.91	50	pass
1739.750	V	82.22	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	71.36	50	pass
521.925	H	72.87	50	pass
695.900	H	74.01	50	pass
869.875	H	75.58	50	pass
1043.850	H	76.66	50	pass
1217.825	H	78.14	50	pass
1391.800	H	79.29	50	pass
1565.775	H	80.47	50	pass
1739.750	H	80.73	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	70.16	50	pass
521.925	V	72.55	50	pass
695.900	V	73.68	50	pass
869.875	V	75.81	50	pass
1043.850	V	76.27	50	pass
1217.825	V	77.46	50	pass
1391.800	V	79.59	50	pass
1565.775	V	81.31	50	pass
1739.750	V	82.15	50	pass

Measurement Result for 25 KHz Channel Separation @ 136.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	71.18	57	pass
408.08	H	71.36	57	pass
544.100	H	72.52	57	pass
680.125	H	73.69	57	pass
816.150	H	74.51	57	pass
952.175	H	76.32	57	pass
1088.200	H	81.84	57	pass
1224.225	H	82.14	57	pass
1360.250	H	82.26	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	70.89	57	pass
408.08	V	71.36	57	pass
544.100	V	72.26	57	pass
680.125	V	70.51	57	pass
816.150	V	74.96	57	pass
952.175	V	76.17	57	pass
1088.200	V	75.23	57	pass
1224.225	V	78.62	57	pass
1360.250	V	79.91	57	pass

Measurement Result for 25 KHz Channel Separation @ 151.850MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	69.62	57	pass
455.550	H	70.63	57	pass
607.400	H	70.29	57	pass
759.250	H	73.16	57	pass
911.100	H	76.96	57	pass
1062.950	H	77.28	57	pass
1214.800	H	78.53	57	pass
1366.650	H	81.86	57	pass
1518.500	H	80.25	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	V	0		pass
303.700	V	69.32	57	pass
455.550	V	69.91	57	pass
607.400	V	70.28	57	pass
759.250	V	73.52	57	pass
911.100	V	75.36	57	pass
1062.950	V	78.24	57	pass
1214.800	V	77.62	57	pass
1366.650	V	82.68	57	pass
1518.500	V	81.72	57	pass

Measurement Result for 25 KHz Channel Separation @ 155.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	69.35	57	pass
465.075	H	70.15	57	pass
620.100	H	71.03	57	pass
775.125	H	72.63	57	pass
930.150	H	75.17	57	pass
1085.175	H	78.62	57	pass
1240.200	H	73.62	57	pass
1395.225	H	81.27	57	pass
1550.250	H	81.06	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	69.95	57	pass
465.075	V	69.26	57	pass
620.100	V	71.21	57	pass
775.125	V	74.36	57	pass
930.150	V	76.19	57	pass
1085.175	V	77.28	57	pass
1240.200	V	79.46	57	pass
1395.225	V	80.37	57	pass
1550.250	V	80.68	57	pass

Measurement Result for 25 KHz Channel Separation @ 161.610MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	70.25	57	pass
484.83	H	71.31	57	pass
646.440	H	72.52	57	pass
808.050	H	73.61	57	pass
969.660	H	73.51	57	pass
1131.270	H	75.84	57	pass
1292.880	H	80.69	57	pass
1454.490	H	81.36	57	pass
1616.100	H	80.58	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	V	0		pass
323.220	V	70.52	57	pass
484.83	V	70.85	57	pass
646.440	V	72.41	57	pass
808.050	V	71.69	57	pass
969.660	V	73.85	57	pass
1131.270	V	75.64	57	pass
1292.880	V	74.87	57	pass
1454.490	V	78.58	57	pass
1616.100	V	78.26	57	pass

Measurement Result for 25 KHz Channel Separation @ 173.975MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	70.26	57	pass
521.925	H	71.86	57	pass
695.900	H	72.35	57	pass
869.875	H	75.92	57	pass
1043.850	H	74.85	57	pass
1217.825	H	78.75	57	pass
1391.800	H	77.79	57	pass
1565.775	H	80.18	57	pass
1739.750	H	81.57	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	71.26	57	pass
521.925	V	70.96	57	pass
695.900	V	75.85	57	pass
869.875	V	74.74	57	pass
1043.850	V	76.68	57	pass
1217.825	V	77.58	57	pass
1391.800	V	79.38	57	pass
1565.775	V	80.65	57	pass
1739.750	V	81.19	57	pass

Measurement Result for 25 KHz Channel Separation @ 136.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	71.16	50	pass
408.08	H	70.36	50	pass
544.100	H	73.52	50	pass
680.125	H	75.14	50	pass
816.150	H	74.69	50	pass
952.175	H	76.25	50	pass
1088.200	H	79.74	50	pass
1224.225	H	80.63	50	pass
1360.250	H	81.27	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	69.63	50	pass
408.08	V	71.25	50	pass
544.100	V	73.63	50	pass
680.125	V	74.75	50	pass
816.150	V	76.12	50	pass
952.175	V	77.47	50	pass
1088.200	V	78.36	50	pass
1224.225	V	80.57	50	pass
1360.250	V	81.69	50	pass

Measurement Result for 25 KHz Channel Separation @ 151.850MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	69.26	50	pass
455.550	H	70.35	50	pass
607.400	H	71.17	50	pass
759.250	H	72.36	50	pass
911.100	H	75.51	50	pass
1062.950	H	78.85	50	pass
1214.800	H	79.39	50	pass
1366.650	H	81.51	50	pass
1518.500	H	80.84	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.85	V	0		pass
303.7	V	70.26	50	pass
455.55	V	71.96	50	pass
607.4	V	73.85	50	pass
759.25	V	73.26	50	pass
911.1	V	75.74	50	pass
1062.95	V	76.62	50	pass
1214.8	V	77.28	50	pass
1366.65	V	78.39	50	pass
1518.5	V	80.45	50	pass

Measurement Result for 25 KHz Channel Separation @ 155.025MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	69.68	50	pass
465.075	H	70.68	50	pass
620.100	H	72.19	50	pass
775.125	H	73.58	50	pass
930.150	H	76.46	50	pass
1085.175	H	77.75	50	pass
1240.200	H	80.08	50	pass
1395.225	H	81.24	50	pass
1550.250	H	81.53	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	70.13	50	pass
465.075	V	71.63	50	pass
620.100	V	73.92	50	pass
775.125	V	74.25	50	pass
930.150	V	76.75	50	pass
1085.175	V	75.64	50	pass
1240.200	V	79.16	50	pass
1395.225	V	80.96	50	pass
1550.250	V	81.74	50	pass

Measurement Result for 25 KHz Channel Separation @ 161.10MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	71.95	50	pass
484.830	H	72.26	50	pass
646.440	H	73.38	50	pass
808.050	H	76.18	50	pass
969.660	H	74.96	50	pass
1131.270	H	79.25	50	pass
1292.880	H	78.76	50	pass
1454.490	H	80.48	50	pass
1616.100	H	81.15	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	70.15	50	pass
521.925	V	72.69	50	pass
695.900	V	73.85	50	pass
869.875	V	75.36	50	pass
1043.850	V	76.27	50	pass
1217.825	V	77.48	50	pass
1391.800	V	79.57	50	pass
1565.775	V	81.62	50	pass
1739.750	V	82.18	50	pass

Measurement Result for 25 KHz Channel Separation @ 173.975MHz-1W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	71.25	50	pass
521.925	H	72.96	50	pass
695.900	H	74.17	50	pass
869.875	H	75.63	50	pass
1043.850	H	76.75	50	pass
1217.825	H	78.25	50	pass
1391.800	H	79.14	50	pass
1565.775	H	80.35	50	pass
1739.750	H	80.64	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	70.08	50	pass
521.925	V	72.69	50	pass
695.900	V	73.52	50	pass
869.875	V	75.75	50	pass
1043.850	V	76.16	50	pass
1217.825	V	77.37	50	pass
1391.800	V	79.35	50	pass
1565.775	V	81.46	50	pass
1739.750	V	82.08	50	pass

Digital:

Measurement Result for 12.5 KHz Channel Separation @ 136.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	70.31	57	pass
408.08	H	71.75	57	pass
544.100	H	76.36	57	pass
680.125	H	72.74	57	pass
816.150	H	74.16	57	pass
952.175	H	75.95	57	pass
1088.200	H	81.28	57	pass
1224.225	H	80.47	57	pass
1360.250	H	81.36	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	71.69	57	pass
408.08	V	70.67	57	pass
544.100	V	72.52	57	pass
680.125	V	73.17	57	pass
816.150	V	74.69	57	pass
952.175	V	75.28	57	pass
1088.200	V	78.68	57	pass
1224.225	V	80.47	57	pass
1360.250	V	80.36	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 151.850MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	70.25	57	pass
455.55	H	71.35	57	pass
607.400	H	72.63	57	pass
759.250	H	72.85	57	pass
911.100	H	74.81	57	pass
1062.950	H	75.46	57	pass
1214.800	H	81.74	57	pass
1366.650	H	80.59	57	pass
1518.500	H	81.58	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	V	0		pass
303.700	V	71.29	57	pass
455.55	V	70.48	57	pass
607.400	V	72.36	57	pass
759.250	V	72.75	57	pass
911.100	V	74.15	57	pass
1062.950	V	75.82	57	pass
1214.800	V	77.63	57	pass
1366.650	V	79.19	57	pass
1518.500	V	81.52	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 155.025MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	70.25	57	pass
465.075	H	71.93	57	pass
620.100	H	72.46	57	pass
775.125	H	75.58	57	pass
930.150	H	76.47	57	pass
1085.175	H	78.16	57	pass
1240.200	H	79.96	57	pass
1395.225	H	80.87	57	pass
1550.250	H	80.63	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	69.96	57	pass
465.08	V	70.25	57	pass
620.100	V	71.68	57	pass
775.125	V	70.74	57	pass
930.150	V	71.51	57	pass
1085.175	V	75.68	57	pass
1240.200	V	77.86	57	pass
1395.225	V	78.83	57	pass
1550.250	V	80.35	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 161.61MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	70.29	57	pass
484.83	H	71.85	57	pass
646.440	H	72.28	57	pass
808.050	H	71.37	57	pass
969.660	H	73.48	57	pass
1131.270	H	77.62	57	pass
1292.880	H	80.75	57	pass
1454.490	H	81.69	57	pass
1616.100	H	80.57	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	V	0		pass
323.220	V	71.52	57	pass
484.83	V	70.96	57	pass
646.440	V	71.38	57	pass
808.050	V	72.75	57	pass
969.660	V	73.49	57	pass
1131.270	V	76.36	57	pass
1292.880	V	77.85	57	pass
1454.490	V	81.74	57	pass
1616.100	V	81.64	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 173.975MHz-5W

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	70.59	57	pass
521.925	H	71.36	57	pass
695.900	H	73.74	57	pass
869.875	H	74.58	57	pass
1043.850	H	75.36	57	pass
1217.825	H	76.75	57	pass
1391.800	H	79.58	57	pass
1565.775	H	82.96	57	pass
1739.750	H	80.71	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	71.26	57	pass
521.925	V	72.69	57	pass
695.900	V	74.82	57	pass
869.875	V	73.76	57	pass
1043.850	V	75.48	57	pass
1217.825	V	76.29	57	pass
1391.800	V	77.85	57	pass
1565.775	V	80.62	57	pass
1739.750	V	79.75	57	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	H	0		pass
272.050	H	68.49	50	pass
408.08	H	72.36	50	pass
544.100	H	73.52	50	pass
680.125	H	74.71	50	pass
816.150	H	75.36	50	pass
952.175	H	75.15	50	pass
1088.200	H	77.35	50	pass
1224.225	H	79.15	50	pass
1360.250	H	80.29	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
136.025	V	0		pass
272.050	V	71.52	50	pass
408.08	V	72.63	50	pass
544.100	V	74.15	50	pass
680.125	V	75.93	50	pass
816.150	V	78.25	50	pass
952.175	V	77.41	50	pass
1088.200	V	78.75	50	pass
1224.225	V	80.36	50	pass
1360.250	V	81.57	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	H	0		pass
303.700	H	69.26	50	pass
455.55	H	72.63	50	pass
607.400	H	73.15	50	pass
759.250	H	75.96	50	pass
911.100	H	75.28	50	pass
1062.950	H	76.18	50	pass
1214.800	H	76.29	50	pass
1366.650	H	78.62	50	pass
1518.500	H	81.37	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
151.850	V	0		pass
303.700	V	71.19	50	pass
455.55	V	72.39	50	pass
607.400	V	73.51	50	pass
759.250	V	75.85	50	pass
911.100	V	74.62	50	pass
1062.950	V	76.86	50	pass
1214.800	V	75.28	50	pass
1366.650	V	81.96	50	pass
1518.500	V	80.61	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	H	0		pass
310.050	H	69.59	50	pass
465.075	H	71.53	50	pass
620.100	H	72.47	50	pass
775.125	H	75.39	50	pass
930.150	H	75.49	50	pass
1085.175	H	78.62	50	pass
1240.200	H	78.63	50	pass
1395.225	H	81.37	50	pass
1550.250	H	80.29	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
155.025	V	0		pass
310.050	V	69.26	50	pass
465.075	V	71.69	50	pass
620.100	V	73.71	50	pass
775.125	V	75.85	50	pass
930.150	V	77.62	50	pass
1085.175	V	76.96	50	pass
1240.200	V	79.76	50	pass
1395.225	V	81.58	50	pass
1550.250	V	82.74	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	H	0		pass
323.220	H	69.59	50	pass
484.83	H	71.69	50	pass
646.440	H	73.36	50	pass
808.050	H	74.85	50	pass
969.660	H	75.48	50	pass
1131.270	H	76.67	50	pass
1292.880	H	76.38	50	pass
1454.490	H	78.48	50	pass
1616.100	H	81.85	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/H)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
161.610	V	0		pass
323.220	V	71.52	50	pass
484.83	V	72.39	50	pass
646.440	V	74.51	50	pass
808.050	V	74.96	50	pass
969.660	V	76.84	50	pass
1131.270	V	75.86	50	pass
1292.880	V	76.29	50	pass
1454.490	V	79.38	50	pass
1616.100	V	80.57	50	pass

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

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	H	0		pass
347.950	H	69.53	50	pass
521.925	H	69.19	50	pass
695.900	H	71.57	50	pass
869.875	H	73.56	50	pass
1043.850	H	76.92	50	pass
1217.825	H	77.85	50	pass
1391.800	H	78.74	50	pass
1565.775	H	79.58	50	pass
1739.750	H	80.57	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
173.975	V	0		pass
347.950	V	69.53	50	pass
521.925	V	70.69	50	pass
695.900	V	72.58	50	pass
869.875	V	75.47	50	pass
1043.850	V	76.86	50	pass
1217.825	V	78.75	50	pass
1391.800	V	79.88	50	pass
1565.775	V	81.96	50	pass
1739.750	V	80.53	50	pass

UHF:

Analog:

TEST RESULTS--5W

Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	68.83	57	pass
1200.075	H	69.51	57	pass
1600.100	H	71.17	57	pass
2000.125	H	72.36	57	pass
2400.150	H	75.75	57	pass
2800.175	H	77.24	57	pass
3200.200	H	79.77	57	pass
3600.225	H	78.68	57	pass
4000.250	H	81.43	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.73	57	pass
1200.075	V	72.24	57	pass
1600.100	V	71.35	57	pass
2000.125	V	75.69	57	pass
2400.150	V	76.87	57	pass
2800.175	V	75.59	57	pass
3200.200	V	77.83	57	pass
3600.225	V	79.74	57	pass
4000.250	V	80.58	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	67.34	57	pass
1362.075	H	70.28	57	pass
1816.100	H	70.74	57	pass
2270.125	H	74.59	57	pass
2724.150	H	75.61	57	pass
3178.175	H	79.28	57	pass
3632.200	H	78.64	57	pass
4086.225	H	81.29	57	pass
4540.250	H	81.61	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	70.36	57	pass
1362.075	V	71.77	57	pass
1816.100	V	74.41	57	pass
2270.125	V	73.06	57	pass
2724.150	V	74.17	57	pass
3178.175	V	75.39	57	pass
3632.200	V	79.25	57	pass
4086.225	V	78.85	57	pass
4540.250	V	81.41	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	66.15	57	pass
1439.925	H	69.35	57	pass
1919.900	H	71.28	57	pass
2399.875	H	72.16	57	pass
2879.850	H	74.35	57	pass
3359.825	H	75.49	57	pass
3839.800	H	77.43	57	pass
4319.775	H	80.18	57	pass
4799.750	H	81.35	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	67.11	57	pass
1439.925	V	69.53	57	pass
1919.900	V	70.28	57	pass
2399.875	V	71.84	57	pass
2879.850	V	73.73	57	pass
3359.825	V	78.88	57	pass
3839.800	V	80.24	57	pass
4319.775	V	80.53	57	pass
4799.750	V	81.74	57	pass

TEST RESULTS--1W

Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	70.53	50	pass
1200.075	H	71.48	50	pass
1600.100	H	73.76	50	pass
2000.125	H	75.85	50	pass
2400.150	H	76.09	50	pass
2800.175	H	77.17	50	pass
3200.200	H	78.73	50	pass
3600.225	H	80.52	50	pass
4000.250	H	81.41	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.47	50	pass
1200.075	V	71.39	50	pass
1600.100	V	73.52	50	pass
2000.125	V	74.84	50	pass
2400.150	V	75.27	50	pass
2800.175	V	76.13	50	pass
3200.200	V	77.27	50	pass
3600.225	V	79.51	50	pass
4000.250	V	80.45	50	pass

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	70.16	50	pass
1362.075	H	70.28	50	pass
1816.100	H	74.57	50	pass
2270.125	H	74.96	50	pass
2724.150	H	76.71	50	pass
3178.175	H	75.53	50	pass
3632.200	H	76.78	50	pass
4086.225	H	79.31	50	pass
4540.250	H	81.47	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	68.47	50	pass
1362.075	V	69.51	50	pass
1816.100	V	70.33	50	pass
2270.125	V	73.48	50	pass
2724.150	V	76.62	50	pass
3178.175	V	78.94	50	pass
3632.200	V	79.26	50	pass
4086.225	V	80.17	50	pass
4540.250	V	80.63	50	pass

Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	70.34	50	pass
1439.925	H	71.58	50	pass
1919.900	H	73.41	50	pass
2399.875	H	75.86	50	pass
2879.850	H	76.35	50	pass
3359.825	H	78.58	50	pass
3839.800	H	79.62	50	pass
4319.775	H	80.03	50	pass
4799.750	H	81.42	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	70.51	50	pass
1439.925	V	71.87	50	pass
1919.900	V	72.43	50	pass
2399.875	V	74.76	50	pass
2879.850	V	76.81	50	pass
3359.825	V	77.24	50	pass
3839.800	V	78.56	50	pass
4319.775	V	79.17	50	pass
4799.750	V	80.35	50	pass

TEST RESULTS--5W

Measurement Result for 25 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	68.26	57	pass
1200.075	H	69.24	57	pass
1600.100	H	71.53	57	pass
2000.125	H	72.69	57	pass
2400.150	H	75.69	57	pass
2800.175	H	77.18	57	pass
3200.200	H	79.69	57	pass
3600.225	H	78.62	57	pass
4000.250	H	81.63	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.62	57	pass
1200.075	V	72.63	57	pass
1600.100	V	71.63	57	pass
2000.125	V	75.31	57	pass
2400.150	V	76.91	57	pass
2800.175	V	75.42	57	pass
3200.200	V	77.93	57	pass
3600.225	V	79.64	57	pass
4000.250	V	80.49	57	pass

Measurement Result for 25 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	67.26	57	pass
1362.075	H	70.15	57	pass
1816.100	H	70.85	57	pass
2270.125	H	74.62	57	pass
2724.150	H	75.75	57	pass
3178.175	H	79.16	57	pass
3632.200	H	78.75	57	pass
4086.225	H	81.36	57	pass
4540.250	H	81.75	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	70.25	57	pass
1362.075	V	71.61	57	pass
1816.100	V	74.53	57	pass
2270.125	V	73.15	57	pass
2724.150	V	74.29	57	pass
3178.175	V	75.28	57	pass
3632.200	V	79.14	57	pass
4086.225	V	78.96	57	pass
4540.250	V	81.25	57	pass

Measurement Result for 25 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	68.35	57	pass
1439.925	H	69.26	57	pass
1919.900	H	70.48	57	pass
2399.875	H	72.35	57	pass
2879.850	H	76.46	57	pass
3359.825	H	78.38	57	pass
3839.800	H	77.49	57	pass
4319.775	H	80.62	57	pass
4799.750	H	80.15	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	67.26	57	pass
1439.925	V	69.63	57	pass
1919.900	V	70.15	57	pass
2399.875	V	71.96	57	pass
2879.850	V	73.85	57	pass
3359.825	V	78.96	57	pass
3839.800	V	80.68	57	pass
4319.775	V	80.26	57	pass
4799.750	V	81.63	57	pass

TEST RESULTS--1W

Measurement Result for 25 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	70.63	50	pass
1200.075	H	71.69	50	pass
1600.100	H	73.85	50	pass
2000.125	H	75.96	50	pass
2400.150	H	76.18	50	pass
2800.175	H	77.26	50	pass
3200.200	H	78.92	50	pass
3600.225	H	80.63	50	pass
4000.250	H	81.59	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.52	50	pass
1200.075	V	71.69	50	pass
1600.100	V	73.61	50	pass
2000.125	V	74.91	50	pass
2400.150	V	75.18	50	pass
2800.175	V	76.38	50	pass
3200.200	V	77.48	50	pass
3600.225	V	79.68	50	pass
4000.250	V	80.39	50	pass

Measurement Result for 25 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	70.25	50	pass
1362.075	H	70.36	50	pass
1816.100	H	74.49	50	pass
2270.125	H	74.85	50	pass
2724.150	H	76.39	50	pass
3178.175	H	75.47	50	pass
3632.200	H	76.85	50	pass
4086.225	H	79.92	50	pass
4540.250	H	81.35	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	68.52	50	pass
1362.075	V	69.16	50	pass
1816.100	V	70.28	50	pass
2270.125	V	73.39	50	pass
2724.150	V	76.47	50	pass
3178.175	V	78.83	50	pass
3632.200	V	79.18	50	pass
4086.225	V	80.32	50	pass
4540.250	V	80.86	50	pass

Measurement Result for 25 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	70.59	50	pass
1439.925	H	71.63	50	pass
1919.900	H	73.54	50	pass
2399.875	H	75.98	50	pass
2879.850	H	76.53	50	pass
3359.825	H	78.52	50	pass
3839.800	H	79.68	50	pass
4319.775	H	80.15	50	pass
4799.750	H	81.63	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	70.26	50	pass
1439.925	V	71.69	50	pass
1919.900	V	72.63	50	pass
2399.875	V	74.92	50	pass
2879.850	V	76.94	50	pass
3359.825	V	77.68	50	pass
3839.800	V	78.63	50	pass
4319.775	V	79.69	50	pass
4799.750	V	80.15	50	pass

Digital:

TEST RESULTS-5W

Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	70.23	57	pass
1200.075	H	71.48	57	pass
1600.100	H	72.16	57	pass
2000.125	H	74.29	57	pass
2400.150	H	75.03	57	pass
2800.175	H	77.86	57	pass
3200.200	H	78.91	57	pass
3600.225	H	79.72	57	pass
4000.250	H	80.14	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.53	57	pass
1200.075	V	71.47	57	pass
1600.100	V	72.26	57	pass
2000.125	V	75.89	57	pass
2400.150	V	76.74	57	pass
2800.175	V	75.53	57	pass
3200.200	V	78.26	57	pass
3600.225	V	79.84	57	pass
4000.250	V	80.59	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	70.81	57	pass
1362.075	H	71.36	57	pass
1816.100	H	74.69	57	pass
2270.125	H	74.15	57	pass
2724.150	H	76.86	57	pass
3178.175	H	77.25	57	pass
3632.200	H	79.63	57	pass
4086.225	H	81.19	57	pass
4540.250	H	80.42	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	70.16	57	pass
1362.075	V	71.69	57	pass
1816.100	V	72.25	57	pass
2270.125	V	73.75	57	pass
2724.150	V	75.36	57	pass
3178.175	V	74.15	57	pass
3632.200	V	77.75	57	pass
4086.225	V	78.64	57	pass
4540.250	V	80.85	57	pass

Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	71.63	57	pass
1439.925	H	70.52	57	pass
1919.900	H	73.91	57	pass
2399.875	H	75.63	57	pass
2879.850	H	76.18	57	pass
3359.825	H	77.63	57	pass
3839.800	H	79.62	57	pass
4319.775	H	79.86	57	pass
4799.750	H	80.16	57	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	71.63	57	pass
1439.925	V	72.62	57	pass
1919.900	V	74.68	57	pass
2399.875	V	75.49	57	pass
2879.850	V	76.38	57	pass
3359.825	V	77.96	57	pass
3839.800	V	78.46	57	pass
4319.775	V	79.82	57	pass
4799.750	V	80.19	57	pass

TEST RESULTS-1W

Measurement Result for 12.5 KHz Channel Separation @ 400.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	H	0		pass
800.050	H	70.15	50	pass
1200.075	H	71.96	50	pass
1600.100	H	72.84	50	pass
2000.125	H	73.98	50	pass
2400.150	H	74.96	50	pass
2800.175	H	75.82	50	pass
3200.200	H	76.36	50	pass
3600.225	H	78.16	50	pass
4000.250	H	79.95	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
400.025	V	0		pass
800.050	V	70.51	50	pass
1200.075	V	71.59	50	pass
1600.100	V	74.62	50	pass
2000.125	V	75.13	50	pass
2400.150	V	76.61	50	pass
2800.175	V	78.36	50	pass
3200.200	V	81.56	50	pass
3600.225	V	80.95	50	pass
4000.250	V	81.28	50	pass

Measurement Result for 12.5 KHz Channel Separation @ 454.025MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	H	0		pass
908.050	H	70.21	50	pass
1362.075	H	72.38	50	pass
1816.100	H	73.12	50	pass
2270.125	H	76.37	50	pass
2724.150	H	75.42	50	pass
3178.175	H	77.14	50	pass
3632.200	H	78.82	50	pass
4086.225	H	81.16	50	pass
4540.250	H	80.37	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
454.025	V	0		pass
908.050	V	69.52	50	pass
1362.075	V	71.19	50	pass
1816.100	V	70.37	50	pass
2270.125	V	72.85	50	pass
2724.150	V	74.19	50	pass
3178.175	V	76.53	50	pass
3632.200	V	77.68	50	pass
4086.225	V	78.39	50	pass
4540.250	V	81.49	50	pass

Measurement Result for 12.5 KHz Channel Separation @ 479.975MHz

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	H	0		pass
959.950	H	70.47	50	pass
1439.925	H	71.92	50	pass
1919.900	H	74.41	50	pass
2399.875	H	76.88	50	pass
2879.850	H	77.52	50	pass
3359.825	H	78.78	50	pass
3839.800	H	79.53	50	pass
4319.775	H	80.25	50	pass
4799.750	H	82.37	50	pass

Emission Frequency (MHz)	Ant. Polarity(H/V)	Measurement Result Below carrier(dBc)	Limit below carrier(dBc)	Result(P/F)
479.975	V	0		pass
959.950	V	69.41	50	pass
1439.925	V	71.86	50	pass
1919.900	V	72.34	50	pass
2399.875	V	74.51	50	pass
2879.850	V	75.07	50	pass
3359.825	V	76.33	50	pass
3839.800	V	77.68	50	pass
4319.775	V	78.79	50	pass
4799.750	V	80.86	50	pass

7.5 EMISSION MASK PLOT

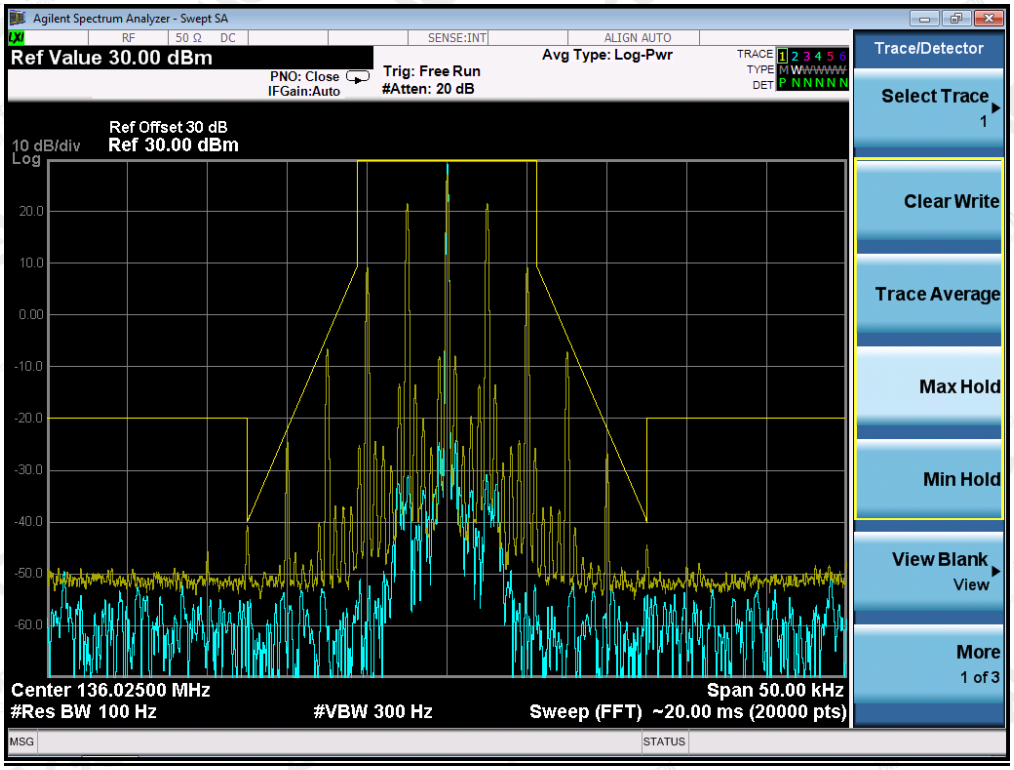
The detailed procedure employed for Emission Mask measurements are specified as following:

- 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.

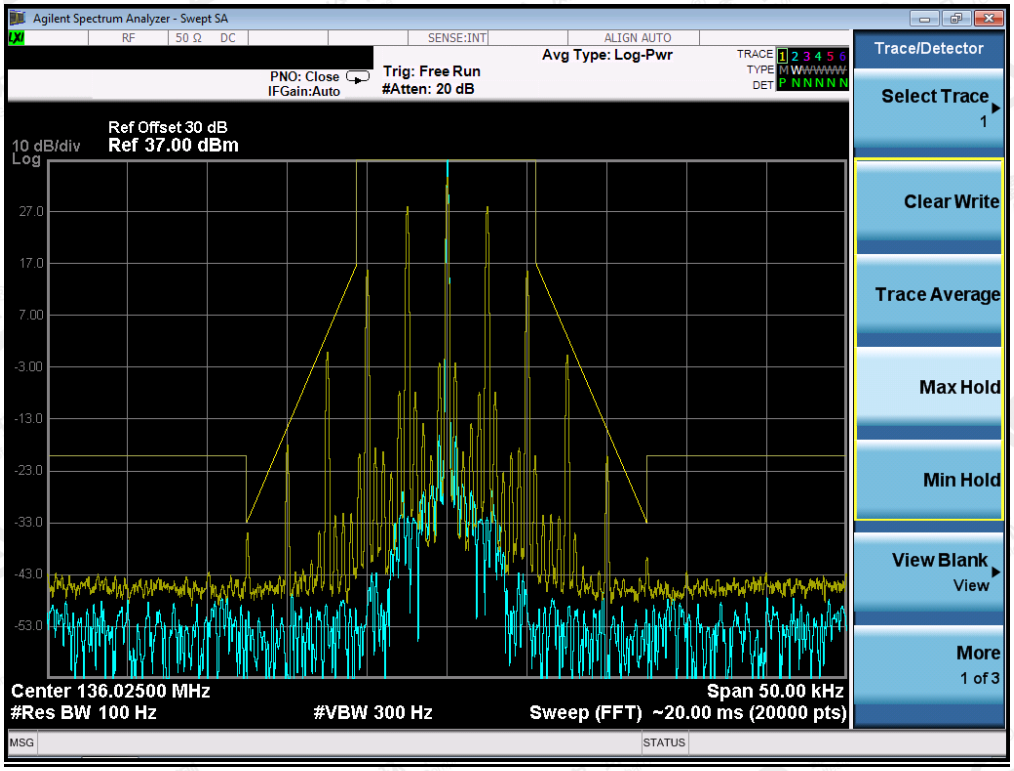
VHF:

Analog:

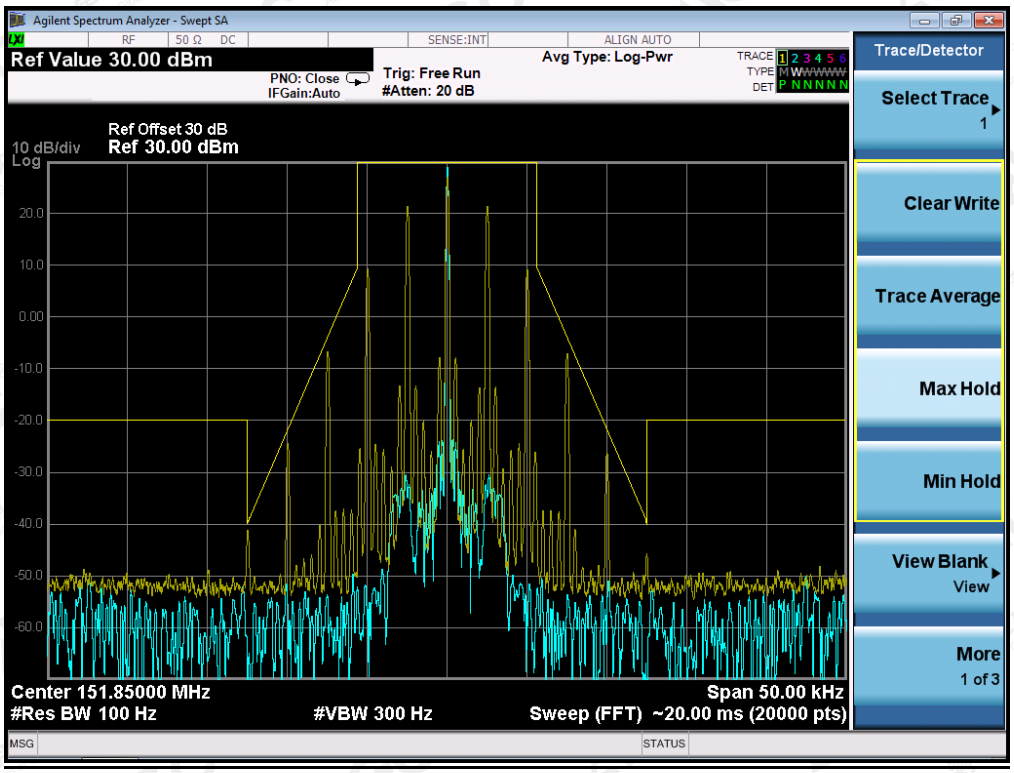
The Worst Emission Mask for (136.025MHz) of 12.5 KHz channel Separation (1W)



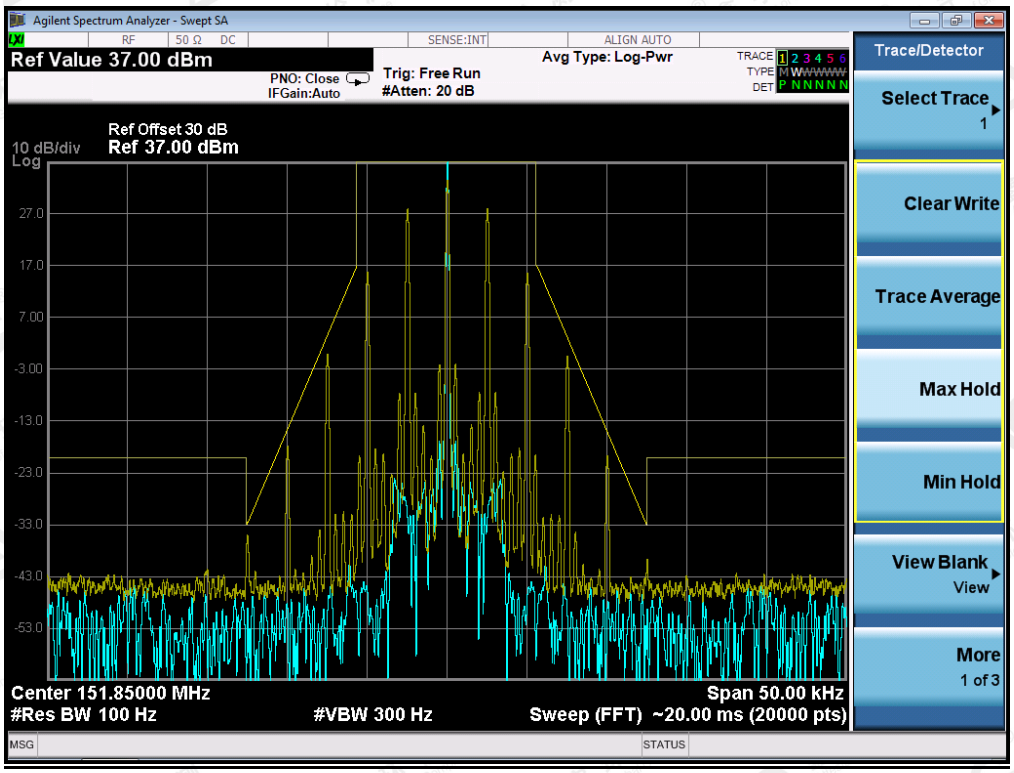
The Worst Emission Mask for (136.025MHz) of 12.5 KHz channel Separation (5W)



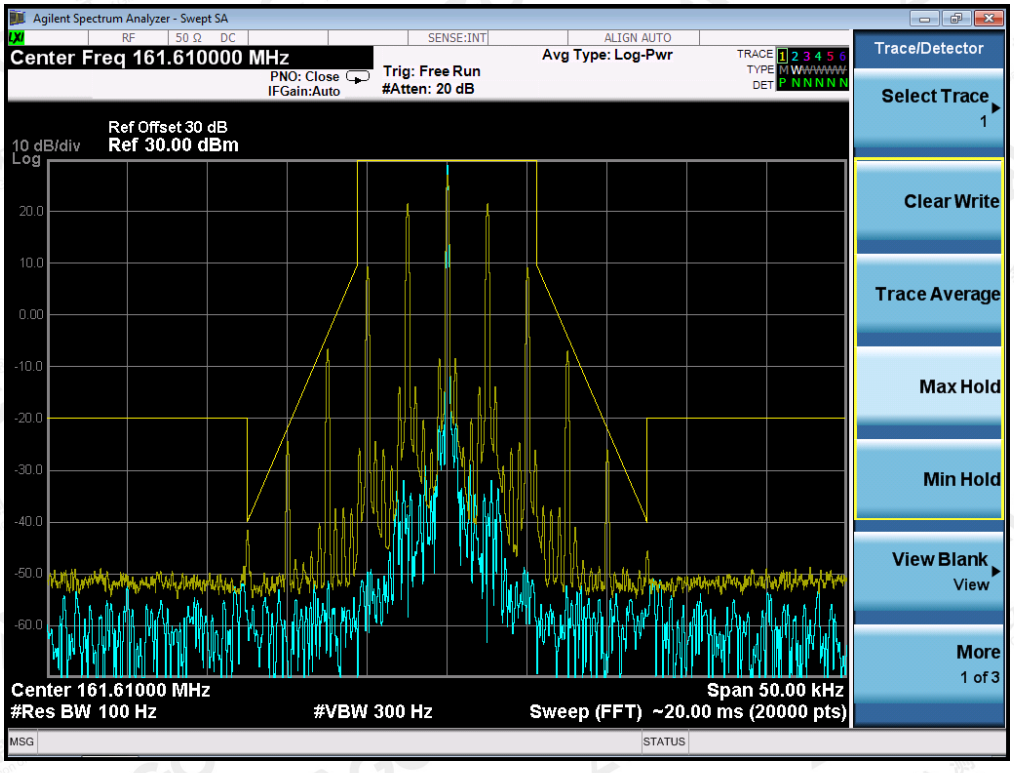
The Worst Emission Mask for (151.85MHz) of 12.5 KHz channel Separation (1W)



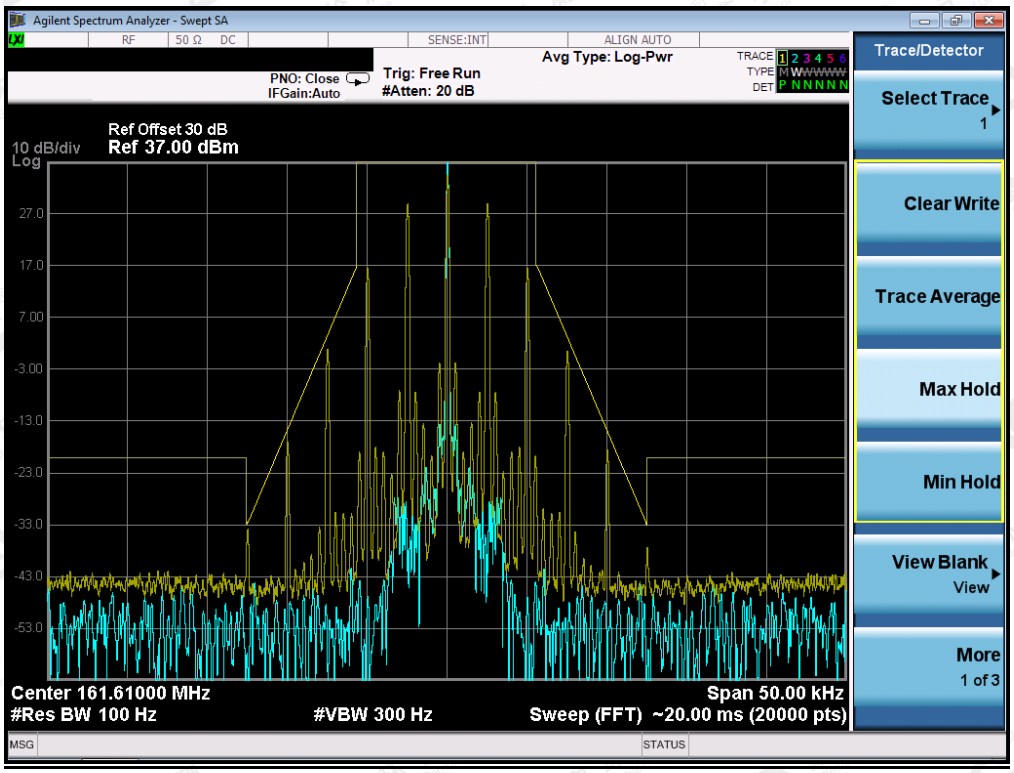
The Worst Emission Mask for (151.85MHz) of 12.5 KHz channel Separation (5W)



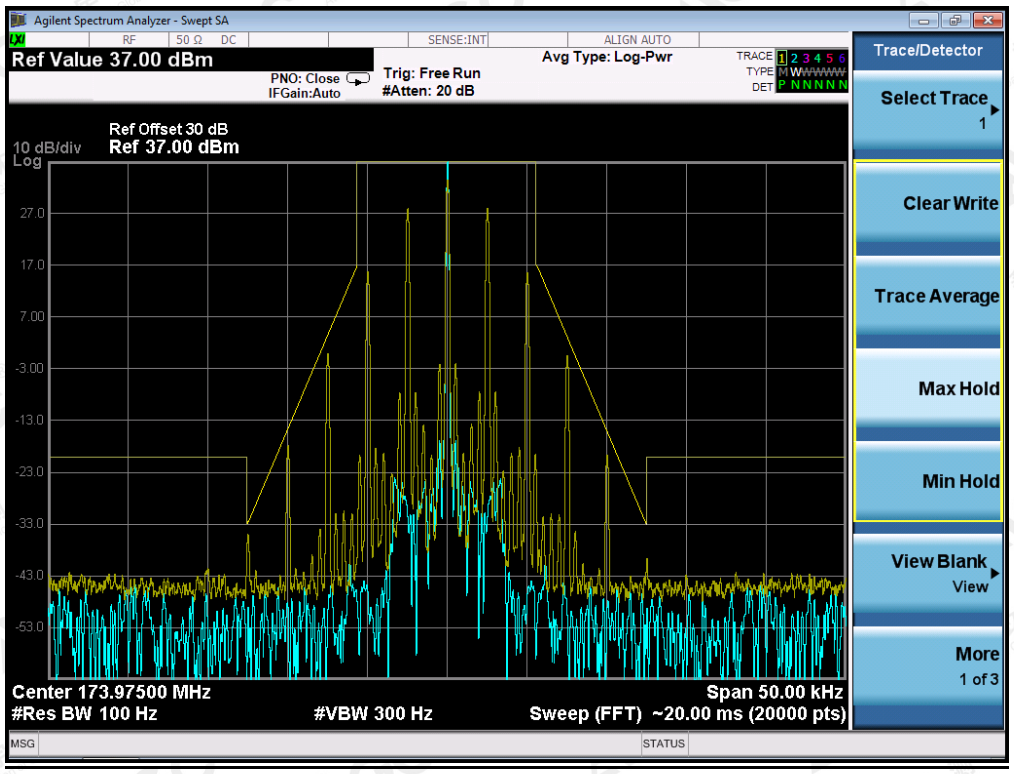
The Worst Emission Mask for (161.61MHz) of 12.5 KHz channel Separation (1W)



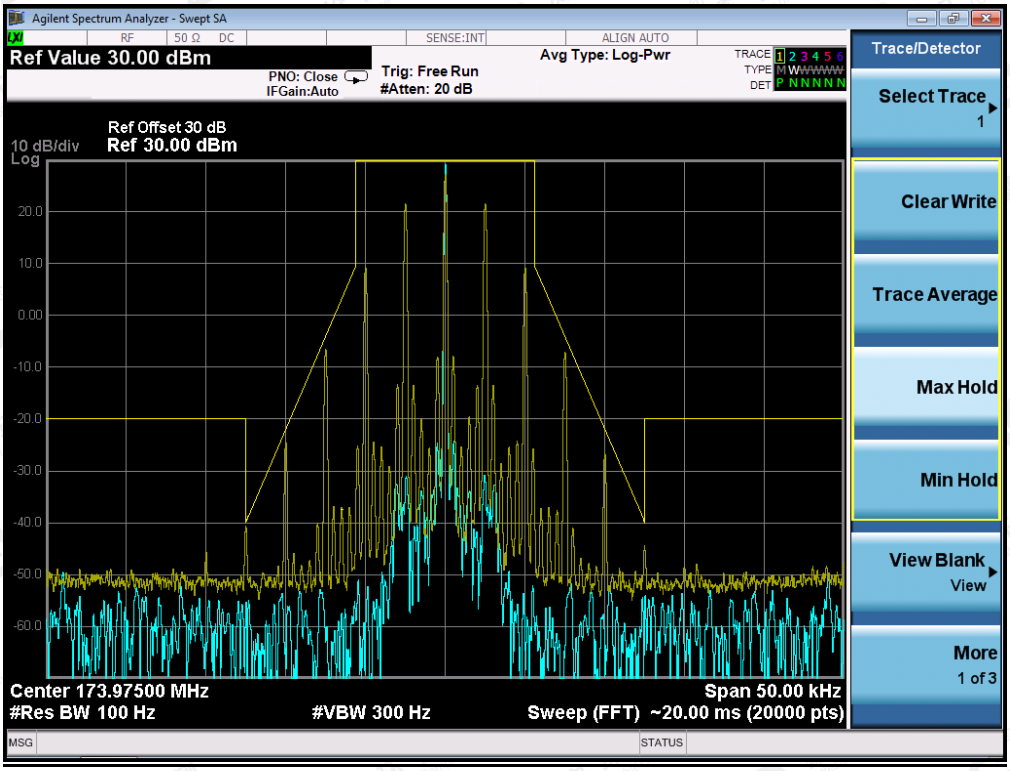
The Worst Emission Mask for (161.61MHz) of 12.5 KHz channel Separation (5W)



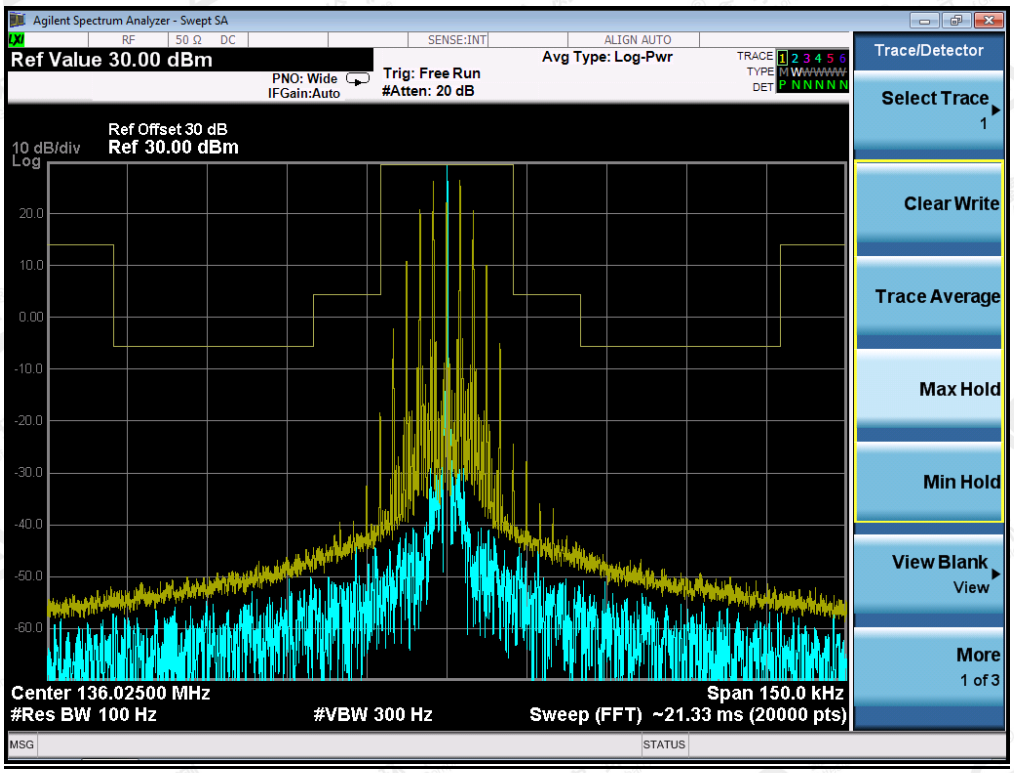
The Worst Emission Mask for (173.975MHz) of 12.5 KHz channel Separation (5W)



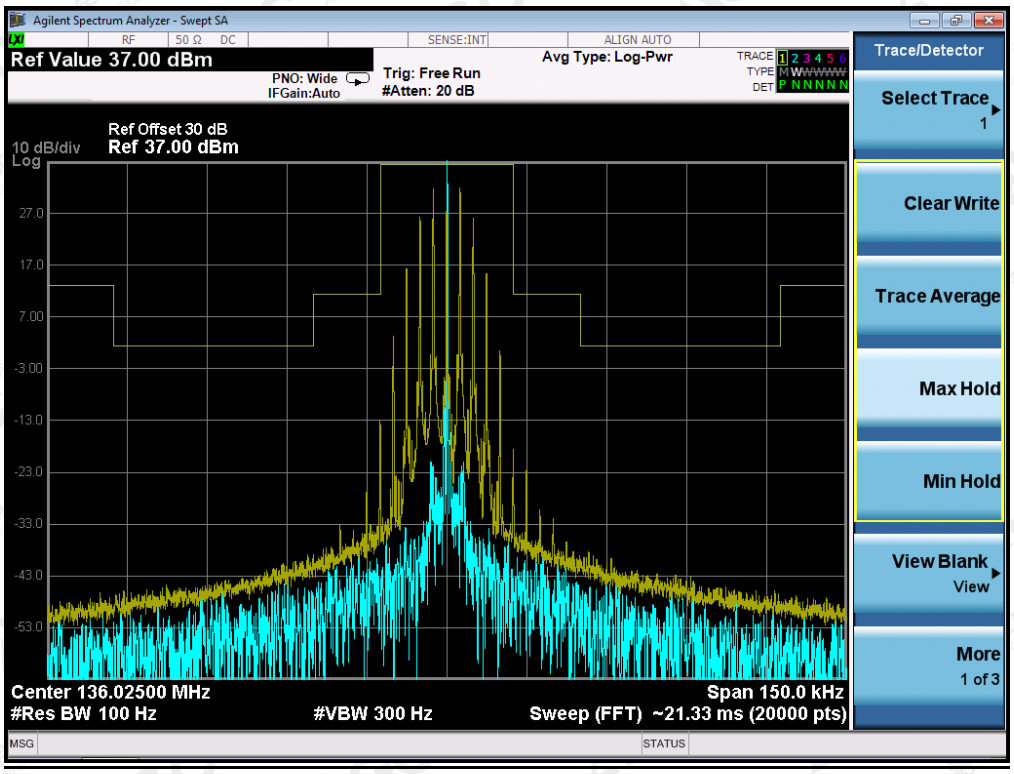
The Worst Emission Mask for (173.975MHz) of 12.5 KHz channel Separation (1W)



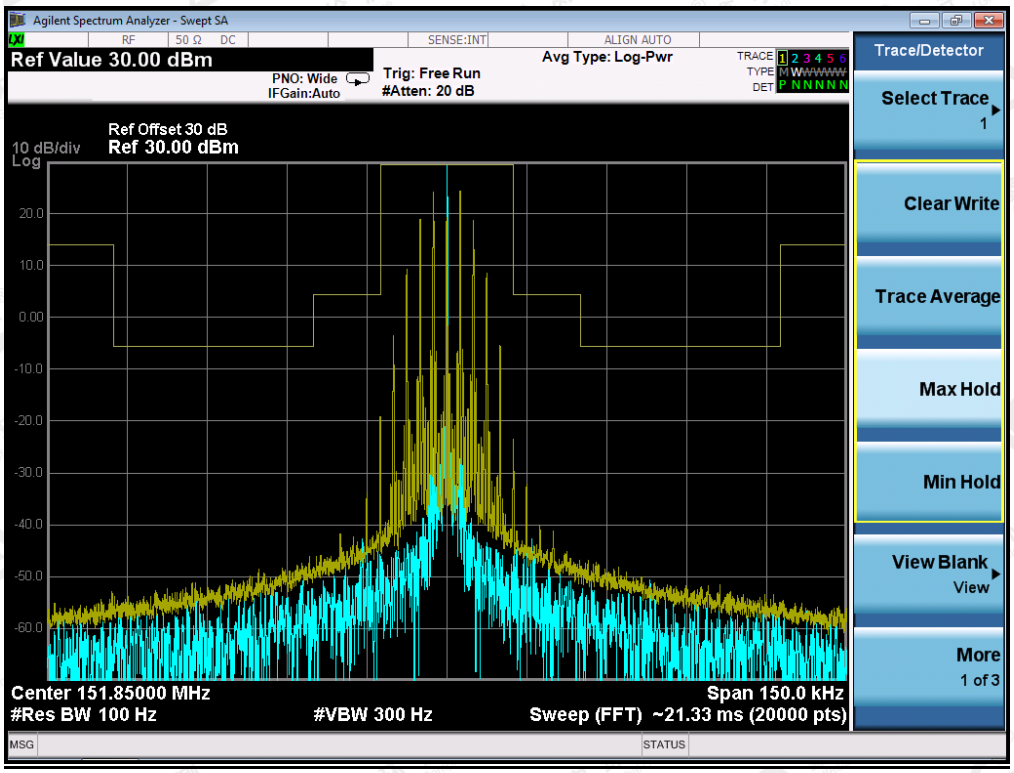
The Worst Emission Mask for (136.025MHz) of 25 KHz channel Separation (1W)



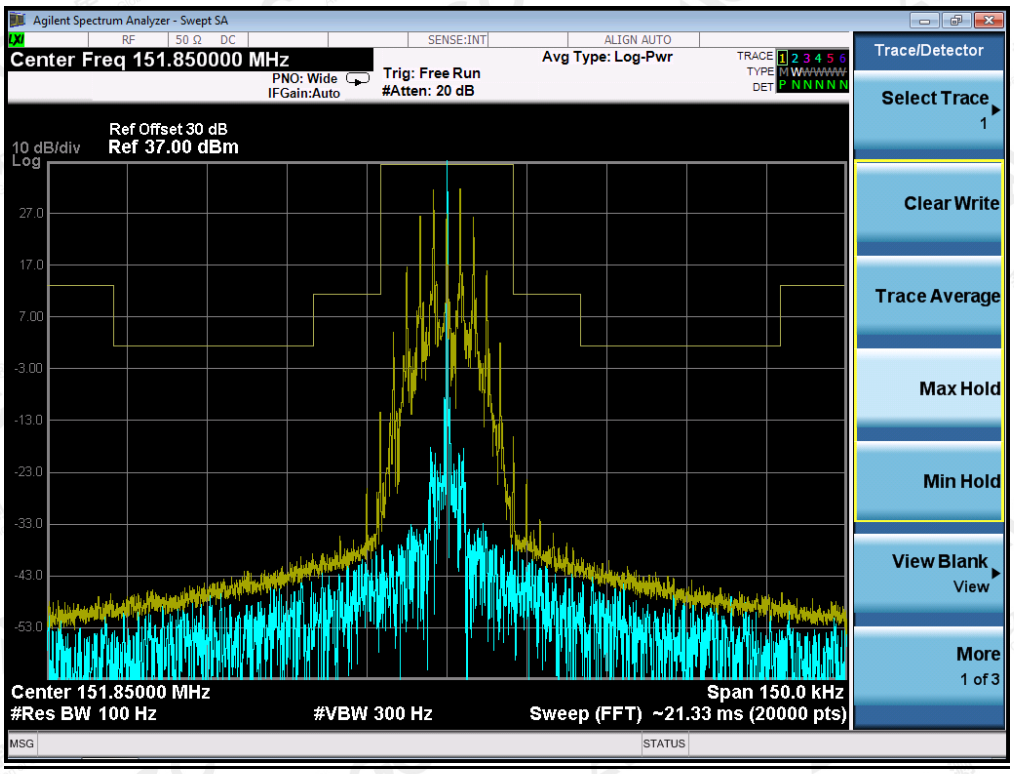
The Worst Emission Mask for (136.025MHz) of 25 KHz channel Separation (5W)



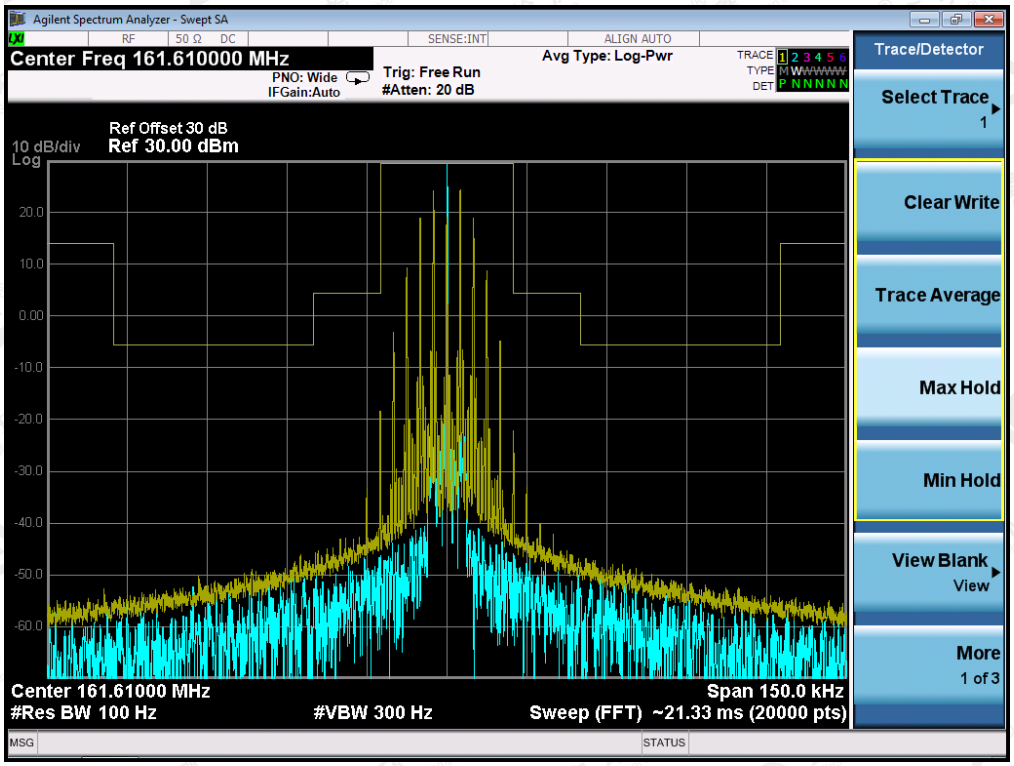
The Worst Emission Mask for (151.85MHz) of 25 KHz channel Separation (1W)



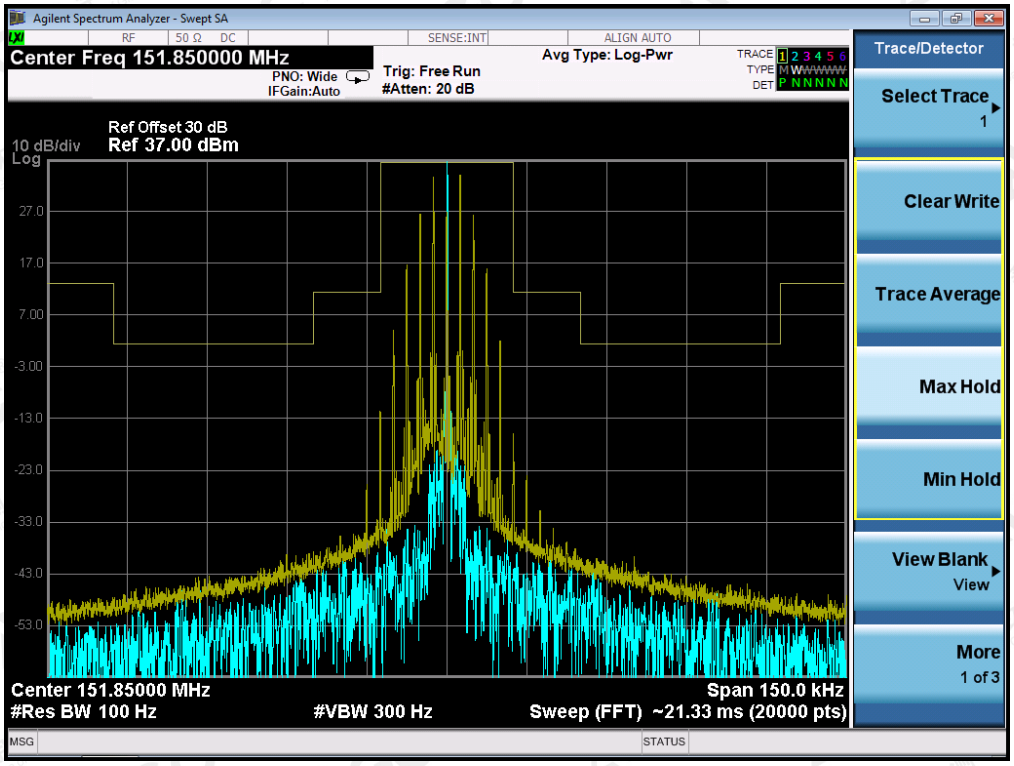
The Worst Emission Mask for (151.85MHz) of 25 KHz channel Separation (5W)



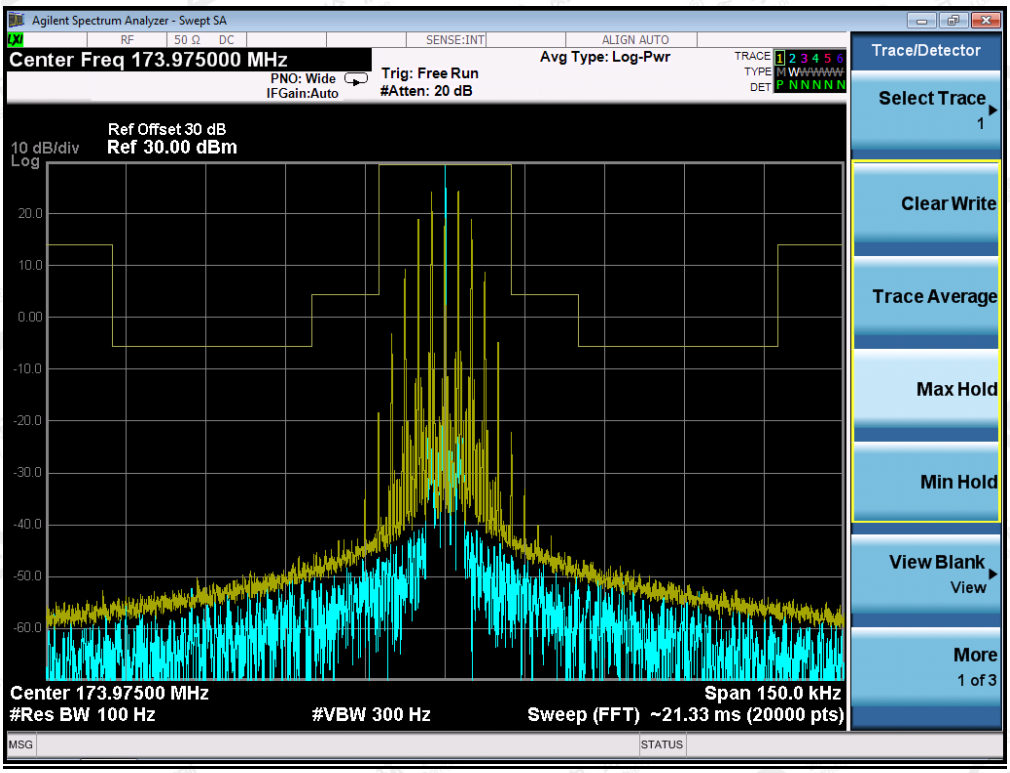
The Worst Emission Mask for (161.61MHz) of 25 KHz channel Separation (1W)



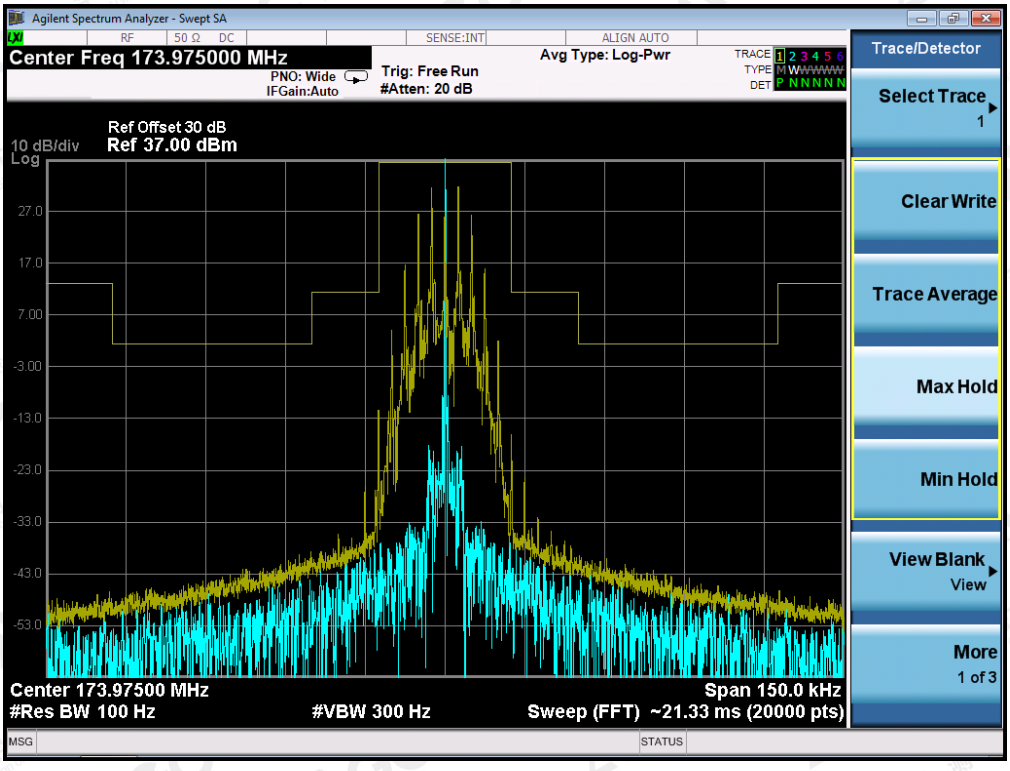
The Worst Emission Mask for (161.61MHz) of 25 KHz channel Separation (5W)



The Worst Emission Mask for (173.975MHz) of 25 KHz channel Separation (1W)

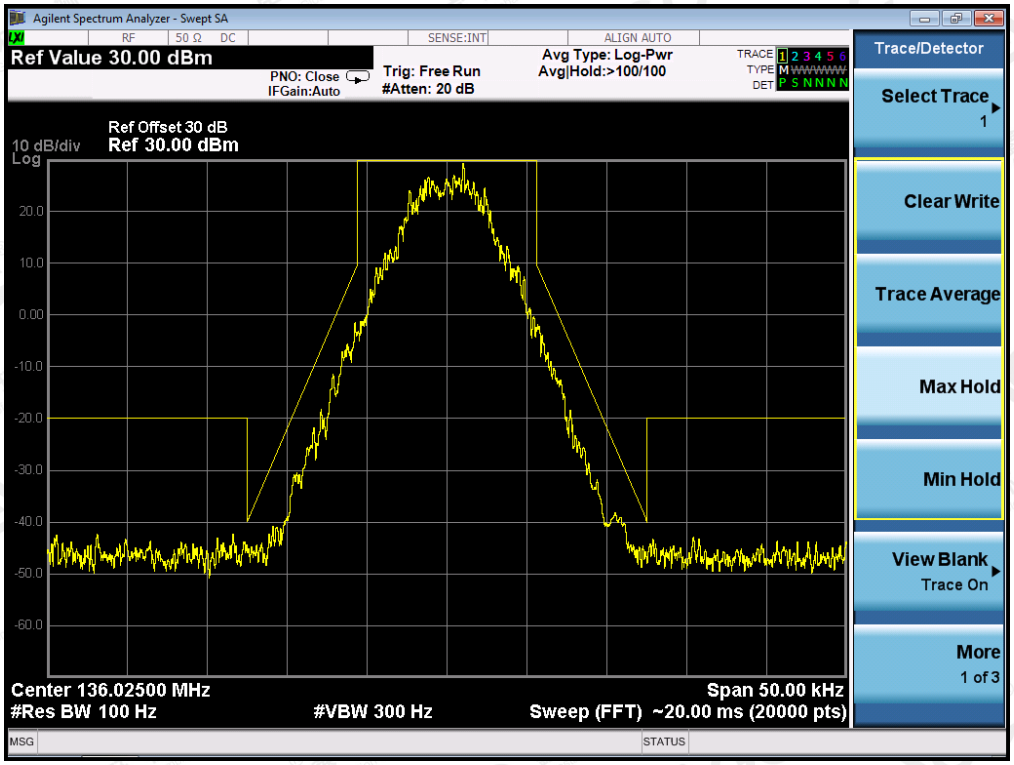


The Worst Emission Mask for (173.975MHz) of 25 KHz channel Separation (5W)



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 (5W)