FCC Part 90 Rules
Test Report

Report No.: AGC01039170405FE10

FCC ID	:	POD-DMR2
PRODUCT DESIGNATION	:	DMR Digital Transceiver
BRAND NAME	:	TYT
MODEL NAME	:	MD-2017, MD-760
CLIENT	:	TYT ELECTRONICS CO., LTD
DATE OF ISSUE	:	May, 10,2017
STANDARD(S)	:	FCC Part 90 Rules FCC Part 22 Rules
REPORT VERSION	:	V 1.0

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

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May. 10,2017	Valid	Original Report

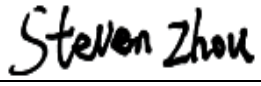
VERIFICATION OF COMPLIANCE

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-2017
Series Model	MD-760
Difference description	All the same except for the model name.
Date of Test:	May.02, 2017 to May.10, 2017

WE HEREBY CERTIFY THAT:

The above equipment was tested by Dongguan Precise Testing Service Co., Ltd. The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA 603. The sample tested as described in this report is in compliance with the FCC Rules Part 90 and FCC Rules Part 22 requirements

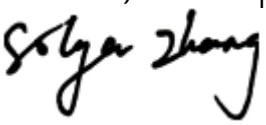
The test results of this report relate only to the tested sample identified in this report.

Tested by 

Steven Zhou(Zhou Pengyun) May,10, 2017

Reviewed by 

Bart Xie(Xie Xiaobin) May,10, 2017

Approved by 

Solger Zhang(Zhang Hongyi)
Authorized Officer May,10, 2017

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The EUT is a **DIGITAL/ANALOG 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	V3.0	
Software Version	D03.16	
Modulation	FM/4FSK	
Emission Type	11K0F3E, 7K60FXD, 7K60FXW	
Emission Bandwidth	Analog:10.20KHz(5W),10.20KHz(1W) ---VHF Digital: 9.798KHz(5W), 9.782 KHz(1W) ---VHF Analog:10.20KHz(5W),10.20KHz(1W) ---UHF Digital:9.175KHz(5W), 9.782KHz(1W) ---UHF	
Peak Frequency Deviation	1.99KHz	
Audio Frequency Response	10.93 dB	
Maximum Transmitter Power	Analog:36.93 dBm(5W), 29.92dBm (1W) ---VHF Digital: 36.84 dBm(5W), 29.93dBm (1W) ---VHF Analog:36.91 dBm(5W), 29.93dBm (1W) ---UHF Digital: 36.92 dBm(5W), 29.91dBm (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	1.2 dBi	
Power Supply	DC 7.4V, 2200mAh (by battery)	
Adapter Parameter	INPUT：AC 110V-250V , 50/60Hz , 0.2A OUTPUT：DC 12.5V , 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 (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	1.122ppm

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	1/5	11K0F3E(Analog Vioce;NB)
136-174	1/5	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 400MHz 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: POD-DMR2, 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 TIA/EIA 603 and FCC CFR 47 Rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057.

1.4 TEST FACILITY

Site	Dongguan Precise Testing Service Co., Ltd.
Location	Building D, Baoding Technology Park,Guangming Road2, Dongcheng District, Dongguan, Guangdong, China.
Description	The test site is constructed and calibrated to meet the FCC requirements in documents TIA/EIA 603
FCC Registration No.	371540

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-2017	FCC ID: POD-DMR2	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

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NO.	Cal. Date	Cal. Due
CLIMATE CHAMBER	EXPERY	TN-400	TN2007SR038	2016.07.02	2017.07.01
ATTENUATOR	WEINSCHEL CORP	58-30-33	ML030	2016.07.02	2017.07.01
DC POWER SUPPLY	ZHAOXIN	RXN-605D	N/A	2016.07.02	2017.07.01
MODULATION ANALYZER	HP	8920B	3104A03367	2016.07.02	2017.07.01
SIGNAL GENERATOR	AGILENT	E4421B	122501288	2016.07.03	2017.07.02
SIGNAL GENERATOR	R&S	SMT03	A0304261	2016.07.03	2017.07.02
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	2016.07.03	2017.07.02
Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3355	2016.07.03	2017.07.02
Substitution Antenna	SCHWARZBECK	VULB9160	9168-494	2016.07.03	2017.07.02
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	2016.07.03	2017.07.02
RF Cable	SCHWARZBECK	AK9515E	96221	2016.07.03	2017.07.02
3m Anechoic Chamber	CHENGYU	966	PTS-001	2016.06.03	2017.06.02
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	2016.06.03	2017.06.02
Spectrum analyzer	Agilent	E4407B	MY46185649	2016.06.03	2017.06.02
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	2016.06.03	2017.06.02
Substitution ANTENNA	EM	EM-AH-10180	67	2016.06.03	2017.06.02
Modulation Domain Analyzer	HP	53310A	3121A02467	2016.06.03	2017.06.02
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	2016.06.03	2017.06.02
RF Cable	SCHWARZBECK	AK9515E	96222	2016.06.03	2017.06.02
Shielded Room	CHENGYU	843	PTS-002	2016.06.03	2017.06.02

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

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

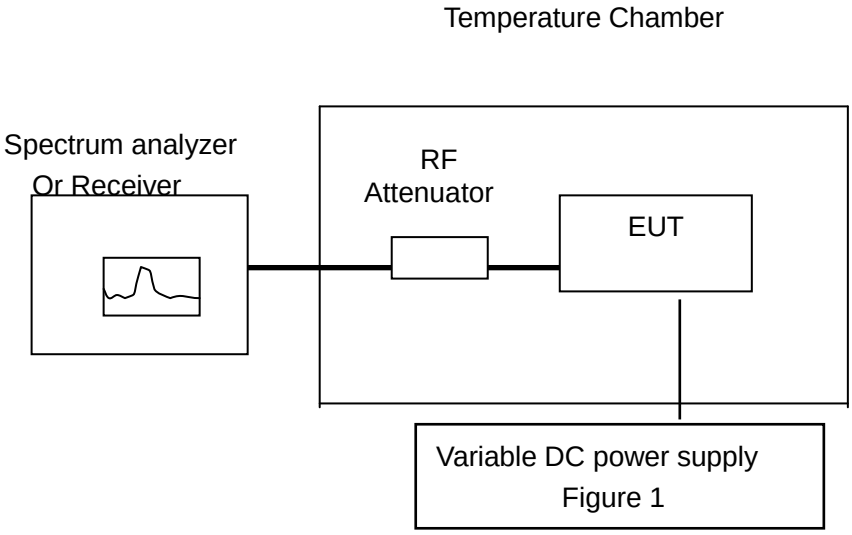


Figure 1

5.3 TEST RESULT

VHF-Analog:

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 7.40	0.892	0.759	0.691	5
40	DC 7.40	0.629	1.064	0.367	
30	DC 7.40	0.957	1.235	0.658	
20	DC 7.40	0.638	0.963	0.751	
10	DC 7.40	0.861	0.864	0.639	
0	DC 7.40	0.964	0.938	0.528	
-10	DC 7.40	0.908	0.927	0.613	
-20	DC 7.40	0.937	0.957	0.869	
-30	DC 7.40	0.891	0.639	0.854	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 7.40 V	0.692	0.258	5
40	DC 7.40 V	0.651	0.657	
30	DC 7.40 V	0.826	0.692	
20	DC 7.40 V	0.625	0.657	
10	DC 7.40 V	0.539	0.389	
0	DC 7.40 V	0.658	0.528	
-10	DC 7.40 V	0.459	0.681	
-20	DC 7.40 V	0.576	0.368	
-30	DC 7.40 V	0.395	0.953	
Result	Pass			

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.29	0.624	0.648	0.938	5
40	DC 6.29	0.583	0.699	0.975	
30	DC 6.29	0.527	0.793	0.996	
20	DC 6.29	0.952	0.853	0.873	
10	DC 6.29	0.657	0.819	0.872	
0	DC 6.29	0.669	0.852	0.964	
-10	DC 6.29	0.638	0.692	1.085	
-20	DC 6.29	0.719	0.861	0.948	
-30	DC 6.29	0.695	0.957	0.836	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.29	0.568	0.952	5
40	DC 6.29	0.638	0.654	
30	DC 6.29	0.528	0.428	
20	DC 6.29	0.612	0.634	
10	DC 6.29	0.382	0.528	
0	DC 6.29	0.519	0.523	
-10	DC 6.29	0.648	0.585	
-20	DC 6.29	0.669	0.628	
-30	DC 6.29	0.681	0.482	
Result	Pass			

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 8.51	0.635	0.583	0.692	5
40	DC 8.51	0.846	0.672	0.762	
30	DC 8.51	0.749	0.629	0.739	
20	DC 8.51	0.528	0.716	0.853	
10	DC 8.51	0.694	0.985	0.820	
0	DC 8.51	0.836	0.637	0.964	
-10	DC 8.51	0.955	0.985	1.109	
-20	DC 8.51	0.935	0.863	1.118	
-30	DC 8.51	0.873	0.891	0.923	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 8.51	0.962	0.523	5
40	DC 8.51	0.521	0.469	
30	DC 8.51	0.396	0.692	
20	DC 8.51	0.496	0.529	
10	DC 8.51	0.625	0.534	
0	DC 8.51	0.852	0.835	
-10	DC 8.51	0.925	0.654	
-20	DC 8.51	0.843	0.518	
-30	DC 8.51	0.692	0.634	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00	0.751	0.648	0.943	5
40	DC 6.00	0.962	0.952	0.867	
30	DC 6.00	0.853	0.873	0.916	
20	DC 6.00	0.527	0.965	1.086	
10	DC 6.00	0.951	0.528	0.952	
0	DC 6.00	0.658	0.692	0.584	
-10	DC 6.00	0.634	0.957	0.853	
-20	DC 6.00	0.867	0.695	0.818	
-30	DC 6.00	0.659	0.581	0.695	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.00 V	0.623	0.638	5
40	DC 6.00 V	0.561	0.692	
30	DC 6.00 V	0.365	0.627	
20	DC 6.00 V	0.392	0.952	
10	DC 6.00 V	0.535	0.551	
0	DC 6.00 V	0.159	0.862	
-10	DC 6.00 V	0.681	0.483	
-20	DC 6.00 V	0.264	0.625	
-30	DC 6.00 V	0.529	0.369	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 7.40	0.752	0.599	0.861	5
40	DC 7.40	0.866	0.682	0.938	
30	DC 7.40	0.692	0.649	0.859	
20	DC 7.40	0.853	0.853	0.853	
10	DC 7.40	0.818	0.957	0.587	
0	DC 7.40	0.836	0.857	0.526	
-10	DC 7.40	0.827	0.859	0.764	
-20	DC 7.40	0.957	0.993	0.851	
-30	DC 7.40	0.684	0.852	0.963	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 7.40 V	0.536	0.562	5
40	DC 7.40 V	0.592	0.619	
30	DC 7.40 V	0.582	0.581	
20	DC 7.40 V	0.429	0.692	
10	DC 7.40 V	0.365	0.851	
0	DC 7.40 V	0.622	0.620	
-10	DC 7.40 V	0.538	0.558	
-20	DC 7.40 V	0.572	0.492	
-30	DC 7.40 V	0.362	0.621	
Result	Pass			

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.29	0.955	0.759	0.638	5
40	DC 6.29	0.528	0.619	0.552	
30	DC 6.29	0.694	0.682	0.567	
20	DC 6.29	0.836	0.962	0.958	
10	DC 6.29	0.896	0.857	0.527	
0	DC 6.29	0.968	0.549	0.691	
-10	DC 6.29	0.938	0.628	0.549	
-20	DC 6.29	0.694	0.549	0.648	
-30	DC 6.29	0.859	0.862	0.592	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.29	0.258	0.384	5
40	DC 6.29	0.459	0.521	
30	DC 6.29	0.628	0.632	
20	DC 6.29	0.852	0.559	
10	DC 6.29	0.624	0.523	
0	DC 6.29	0.634	0.613	
-10	DC 6.29	0.851	0.692	
-20	DC 6.29	0.658	0.846	
-30	DC 6.29	0.635	0.679	
Result	Pass			

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 8.51	0.861	0.862	0.639	5
40	DC 8.51	0.529	0.549	0.584	
30	DC 8.51	0.678	0.685	0.525	
20	DC 8.51	0.654	0.673	0.857	
10	DC 8.51	0.628	0.866	0.583	
0	DC 8.51	0.762	0.893	0.693	
-10	DC 8.51	0.686	0.529	0.864	
-20	DC 8.51	0.384	0.908	0.753	
-30	DC 8.51	0.869	0.957	0.963	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 8.51	0.639	0.534	5
40	DC 8.51	0.581	0.842	
30	DC 8.51	0.625	0.681	
20	DC 8.51	0.583	0.395	
10	DC 8.51	0.692	0.362	
0	DC 8.51	0.582	0.685	
-10	DC 8.51	0.362	0.905	
-20	DC 8.51	0.529	0.459	
-30	DC 8.51	0.684	0.568	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00	0.692	0.891	0.682	5
40	DC 6.00	0.518	0.853	0..529	
30	DC 6.00	0.569	0.637	0.752	
20	DC 6.00	0.528	0.851	0.686	
10	DC 6.00	0.687	0.529	0.859	
0	DC 6.00	0.796	0.658	0.882	
-10	DC 6.00	0.592	0.852	0.529	
-20	DC 6.00	0.686	0.675	0.856	
-30	DC 6.00	0.859	0.492	0.876	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.00 V	0.492	0.395	5
40	DC 6.00 V	0.582	0.852	
30	DC 6.00 V	0.633	0.638	
20	DC 6.00 V	0.627	0.692	
10	DC 6.00 V	0.634	0.675	
0	DC 6.00 V	0.598	0.669	
-10	DC 6.00 V	0.736	0.951	
-20	DC 6.00 V	0.529	0.285	
-30	DC 6.00 V	0.634	0.669	
Result	Pass			

Digital:

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 7.40	0.849	0.638	0.697	5
40	DC 7.40	0.692	0.957	0.853	
30	DC 7.40	0.583	0.639	0.627	
20	DC 7.40	0.672	0.657	0.853	
10	DC 7.40	0.595	0.264	0.864	
0	DC 7.40	0.529	0.586	0.895	
-10	DC 7.40	0.864	0.672	0.867	
-20	DC 7.40	0.526	0.462	0.888	
-30	DC 7.40	0.894	0.861	0.927	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 7.40 V	0.639	0.639	5
40	DC 7.40 V	0.538	0.524	
30	DC 7.40 V	0.648	0.483	
20	DC 7.40 V	0.629	0.952	
10	DC 7.40 V	0.538	0.625	
0	DC 7.40 V	0.483	0.632	
-10	DC 7.40 V	0.624	0.862	
-20	DC 7.40 V	0.686	0.842	
-30	DC 7.40 V	0.582	0.636	
Result	Pass			

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.29	0.395	0.682	0.639	5
40	DC 6.29	0.298	0.529	0.864	
30	DC 6.29	0.873	0.549	0.885	
20	DC 6.29	0.649	0.638	0.768	
10	DC 6.29	0.831	0.649	0.918	
0	DC 6.29	0.863	0.861	0.768	
-10	DC 6.29	0.583	0.964	0.852	
-20	DC 6.29	0.762	0.584	0.483	
-30	DC 6.29	0.891	0.694	0.952	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.29	0.635	0.639	5
40	DC 6.29	0.521	0.862	
30	DC 6.29	0.573	0.658	
20	DC 6.29	0.692	0.847	
10	DC 6.29	0.582	0.624	
0	DC 6.29	0.924	0.525	
-10	DC 6.29	0.634	0.635	
-20	DC 6.29	0.682	0.831	
-30	DC 6.29	0.924	0.629	
Result	Pass			

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 8.51	0.889	0.794	0.992	5
40	DC 8.51	0.629	0.637	0.637	
30	DC 8.51	0.528	0.538	0.769	
20	DC 8.51	0.862	0.694	0.528	
10	DC 8.51	0.638	0.583	0.649	
0	DC 8.51	0.867	0.549	0.861	
-10	DC 8.51	0.537	0.672	0.951	
-20	DC 8.51	0.594	0.694	0.529	
-30	DC 8.51	0.864	0.294	0.957	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 8.51	0.629	0.382	5
40	DC 8.51	0.521	0.851	
30	DC 8.51	0.368	0.624	
20	DC 8.51	0.482	0.522	
10	DC 8.51	0639	0.692	
0	DC 8.51	0.852	0.391	
-10	DC 8.51	0.692	0.634	
-20	DC 8.51	0.802	0.524	
-30	DC 8.51	0.641	0.351	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00	0.964	0.847	0.873	5
40	DC 6.00	0.529	0.864	0.864	
30	DC 6.00	0.572	0.952	0.519	
20	DC 6.00	0.691	0.756	0.687	
10	DC 6.00	0.597	0.529	0.917	
0	DC 6.00	0.527	0.749	0.863	
-10	DC 6.00	0.684	0.519	0.527	
-20	DC 6.00	0.595	0.669	0.694	
-30	DC 6.00	0.866	0.548	0.672	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.00	0.629	0.951	5
40	DC 6.00	0.524	0.526	
30	DC 6.00	0.505	0.634	
20	DC 6.00	0.628	0.521	
10	DC 6.00	0.851	0.361	
0	DC 6.00	0.619	0.952	
-10	DC 6.00	0.538	0.627	
-20	DC 6.00	0.694	0.362	
-30	DC 6.00	0.625	0.528	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 7.40	0.861	0.629	0.862	5
40	DC 7.40	0.854	0.648	0.951	
30	DC 7.40	0.628	0.719	0.628	
20	DC 7.40	0.527	0.628	0.849	
10	DC 7.40	0.695	0.694	0.681	
0	DC 7.40	0.267	0.863	0.876	
-10	DC 7.40	0.694	0.584	0.948	
-20	DC 7.40	0.889	0.695	0.875	
-30	DC 7.40	0.549	0.684	0.985	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 7.40 V	0.362	0.364	5
40	DC 7.40 V	0.529	0.853	
30	DC 7.40 V	0.492	0.672	
20	DC 7.40 V	0.692	0.692	
10	DC 7.40 V	0.528	0.582	
0	DC 7.40 V	0.459	0.367	
-10	DC 7.40 V	0.625	0.586	
-20	DC 7.40 V	0.639	0.369	
-30	DC 7.40 V	0.961	0.927	
Result	Pass			

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.29	0.795	0.683	0.867	5
40	DC 6.29	0.529	0.592	0.749	
30	DC 6.29	0.697	0.524	0.658	
20	DC 6.29	0.685	0.687	0.948	
10	DC 6.29	0.592	0.599	0.529	
0	DC 6.29	0.892	0.668	0.685	
-10	DC 6.29	0.825	0.694	0.689	
-20	DC 6.29	0.681	0.851	0.529	
-30	DC 6.29	0.952	0.529	0.524	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 6.29	0.924	0.902	5
40	DC 6.29	0.663	0.682	
30	DC 6.29	0.635	0.367	
20	DC 6.29	0.952	0.851	
10	DC 6.29	0.628	0.528	
0	DC 6.29	0.631	0.501	
-10	DC 6.29	0.252	0.364	
-20	DC 6.29	0.482	0.812	
-30	DC 6.29	0.682	0.526	
Result	Pass			

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 8.51	0.952	0.864	0.948	5
40	DC 8.51	0.961	0.952	0.587	
30	DC 8.51	0.529	0.529	0.694	
20	DC 8.51	0.676	0.963	0.529	
10	DC 8.51	0.685	0.928	0.862	
0	DC 8.51	0.528	0.694	0.841	
-10	DC 8.51	0.769	0.595	0.937	
-20	DC 8.51	0.638	0.694	0.859	
-30	DC 8.51	0.865	0.853	0.687	
Result	Pass				

Environment	Power	Reference Frequency		Limit:
Temperature(℃)	(V)	151.85MHz	161.61MHz	ppm
50	DC 8.51	0.629	0.682	5
40	DC 8.51	0.361	0.629	
30	DC 8.51	0.523	0.367	
20	DC 8.51	0.592	0.238	
10	DC 8.51	0.369	0.495	
0	DC 8.51	0.453	0.637	
-10	DC 8.51	0.923	0.928	
-20	DC 8.51	0.361	0.663	
-30	DC 8.51	0.953	0.853	
Result	Pass			

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	136.025MHz	155.025MHz	173.975MHz	ppm
50	DC 6.00	0.695	0.951	0.638	5
40	DC 6.00	0.854	0.969	0.851	
30	DC 6.00	0.587	0.863	0.634	
20	DC 6.00	0.918	0.977	0.589	
10	DC 6.00	0.639	0.982	0.963	
0	DC 6.00	0.692	0.695	0.269	
-10	DC 6.00	0.861	0.658	0.851	
-20	DC 6.00	0.958	0.682	0.638	
-30	DC 6.00	0.684	0.952	0.854	
Result	Pass				

Environment Temperature(℃)	Power (V)	Reference Frequency		Limit: ppm
		151.85MHz	161.61MHz	
50	DC 6.00	0.963	0.381	5
40	DC 6.00	0.815	0.429	
30	DC 6.00	0.753	0.392	
20	DC 6.00	0.634	0.563	
10	DC 6.00	0.831	0.369	
0	DC 6.00	0.753	0.851	
-10	DC 6.00	0.634	0.634	
-20	DC 6.00	0.862	0.529	
-30	DC 6.00	0.925	0.639	
Result	Pass			

UHF:

Analog:

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40	0.952	0.853	0.862	5
40	DC 7.40	0.682	0.615	0.998	
30	DC 7.40	0.483	0.633	1.313	
20	DC 7.40	0.529	0.586	0.854	
10	DC 7.40	0.642	0.865	0.529	
0	DC 7.40	0.329	0.615	0.568	
-10	DC 7.40	0.547	0.782	0.678	
-20	DC 7.40	0.769	0.625	0.698	
-30	DC 7.40	0.594	0.852	0.529	
Result	Pass				

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29	0.482	0.636	0.638	5
40	DC 6.29	0.628	0.826	1.237	
30	DC 6.29	0.743	0.885	0.582	
20	DC 6.29	0.637	0.574	0.692	
10	DC 6.29	0.872	0.963	0.582	
0	DC 6.29	0.692	0.921	0.853	
-10	DC 6.29	0.527	0.715	0.528	
-20	DC 6.29	0.682	0.885	0.674	
-30	DC 6.29	0.946	0.676	0.692	
Result	Pass				

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 8.51	0.958	0.536	0.692	5
40	DC 8.51	0.514	0.652	0.528	
30	DC 8.51	0.768	0.886	0.694	
20	DC 8.51	0.548	0.574	0.854	
10	DC 8.51	0.965	0.715	0.629	
0	DC 8.51	0.584	0.596	0.842	
-10	DC 8.51	0.694	0.826	0.957	
-20	DC 8.51	0.681	0.915	0.697	
-30	DC 8.51	0.985	0.686	0.864	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00	0.853	0.663	0.682	5
40	DC 6.00	0.982	0.829	0.854	
30	DC 6.00	0.493	0.625	0.829	
20	DC 6.00	0.867	0.762	0.529	
10	DC 6.00	0.695	0.545	0.857	
0	DC 6.00	0.943	0.675	0.685	
-10	DC 6.00	0.754	0.763	0.529	
-20	DC 6.00	0.985	0.815	0.576	
-30	DC 6.00	0.975	0.686	0.695	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40	0.768	0.663	0.864	5
40	DC 7.40	0.593	0.885	0.582	
30	DC 7.40	0.853	0.557	0.861	
20	DC 7.40	0.483	0.884	0.528	
10	DC 7.40	0.853	0.645	0.954	
0	DC 7.40	0.573	0.785	0.658	
-10	DC 7.40	0.851	0.885	0.674	
-20	DC 7.40	0.968	0.752	0.751	
-30	DC 7.40	0.597	0.655	0.961	
Result	Pass				

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29	0.682	0.859	1.113	5
40	DC 6.29	0.795	0.658	0.962	
30	DC 6.29	0.654	0.757	1.053	
20	DC 6.29	0.962	0.556	0.658	
10	DC 6.29	0.866	0.852	0.854	
0	DC 6.29	0.819	0.586	0.964	
-10	DC 6.29	0.962	0.725	0.529	
-20	DC 6.29	0.687	0.645	0.764	
-30	DC 6.29	0.692	0.886	0.529	
Result	Pass				

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 8.51	0.681	0.656	0.964	5
40	DC 8.51	0.639	0.528	0.861	
30	DC 8.51	0.837	0.958	0.637	
20	DC 8.51	0.687	0.859	0.952	
10	DC 8.51	0.382	0.751	0.624	
0	DC 8.51	0.571	0.657	0.527	
-10	DC 8.51	0.954	0.522	0.946	
-20	DC 8.51	0.529	0.525	0.563	
-30	DC 8.51	0.861	0.854	0.695	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00	0.938	0.856	0.975	5
40	DC 6.00	0.875	0.552	0.958	
30	DC 6.00	0.629	0.732	0.952	
20	DC 6.00	0.851	0.983	0.964	
10	DC 6.00	0.629	0.657	0.957	
0	DC 6.00	0.527	0.462	0.627	
-10	DC 6.00	0.955	0.585	0.952	
-20	DC 6.00	0.691	0.875	0.961	
-30	DC 6.00	0.498	0.762	0.658	
Result	Pass				

Digital:

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40	1.122	0.885	0.893	5
40	DC 7.40	0.967	0.656	0.618	
30	DC 7.40	0.529	0.875	0.527	
20	DC 7.40	0.962	0.654	0.692	
10	DC 7.40	0.483	0.738	0.527	
0	DC 7.40	0.965	0.571	0.692	
-10	DC 7.40	0.527	0.896	0.817	
-20	DC 7.40	0.559	0.963	0.953	
-30	DC 7.40	0.586	0.659	0.861	
Result	Pass				

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29	0.628	0.785	0.745	5
40	DC 6.29	0.692	0.769	0.926	
30	DC 6.29	0.527	0.868	0.528	
20	DC 6.29	0.957	0.775	0.942	
10	DC 6.29	0.527	0.671	0.628	
0	DC 6.29	0.961	0.892	0.621	
-10	DC 6.29	0.582	0.775	0.697	
-20	DC 6.29	0.648	0.786	0.952	
-30	DC 6.29	0.524	0.549	0.934	
Result	Pass				

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-5W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 8.51	0.628	0.558	0.863	5
40	DC 8.51	0.964	0.759	0.868	
30	DC 8.51	0.526	0.664	0.964	
20	DC 8.51	0.691	0.875	0.513	
10	DC 8.51	0.862	0.745	0.592	
0	DC 8.51	0.762	0.663	0.625	
-10	DC 8.51	0.681	0.829	0.967	
-20	DC 8.51	0.461	0.758	0.628	
-30	DC 8.51	0.693	0.862	0.905	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00	0.937	0.559	0.687	5
40	DC 6.00	0.965	0.753	0.967	
30	DC 6.00	0.529	0.525	0.583	
20	DC 6.00	0.946	0.719	0.658	
10	DC 6.00	0.967	0.875	0.887	
0	DC 6.00	0.959	0.763	0.695	
-10	DC 6.00	0.862	0.629	0.688	
-20	DC 6.00	0.869	0.785	0.683	
-30	DC 6.00	0.963	0.875	0.697	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 7.40	0.964	0.659	0.999	5
40	DC 7.40	0.511	0.238	1.065	
30	DC 7.40	0.749	1.578	0.862	
20	DC 7.40	0.659	0.975	0.628	
10	DC 7.40	0.637	0.563	0.958	
0	DC 7.40	0.529	0.871	0.628	
-10	DC 7.40	0.568	0.759	0.773	
-20	DC 7.40	0.655	0.658	0.681	
-30	DC 7.40	0.969	0.849	0.693	
Result	Pass				

(2) Frequency stability versus input voltage (Battery limiting voltage is 6.29V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.29	0.953	0.759	0.962	5
40	DC 6.29	0.842	0.663	0.629	
30	DC 6.29	0.859	0.887	0.528	
20	DC 6.29	0.692	0.756	0.695	
10	DC 6.29	0.529	0.677	0.854	
0	DC 6.29	0.658	0.865	0.527	
-10	DC 6.29	0.859	0.596	0.529	
-20	DC 6.29	0.527	0.995	0.842	
-30	DC 6.29	0.692	0.628	0.629	
Result	Pass				

(3) Frequency stability versus input voltage (Battery Fully Charged voltage is 8.51V) **-1W**

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 8.51	0.987	0.553	0.638	5
40	DC 8.51	0.692	0.829	0.529	
30	DC 8.51	0.659	0.749	0.695	
20	DC 8.51	0.529	0.951	0.699	
10	DC 8.51	0.642	0.678	0.627	
0	DC 8.51	0.861	0.849	0.493	
-10	DC 8.51	0.685	0.463	0.529	
-20	DC 8.51	0.629	0.648	0.675	
-30	DC 8.51	0.865	0.782	0.863	
Result	Pass				

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

Environment	Power	Reference Frequency			Limit:
Temperature(℃)	(V)	400.025MHz	454.025MHz	479.975MHz	ppm
50	DC 6.00	0.835	0.759	0.628	5
40	DC 6.00	0.694	0.858	0.651	
30	DC 6.00	0.527	0.975	0.995	
20	DC 6.00	0.522	0.663	0.692	
10	DC 6.00	0.955	0.519	0.566	
0	DC 6.00	0.524	0.885	0.695	
-10	DC 6.00	0.519	0.648	0.961	
-20	DC 6.00	0.956	0.479	0.931	
-30	DC 6.00	0.864	0.761	0.959	
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

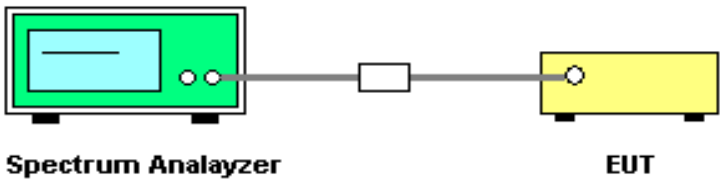
1). The EUT was placed on a turn table which is 0.8m above ground plane.

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



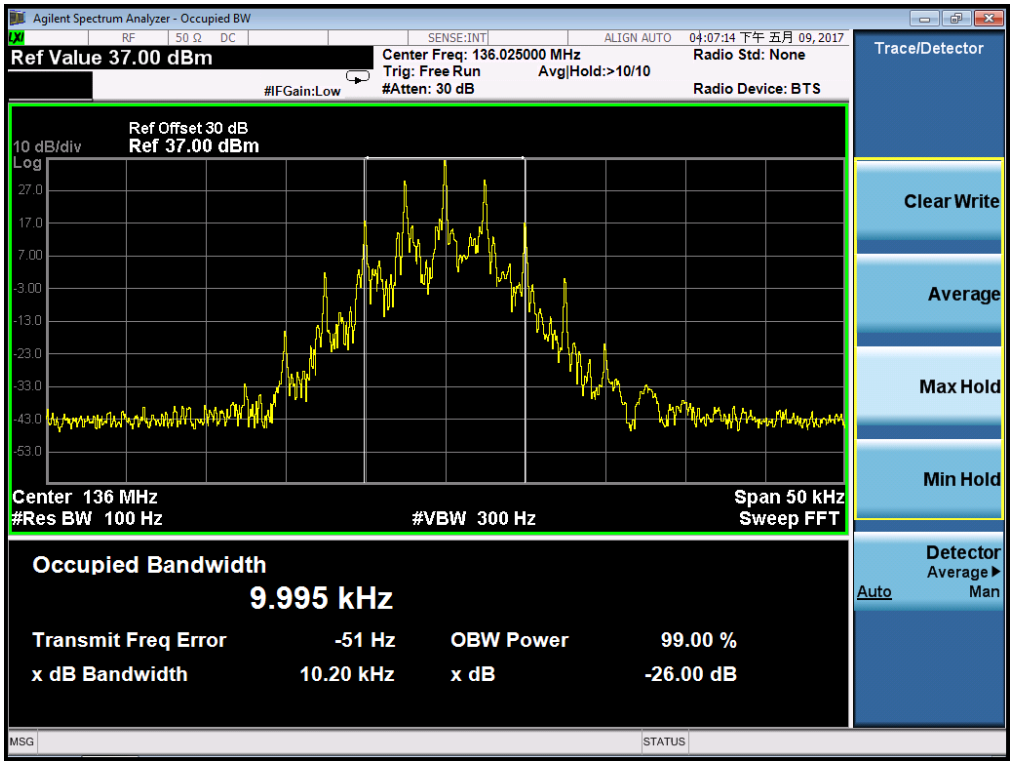
6.4 MEASUREMENT RESULT

VHF:

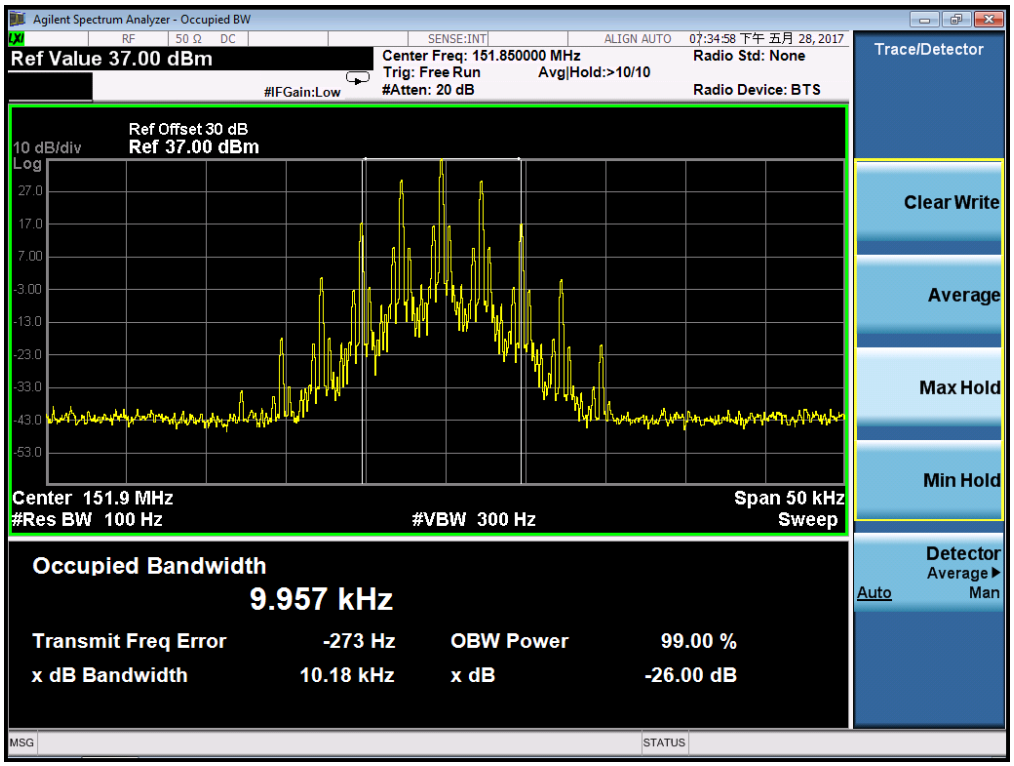
Analog:

26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.20KHz	11.25 KHz	Pass
151.850MHz	10.18KHz	11.25 KHz	Pass
155.025MHz	10.16KHz	11.25 KHz	Pass
161.61 MHz	10.18KHz	11.25 KHz	Pass
173.975MHz	10.15KHz	11.25 KHz	Pass

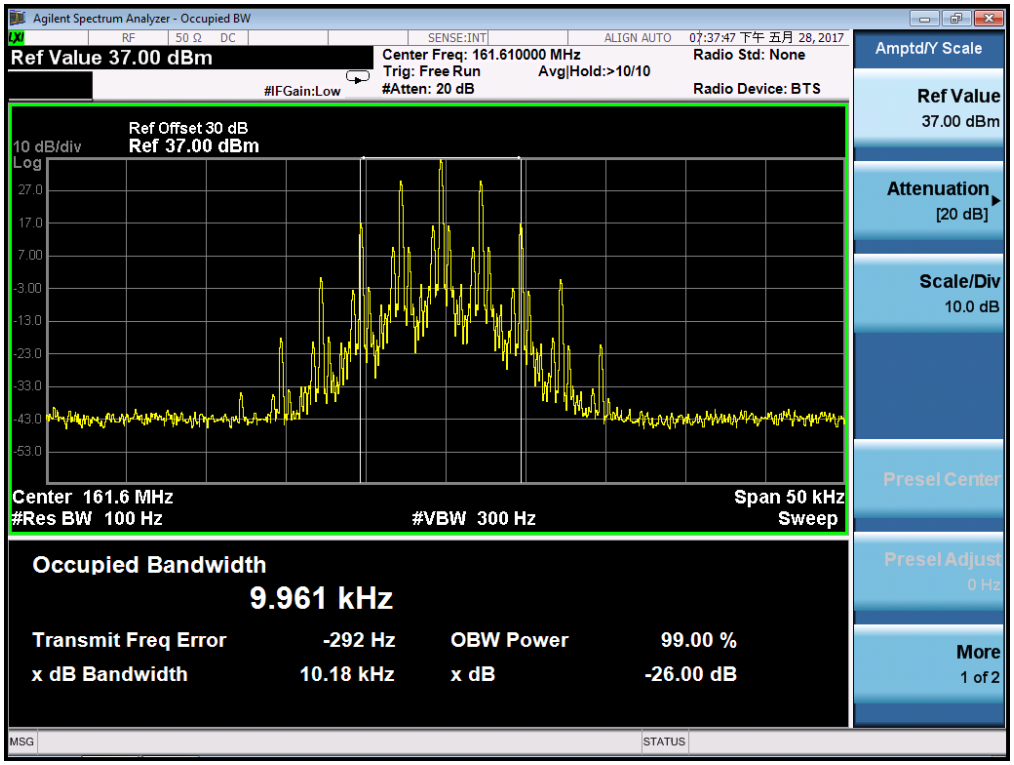
Occupied bandwidth of Bottom Channel (Maximum)-5W



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

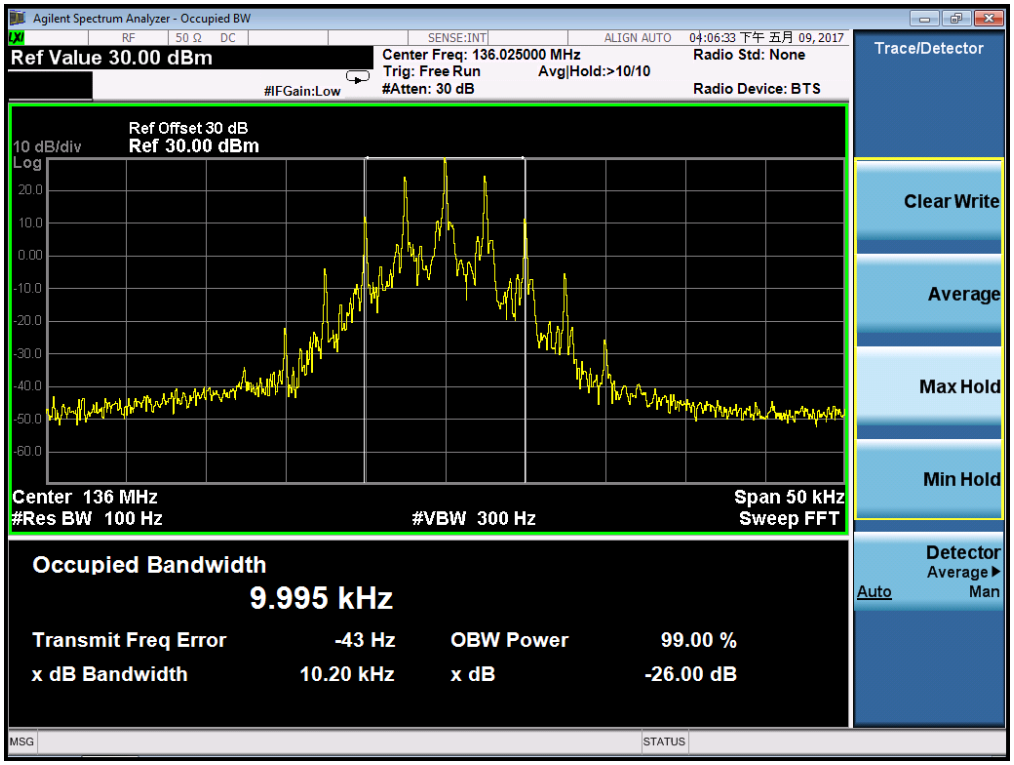


Occupied bandwidth of Middle Channel (161.610 MHz)-5W

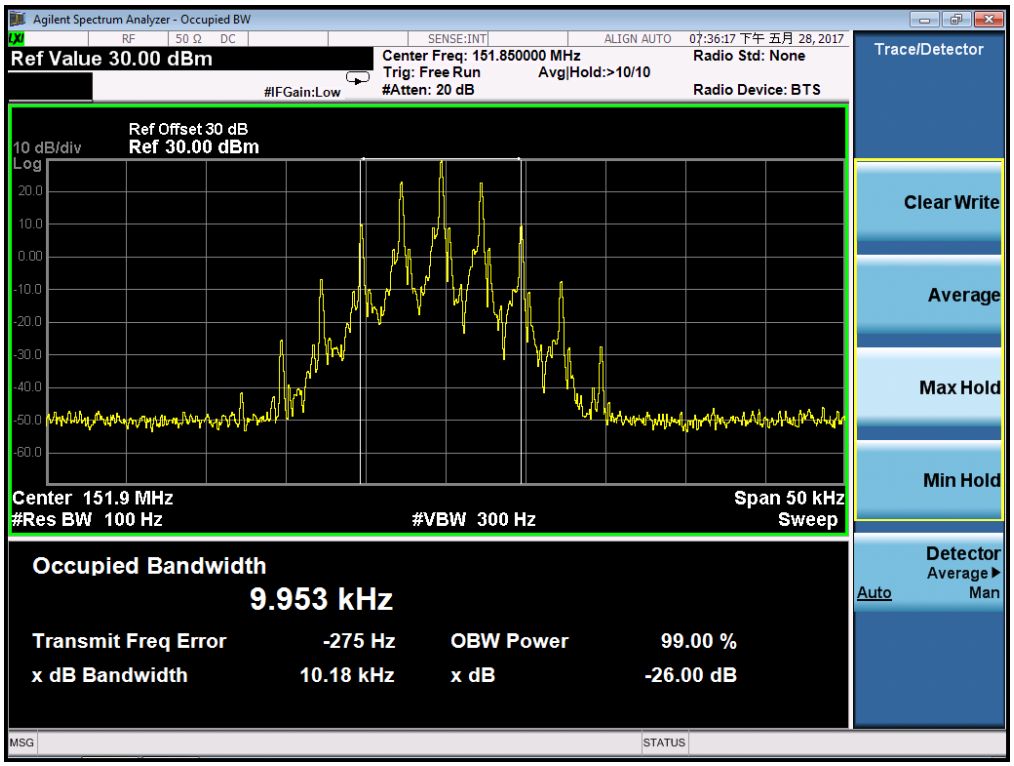


26 dB Bandwidth Measurement Result			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	10.20KHz	11.25 KHz	Pass
151.850MHz	10.18KHz	11.25 KHz	Pass
155.025MHz	10.17KHz	11.25 KHz	Pass
161.61 MHz	10.18KHz	11.25 KHz	Pass
173.975MHz	10.14KHz	11.25 KHz	Pass

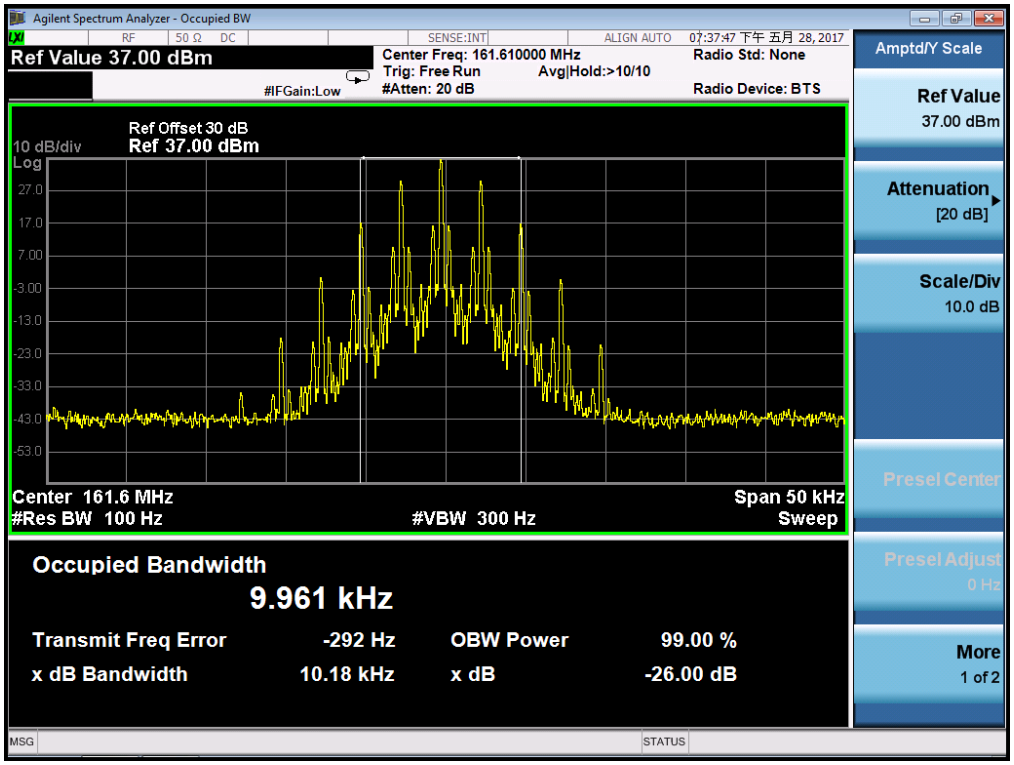
Occupied bandwidth of Bottom Channel (Maximum)-1W



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



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

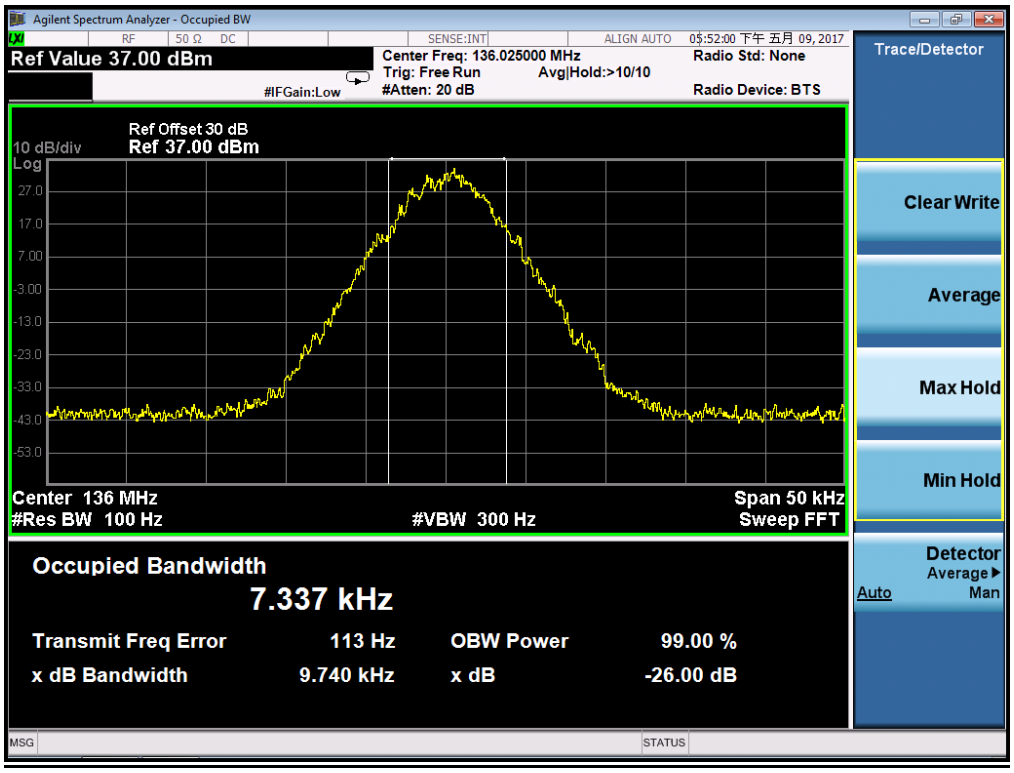


Digital:

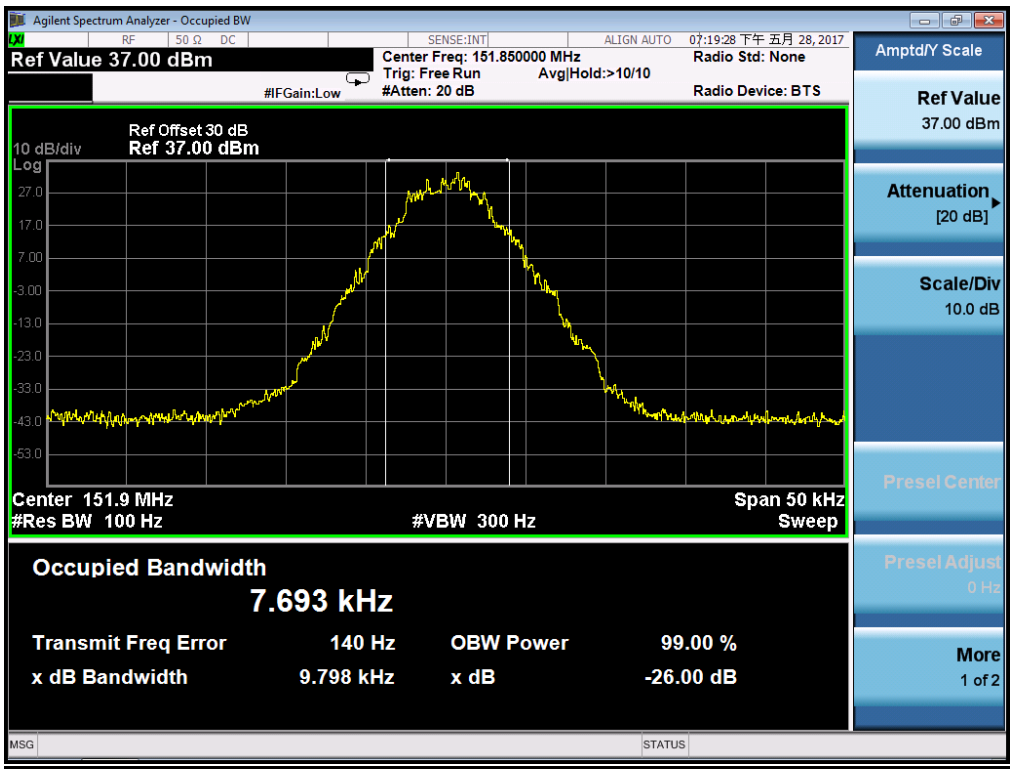
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	9.740KHz	11.25 KHz	Pass
151.850MHz	9.798KHz	11.25 KHz	Pass
155.025MHz	9.731KHz	11.25 KHz	Pass
161.61 MHz	9.368KHz	11.25 KHz	Pass
173.975MHz	9.735KHz	11.25 KHz	Pass

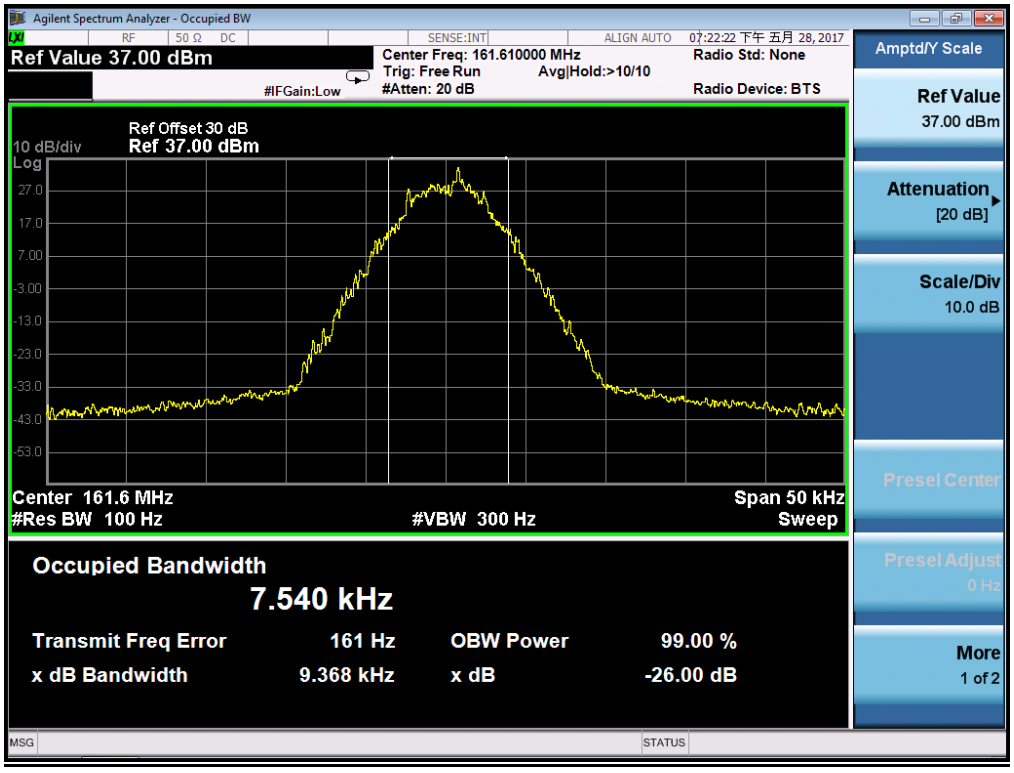
Occupied bandwidth of Bottom Channel (Maximum)-5W



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



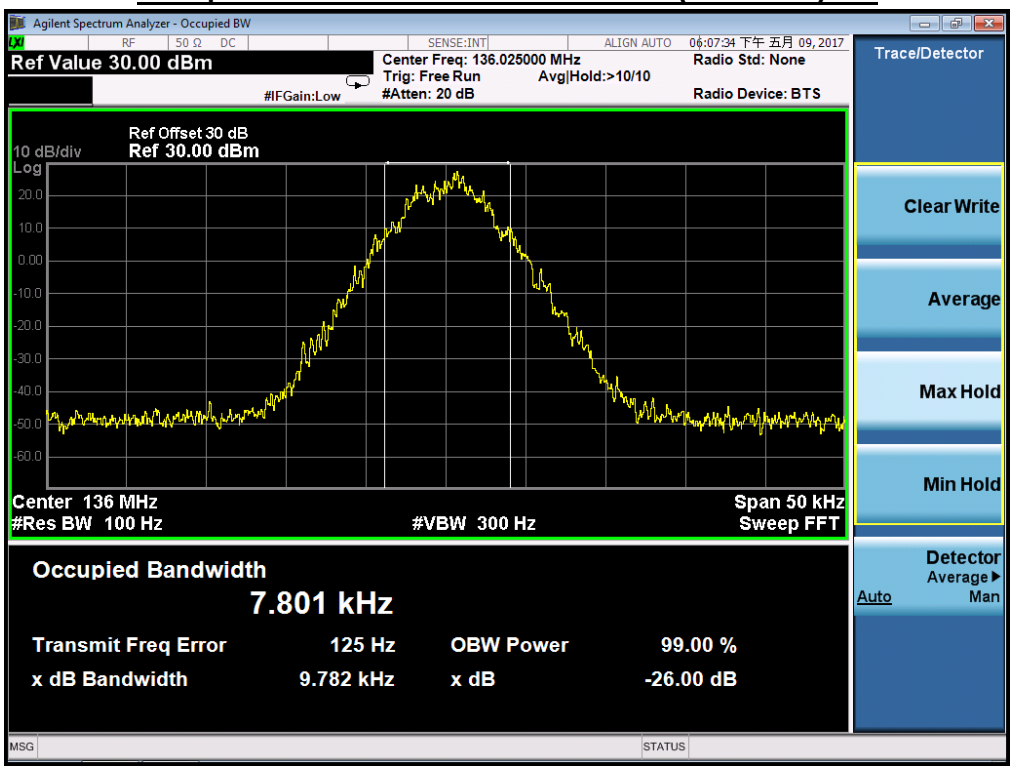
Occupied bandwidth of Middle Channel (161.610 MHz)-5W



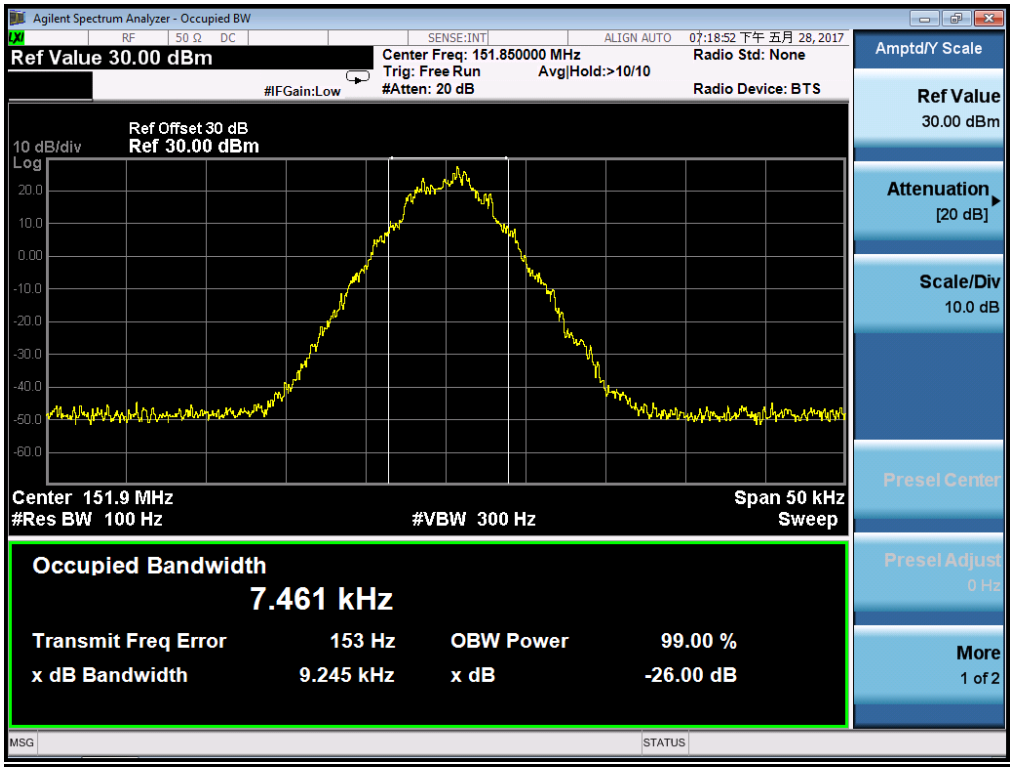
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
136.025MHz	9.782KHz	11.25 KHz	Pass
151.850MHz	9.245KHz	11.25 KHz	Pass
155.025MHz	9.761KHz	11.25 KHz	Pass
161.610MHz	9.503KHz	11.25 KHz	Pass
173.975MHz	9.753KHz	11.25 KHz	Pass

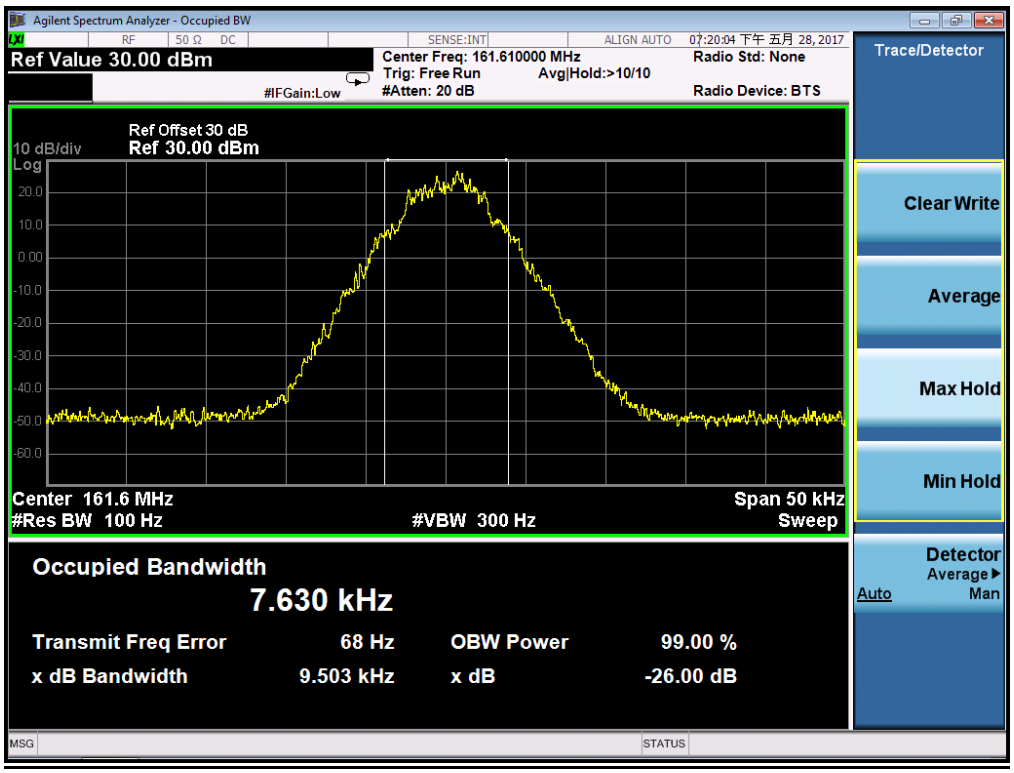
Occupied bandwidth of Bottom Channel (Maximum)-1W



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



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

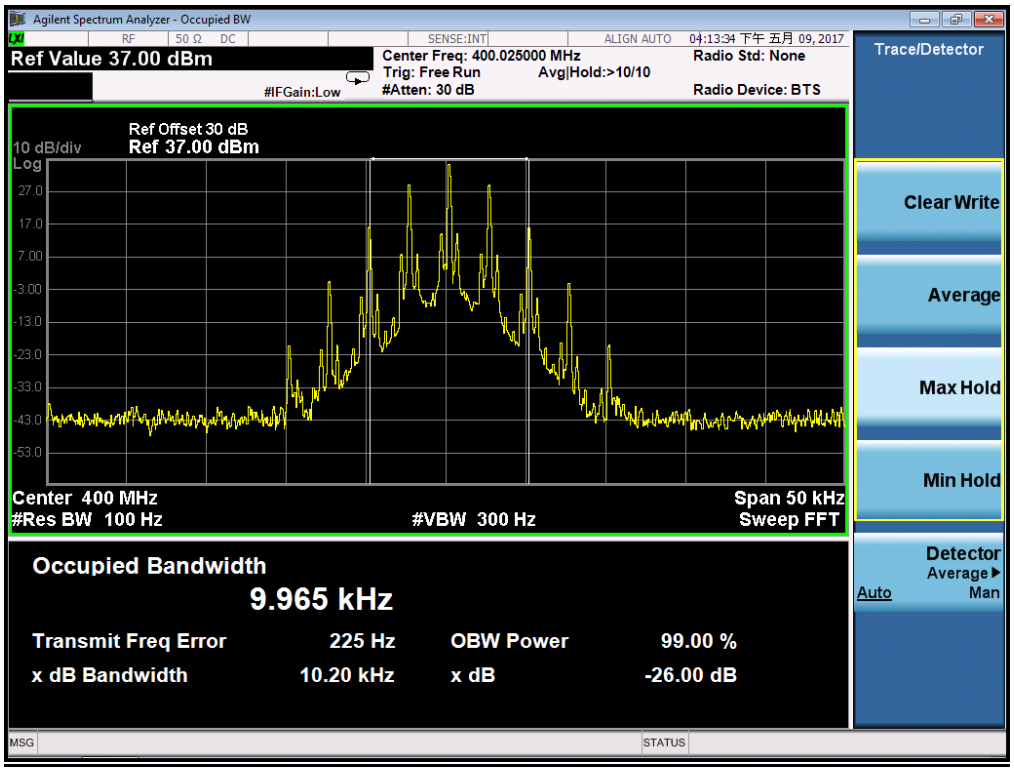


UHF:

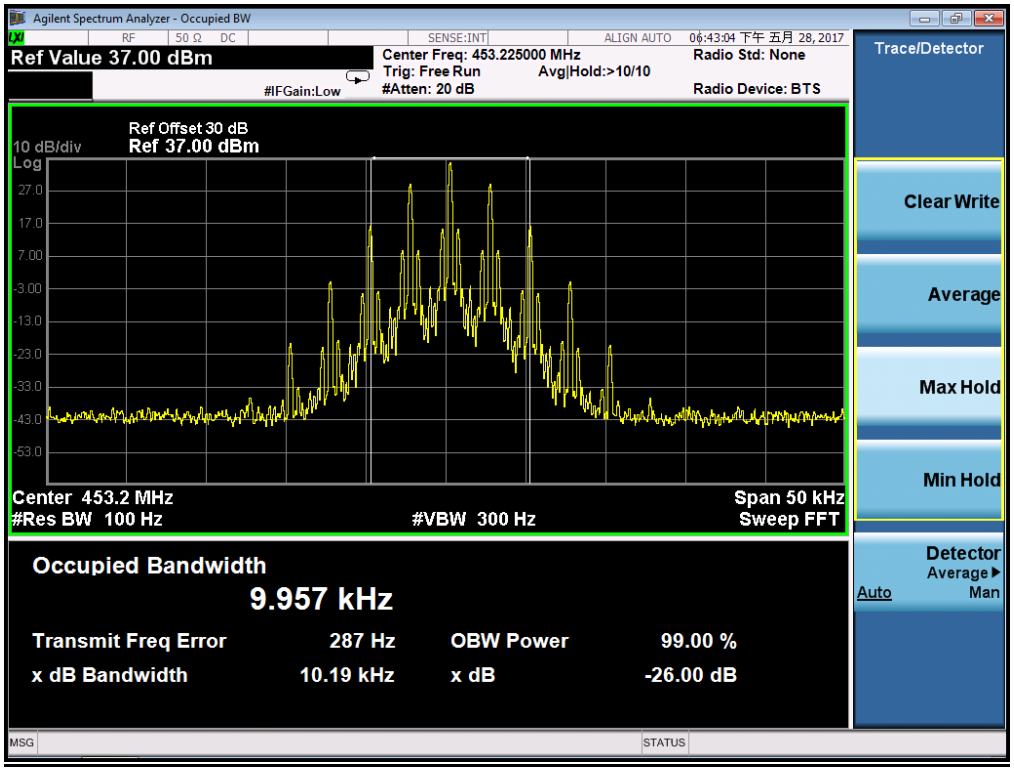
Analog:

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.20KHz	11.25 KHz	Pass
453.225MHz	10.19KHz	11.25 KHz	Pass
454.025MHz	10.19KHz	11.25 KHz	Pass
479.975MHz	10.18KHz	11.25 KHz	Pass

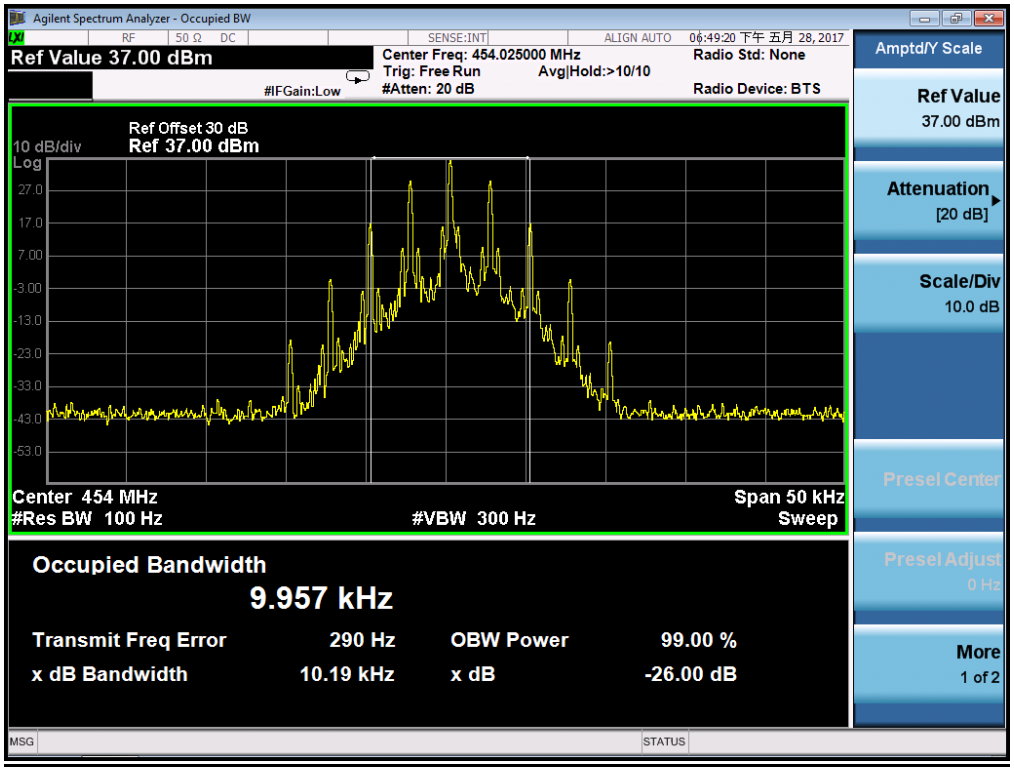
Occupied bandwidth of Bottom Channel (Maximum)-5W



Occupied bandwidth of Middle Channel (Maximum)-5W

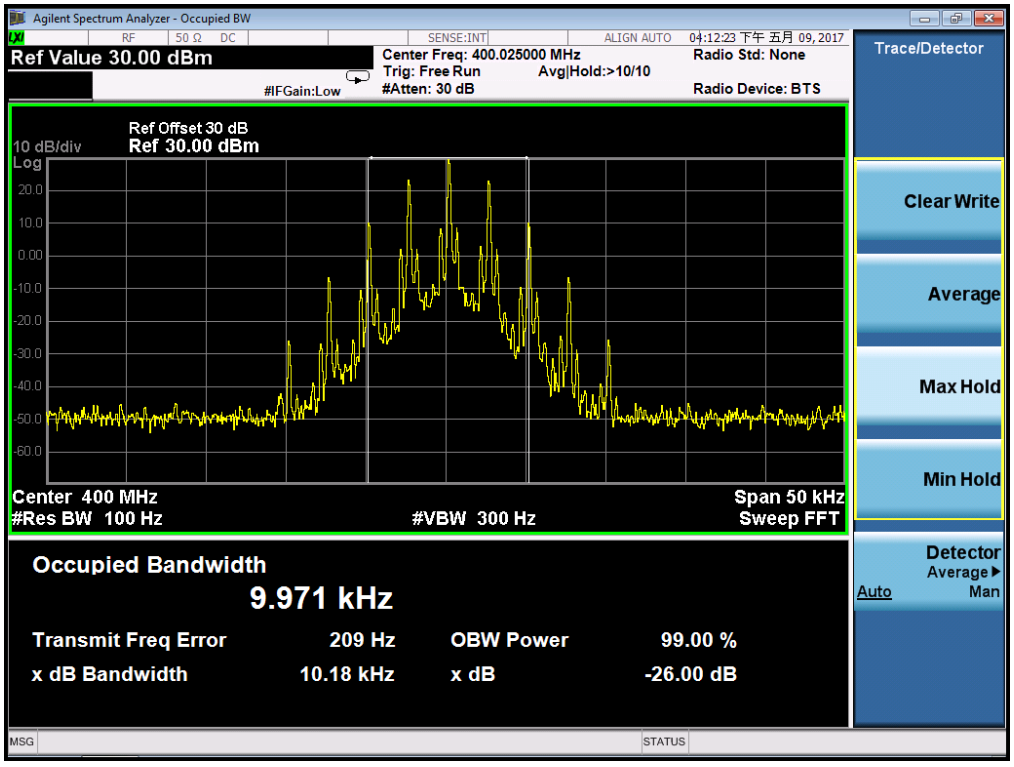


Occupied bandwidth of Middle Channel (Maximum)-5W

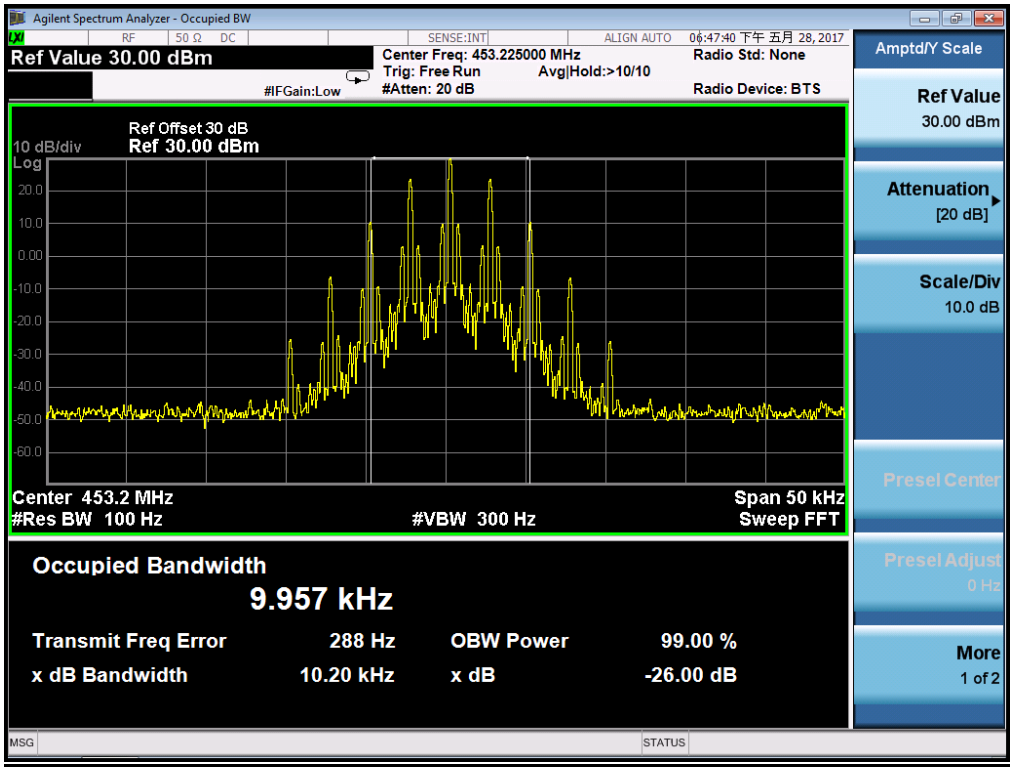


26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	10.18KHz	11.25 KHz	Pass
453.225MHz	10.20KHz	11.25 KHz	Pass
454.025MHz	10.18KHz	11.25 KHz	Pass
479.975MHz	10.16KHz	11.25 KHz	Pass

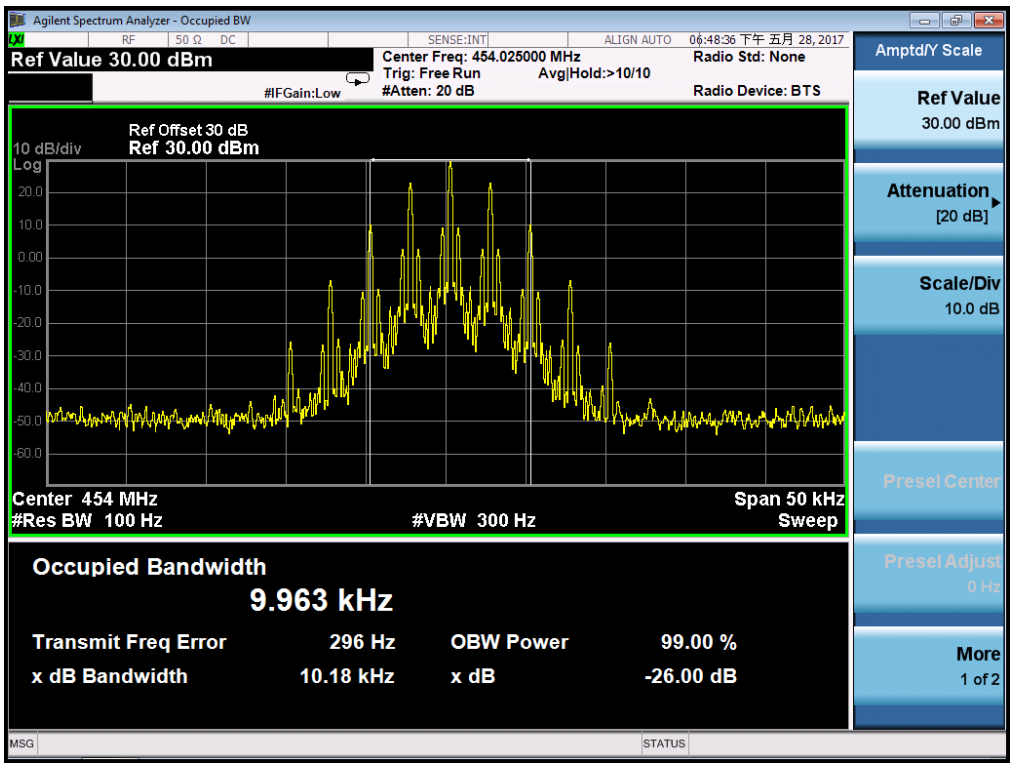
Occupied bandwidth of Bottom Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W



Occupied bandwidth of Middle Channel (Maximum)-1W

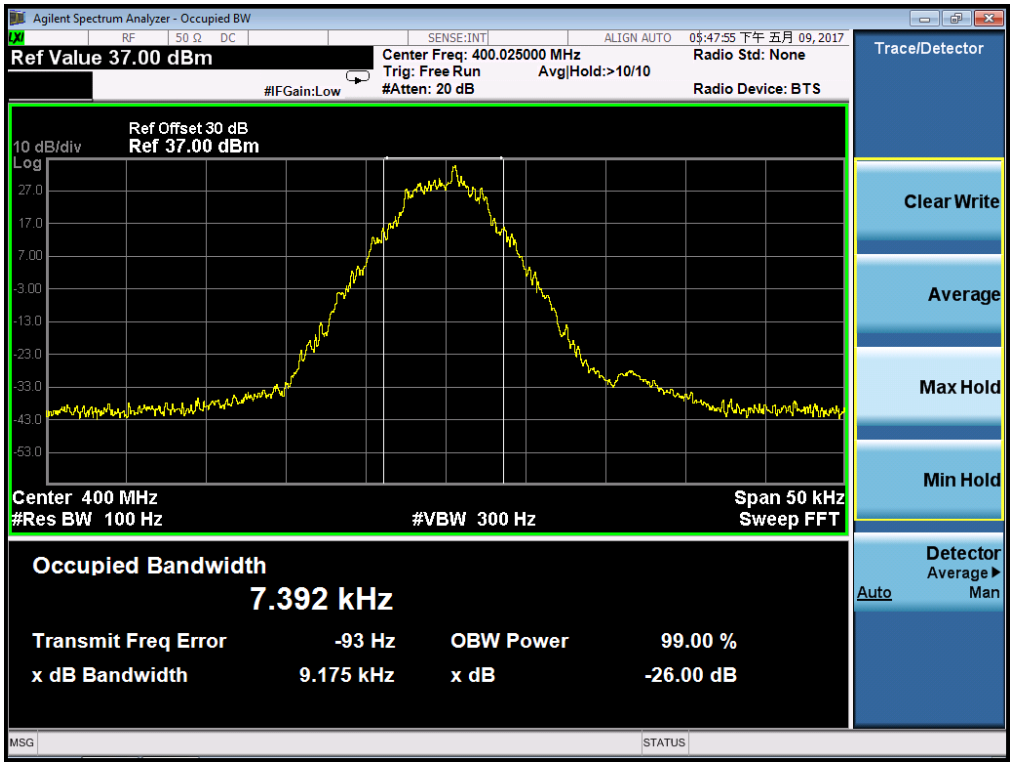


Digital:

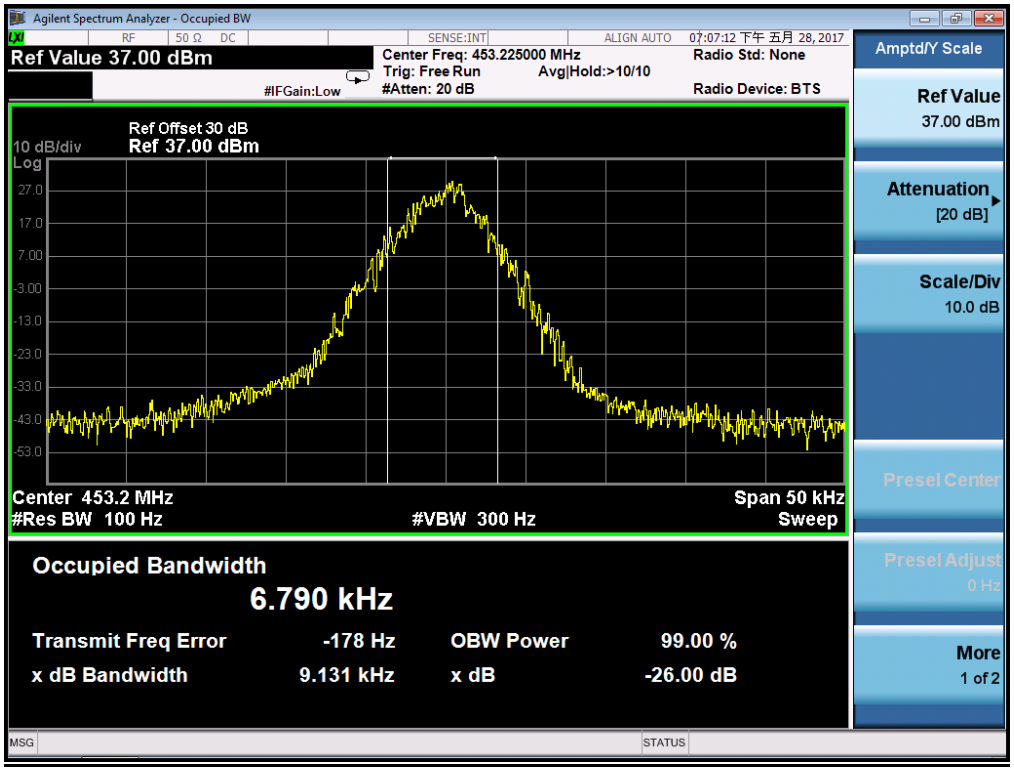
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	9.175KHz	11.25 KHz	Pass
453.225MHz	9.131KHz	11.25 KHz	Pass
454.025MHz	8.389KHz	11.25 KHz	Pass
479.975MHz	9.162KHz	11.25 KHz	Pass

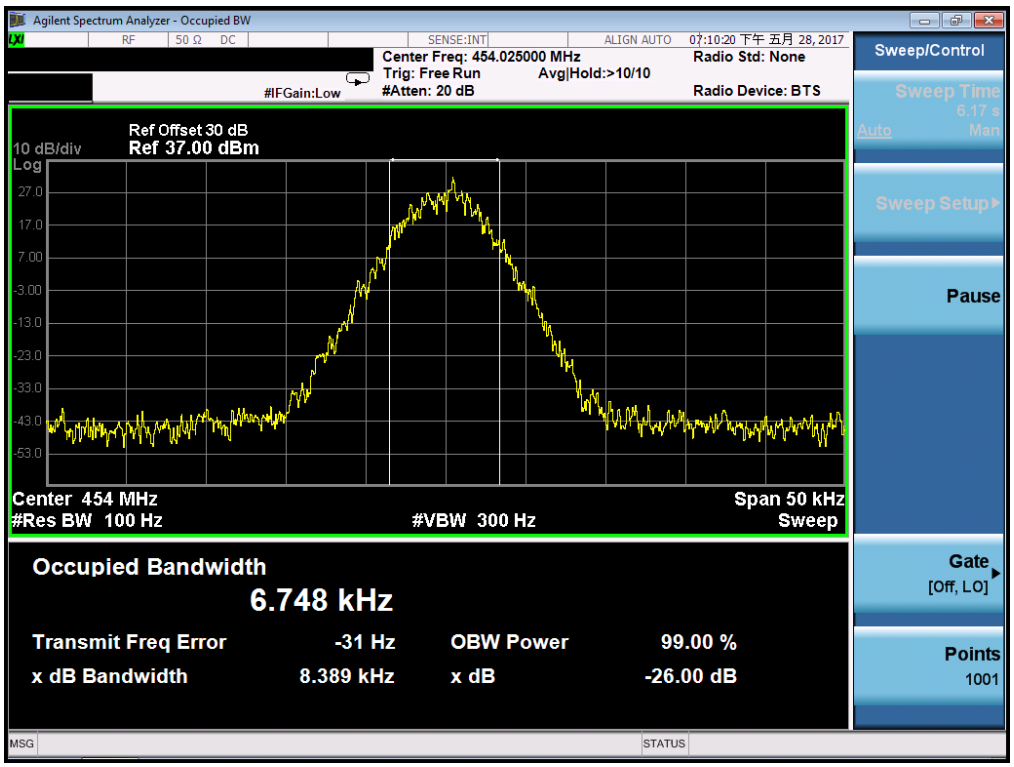
Occupied bandwidth of Bottom Channel (Maximum) -5W



Occupied bandwidth of Middle Channel (Maximum)-5W



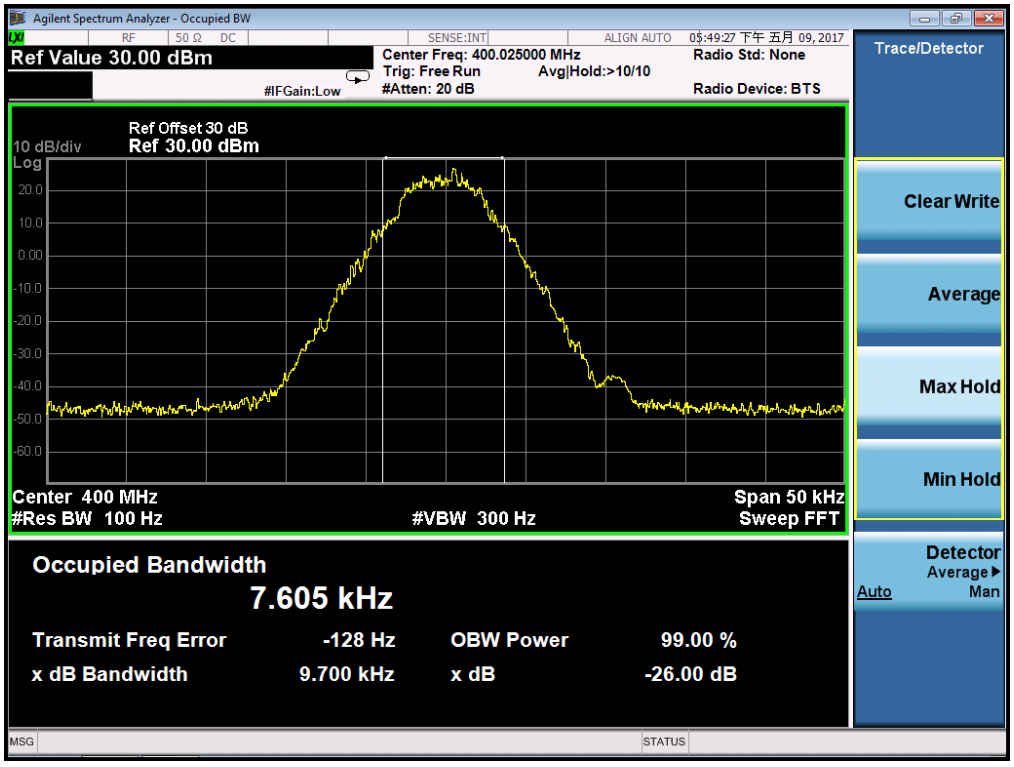
Occupied bandwidth of Middle Channel (Maximum)-5W



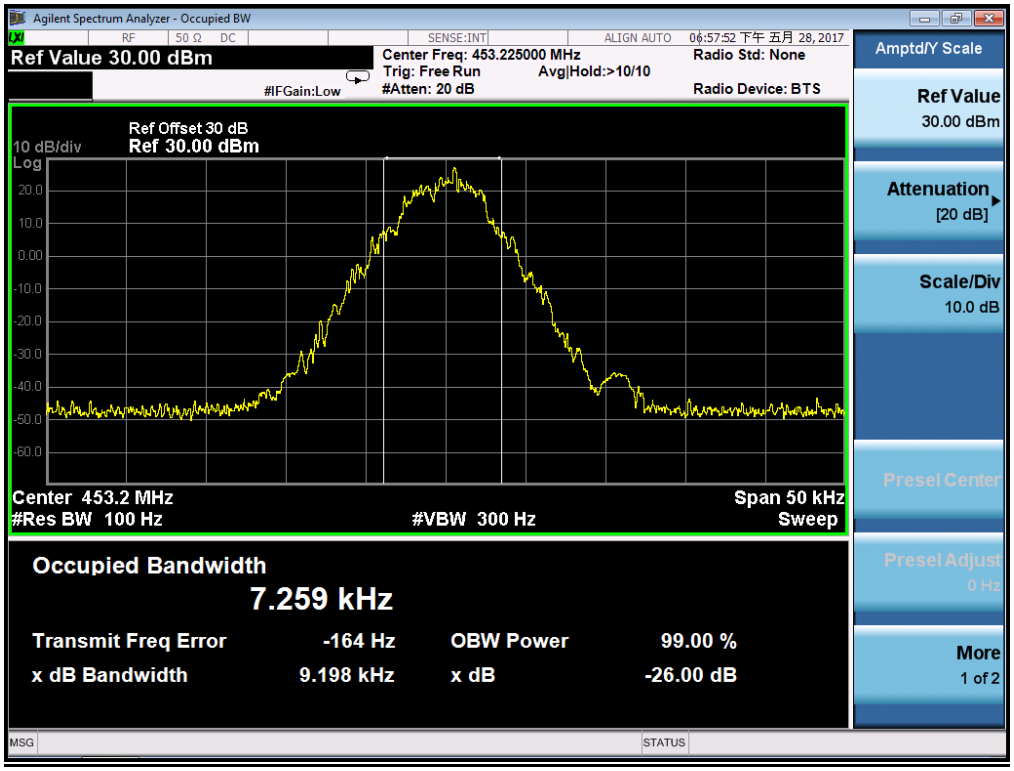
TEST RESULTS

26 DB BANDWIDTH MEASUREMENT RESULT			
Operating Frequency	12.5 KHz Channel Separation		
	Test Data	Limits	Result
400.025MHz	9.700KHz	11.25 KHz	Pass
453.225MHz	9.198KHz	11.25 KHz	Pass
454.025MHz	9.332KHz	11.25 KHz	Pass
479.975MHz	9.689KHz	11.25 KHz	Pass

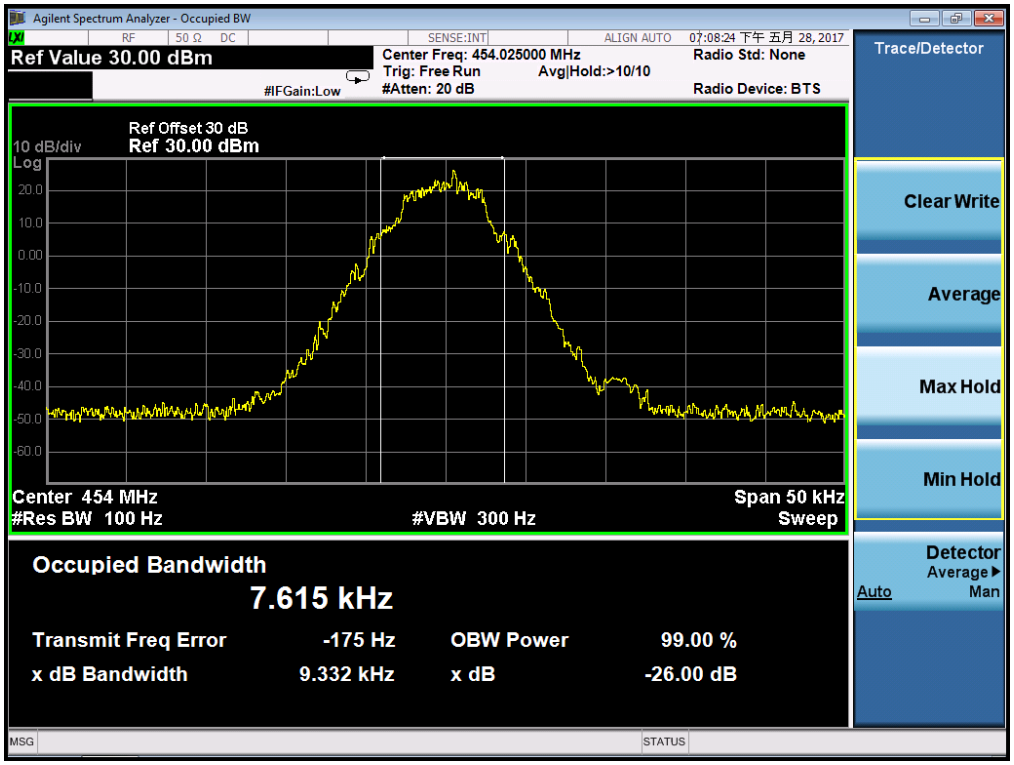
Occupied bandwidth of Bottom Channel (Maximum) -1W



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.

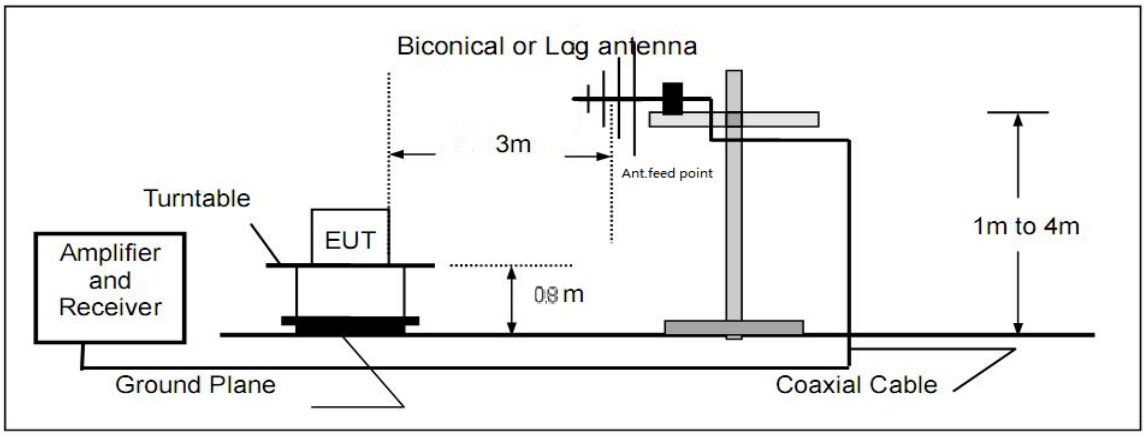
(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.

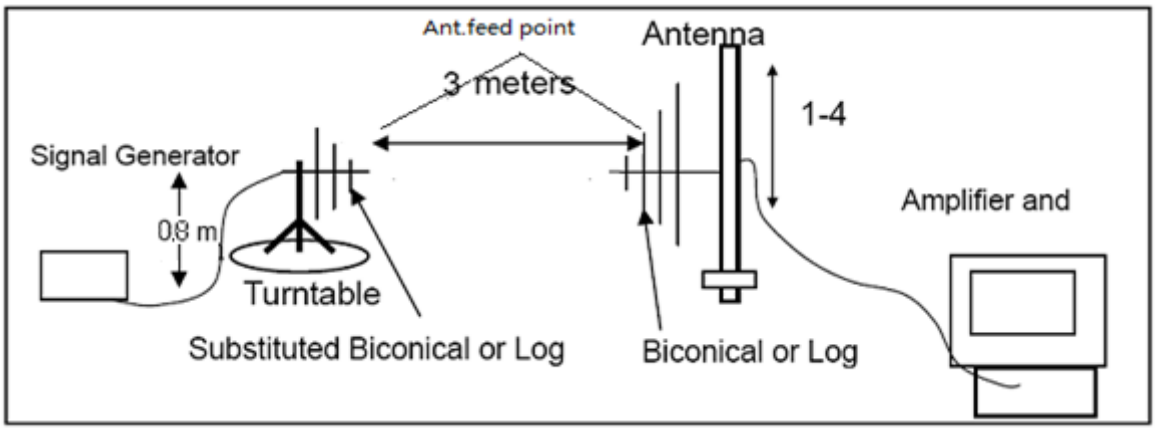
(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

7.3 TEST SETUP BLOCK DIAGRAM

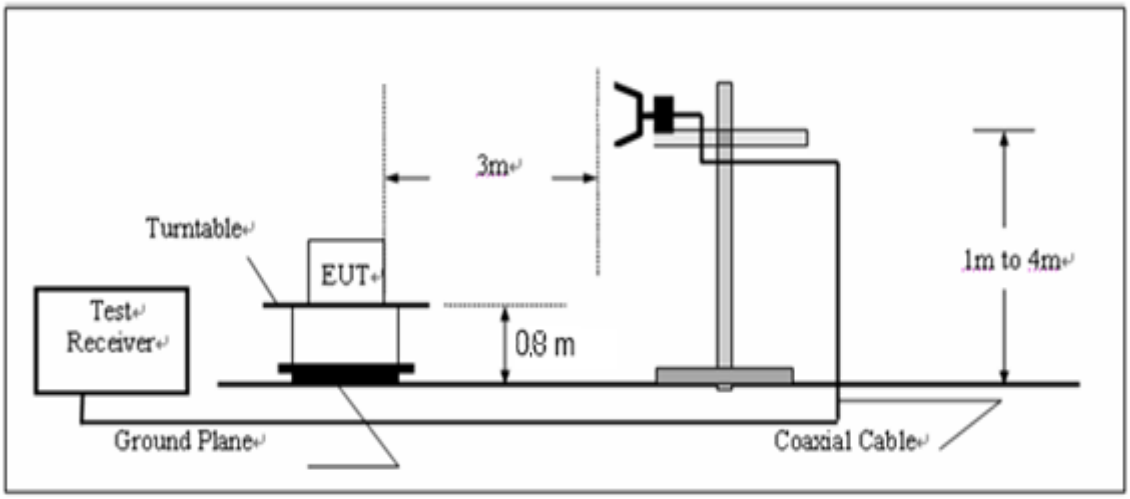
SUBSTITUTION METHOD: (Radiated Emissions)

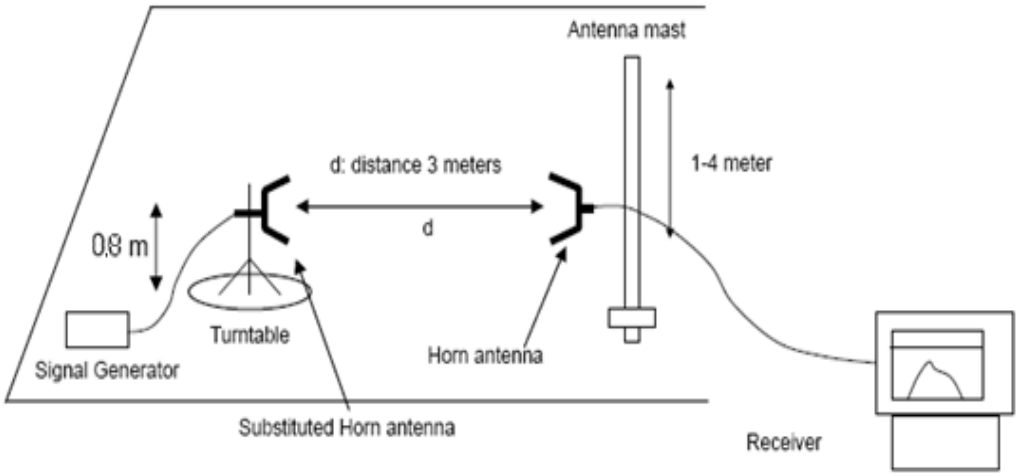
Radiated Below1GHz





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	71.18	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 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	69.62	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 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	69.35	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 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	70.25	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 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	70.26	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 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	71.16	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 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
455.550	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 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	69.68	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 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	71.95	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 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	71.25	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	70.16	57	pass
408.08	H	71.92	57	pass
544.100	H	72.63	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	68.26	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 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	67.26	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 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	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 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	70.63	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 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	70.25	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 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	70.59	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	70.63	57	pass
1200.075	H	71.96	57	pass
1600.100	H	72.53	57	pass
2000.125	H	74.61	57	pass
2400.150	H	75.18	57	pass
2800.175	H	77.96	57	pass
3200.200	H	78.95	57	pass
3600.225	H	79.61	57	pass
4000.250	H	80.69	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	70.63	57	pass
1200.075	V	71.69	57	pass
1600.100	V	72.64	57	pass
2000.125	V	75.82	57	pass
2400.150	V	76.93	57	pass
2800.175	V	75.63	57	pass
3200.200	V	78.15	57	pass
3600.225	V	79.52	57	pass
4000.250	V	80.11	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	70.69	50	pass
1439.925	H	71.63	50	pass
1919.900	H	74.63	50	pass
2399.875	H	76.94	50	pass
2879.850	H	77.65	50	pass
3359.825	H	78.91	50	pass
3839.800	H	79.63	50	pass
4319.775	H	80.18	50	pass
4799.750	H	82.42	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	69.52	50	pass
1439.925	V	71.58	50	pass
1919.900	V	72.69	50	pass
2399.875	V	74.68	50	pass
2879.850	V	75.17	50	pass
3359.825	V	76.29	50	pass
3839.800	V	77.54	50	pass
4319.775	V	78.69	50	pass
4799.750	V	80.46	50	pass

7.5 EMISSION MASK PLOT

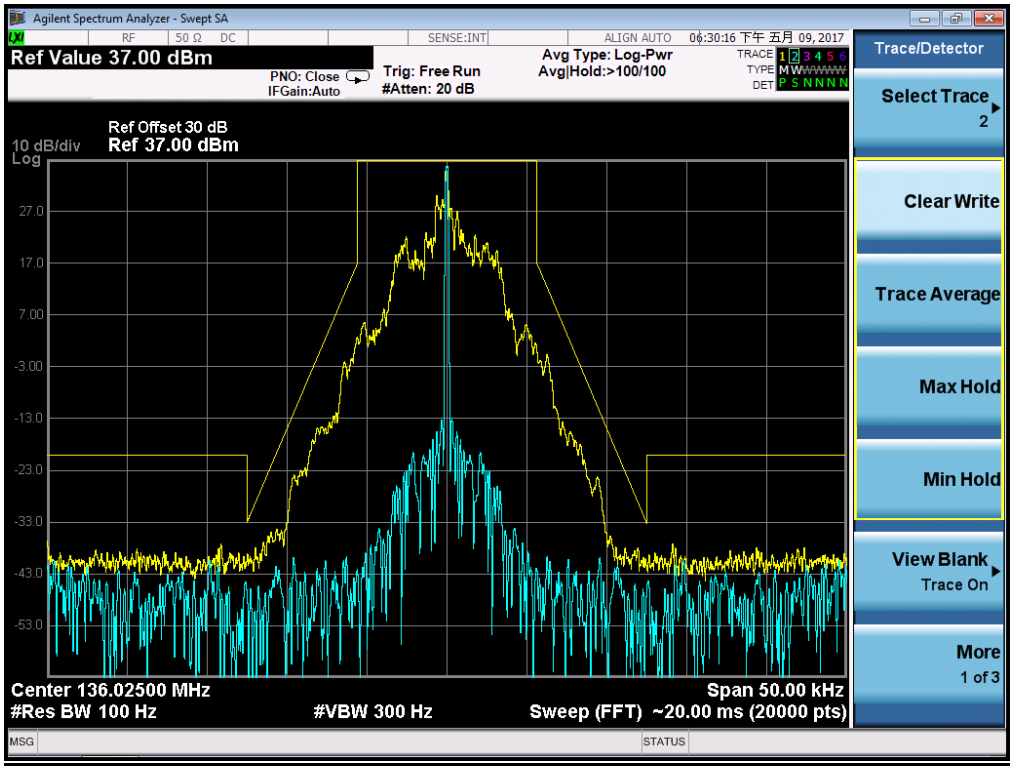
The detailed procedure employed for Emission Mask measurements are specified as following:

- 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.

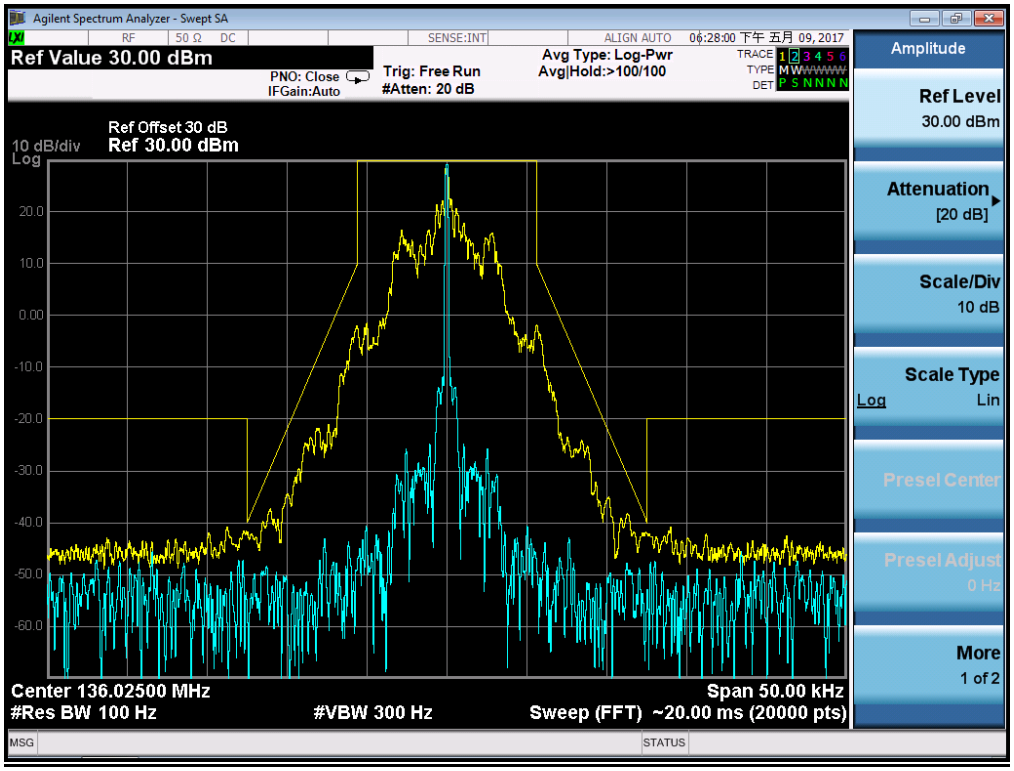
VHF:

Analog:

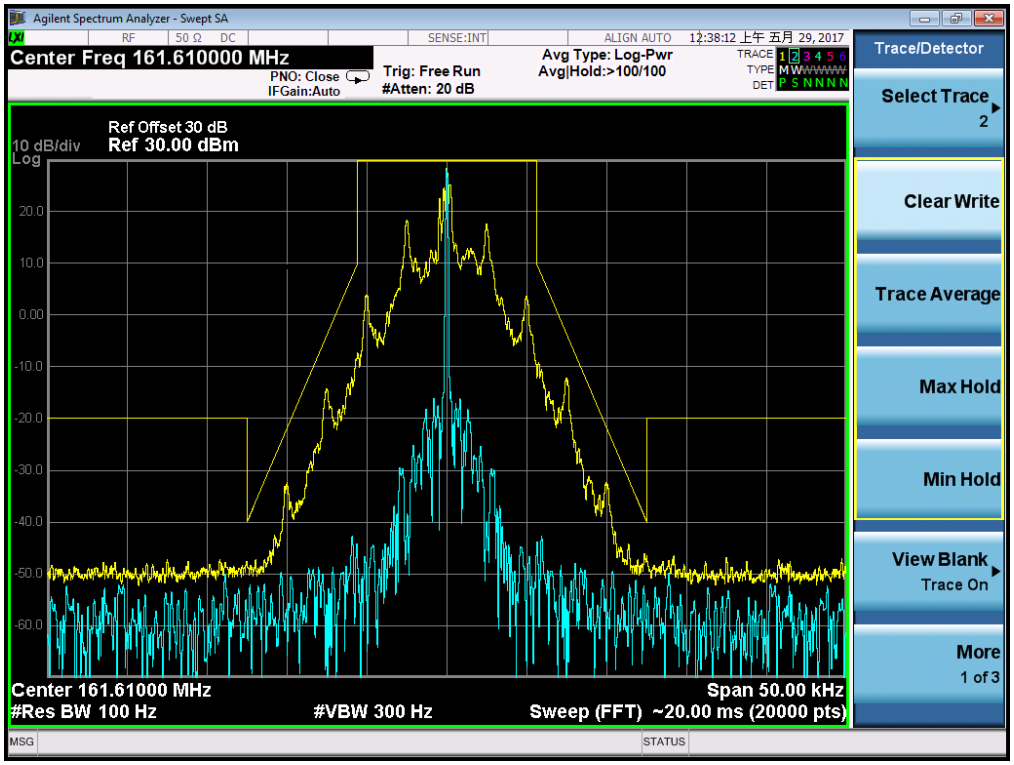
The Worst Emission Mask D for 12.5 KHz channel Separation (5W)



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

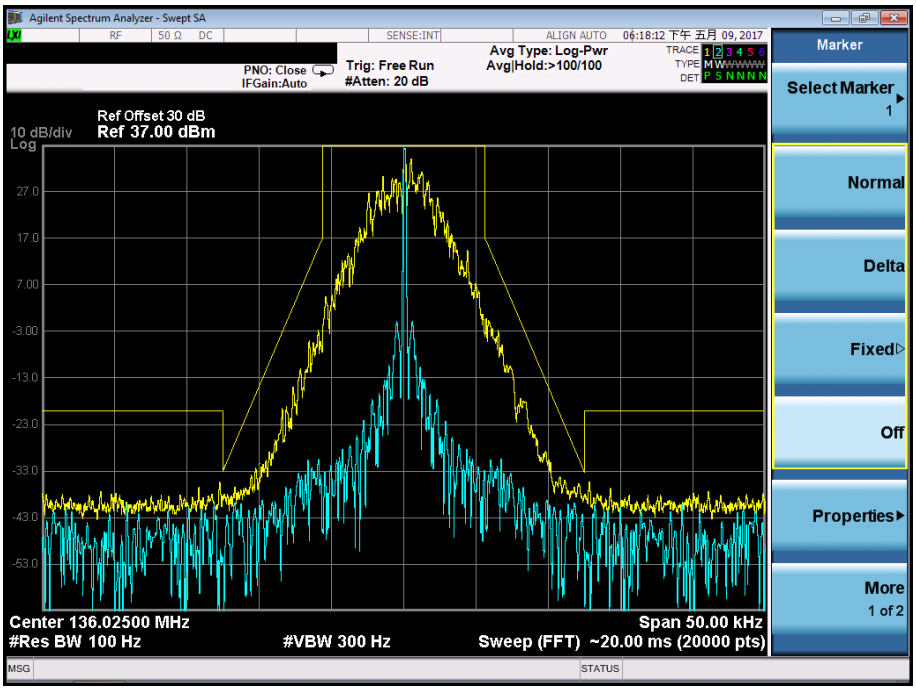


The Worst Emission Mask for (161.61MHz) of 12.5 KHz channel Separation (1W)

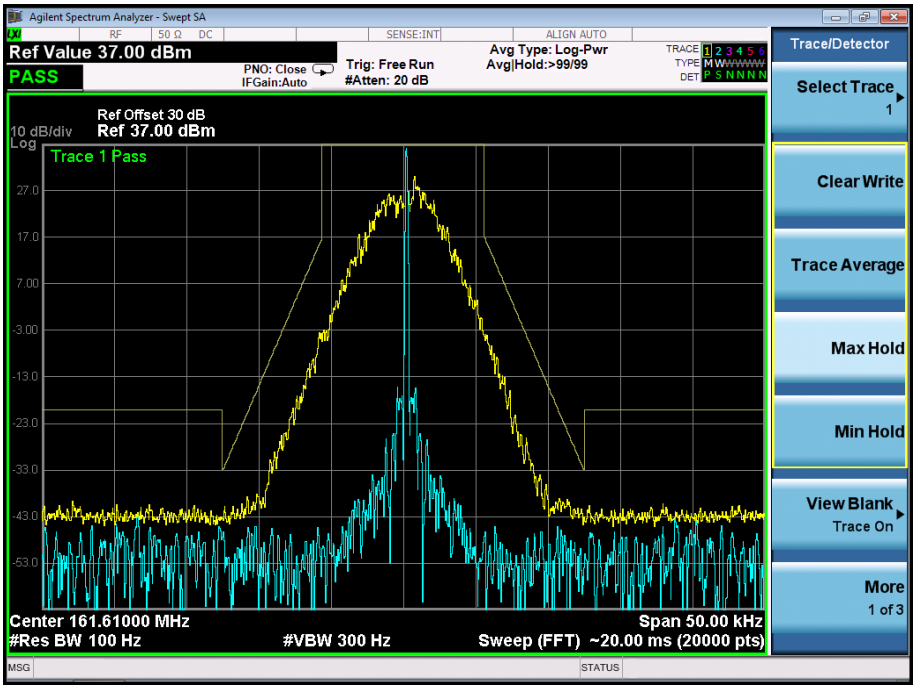


Digital：

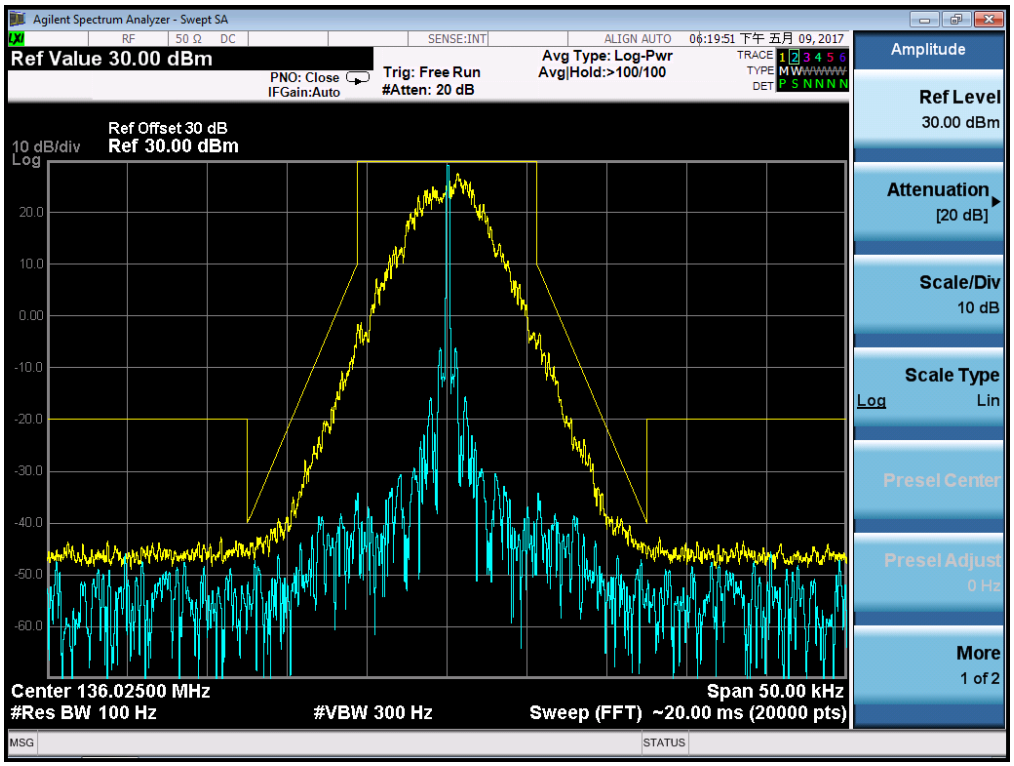
The Worst Emission Mask D for 12.5 KHz channel Separation (5W)



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



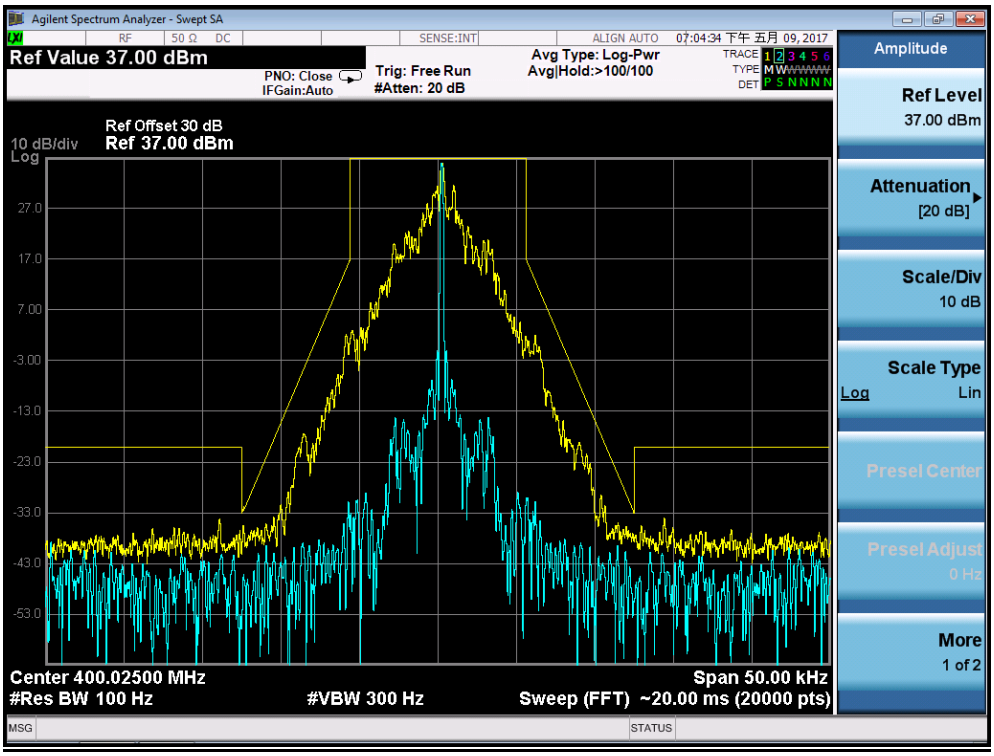
The Worst Emission Mask D for 12.5 KHz channel Separation (1W)



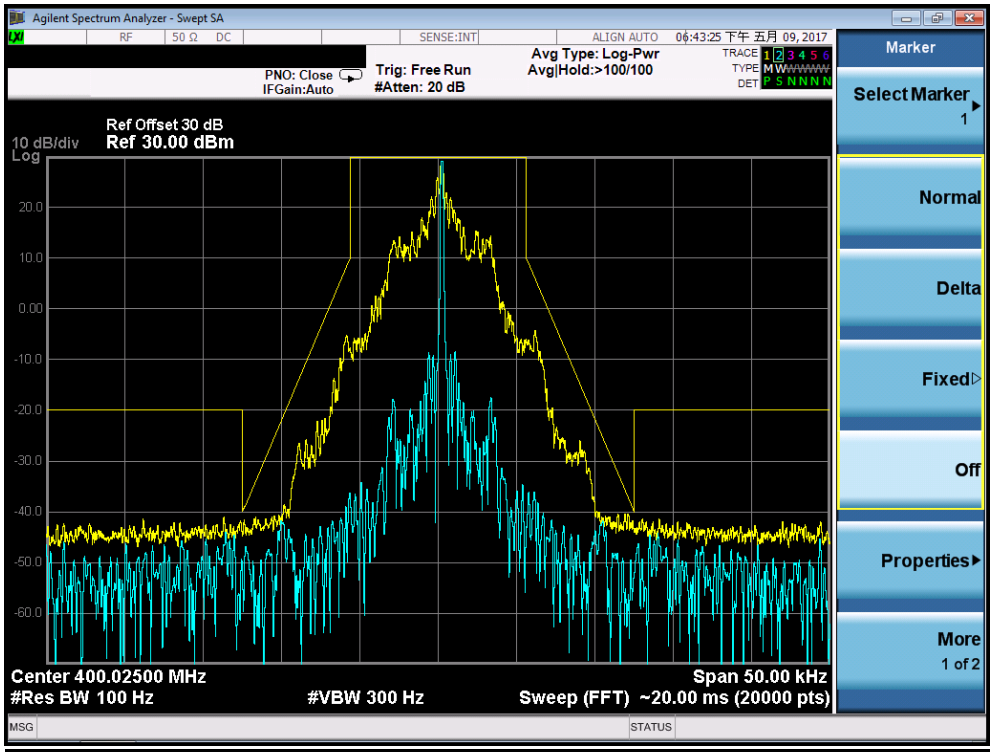
UHF:

Analog:

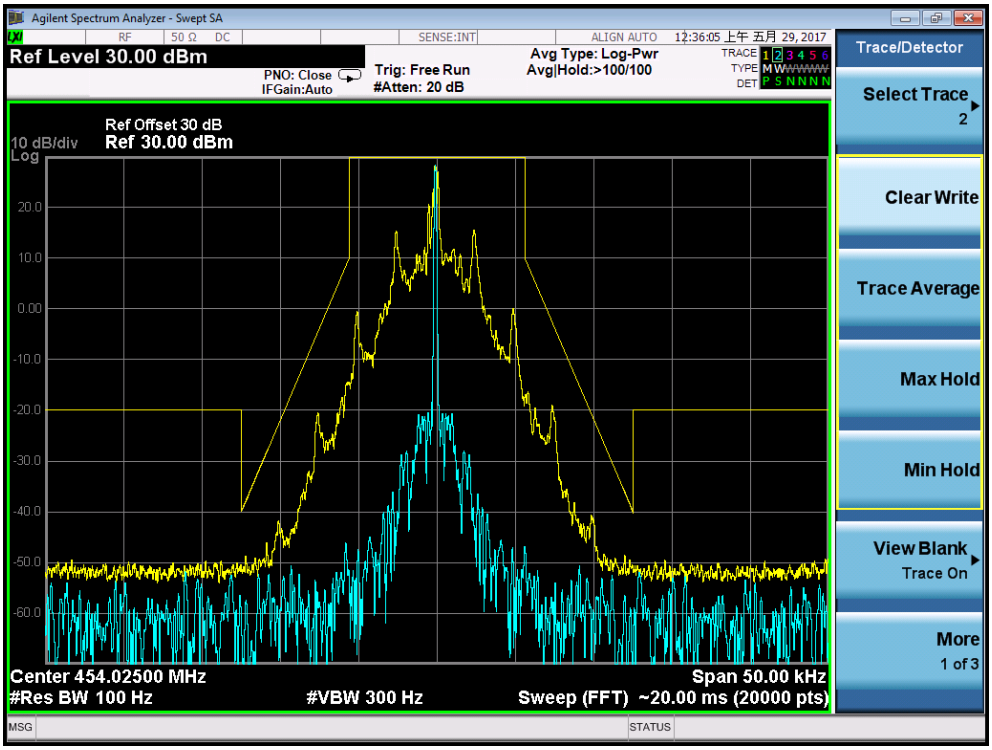
The Worst Emission Mask D for 12.5 KHz channel Separation (5W)



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

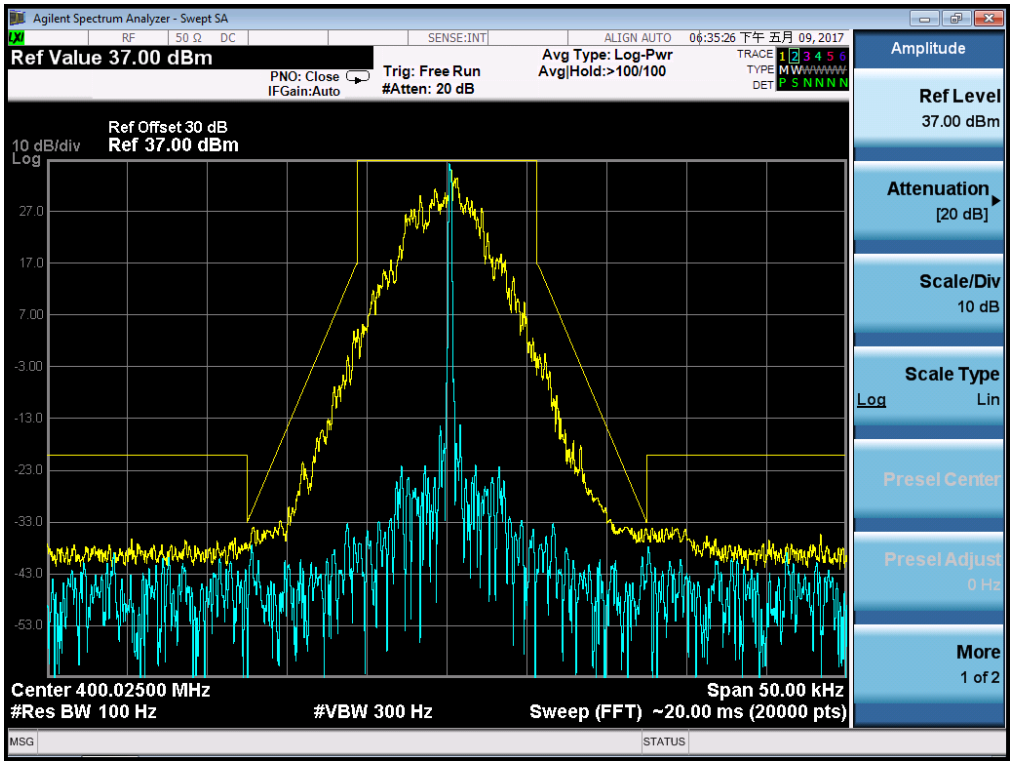


The Worst Emission Mask for (454.025 MHz) of 12.5 KHz channel Separation (1W)

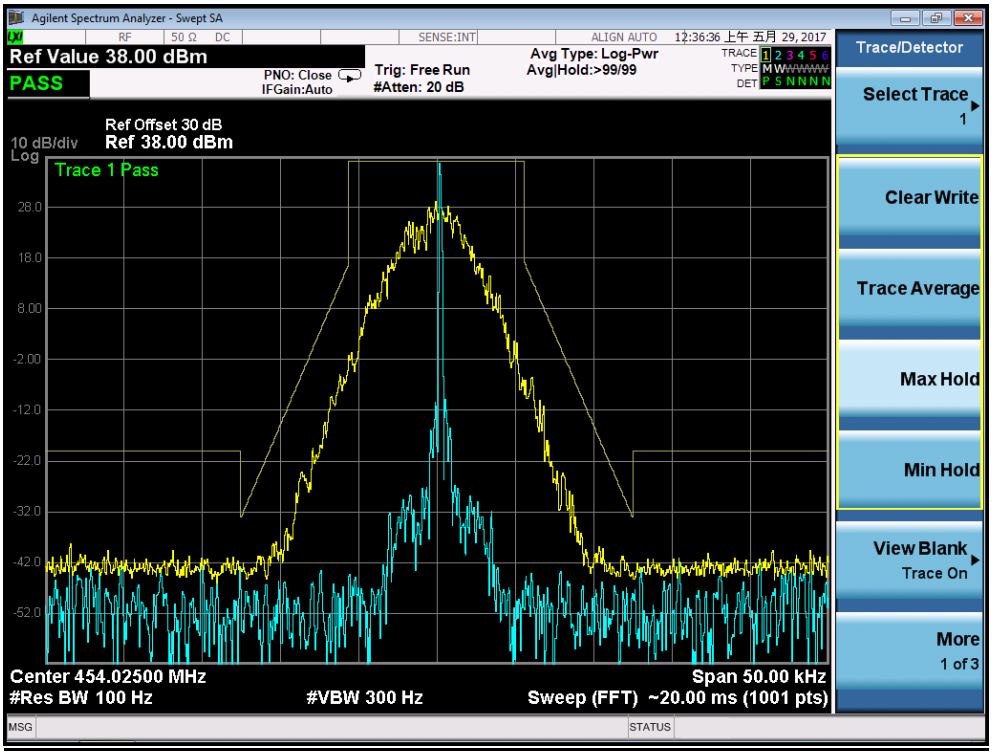


Digital：

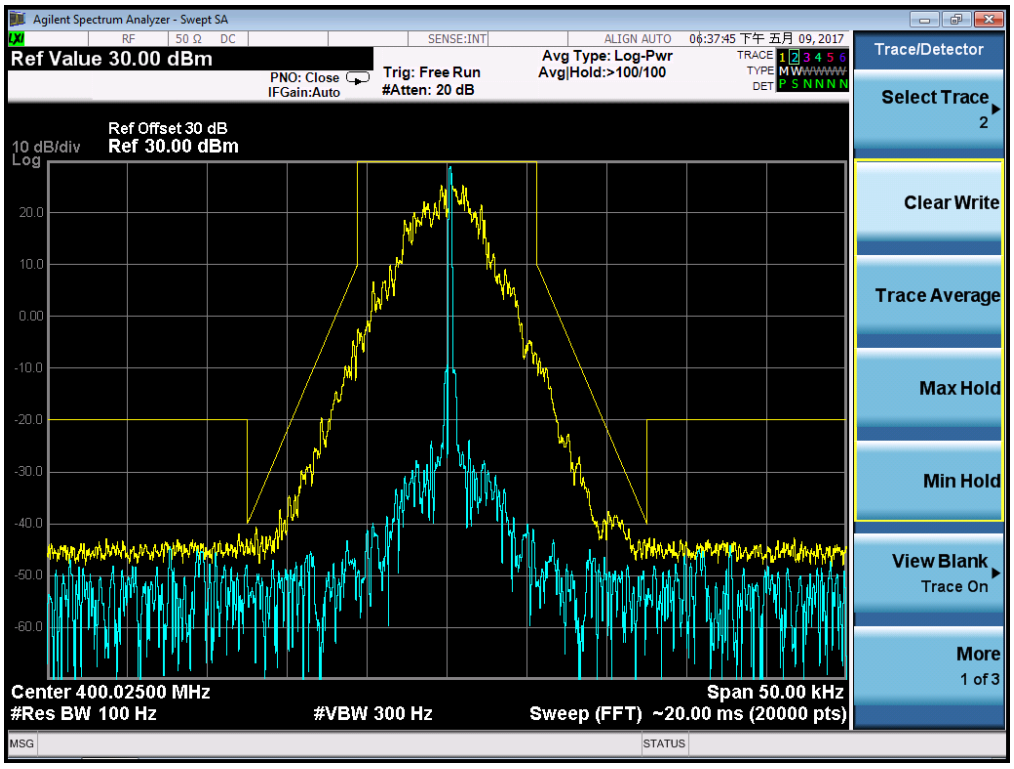
The Worst Emission Mask D for 12.5 KHz channel Separation (5W)



The Worst Emission Mask for (454.025 MHz) of 12.5 KHz channel Separation (5W)



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



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).

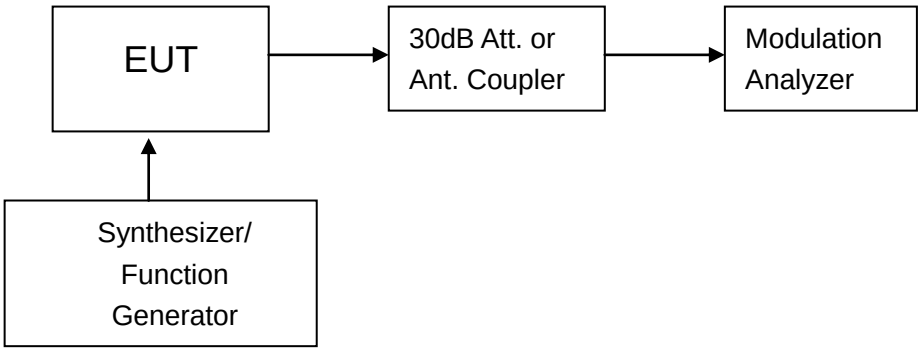


Figure 1: Modulation characteristic measurement configuration

8.3 MEASUREMENT RESULT

VHF:

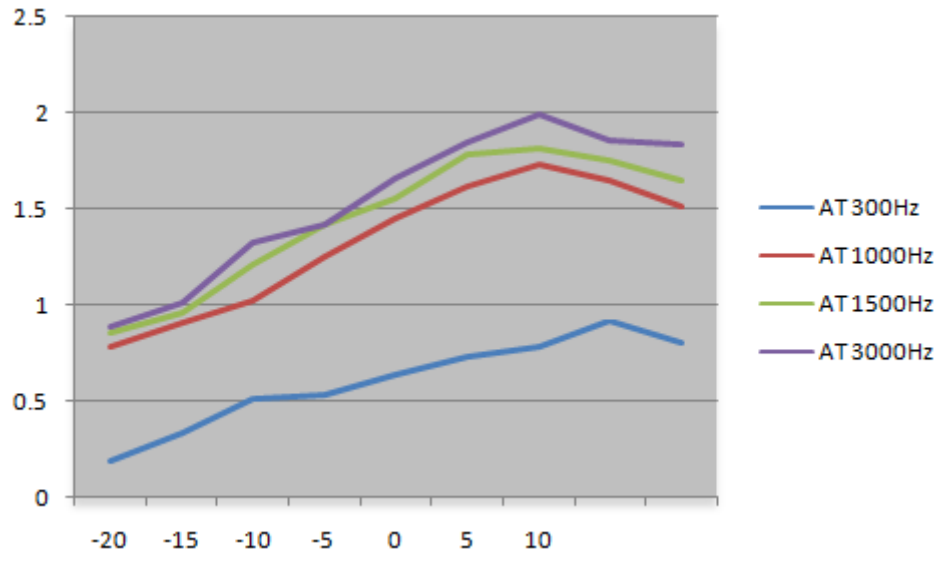
Analog:

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	0.19	0.78	0.85	0.89
-15	0.34	0.91	0.96	1.01
-10	0.51	1.02	1.21	1.33
-5	0.53	1.25	1.42	1.42
0	0.64	1.45	1.56	1.66
+5	0.73	1.62	1.79	1.84
+10	0.78	1.73	1.82	1.99
+15	0.92	1.65	1.76	1.86
+20	0.81	1.51	1.65	1.83



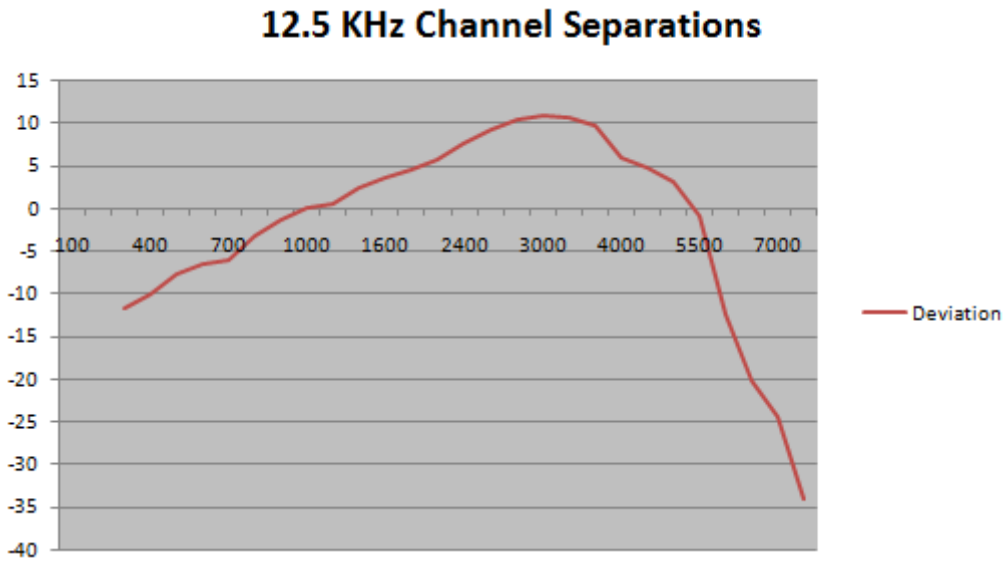
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Middle Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.13	-11.70
400	0.16	-9.90
500	0.21	-7.54
600	0.24	-6.38
700	0.25	-6.02
800	0.35	-3.10
900	0.43	-1.31
1000	0.51	0.17
1200	0.54	0.67
1400	0.66	2.41
1600	0.77	3.75
1800	0.85	4.61
2000	0.96	5.67
2400	1.21	7.68
2500	1.45	9.25
2800	1.65	10.37
3000	1.76	10.93
3200	1.72	10.73
3600	1.54	9.77
4000	1.01	6.11
4500	0.86	4.71
5000	0.73	3.29
5500	0.45	-0.92
6000	0.12	-12.40
6500	0.05	-20.00
7000	0.03	-24.44
7500	0.01	-33.98
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.

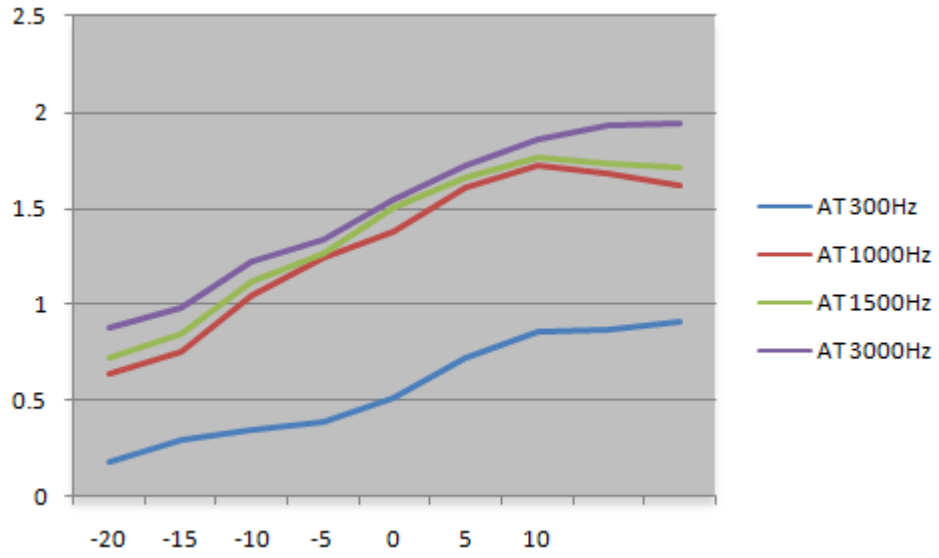
Digital:

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	0.18	0.64	0.72	0.88
-15	0.29	0.75	0.84	0.98
-10	0.35	1.04	1.12	1.23
-5	0.39	1.24	1.26	1.34
0	0.51	1.38	1.5	1.55
+5	0.72	1.61	1.66	1.72
+10	0.86	1.72	1.76	1.86
+15	0.87	1.68	1.73	1.93
+20	0.91	1.62	1.71	1.94



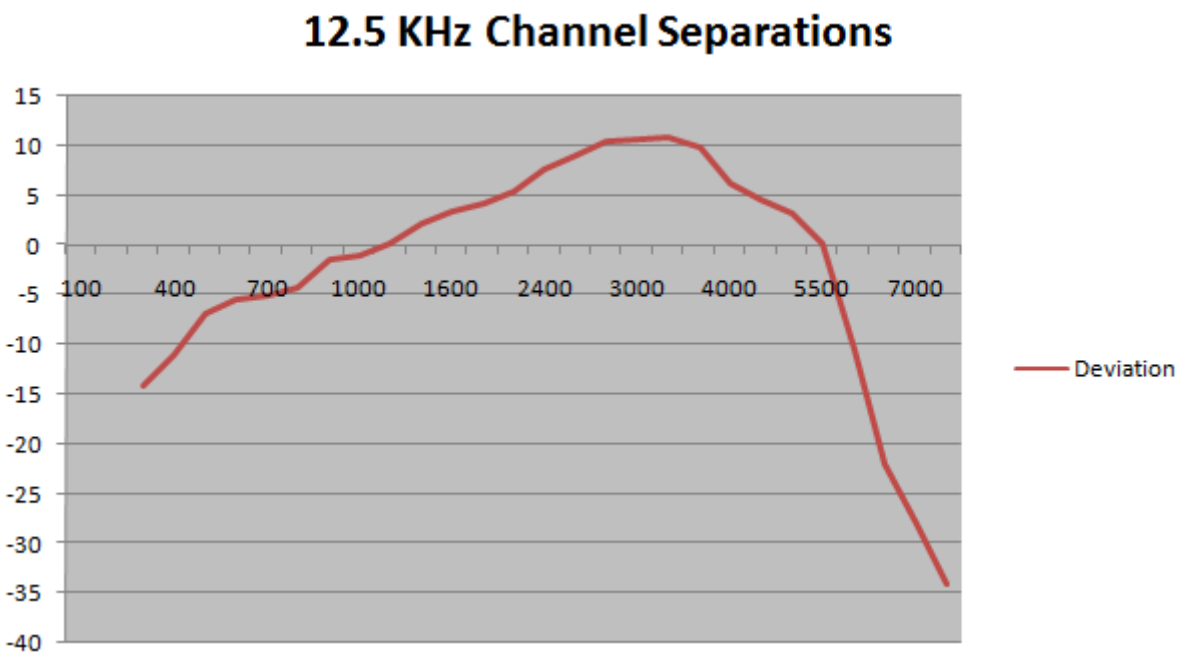
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Bottom Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.10	-13.98
400	0.14	-11.06
500	0.23	-6.74
600	0.27	-5.35
700	0.28	-5.04
800	0.31	-4.15
900	0.43	-1.31
1000	0.45	-0.92
1200	0.51	0.17
1400	0.64	2.14
1600	0.75	3.52
1800	0.81	4.19
2000	0.93	5.39
2400	1.22	7.75
2500	1.43	9.13
2800	1.66	10.42
3000	1.71	10.68
3200	1.75	10.88
3600	1.55	9.83
4000	1.02	6.19
4500	0.86	4.71
5000	0.72	3.17
5500	0.51	0.17
6000	0.15	-10.46
6500	0.04	-21.94
7000	0.02	-27.96
7500	0.01	-33.98
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:

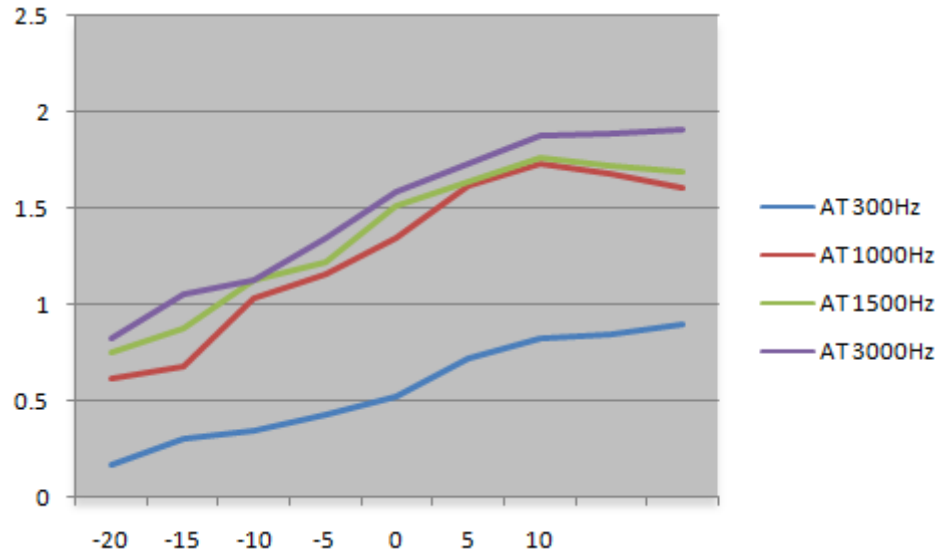
Analog:

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	0.17	0.61	0.75	0.82
-15	0.31	0.67	0.88	1.05
-10	0.35	1.03	1.12	1.12
-5	0.43	1.15	1.22	1.34
0	0.52	1.34	1.51	1.59
+5	0.72	1.62	1.64	1.73
+10	0.83	1.73	1.76	1.88
+15	0.85	1.68	1.72	1.89
+20	0.90	1.60	1.69	1.91



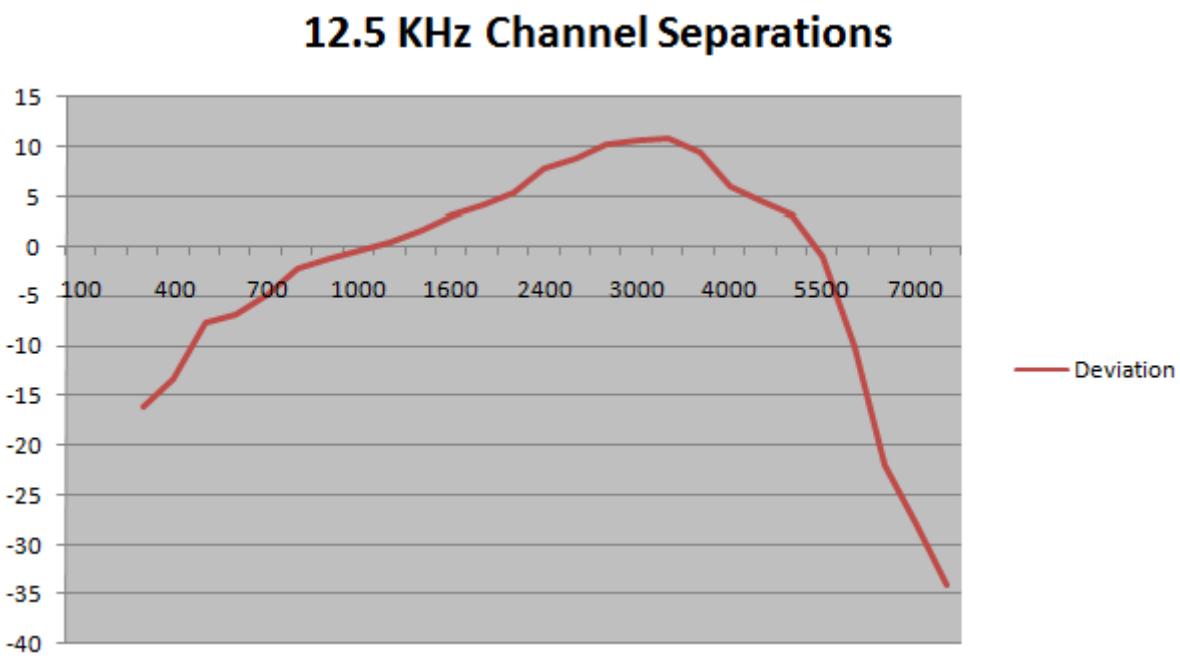
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

Middle Channel @ 12.5 KHz Channel Separations

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.08	-15.92
400	0.11	-13.15
500	0.21	-7.54
600	0.23	-6.74
700	0.29	-4.73
800	0.39	-2.16
900	0.44	-1.11
1000	0.48	-0.35
1200	0.53	0.51
1400	0.61	1.73
1600	0.72	3.17
1800	0.82	4.30
2000	0.94	5.48
2400	1.23	7.82
2500	1.39	8.88
2800	1.61	10.16
3000	1.71	10.68
3200	1.74	10.83
3600	1.47	9.37
4000	1.01	6.11
4500	0.85	4.61
5000	0.72	3.17
5500	0.45	-0.92
6000	0.16	-9.90
6500	0.04	-21.94
7000	0.02	-27.96
7500	0.01	-33.98
9000	--	--
10000	--	--
14000	--	--
18000	--	--
20000	--	--
30000	--	--

Frequency Response of High Channel



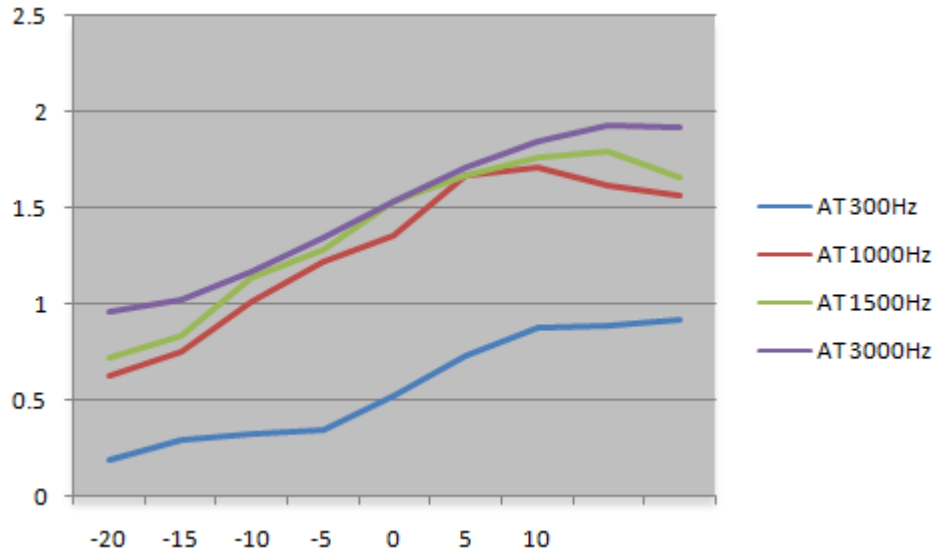
Note: All the modes had been tested, but only the worst data recorded in the report.

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	0.19	0.63	0.72	0.96
-15	0.29	0.75	0.83	1.02
-10	0.33	1.01	1.14	1.17
-5	0.35	1.22	1.28	1.35
0	0.52	1.36	1.53	1.53
+5	0.73	1.67	1.67	1.71
+10	0.88	1.71	1.76	1.85
+15	0.89	1.62	1.79	1.93
+20	0.92	1.56	1.65	1.92



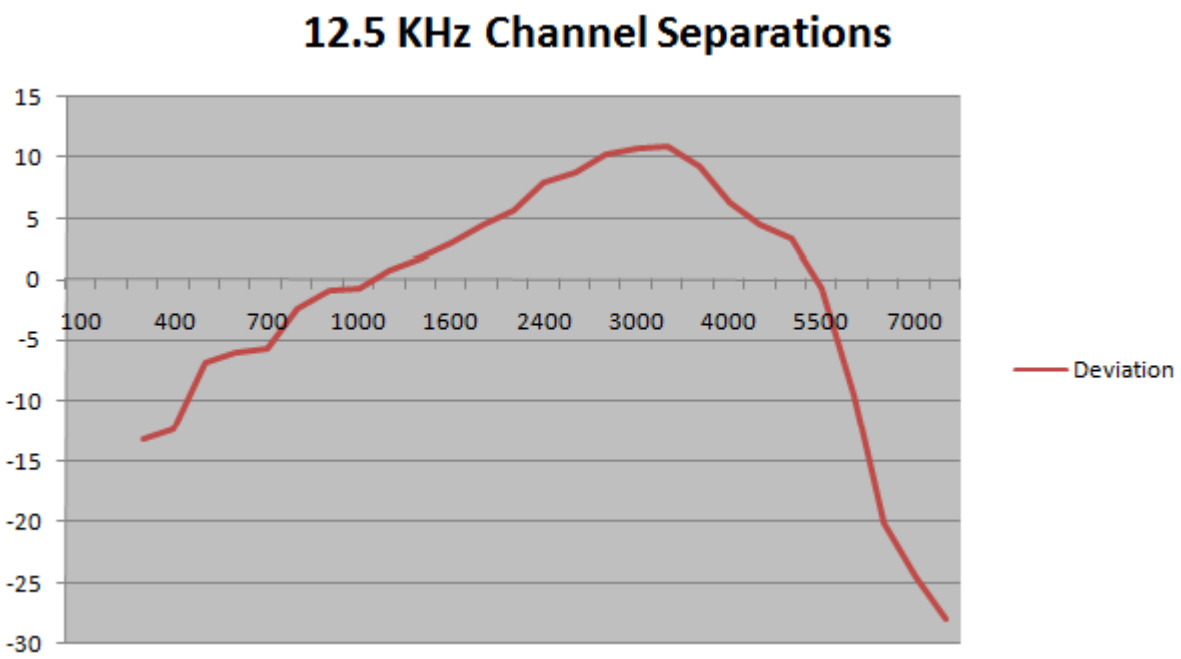
Note: All the modes had been tested, but only the worst data recorded in the report.

(B). AUDIO FREQUENCY RESPONSE:

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

Frequency (Hz)	Deviation (KHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.11	-13.15
400	0.12	-12.40
500	0.23	-6.74
600	0.25	-6.02
700	0.26	-5.68
800	0.38	-2.38
900	0.45	-0.92
1000	0.46	-0.72
1200	0.55	0.83
1400	0.62	1.87
1600	0.71	3.05
1800	0.83	4.40
2000	0.95	5.58
2400	1.24	7.89
2500	1.38	8.82
2800	1.62	10.21
3000	1.73	10.78
3200	1.75	10.88
3600	1.45	9.25
4000	1.02	6.19
4500	0.84	4.51
5000	0.73	3.29
5500	0.46	-0.72
6000	0.17	-9.37
6500	0.05	-20.00
7000	0.03	-24.44
7500	0.02	-27.96
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)

9.1 PROVISIONS APPLICABLE

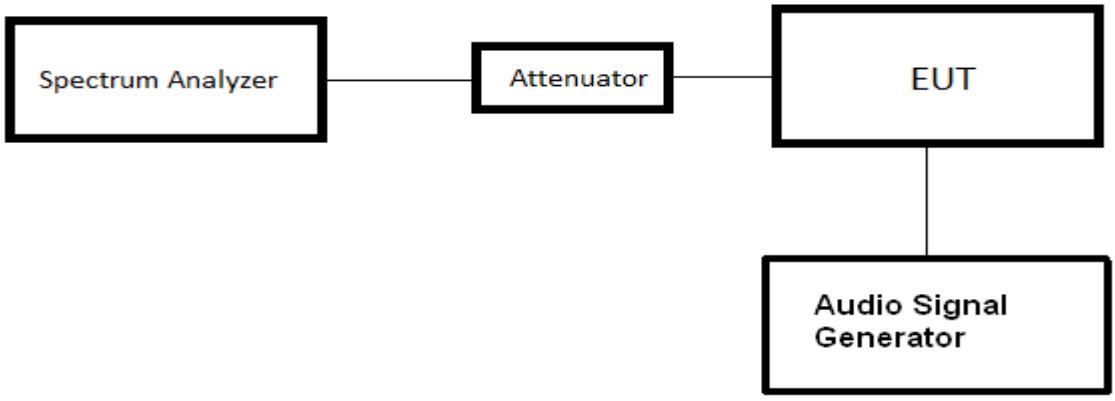
Per FCC §2.1046 § 22.565 and §90.205: Maximum ERP is dependent upon the station's antenna HAAT and required service area.

9.2 TEST PROCEDURE

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

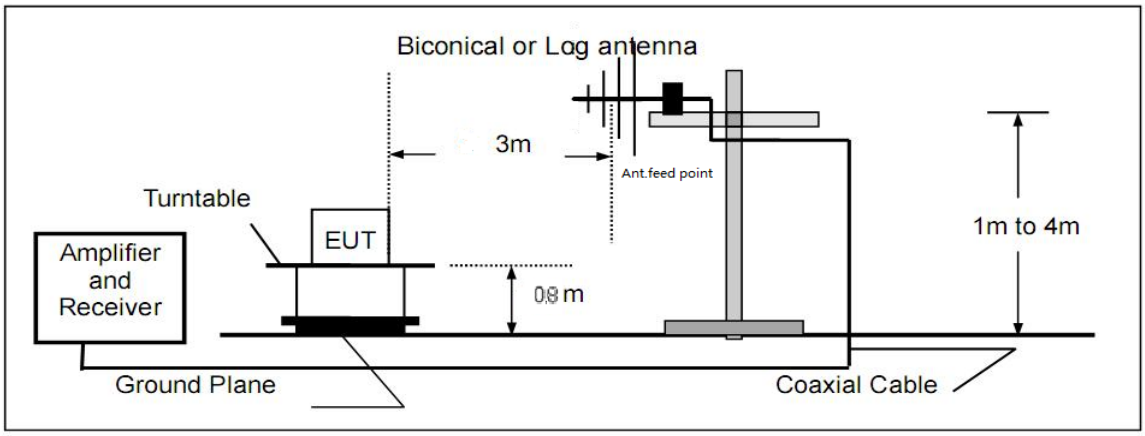
9.3 TEST CONFIGURATION

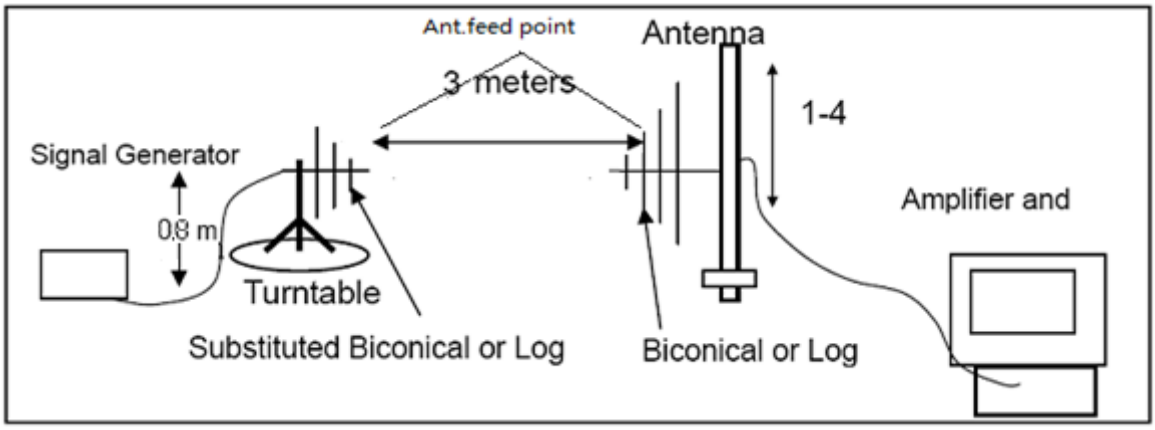
Conducted Output Power:



Effective Radiated Power

Radiated Below1GHz





Radiated Above 1 GHz