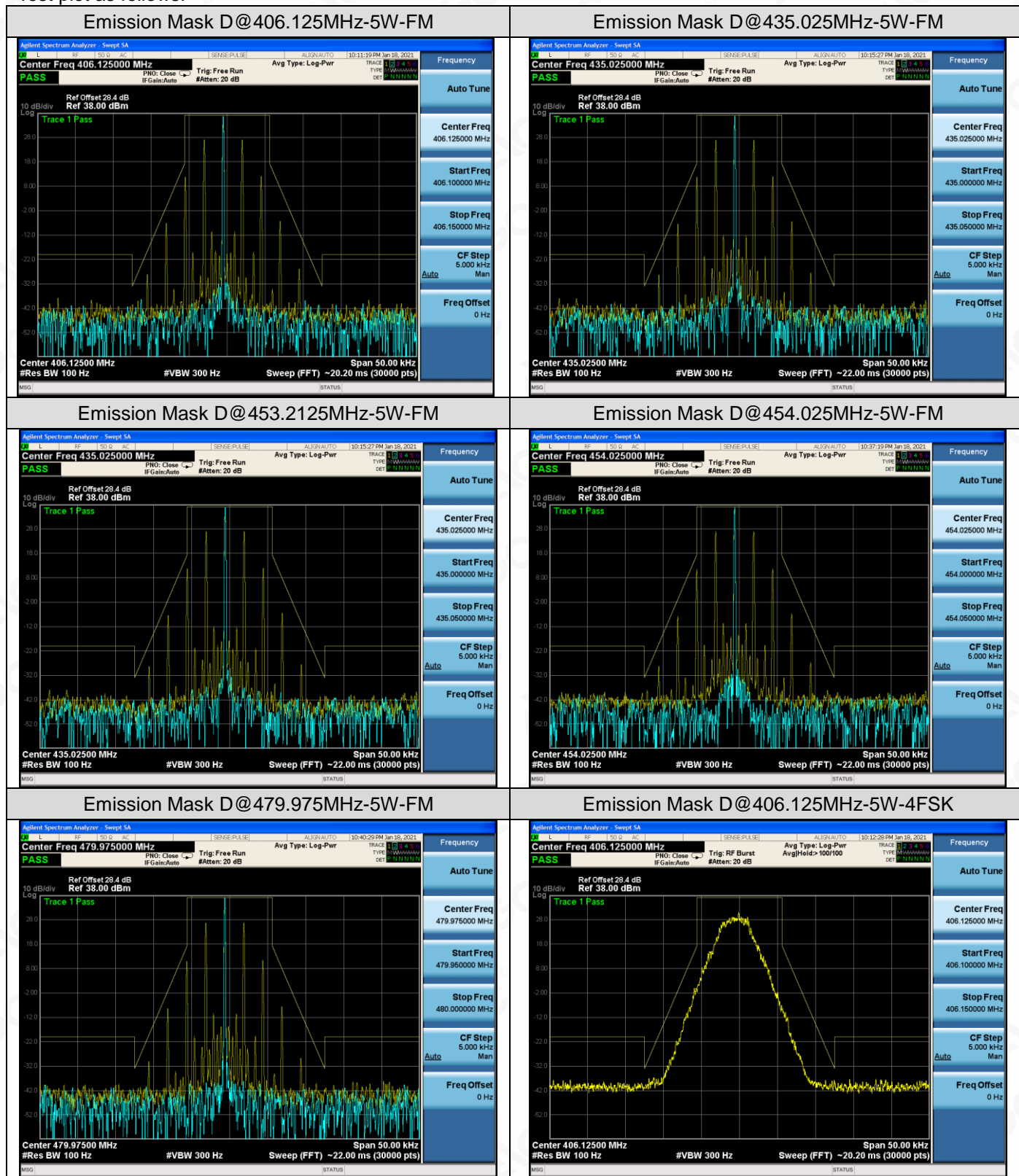


Test plot as follows:

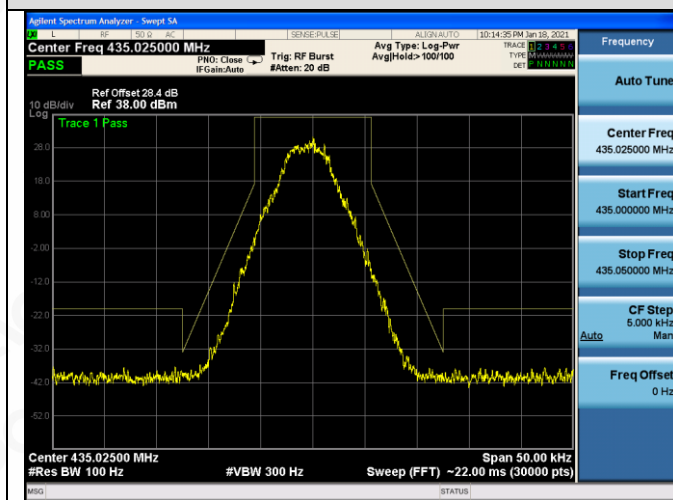


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

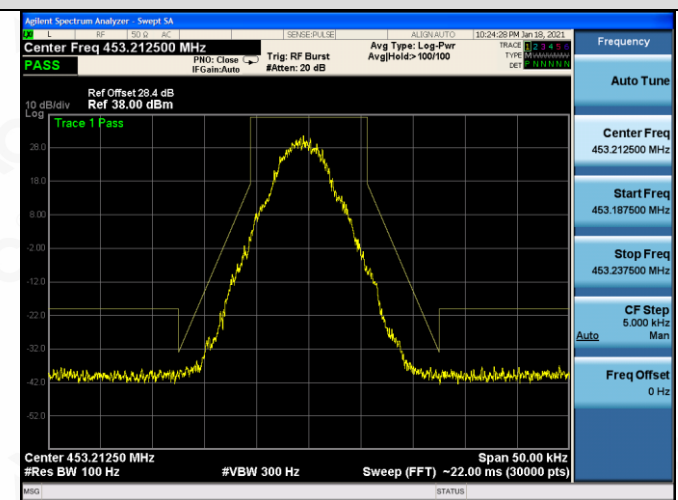
Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



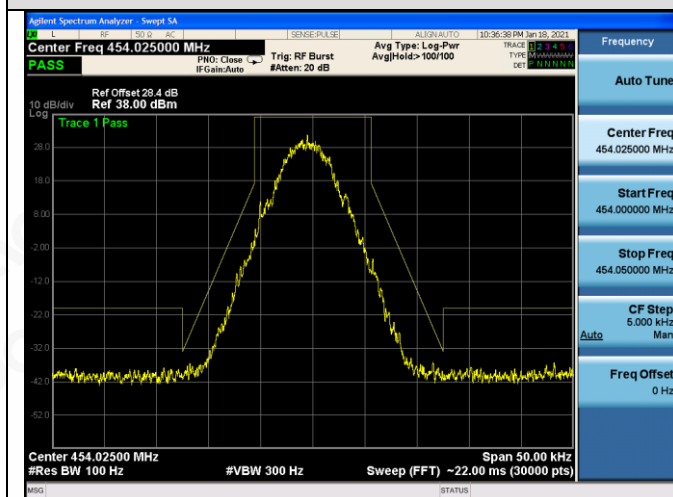
Emission Mask D@435.025MHz-5W-4FSK



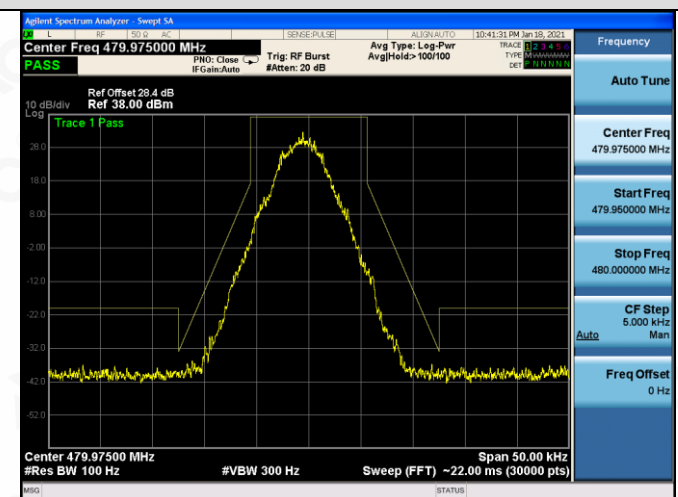
Emission Mask D@453.2125MHz-5W-4FSK



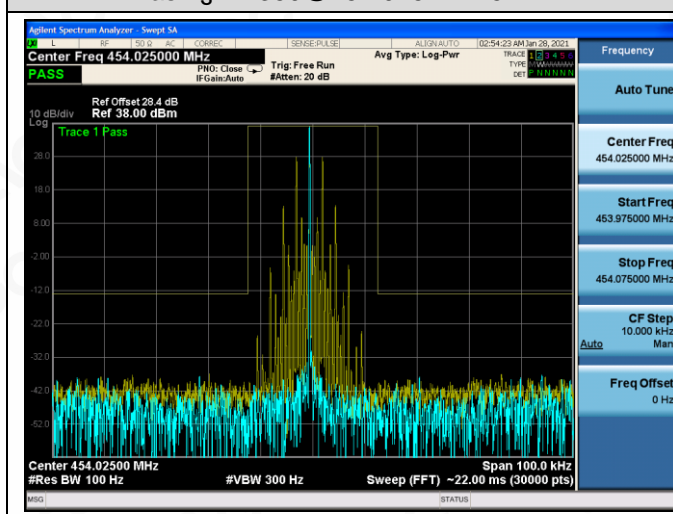
Emission Mask D@454.025MHz-5W-4FSK



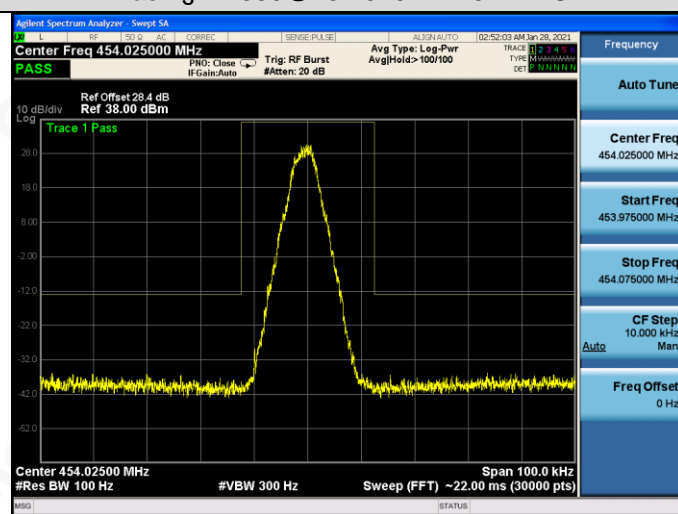
Emission Mask D@479.975MHz-5W-4FSK



Mask § 22.359@454.025MHz-5W-FM



Mask § 22.359@454.025MHz-5W-4FSK



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: <http://cn.agc-cert.com/>



9. MODULATION CHARACTERISTICS

9.1 PROVISIONS APPLICABLE

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

9.2 MEASUREMENT METHOD

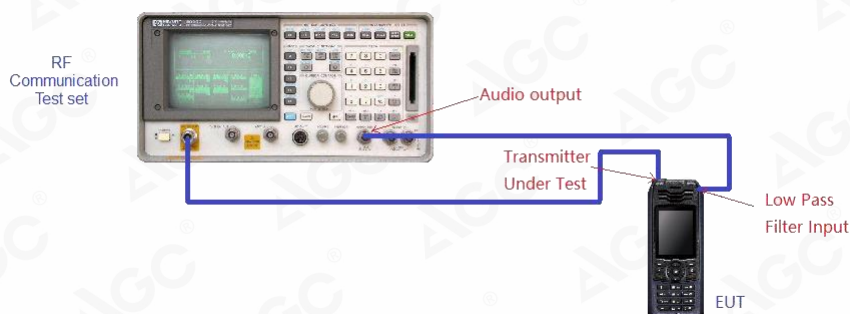
9.2.1 Modulation Limit

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

9.2.2 Audio Frequency Response

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

9.3 MEASUREMENT SETUP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

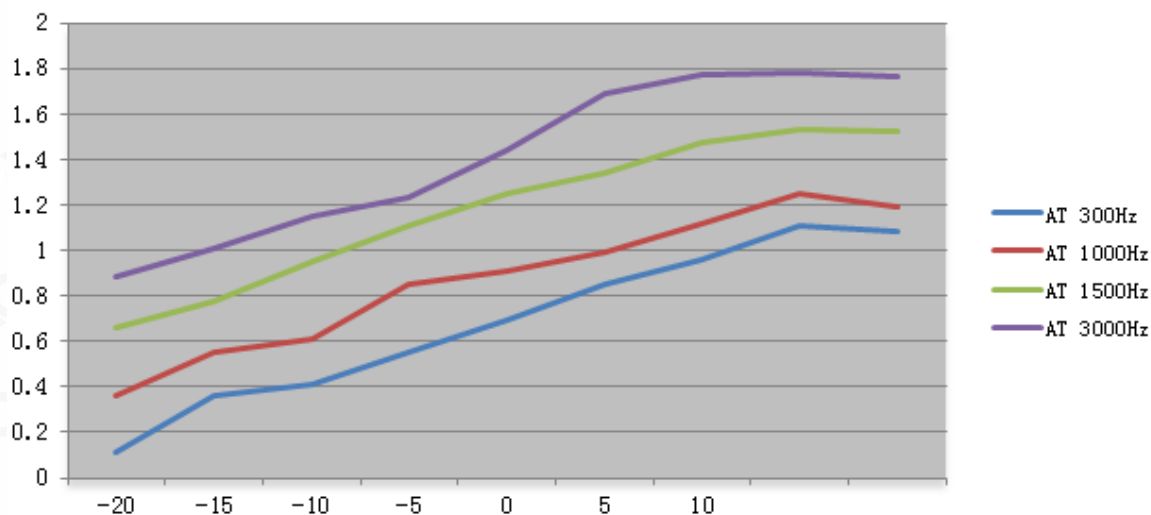
Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



9.4 MEASUREMENT RESULTS

(A). MODULATION LIMIT:

12.5kHz, Analog modulation, Assigned Frequency:406.125MHz-5W				
Modulation Level (dB)	Peak Freq. Deviation At 300 Hz (kHz)	Peak Freq. Deviation At 1000 Hz (kHz)	Peak Freq. Deviation At 1500 Hz (kHz)	Peak Freq. Deviation At 3000 Hz (kHz)
-20	0.11	0.36	0.66	0.88
-15	0.36	0.55	0.78	1.01
-10	0.41	0.61	0.95	1.15
-5	0.55	0.85	1.11	1.23
0	0.69	0.91	1.25	1.44
+5	0.85	0.99	1.34	1.69
+10	0.96	1.12	1.47	1.77
+15	1.11	1.25	1.53	1.78
+20	1.08	1.19	1.52	1.76

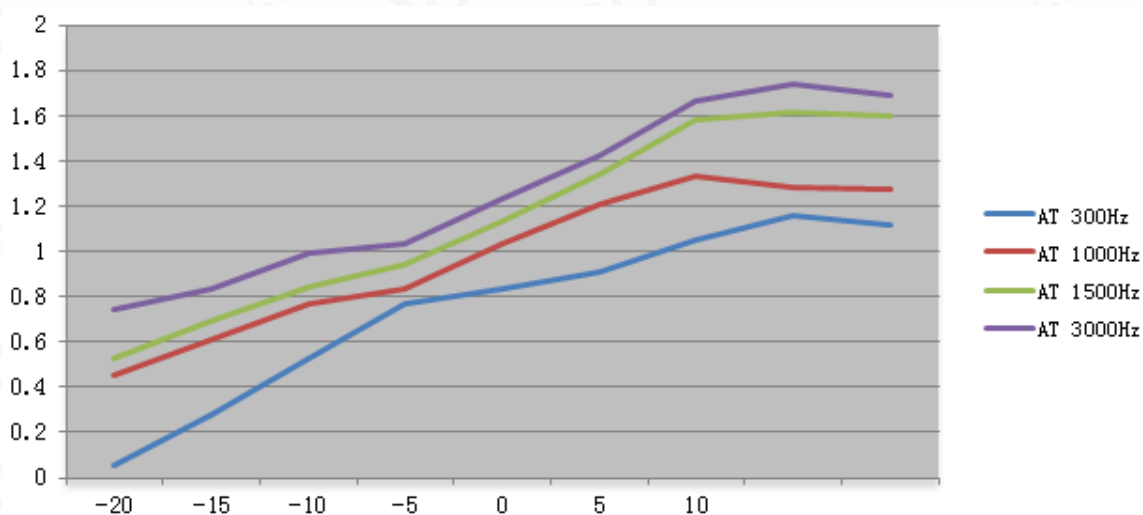


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



12.5kHz, Digital modulation, Assigned Frequency:406.125MHz-5W				
Modulation Level (dB)	Peak Freq. Deviation At 300 Hz (kHz)	Peak Freq. Deviation At 1000 Hz (kHz)	Peak Freq. Deviation At 1500 Hz (kHz)	Peak Freq. Deviation At 3000 Hz (kHz)
-20	0.05	0.45	0.53	0.74
-15	0.28	0.61	0.69	0.83
-10	0.53	0.77	0.84	0.99
-5	0.77	0.83	0.94	1.03
0	0.83	1.03	1.13	1.23
+5	0.91	1.21	1.34	1.42
+10	1.05	1.33	1.58	1.66
+15	1.16	1.28	1.61	1.74
+20	1.12	1.27	1.6	1.69



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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

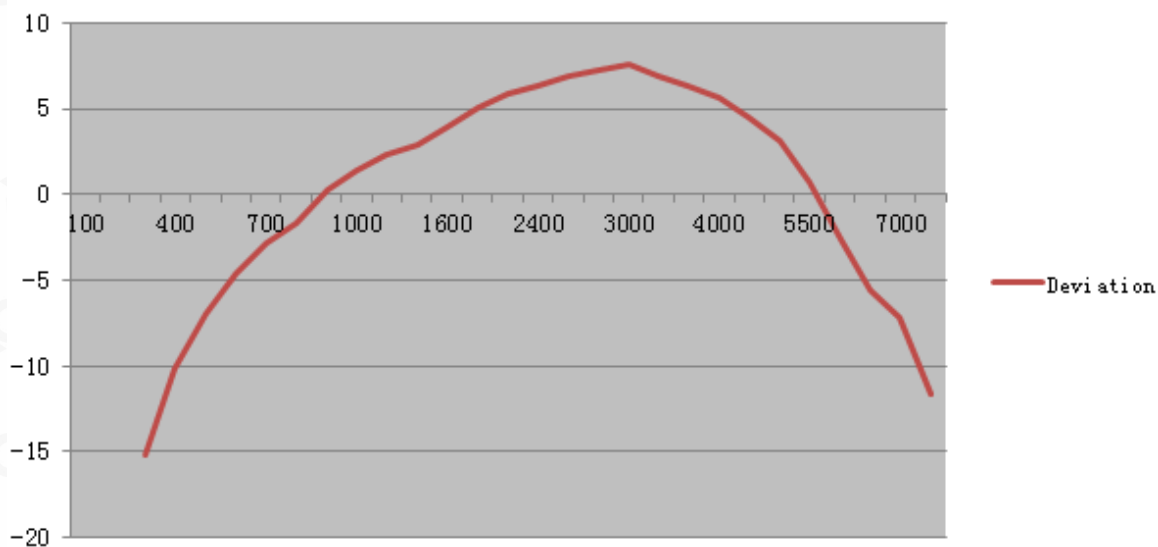
Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



(B). AUDIO FREQUENCY RESPONSE:

12.5kHz, Analog modulation, Assigned Frequency:406.125MHz-5W		
Frequency (Hz)	Deviation (kHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.14	-15.14
400	0.25	-10.10
500	0.36	-6.94
600	0.47	-4.62
700	0.58	-2.79
800	0.66	-1.67
900	0.83	0.32
1000	0.94	1.40
1200	1.05	2.36
1400	1.11	2.84
1600	1.26	3.95
1800	1.43	5.04
2000	1.58	5.91
2400	1.66	6.34
2500	1.78	6.95
2800	1.85	7.28
3000	1.91	7.56
3200	1.78	6.95
3600	1.66	6.34
4000	1.53	5.63
4500	1.35	4.54
5000	1.15	3.15
5500	0.87	0.73
6000	0.59	-2.64
6500	0.42	-5.60
7000	0.35	-7.18
7500	0.21	-11.62

12.5 KHz Channel Separations

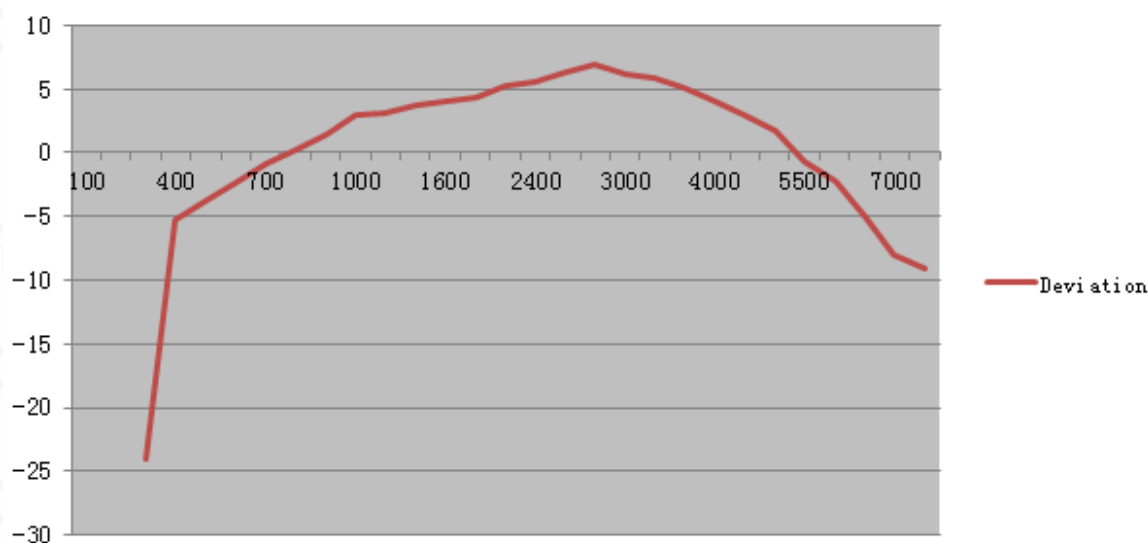


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



12.5kHz, Digital modulation, Assigned Frequency:406.125MHz-5W		
Frequency (Hz)	Deviation (kHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.05	-24.08
400	0.44	-5.19
500	0.52	-3.74
600	0.61	-2.36
700	0.73	-0.80
800	0.82	0.21
900	0.94	1.40
1000	1.13	3.00
1200	1.15	3.15
1400	1.23	3.74
1600	1.28	4.08
1800	1.32	4.35
2000	1.47	5.28
2400	1.51	5.52
2500	1.66	6.34
2800	1.78	6.95
3000	1.63	6.18
3200	1.58	5.91
3600	1.43	5.04
4000	1.28	4.08
4500	1.13	3.00
5000	0.98	1.76
5500	0.74	-0.68
6000	0.62	-2.21
6500	0.45	-5.00
7000	0.32	-7.96
7500	0.28	-9.12

12.5 KHz Channel Separations



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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



10. MAXIMUM TRANSMITTER POWER

10.1 PROVISIONS APPLICABLE

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

10.2 MEASUREMENT METHOD

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

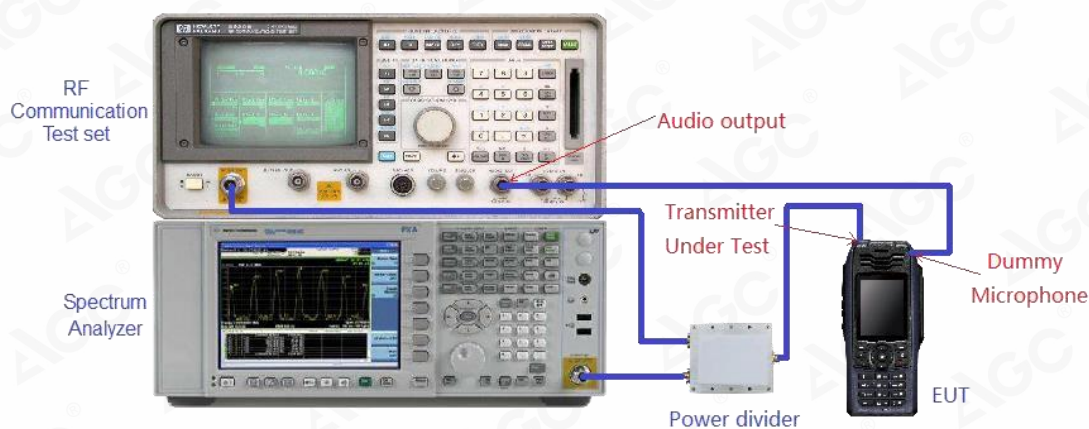
The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum.

So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.

EIRP = "Read Value" + Measured substitution value + 2.15.

10.3 MEASUREMENT METHOD

CONDUCTED OUTPUT POWER:



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

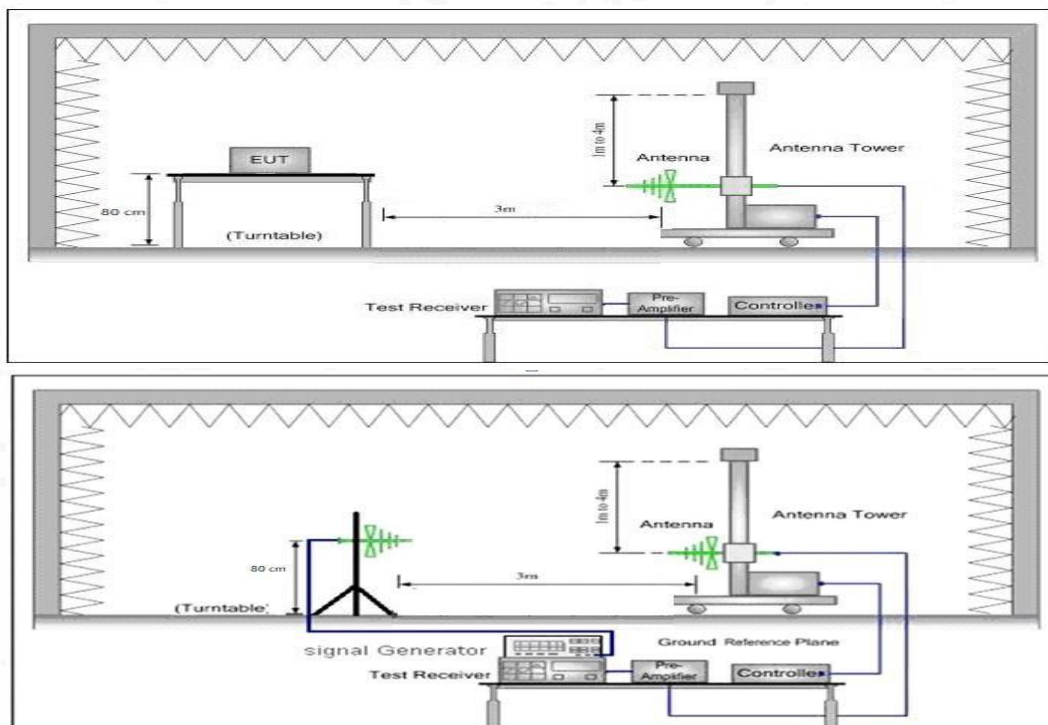
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

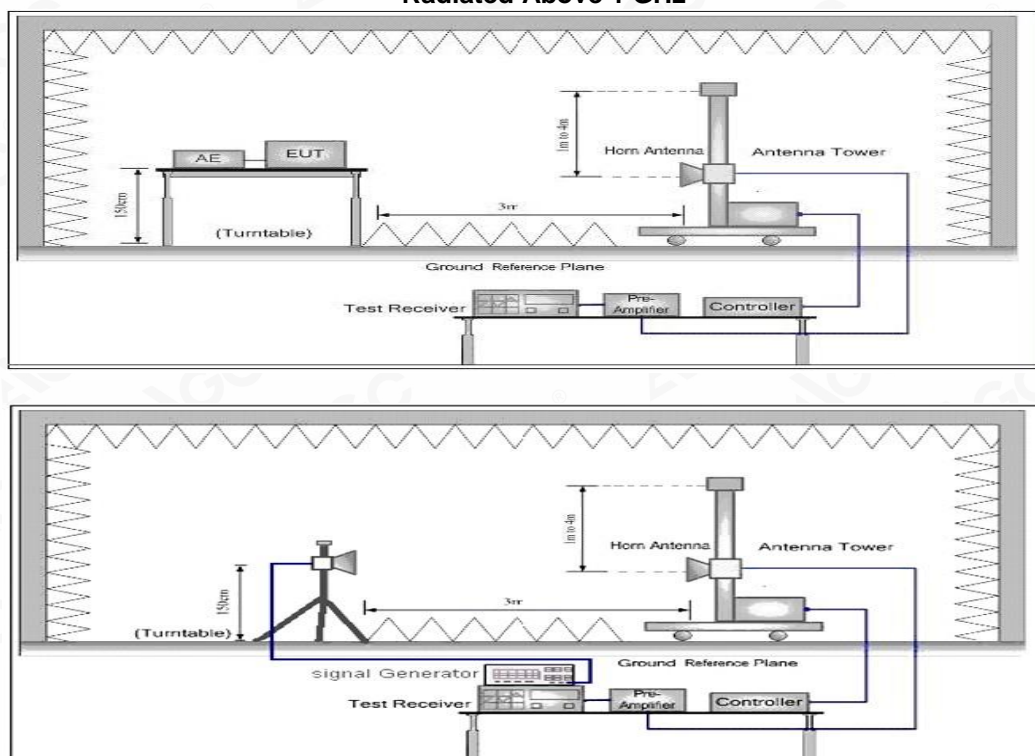


EFFECTIVE RADIATED POWER:

Radiated Below 1GHz



Radiated Above 1 GHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: <http://cn.agc-cert.com/>



10.4 MEASUREMENT RESULTS

Conducted Power Measurement Results			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
			For 36.99dBm(5W)
Analog +Vioce	12.5 kHz	Bottom(406.125MHz)	36.84
		Middle(435.025MHz)	36.91
		Middle(453.2125MHz)	36.85
		Middle(454.025MHz)	36.82
		Top (479.975MHz)	36.92
Digital +Vioce	12.5 kHz	Bottom(406.125MHz)	36.77
		Middle(435.025MHz)	36.90
		Middle(453.2125MHz)	36.88
		Middle(454.025MHz)	36.85
		Top (479.975MHz)	36.85
Digital+ Data	12.5 kHz	Bottom(406.125MHz)	36.66
		Middle(435.025MHz)	36.58
		Middle(453.2125MHz)	36.49
		Middle(454.025MHz)	36.37
		Top (479.975MHz)	36.43

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Radiated Power Measurement Results			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
			For 36.99dBm(5W)
Analog +Vioce	12.5 kHz	Bottom(406.125MHz)	36.25
		Middle(435.025MHz)	36.34
		Middle(453.2125MHz)	36.29
		Middle(454.025MHz)	36.21
		Top (479.975MHz)	36.30
Digital +Vioce	12.5 kHz	Bottom(406.125MHz)	36.18
		Middle(435.025MHz)	36.32
		Middle(453.2125MHz)	36.29
		Middle(454.025MHz)	36.24
		Top (479.975MHz)	36.26
Digital+ Data	12.5 kHz	Bottom(406.125MHz)	36.11
		Middle(435.025MHz)	35.94
		Middle(453.2125MHz)	35.89
		Middle(454.025MHz)	35.75
		Top (479.975MHz)	35.84

Note: Calculation Formula: $CP = R + A + L$

(1) CP: The final Conducted Power

(2) R : The reading value from spectrum analyzer

(3) A : The attenuation value of the used attenuator

(4) L : The loss of all connection cables

(5) Measurement Result=Peak Power(Max)

(6) All polarities of radiated power have been evaluated, and only the worst vertical polarity data is recorded in the report

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



11. SPURIOUS EMISSION ON ANTENNA PORT

11.1 PROVISIONS APPLICABLE

Please refer to FCC 47 CFR 2.1051, 2.1057, 22.359 & 90.210 for specification details.
Emissions shall be attenuated below the mean output power of the transmitter as follows:

FCC Rules	Attenuation Limit (dBc)
§ 22.359	At least $43 + 10 \log (P)$ dB
§ 90.210	At least $50 + 10 \log (P)$ dB

$$50 + 10 \log (P_{\text{watts}})$$

Note: In general, the worse case attenuation requirement shown above was applied.

Calculation: Limit (dBm) = EL-50-10log10 (TP)

EL is the emission level of the Output Power expressed in dBm,

In this application, the EL is P(dBm)

$$\text{Limit (dBm)} = P(\text{dBm}) - 50 - 10 \log(P_{\text{watts}}) = -20 \text{ dBm}$$
$$43 + 10 \log (P_{\text{watts}})$$

Calculation: Limit (dBm) = EL-43-10log10 (TP)

Notes: EL is the emission level of the Output Power expressed in dBm,

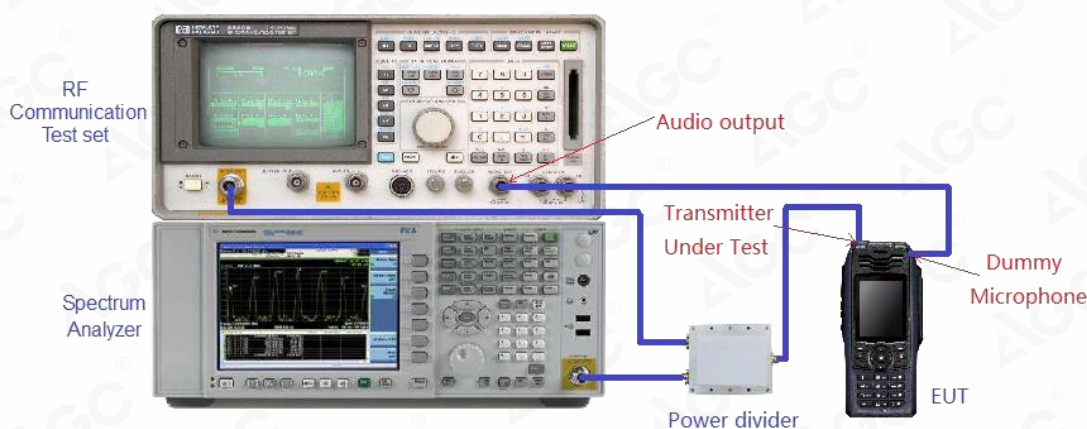
In this application, the EL is P (dBm).

$$\text{Limit (dBm)} = P(\text{ dBm}) - 43 - 10 \log (P_{\text{watts}}) = -13 \text{ dBm}$$

11.2 MEASUREMENT METHOD

1. The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation.
2. The resolution bandwidth of the spectrum analyzer was set to 100 kHz. Sufficient scans were taken to show any out of band emission up to 10th . Harmonic for the lower and the highest frequency range.
3. Set RBW 100 kHz, VBW 300 kHz in the frequency band 30MHz to 1GHz,while set RBW=1MHz.VBW=3MHz from the 1GHz to 10th Harmonic.
4. The audio input was set the unmodulated carrier, the resulting picture is print out for each channel separation.

11.3 MEASUREMENT SETUP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

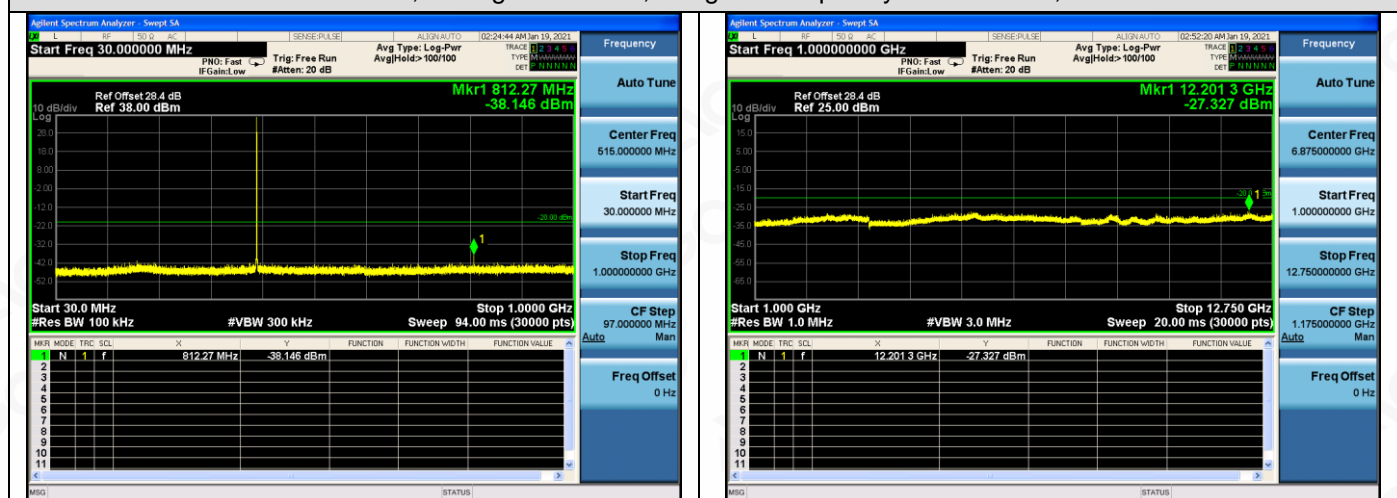
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: aqc@aqc-cert.com Web: <http://cn.aqc-cert.com/>



11.4 MEASUREMENT RESULTS

12.5kHz, Analog modulation, Assigned Frequency:406.125MHz,5W



12.5kHz, Analog modulation, Assigned Frequency:435.025MHz, 5W



12.5kHz, Analog modulation, Assigned Frequency:453.2125MHz, 5W



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: <http://cn.agc-cert.com/>



12.5kHz, Analog modulation, Assigned Frequency:454.025MHz, 5W



12.5kHz, Analog modulation, Assigned Frequency:479.975MHz, 5W



12.5kHz, Digital modulation, Assigned Frequency:406.125MHz,5W



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

