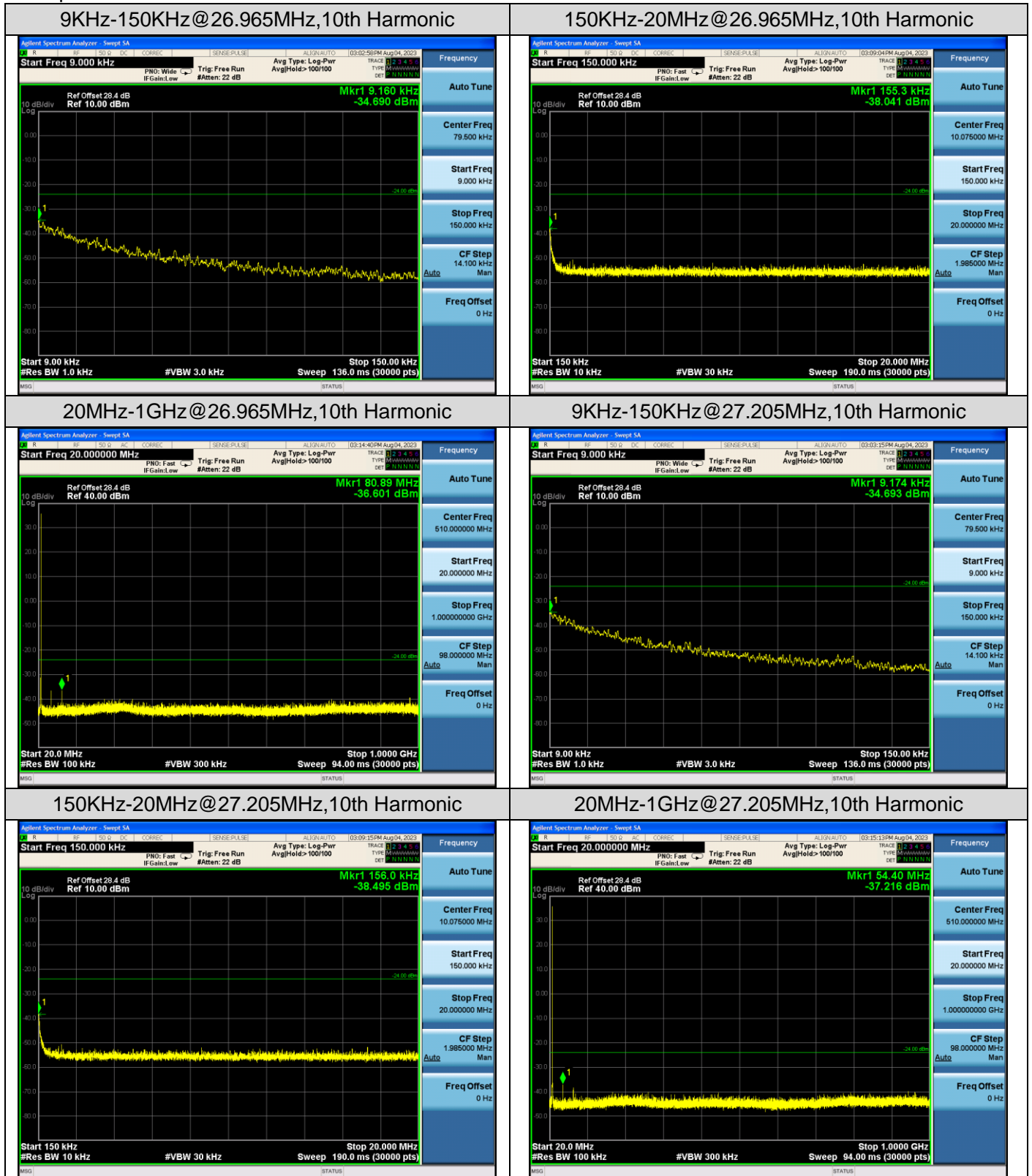
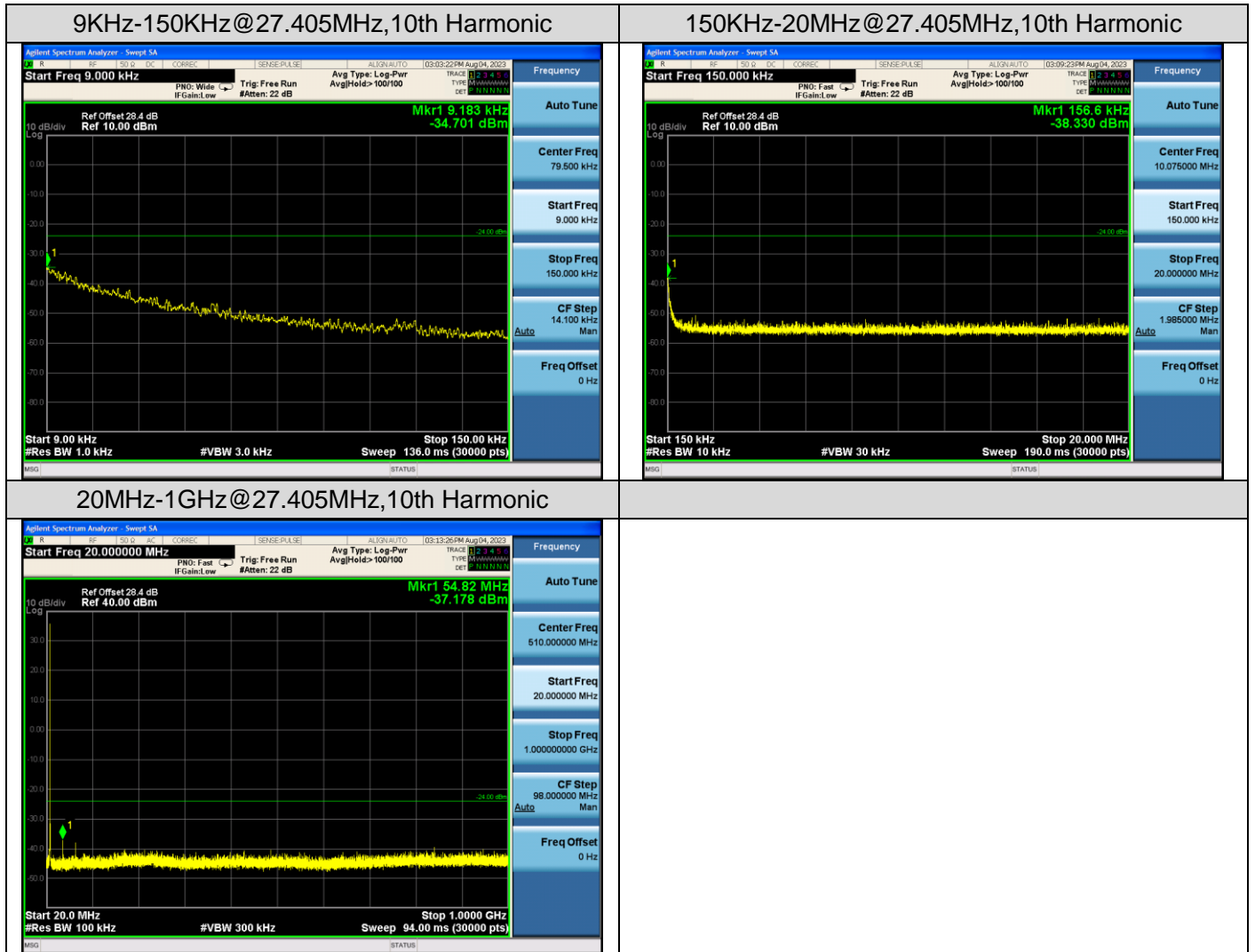


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Test plot as follows: FM Modulation

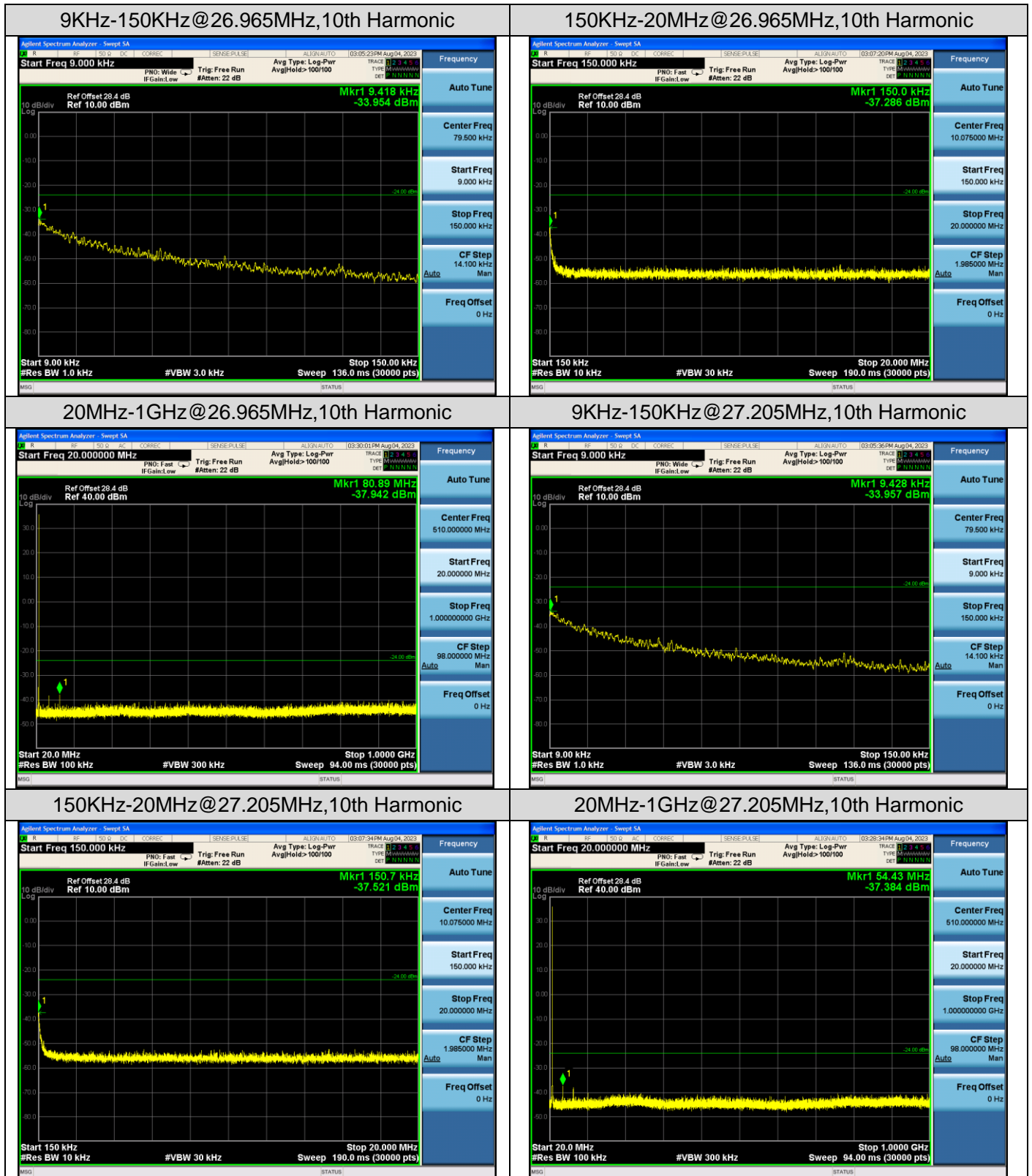


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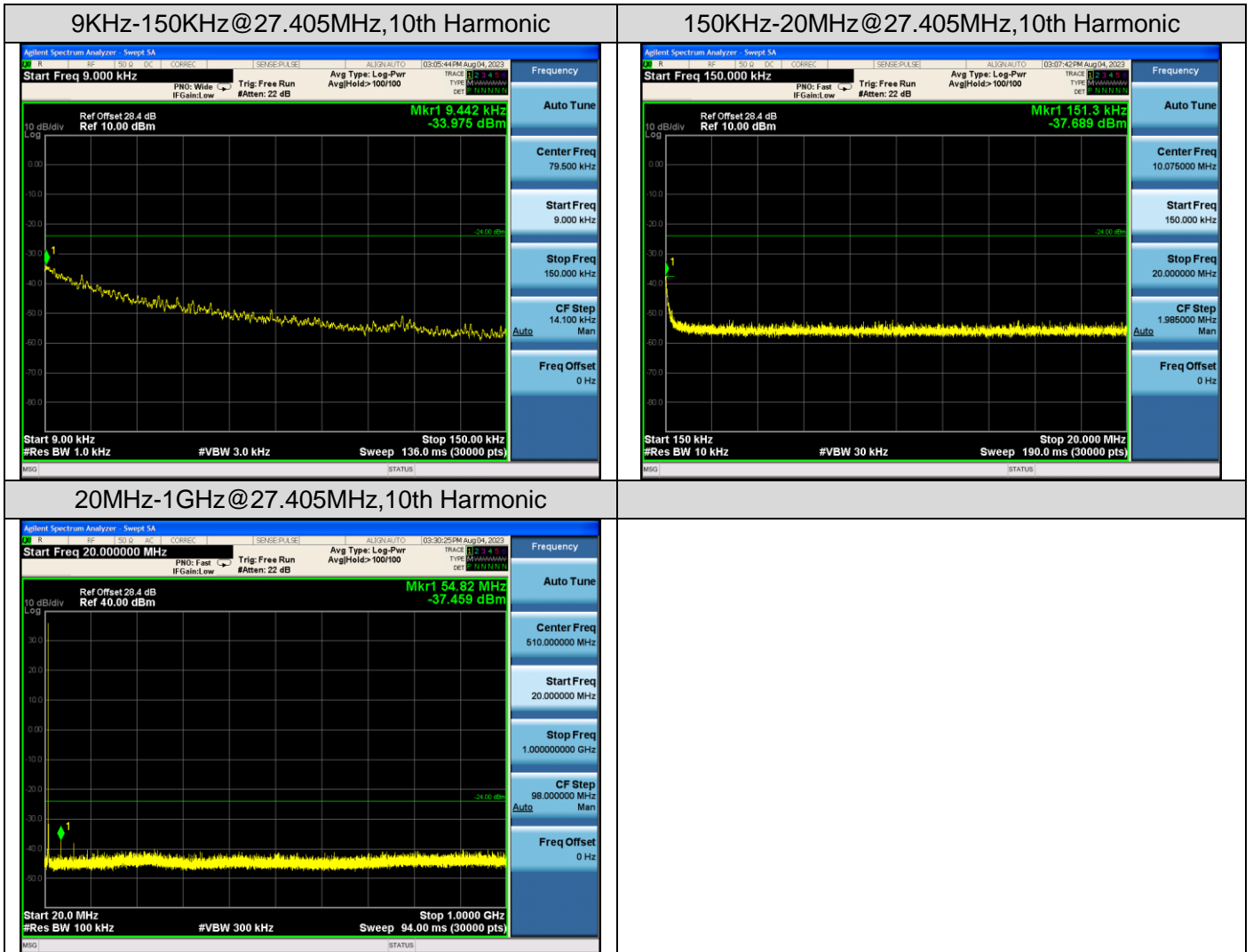


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Test plot as follows: DC 24V FM Modulation

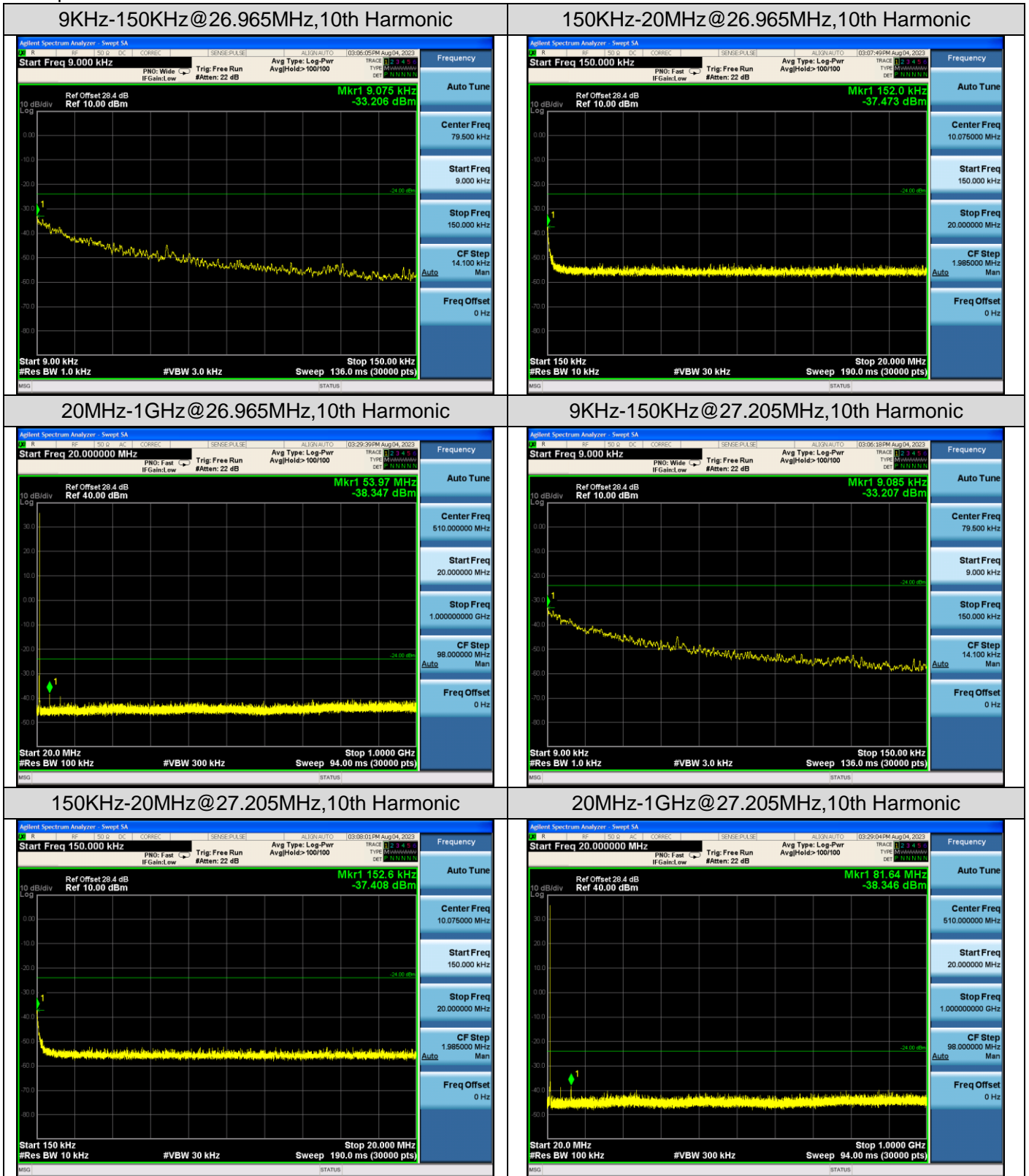


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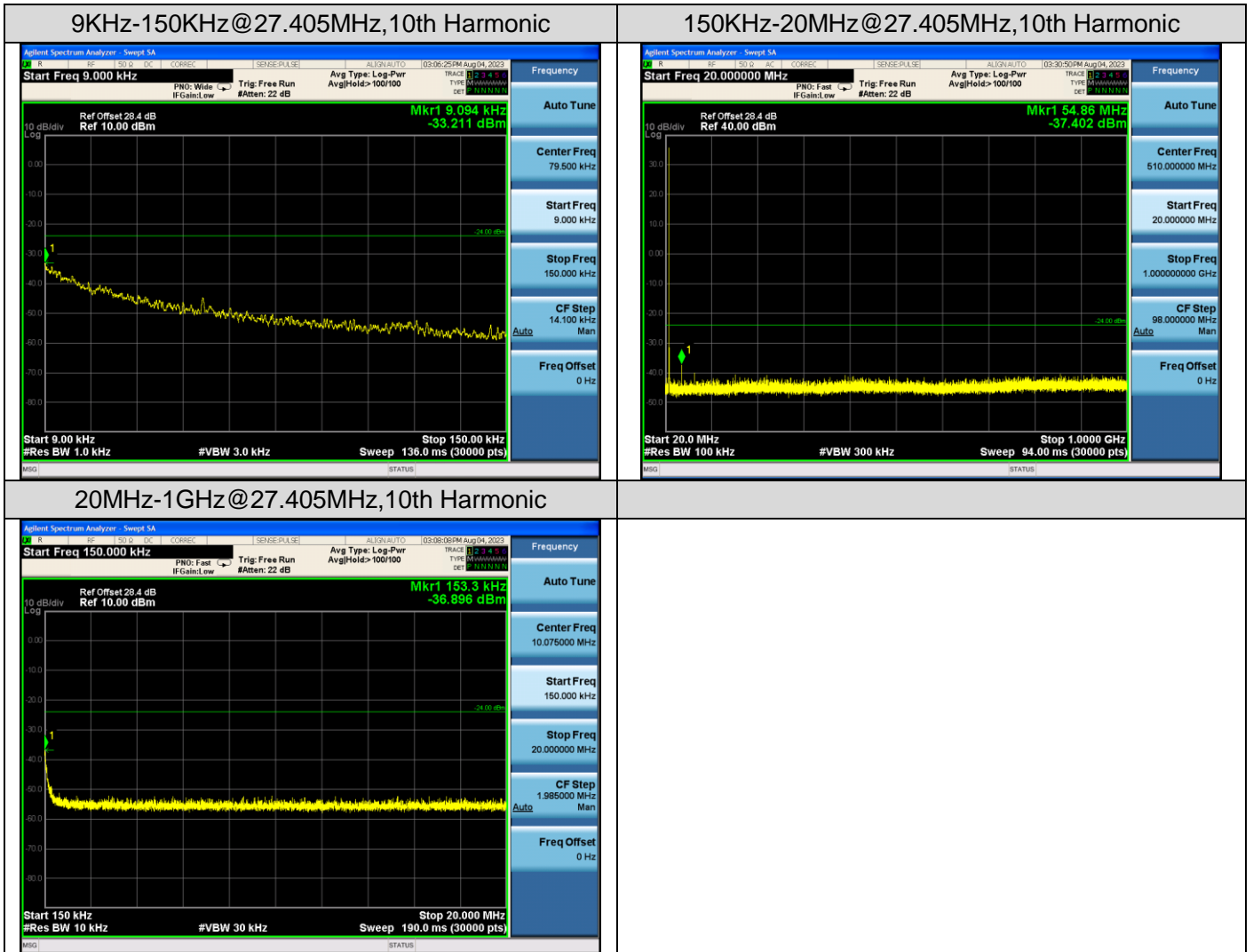


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Test plot as follows: FM Modulation



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## 10. MAXIMUM TRANSMITTER POWER

### 10.1 PROVISIONS APPLICABLE

FCC Part 95.967, FCC Part 2.1046(a)

Each CBRS transmitter type must be designed such that the transmitter power can not exceed the following limits:

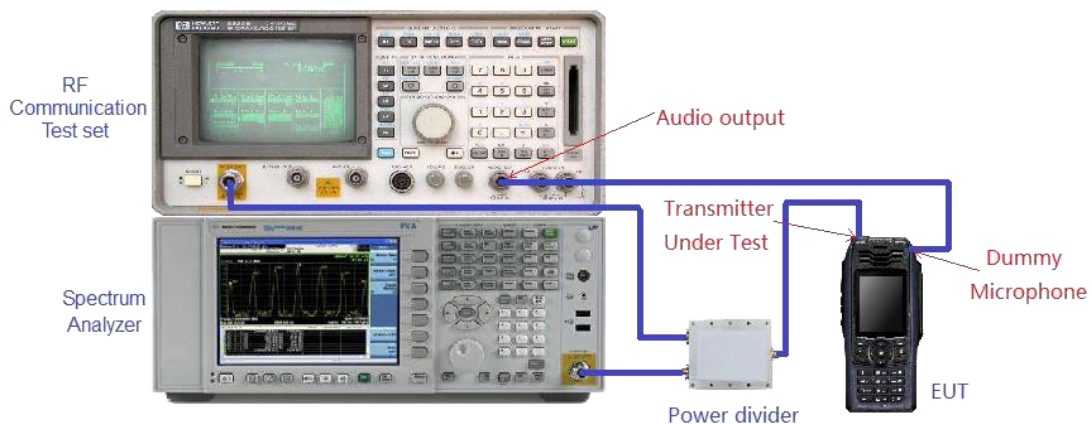
- (a) When transmitting amplitude modulated (AM) voice signals or frequency modulated (FM) voice signals, the mean carrier power must not exceed 4 Watts
- (b) When transmitting single sideband (SSB) voice signals, the peak envelope power must not exceed 12 Watts.

### 10.2 MEASUREMENT METHOD

Conducted RF Output Power:

1. The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
2. The DUT was connected to a Spectrum Analyzer (SA) via a 30dB attenuator connected to the DUT's antenna port. The SA was configured as above using the Automatic 6dB Cursor Bandwidth measurement. The output power of the DUT was set to the manufacturer's highest output power setting at the Low, Mid and High frequency channels as permitted by the device. The DUT was set to transmit at its maximum Duty Cycle.
3. Spectrum set as follow:  
Centre frequency = fundamental frequency, Span=150kHz, RBW=30kHz, VBW=30kHz ;  
Sweep = auto, Detector function = peak, Trace = max hold

### 10.3 MEASUREMENT SETUP



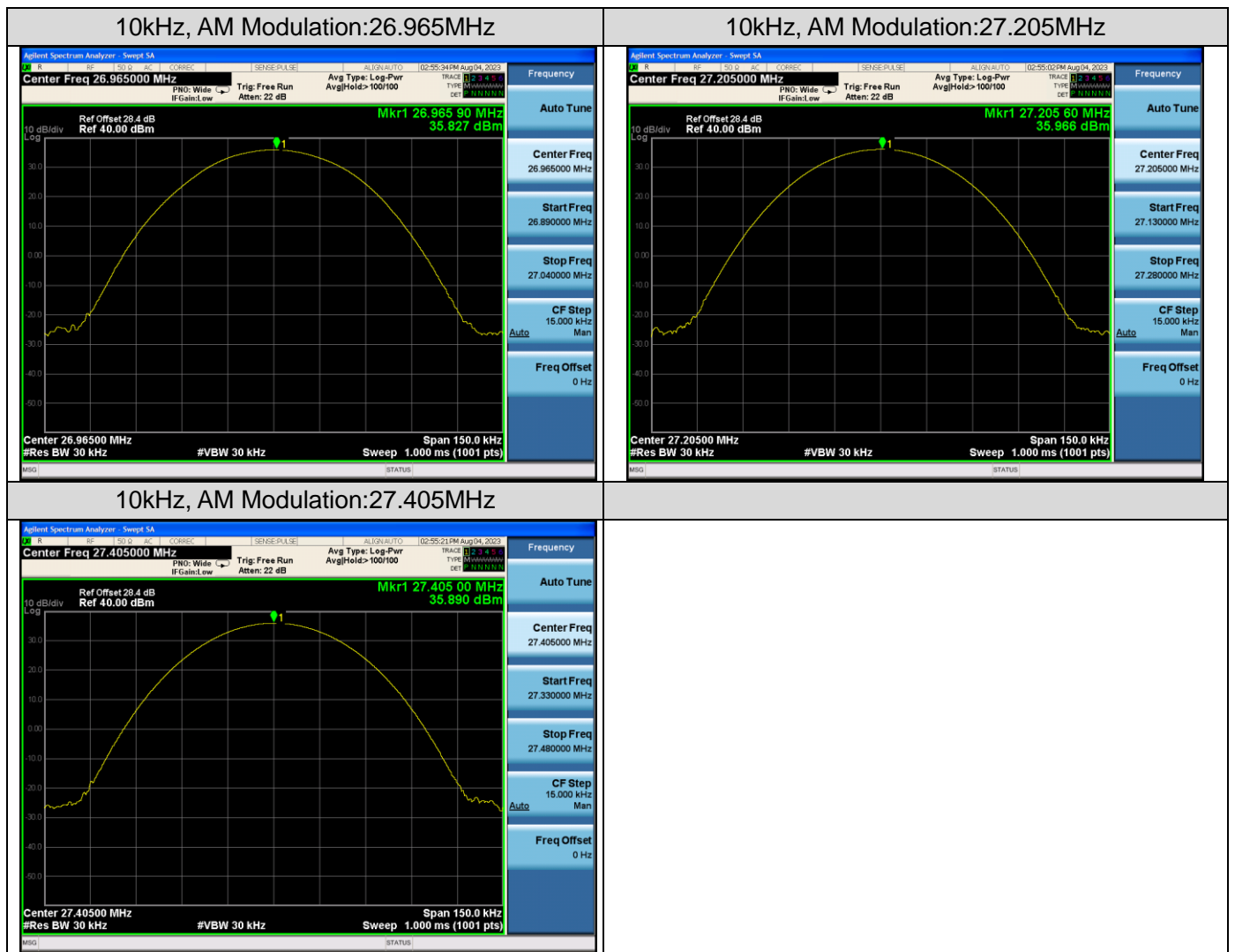
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### 10.4 MEASUREMENT RESULTS

Conducted Power Measurement Results-DC 12V			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
CBRS TX	10 kHz	26.965 MHz	35.83
		27.205 MHz	<b>35.97</b>
		27.405 MHz	35.89

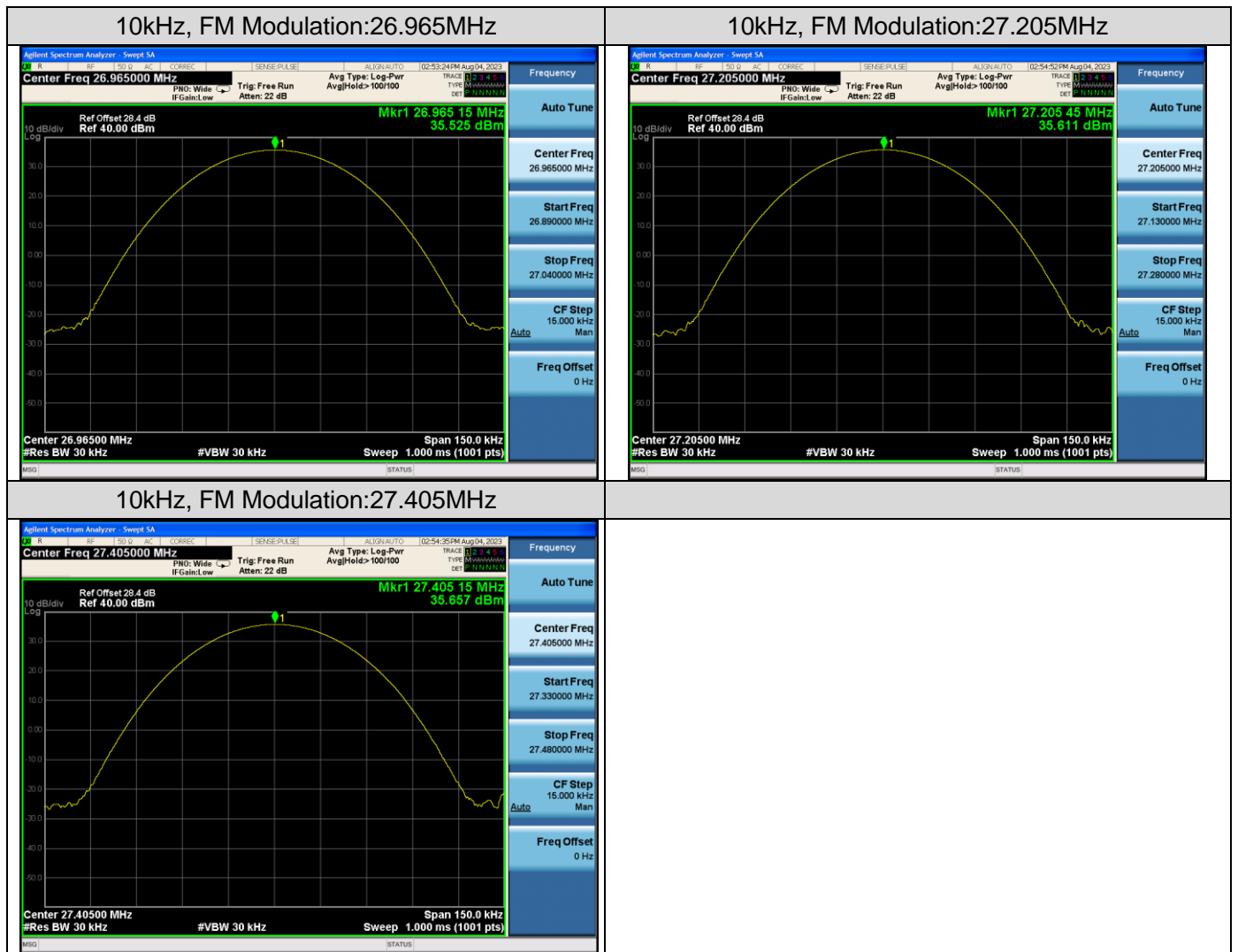
Test plot as follows:



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Conducted Power Measurement Results-DC 12V			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
CBRS TX	10 kHz	26.965 MHz	35.53
		27.205 MHz	35.61
		27.405 MHz	<b>35.66</b>

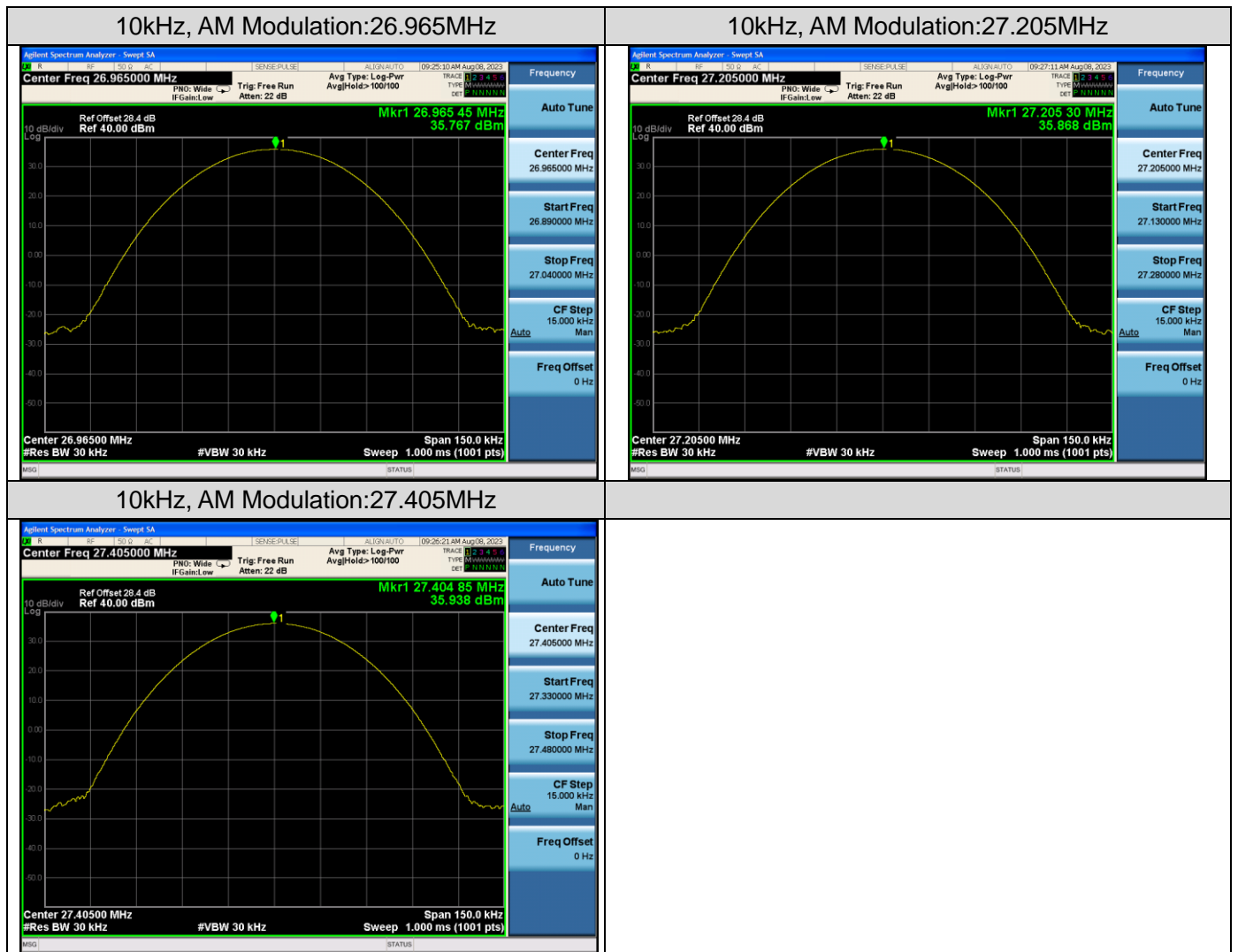
Test plot as follows:



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Conducted Power Measurement Results-DC 24V			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
CBRS TX	10 kHz	26.965 MHz	35.77
		27.205 MHz	35.87
		27.405 MHz	<b>35.94</b>

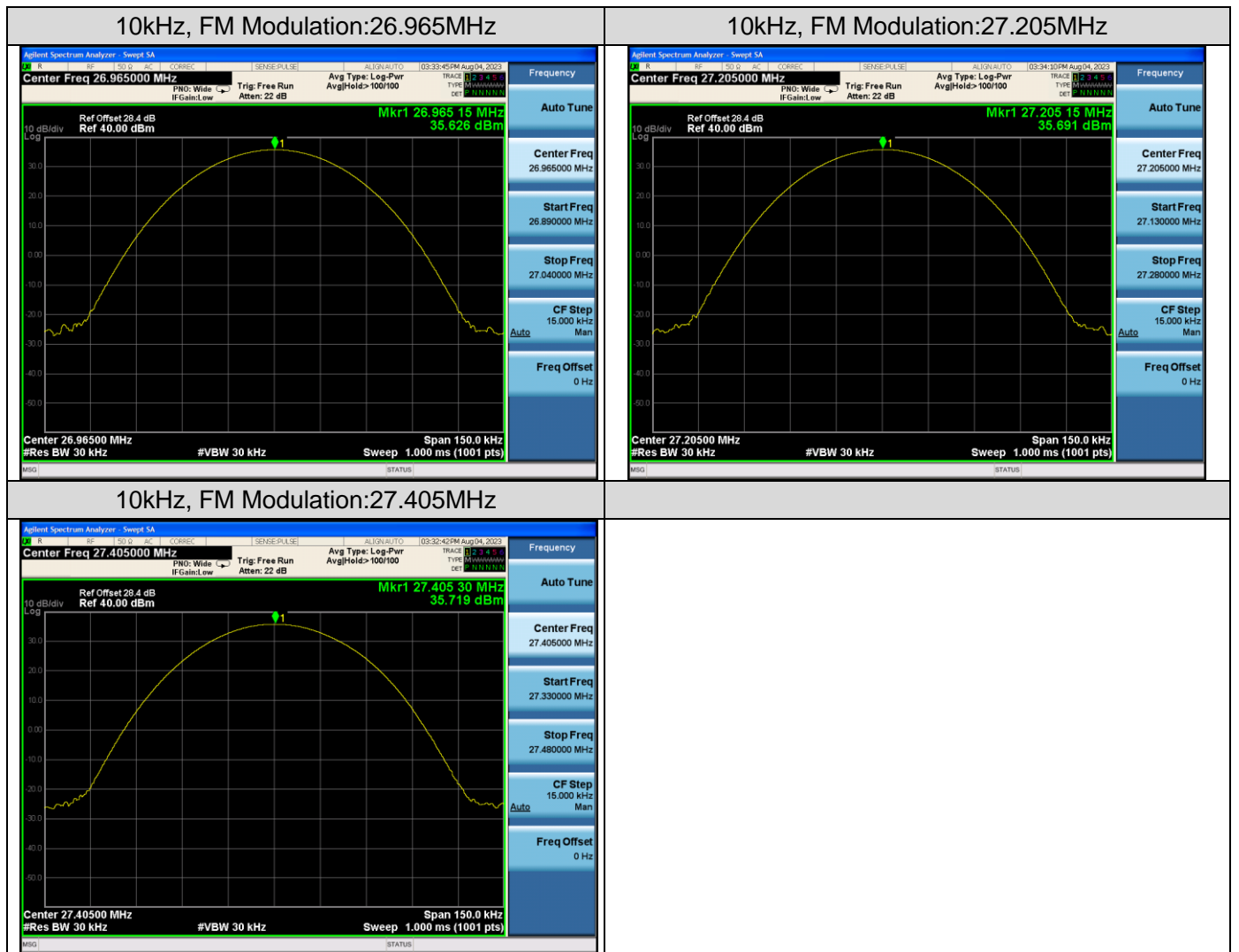
Test plot as follows:



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Conducted Power Measurement Results-DC 24V			
Mode	Channel Separation	Test Channel	Measurement Result (dBm)
CBRS TX	10 kHz	26.965 MHz	35.63
		27.205 MHz	35.69
		27.405 MHz	<b>35.72</b>

Test plot as follows:



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## 11. MODULATION CHARACTERISTICS

### 11.1 PROVISIONS APPLICABLE

FCC Part 95.975, FCC Part 2.1047(b)

Each CBRS transmitter type must be designed such that the modulation characteristics are in compliance with the rules in this section.

- a) When emission type A3E is transmitted with voice modulation, the modulation percentage must be at least 85%, but not more than 100%.
- b) When emission type A3E is transmitted by a CBRS transmitter having a transmitter output power of more than 2.5 W, the transmitter must contain a circuit that automatically prevents the modulation percentage from exceeding 100%.
- c) When emission type F3E is transmitted the peak frequency deviation shall not exceed  $\pm 2$  kHz.

### 11.2 MEASUREMENT METHOD\_(AM)

#### (A) Audio frequency response

Connect the equipment as illustrated.

Adjust to deliver 50% modulation at the audio frequency that produces the maximum modulation level

Record the modulation input level (mV) and use this level as 0dB for plotting modulation limiting.

Vary the modulating frequency from 100Hz to 10000Hz and record the input levels necessary to maintain a constant 50% modulation.

Graph the audio level in dB relative to the 0dB reference level as a function of the modulating frequency.

Record audio frequency where it is impossible to perform the measurement.

#### (B) Modulation limiting

Connect the equipment as illustrated.

Adjust to deliver 50% modulation at the audio frequency that produces the maximum modulation level

Record the modulation input level (mV) and use this level as 0dB for plotting modulation limiting.

Increment the audio signal level to 40dB above the reference level. Record the modulation level (%).

Repeat the measurements using a 400Hz and a 2500Hz sinusoidal audio signal, record the modulation level (%), perform for both positive and negative modulation.

### 11.3 MEASUREMENT METHOD\_(FM)

#### (C) Modulation limiting

(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  $+20$ dB. 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.

#### (D) 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 =  $20\log_{10}$  (Deviation of test frequency/Deviation of 1 kHz reference).

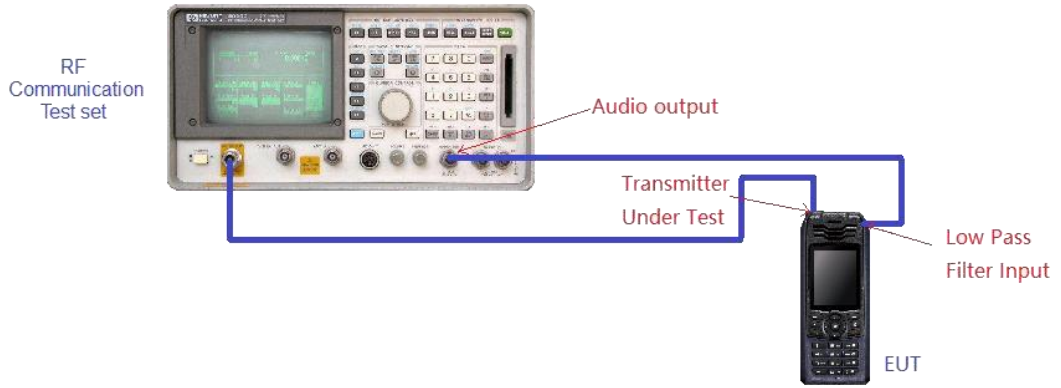
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### 11.4 MEASUREMENT SETUP

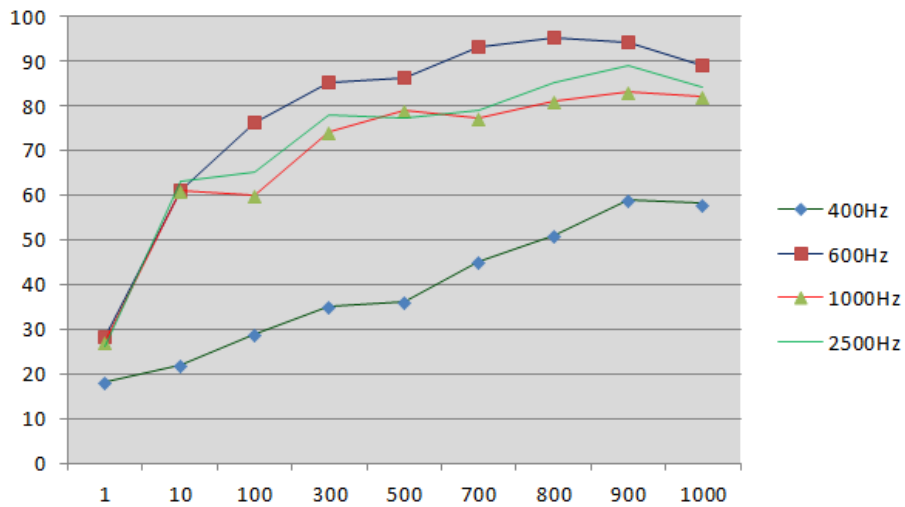


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### 11.5 MEASUREMENT RESULTS

#### (A). MODULATION LIMIT:

10kHz, AM modulation, Assigned Frequency:27.405MHz				
Modulation Level (mV)	Peak Freq. Deviation At 300 Hz (%)	Peak Freq. Deviation At 600 Hz (%)	Peak Freq. Deviation At 1000 Hz (%)	Peak Freq. Deviation At 2500 Hz (%)
1	18	28	27	26
10	22	61	61	63
100	29	76	60	65
300	35	85	74	78
500	36	86	79	77
700	45	93	77	79
800	51	95	81	85
900	59	94	83	89
1000	58	89	82	84



**Note:**

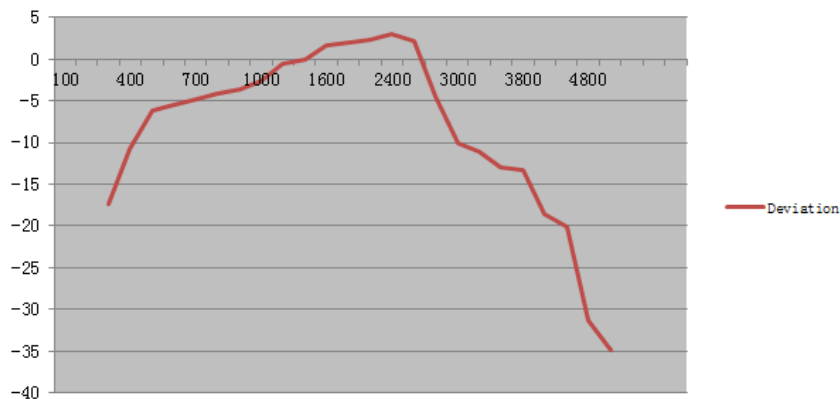
1. All the modes had been tested, but only the worst data recorded in the report
2. The equipment circuit comes with circuit control that automatically prevents the modulation limit from exceeding 100%.

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**(B). AUDIO FREQUENCY RESPONSE:**

10kHz, AM modulation, Assigned Frequency:27.405MHz			
Frequency (Hz)	modulation level (mV)	Deviation (kHz)	Audio Frequency Response(dB)
100		--	--
200		--	--
300	19.14	0.15	-17.38
400	13.46	0.32	-10.80
500	12.02	0.55	-6.10
600	8.94	0.59	-5.49
700	7.14	0.64	-4.78
800	7.23	0.69	-4.13
900	6.42	0.74	-3.52
1000	6.39	0.83	-2.52
1200	6.74	1.05	-0.48
1400	6.52	1.11	0.00
1600	5.44	1.34	1.64
1800	5.37	1.4	2.02
2000	5.41	1.45	2.32
2400	5.19	1.58	3.07
2500	5.23	1.42	2.14
2800	5.21	0.66	-4.52
3000	6.41	0.35	-10.03
3200	7.36	0.31	-11.08
3600	8.41	0.25	-12.95
3800	9.69	0.24	-13.30
4000	10.74	0.13	-18.63
4200	11.05	0.11	-20.08
4800	14.10	0.03	-31.36
5200	19.33	0.02	-34.89
6000	--	--	--

**Audio Frequency Response@50%MI  
10 KHz Channel Separations**



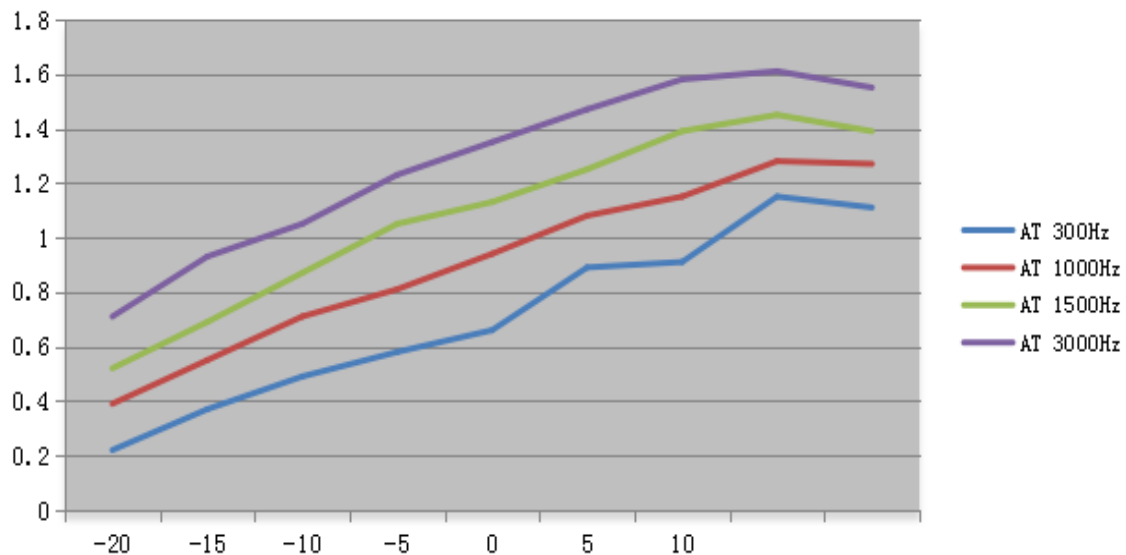
Note:1.All the modes had been tested, but only the worst data recorded in the report.  
2. 50% MI Could not be achieved above 5200 Hz.

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**(C). MODULATION LIMIT:**

10kHz, FM modulation, Assigned Frequency:27.405MHz				
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	0.21	0.45	0.62	0.86
-15	0.45	0.69	0.89	1.25
-10	0.62	0.88	1.13	1.48
-5	0.77	1.09	1.28	1.53
0	0.83	1.13	1.35	1.66
+5	0.92	1.28	1.48	1.71
+10	0.99	1.34	1.69	1.80
+15	1.12	1.47	1.72	1.86
+20	1.11	1.45	1.65	1.82



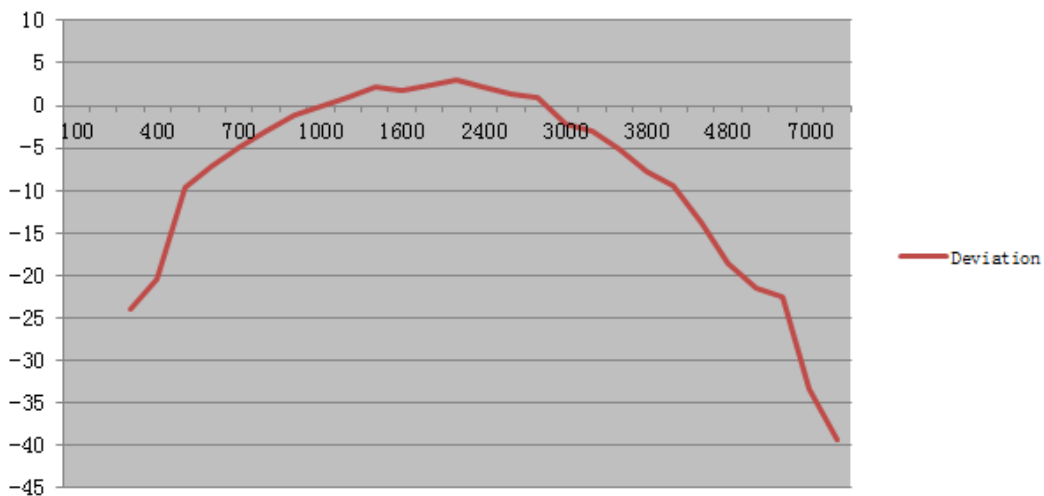
Note: All the modes had been tested, but only the worst data recorded in the report

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**(D). AUDIO FREQUENCY RESPONSE:**

10kHz, Analog modulation, Assigned Frequency:27.405MHz		
Frequency (Hz)	Deviation (kHz)	Audio Frequency Response(dB)
100	--	--
200	--	--
300	0.06	-23.90
400	0.09	-20.38
500	0.31	-9.64
600	0.41	-7.21
700	0.53	-4.98
800	0.67	-2.94
900	0.82	-1.19
1000	0.94	0.00
1200	1.05	0.96
1400	1.22	2.26
1600	1.16	1.83
1800	1.25	2.48
2000	1.34	3.08
2400	1.21	2.19
2500	1.11	1.44
2800	1.05	0.96
3000	0.74	-2.08
3200	0.66	-3.07
3600	0.52	-5.14
4000	0.38	-7.87
4500	0.32	-9.36
5000	0.19	-13.89
5500	0.11	-18.63
6000	0.08	-21.40
6500	0.07	-22.56
7000	0.02	-33.44
7500	0.01	-39.46

**10 KHz Channel Separations**



**Note:** All the modes had been tested, but only the worst data recorded in the report. The report is issued 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 agc01@agccert.com.

**APPENDIX I: PHOTOGRAPHS OF TEST SETUP**

Refer to the Report No.: AGC01284230801AP01

**APPENDIX II: PHOTOGRAPHS OF TEST EUT**

Refer to the Report No.: AGC01284230801AP02

**----END OF REPORT----**

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1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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