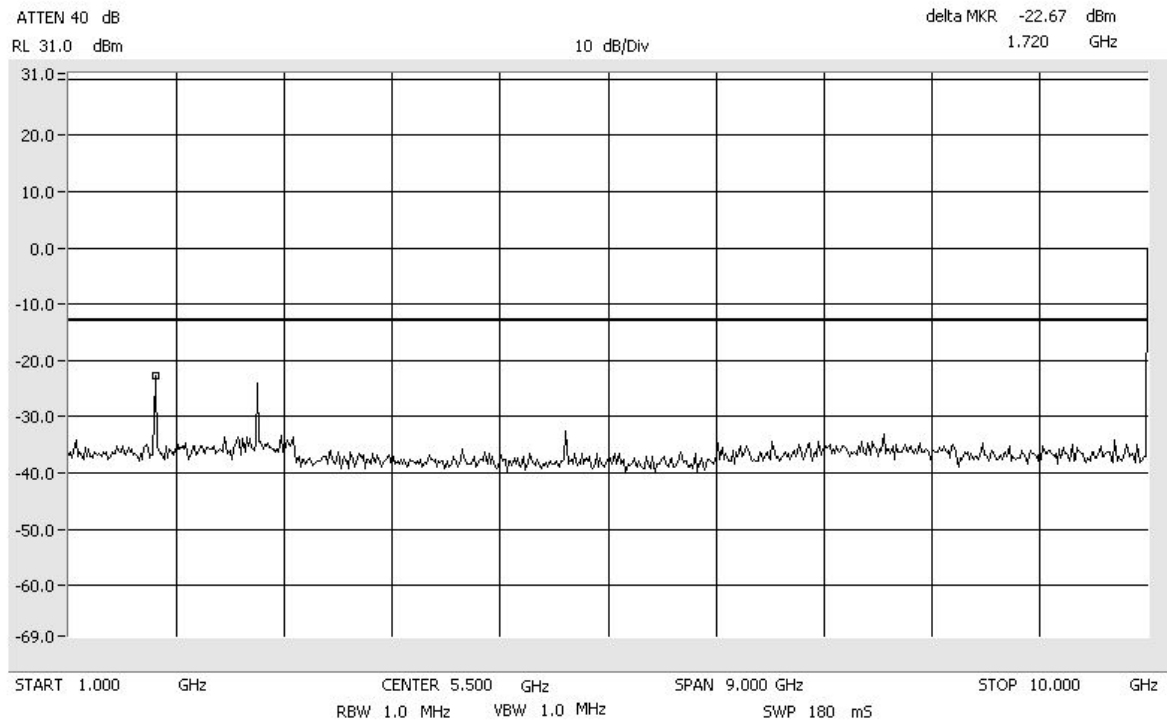


Conducted Emissions
Span: 1 GHz to 10 GHz

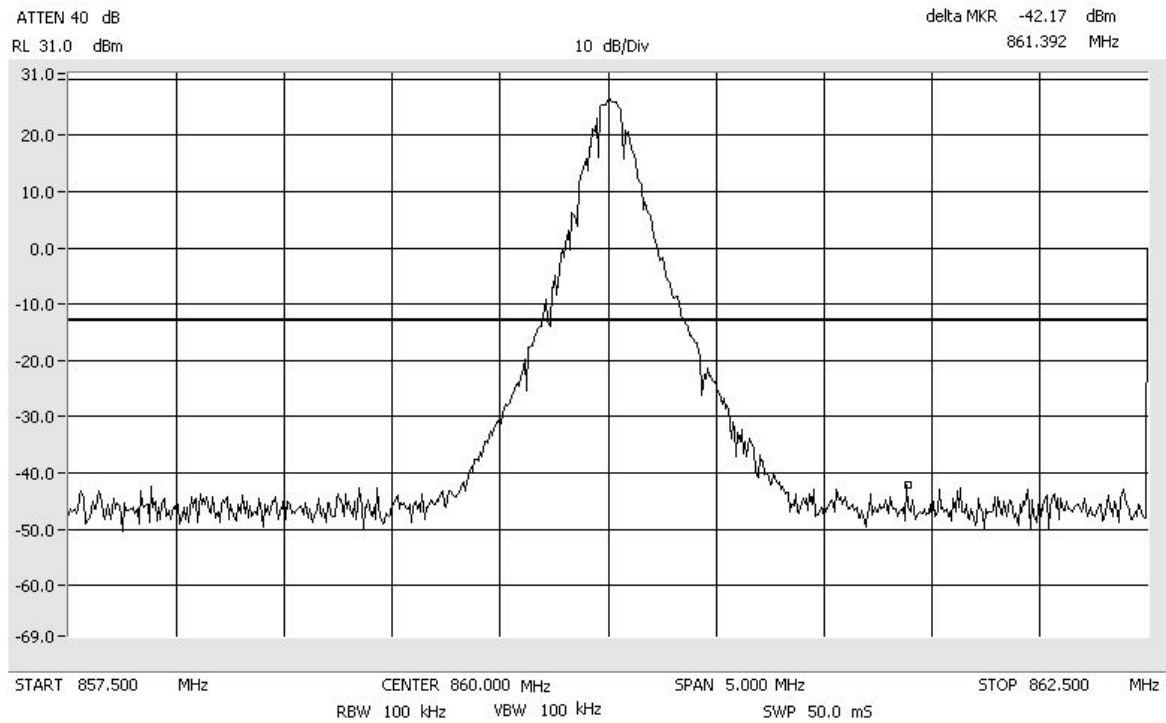
FM SMR_800_MHz
RBW/VBW: 1 MHz



Conducted Emissions
Center: 860 MHz

iDEN
Span: 5 MHz

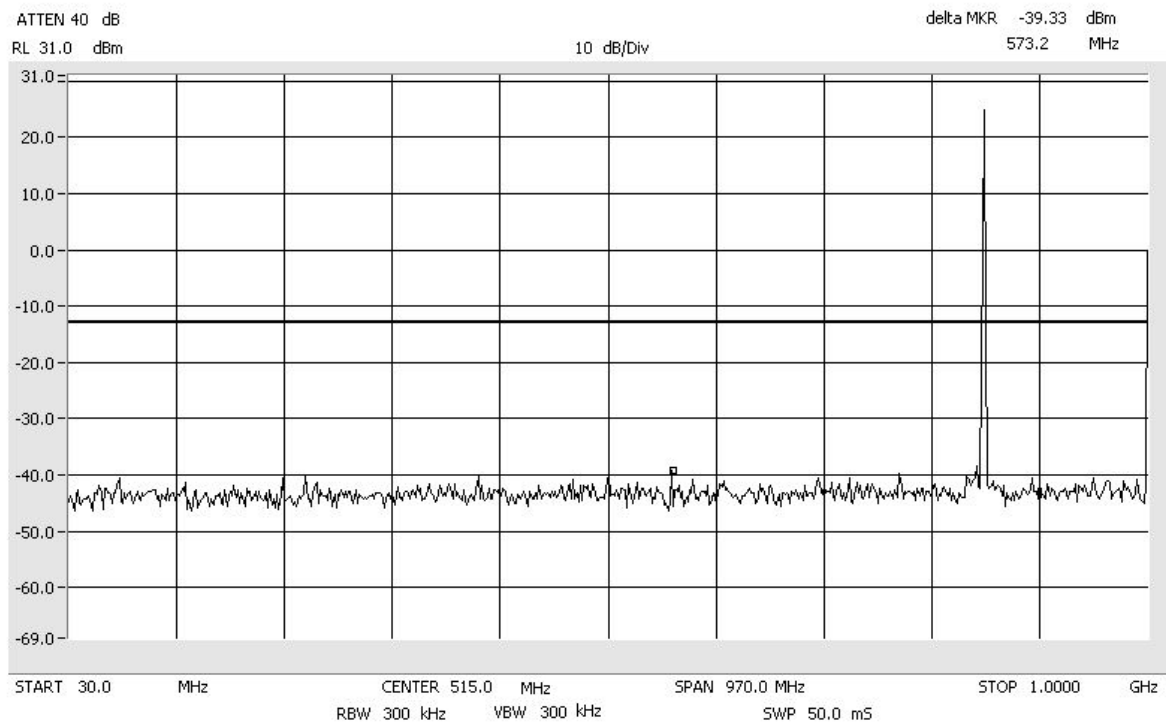
SMR_800_MHz
RBW/VBW: 100 kHz



Conducted Emissions
Span: 30 MHz to 1 GHz

iDEN

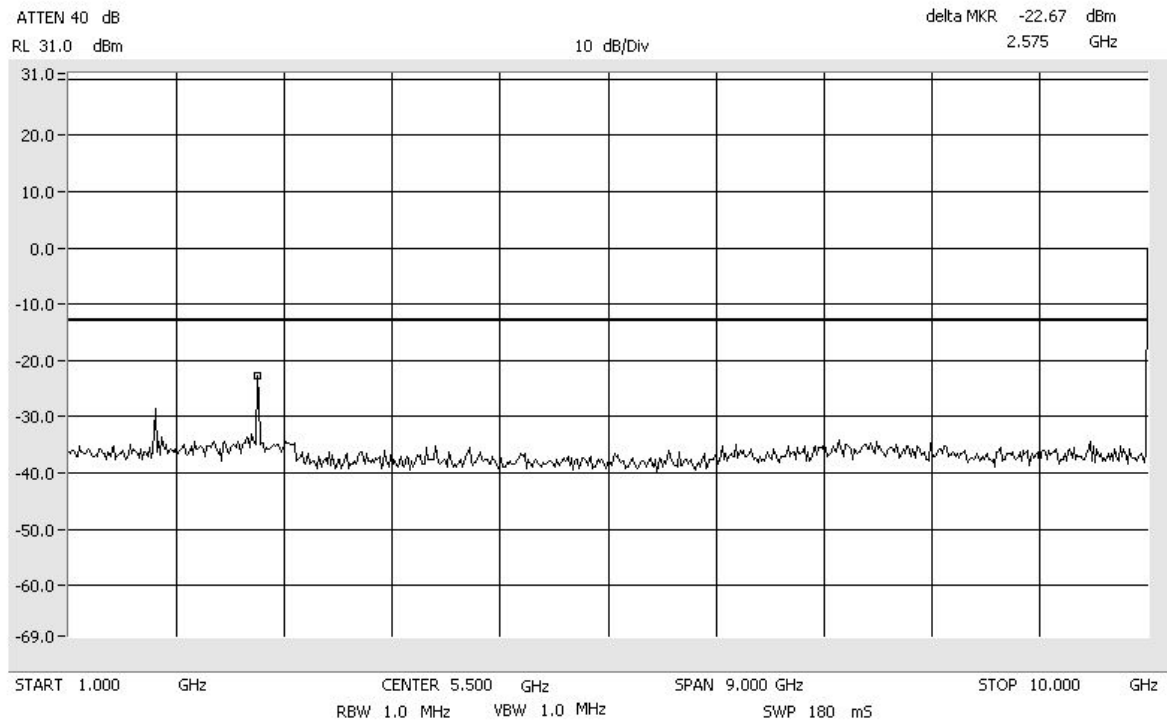
SMR_800_MHz
RBW/VBW: 300 kHz



Conducted Emissions
Span: 1 GHz to 10 GHz

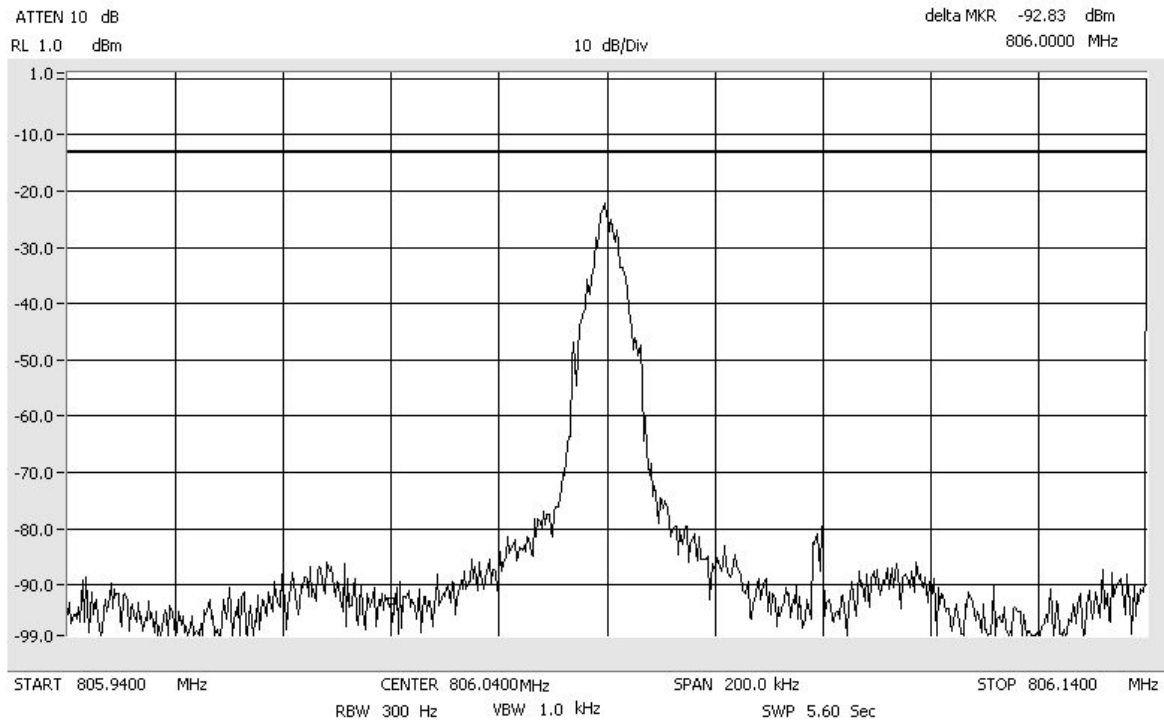
iDEN

SMR_800_MHz
RBW/VBW: 1 MHz



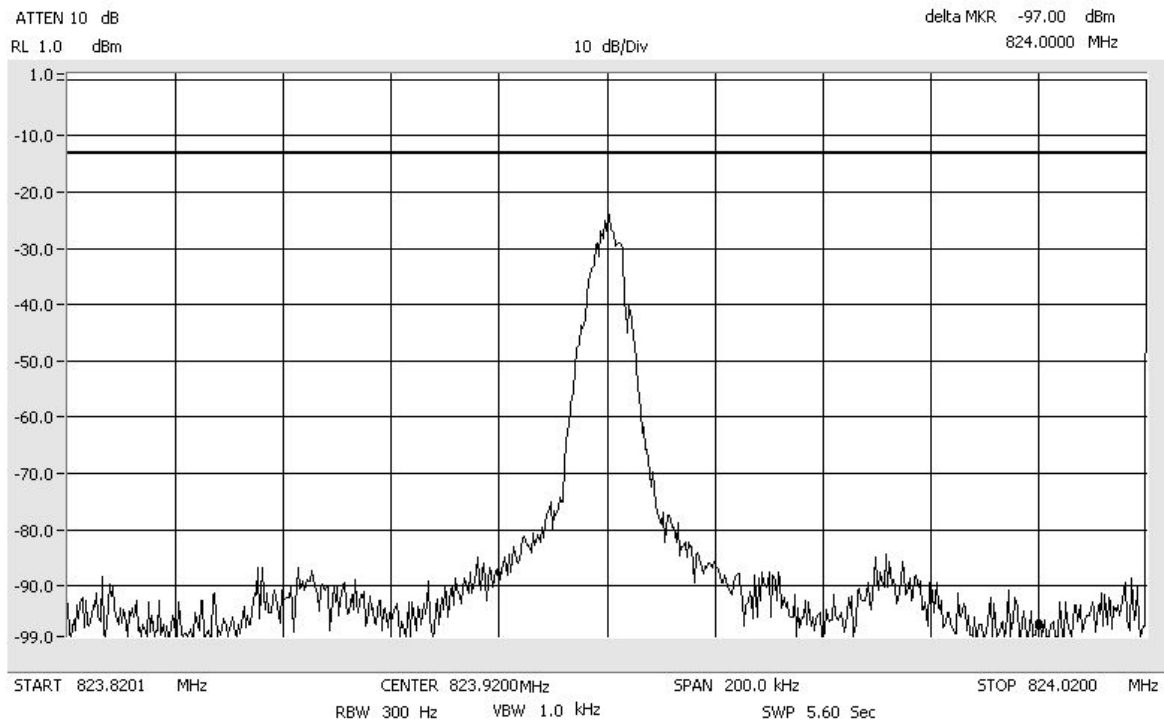
Band_Edge
Center: 806.04 MHz Span: 200 kHz

APCO25_C4FM
RBW: 300 Hz VBW: 1 kHz



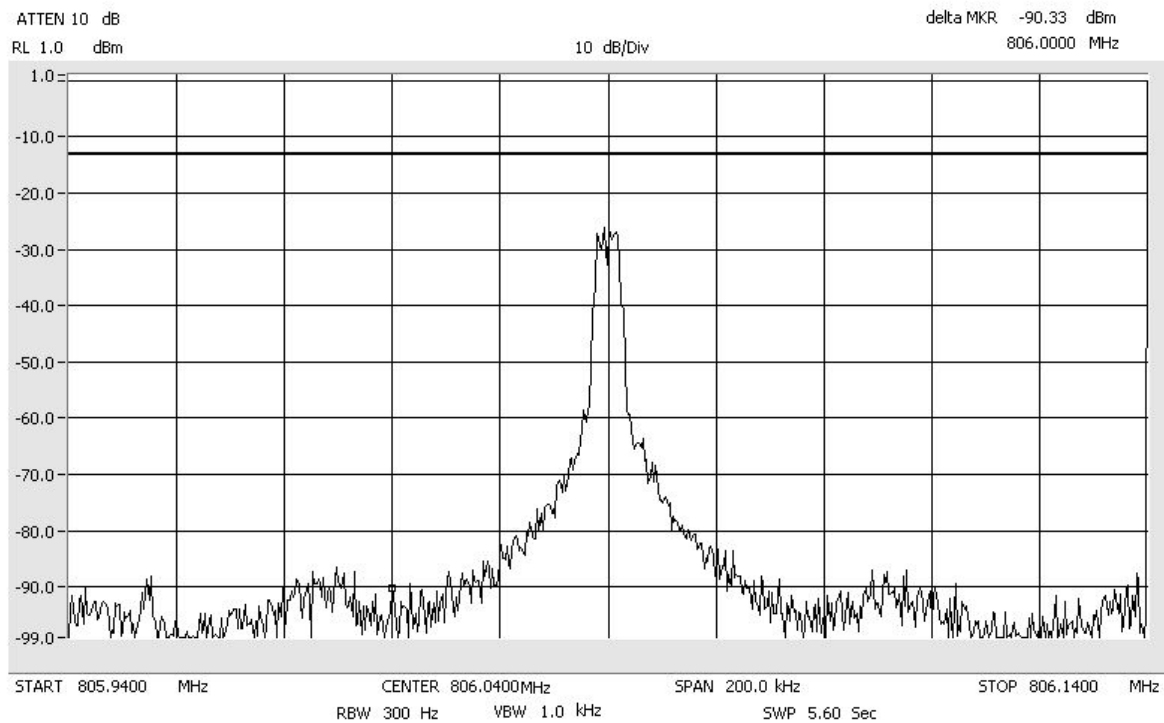
Band_Edge
Center: 823.92 MHz Span: 200 kHz

APCO25_C4FM
RBW: 300 Hz VBW: 1 kHz



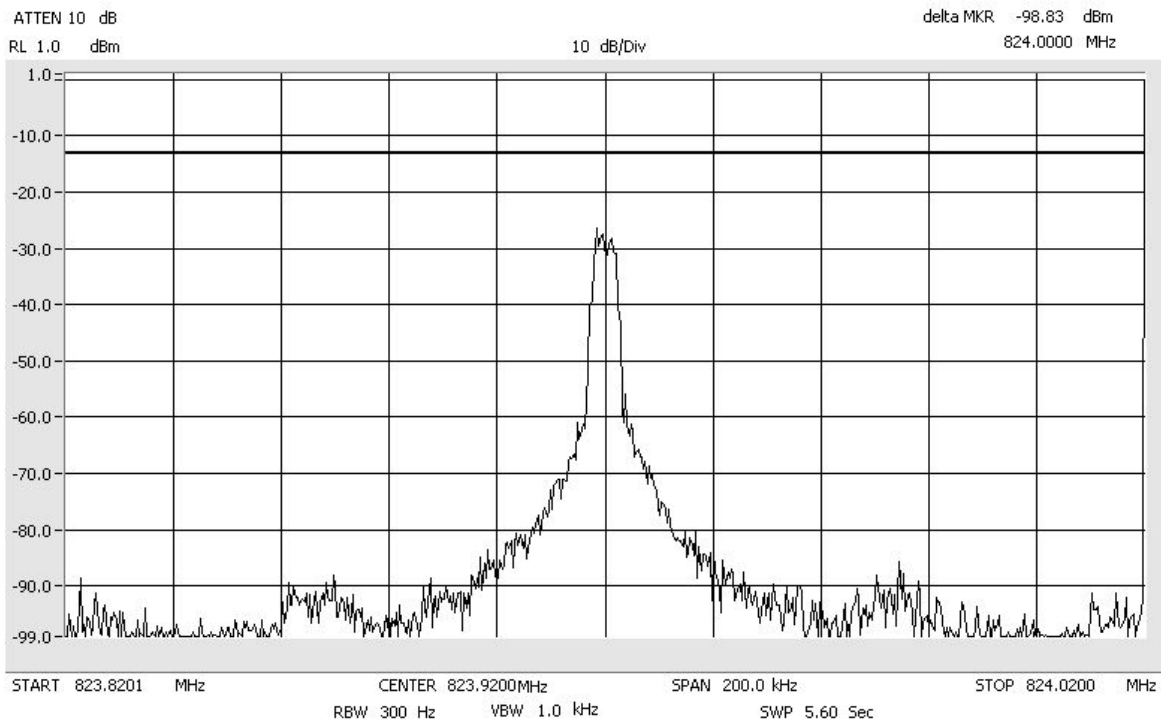
Band_Edge
Center: 806.04 MHz Span: 200 kHz

APCO25_CQPSK
RBW: 300 Hz VBW: 1 kHz



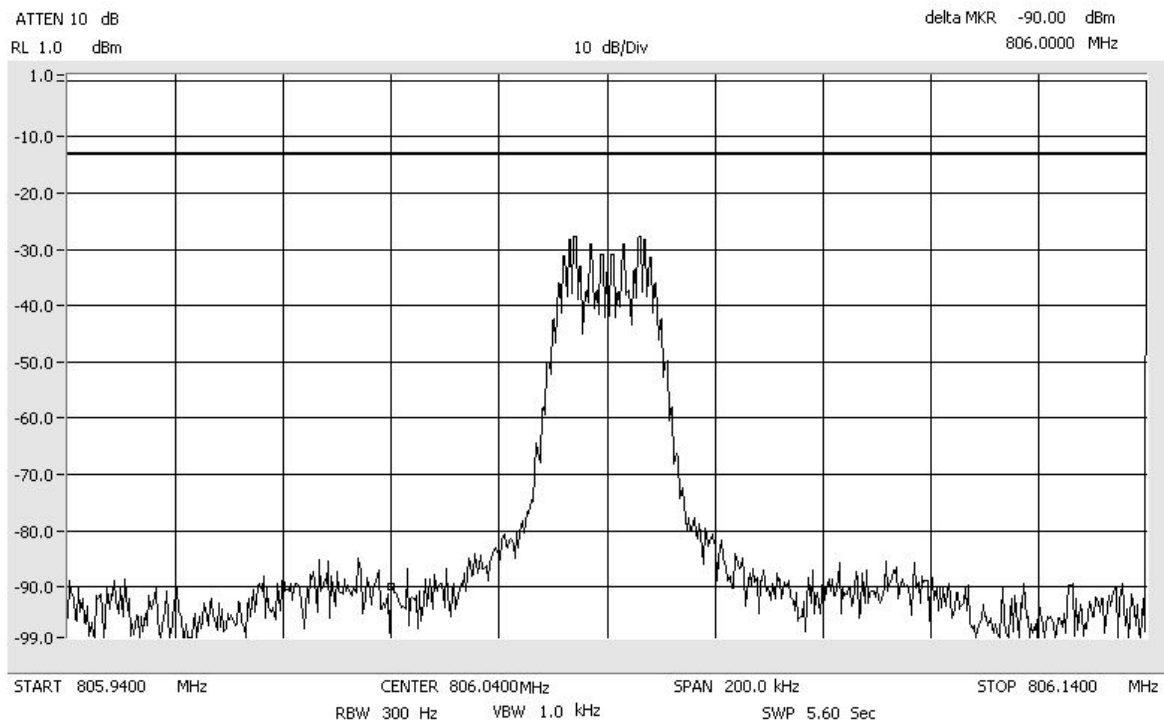
Band_Edge
Center: 823.92 MHz Span: 200 kHz

APCO25_CQPSK
RBW: 300 Hz VBW: 1 kHz



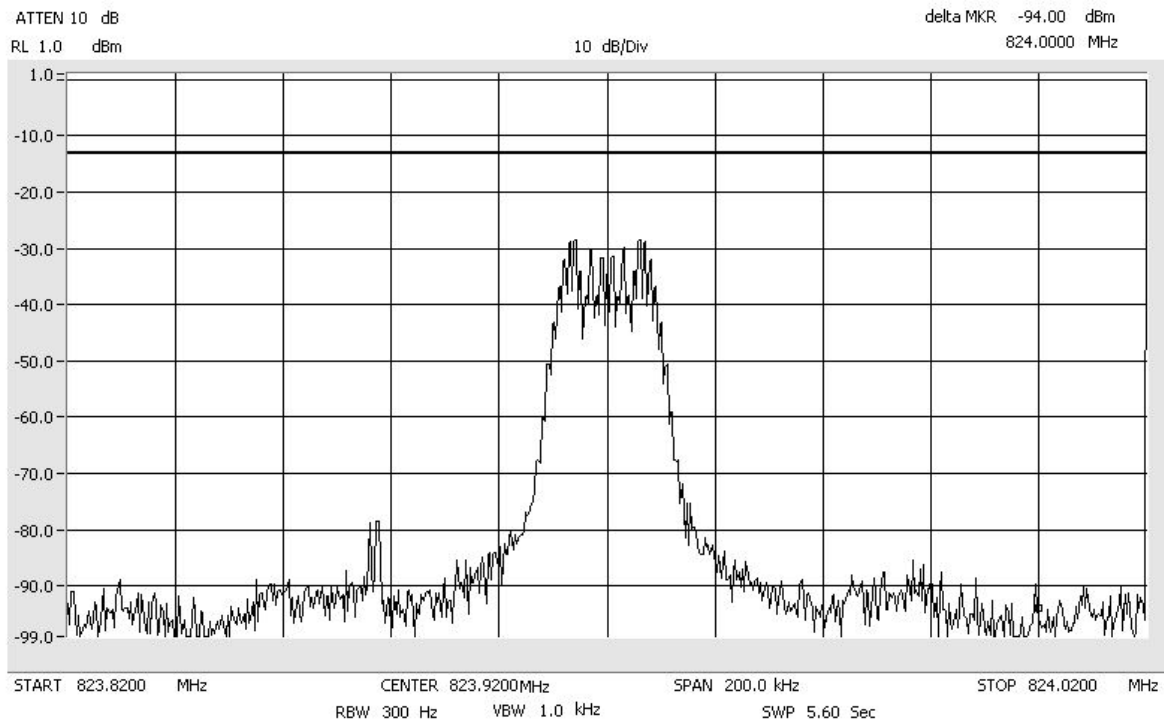
Band_Edge
Center: 806.04 MHz Span: 200 kHz

FM
RBW: 300 Hz VBW: 1 kHz



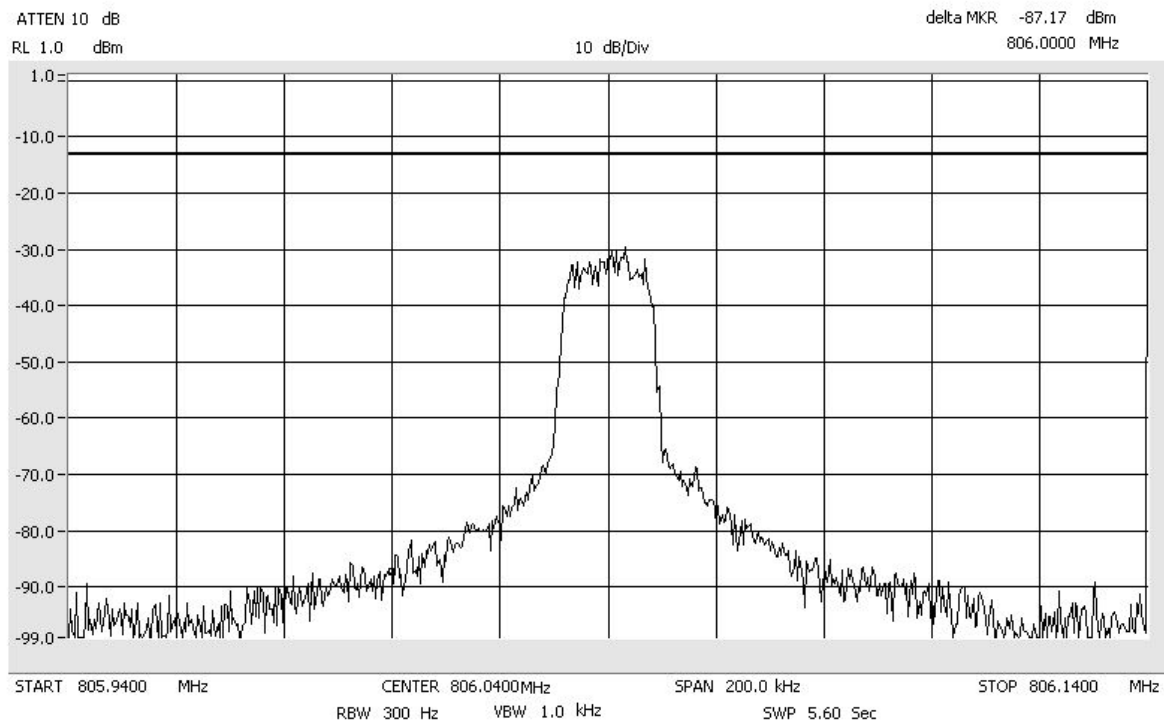
Band_Edge
Center: 823.92 MHz Span: 200 kHz

FM
RBW: 300 Hz VBW: 1 kHz



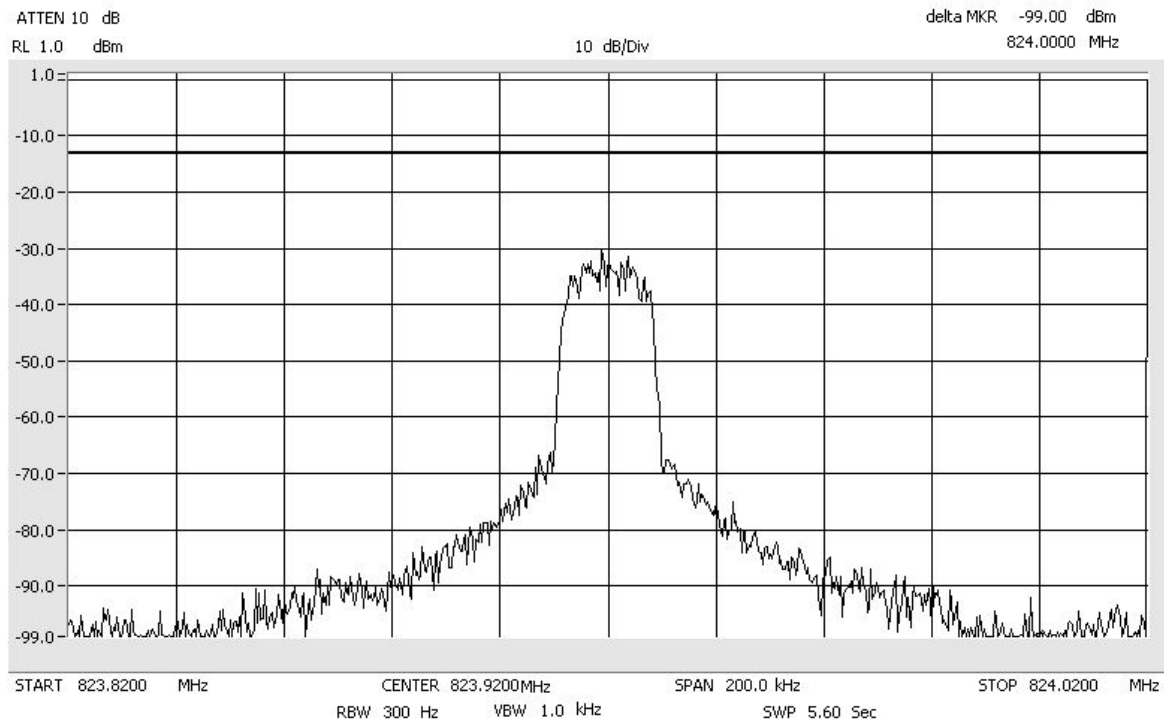
Band_Edge
Center: 806.04 MHz Span: 200 kHz

iDEN
RBW: 300 Hz VBW: 1 kHz



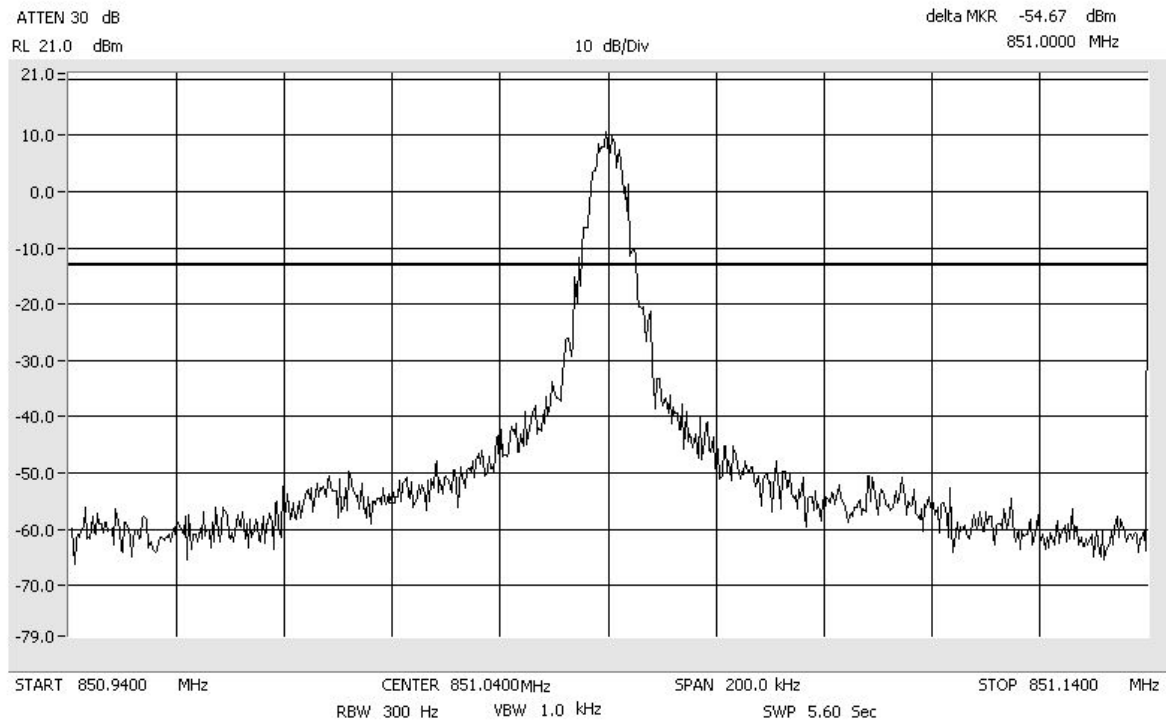
Band_Edge
Center: 823.92 MHz Span: 200 kHz

iDEN
RBW: 300 Hz VBW: 1 kHz



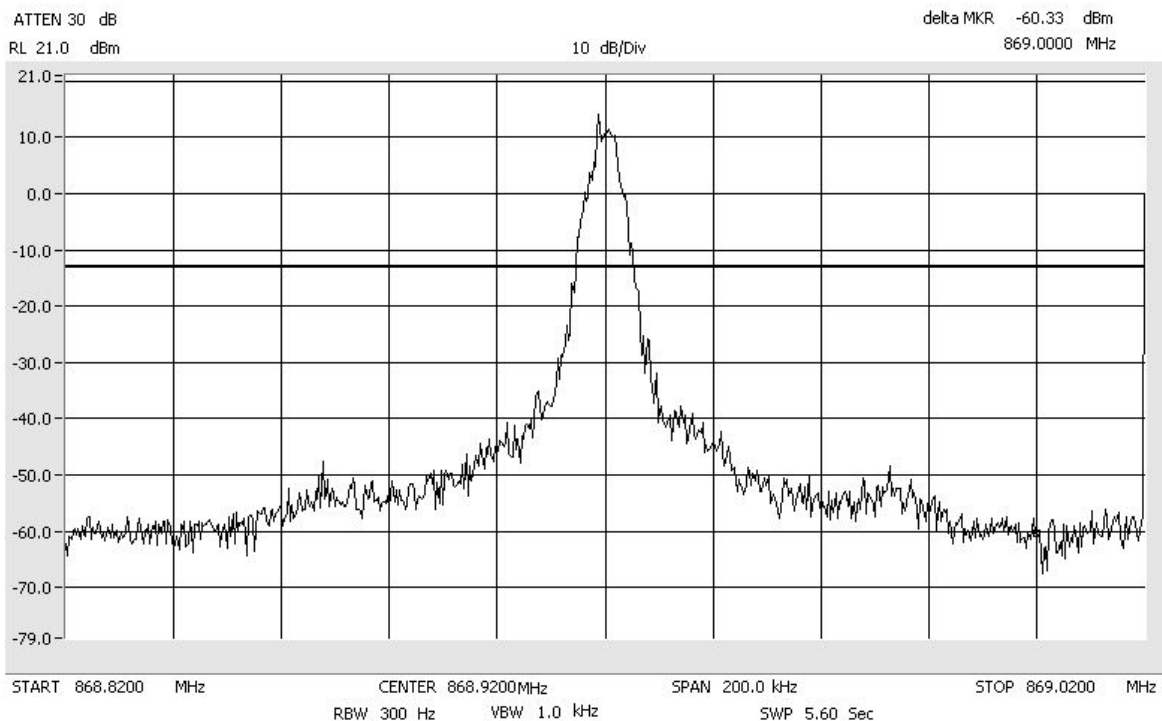
Band_Edge
Center: 851.04 MHz Span: 200 kHz

APCO25_C4FM
RBW: 300 Hz VBW: 1 kHz



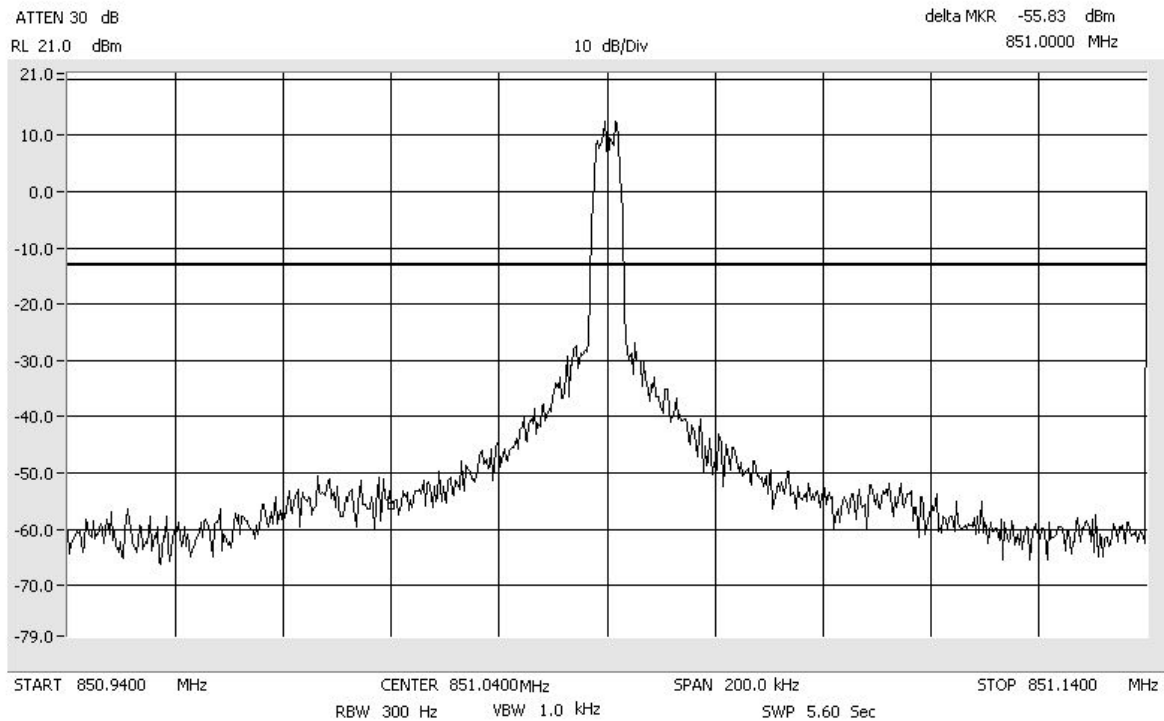
Band_Edge
Center: 868.92 MHz Span: 200 kHz

APCO25_C4FM
RBW: 300 Hz VBW: 1 kHz



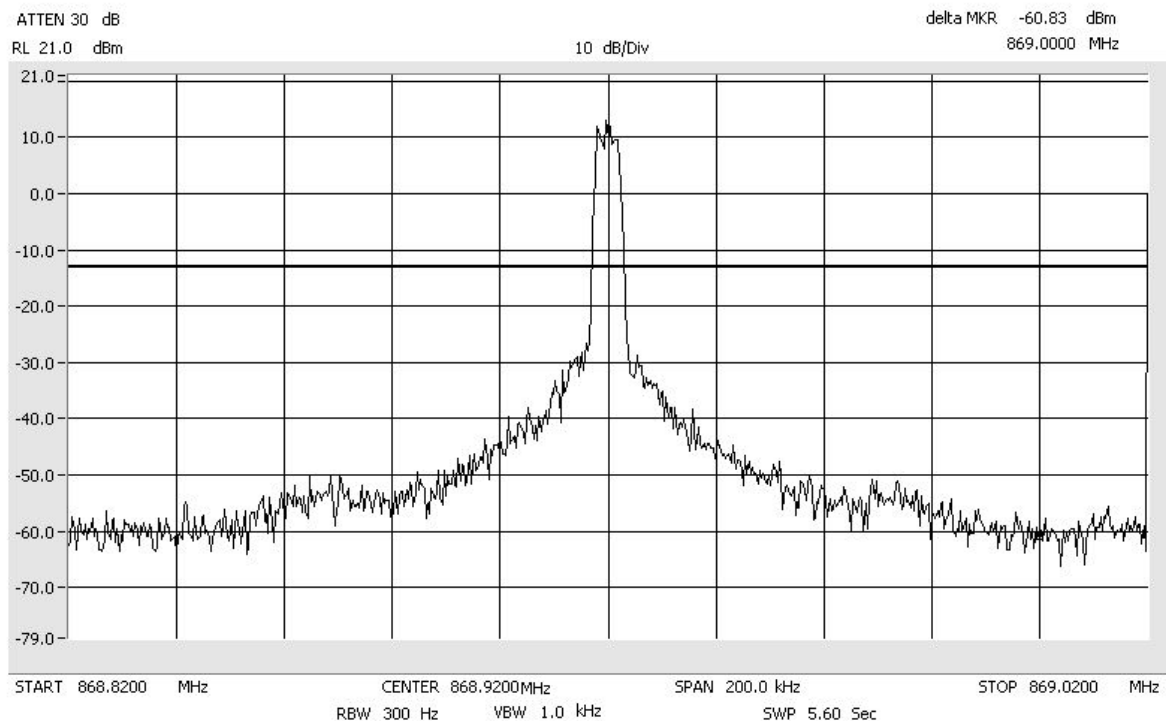
Band_Edge
Center: 851.04 MHz Span: 200 kHz

APCO25_CQPSK
RBW: 300 Hz VBW: 1 kHz



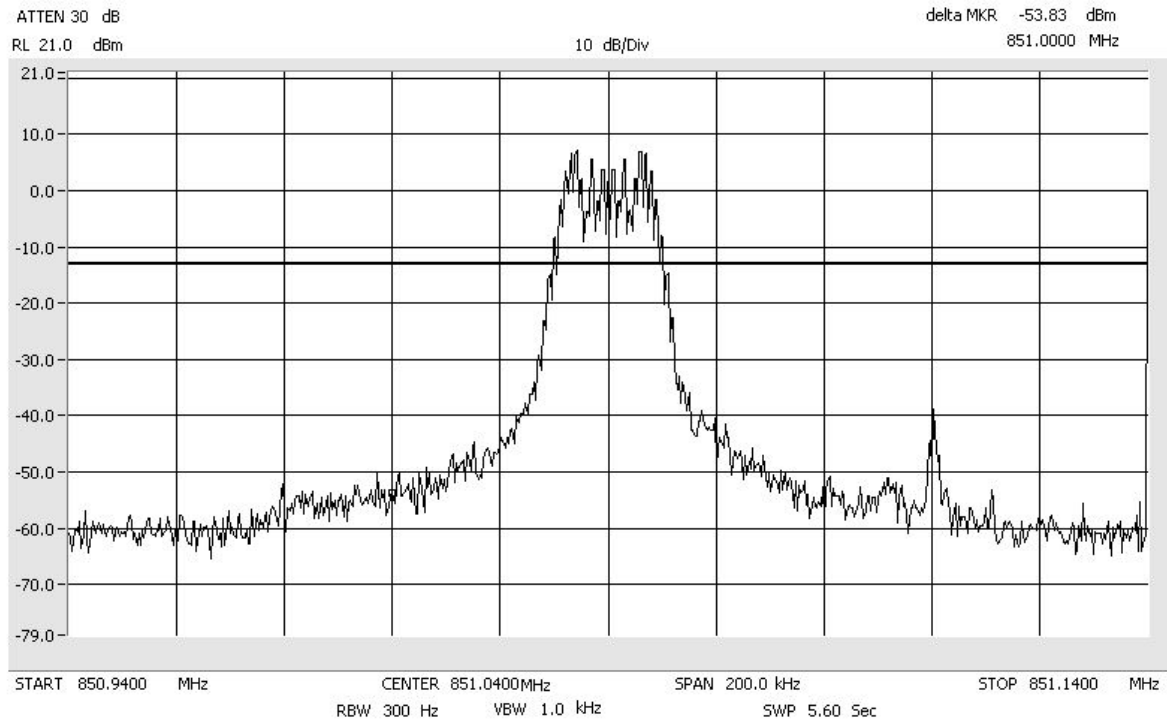
Band_Edge
Center: 868.92 MHz Span: 200 kHz

APCO25_CQPSK
RBW: 300 Hz VBW: 1 kHz



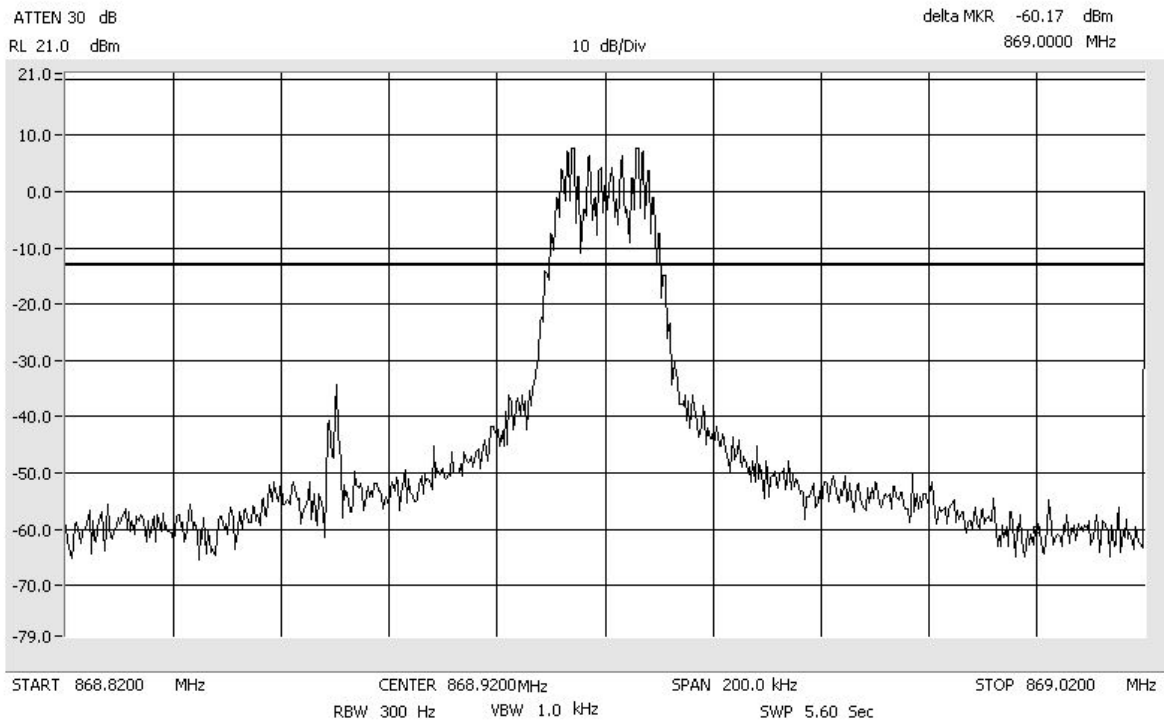
Band_Edge
Center: 851.04 MHz Span: 200 kHz

FM
RBW: 300 Hz VBW: 1 kHz



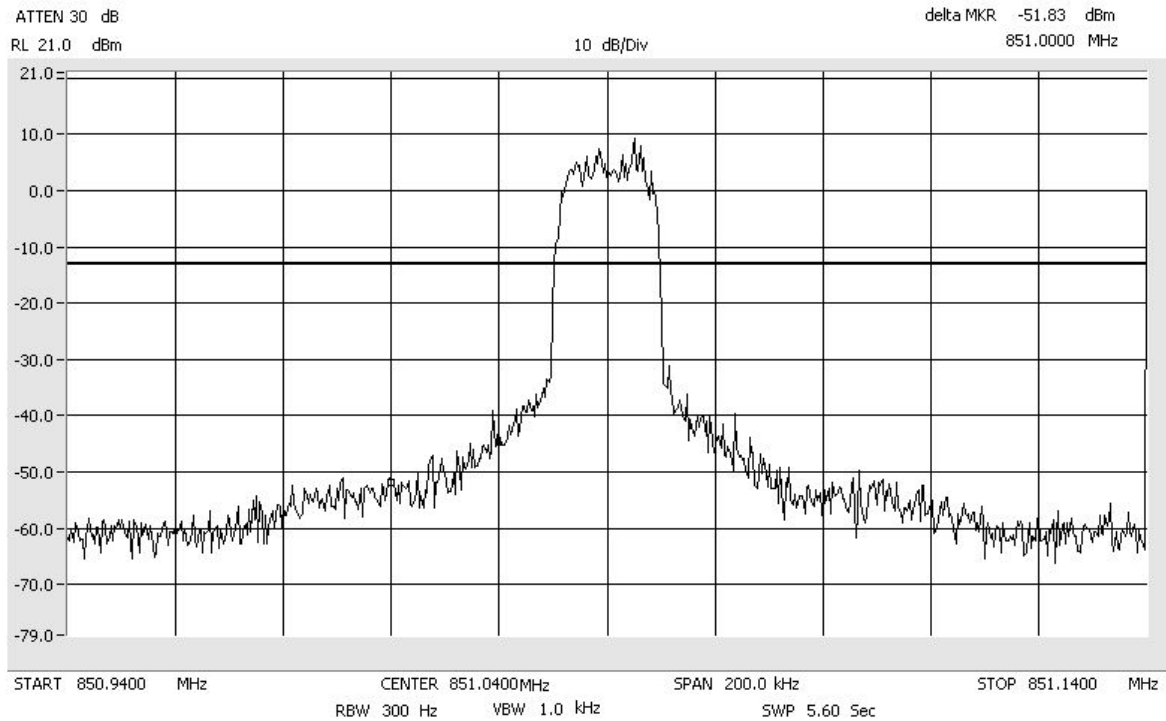
Band_Edge
Center: 868.92 MHz Span: 200 kHz

FM
RBW: 300 Hz VBW: 1 kHz



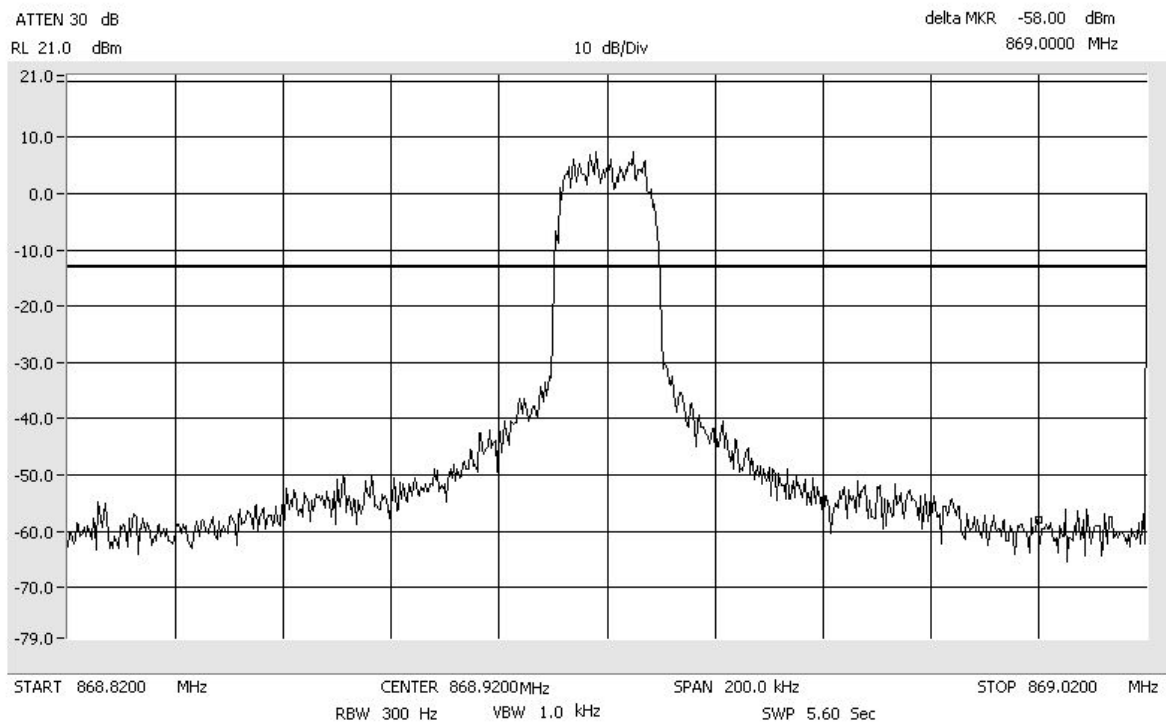
Band_Edge
Center: 851.04 MHz Span: 200 kHz

iDEN
RBW: 300 Hz VBW: 1 kHz



Band_Edge
Center: 868.92 MHz Span: 200 kHz

iDEN
RBW: 300 Hz VBW: 1 kHz



7.2 Conducted Output Power Test

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*Note: The EUT is a fixed repeater and not a base station.

This measurement was made as a direct conducted emission measurement. The output from the EUT antenna connector was connected to the power meter. The carrier output, below, was conducted using a single APCO25_C4FM, APCO25_CQPSK, FM and iDEN signal generator. The power meter level was offset to compensate for attenuators and cable loss between the EUT and the power meter.

A signal was used at the low, mid and high parts of the selected band. The power meter level was offset by 39.8 dB to compensate for attenuators and cable loss between the EUT and the power meter.

APCO25 C4FM		0.163 mWatts	APCO25 CQPSK		0.163 mWatts
Carrier Frequency	Carrier Output		Carrier Frequency	Carrier Output	
806.2 MHz	<u>-17.94</u> dBm		806.2 MHz	<u>-18.13</u> dBm	
815.0 MHz	<u>-18.13</u> dBm		815.0 MHz	<u>-17.87</u> dBm	
823.8 MHz	<u>-17.88</u> dBm		823.8 MHz	<u>-17.88</u> dBm	
FM		0.0184 mWatts	iDEN		0.0169 mWatts
Carrier Frequency	Carrier Output		Carrier Frequency	Carrier Output	
806.2 MHz	<u>-18.23</u> dBm		806.2 MHz	<u>-18.06</u> dBm	
815.0 MHz	<u>-17.34</u> dBm		815.0 MHz	<u>-17.89</u> dBm	
823.8 MHz	<u>-17.99</u> dBm		823.8 MHz	<u>-17.73</u> dBm	

APCO25 C4FM		385.48 mWatts	APCO25 CQPSK		397.19 mWatts
Carrier Frequency	Carrier Output		Carrier Frequency	Carrier Output	
851.2 MHz	<u>25.86</u> dBm		851.2 MHz	<u>25.99</u> dBm	
860.0 MHz	<u>25.23</u> dBm		860.0 MHz	<u>25.17</u> dBm	
868.8 MHz	<u>25.69</u> dBm		868.8 MHz	<u>25.20</u> dBm	
FM		386.36 mWatts	iDEN		349.14 mWatts
Carrier Frequency	Carrier Output		Carrier Frequency	Carrier Output	
851.2 MHz	<u>25.67</u> dBm		851.2 MHz	<u>25.43</u> dBm	
860.0 MHz	<u>25.35</u> dBm		860.0 MHz	<u>25.29</u> dBm	
868.8 MHz	<u>25.87</u> dBm		868.8 MHz	<u>25.13</u> dBm	

7.3 Frequency Stability Test

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Host/Expansion	RAU			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
100 VAC	45.9 VDC	806.200 MHz	806.200 MHz	Yes
170 VAC	54 VDC	806.200 MHz	806.200 MHz	Yes
240 VAC	62.1 VDC	806.200 MHz	806.200 MHz	Yes
100 VAC	45.9 VDC	815.000 MHz	815.000 MHz	Yes
170 VAC	54 VDC	815.000 MHz	815.000 MHz	Yes
240 VAC	62.1 VDC	815.000 MHz	815.000 MHz	Yes
100 VAC	45.9 VDC	823.800 MHz	823.800 MHz	Yes
170 VAC	54 VDC	823.800 MHz	823.800 MHz	Yes
240 VAC	62.1 VDC	823.800 MHz	823.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-25 Deg. C		806.200 MHz	806.200 MHz	Yes
-20 Deg. C		806.200 MHz	806.200 MHz	Yes
-10 Deg. C		806.200 MHz	806.200 MHz	Yes
0 Deg. C		806.200 MHz	806.200 MHz	Yes
10 Deg. C		806.200 MHz	806.200 MHz	Yes
20 Deg. C		806.200 MHz	806.200 MHz	Yes
30 Deg. C		806.200 MHz	806.200 MHz	Yes
40 Deg. C		806.200 MHz	806.200 MHz	Yes
45 Deg. C		806.200 MHz	806.200 MHz	Yes
-25 Deg. C		815.000 MHz	815.000 MHz	Yes
-20 Deg. C		815.000 MHz	815.000 MHz	Yes
-10 Deg. C		815.000 MHz	815.000 MHz	Yes
0 Deg. C		815.000 MHz	815.000 MHz	Yes
10 Deg. C		815.000 MHz	815.000 MHz	Yes
20 Deg. C		815.000 MHz	815.000 MHz	Yes
30 Deg. C		815.000 MHz	815.000 MHz	Yes
40 Deg. C		815.000 MHz	815.000 MHz	Yes
45 Deg. C		815.000 MHz	815.000 MHz	Yes
-25 Deg. C		823.800 MHz	823.800 MHz	Yes
-20 Deg. C		823.800 MHz	823.800 MHz	Yes
-10 Deg. C		823.800 MHz	823.800 MHz	Yes
0 Deg. C		823.800 MHz	823.800 MHz	Yes
10 Deg. C		823.800 MHz	823.800 MHz	Yes
20 Deg. C		823.800 MHz	823.800 MHz	Yes
30 Deg. C		823.800 MHz	823.800 MHz	Yes
40 Deg. C		823.800 MHz	823.800 MHz	Yes
45 Deg. C		823.800 MHz	823.800 MHz	Yes

Host/Expansion	RAU			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
100 VAC	45.9 VDC	851.200 MHz	851.200 MHz	Yes
170 VAC	54 VDC	851.200 MHz	851.200 MHz	Yes
240 VAC	62.1 VDC	851.200 MHz	851.200 MHz	Yes
100 VAC	45.9 VDC	860.000 MHz	860.000 MHz	Yes
170 VAC	54 VDC	860.000 MHz	860.000 MHz	Yes
240 VAC	62.1 VDC	860.000 MHz	860.000 MHz	Yes
100 VAC	45.9 VDC	868.800 MHz	868.800 MHz	Yes
170 VAC	54 VDC	868.800 MHz	868.800 MHz	Yes
240 VAC	62.1 VDC	868.800 MHz	868.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-25 Deg. C		851.200 MHz	851.200 MHz	Yes
-20 Deg. C		851.200 MHz	851.200 MHz	Yes
-10 Deg. C		851.200 MHz	851.200 MHz	Yes
0 Deg. C		851.200 MHz	851.200 MHz	Yes
10 Deg. C		851.200 MHz	851.200 MHz	Yes
20 Deg. C		851.200 MHz	851.200 MHz	Yes
30 Deg. C		851.200 MHz	851.200 MHz	Yes
40 Deg. C		851.200 MHz	851.200 MHz	Yes
45 Deg. C		851.200 MHz	851.200 MHz	Yes
-25 Deg. C		860.000 MHz	860.000 MHz	Yes
-20 Deg. C		860.000 MHz	860.000 MHz	Yes
-10 Deg. C		860.000 MHz	860.000 MHz	Yes
0 Deg. C		860.000 MHz	860.000 MHz	Yes
10 Deg. C		860.000 MHz	860.000 MHz	Yes
20 Deg. C		860.000 MHz	860.000 MHz	Yes
30 Deg. C		860.000 MHz	860.000 MHz	Yes
40 Deg. C		860.000 MHz	860.000 MHz	Yes
45 Deg. C		860.000 MHz	860.000 MHz	Yes
-25 Deg. C		868.800 MHz	868.800 MHz	Yes
-20 Deg. C		868.800 MHz	868.800 MHz	Yes
-10 Deg. C		868.800 MHz	868.800 MHz	Yes
0 Deg. C		868.800 MHz	868.800 MHz	Yes
10 Deg. C		868.800 MHz	868.800 MHz	Yes
20 Deg. C		868.800 MHz	868.800 MHz	Yes
30 Deg. C		868.800 MHz	868.800 MHz	Yes
40 Deg. C		868.800 MHz	868.800 MHz	Yes
45 Deg. C		868.800 MHz	868.800 MHz	Yes

7.4 Intermodulation Test

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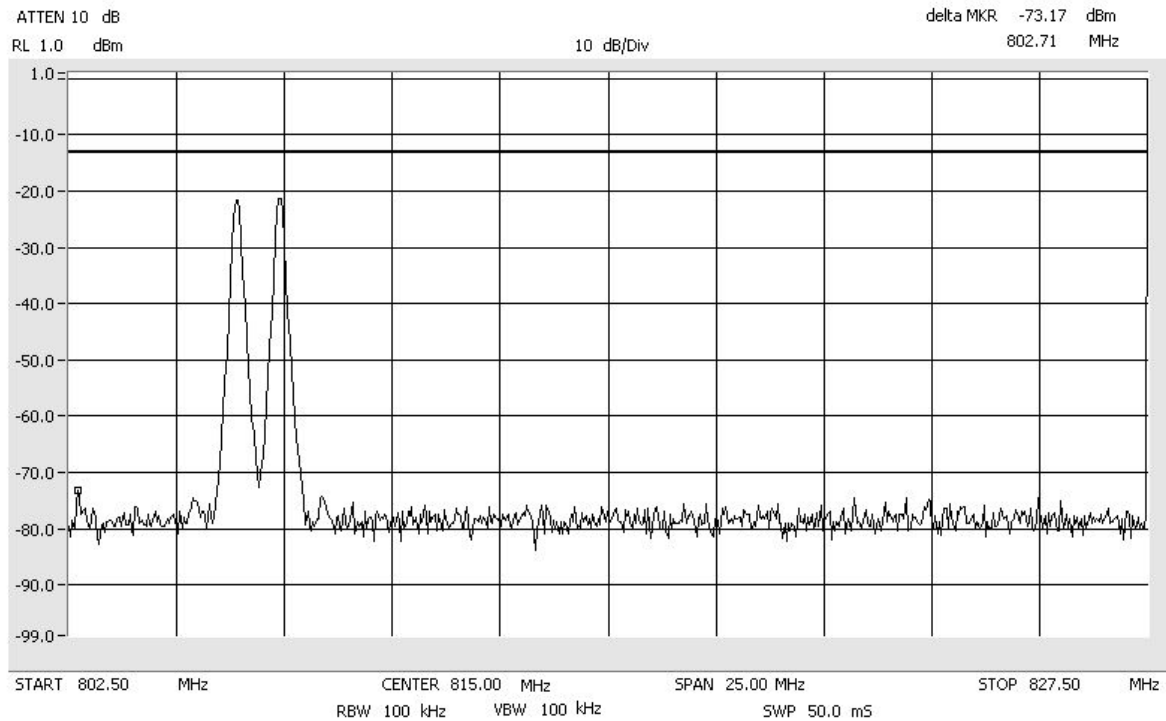
The inter-modulation products test was performed for the EUT. Three tests were performed with the modulation type. Test 1 was with 2 signals input to the EUT at lower end channels. Test 2 was with 2 signals input to the EUT at upper end channels. Test 3 was with 2 signals input to the EUT at upper and lower end channels. The modulation types tested were APCO25_C4FM, APCO25_CQPSK, FM and iDEN. An investigation was made from 30 MHz to the 10th Harmonic of the highest fundamental frequency (~10 GHz). The following plots show the results.

Results:
(See Plots)

Intermodulation
Center: 815 MHz

APCO25_C4FM_Low
Span: 25 MHz

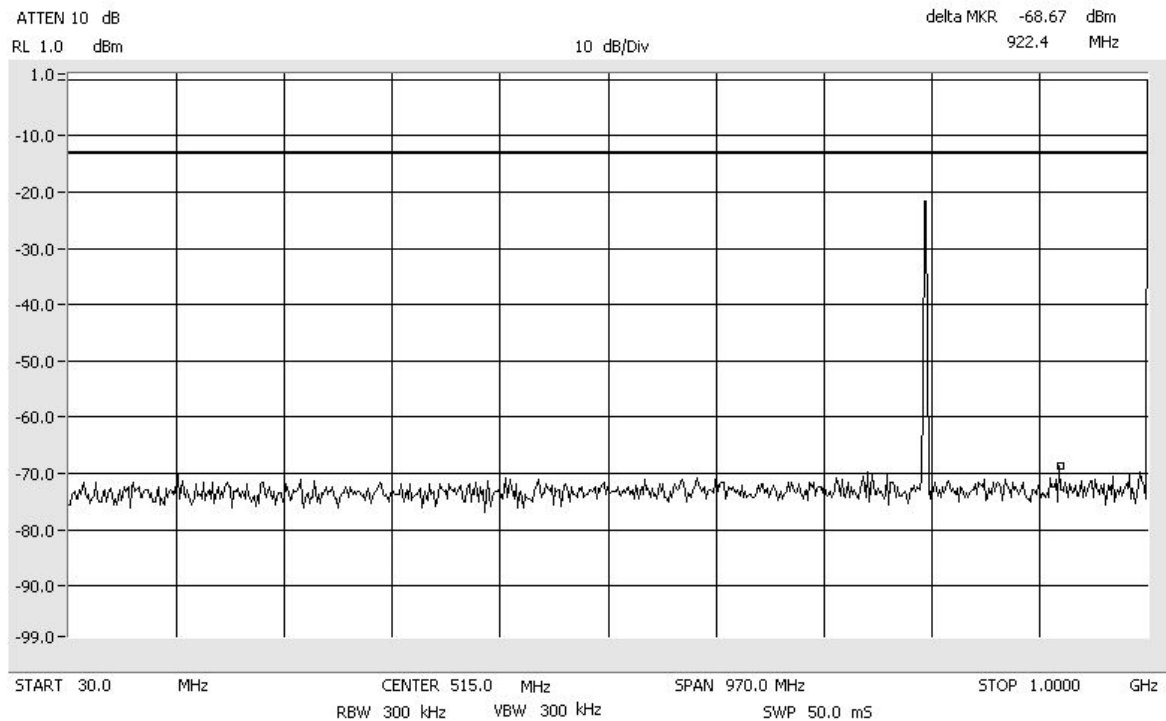
SMR_800_MHz
RBW/VBW: 100 kHz



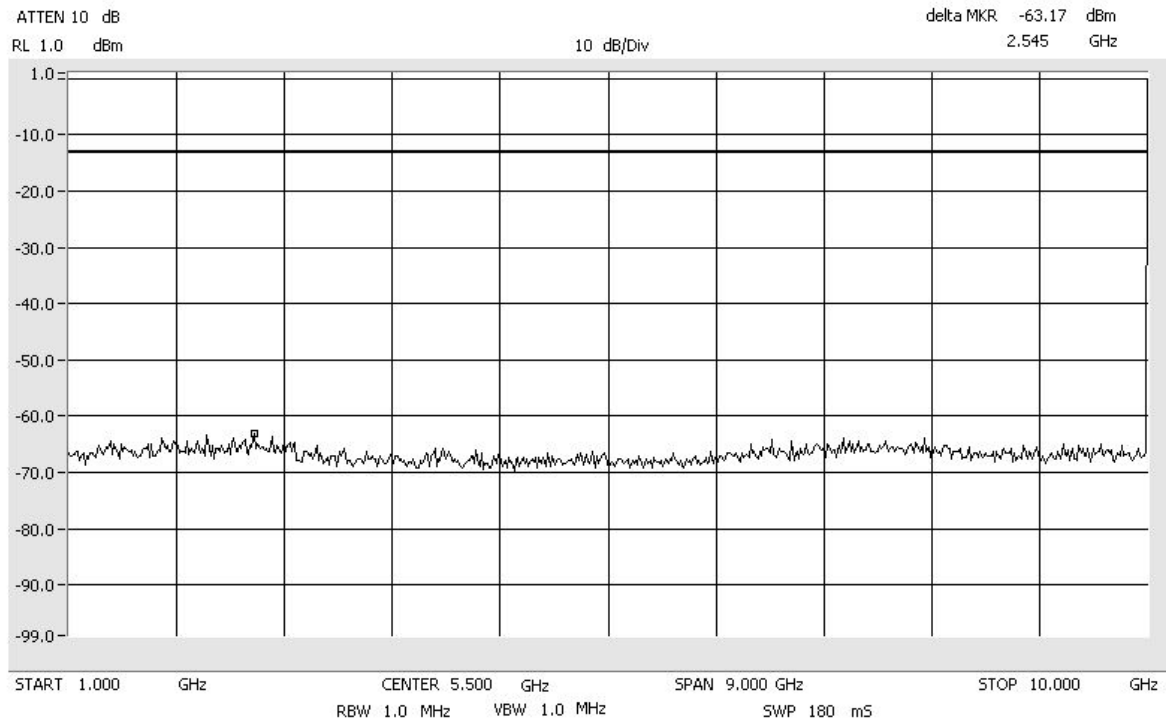
Intermodulation
Span: 30 MHz to 1 GHz

APCO25_C4FM_Low
RBW/VBW: 300 kHz

SMR_800_MHz



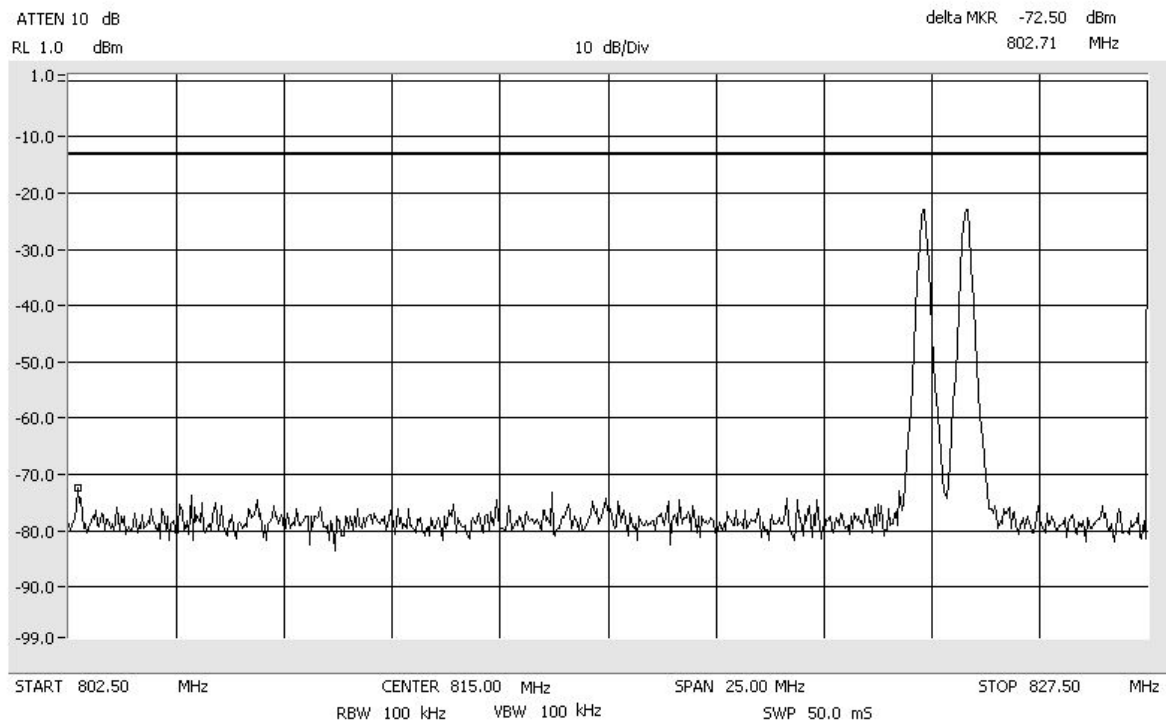
Intermodulation APCO25_C4FM_Low SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation
Center: 815 MHz

APCO25_C4FM_High
Span: 25 MHz

SMR_800_MHz
RBW/VBW: 100 kHz

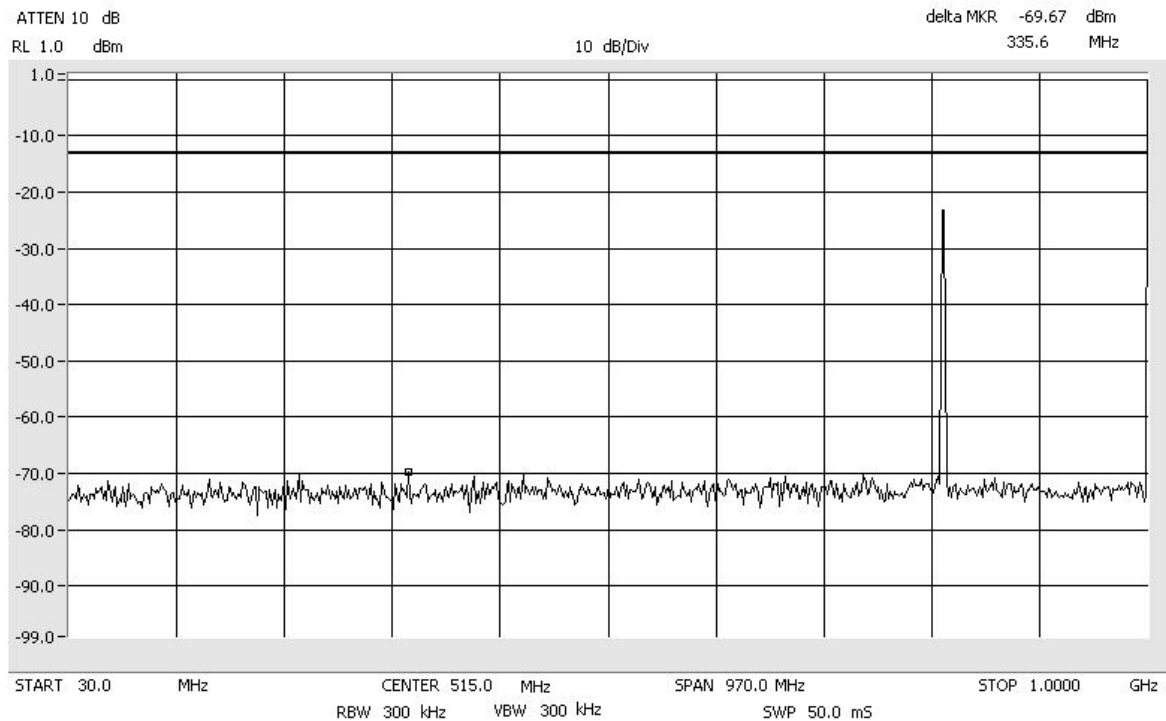


Intermodulation

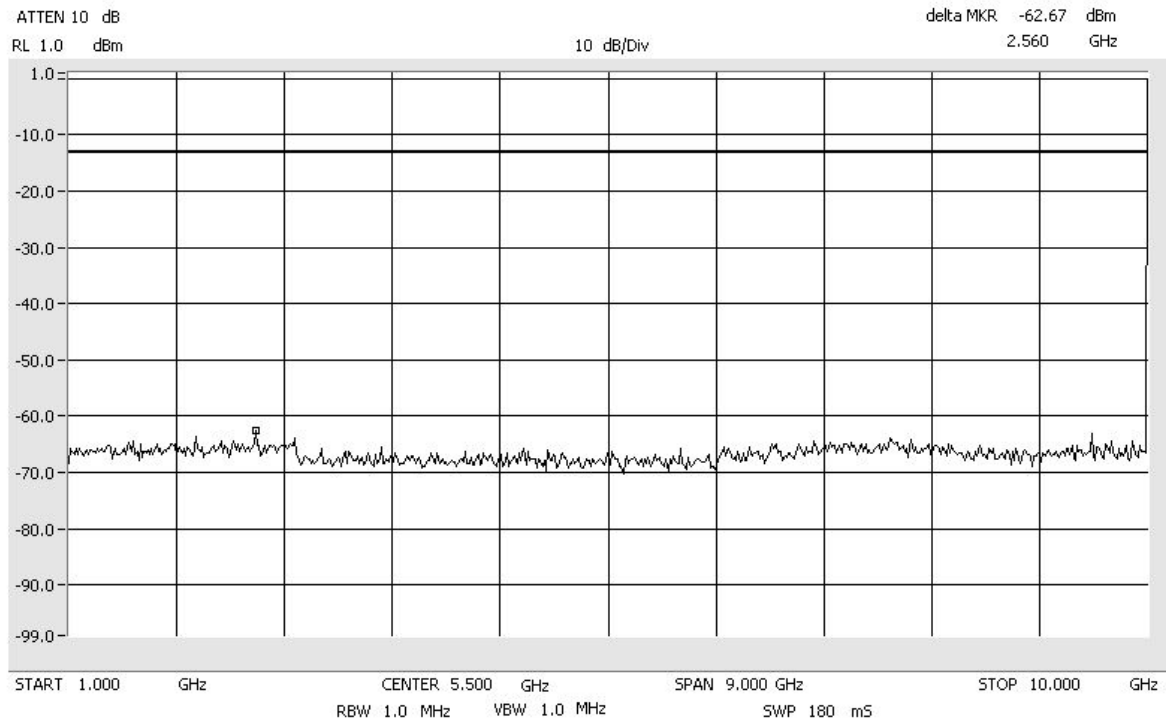
APCO25_C4FM_HighSMR_800_MHz

Span: 30 MHz to 1 GHz

RBW/VBW: 300 kHz



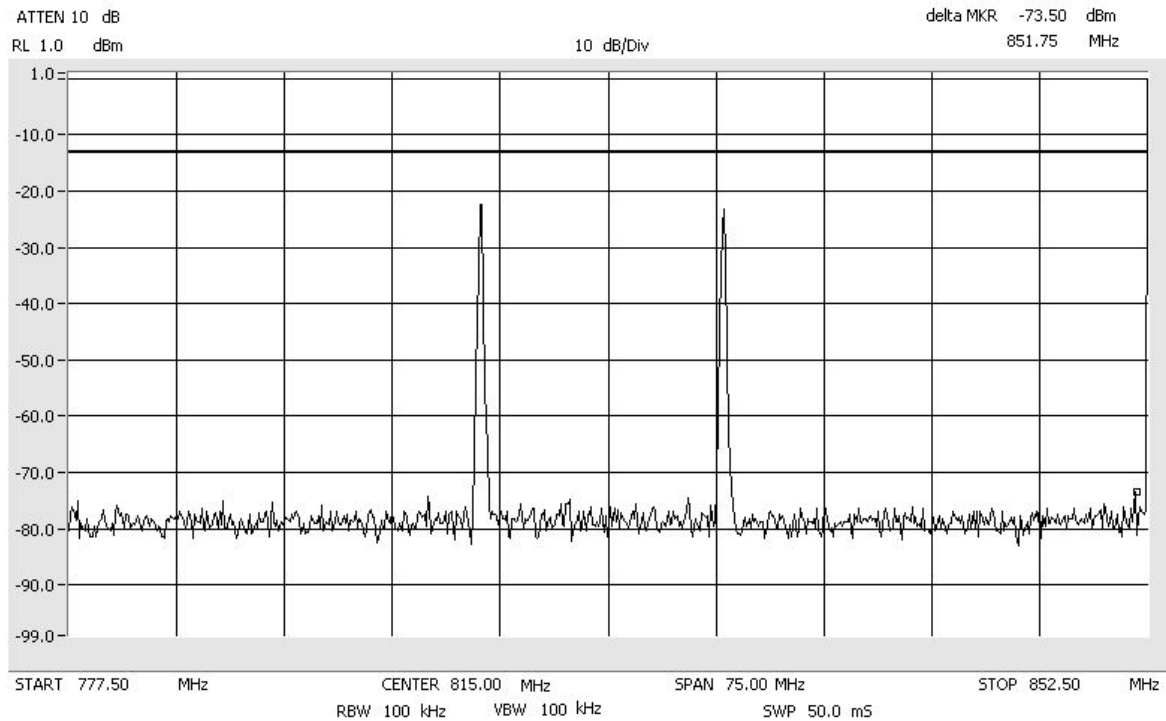
Intermodulation APCO25_C4FM_HighSMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation
Center: 815 MHz

APCO25_C4FM_Apart
Span: 75 MHz

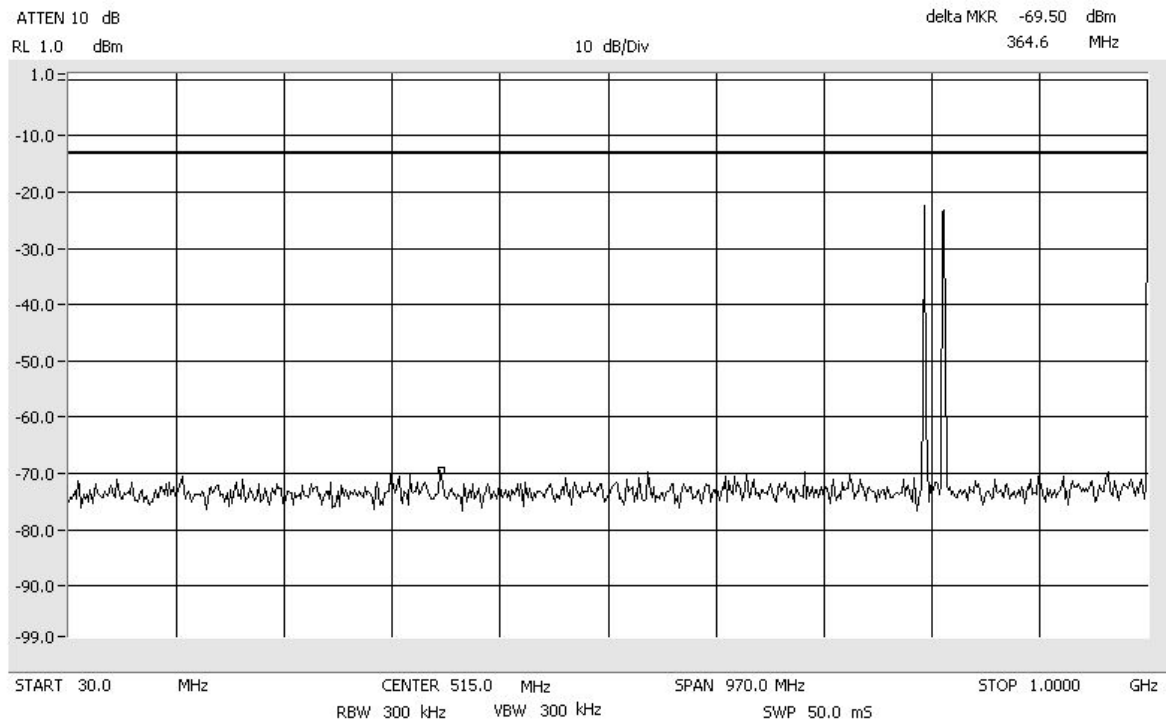
SMR_800_MHz
RBW/VBW: 100 kHz



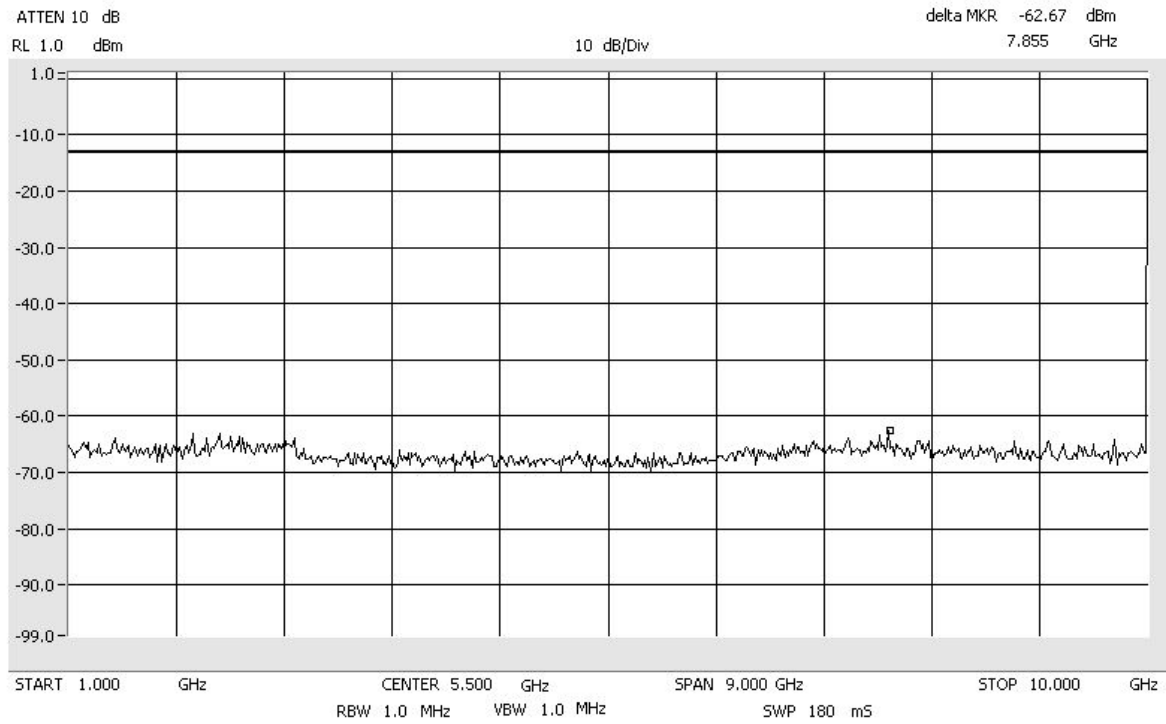
Intermodulation
Span: 30 MHz to 1 GHz

APCO25_C4FM_Apart
RBW/VBW: 300 kHz

SMR_800_MHz
RBW/VBW: 300 kHz



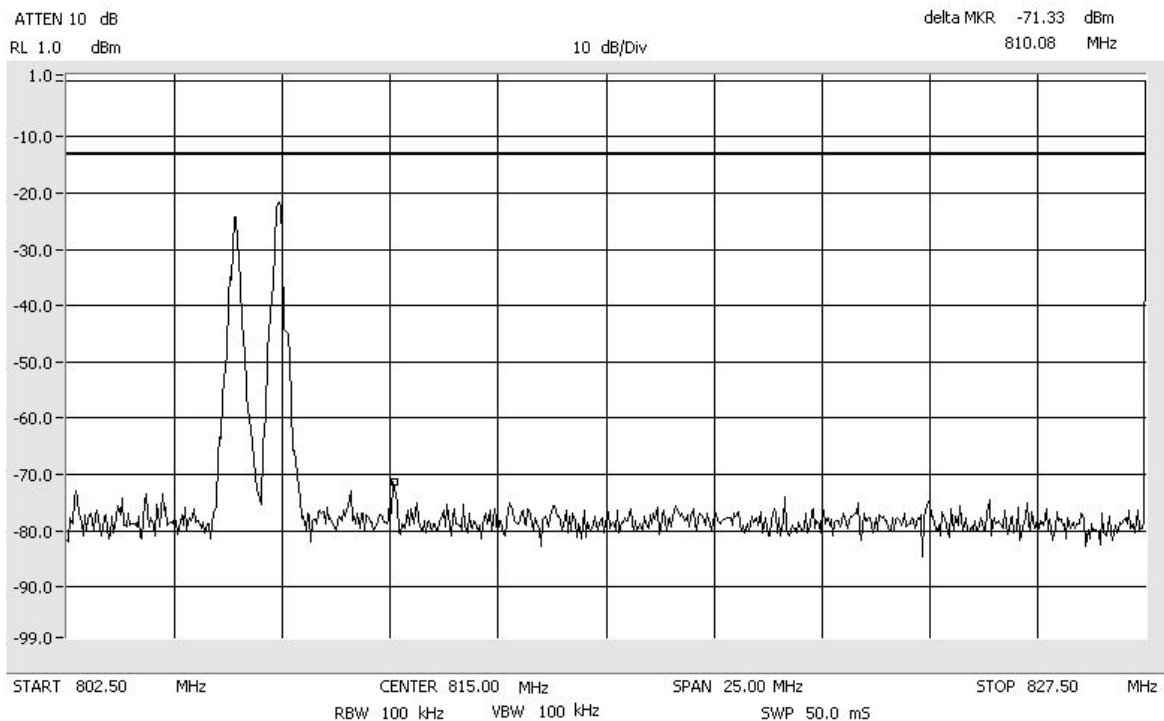
Intermodulation APCO25_C4FM_Apart SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation
Center: 815 MHz

APCO25_CQPSK_Low
Span: 25 MHz

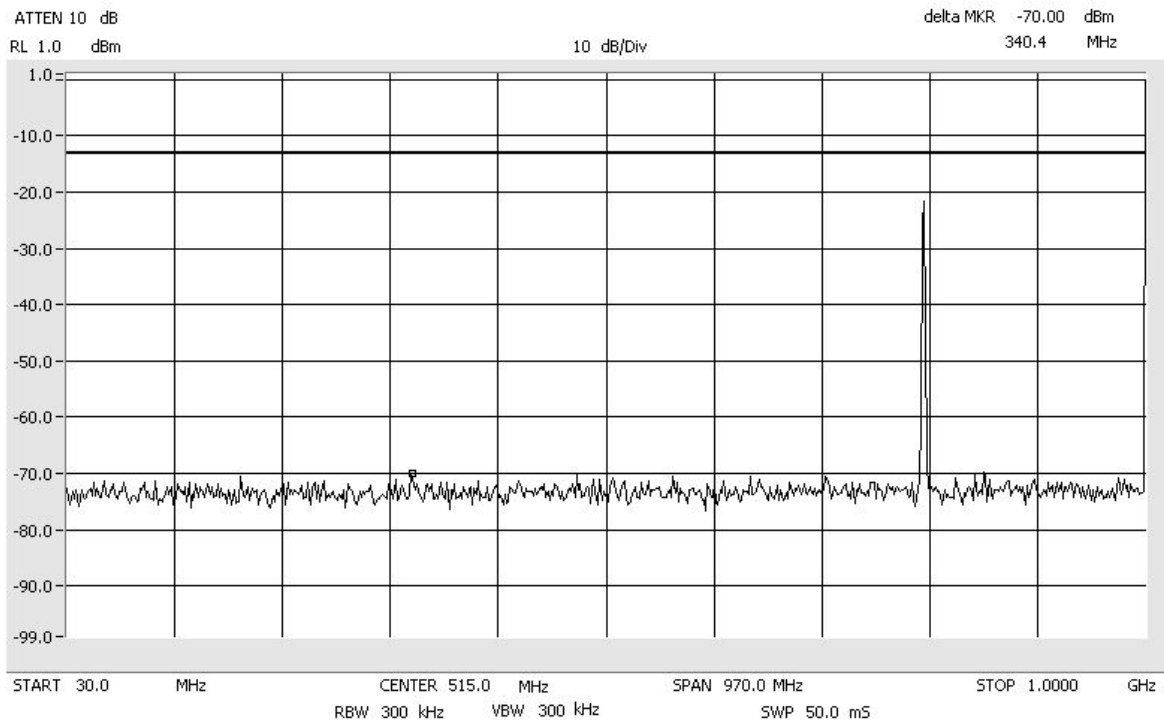
SMR_800_MHz
RBW/VBW: 100 kHz



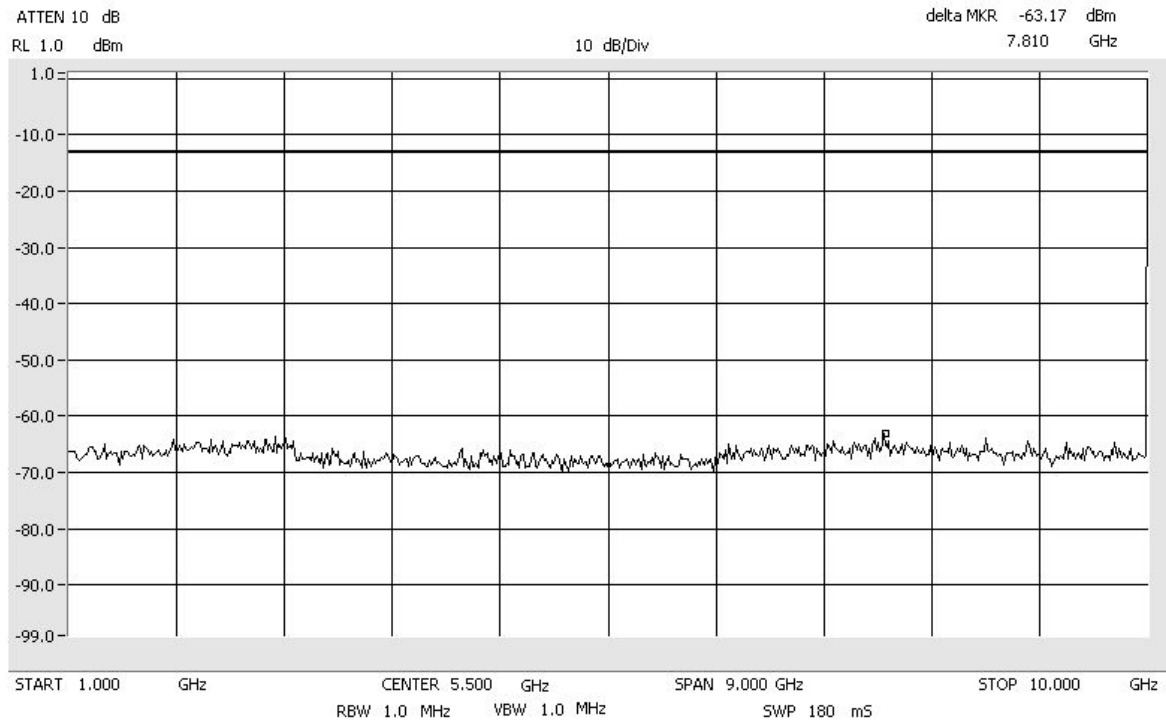
Intermodulation
Span: 30 MHz to 1 GHz

APCO25_CQPSK_LowSMR_800_MHz

RBW/VBW: 300 kHz



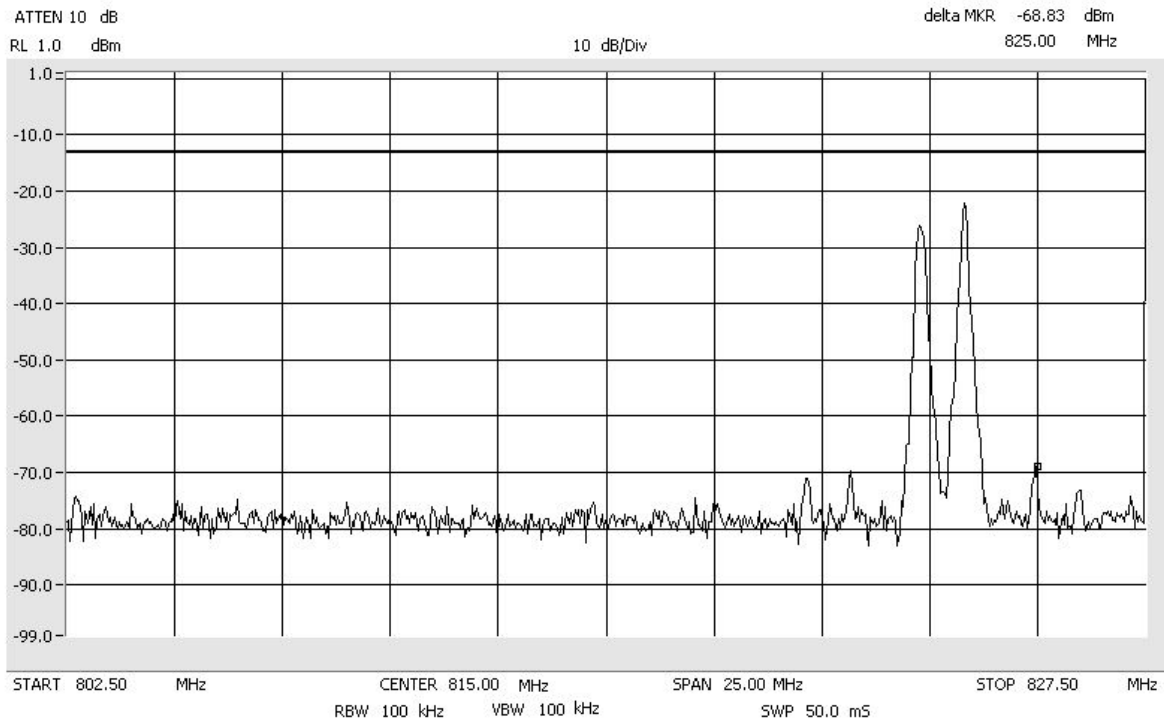
Intermodulation APCO25_CQPSK_LowSMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation
Center: 815 MHz

APCO25_CQPSK_High
Span: 25 MHz

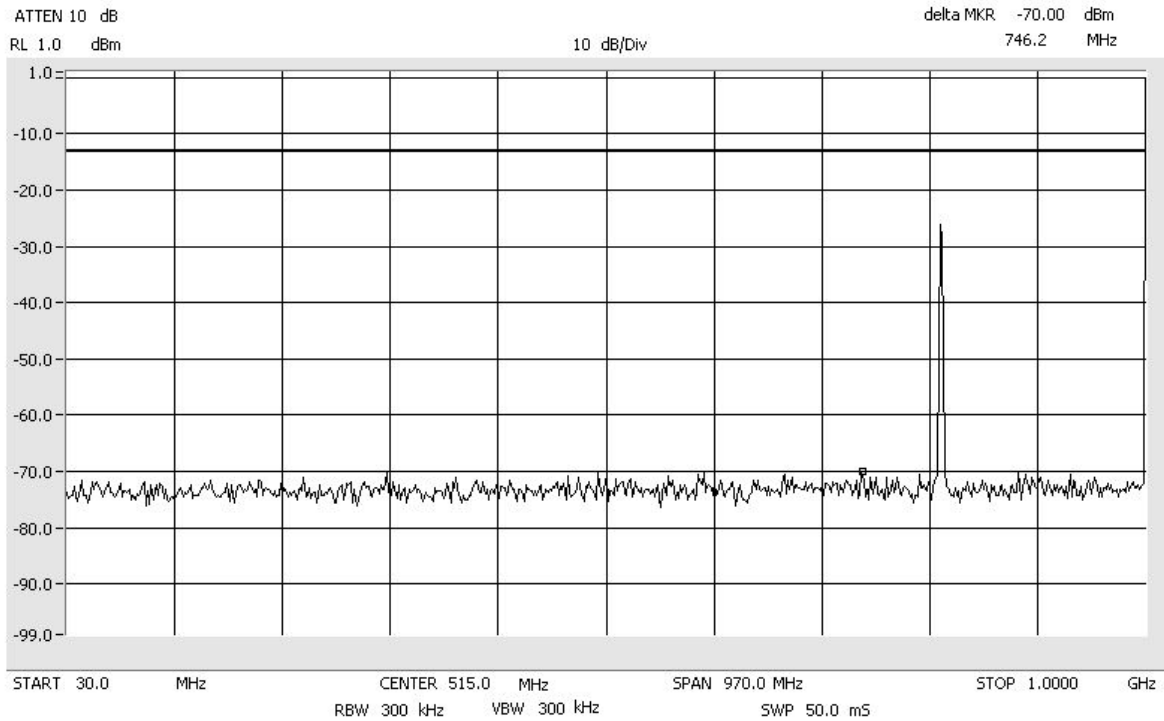
SMR_800_MHz
RBW/VBW: 100 kHz



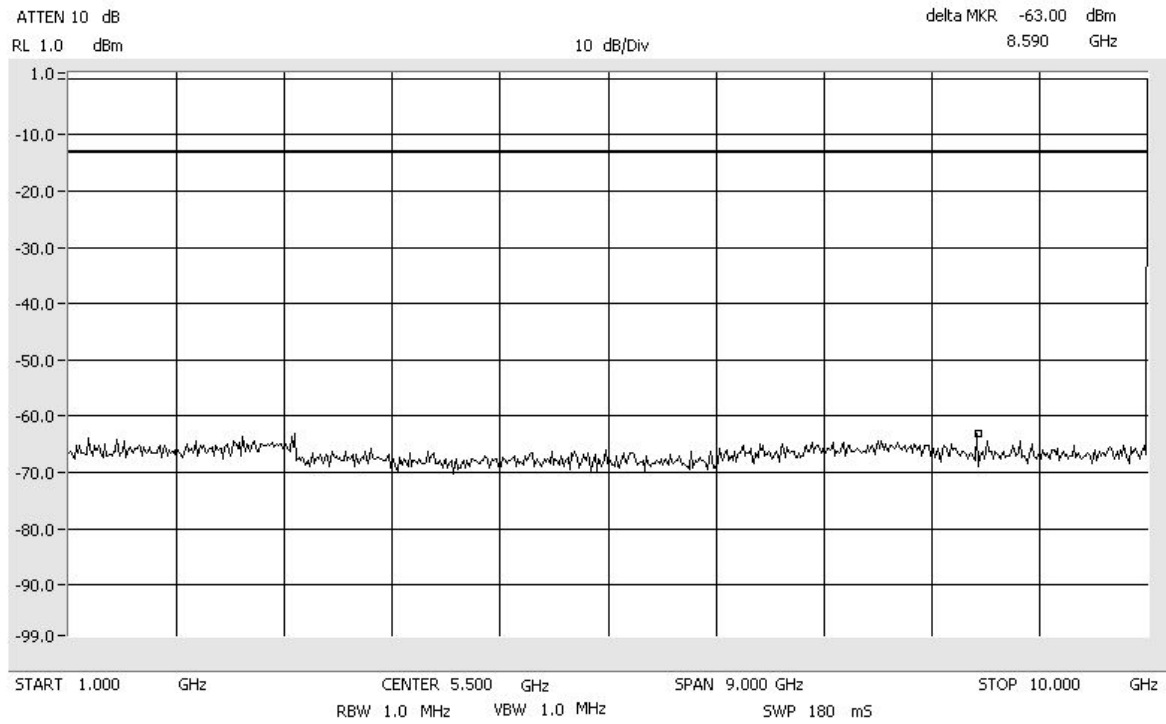
Intermodulation
Span: 30 MHz to 1 GHz

APCO25_CQPSK_High
RBW/VBW: 300 kHz

SMR_800_MHz
RBW/VBW: 300 kHz



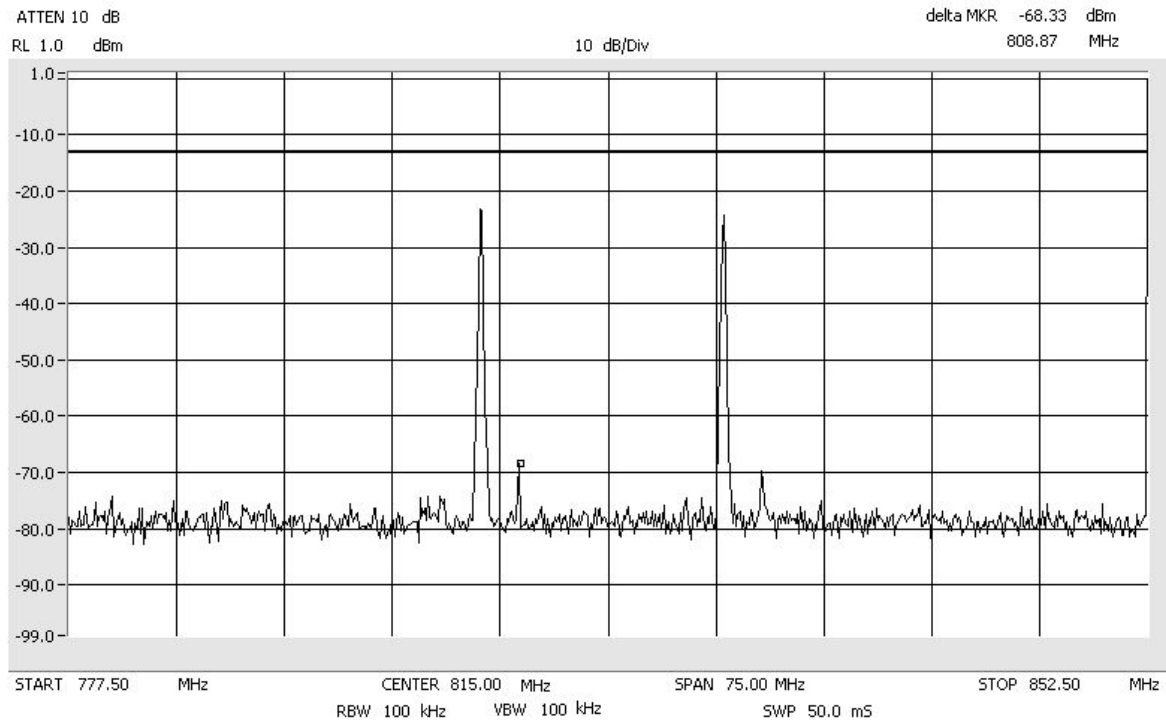
Intermodulation APCO25_CQPSK_High SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation
Center: 815 MHz

APCO25_CQPSK_Apart
Span: 75 MHz

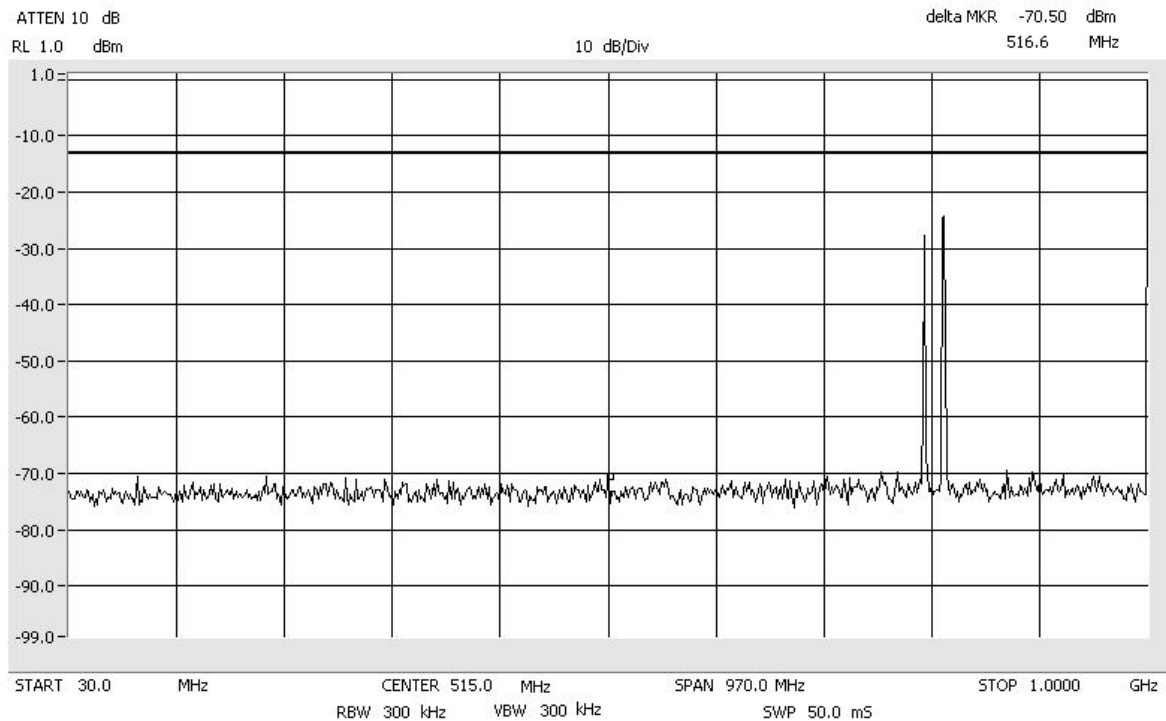
SMR_800_MHz
RBW/VBW: 100 kHz



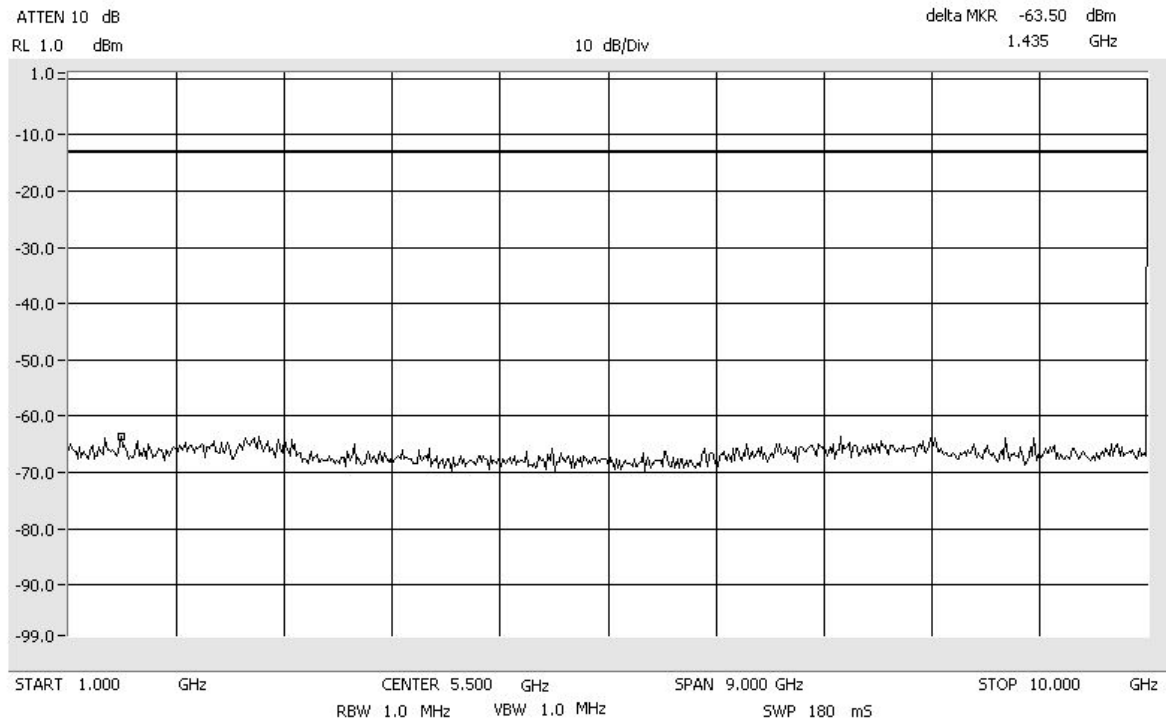
Intermodulation
Span: 30 MHz to 1 GHz

APCO25_CQPSK_Apart
RBW/VBW: 300 kHz

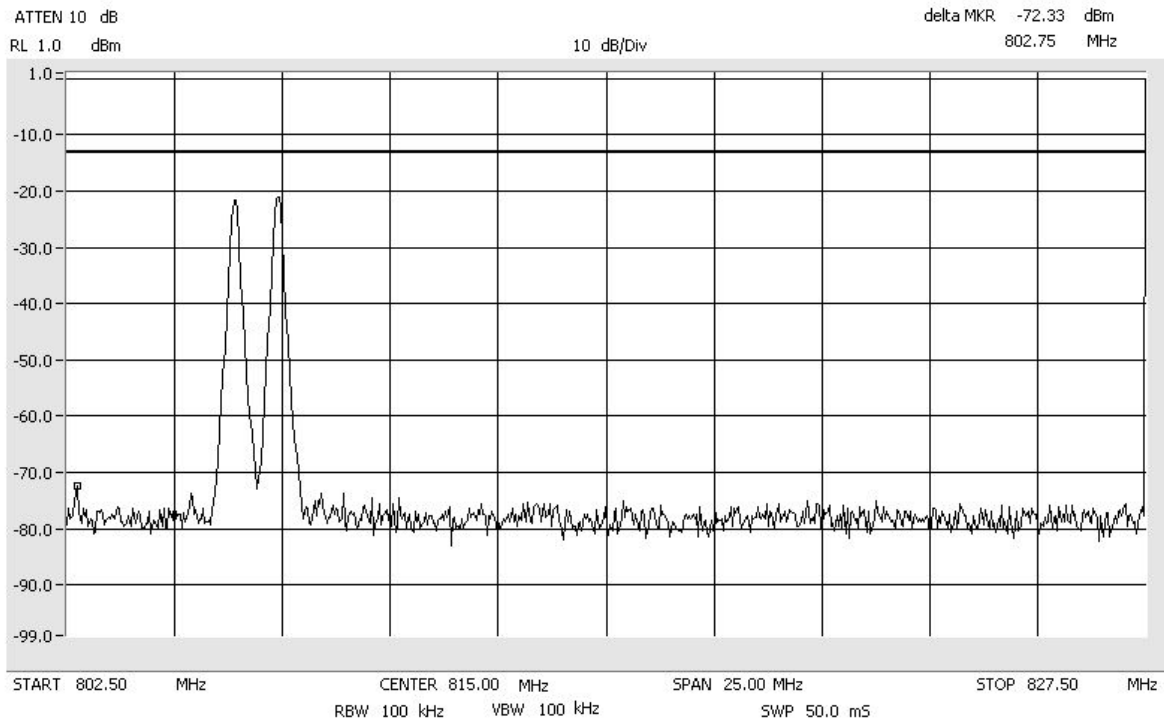
SMR_800_MHz
RBW/VBW: 300 kHz



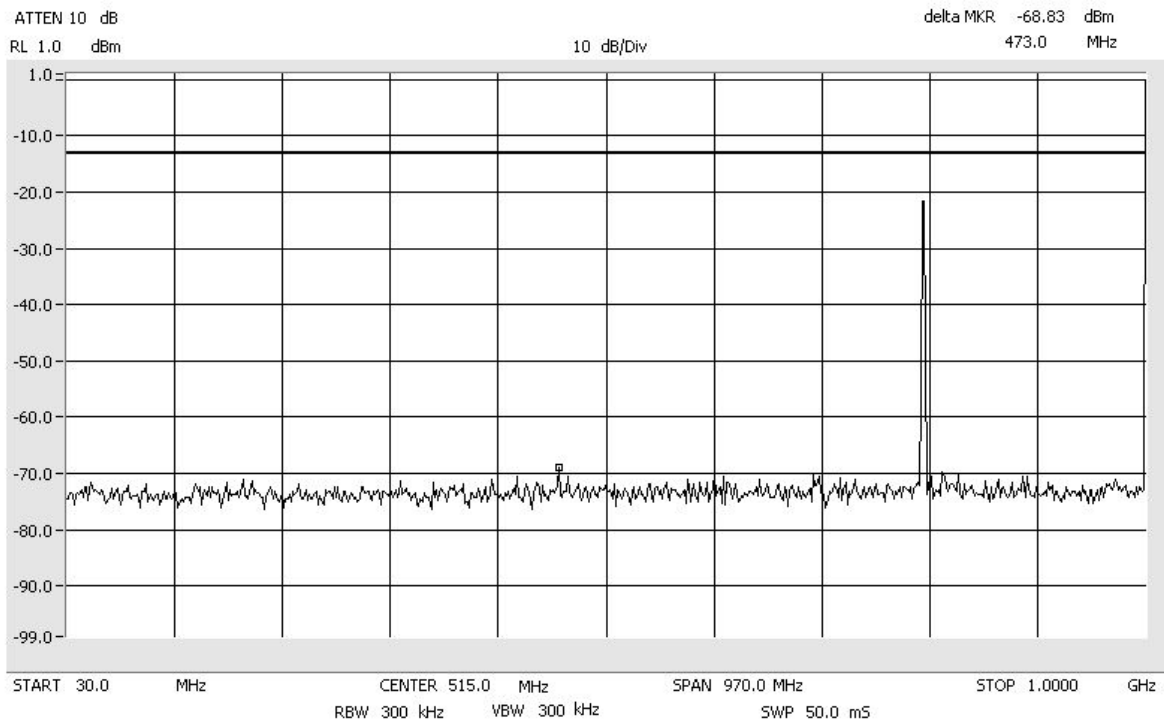
Intermodulation APCO25_CQPSK_Apart SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



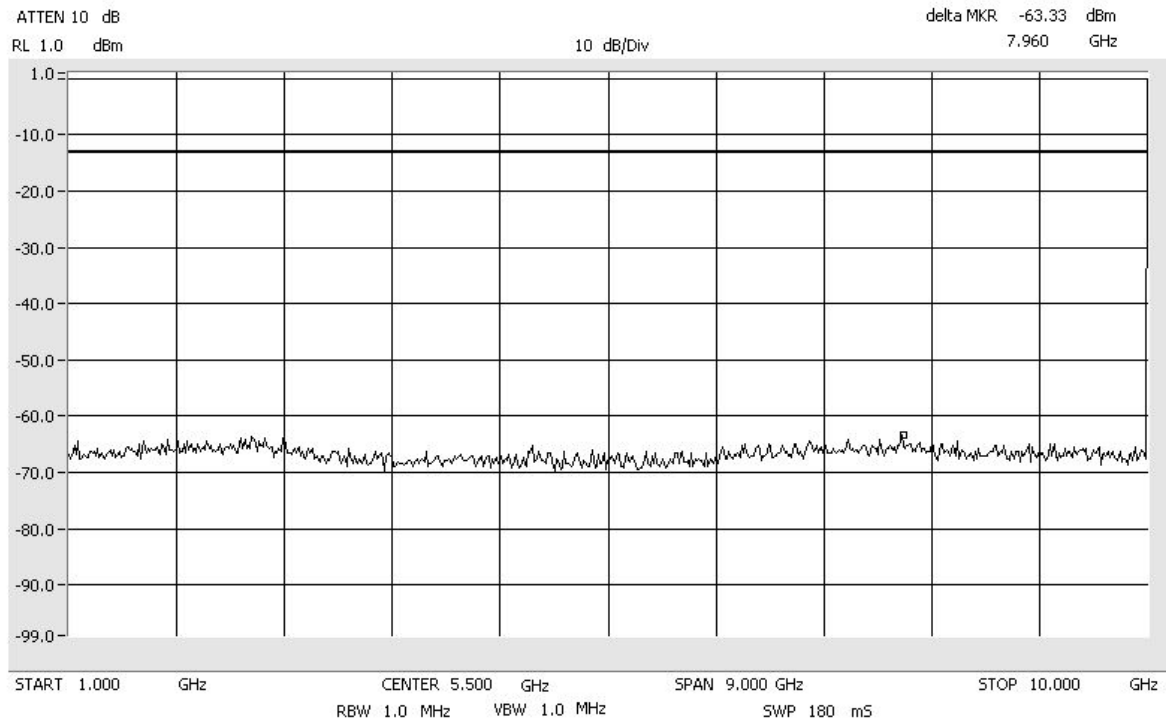
Intermodulation FM_Low SMR_800_MHz
Center: 815 MHz Span: 25 MHz RBW/VBW: 100 kHz



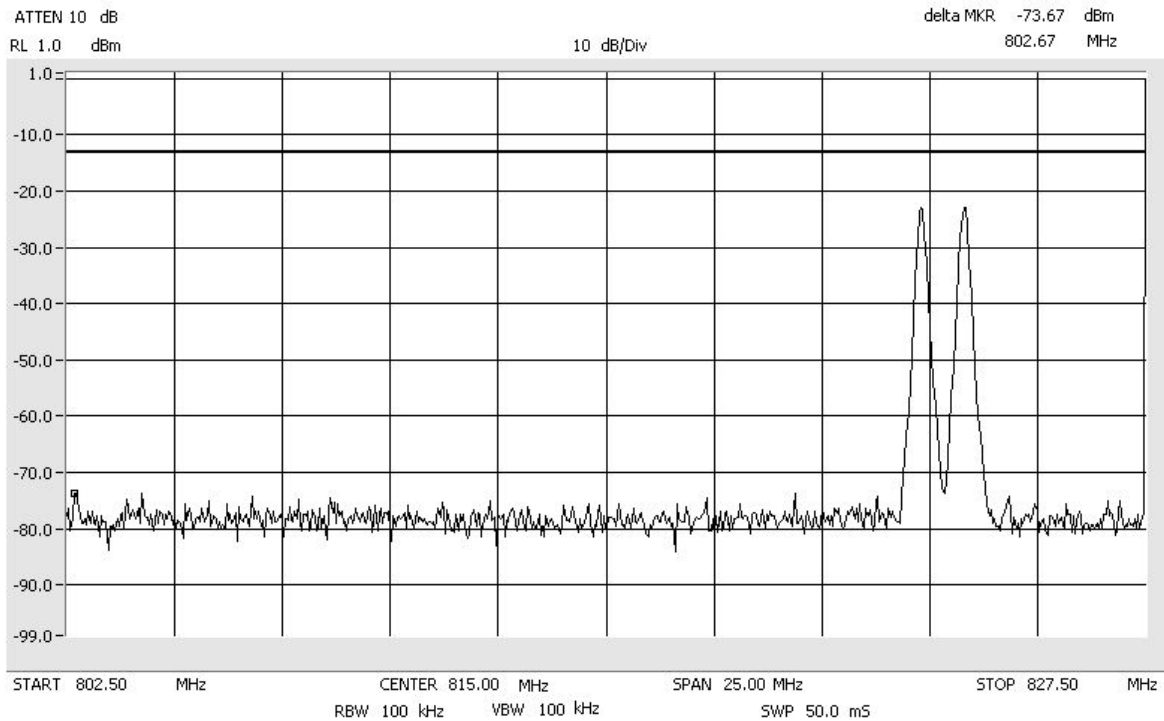
Intermodulation FM_Low SMR_800_MHz
Span: 30 MHz to 1 GHz RBW/VBW: 300 kHz



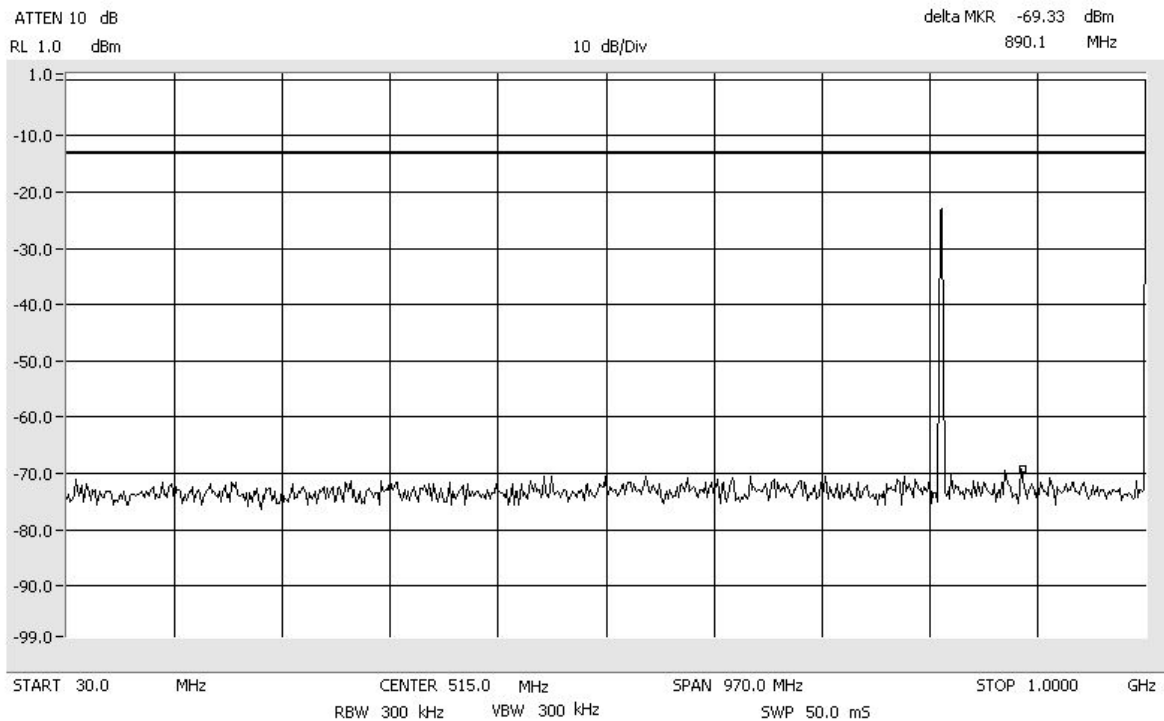
Intermodulation FM_Low SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



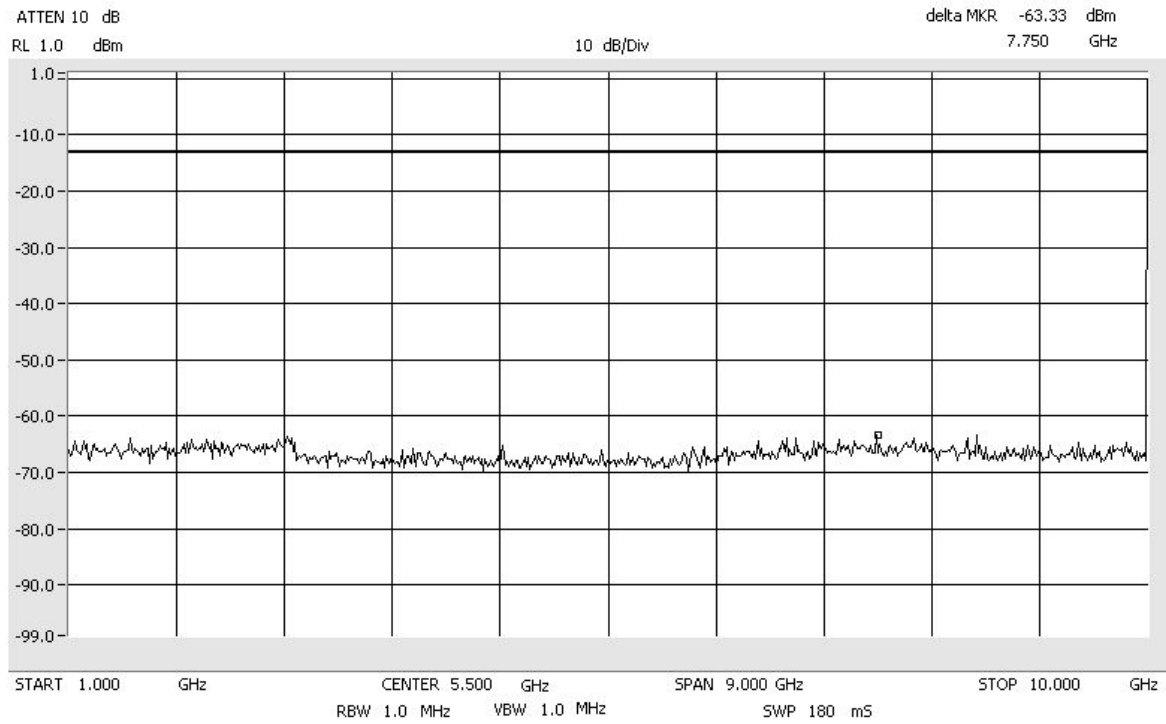
Intermodulation FM_High SMR_800_MHz
Center: 815 MHz Span: 25 MHz RBW/VBW: 100 kHz



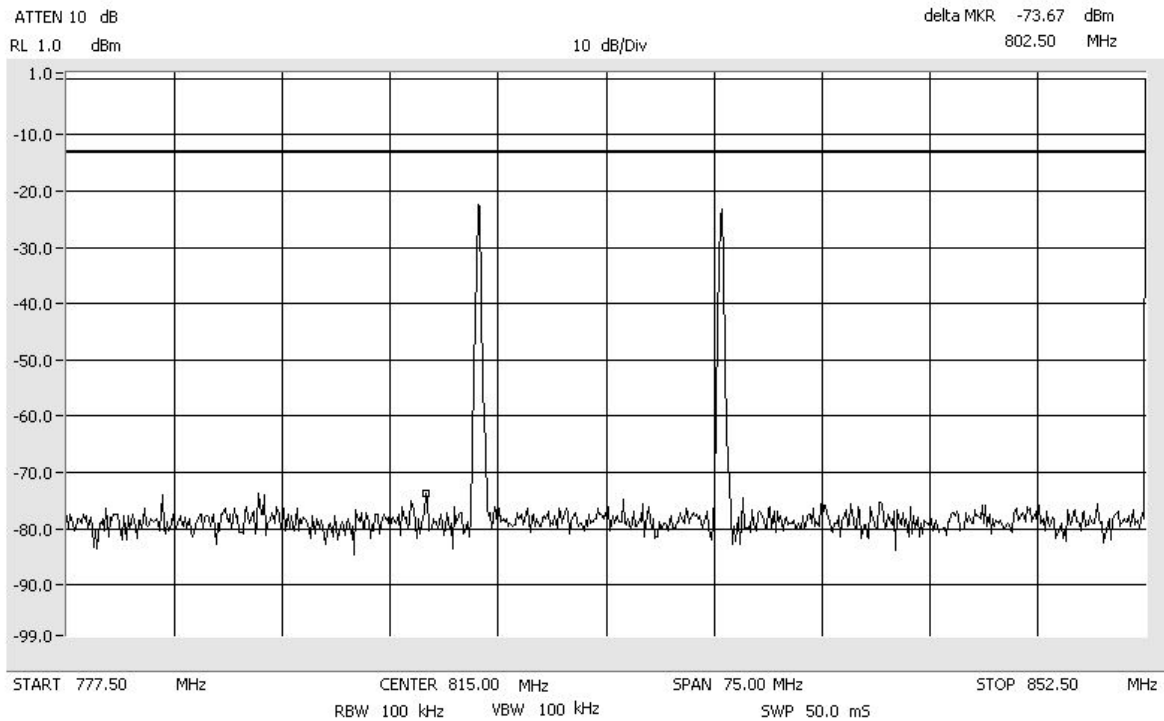
Intermodulation FM_High SMR_800_MHz
Span: 30 MHz to 1 GHz RBW/VBW: 300 kHz



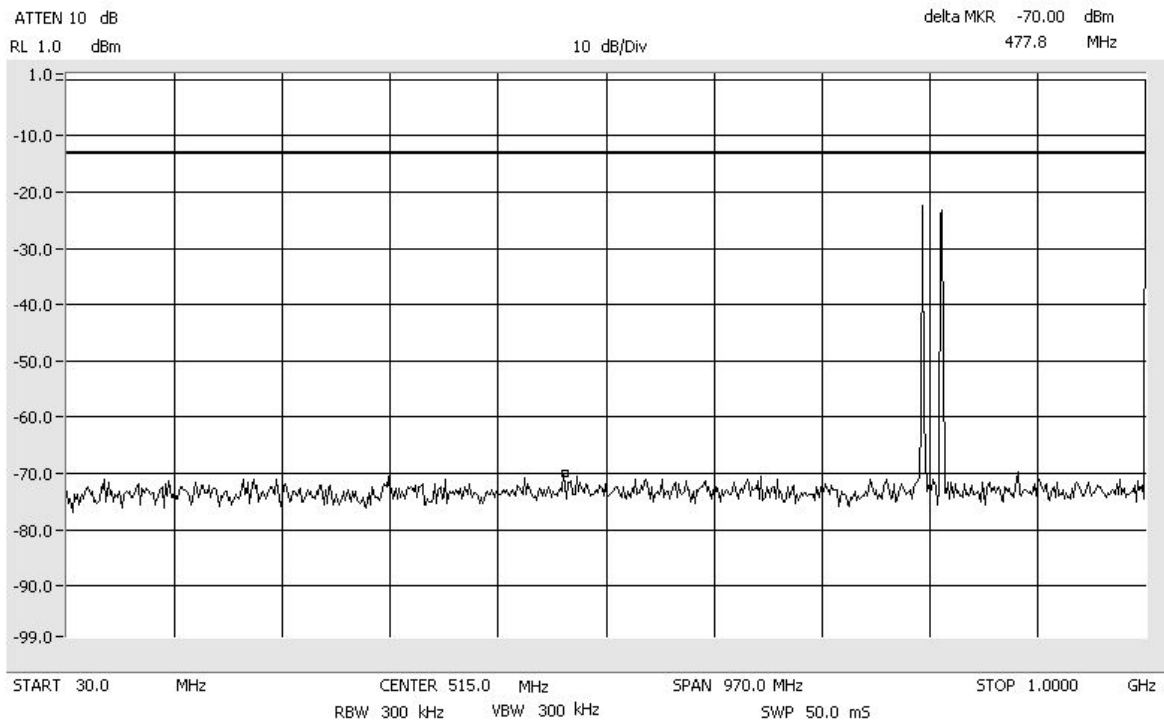
Intermodulation FM_High SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



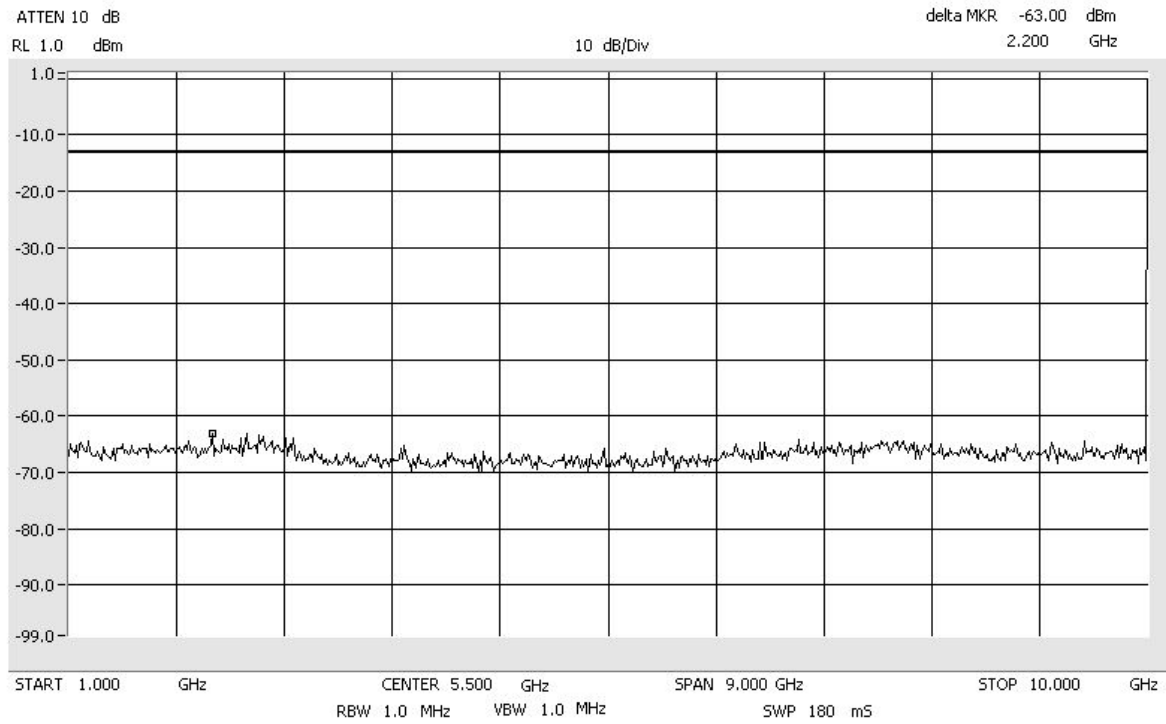
Intermodulation FM_Apart SMR_800_MHz
Center: 815 MHz Span: 75 MHz RBW/VBW: 100 kHz



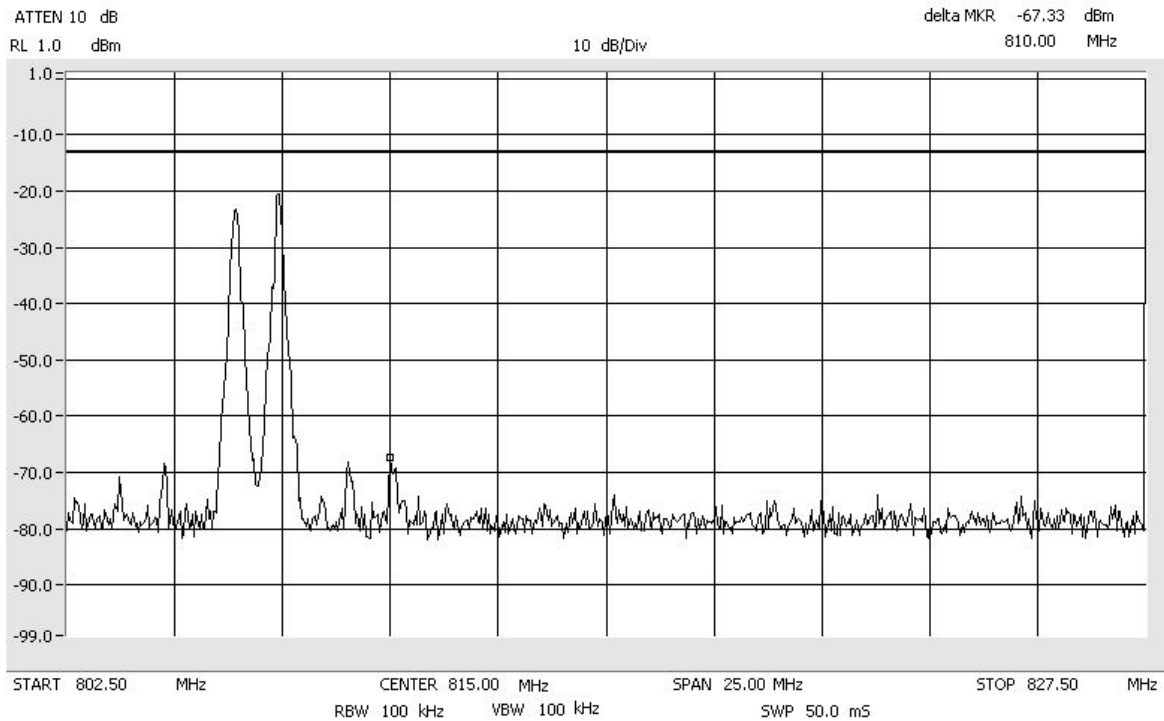
Intermodulation FM_Apart SMR_800_MHz
Span: 30 MHz to 1 GHz RBW/VBW: 300 kHz



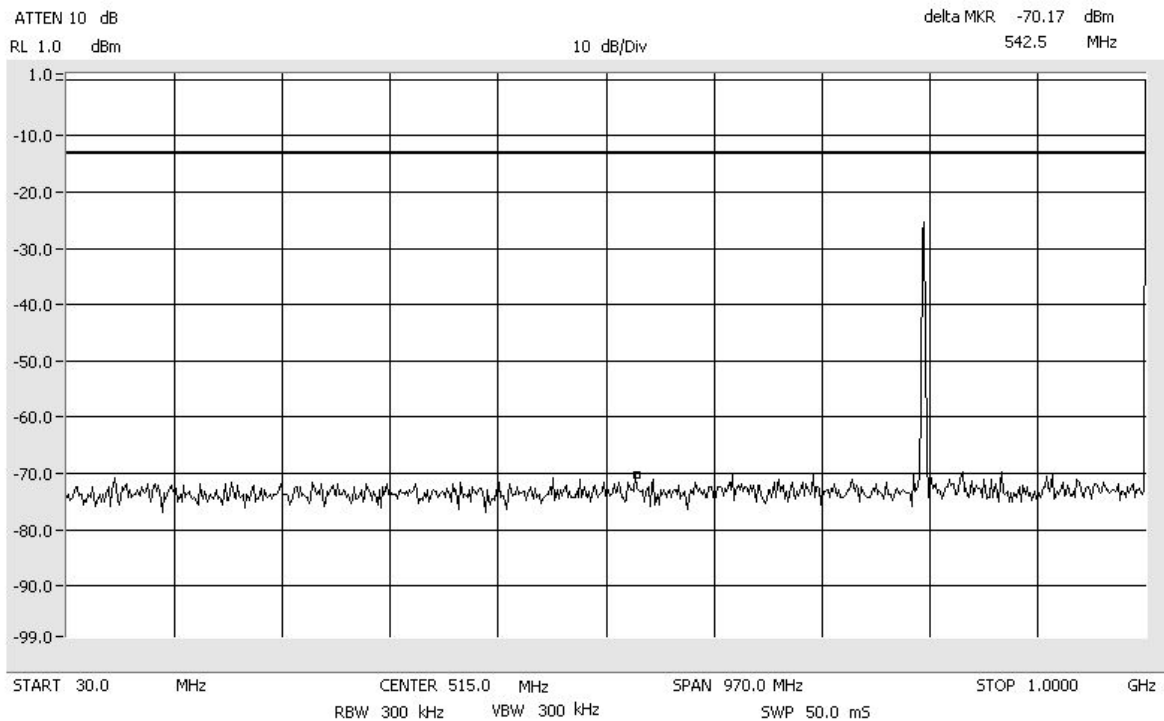
Intermodulation FM_Apart SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz



Intermodulation iDEN_Low SMR_800_MHz
Center: 815 MHz Span: 25 MHz RBW/VBW: 100 kHz



Intermodulation iDEN_Low SMR_800_MHz
Span: 30 MHz to 1 GHz RBW/VBW: 300 kHz



Intermodulation iDEN_Low SMR_800_MHz
Span: 1 GHz to 10 GHz RBW/VBW: 1 MHz

