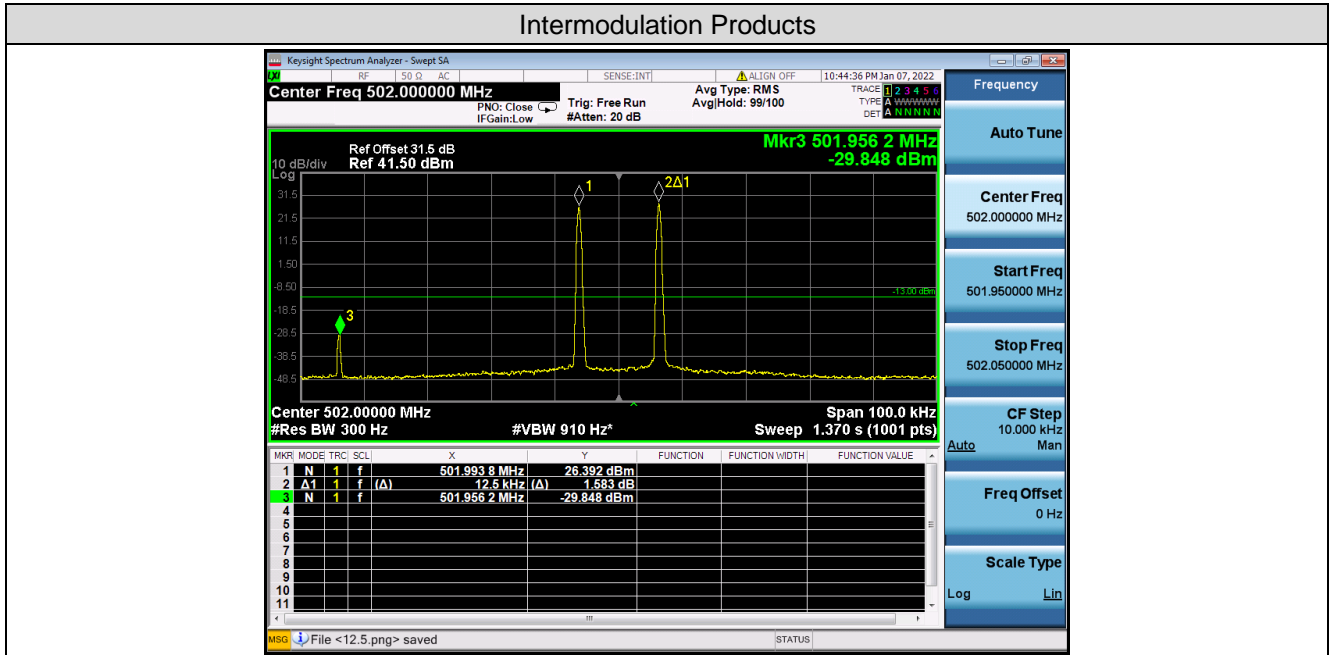


Appendix H - Noise

Test Data:



Remark:

According to the declaration from the application, the single antenna gain should not exceed 0dBi, the Directional gain = G(ANT) + 10\*log (NANT) dBi = 0dBi + 10\*log (1) dBi = 0dBi.

ERP = EIRP-2.15dB

The conducted max intermodulation product is -29.848dBm/300Hz = -24.619dBm/10kHz, ERP of intermodulation products is -24.619dBm/10kHz + 0dBi -2.15dB = -26.769dBm/10kHz.

Applicant must use good engineering practice to make sure that the ERP of intermodulation products should not exceed the level -30dBm in 10kHz measurement bandwidth.



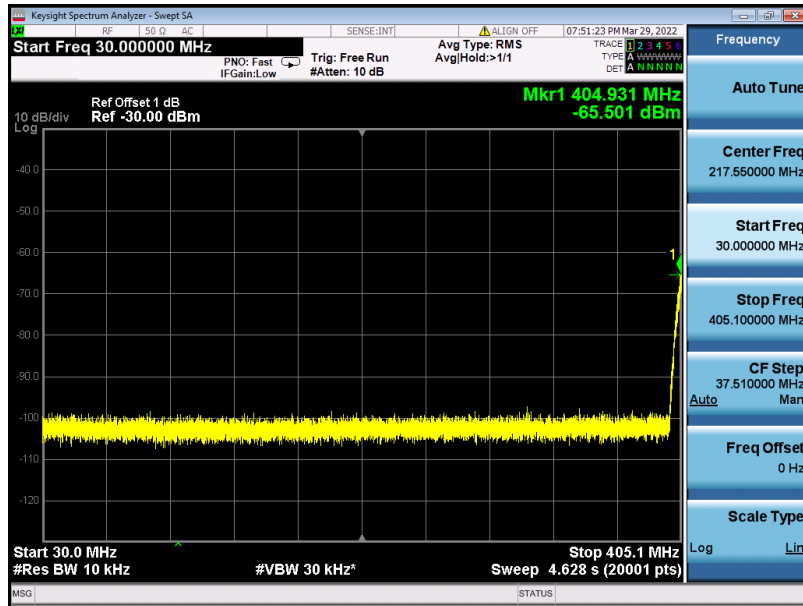
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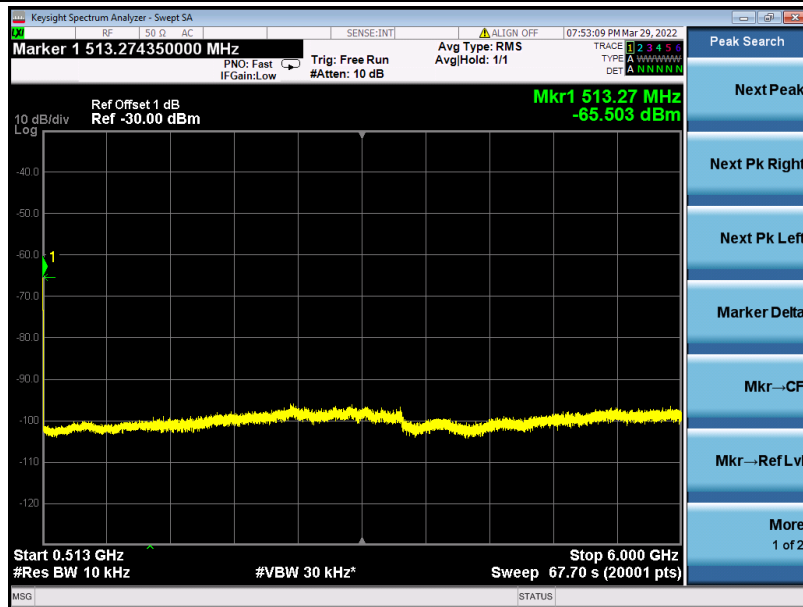
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Moise outside of the passband



Moise outside of the passband



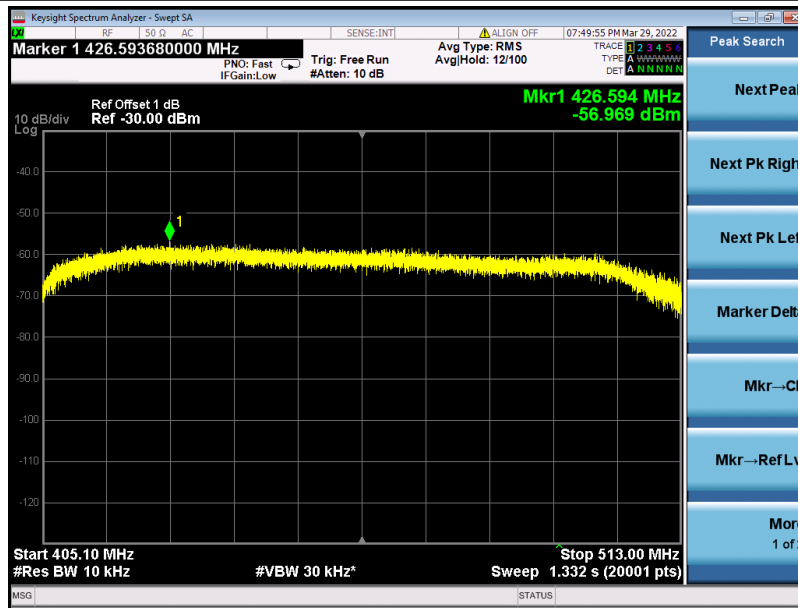
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Moise within the passband



Remark:

According to the declaration from the application, the single antenna gain should not exceed 0dBi, the Directional gain =  $G(\text{ANT}) + 10 \cdot \log(\text{NANT}) \text{ dBi} = 0\text{dBi} + 10 \cdot \log(1) \text{ dBi} = 0\text{dBi}$ .

ERP = EIRP-2.15dB

The conducted max noise on spectrum more than 1MHz outside of the passband is -65.501dBm/10kHz, ERP of noise on spectrum more than 1MHz outside of the passband is  $-65.501\text{dBm}/10\text{kHz} + 0\text{dBi} - 2.15\text{dB} = -67.651\text{dBm}/10\text{kHz}$

The conducted max noise within the passband is -57.173dBm/10kHz, ERP of noise within the passband is  $-56.969\text{dBm}/10\text{kHz} + 0\text{dBi} - 2.15\text{dB} = -59.119\text{dBm}/10\text{kHz} < -43\text{dBm}/10\text{kHz}$

Applicant must use good engineering practice to make sure that the ERP of max noise on spectrum more than 1MHz outside of the passband should not exceed the level -70dBm in 10kHz measurement bandwidth.



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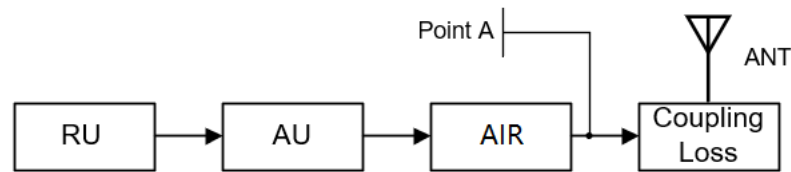
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Frequency Range (MHz)	Max Noise Figure	Max Noise Figure Limit
406.1 ~ 420	5.12	9
421 ~ 430	5.03	9
450 ~ 470	5.22	9
470 ~ 512	5.02	9

ERP noise = Test results at point A + Coupling Loss + Antenna Gain.

**Remark:**

The noise test results in the table are measured from point A. The test results plus the coupling loss and antenna gain will meet the noise radiation requirements of the signal booster, which is that the ERP of noise should not exceed -43 dBm in 10 kHz within passband and -70 dBm in 10 kHz more than 1 MHz outside of passband. Therefore, the coupling loss in engineering practice must be greater than 20dB to eliminate the interference.



Setting details were declared by manufacture and stated in the user manual.

The test screenshots below are only to record the case without engineering practice for reference.

406.1 ~ 420MHz:



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421 ~ 430MHz:



450 ~ 470MHz:



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470 ~ 512MHz:



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