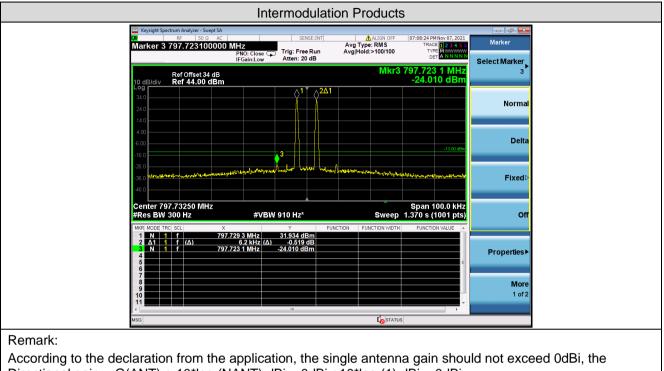


## **Appendix H - Noise**



Directional gain =  $G(ANT) + 10^{*}log(NANT) dBi = 0dBi + 10^{*}log(1) dBi = 0dBi.$ 

# ERP = EIRP-2.15dB

Test Data:

The conducted max intermodulation product is -24.010dBm/300Hz = -18.781dBm/10kHz, ERP of intermodulation products is -18.781dBm/10kHz + 0dBi -2.15dB = -20.931dBm/10kHz.

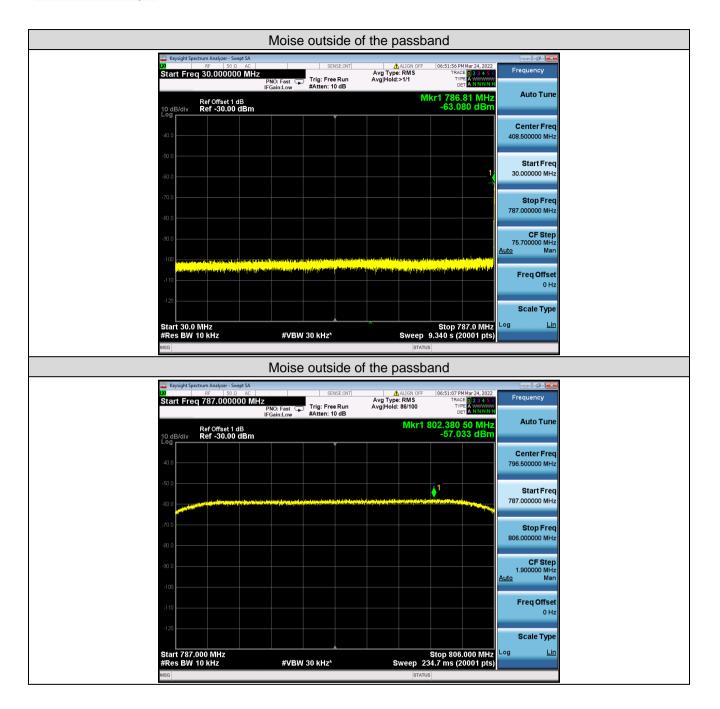
Applicant must use good engineering practice to make sure that the ERP of intermodulation products should not exceed the level -30dBm in 10kHz measurement bandwidth.



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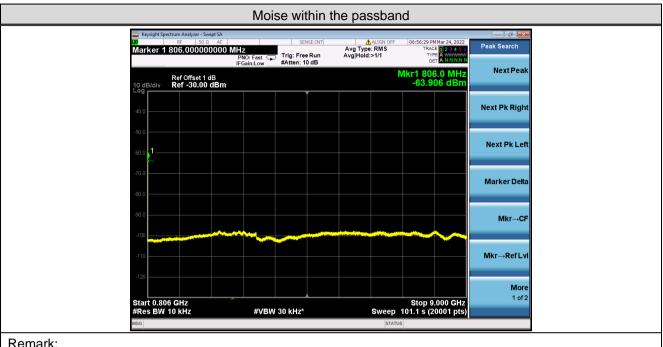




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Remark:

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

## ERP = EIRP-2.15dB

The conducted max noise on spectrum more than 1MHz outside of the passband is -65.058dBm/10kHz, ERP of noise on spectrum more than 1MHz outside of the passband is -65.058dBm/10kHz + 0dBi -2.15dB = -67.208dBm/10kHz

The conducted max noise within the passband is -57.173dBm/10kHz, ERP of noise within the passband is -57.173dBm/10kHz + 0dBi -2.15dB = -59.323dBm/10kHz < -43dBm/10kHz

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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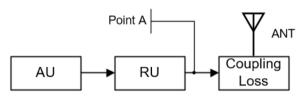


Frequency Range (MHz)	Max Noise Figure	Max Noise Figure Limit
788 ~ 805	4.17	9

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.

#### Noise Figure:

788MHz to 805MHz

🚺 Keysight Noise Fi						
	RF 50 Ω AC	MH-z D	SENSE:INT UT: Amplifier	ALIGN AUTO	07:00:02 PM Mar 24, 2022 CONTEXT FRECENT	Freq / Channel
					CALSTATE CAL	
	REAMP	SNS At	tten: 0 dB		ENR STATE	Freq Mode
Noise Figur					Mkr1 805 MHz	Swep
.0 dB/div	Ref 5.0 dB				4,1700 dB	
9.0						
8.0						Center Fre
7.0						814.500000 MI
6.0 5.0 1						
4.0						Start Fr
3.0						805.000000 M
2.0						000.000000
2.0						
1.0						
						Stop Fr
						Stop Fro 824.000000 Mi
1.0 Gain	Ref 87.0 d	B				
1.0 Gain .0 dB/div	Ref 87.0 d	B				824.000000 M
1.0	Ref 87.0 d	B				824.000000 Mi Poin
1.0 Gain 1.0 dB/div 91.0 90.0 89.0	Ref 87.0 d	B				824.000000 M
1.0 Gain 1.0 dB/div 91.0 90.0 83.0 83.0	Ref 87.0 d	B				824.000000 M
1.0 Gain 1.0 dB/div 91.0 90.0 89.0 88.0 87.0	Ref 87.0 d	B				824.000000 M Poin
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1.0 Gain 1.0 dB/div 91.0 90.0	Ref 87.0 d	B				824.000000 M Poin Fixed Fr 1.505000000 G
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1.0 Gain 1.0 dB/div 91 0 90 0 88 0 88 0 88 0 88 0 88 0 88 0 88	805.00000 M	Hz			824.00000 MHz	824.000000 M Poin Fixed Fr
1.0 Gain .0 dB/div 91.0 90.0 89.0 89.0 89.0 80	805.00000 M		S) Noise	Stop Freq 8 Source: SNS	824.00000 MHz	824.000000 M Poir Fixed Fr 1 50500000 G Edit Frequence



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