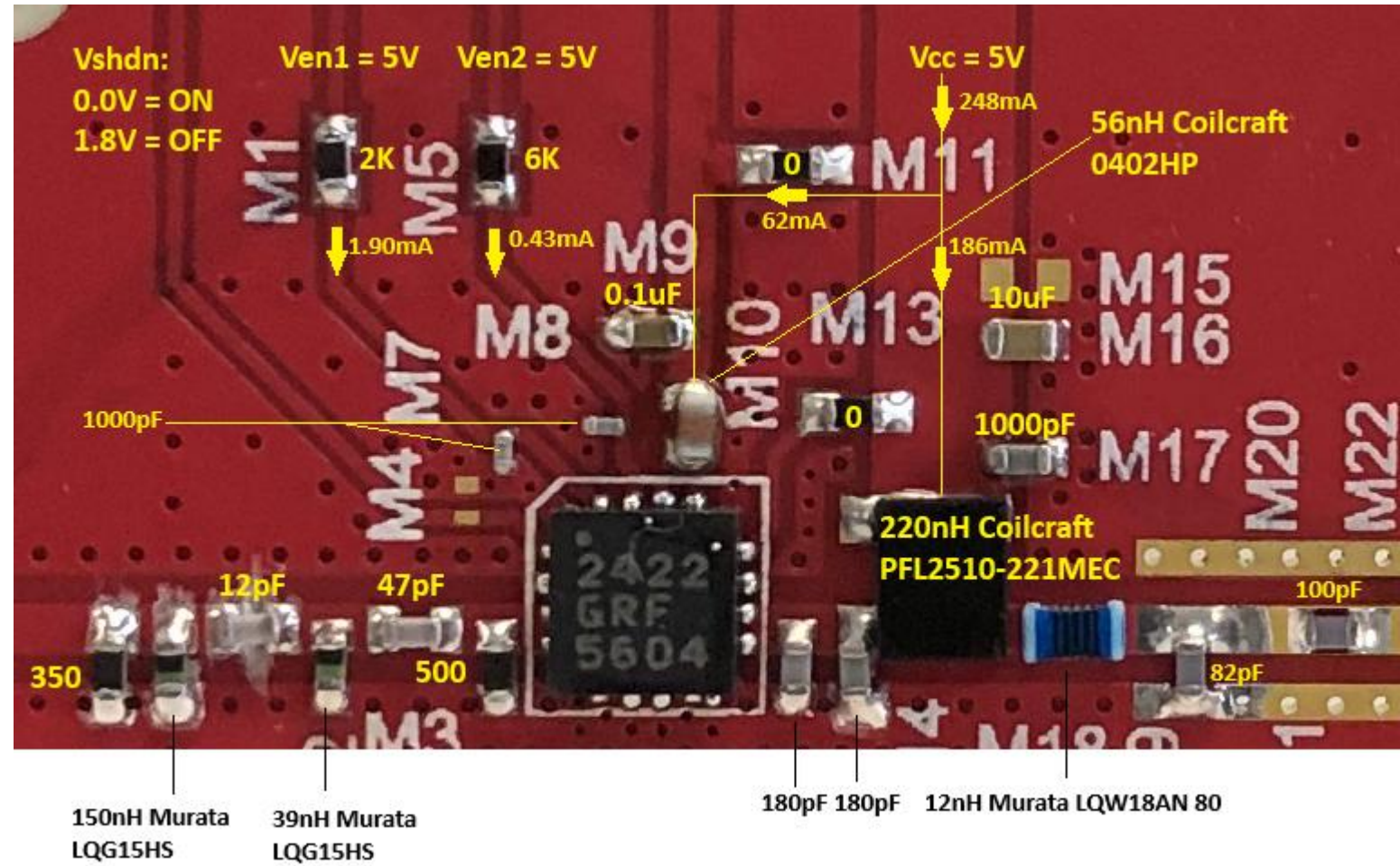




GRF5604
146-166 MHz
Rev1

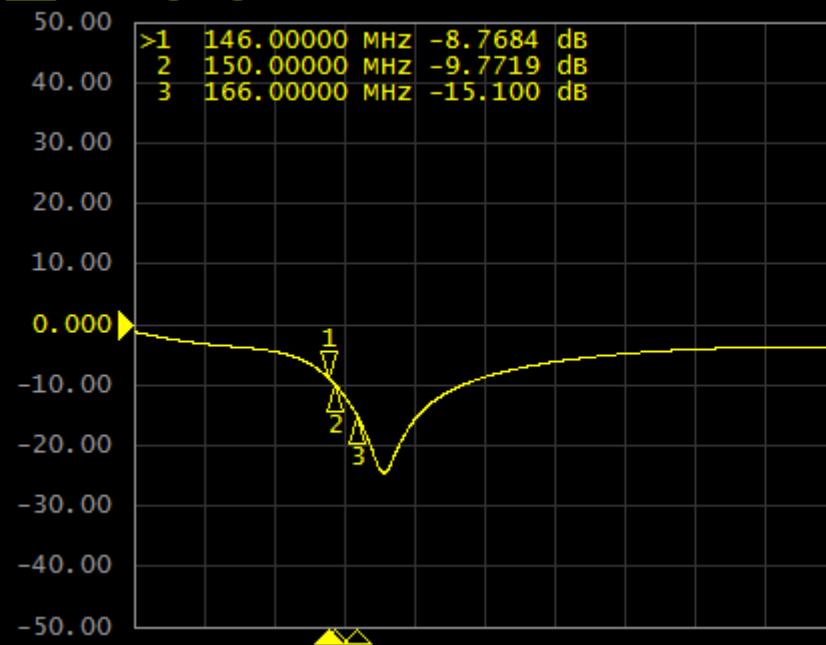
Schematic:

GRF5604 configured for general purpose PA application covering 146-166 MHz.

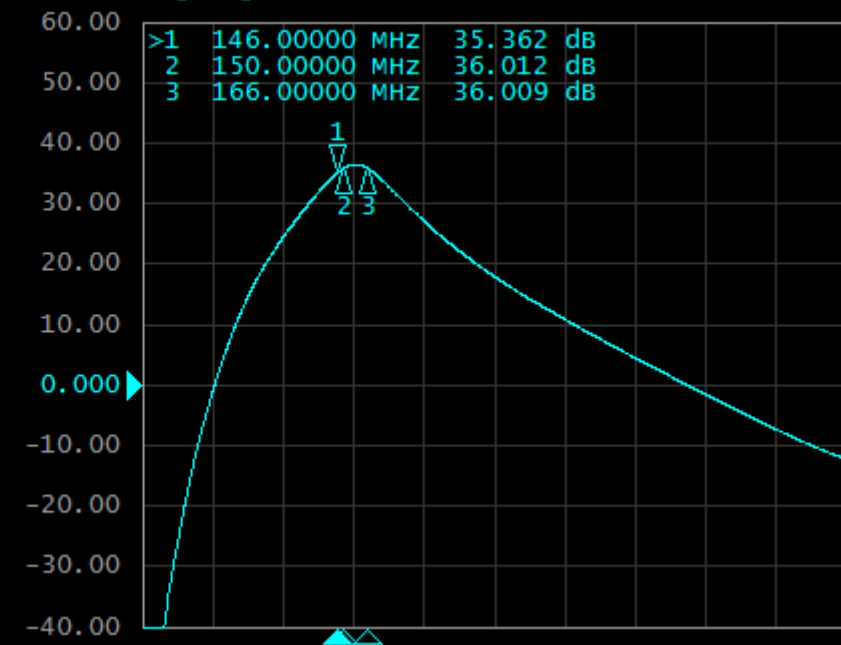


Response:

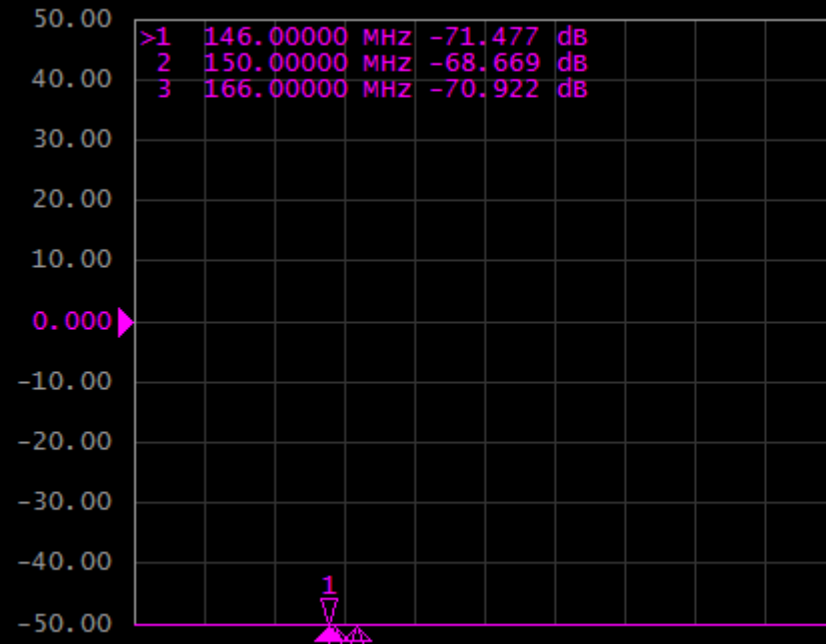
Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F2]



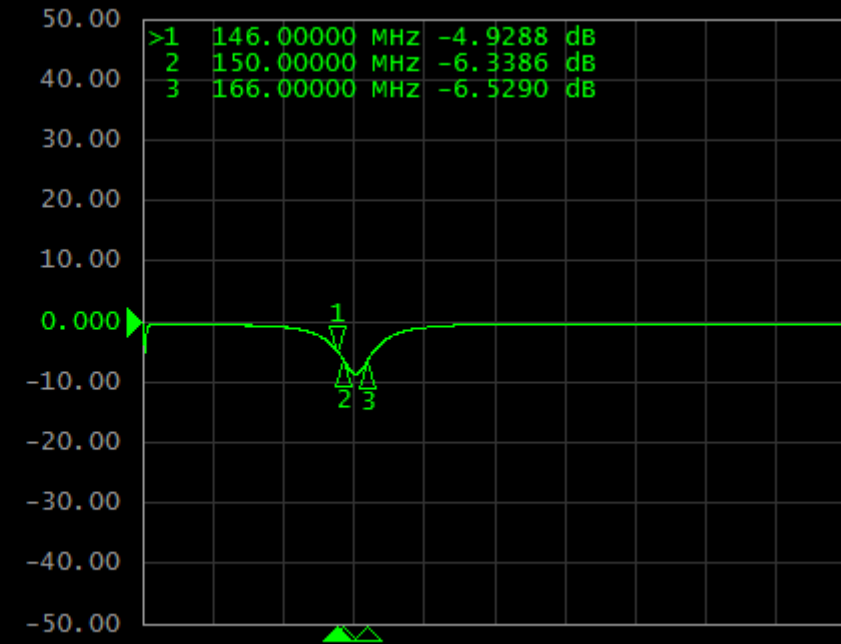
Tr2 S21 Log Mag 10.00dB/ Ref 0.000dB [F2]



Tr3 S12 Log Mag 10.00dB/ Ref 0.000dB [F2]



Tr4 S22 Log Mag 10.00dB/ Ref 0.000dB [F2]



1 Start 10 MHz

IFBW 10 kHz

Stop 500 MHz



Standard Data vs. Temperature:

Temp Deg C	Freq MHz	Vcc V	Iccq mA	Ven1 V	Ien1 mA	Ven2 V	Ien2 mA	Vshdn V	Ishdn mA	IP3 Tone Power dBm	IP3 Tone Spacing MHz	Gain dB	OIP3 dBm	OP1dB dBm	PAE %	EVB NF dB
-40C	146	5	239.4	5	1.8	5	0.4	0	0	22	0.6	36.9	36.6	37.8	62.8	
-40C	148	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.1	36.8	37.7	63.9	
-40C	150	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.3	37	37.5	63.6	
-40C	152	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.8	37.2	37.2	62.3	
-40C	154	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.7	37.4	37	62.2	
-40C	156	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.8	37.5	36.8	62	
-40C	158	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.9	37.7	36.6	61.7	
-40C	160	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.9	37.8	36.4	61.2	
-40C	162	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.7	37.9	36.2	60.2	
-40C	164	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.6	37.9	36	58.5	
-40C	166	5	239.4	5	1.8	5	0.4	0	0	22	0.6	37.5	37.8	35.8	55.8	
25C	146	5	251	5	1.9	5	0.4	0	0	22	0.6	35.9	37	37.2	57.7	11.8
25C	148	5	251	5	1.9	5	0.4	0	0	22	0.6	36.2	37.1	37.1	58.5	11.4
25C	150	5	251	5	1.9	5	0.4	0	0	22	0.6	36.3	37.3	37	59.3	11
25C	152	5	251	5	1.9	5	0.4	0	0	22	0.6	36.6	37.4	36.9	60.2	10.7
25C	154	5	251	5	1.9	5	0.4	0	0	22	0.6	36.7	37.6	36.8	61.2	10.4
25C	156	5	251	5	1.9	5	0.4	0	0	22	0.6	36.8	37.8	36.4	58.5	10
25C	158	5	251	5	1.9	5	0.4	0	0	22	0.6	36.8	38	36.2	58	9.7
25C	160	5	251	5	1.9	5	0.4	0	0	22	0.6	36.9	38.1	36	57.2	9.5
25C	162	5	251	5	1.9	5	0.4	0	0	22	0.6	36.8	38.1	35.8	55.9	9.3
25C	164	5	251	5	1.9	5	0.4	0	0	22	0.6	36.5	38.2	35.6	54	9.1
25C	166	5	251	5	1.9	5	0.4	0	0	22	0.6	36.3	38.1	35.4	51.3	8.9
85C	146	5	256.7	5	1.9	5	0.4	0	0	22	0.6	34.9	37.1	36.6	54.4	
85C	148	5	256.7	5	1.9	5	0.4	0	0	22	0.6	34.9	37.2	36.4	54	
85C	150	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.2	37.4	36.4	55.5	
85C	152	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.4	37.4	36.3	55.9	
85C	154	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.7	37.6	36.2	56.3	
85C	156	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.7	37.8	36	55.4	
85C	158	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.7	37.9	35.9	55.7	
85C	160	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.8	38	35.7	54.6	
85C	162	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.5	38.1	35.5	53	
85C	164	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.3	38	35.4	52	
85C	166	5	256.7	5	1.9	5	0.4	0	0	22	0.6	35.1	38	35.2	49.1	

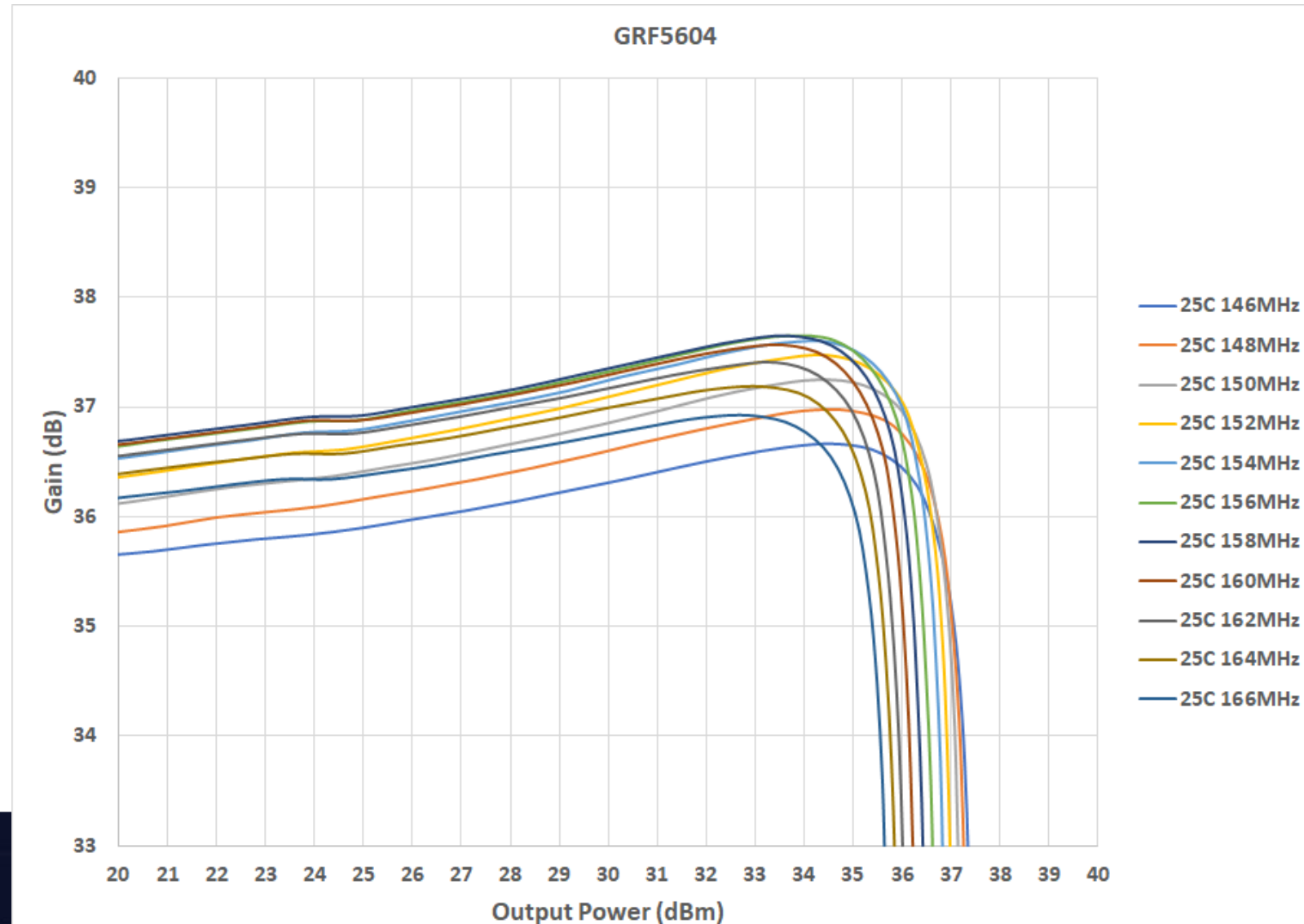
Gain vs. Output Power at 25C:

Saturated output power = 37.3 dBm at low end of band.

35.7 dBm at high end.

Note significant gain expansion vs. output power. A non-issue for general-purpose application with no IP3/IMD3/modulated ACLR requirement. This type of configuration can be “linearized” with bias adjust and matching/termination hooks.

Linear custom tunes to that end will developed/posted over time.





Contact Us

Frank Nicosia
Technical Director
fnicosia@guerrilla-rf.com
336-639-1625