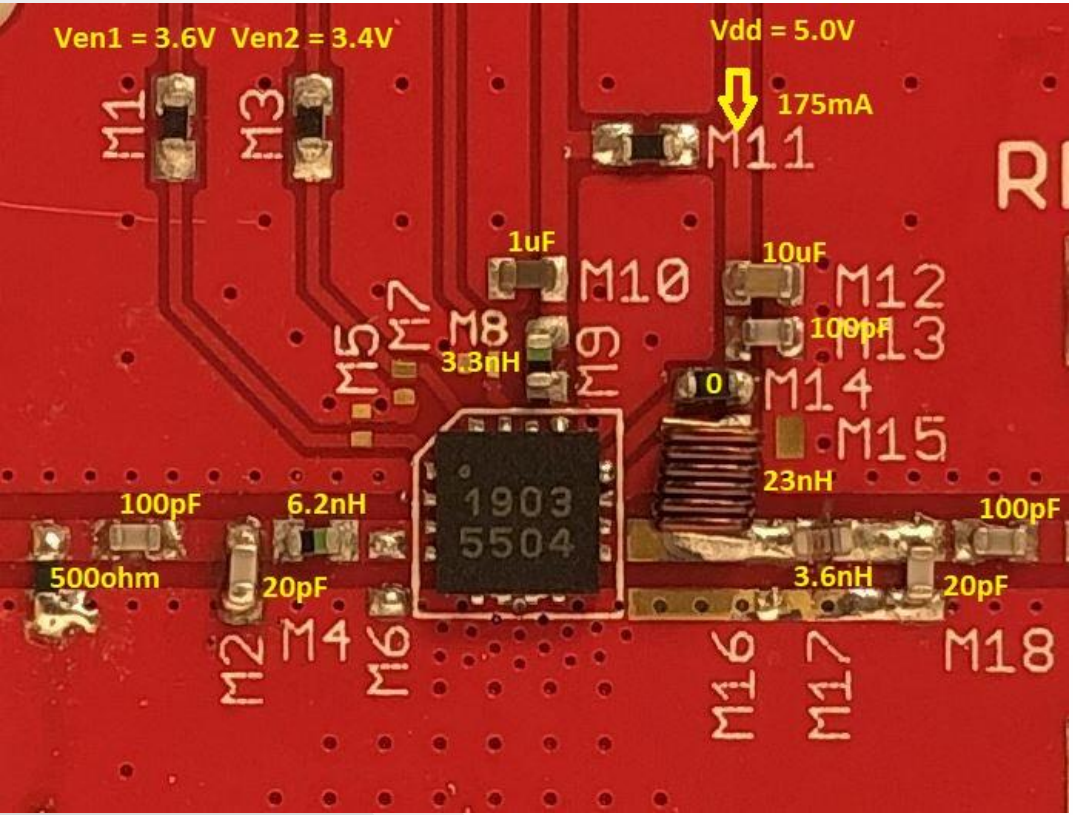
GUERRILLA RF

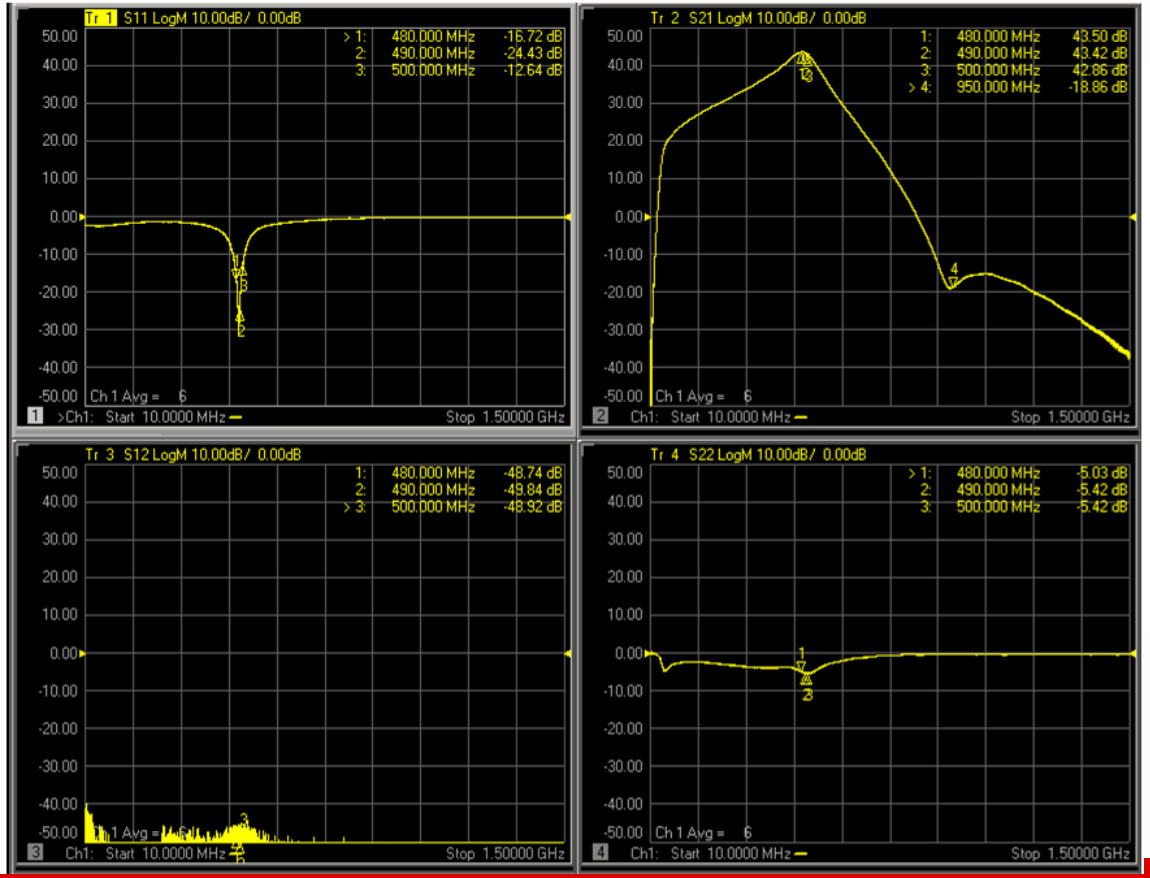
GRF5504 480-500 MHz Optimized for Linearity

Schematic:

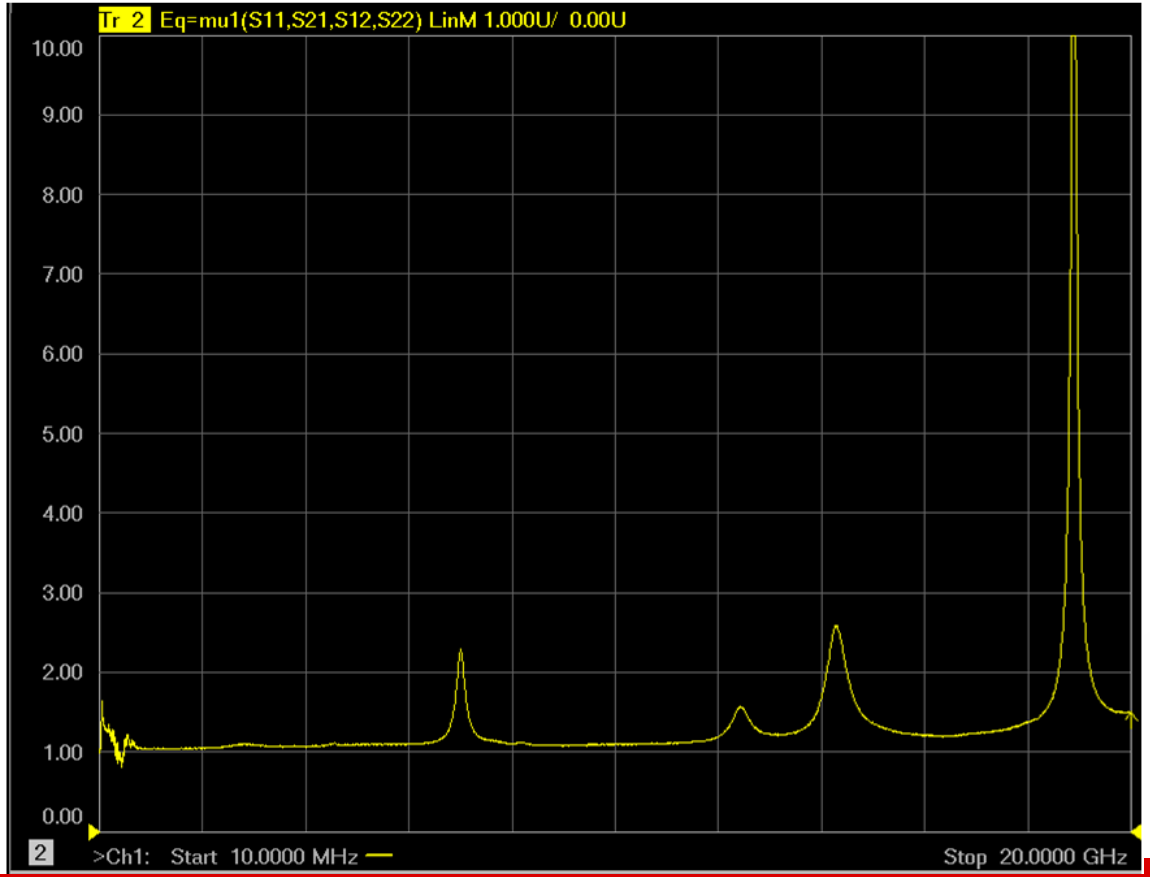


GRF5504 is nominally tuned for high power and efficiency in constant envelope modulated cases (CW, FSK, BPSK … etc.) It can, however, also be matched for IP3/IMD/ACLR/EVM with amplitude modulated signals.

Response:



Stability:

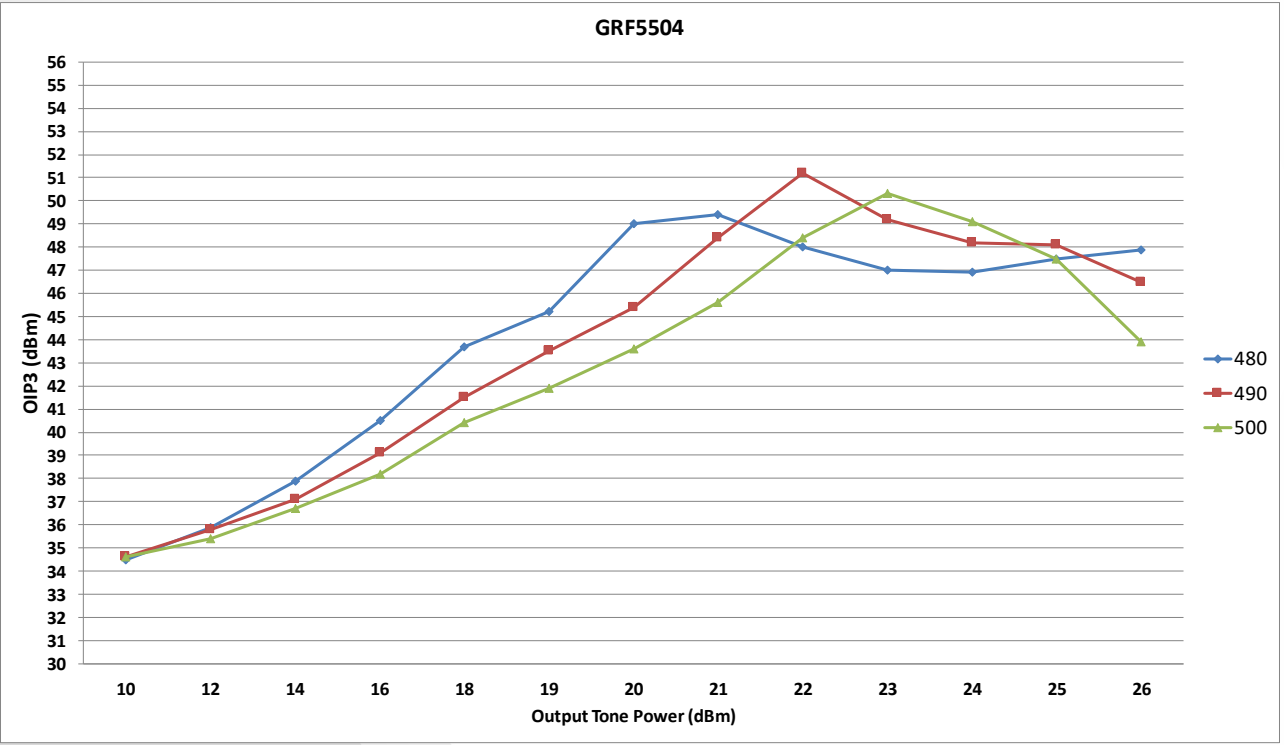


Standard Data:

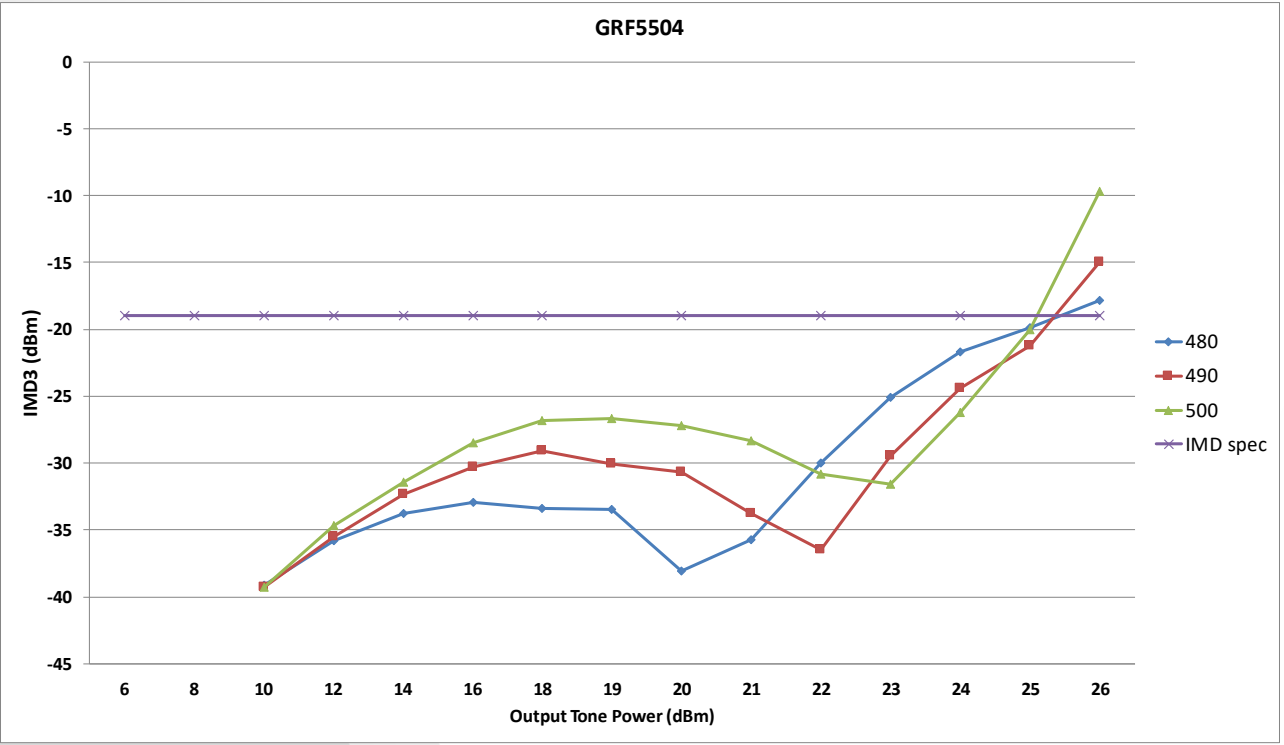
Match optimized for IMD3. Optimization for OP1dB would have potential for 34dBm over band at expense of IMD3.

Bias Point	Freq MHz	Vdd V	Ven1V	Ven2V	Iddq mA	Pout/Ptone dBm	gain dB	tone spacing MHz	OIP3 dBm	OP1dB dBm	Eff %	EVB NF dB
5.0V/175mA	480	5	3.6	3.4	174.8	23	43.9	0.6	47.1	33.2	57.2	5
5.0V/175mA	490	5	3.6	3.4	174.8	23	43.8	0.6	48.9	32.8	56.2	5
5.0V/175mA	500	5	3.6	3.4	174.8	23	43.1	0.6	51	32.3	53.9	5

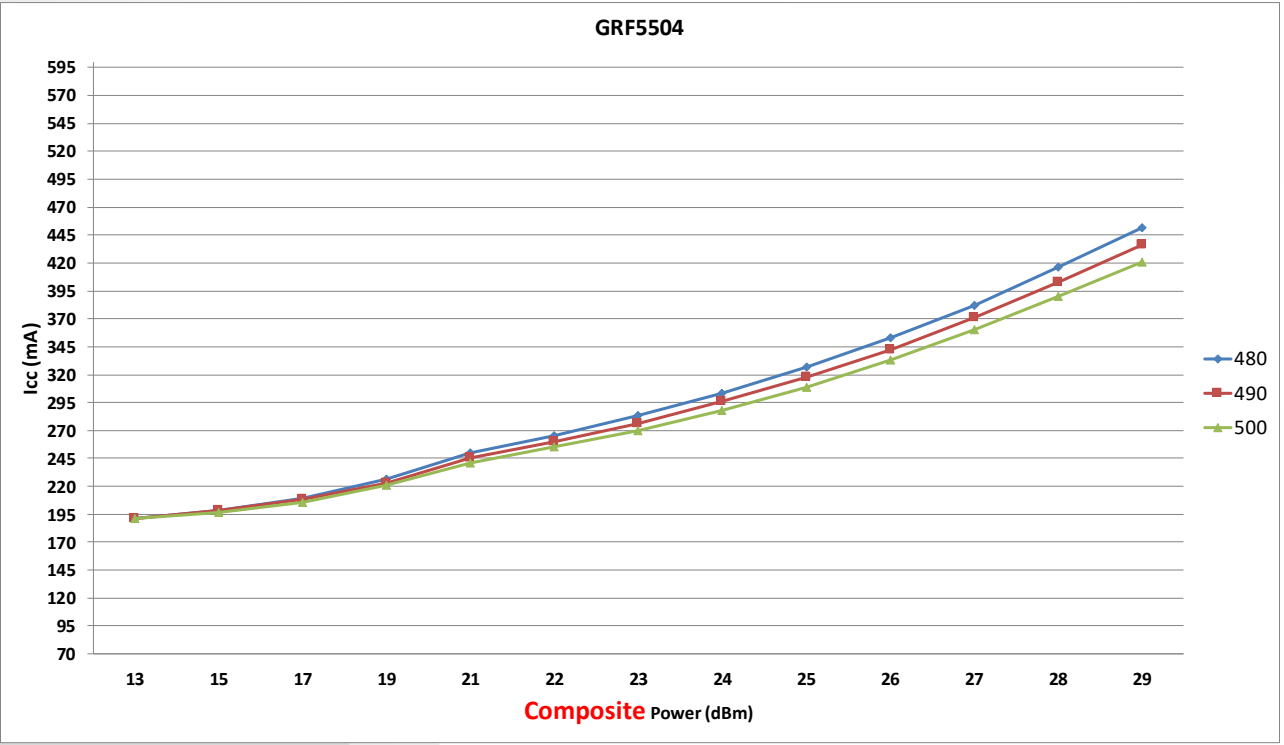
OIP3:



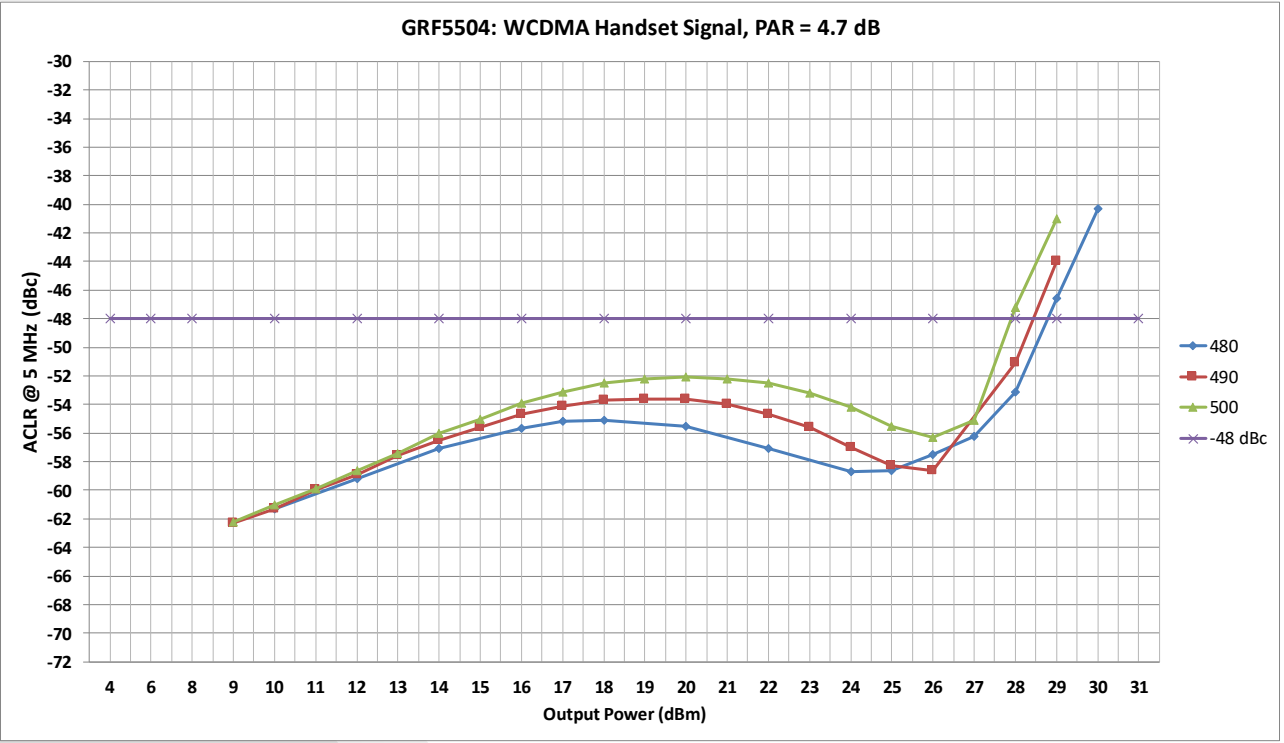
IMD3:



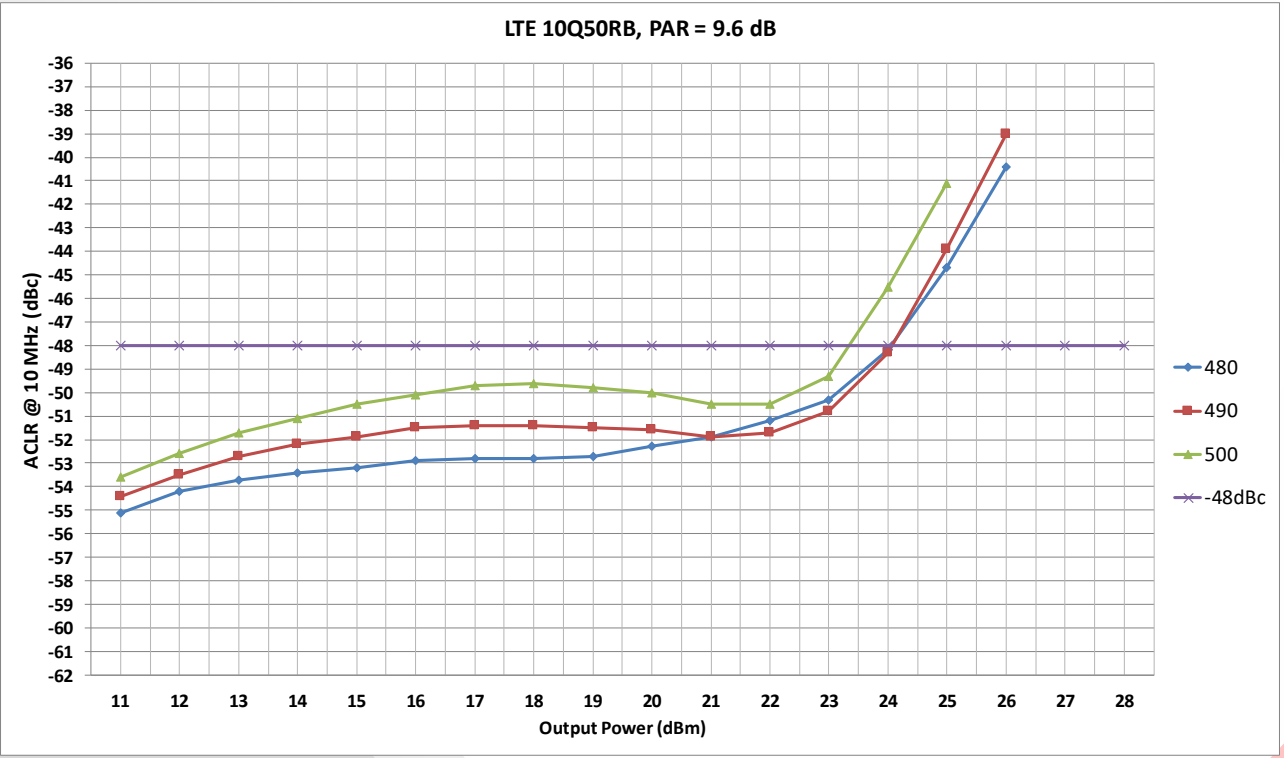
Icc:



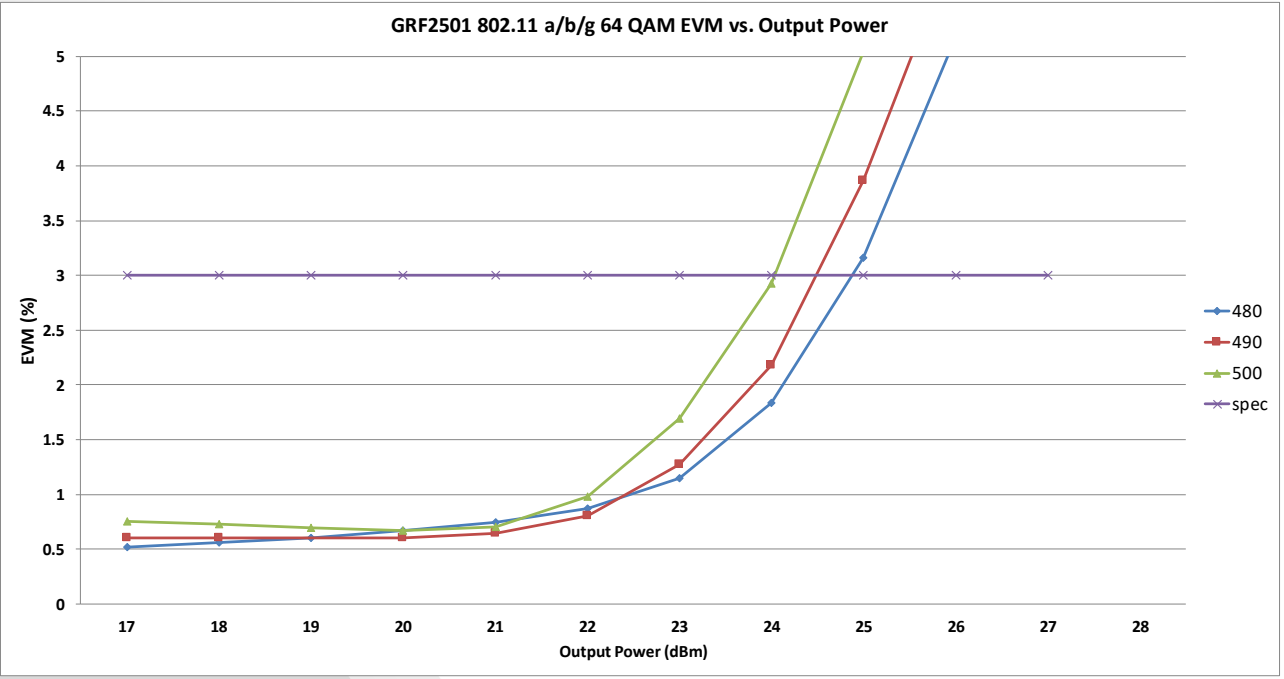
WCDMA Handset (PAR = 4.7dB) ACLR:



LTE 10Q50RB (PAR = 9.6dB) ACLR:



802.11 a/b/g 20MHz/54 Mbit/sec/64QAM (PAR = 10.8dB) EVM:



If matched for OP1dB, backed off EVM would degrade a bit and 3% point might extend to 25.5dBm.

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