Guerrilla RF 3.5 GHz Solutions

LNA, PA Driver, Front End Module (FEM) and Failsafe Switch solutions from Guerrilla RF for Citizens Band Radio Service (CBRS), Bands 42/43, etc.

Guerrilla RF's portfolio of pHEMT low noise and linear amplifiers includes numerous devices with industry-leading Noise figure (NF), gain and linearity performance for a wide range of CW and TDD applications in the 3 to 4 GHz range. All the amplifiers offer flexible biasing with a wide range of Vdd and Iddq options using small DFN and QFN packages.

The tables below highlight the performance of the various LNAs, linear drivers, module and switch at 3.5 GHz:

Table 1: Low Noise Amplifiers

Device	Ref Freq (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Ref Bias (V/mA)	Status	Comment
GRF2052	3500	16.2	0.61	20.5	36.0	5.0/65	Production	Ultra-low noise
GRF2073	3500	18.5	0.65	18.0	35.0	5.0/70	Production	Ultra-low noise with industry leading gain
GRF2100	3500	15.0	0.85	14.5	24.0	3.3/20	Production	Ultra-low current capability
GRF2105	3500	19.5	0.90	21.5	36.0	5.0/70	Production	Broadband LNA with industry leading gain
GRF2140	3500	15.0	1.2	10.0	23.5	3.3/20	Sampling now	Ultra-low current capability with bypass

Table 2: Driver Amplifiers

Device	Ref Freq (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Ref Bias (V/mA)	Status	Comment
GRF2013	3500	16.5	1.5	23.0	38.0	5.0/90	Production	Broadband, linear gain block
GRF4014	3500	15.0	0.80	24.5	37.5	5.0/65	Sampling now	Linear driver/LNA
GRF5010	3500	14.5	0.90	24.5	40.0	5.0/80	Production	Linear driver/LNA
GRF5511	3500	18.0	2.5	26.0	39.5	5.0/110	Sampling now	Linear driver/PA

Table 3: Front End Module/Failsafe Switch

Device	Ref Freq (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Ref Bias (V/mA)	Status	Comment
GRF2581 (Rx mode)	3500	18.0	1.0	7.0	18.0	3.3/15	Sampling Q3	FEM: Low noise, low current receive path and high linearity, low loss transmit path
GRF2581 (Tx mode)	3500	-0.4	--	32.0	32.0	3.3/<<1.0		
GRF6011-Failsafe (RFC to RF1)	3500	23.0	--	--	--	0.0/0.0	Sampling now	Failsafe SPDT switch: RFC to RF1 defaults to high loss and RFC to RF2 defaults to low loss
GRF6011-Failsafe (RFC to RF2)	3500	-0.6	--	28.0	45.0	0.0/0.0		

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