

# DESIGNER'S KIT

## Linear Driver Amps, 0.4 - 2.5 GHz

This Driver Amplifier Designer's Kit HMC-DK002 includes samples of 6 of Hittite's most popular GaAs InGaP HBT MMIC Amplifiers. The table below summarizes the features of each of the products included in this kit. Also included are 6 evaluation boards (assembled and tested), which enable the designer to immediately test each enclosed sample.

Some of the Driver Amplifier products in this kit can be tuned for several different Cellular/3G frequency bands. In these cases, Hittite offers several evaluation board versions for the same product, where each evaluation board is tuned for a different frequency band. All of the evaluation boards in this kit are tuned for either 900 MHz or 1900 MHz bands. The designer is encouraged to refer to the Application Circuit section of the product data sheet before applying power to any evaluation board. Data sheets for each of the enclosed samples and complete information regarding available evaluation boards for all Hittite products can be found on the enclosed CD or on-line at [www.hittite.com](http://www.hittite.com).

Hittite MMIC Driver Amplifier products are offered in industry standard QS16G, MS8G, LP3 and SOT89 packages, and are targeted to Cellular/3G, Fixed Wireless, CATV, MMDS, WiMAX, and WiBro applications from 0.45 to 2.5 GHz. The enclosed HBT MMIC amplifier products are ideal for use in driver, pre-driver, feed forward, and predistortion applications from 0.45 to 2.5 GHz.

### HMC-DK002 – LINEAR DRIVER AMPLIFIERS, 0.4 - 2.5 GHz

Part Number	Frequency (GHz)	Function	Gain (dB)	OIP3 (dBm)	NF (dB)	P1dB (dBm)	Bias Supply	Package	Quantity
HMC454ST89E	0.4 - 2.5	High IP3 Amp, 1/2 Watt	12.5	42	6	27	+5V @ 150 mA	ST89	5
HMC450QS16GE	0.8 - 1.0	Medium Power Amp	26	40	8	26	+4V @ 310 mA	QS16G	5
HMC413QS16GE	1.6 - 2.2	Medium Power Amp	22	40	5.5	27	+3.6V @ 270 mA	QS16G	5
HMC452ST89E	0.4 - 2.2	Power Amp, 1 Watt	21	49	6.5	30	+5V @ 510 mA	ST89	5
HMC453ST89E	0.4 - 2.2	Power Amp, 1.6 Watt	20.5	49	6.5	32	+5V @ 725 mA	ST89	5
HMC457QS16GE	1.7 - 2.2	Power Amp, 1 Watt	27	46	5	30.5	+5V @ 500 mA	QS16G	5

Part Number	Description	Quantity
107749 – HMC454ST89	Evaluation Board – High IP3 Amp, 1/2 Watt – 1900 MHz	1
108349 – HMC450QS16G	Evaluation Board – Medium Power Amp – 900 MHz	1
105000 – HMC413QS16G	Evaluation Board – Medium Power Amp – 1900 MHz	1
108712 – HMC452ST89	Evaluation Board – Power Amp, 1 Watt – 1900 MHz	1
108718 – HMC453ST89	Evaluation Board – Power Amp, 1.6 Watt – 1900 MHz	1
106043 – HMC457QS16G	Evaluation Board – Power Amp, 1 Watt – 1900 MHz	1

Each of the enclosed evaluation boards utilize Rogers 4350 ( $\epsilon_r=3.48$ ) as the circuit board material. HMC452ST89, HMC453ST89, and HMC454ST89 evaluation boards are also available on FR4 with a common tuning circuit footprint. Please contact Hittite for more information regarding available circuit board materials and tuning circuits for customer-specific applications.