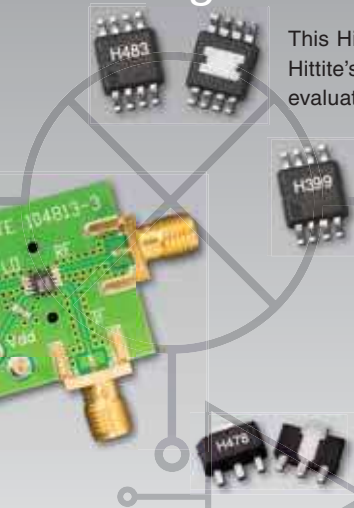


# DESIGNER'S KIT

## High IP3 Mixers & LO Drivers, 0.45 - 4.0 GHz



This High IP3 Mixer & LO Driver Designer's Kit HMC-DK003 includes samples of 8 of Hittite's most popular high linearity GaAs MMIC SMT Mixers, and three fully assembled evaluation boards, which enable the designer to test each enclosed mixer sample.

Also included are samples of 3 different Hittite Gain Block Amplifiers, and one Gain Block Amplifier evaluation board (Note 1). Depending on the specific application, the designer may choose to use one of the Gain Block amplifier samples included in this kit, as an LO buffer amplifier. The table below suggests the Gain Block Amplifiers which may be used with each of the enclosed mixer samples. The designer is encouraged to refer to the Application Circuit section of the product data sheet before applying power to any evaluation board. Product data sheets are available from the enclosed CD, or on-line at [www.hittite.com](http://www.hittite.com).

Hittite's complete line of MMIC Mixers include High IP3, Single and Double-Balanced, Sub-Harmonic, I/Q and Image Reject Mixers, as well as single and dual channel downconverter RFICs. Our High IP3 Mixers are offered in industry standard MS8(G) (MSOP8) and S8 (SOIC8) packages, and are targeted to Cellular/3G, Fixed Wireless, CATV, MMDS, WiMAX, and WiBro applications from 0.45 to 4.0 GHz.

### HMC-DK003 – HIGH IP3 MIXERS & LO DRIVERS, 0.45 - 4.0 GHz

Part Number	RF Freq. (GHz)	Function	IF Freq. (GHz)	Conv. Gain (dB)	LO/RF Isol. (dB)	IIP3 (dBm)	Package	Quantity
HMC387MS8E	0.45 - 0.5	High IP3, SGL-END	DC - 0.15	-9.5	20	32	MS8	5
HMC483MS8GE	0.7 - 1.4	High IP3, 0 LO	DC - 0.35	-9	20	33	MS8G	5
HMC399MS8E	0.7 - 1.0	High IP3, SGL-END	DC - 0.25	-8.5	24	35	MS8	5
HMC316MS8E	1.5 - 3.5	High IP3, DBL-BAL	DC - 1	-8	38	25	MS8	5
HMC400MS8E	1.7 - 2.2	High IP3, SGL-END	DC - 0.3	-8.8	30	36	MS8	5
HMC485MS8GE	1.7 - 2.2	High IP3, 0 LO	0.05 - 0.3	-9.2	-9	35	MS8G	5
HMC402MS8E	1.8 - 2.2	High IP3, SGL-END	DC - 0.5	-8.5	25	31	MS8	5
HMC214MS8E	2.4 - 4.0	High IP3, SGL-END	DC - 1	-10	30	34	MS8	5

Part Number	Frequency (GHz)	Function	Gain (dB)	OIP3 (dBm)	NF (dB)	P1dB (dBm)	Bias Supply	Package	Quantity
HMC478ST89E	DC - 4	SiGe Gain Block	22	33	3	18	+5V @ 62 mA	ST89	5
HMC481ST89E	DC - 5	SiGe Gain Block	20	33	3.5	19	+8V @ 79 mA	ST89	5
HMC480ST89E	DC - 5	SiGe Gain Block	19	34	2.9	20	+8V @ 82 mA	ST89	5

Part Number	Description	Quantity
110161 – HMC478ST89	Evaluation Board – Gain Block Amplifier	1
105188 – HMC485MS8G	Evaluation Board – High IP3 Mixer	1
106334 – HMC399MS8	Evaluation Board – High IP3 Mixer	1
101830 – HMC400MS8	Evaluation Board – High IP3 Mixer	1

(Note 1) The Gain Block amplifier evaluation board included in this kit is fully assembled and tested. When using a different amplifier from the kit, the designer must refer to the Application Circuit section of the product data sheet to assure that the component values for Rbias, L1, C1 and C2 are suited to the intended frequency band and power supply voltage to be used. Data sheets for each of the enclosed samples are available from the enclosed CD or on-line at [www.hittite.com](http://www.hittite.com).

### SUGGESTED COMBINATIONS OF MIXERS & LO DRIVERS

Gain Block (LO Driver) Part Number	Mixer Part Number
HMC478ST89	HMC387MS8, HMC399MS8, HMC400MS8, HMC402MS8
HMC481ST89	HMC400MS8, HMC402MS8
HMC480ST89	HMC316MS8, HMC214MS8