



A Selection of Hittite Components for

# MICROWAVE & MMWAVE

Analog, Digital & Mixed-Signal ICs, Modules, Subsystems & Instrumentation



## MICROWAVE & MILLIMETERWAVE RADIO; 6 to 42 GHz, Backhaul Radio Links, Multi-Pt Radios & VSAT

Function	6 / 7 / 8 GHz	10 / 11 GHz	13 / 15 GHz	18 / 23 GHz	26 GHz	38 / 42 GHz
<b>Low Noise Amplifier</b>	HMC392LC4 HMC392LH5 HMC564 HMC564LC4 HMC565 HMC565LC5 HMC902 HMC902LP3E HMC903 HMC903LP3 HMC962LC4 HMC963LC4 HMC1049	HMC516LC5 HMC564 HMC564LC4 HMC565 HMC565LC5 HMC-C059 HMC903 HMC903LP3 HMC962LC4 HMC963LC4 HMC1049	HMC504LC4B HMC516LC5 HMC565 HMC565LC5 HMC903 HMC903LP3 HMC962LC4 HMC963LC4 HMC1049	HMC341LC3B HMC504LC4B HMC517LC4 HMC519 HMC519LC4 HMC565 HMC565LC5 HMC751LC4 HMC962LC4 HMC963LC4 HMC1049 HMC1040LP3E	HMC1040LP3E	HMC1040LP3E
<b>Driver Amplifier</b>	HMC441LP3E HMC451LC3 HMC516LC5	HMC441LP3E HMC451LC3 HMC451LP3E HMC516LC5	HMC441LC3B HMC451LC3 HMC451LP3E HMC490LP5E	HMC383LC4 HMC442LC3B HMC451LP3E HMC498LC4 HMC635 HMC635LC4	HMC635LC4 HMC-AUH249	HMC-AUH312
<b>Gain Block</b>	HMC788LP2E	HMC788LP2E	HMC788LP2E	HMC788LP2E		
<b>Power Amplifier</b>	HMC486LP5E HMC590 HMC590LP5E HMC591 HMC591LP5E HMC637 HMC637LP5E HMC-C074 HMC-C075	HMC487LP5E HMC592 HMC608LC4 HMC952LP5GE HMC1053	HMC489LP5E HMC592 HMC949 HMC950 HMC965LP5E HMC995LP5GE HMC952LP5GE HMC1053 HMC-APH462	HMC498LC4 HMC757LP4E HMC797LP5E HMC863LP4E HMC907LP5E HMC-APH196 HMC-APH462 HMC-APH478 HMC-APH518 HMC-APH596	HMC1024 HMC1029	HMC1014





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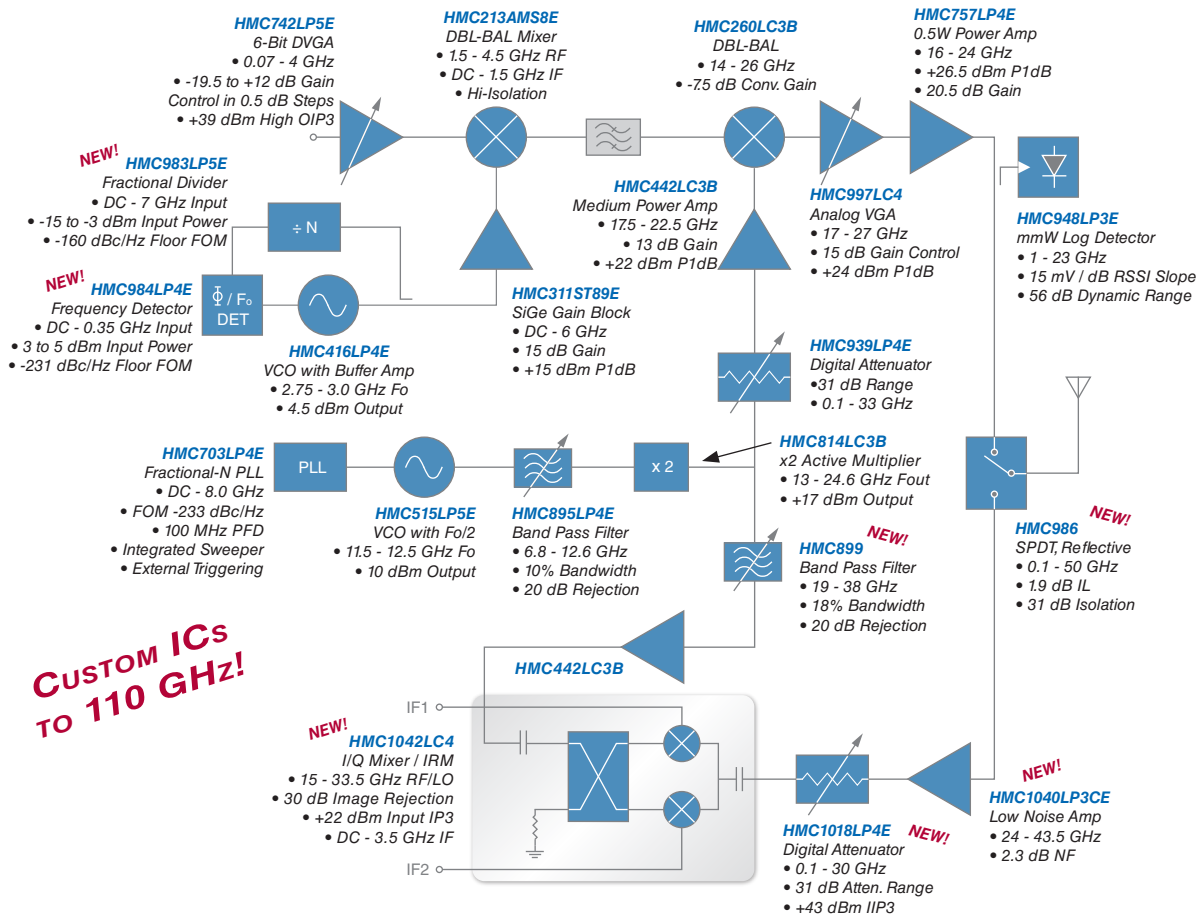
Function	6 / 7 / 8 GHz	10 / 11 GHz	13 / 15 GHz	18 / 23 GHz	26 GHz	38 / 42 GHz
<b>Multiplier: Active X2</b>	HMC368LP4E HMC575LP4E HMC561LP3E	HMC368LP4E HMC573LC3B HMC561LP3E HMC-XDB112	HMC368LP4E HMC573LC3B HMC561LP3E HMC942LP4E HMC-XDB112	HMC448LC3B HMC576 HMC576LC3B		
<b>Multiplier: Active X4</b>		HMC443LP4E	HMC370LP4E HMC-XDH158			
<b>Multiplier: Passive X2</b>	HMC189AMS8E	HMC189AMS8E	HMC204MS8GE	HMC204MS8GE HMC205		
<b>I/Q Downconverter / Receiver</b>	HMC567LC5 HMC951LP4E	HMC905LC5 HMC908LC5	HMC775LC5 HMC869LC5	HMC570 HMC570LC5 HMC571 HMC571LC5 HMC572 HMC572LC5 HMC904LC5 HMC966LP4E HMC967LP4E	HMC977LP4E	
<b>I/Q Upconverter / Transmitter</b>	HMC925LC5 HMC951LP4E	HMC568LC5 HMC924LC5	HMC568LC5 HMC709LC5 HMC924LC5	HMC710LC5 HMC815LC5 HMC819LC5 HMC967LP4E		
<b>I/Q Mixer / IRM</b>	HMC520LC4 HMC525LC4 HMC620 HMC620LC4	HMC521LC4 HMC527LC4 HMC528LC4 HMC775LC5	HMC521LC4 HMC522LC4 HMC527LC4 HMC528LC4 HMC715LC5 HMC775LC5 HMC1042LC4	HMC523 HMC523LC4 HMC524 HMC1041LC4 HMC1042LC4 HMC-MDB172	HMC524LC3B HMC1042LC4 HMC-MDB172	HMC556 HMC-MDB171
<b>IF/Baseband Processing</b>	HMC960LP4E HMC900LP5E	HMC960LP4E HMC900LP5E	HMC960LP4E HMC900LP5E	HMC960LP4E HMC900LP5E	HMC960LP4E HMC900LP5E	HMC960LP4E HMC900LP5E
<b>MicroSynth®</b>	HMC-C083					
<b>Mixer: Fundamental</b>	HMC129LC4 HMC144LC4 HMC219AMS8E HMC220MS8E HMC553 HMC553LC3B HMC558 HMC558LC3B HMC558 HMC558LC3B HMC663LC3 HMC773LC3B HMC1048LC3B	HMC144LC4 HMC411MS8GE HMC412MS8GE HMC553 HMC553LC3B HMC558 HMC558LC3B HMC-C051 HMC663LC3 HMC773LC3B HMC1048LC3B	HMC144LC4 HMC260LC3B HMC411MS8GE HMC412MS8GE HMC553 HMC553LC3B HMC554 HMC554LC3B HMC558 HMC558LC3B HMC773LC3B HMC1048LC3B HMC-C051	HMC144LC4 HMC260LC3B HMC292LC3B HMC554 HMC554LC3B HMC773LC3B HMC-C051	HMC329LC3B HMC773LC3B HMC1043LC3	HMC774



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<b>Mixer:</b> <b>Sub-Harmonic</b>			HMC258LM3	HMC258LC3B HMC258LM3 HMC264LC3B HMC337 HMC338LC3B HMC711LC5	HMC338LC3B HMC798LC4	HMC339
<b>Phase Shifter</b>	HMC928LP5E HMC929LP4E	HMC931LP4E	HMC932LP4E	HMC935LP5E HMC933LP4E		
<b>PLLs:</b> <b>Synthesizer ICs</b>	HMC698LP5E HMC699LP5E HMC700LP4E HMC701LP6CE HMC704LP4E	HMC698LP5E HMC699LP5E HMC700LP4E HMC701LP6CE HMC704LP4E	HMC698LP5E HMC699LP5E HMC700LP4E HMC701LP6CE HMC704LP4E	HMC698LP5E HMC699LP5E HMC700LP4E HMC701LP6CE HMC704LP4E		
<b>PLL + VCO</b>	HMC764LP6CE	HMC783LP6CE	HMC807LP6CE			
<b>Power Detector</b>	HMC662LP3E HMC948LP3E	HMC662LP3E HMC948LP3E	HMC662LP3E HMC948LP3E	HMC662LP3E HMC948LP3E	HMC662LP3E	
<b>SDLVA</b>	HMC813LC4B HMC913 HMC913LC4B HMC-C078 HMC-C088	HMC813LC4B HMC913 HMC913LC4B HMC-C078 HMC-C088	HMC813LC4B HMC913 HMC913LC4B HMC-C078 HMC-C088	HMC813 HMC813LC4B HMC913 HMC913LC4B HMC-C078 HMC-C088	HMC813	
<b>Switch</b>	HMC547LP3E HMC641 HMC641LP4E HMC970	HMC607 HMC641 HMC641LP4E HMC970	HMC547LP3E HMC607 HMC641 HMC641LP4E HMC970	HMC547LP3E HMC641 HMC641LP4E HMC971	HMC971 HMC994LC4	HMC975 HMC986
<b>Signal Generator</b>	HMC-T2000 HMC-T2100 HMC-T2220 HMC-T2220B HMC-T2270	HMC-T2100 HMC-T2220 HMC-T2220B HMC-T2270	HMC-T2100 HMC-T2220 HMC-T2220B HMC-T2270	HMC-T2100 HMC-T2220 HMC-T2220B HMC-T2270	HMC-T2240 HMC-T2270	HMC-T2270
<b>VCO &amp; PLO:</b> <b>**Requires X2 or X4</b>	HMC466LP4E HMC505LP4E HMC506LP4E HMC532LP4E HMC586LC4B HMC587LC4B	HMC513LP4E HMC515LP5E HMC534LP4E HMC582LP5E HMC588LC4B HMC735LP5E HMC132LC4B HMC732LC4B	HMC513LP4E HMC529LP4E HMC531LP5E HMC535LP5E HMC584LP5E HMC632LP5E HMC736LP4E HMC737LP4E	HMC429LP4E** HMC431LP4E** HMC733LC4B HMC738LP4E HMC739LP4E	HMC739LP4E	
<b>VGA: Analog &amp; Digital</b>	HMC694 HMC694LP4E HMC926LP5E HMC972LP5E HMC996LP4E	HMC694 HMC694LP4E HMC926LP5E HMC972LP5E HMC996LP4E	HMC694 HMC694LP4E HMC926LP5E HMC972LP5E	HMC694 HMC694LP4E HMC926LP5E HMC972LP5E HMC997LC4	HMC997LC4	

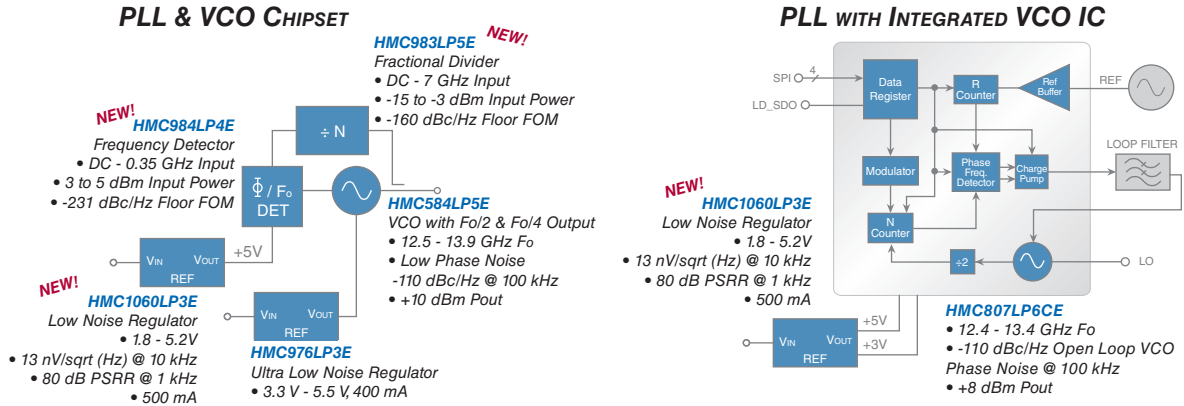


## DOUBLE UPCONVERSION & DIRECT DOWNCONVERSION





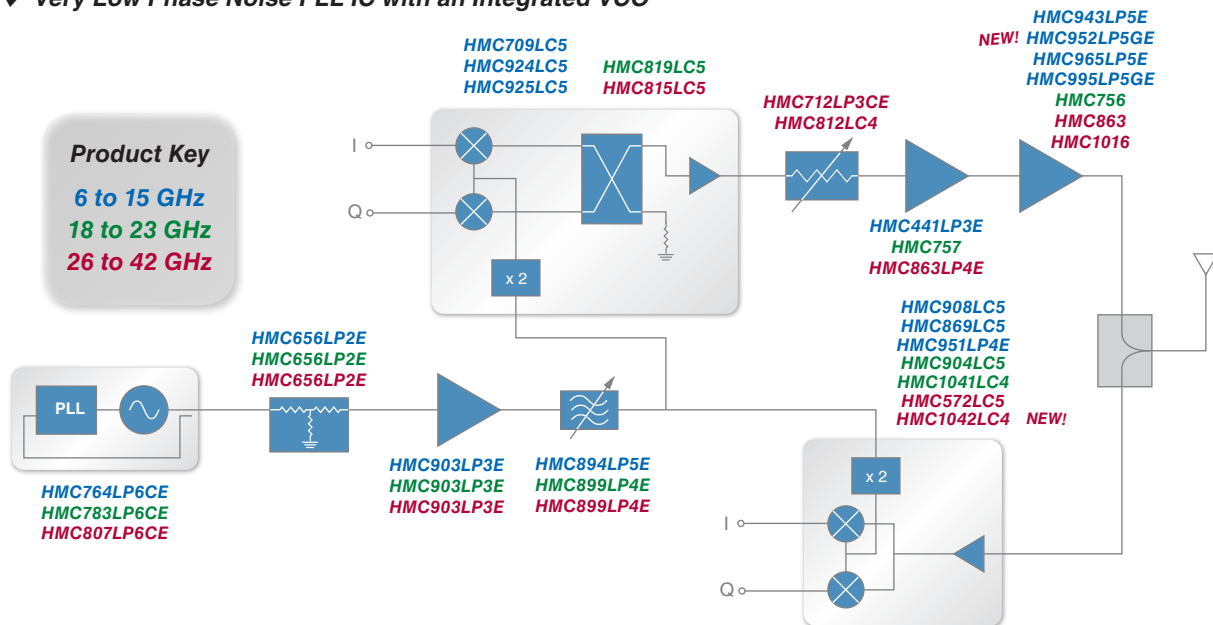
## HITTITE'S HIGH FREQUENCY LO SOURCE ALTERNATIVES



## CHIPSETS FOR 6 TO 42 GHz MICROWAVE RADIO BACKHAUL

### Features

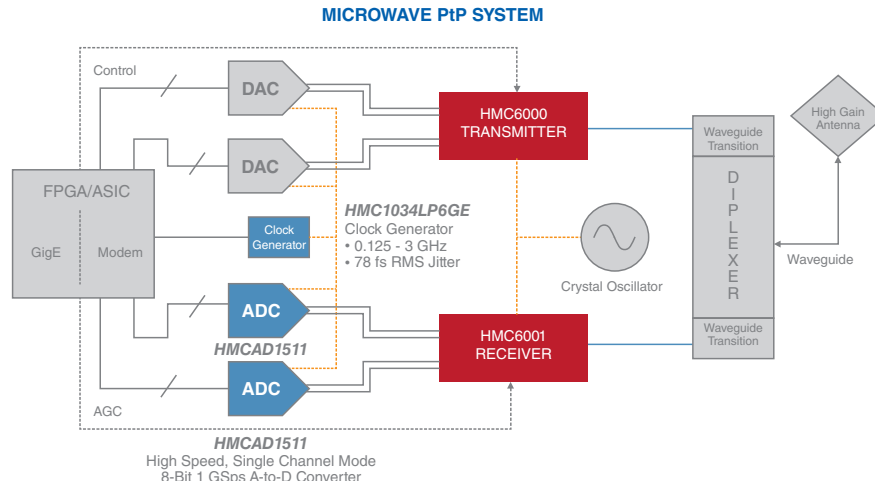
- ◆ Integrated IQ TX Upconverter IC with a X2 LO Buffer & a High Linearity Driver Amplifier
- ◆ High Linearity 17 - 24 GHz Power Amplifier with 40 dBm OIP3 & 32 dBm Saturated Power
- ◆ Low Noise Image Rejection Downconverter IC with a X2 Integrated LO Buffer
- ◆ Very Low Phase Noise PLL IC with an Integrated VCO







## 60 GHz MICROWAVE POINT-TO-POINT SYSTEM



### TRANSCEIVERS - New Product Line!

Frequency (GHz)	Function	P1dB (dBm) NF (dB)	Max Gain (dB)	Gain Adjust (dB)	Phase Noise @ 1 MHz Offset (dBc/Hz)	Power Dissipation (W)	Package	ECCN Code	Part Number
57 - 64	60 GHz Integrated Transmitter	12 dBm	38	17	-86	0.8	Chip	5A991.b	HMC6000
57 - 64	60 GHz Integrated Receiver	6 dB	67	65	-86	0.61	Chip	5A991.b	HMC6001

## 70 / 80 GHz E-BAND RADIO CHIPSET

