



A Selection of Hittite Components for

MICROWAVE & MMWAVE

MICROWAVE & MILLIMETERWAVE RADIO, 7 to 23 GHz

Function	7 / 8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz
Low Noise Amplifier	HMC392LC4 HMC392LH5 HMC564 HMC564LC4 HMC565 HMC565LC5	HMC516LC5 HMC564 HMC564LC4 HMC565 HMC565LC5	HMC516LC5 HMC565 HMC565LC5	HMC504LC4B HMC516LC5 HMC565 HMC565LC5	HMC517LC4 HMC519LC4 HMC565 HMC565LC5	HMC341LC3B HMC504LC4B HMC517LC4 HMC519 HMC519LC4
Driver Amplifier	HMC441LP3E HMC451LC3 HMC516LC5	HMC441LP3E HMC451LC3 HMC451LP3E HMC516LC5	HMC441LC3B HMC451LC3 HMC451LP3E HMC490LP5E	HMC441LC3B HMC451LC3 HMC451LP3E HMC490LP5E	HMC383LC4 HMC442LC3B HMC451LP3E HMC498LC4 HMC635LC4	HMC383LC4 HMC442LC3B HMC498LC4 HMC635 HMC635LC4
Power Amplifier	HMC486LP5E HMC590 HMC590LP5E HMC591 HMC591LP5E HMC637 HMC637LP5E	HMC487LP5E HMC592 HMC608LC4	HMC489LP5E HMC592	HMC489LP5E HMC-APH462	HMC498LC4 HMC-APH196 HMC-APH462 HMC-APH478 HMC-APH596	HMC498LC4 HMC-APH196 HMC-APH462 HMC-APH518 HMC-APH596
Wideband (Distributed) Amplifiers	HMC463LH250 HMC606 HMC606LC5 HMC619 HMC619LP5E HMC633 HMC633LC4 HMC634 HMC634LC4 HMC634 HMC634LC4 HMC634 HMC634LC4 HMC634 HMC-C050 HMC-ALH102 HMC-ALH102 HMC-ALH216 HMC-ALH216 HMC-ALH435 HMC-ALH435 HMC-ALH444 HMC-ALH444 HMC-ALH102 HMC-ALH435 HMC-ALH444 HMC-AUH232 HMC-AUH249 HMC-AUH312	HMC463LH250 HMC606 HMC606LC5 HMC633 HMC633LC4 HMC634 HMC634LC4 HMC-C050 HMC-ALH102 HMC-ALH435 HMC-ALH444 HMC-ALH482 HMC-AUH232 HMC-AUH249 HMC-AUH312	HMC463LH250 HMC606 HMC606LC5 HMC633 HMC633LC4 HMC634 HMC634LC4 HMC-C050 HMC-ALH102 HMC-ALH435 HMC-ALH482 HMC-AUH232 HMC-AUH249 HMC-AUH312	HMC463LH250 HMC606 HMC606LC5 HMC633 HMC633LC4 HMC634 HMC634LC4 HMC-C050 HMC-ALH102 HMC-ALH216 HMC-ALH435 HMC-ALH435 HMC-ALH476 HMC-ALH476 HMC-ALH482 HMC-ALH482 HMC-AUH232 HMC-AUH249 HMC-AUH312	HMC463LH250 HMC606 HMC606LC5 HMC634 HMC634LC4 HMC-C050 HMC-ALH102 HMC-ALH216 HMC-ALH435 HMC-ALH445 HMC-ALH476 HMC-ALH482 HMC-AUH232 HMC-AUH249 HMC-AUH256 HMC-AUH312	HMC635 HMC-ALH216 HMC-ALH311 HMC-ALH445 HMC-ALH476 HMC-AUH232 HMC-AUH249 HMC-AUH256 HMC-AUH312
Attenuator: Analog	HMC346LP3E HMC812LC4 HMC-C053	HMC346LP3E HMC812LC4 HMC-C053	HMC346LP3E HMC812LC4 HMC-C053	HMC346LC3B HMC812LC4 HMC-C053	HMC346LC3B HMC-C053 HMC-VVD102	HMC812LC4 HMC-VVD102
Divide-by-2	HMC361S8GE	HMC364S8GE	HMC492LP3E	HMC492LP3E	HMC492LP3E	
Divide-by-4	HMC362S8GE	HMC365S8GE	HMC493LP3E	HMC493LP3E	HMC447LC3	HMC447LC3
Divide-by-8	HMC363S8GE	HMC363S8GE	HMC494LP4E	HMC494LP4E		
Multiplier: Active X2	HMC368LP4E HMC575LP4E HMC561LP3E	HMC368LP4E HMC573LC3B HMC561LP3E HMC-XDB112	HMC368LP4E HMC573LC3B HMC561LP3E HMC-XDB112	HMC368LP4E HMC573LC3B HMC561LP3E HMC-XDB112	HMC448LC3B HMC576 HMC576LC3B	HMC448LC3B HMC576 HMC576LC3B
Multiplier: Active X4		HMC443LP4E	HMC370LP4E	HMC370LP4E HMC-XDH158		
Multiplier: Passive X2	HMC189AMS8E	HMC189AMS8E	HMC204MS8GE	HMC204MS8GE	HMC204MS8GE	HMC205
I/Q Downconverter / Rx I/Q Upconverter/Tx	HMC567LC5	HMC568LC5	HMC869LC5	HMC570 HMC570LC5 HMC709LC5	HMC571 HMC571LC5 HMC710LC5	HMC572 HMC572LC5 HMC815LC5
I/Q Mixer / IRM	HMC520LC4 HMC525LC4 HMC620 HMC620LC4	HMC521LC4 HMC527LC4	HMC521LC4 HMC527LC4	HMC522LC4 HMC528LC4	HMC523 HMC523LC4	HMC523 HMC523LC4 HMC524 HMC-MDB172





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MICROWAVE & MILLIMETERWAVE RADIO, 7 to 23 GHz

Function	7 / 8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz
Mixer: Fundamental	HMC129LC4 HMC144LC4 HMC219MS8E HMC220MS8E HMC553 HMC553LC3B HMC558 HMC558LC3B HMC663LC3	HMC144LC4 HMC411MS8GE HMC412MS8GE HMC553 HMC553LC3B HMC558 HMC558LC3B HMC-C051 HMC663LC3	HMC144LC4 HMC411MS8GE HMC412MS8GE HMC553 HMC553LC3B HMC558 HMC558LC3B HMC-C051	HMC144LC4 HMC260LC3B HMC412MS8GE HMC554 HMC554LC3B HMC558 HMC558LC3B HMC-C051	HMC144LC4 HMC260LC3B HMC292LC3B HMC554 HMC554LC3B HMC-C051	HMC260LC3B HMC292LC3B
Mixer: Sub-Harmonic				HMC258LM3	HMC258LC3B HMC258LM3 HMC337	HMC264LC3B HMC338LC3B
PLLs: Synthesizer ICs	HMC698LP5E HMC699LP5E HMC700LP4E HMC701LP6CE					
Switch	HMC547LP3E HMC641	HMC607 HMC641	HMC547LP3E HMC641	HMC607 HMC641	HMC547LP3E HMC641	
Signal Generator	HMC-T2000					
VCO & PLO: **Requires X2 or X4	HMC466LP4E HMC505LP4E HMC506LP4E HMC532LP4E HMC586LC4B HMC587LC4B	HMC513LP4E HMC515LP5E HMC534LP4E HMC582LP5E HMC588LC4B HMC735LP5E	HMC513LP4E HMC529LP4E HMC584LP5E	HMC529LP4E HMC531LP5E HMC535LP5E HMC632LP5E HMC736LP4E HMC737LP4E	HMC429LP4E**	HMC431LP4E** HMC738LP4E HMC739LP4E
VGA: Analog	HMC694 HMC694LP4E	HMC694 HMC694LP4E	HMC694 HMC694LP4E	HMC694 HMC694LP4E	HMC694 HMC694LP4E	

MICROWAVE & MILLIMETERWAVE RADIO, 26 to 86 GHz

Function	26 / 28 GHz	32 / 38 GHz	32 - 43 GHz	44 - 66 GHz	71 - 86 GHz
Low Noise Amplifier	HMC341LC3B HMC517LC4 HMC519LC4 HMC635 HMC693	HMC263 HMC566 HMC635 HMC693	HMC-ALH376	HMC-ALH382	HMC-ALH459 HMC-ALH509
Driver Amplifier	HMC383LC4 HMC499LC4 HMC635LC4	HMC300LM1 HMC383LC4 HMC635LC4	HMC-APH403 HMC-APH473 HMC-APH510	HMC-ABH209 HMC-ABH241 HMC-ABH403	HMC-AUH317 HMC-AUH318 HMC-AUH320
Power Amplifier	HMC499LC4 HMC693 HMC-APH196 HMC-APH460 HMC-APH462 HMC-APH596 HMC-APH608	HMC693 HMC-ABH264 HMC-APH403 HMC-APH473 HMC-APH510 HMC-APH596	HMC693 HMC-ABH264 HMC-APH403 HMC-APH473 HMC-APH510 HMC-AUH256	HMC-ABH209 HMC-ABH241 HMC-ABH403	HMC-ALH508 HMC-AUH317 HMC-AUH318 HMC-AUH320



A Selection of Hittite Components for MICROWAVE & MMWAVE

MICROWAVE & MILLIMETERWAVE RADIO, 26 to 86 GHz

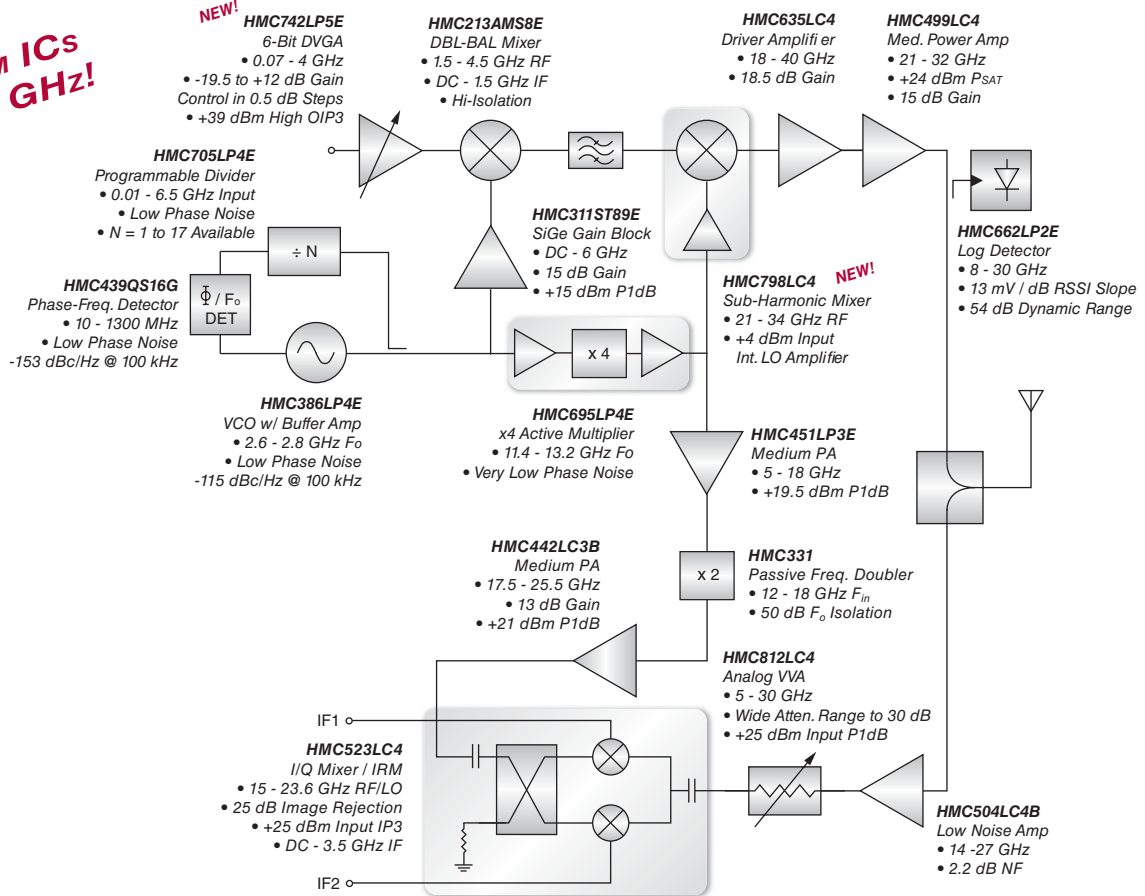
Function	26 / 28 GHz	32 / 38 GHz	32 - 43 GHz	44 - 66 GHz	71 - 86 GHz
Wideband (Distributed) Amplifiers	HMC-ALH140 HMC-ALH216 HMC-ALH244 HMC-ALH311 HMC-ALH313 HMC-ALH364 HMC-ALH369 HMC-ALH445 HMC-ALH476 HMC-AUH232 HMC-AUH249 HMC-AUH256 HMC-AUH312	HMC635 HMC-ALH140 HMC-ALH244 HMC-ALH310 HMC-ALH313 HMC-ALH364 HMC-ALH369 HMC-ALH376 HMC-ALH445 HMC-ALH476 HMC-AUH249 HMC-AUH256	HMC-ALH140 HMC-ALH244 HMC-ALH310 HMC-ALH313 HMC-ALH364 HMC-ALH369 HMC-ALH376 HMC-ALH445 HMC-AUH232 HMC-AUH249 HMC-AUH256 HMC-AUH312	HMC-ALH376 HMC-AUH312	
Attenuator: Analog	HMC712LP3CE HMC812LC4 HMC-VVD102	HMC-VVD106	HMC-VVD106	HMC-VVD106	HMC-VVD104
Divide-by-4	HMC447LC3				
Multiplier: Active x2	HMC448LC3B HMC577LC4B HMC578LC3B HMC598	HMC449LC3B HMC578LC3B HMC579 HMC598	HMC598	HMC598 HMC-XDH158	
Multiplier: Active x4					
Multiplier: Passive x2 / x3	HMC331	HMC331			
I/Q Receiver	HMC572 HMC572LC5				
I/Q Mixer / IRM	HMC524 HMC524LC3B HMC-MDB172	HMC404 HMC555 HMC556	HMC-MDB171 HMC-MDB172	HMC-MDB171 HMC-MDB207	
Mixer: Fundamental	HMC292LC3B HMC329LC3B HMC557 HMC557LC4 HMC560 HMC560LM3	HMC294 HMC329LM3 HMC560 HMC560LM3		HMC-MDB169	
Mixer: Sub-Harmonic	HMC264LC3B HMC265LM3 HMC338LC3B HMC798LC4	HMC338 HMC339 HMC798LC4		HMC-MDB218	
Power Detectors	HMC662LP3E				
Switch				HMC-SDD112	HMC-SDD112
VCO & PLO: **Requires X2 or X4	HMC515LP5E** HMC531LP5E** HMC639LP4E HMC739LP4E	HMC505LP4E HMC506LP4E			
Switch				HMC-SDD112	HMC-SDD112
VCO & PLO: **Requires X2 or X4	HMC515LP5E** HMC531LP5E**	HMC505LP4E HMC506LP4E			



A Selection of Hittite Components for MICROWAVE & MMWAVE

DOUBLE UPCONVERSION & DIRECT DOWNCONVERSION

**CUSTOM ICs
TO 110 GHz!**



HITTITE'S HIGH FREQUENCY LO SOURCE ALTERNATIVES

PLL & VCO CHIPSET

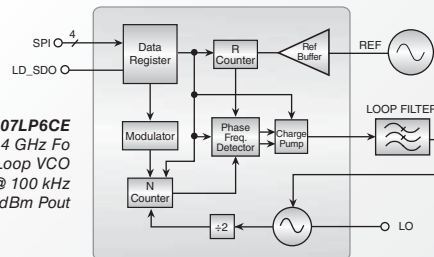
HMC702LP6CE
Fractional-N Synthesizer (PLL)
• 10 KHz to 14 GHz
• Low Phase Noise: -103 dBc
• -227 FOM Integer Mode



HMC584LP5E
VCO with Fo/2 & Fo/4 Output
• 12.5 - 13.9 GHz F₀
• Low Phase Noise
• -110 dBc/Hz @ 100 kHz
• +10 dBm P_{out}

PLL WITH INTEGRATED VCO IC

NEW!
HMC807LP6CE
• 12.4 - 13.4 GHz F₀
• -110 dBc/Hz Open Loop VCO Phase Noise @ 100 kHz
• +8 dBm P_{out}



Typical Microwave / Millimeterwave application is illustrated.
See the full product listing for alternatives to the select HMC products shown in each functional block.

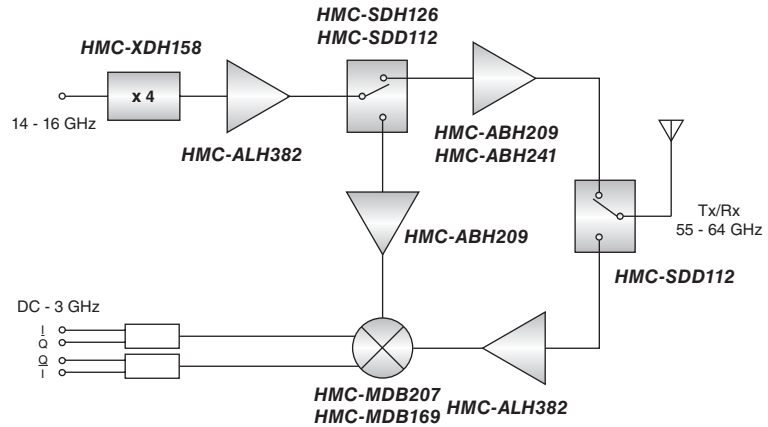


A Selection of Hittite Components for MICROWAVE & MMWAVE

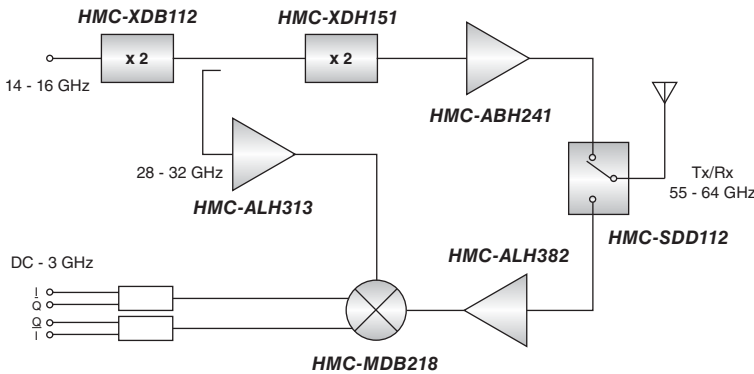
60 GHz Tx/Rx CHIPSET

FEATURES:

- ◆ < 4 dB LNA Noise Figure
- ◆ +18 dBm Psat PA Output Power
- ◆ Sub-Harmonic Option Available
- ◆ I/Q or Double-Balanced Mixer Products Available



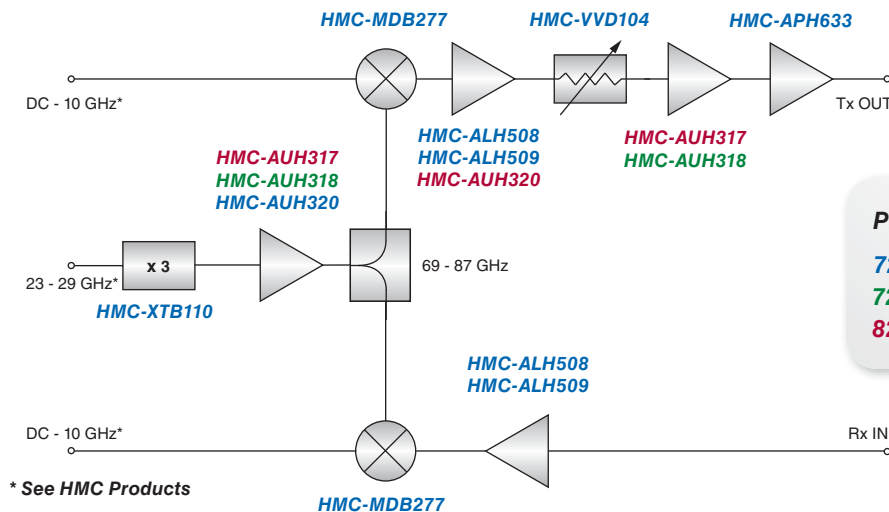
SUB-HARMONIC OPTION FOR 60 GHz CHIPSET



APPLICATIONS:

- ◆ Short Haul High Capacity Links
- ◆ Picocell Mobile Phone Links
- ◆ Network Backbone & Branch Links
- ◆ HDTV Wireless Component Links

72 & 82 GHz Tx/Rx CHIPSET FOR HIGH CAPACITY COMMUNICATION LINKS



Product Key

- 72 & 82 GHz
- 72 GHz Only
- 82 GHz Only

* See HMC Products

Typical Microwave / Millimeterwave application is illustrated.
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