Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

MICREL
Innovation Through Technology™

Product Selector Guide

2011

CHINA ROHS   EU ROHS

An Overview of *Micrel*

Micrel Inc. is a leading manufacturer of IC solutions for the worldwide analog, Ethernet and high bandwidth markets. The Company's products include high performance analog, power, advanced mixed-signal and radio frequency semiconductors; high speed communication, clock management, Ethernet switch and physical layer transceiver integrated circuits. These products address a wide range of rapidly growing end markets including cellular handsets, portable and enterprise computing, enterprise and home networking, wide area and metropolitan area networks and industrial equipment.

Founded in 1978, Micrel has an excellent record of revenue growth and sustained profitability. The Company has posted year-over-year revenue growth in 23 out of 31 years and been profitable in 30 of its 31 years of its existence. The Company has consistently generated positive cash flows since going public in 1994.

Corporation headquarters and state-of-the-art wafer fabrication facilities are located in San Jose, California with regional sales and support offices and advanced technology design centers situated throughout the Americas, Europe and Asia. In addition, the Company maintains an extensive worldwide network of sales representatives and distributors.

Micrel utilizes both its own world-class wafer fabrication facility, which contains a broad array of process technologies that allow Micrel to quickly develop and introduce state-of-the-art products. Micrel combines its expertise in fabrication technology with world-class design teams to develop and produce these high performance products to provide our customers with the solutions they need to compete in today's fast paced technology industry.

Micrel is fiercely committed to its customers' success. Micrel's outstanding sales, customer service and technical support organizations, together with its manufacturing operations, are structured specifically to address customer needs and requirements. Micrel is known throughout the industry for its service orientation and for being, "fast on its feet".

Contents

Featured Products

Frequency Generation

Voltage Controlled Frequency Source (VCXO ICs)

Reference Frequency Clock (XO ICs)

PicoPLL - Programmable Clocks

Signal Conditioning

Clock Distribution

Analog Frequency Multiplier (AFM)
Unbeatable Performance

- **< 50fs Phase Jitter (12KHz to 20MHz), @ 622MHz**
- **< 2.5ps RMS Period Jitter**
- **< 30ps PK-PK Period Jitter**

-10.6dBc @ 1Hz
-51.3dBc @ 10Hz
-83.5dBc @ 100Hz
-113.7dBc @ 1KHz
-133.4dBc @ 10KHz
-144.0dBc @ 100KHz
-150.3dBc @ 1MHz
-154.9dBc @ 10MHz

38 fs RMS for 12KHz ~ 20MHz @ 622.08MHz

L(f) [dBc/Hz] vs f [Hz]
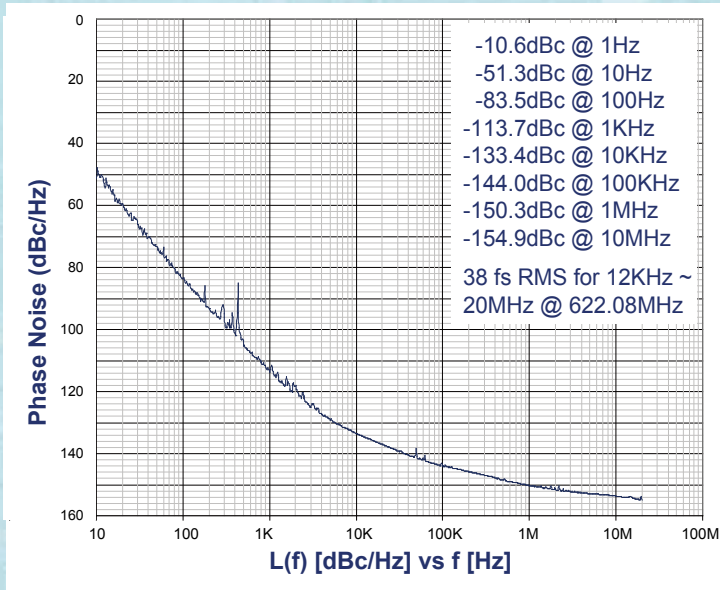
Industry's first CMOS Non-PLL multiplier utilizing analog multiplication of a high frequency fundamental or 3rd overtone crystal input. Our patented AFM technology can generate up to 800MHz in PECL, LVDS or CMOS without using a Phase-Locked Loop. This is achieved with practically no jitter or phase noise deterioration.

PhasorVI Frequency Multiplier
The Best In Class Multiplier

- **< 500fs Phase Jitter (12KHz to 20MHz), @ 622MHz**
- **< 30ps PK-PK Period Jitter**

L(f) [dBc/Hz] vs f [Hz]
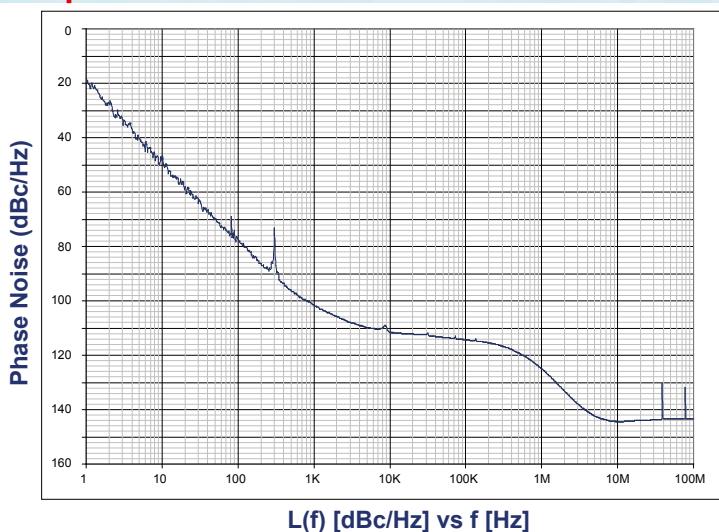
- **Practically, No Accumulated Jitter**

PhasorVI Long Term Jitter
(Crystal=38.88MHZ, Output=155.52MHz)
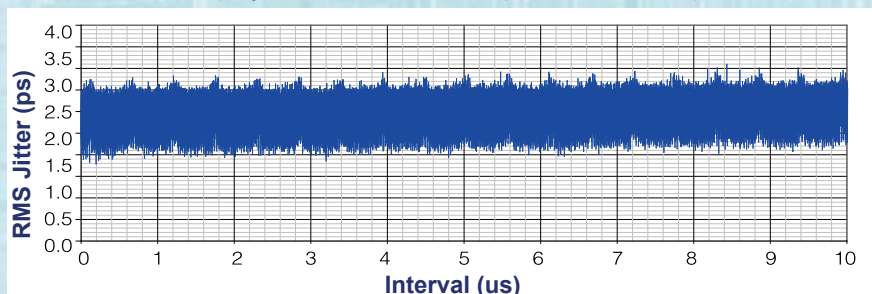
See page 23 for detailed product selector guide.

5

Tiny Package,
World's Smallest

▶ **Lowest Power Consumption**

▶ **1.8V, 2.5V, 3.3V Supply**

▶ **30~70ps Peak-Peak Jitter**

▶ **Fast Turnaround with Factory Programming**

Unit: mm

TSSOP 16	SOP8	MSOP 10	QFN 3x3	SOT23	DFN
6.4x5	6x5	4.9x3	3x3	3x3	1.3x2
12.3X	11.5X	5.7X	3.5X	3.5X	1X
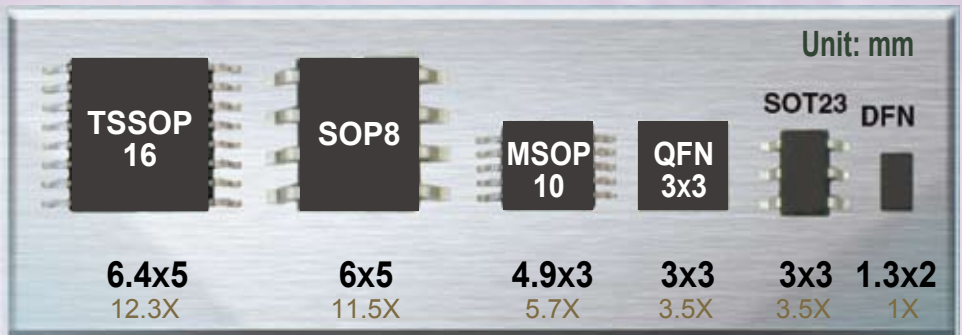
Micrel's PicoPLL programmable clock family is a general purpose frequency synthesizer with the key features of low jitter, low power and tiny package. This low cost frequency source solution is designed to fit almost any application where high performance, space saving and time to market is crucial.

Big Benefits!
Programmable Clock

Applications Unlimited !

Device Family	# of PLLs	EMI	Input (MHz)	# of Outputs	Voltage	Package
PL611s	1		Crystal: 10-40 Ref Clock: 0.01-200	Up to 2	1.62V~ 3.63V	DFN, SOT-6
PL613	3		Crystal: 10-40 Ref Clock: 5-200	Up to 8	1.62V~ 3.63V	QFN 3x3, (T)SSOP
PL613-21	3		Crystal: 10-40 Ref Clock: 5-200	Up to 4 with varying voltage on each output	1.62V~ 3.63V	QFN 3x3, (T)SSOP
PL671	1	√	Crystal: 10-40 Ref Clock: 1-200	Up to 3	2.25V~ 3.63V	SOT-23, (M)SOP
PL585/685	1		Crystal: 19-40	PECL, LVDS	3.3V	(T)SSOP

Programmable Clocks

PicoPLL is Micrel's line of programmable, high performance clock ICs. Accepting a single
reduce system cost and fit almost any application where high performance, low-power, space

FEATURES (PL613-21)

- 3-programmable PLLs, with individual Power Down (PDB) pins
    - o One 32.768K Clock and 3 pins with 'MHz' range Clock outputs
- 4 outputs with individual voltage on each output
    - o Covers from 1.62V to 3.63V
- Small form-factor for PCB Space Savings
- Ultra Low-Power Consumption
    - o Ultra-Low Power-Down Mode, <5μA
- Input Frequency:
    - o Fundamental Crystal: 10MHz to 40MHz
    - o Reference Input: 10MHz to 200MHz
- Active Low or Hi-Z Disabled Output State
- Operating Temperature Ranges:
    - o Commercial: 0°C to 70°C
    - o Industrial: -40°C to 85°C
- Power supply voltages: 1.62V to 3.63V
- Available in GREEN/RoHS Compliant 3x3 QFN-16 Package

BLOCK DIAGRAM

8
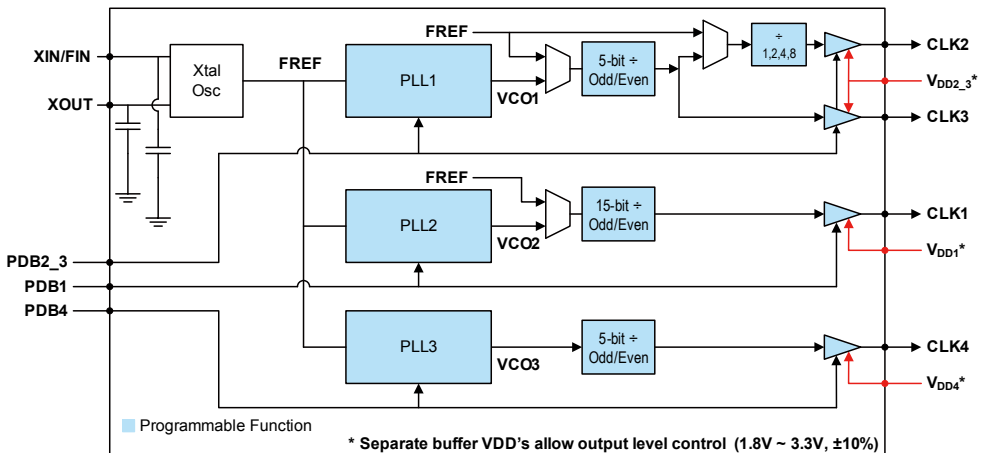
crystal or reference clock input and producing up to 8 outputs, the PicoPLL family is designed to saving, cost sensitivity, and time-to-market are crucial.

APPLICATION EXAMPLES

Smartphone

PL613 takes advantage of the available TCXO reference clock to four required system clocks for a typical Smartphone application.
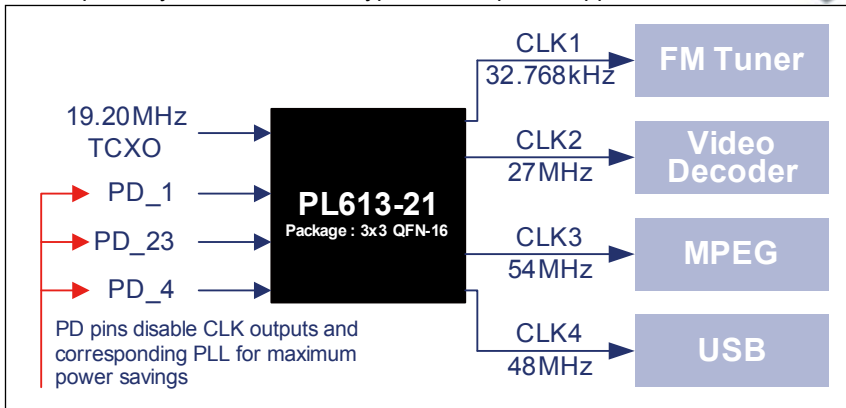
Portable Navigation Device (PND)

PL613-21 takes advantage of the available TCXO reference clock to create three required system clocks for a typical PND application.

Programmable Clocks

Micrel's extensive arrays of programmable clock families allow selection from a wide

Part Number	# of PLLs	Input (MHz)		Output (MHz)	# of Outputs	Voltage(V)			Ultra-Low Power
		Xtal Range	Reference			1.8	2.5	3.3	

MHz to MHz Clocks

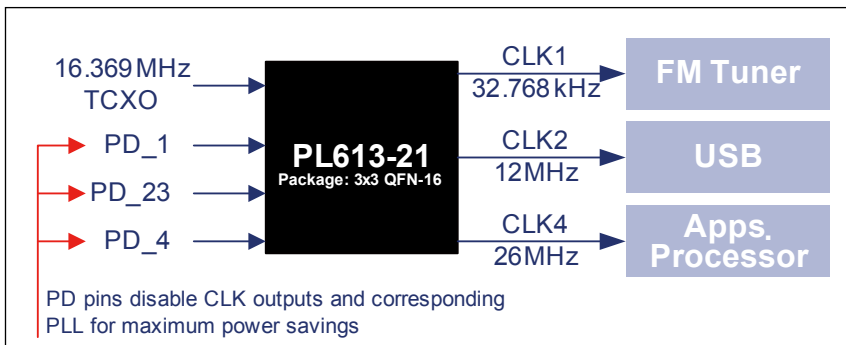| Part Number	# of PLLs	Xtal Range	Reference	Output (MHz)	# of Outputs	1.8	2.5	3.3	Ultra-Low Power
PL611s-02 PL611s-04	1	10 - 40	1 - 200	≤200	≤2	√	√	√	
PL611s-27	1	-	1 - 200	≤125	≤2	√	√	√	√
PL611s-6X	1	10 - 40	-	≤200	1	√	√	√	√
PL611-01	1	10 - 30	1 - 200	≤200	≤3		√	√	
PL611-30	1	10 - 30	1 - 200	≤400	≤3		√	√	
PL611-31	1	10 - 30	1 - 200	≤200	≤3		√	√	
PL613-01	3	10 - 40	5 - 200	≤200	≤8	√	√	√	
PL613-05	3	10 - 40	5 - 200	≤200	≤3	√	√	√	
PL613-21	3	10 - 40	5 - 200	≤125	≤4	√	√	√	√

EMI Reduction Clocks

Part Number	# of PLLs	Xtal Range	Reference	Output (MHz)	# of Outputs	1.8	2.5	3.3	Ultra-Low Power
PL671-01	1	10 - 40	1-200	≤200	≤3		√	√	
PL671-02	1	-	1-200	≤200	≤3		√	√	

MHz to kHz Clocks

Part Number	# of PLLs	Xtal Range	Reference	Output (MHz)	# of Outputs	1.8	2.5	3.3	Ultra-Low Power
PL610-32	0	16.67772	-	.0325768	1	√	√	√	√
PL611s-18	1	10 - 40	1 - 200	0.5kHz-125	≤2	√	√	√	√
PL611s-19	1	-	DC - 200	0.5kHz-125	≤2	√	√	√	√
PL613-21	3	10 - 40	5 - 200	≤125	≤4	√	√	√	√

High Performance Clocks

Part Number	# of PLLs	Xtal Range	Reference	Output (MHz)	# of Outputs	1.8	2.5	3.3	Ultra-Low Power
PL585/685-XX	1	19 - 40	Yes	≤800	LVPECL LVDS			√	√

variety of features and form-factors to suit most demanding design requirements.

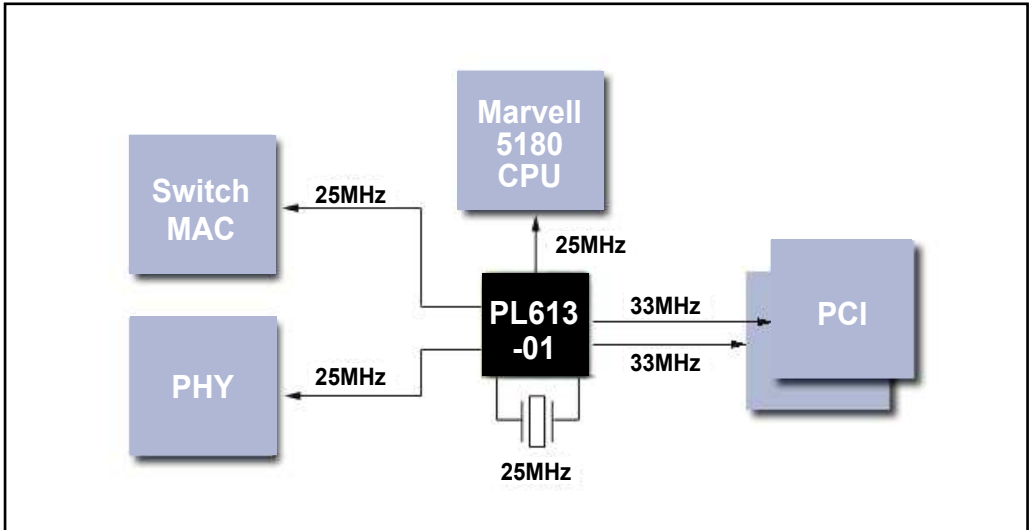| Programmable Pin				Other Features	Package
PDB	OE	FSEL	CLK		
√	√	√	√	• World's smallest programmable clock	Die, Wafer, DFN-6L, SOT23-6L
√	√	√		• 2 CLKs & PDB/OE	DFN-6L, SOT23-6L
√				• By 4/8 multiplier	Die, Wafer
√	√	√	√	• 3 output multiplier PLL	Die, Wafer, SOT23-6L
	√	√	√	• Complementary LVCMOS Outputs	MSOP-8L, SOP-8L
	√	√	√		
√	√	√	√	• Master OE/PDB • 4 Clocks with 4 OE	QFN-16L, (T)SSOP-16L
√	√	√	√	• Master OE/PDB	SOP-8L
√	√	√	√	• Variable Voltage on Each Output • Individual CLK/PLL Power-Down pins • KHz outputs on CLK1	QFN-16L(3x3mm)
√		√	√	• SS Rate: ±0.125%~±2.0% (Center), or -0.25% ~-4.0% (Down)	SOT23-6L , MSOP-8L, SOP-8L
√		√	√	• Contact Micrel for Cross Ref. List	SOT23-6L
				• 0.3mA from MHZ to 32K clock out	Die, Wafer
√	√	√	√	• Low-power MHz to RTC clock	DFN-6L, SOT-6
√	√	√		• Ideal for Two Outputs, One a Low- Power 32K Clock, With Ref. Input	DFN-6L, SOT-23-6L
√	√	√	√	• Variable Voltage on Each Output • Individual CLK/PLL Power-Down pins • KHz output on CLK1	QFN-16L(3x3mm)
√	√	√	N/A	• 0.5 ps phase jitter at 622.08MHz • 90 mA (PECL) Power Consumption	TSSOP-16L

1. Line Card for High Speed Serial Links

PhaseLink offers a variety of high performance timing sources for the most demanding communication applications such as 10Gbps line cards.
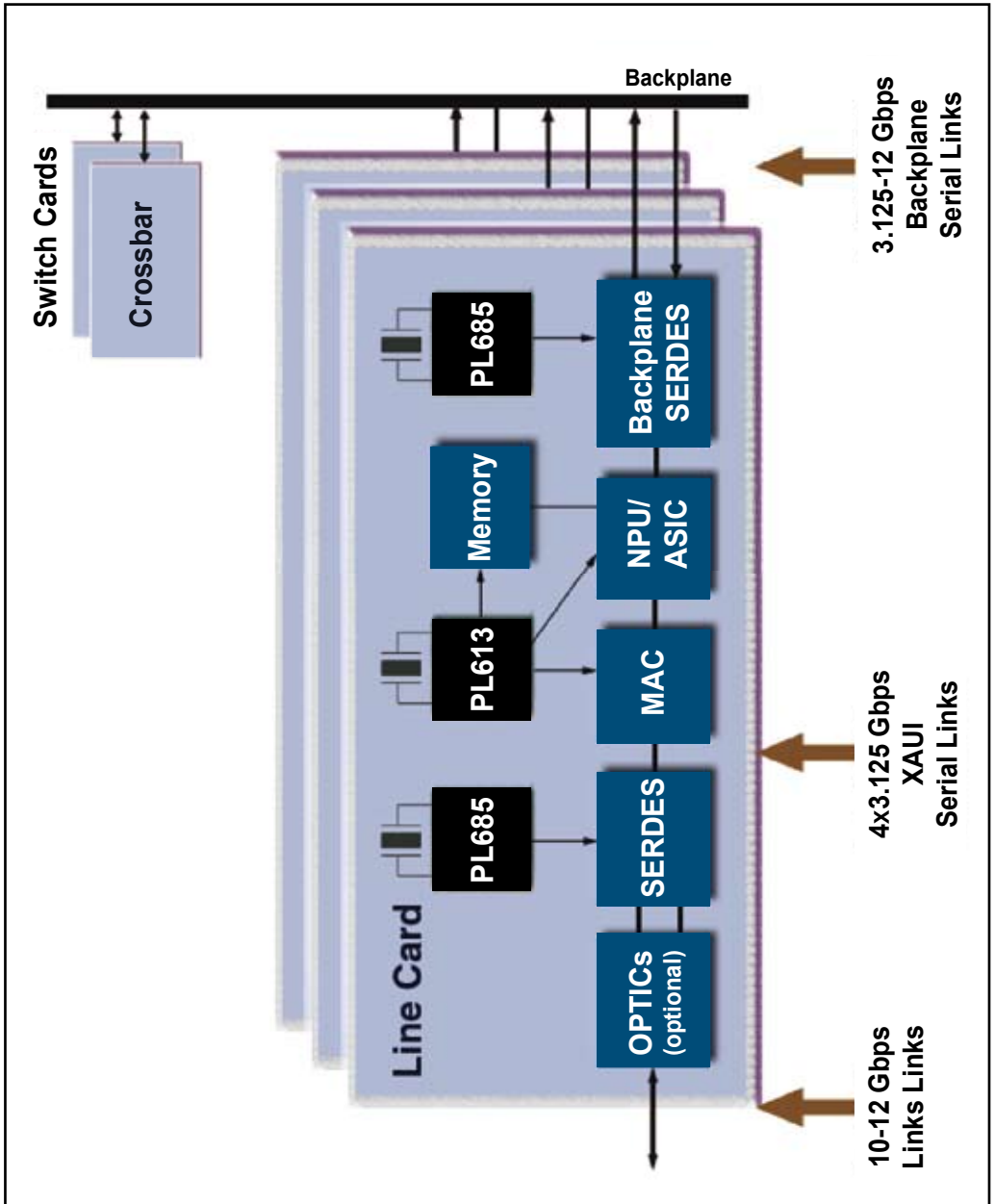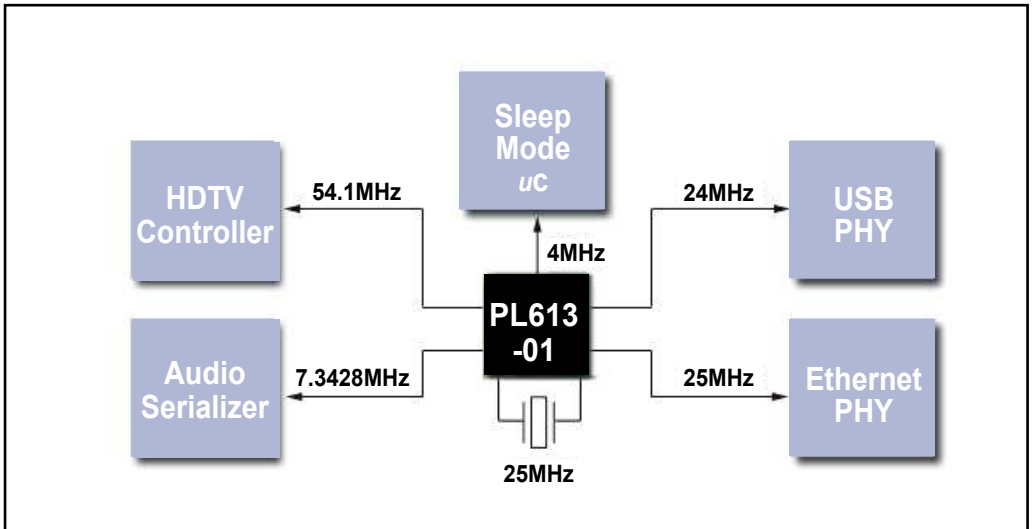
2. 802.11n AP Router

PL613-01, a three PLL Programmable Frequency Synthesizer, can replace multiple crystals oscillators reducing cost, size and power in AP router designs.

```
                    Marvell
                     5180
                     CPU
Switch                        ↑ 25MHz
MAC    ← 25MHz
                  PL613    33MHz →   PCI
                   -01
PHY    ← 25MHz            33MHz →

                     25MHz
```

3. DTV/HDTV

PL613-01, a three PLL Programmable Frequency Synthesizer, provides all the necessary clocks for common DTV/HDTV requirements.

```
                    Sleep
                    Mode
                     uC
HDTV     54.1MHz              24MHz    USB
Controller                            PHY
                      ↑ 4MHz
                  PL613
                   -01
Audio    7.3428MHz           25MHz   Ethernet
Serializer                            PHY

                     25MHz
```

4. ATSC USB DVB-T

The PL613-01's multiple PLLs and frequency generator circuitry provides all the clocking requirements for the complex Optical Networking systems, in a small form-factor package.
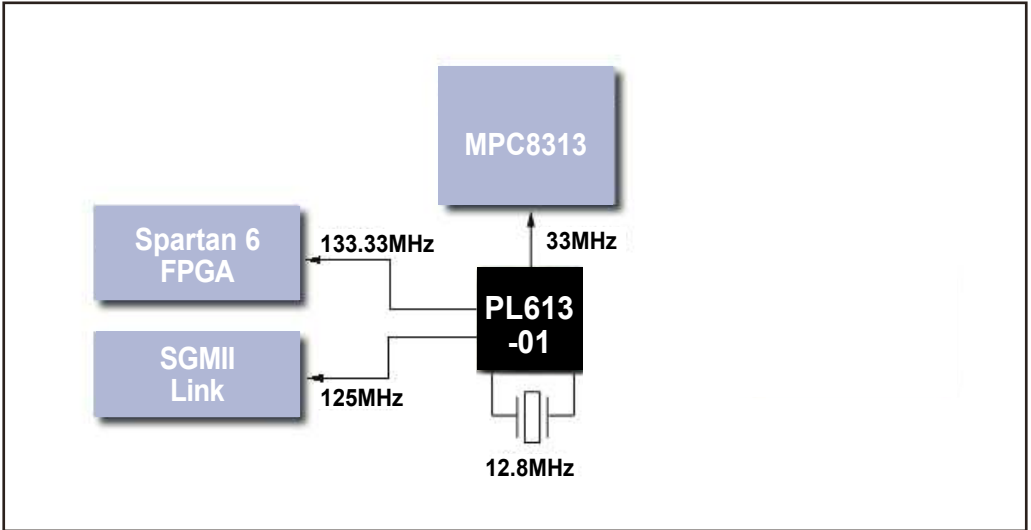
5. GPON (Gigabit Passive Optical Network)

Using Micrel's PL611s-02, customers can create high frequency and low-jitter clocks by using low-cost, low-frequency crystals.
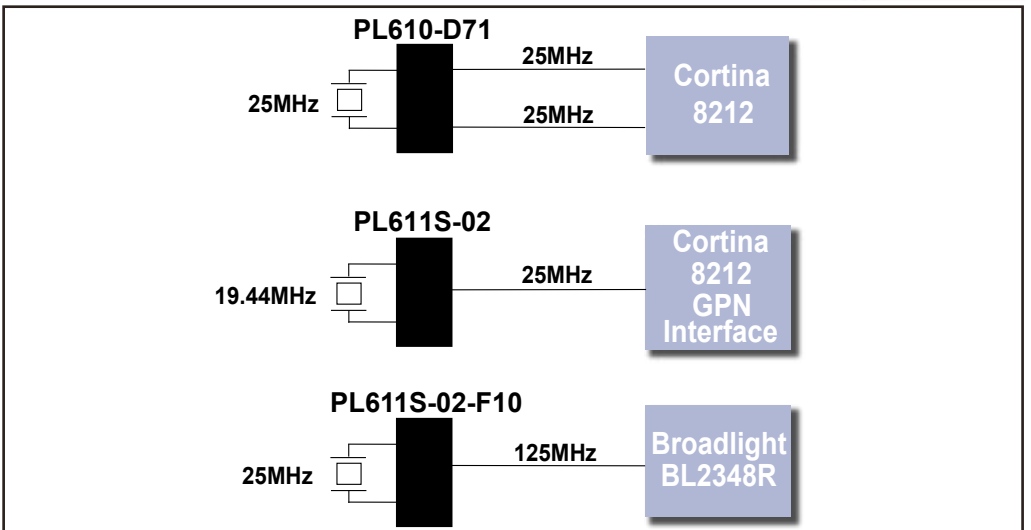

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6. GE-PON (Gigabit Ethernet Passive Optical Network)

PL685-XX can create high freq. differential (LVPECL, LVDS) from a low-cost crystals to support low jitter requirements in communications app.
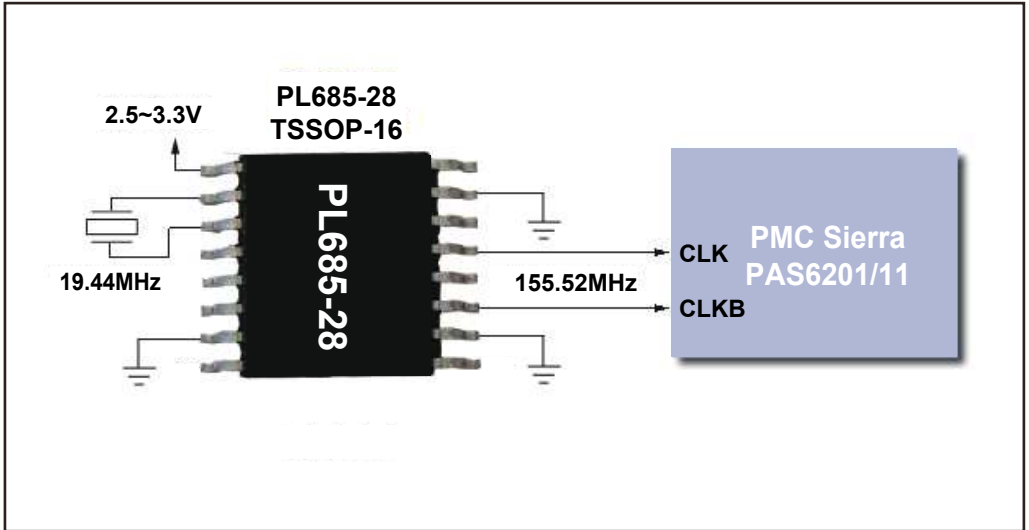
7. USB Clock

PL611s-17, a KHz to MHz Programmable Frequency Synthesizer, can generate a USB clock from a 32.768KHz reference input.
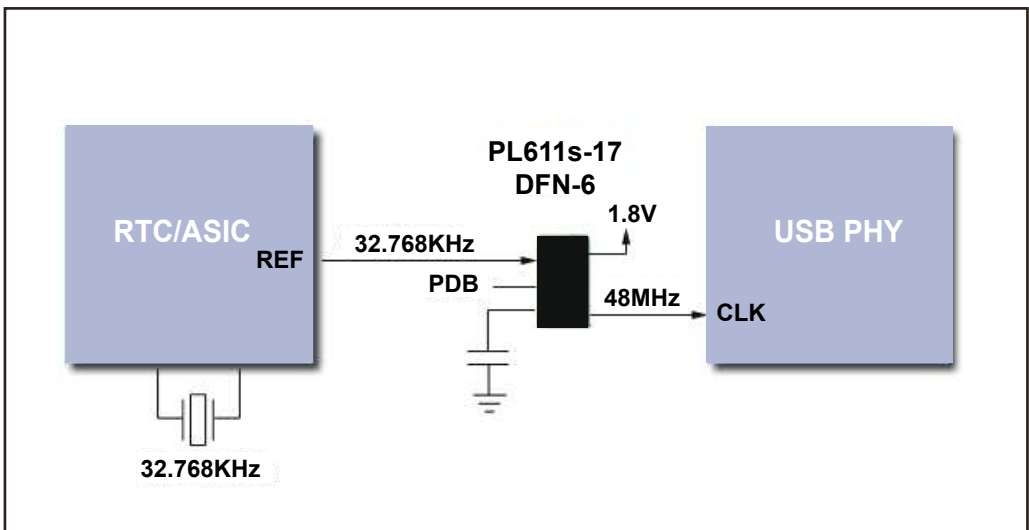
8. VOIP Phone

PL611s-18, a MHz to KHz Programmable Frequency Synthesizer,
can generate both MHz and KHz clock outputs from a MHz crystal input.

PL611s-18
SOT-23

611s-18

CKIH

1.8~3.3V

32.768KHz

26MHz   CKIL

Freescale
Multimedia Processor
i.MX21/31

26MHz
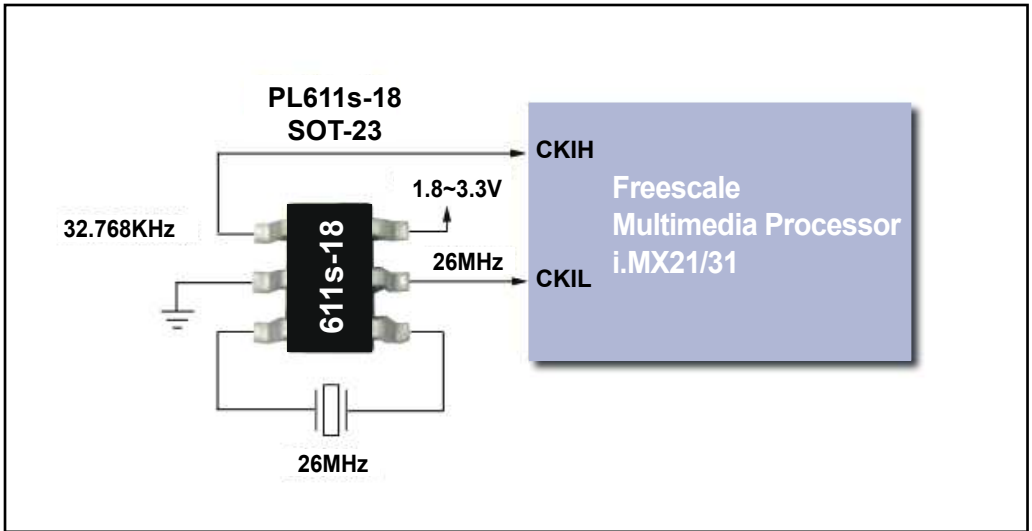
9. Printer

Micrel's PL671 PicoEMI programmable Spectrum Clock Generator
(PSSCG) can generate multiple clocks to reduce EMI emission.

16.667MHz

2.5-3.3V

48MHz   **USB PHY**

PL611s-02
DFN-6

2.5-3.3V

PL671-02

16.667MHz

66.66MHz ±1% SST

66.66MHz ±1% SST

66.66MHz ±1% SST

*u*Controller

CLK

Memory
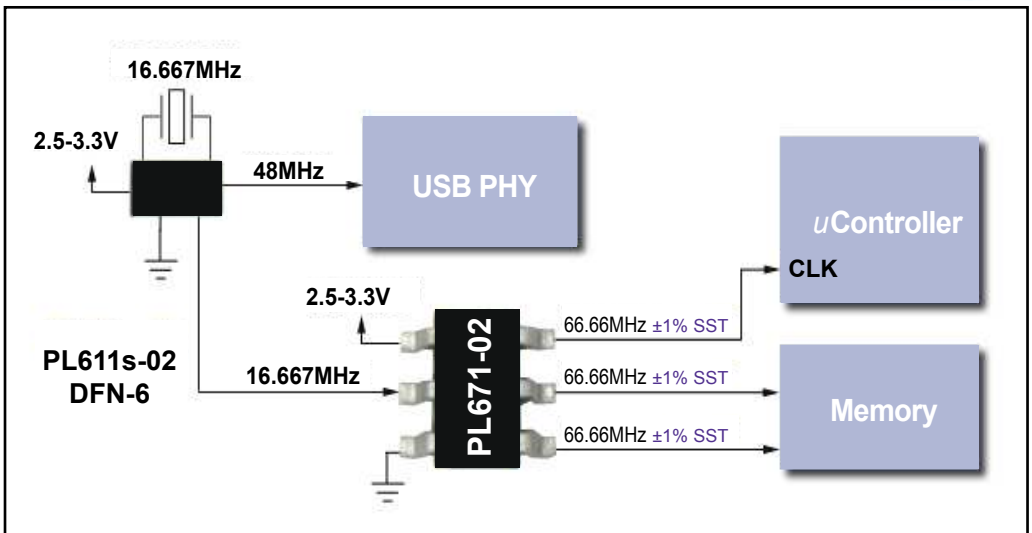
10. Bluetooth Headset

PL611s-02, a low power programmable PLL, is the ideal clocking
solution to generate any frequency for handheld and small footprint applications.

PL611s-02
DNF-6
(2 x 1.3 x 0.6mm)

Bluetooth Module

REF
GPIO

24.576MHz
PDB

1.8~3.3V

49.152MHz

Audio DSP

CLK

24.576MHz

11. Digital Video (Set top Box, DTV)

Using PLL500 VCXO IC and PL611s Pico-PLL programmable clock,
users are able to generate multiple VCXO clocks at low cost.

PLL500-17
(VCXO)
SOT-23

PL500-17

VCON

2.5-3.3V

27MHz

PL611s-02
DNF-6

MPEG

FSEL

DVI Link

74.125MHz/
74.1758MHz

27MHz

Pico-EMI Clock Summary

Micrel's proprietary Spread Spectrum Timing (SST) technology can efficiently suppress
ICs with very low cycle to cycle jitter (100ps Peak-Peak) are suitable for clock generation

FEATURES (PL671-01)

- Advanced programmable PLL with Spread Spectrum with up to 3 outputs
- Crystal or Reference Clock input
    - o Fundamental crystal: 10MHz to 40MHz
    - o Reference input: 1MHz to 200MHz
- Four programmed configurations to select from (CSEL)
- Output frequency range: ≤166MHz @ 2.5V operation
-                                    ≤200MHz @ 3.3V operation
- Programmable Spread Spectrum Modulation Magnitude:
    - o Center Spread: ±0.125% to ±2.0% in ±0.125% steps
    - o Down Spread: -0.25% to -4.0% in 0.25% steps
- Spread Spectrum On/Off selection
- Low Cycle to Cycle jitter.
- Programmable output drive (4mA, 8mA, 16mA)
- Single 2.5V to 3.3V, ± 10% power supply
- Operating temperature range from -40°C to 85°C
- Available in 8-pin SOP, MSOP and 6-pin SOT
  GREEN/RoHS compliant packaging

BLOCK DIAGRAM

EMI without requiring expensive enclosures or system redesign. These EMI reduction from a single crystal or a signal reference.
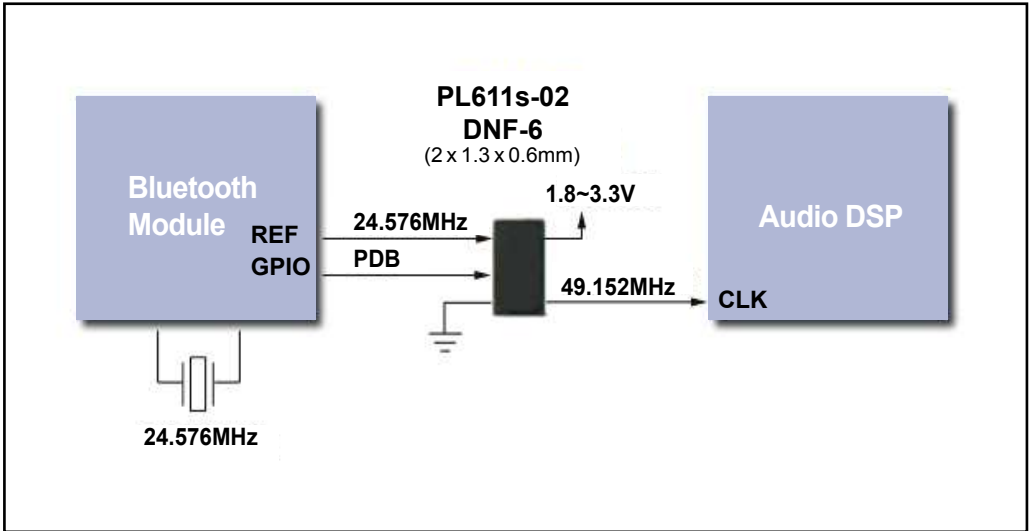
APPLICATION EXAMPLES

Printer

Micrel's PL671 PicoEMI Programmable Spread Spectrum Clock Generator (PSSCG) can generate multiple clocks to reduce EMI emission.
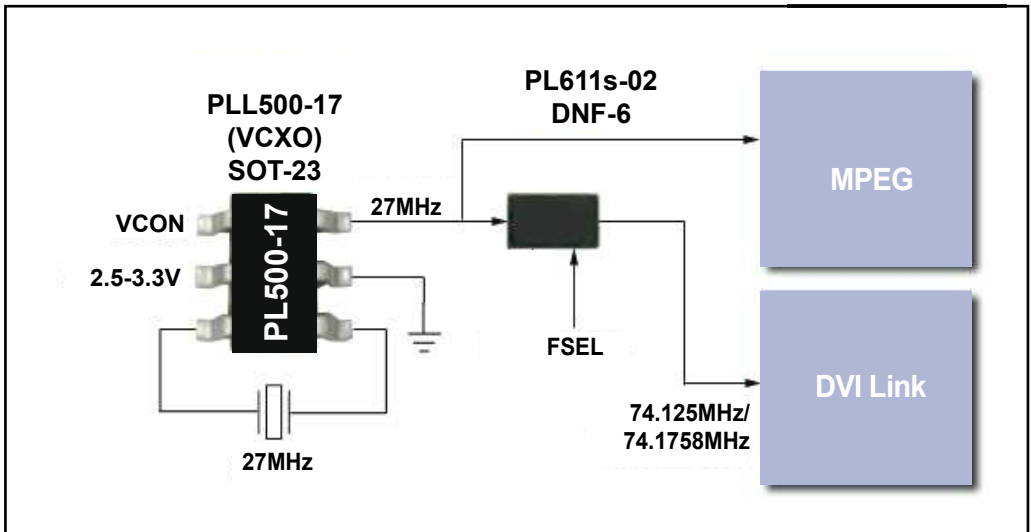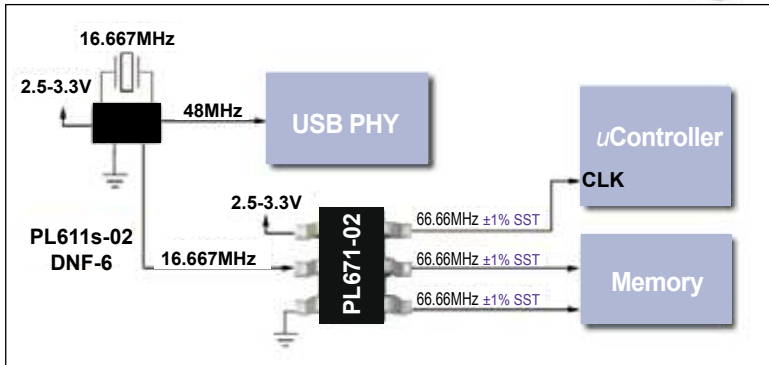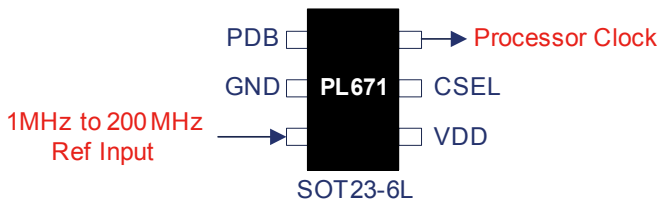

Note: ^ Denotes 60KΩ Pull-up resistor

Application Example: Using Reference CLK to Generate SST Processor CLK

CSEL1	CLK0
1	33MHz, ±1.0%
0	66MHz, ±2.0%

EMI Reduction ICs

Micrel's PicoEMI PL671 Programmable Spread Spectrum Clocks provide the flexibility

EMI Reduction Starter Kit (Pre-Programmed)

XIN/FIN — PL671 — XOUT
PDB^ — — VDD
CSEL1^ — — CSEL0^
GND — — CLK0

PL671-01A/B/C/D

Features	-01A	-01B	-01C	-01D
Input (MHz)	Crystal: 10-40 Ref: 10-40		Ref: 30-150	
Output (MHz)	CLK0 = FIN X 1			
Selectable Spread Spectrum Magnitude	±0.5% ±1.0% ±1.5% OFF	-1.0% -2.0% -3.0% OFF	±0.25% ±0.50% ±1.00% OFF	-0.5% -1.0% -2.0% OFF

Small Footprint: SOT23-6 Package (Programmable)

PDB^/CLK1 — PL671 — CLK0
GND — — VDD
XIN/FIN — — XOUT

PL671-01

PDB^/CLK1 — PL671 — CLK0
GND — — CSEL^
FIN — — VDD

PL671-02

Features	PL671-01	PL671-02
Input (MHz)	Crystal: 10-40 Ref: 1-200	Reference: 1-200
Output (MHz)	Programmable up to 200MHz	
# of outputs	Up to 2[1]	Up to 2[1]
Spread Spectrum Magnitude[2]	Fixed	Fixed Selectable
Power Down	Yes[1]	Yes[1]
1: Pin 1 can be configured as PDB input or CLK output. 2: Factory Program: Center: ±0.125~±2.0% (+0.125% step) Down: -0.25~ -4.0% (-0.25 step), or OFF		

SOP8/MSOP8 Package (Programmable)

XIN/FIN — PL671 — XOUT
PDB^/CLK1 — — VDD
CSEL1^ — — CSEL0^/CLK2
GND — — CLK0

PL671-01

| Features	PL671-01
Input (MHz)	Crystal: 10-40 or Ref : 1-200
Output (MHz)	Programmable up to 200MHz
# of outputs	Up to 3[1]
Spread Spectrum Magnitude[2]	Up to 4 Fixed Selectable
Power Down	Yes[1]
1: Pin 2,6 can be configured as CLK output. 2: Factory Program: Center: ±0.125~±2.0% (+0.125% step) Down: -0.25~ -4.0% (-0.25 step), or OFF	

and performance required for the most demanding EMI reduction requirements.

| Part Number	Function	Input (MHz)	Output (MHz)	Other Features	Voltage	Package
PL671-01 PL671-00	Programmable PLL	Xtal: 10-40 Ref.:1-200	≤200	SS Rate: ±0.125%~ ±2.0% (C) or -0.25%~ -4.0% (D)	2.25V~ 3.63V	SOT23-6L MSOP-8L SOP-8L Die, Wafer
PL671-02		Ref: 200	≤200			SOT23-6L
PL671-29		Xtal: 10-40 Ref.:1-200	≤200	SS Rate: ±0.125%~ ±2.0% (C) or -0.25%~ -4.0% (D)	2.25V~ 3.63V	SOT23-6L MSOP-8L SOP-8L Die, Wafer

Note: C: Center Spread. D: Down Spread.
General SS spread is at .25% increments. Please refer to the datasheet for more detail

Application Example: Selectable Frequency Video System Clock, using the CSEL Feature, or Adding Spread to DVI Video
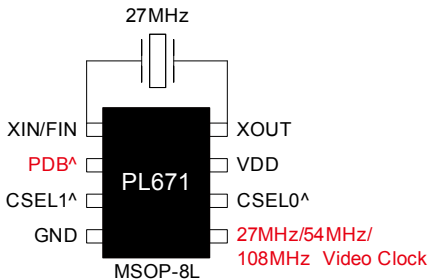
CSEL0	CSEL1	CLK0	Drive Strength
1	1	27MHz, SST Off	8mA
1	0	27MHz, ±1.0%	8mA
0	1	54MHz, ±1.0%	16mA
0	0	108MHz, ±1.0%	16mA
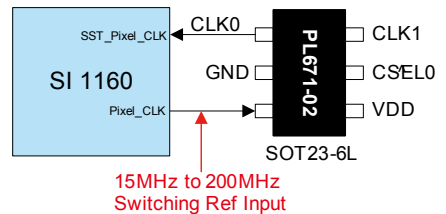
| CSEL0	CLK0	CLK1
1	Input Frequency, ±1.0%	Ref Out
0	Input Frequency, ±2.0%	Ref Out

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PhasorVI Frequency Multiplier

The PhasorVI is a low jitter and low phase noise frequency multiplier, capable of achieving 0.5ps
Using a low-cost crystal of 19 to 40MHz, the PhasorVI enables output frequencies of up to 800MHz,
and LVPECL outputs.

FEATURES

- <500fs RMS phase jitter (12kHz to 20MHz) at 622.08MHz (LVPECL/LVDS)
- 30ps max peak to peak period jitter
- Ultra Low-Power Consumption
    - < 90mA @622MHz PECL output
    - <15μA at Power Down (PDB) Mode
- Input Frequency:
    - Fundamental Crystal: 19MHz to 40MHz
- Output Frequency:
    - 19MHz to 800MHz output.
- Output types: LVPECL, or LVDS
- High Linearity VCXO: <10% linearity
- Pullability: ±150 ppm
- Programmable OE input polarity,
    - o Programmable Hi-Z or Active Low disabled state
- Power Supply: 3.3V, ±10%
- Operating Temperature Ranges:
    - Commercial: 0°C to 70°C
    - Industrial: -40°C to 85°C
- Available in Die or Wafer

PhasorVI BLOCK DIAGRAM
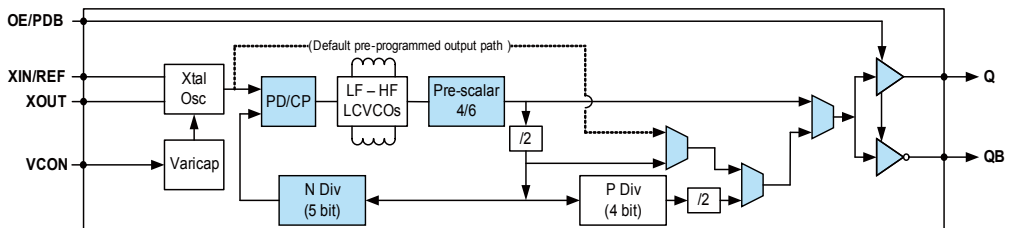
RMS phase jitter and less than 30ps peak to peak period jitter, with practically no Accumulated Jitter.
in a single IC, with specific frequencies above 800MHz in discrete ICs. The family supports , LVDS,

VCXO

Part Number	Input Range (MHz)	Output Range (MHz)	Output Type	Voltage	Jitter[2] (PS) - Typical			Package
					RMS Period	Peak to Peak Period Jitter	Phase Jitter[1] (12kHz to 20MHz)	
PL585-88	19 - 40	≤800	LVPECL	3.3V	5	<30	<0.5	DIE/Wafer TSSOP-16
PL585-28	19 - 40	≤250	LVPECL	3.3V	5	<30	<0.5	DIE/Wafer TSSOP-16

XO

| Part Number	Input Range (MHz)	Output Range (MHz)	Output Type	Voltage	RMS Period	Peak to Peak Period Jitter	Phase Jitter[1] (12kHz to 20MHz)	Package
PL685-88 PL685-89	19 - 40	≤800	LVPECL (-88) LVDS (-89)	3.3V	5	<30	<0.5	DIE/Wafer TSSOP-16
PL685-28	19 - 40	≤250	LVPECL	3.3V	5	<30	<0.5	DIE/Wafer TSSOP-16

VCXO (Voltage Controlled Crystal Oscillator) ICs

Micrel's integrated low phase noise VCXO products provide cost efficient solutions with high packaged ICs, or die form. Our products meet performance requirements of SONET, ADSL, VDSL,

FEATURES (PL502-3X)

- 750kHz to 800MHz output range.
- Low phase noise output
    - -127dBc/Hz for 155.52MHz @ 10kHz offset
    - -115dBc/Hz for 622.08MHz @ 10kHz offset
- Selectable LVCMOS, LVPECL or LVDS output.
- Selectable High Drive or Standard Drive LVCMOS.
- 12MHz to 25MHz crystal input.
- No external load capacitor or varicap required.
- Output Enable selector.
- Wide pull range (±200ppm)
- Single 3.3V, ±10% power supply

PL502-30 BLOCK DIAGRAM
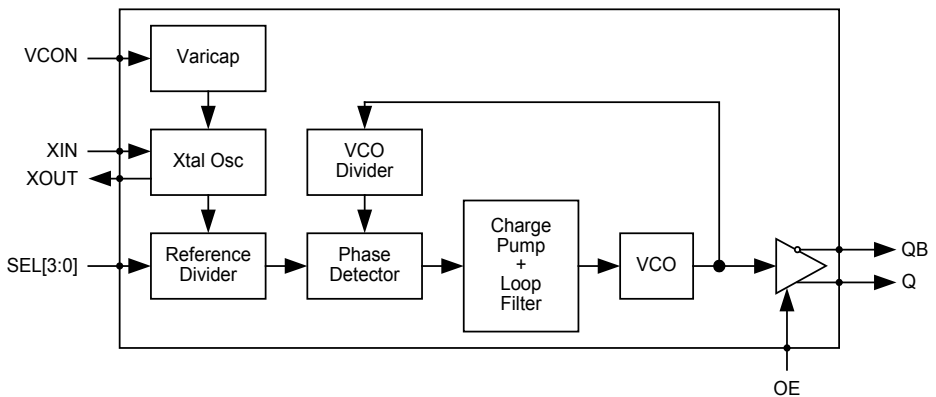
linearity, wide pull-range, and very high temperature stability. They are available in small form factor video, and many more applications.

MULTIPLIER AND NON MULTIPLIER VCXO ICS

Part Number	Function	Input (MHz)	Multiplier	Output (MHz)	Output Type	Pull Range (ppm)	Voltage	Package
PL500-15 PL500-16 PL500-17	VCXO	17 - 36	N/A	1 - 36	LVCMOS	±200	2.5V, 3.3V	Die, Wafer SOT23-6 SOP-8
PL500-37	VCXO	36 - 130	N/A	36 - 130	LVCMOS	±150	2.5V, 3.3V	Die, Wafer SOP-8
PL520-20	VCXO	120 - 200	N/A	120 - 200	LVCMOS LVPECL LVDS	±110	3.3V	Die, Wafer
PL520-30	VCXO	65 - 130	N/A	32.5 - 130	LVPECL LVDS	±120	2.5V, 3.3V	Die, Wafer
PL520-80	VCXO	19 - 65	N/A	9.5 - 65	LVPECL LVDS	±200	2.5V, 3.3V	Die, Wafer
PL502-00	VCXO+PL	12 - 25	1,2,4,8	12 - 200	LVCMOS	±200	3.3V	Die, Wafer
PL502-02	VCXO+PL	12 - 25	2	24 - 50	LVCMOS	±200	3.3V	SOP-8
PL502-03	VCXO+PL	12 - 25	4	48 - 100	LVCMOS	±200	3.3V	SOP-8
PL502-04	VCXO+PL	12 - 25	8	96 - 200	LVCMOS	±200	3.3V	SOP-8
PL502-11	VCXO+PL	12 - 25	8	96 - 200	LVPECL	±200	3.3V	TSSOP-16
PL502-30	VCXO+PL	12 - 25	÷16 to x32	0.75 - 800	LVCMOS LVPECL LVDS	±200	3.3V	Die, Wafer
PL502-37 PL502-35/38 PL502-39	VCXO+PL	12 - 25	÷16 to x32	0.75 - 800	LVCMOS LVPECL LVDS	±200	3.3V	QFN-16, 3x3 TSSOP-16
PL520-00	VCXO+PL	100 - 200	1,2,4,8	100 - 800	LVCMOS LVPECL LVDS	±110	3.3V	Die, Wafer