

PTP 650 Hotsheet: Communicate with More Speed, Reliability, Versatility and Security



Initial Pitch (Hook)

- Up to 450 Mbps aggregate throughput offers high performance
- 4.9 to 6.05 GHz wide-band operation covers the most popular sub-6 GHz bands
- User-configurable channel widths – 5 to 45 MHz allows flexible options in congested RF spectrum
- Industry leading spectral efficiency – 10 bps/Hz allows for deployments in congested RF environments
- Highest system gain in the industry resulting in maximum distance, reliability and capacity
- Low latency to support mission critical voice, video and data communication
- Line-rate packet processing (more than 900K PPS) for high speed transmission
- Flexible I/O options – out of band management, fiber, PoE port and TDM support
- Hitless adaptive coding and modulation for high availability
- Dynamic Spectrum Optimization (DSO) allows for continuous spectrum analysis and automatic selection of the best channel
- Secure management and 128/256-bit AES encryption ensures the integrity of critical data

MARKET SEGMENTS

- **Wireless and Wireline Service Providers**
- **Industries (Oil, Gas, Transportation, Mining)**
- **Government Public Safety Sector**
- **Utilities (Electricity, Water)**
- **Enterprise Private Networks (Healthcare, Education, Hospitality)**

Questions (Probing)

Wireless Service Providers

- Do you deploy wireless links in your network for backhaul or access?
- What frequencies do you use?
- What is your mix of business and residential customers?
- Do you deploy any temporary projects where licensed backhaul is not an option?

Wireline Service Providers

- How do you serve high-revenue enterprise customers currently unreachable by fiber?
- How long does it take from order to revenue for a new enterprise customer not currently served by fiber or reachable via line of sight?

Industries (Oil, Gas, Transportation, Mining)

- What are your video surveillance requirements for asset protection?
- Is there a plan to expand the use of video beyond high production sites?
- Do you have personnel safety initiatives requiring video or real-time broadband at well-heads, compression stations and field sites?
- Do you prefer to have a privately owned network vs. carrier network?
- Do you have a challenging RF path to support: ship-to-shore, ship-to-ship or platform to platform?
- Do you have a disaster preparedness plan?

Government Public Safety Sector

- How much are you spending on leased lines (T1/E1, analog, frame relay, etc...)?
- What is your timeline for migrating from traditional TDM to an IP network?
- Did you consider information assurance when migrating from TDM to IP?
- Do you see an increase in demand

for high quality video used for evidentiary purposes?

- Do you currently use 4.9 GHz in your network? What is the primary use for this frequency?
- Do you have a disaster preparedness plan? Does it cover outages in the public network or failures in wireline infrastructure?

Utilities (Electricity and Water)

- Do you have plans to create an AMI Backbone?
- What are your video surveillance requirements for asset protection?
- Do you have personnel safety initiatives that require video or real-time broadband?
- Do you prefer to have a privately owned network vs. carrier network?
- Is there a need to monitor the entire physical infrastructure of your Industrial Control System?
- Do you need to have rapid deployments during special circumstances?

Enterprise Private Networks (Healthcare, Education, Hospitality)

- How much are you spending on leased lines (T1/E1, analog, frame relay, etc...)?
- What is your plan when these circuits are no longer offered or when the costs continue to go up?
- Do you have a disaster preparedness plan? Does it cover outages in the public network or failures in wireline infrastructure?
- Do you have adequate broadband coverage throughout your physical premises?
- What is your video surveillance (asset protection and personnel safety) plan for remote areas of operation?

Key Selling Points: The PTP 650 offers the best

PERFORMANCE

- 4.9 to 6.05GHz coverage in a single SKU
- Up to 450Mbps aggregate throughput in 45MHz channels
- Up to 124 miles (upt to 200km) reach
- Increased link budget at 64/256QAM
- 5 to 45 MHz channel bandwidth flexibility
- Fast Adaptive Modulation
- Tiered Capacity (125-450 Mbps)

RELIABILITY

- Fast Adaptive Modulation
- Near and Non Line of sight performance
- IP66/67 Mechanics
- -40C to +60C operating temperature
- 40 Years Mean Time Between Failures (MTBF)

VERSATILITY

- Easy to integrate layer 2 bridge implementation
- Symmetric and Asymmetric TDD operation
- Connectorized/Integrated versions
- 4.9 to 6.05GHz coverage in a single SKU
- TDD Synchronization
- Standard PoE output port (802.3at)
- TDM module (8 T1/E1 ports)
- 1588v2 and Synchronous Ethernet
- Two Gigabit Ethernet Ports and optional SFP port for Fiber
- Split Frequency and Spatial Diversity configurations for the most difficult links
- IPv4 / IPv6 dual-stack management

SECURITY

- 128/256-Bit AES Encryption (FIPS 197)
- HTTPS/TLS and SNMPv3 management interfaces
- Identity-Based User Accounts
- Configurable Password Rules
- RADIUS authentication
- Event Logging and Management (syslog and on-board)

MANAGEMENT

- Secure remote management – https and SNMPv3
- RADIUS authentication for management users
- Multiple user role-based logins
- IPv4/IPv6 dual stack management
- Support security audits with syslog
- Support for Cambium Wireless Manager v4.OSP4

Benefits

Wireless & Wireline Service Providers	Government Public Safety Sector	Industries (Oil, Gas, Transportation, Mining)	Utilities (Electricity, Water)	Enterprise Private Networks (Healthcare, Education, Hospitality)
<ul style="list-style-type: none"> • Respond quickly to market changes 	<ul style="list-style-type: none"> • Reduce operating budgets by eliminating leased lines 	<ul style="list-style-type: none"> • Increase personnel safety with real-time video and voice communications to remote areas 	<ul style="list-style-type: none"> • Reduce operating budgets by eliminating leased lines 	<ul style="list-style-type: none"> • Reduce operating budgets by eliminating leased lines
<ul style="list-style-type: none"> • Cost-effectively capitalize on new opportunities 	<ul style="list-style-type: none"> • Increase intra- and inter-agency collaboration 	<ul style="list-style-type: none"> • Reduce operating budgets by eliminating leased lines and satellite communications 	<ul style="list-style-type: none"> • Provide better insight into power usage and improve energy efficiency 	<ul style="list-style-type: none"> • Improve business continuity and disaster preparation
<ul style="list-style-type: none"> • Offer more profitable services 	<ul style="list-style-type: none"> • Enhance emergency response and situational awareness 	<ul style="list-style-type: none"> • Enable higher-capacity, reliable communications from an offshore platform to an onshore facility or between offshore platforms 	<ul style="list-style-type: none"> • Enhance access to transmission, distribution, and consumption data 	<ul style="list-style-type: none"> • Increase intra- and inter-department collaboration
<ul style="list-style-type: none"> • Generate new revenue sources by extending services to underserved and remote customers 	<ul style="list-style-type: none"> • Provide anytime access to vital information 	<ul style="list-style-type: none"> • Supply uninterrupted communications for mission-critical operations, even in hostile environments 	<ul style="list-style-type: none"> • Increase personnel safety with real-time video and voice communications to remote areas 	<ul style="list-style-type: none"> • Cost-effective delivery of on-demand and HD video
<ul style="list-style-type: none"> • Make needed infrastructure enhancements cost-effectively 	<ul style="list-style-type: none"> • Better utilize resources and increase productivity 	<ul style="list-style-type: none"> • Save on equipment and tower costs by reducing the number of hops 	<ul style="list-style-type: none"> • Reduce truck-rolls by extending expertise and information to the field 	<ul style="list-style-type: none"> • Enhance physical security of personnel



Connectorized - Front



Integrated - Back



Integrated - Front