# PhoeniX G2

## MISSION-CRITICAL | HIGH CAPACITY BACKHAUL

- Flexible modular wireless system transporting IP with native ASI and TDM data over 2 GHz - 38 GHz radios.
- High spectral efficiency delivering more than 900 Mbps per 2+0 system.
- Flexible configurations including all-indoor or split-mount architecture from 1+0 to 2+0 XPIC up to 8+0 delivering 4+ Gbps over a single path.
- Fully redundant system configurations for protecting every component.
- Very High Power radios for long distance back-haul.
- Ideal microwave system for critical network infrastructure with secure HTTPS/SSH access, FIPS 197 256-bit AES over the air encryption at 99.9999% availability.

Supporting channel bandwidths of up to 60 MHz, the PhoeniX G2 enables transition from TDM only or ASI only networks to hybrid native ASI/T1/E1/ IP networks, providing up to 16 ASI ports for video or up to 64E1/T1 lines for telephony, and Gigabit Ethernet ports for IP connectivity with total throughput of up to 900 Mbps in 2+0 configuration.

**PhoeniX G2**
**IDU modem**

| | ETSI | FCC |
|---|---|---|
| Frequency Bands | 2GHz*, 4GHz, U4GHz, L6GHz, U6GHz 7GHz, 8GHz, 11GHz, 13GHz, 18GHz, 23GHz, 38GHz | |
| Channel Bandwidths | from 7 MHz, up to 56 MHz | from 10 MHz, up to 60 MHz |
| Modulation | up to 1024 QAM | |
| Capacity | up to 900 Mbps in 2+0 | |
| Configurations | 1+0, 1+1 HSB/SD/FD, 1+0 Dual (Repeater), 2+0 (Layer 1 aggregation), 2+0 XPIC, 2+2** (with two IDUs) | |
| Synchronization | PTP 1588v2, SyncE | |
| Encryption | AES 256-bit | |
| Traffic/Management ports | 3x 10/1000Base-T, RJ-45 – for traffic and/or management access,<br>4x SFP (1000BseSX/LX) – for traffic, also work as Extension/Protection ports/Aggregation ports,<br>USB B – alternative serial IP management access, USB A - flash memory port,<br>2x N-Type Female – for connection to RF's | |
| Management | MIB, SNMP v1/v2c /v3, Web GUI (HTTP/HTTPS), CLI (Telnet/SSH),<br>Serial interface (USB IP port) , in-band or out-band management | |
| Ethernet switch | Managed Gigabit Ethernet Layer 2 | |
| QoS | 64 level DiffServ (DSCP) or 8 level 802.1p mapped in 4 prioritization queues with VLAN support,<br>IPv6 Traffic Class | |
| VLAN support | 802.1Q, up to 4096 VLANs | |
| IDU Operational use | ETSI EN 300 019, Part 1-3, Class 3.2 | |
| Max. power consumption | IDU only: <30W<br>IDU+2xODU: <180W | |

* Please contact a SAF Tehnika representative for more information

## Maximum Tx Power [dBm] for PhoeniX G2*

| Modulation | 2 GHz (VHP)** | 4/U4 GHz (HP) | L6/U6 GHz (SP/HP/VHP) | 7 GHz (SP/HP/VHP) | 8 GHz (SP/HP/VHP) | 11 GHz (SP/HP/VHP) | 13 GHz (SP/HP/VHP) | 18 GHz (SP/VHP) | 23 GHz (SP) | 38 GHz (SP) |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 QAM | +35 | +33 | +19/+27/+33 | +19/+27/+32 | +19/+27/+31 | +19/+25/+29 | +19/+25/+28 | +19/+26 | +19 | +17 |
| 16 QAM | +34 | +32 | +18/+26/+32 | +18/+26/+31 | +18/+26/+30 | +18/+24/+28 | +18/+24/+27 | +18/+25 | +18 | +16 |
| 32 QAM | +33 | +31 | +17/+25/+31 | +17/+25/+30 | +17/+25/+29 | +17/+23/+27 | +17/+23/+26 | +17/+24 | +17 | +15 |
| 64 QAM | +32 | +30 | +16/+24/+30 | +16/+24/+29 | +16/+24/+28 | +16/+22/+26 | +16/+22/+25 | +16/+23 | +16 | +14 |
| 128 QAM | +32 | +30 | +16/+24/+30 | +16/+24/+29 | +16/+24/+28 | +16/+22/+26 | +16/+22/+25 | +16/+23 | +16 | +14 |
| 256 QAM | +31 | +29 | +15/+23/+29 | +15/+23/+28 | +15/+23/+27 | +15/+21/+25 | +15/+21/+24 | +15/+22 | +15 | +13 |
| 512 QAM | +30 | +28 | +14/+22/+28 | +14/+22/+27 | +14/+22/+26 | +14/+20/+24 | +14/+20/+23 | +14/+21 | +14 | +12 |
| 1024 QAM | +27 | +25 | +11/+19/+25 | +11/+19/+24 | +11/+19/+23 | +11/+17/+21 | +11/+17/+20 | +11/+18 | +11 | +9 |

* Preliminary data
** 2 GHz ODU is currently in development

| | CFIP-ASI-EXT EAGMEXA4 | CFIP-16E1/T1-EXT EAGMEX16 |
|---|---|---|
| ASI | Unbalanced, 75 ohm | - |
| 16xE1/T1 | - | G.703-E1 balanced 120ohm for E1 mode<br>G.703-E1 unbalanced 75 ohm for E1 mode<br>T1.102-T1/100 ohm for T1 mode |
| Scalability | Cascading up to four external modules | |
| **Ports** | | |
| IDU connection | 1x SFP port 1000Base-SX (proprietary GigE protocol) Connection to | |
| Connection to next External module | 1x SFP port 1000Base-SX (proprietary GigE protocol) | |
| ASI ports | 4x BNC | - |
| E1 ports | - | 16x RJ-45 |
| DC port | Industrial power connector | |
| **Mechanical & Electrical** | | |
| Dimensions: HxWxD | ½ width 1U (45 x 210 x 240 mm) / (1.77 x 8.27 x 9.45 in) | |
| Weight | 1.3 kg / 2.87 lb | |
| Max. power consumption | IDU: <9 W | |
| DC port | -20V to -60V DC | |

**SP/HP ODU**

**VHP ODU**

**B**

**IRFU**

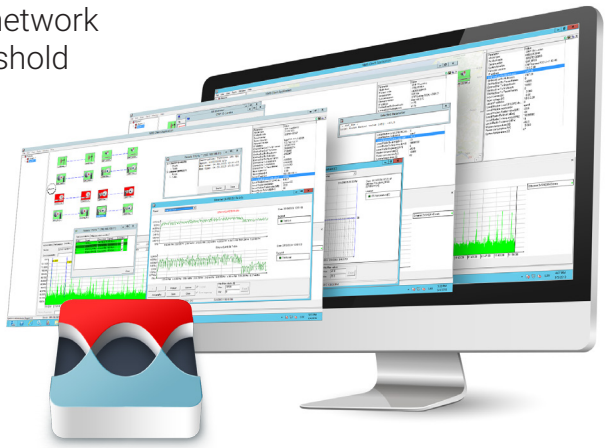
**A**

| | SP ODU | HP ODU | VHP ODU | IRFU |
|---|---|---|---|---|
| **Ports** | | | | |
| Antenna | N-type or flange | N-type or flange | N-type or flange | A) N-Type or flange<br>B) SMA Tx and Rx ports |
| IF to IDU | N-type | N-type | N-type | SMA |
| RSSI | BNC | BNC | BNC | 2-port for multi-meter |
| Power | over IF port | over IF port | over IF port | 2-pin power port (alternative to IF port) |
| **Mechanical & Electrical** | | | | |
| Operational use | Conforms to ETSI EN 300 019 Class 4.1, IP65, NEMA 4X | | | Conforms to ETSI EN 300 019 Class 3.1E, IP20, NEMA 1 |
| Temperature Range | -33°C to +55°C | -33°C to +55°C | -33°C to +55°C | -5°C to +55°C |
| Dimensions HxWxD/width | 288x288x80mm / 3.5kg | 288x288x80mm / 3.5kg | 280x437x110mm / 7.5kg | 19" 2U rack 90x430x260 / 5.8kg |
| IF port surge protection | Conforms to ETSI EN 301 489-1; EN 61000-4-5; IEC 61000-4-5 | | | |
| Input DC voltage | -40.5V to -57V DC (conforms to ETSI EN 300 132-2) | | | |
| Max. power consumption | 13-27W | 21-39W | 39-55W | SP: 13-27W; HP: 21-39W; VHP: 39-55W |

# SAF NMS

**SAF NMS provides the following functionality:**

- Real-time monitoring and management of SAF network elements (predefined polling profiles, alarm threshold values)
- Event and fault notifications (including SMS and e-mail)
- Easy-to-use GUI (including Android app)
- Secure access (including SNMPv3 support)
- Northbound interface, backup server support
- FCAPS compliance



# PhoeniX G2 in your network