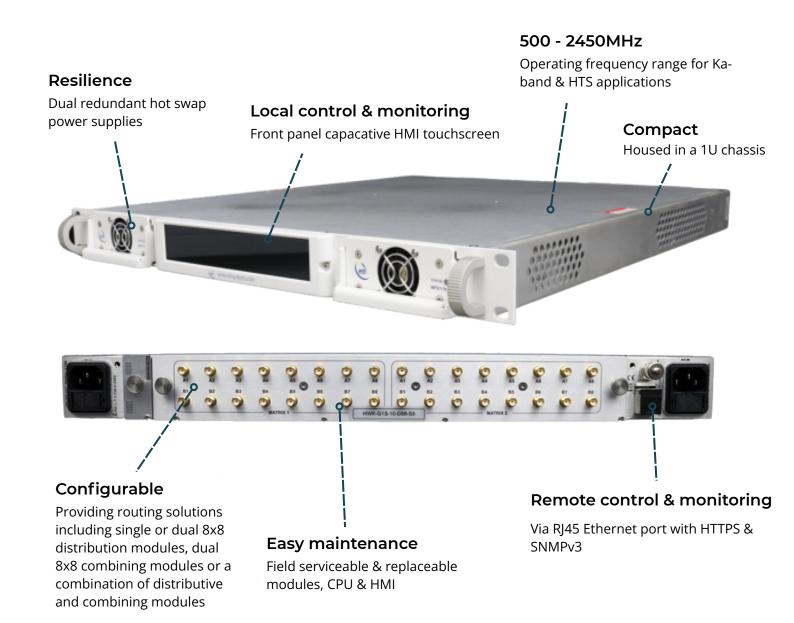


## Hawk Series 8x16 Extended L-band Matrix

## for Downlink applications

The 1U Hawk Matrix has capacity for up to two field replaceable matrix cards – which can be combining (fan-in) or distributive (fan-out) – for uplink and downlink applications. The Hawk can be fitted with any combination of cards depending on application, but is ideally suited for smaller gateways with multiple modems and one or two antennas.

Single or dual 8x8 fan-out or fan-in, and single16x8 fan-in configurations are also available - please enquire.





Web browser interface. Via parent chassis.  Local Control  HMI capacitive touch screen, field replaceable			RF Parameters
Frequency Range  Sou to 2450MHz (Extended L-band)  8 x input and 16 x output  Switching Time    Soms (From receipt of a command to implementation of path change)   Input & Output Ports	Routing		HWK-G1S-10 Distributive
Capacity Switching Time  Soms (From receipt of a command to implementation of path change) Input & Output Ports  Gain (dB) Typ., mean across band Gain Flatness (dB)  Any 36MHz Input Return Loss (db)  Output Return Loss (db)  Typ. Min.  Output Return Loss (dB)  Input-Input  Input-Input  Go Output-Output Input-Output Input			Any input can be connected to any number of outputs
Switching Time       < 50ms (From receipt of a command to implementation of path change)	Frequency Range		500 to 2450MHz (Extended L-band)
Input & Output Ports  Gain (dB) Typ., mean across band  Gain Flatness (dB)  Any 36MHz  Input Return Loss (db)  Output Return Loss (db)  Input Return Loss (db)  Output Return Loss (dB)  Isolation (dB) Min. between any 2 ports  Input-Output  Input A typ., 16 max. (one input routed to one output)  IdB GCP (dBm)  O, output power  Itput 18 dBm, Min. 16dBm  Itput 19 dBm, Min. 20dBm  Input 1 AC Consumption  Input 85-264Vac 50/60Hz, AC Consumption: 150W  Input RF Power  Input RF Power  Fehernet via RJ45 with HTTPS & SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface. Via parent chassis.  Local Control  HMI capacitive touch screen, field replaceable	Capacity		8 x input and 16 x output
Gain (dB) Typ., mean across band Gain Flatness (dB) Any 36MHz  Input Return Loss (db)  Typ. Min.  18  Output Return Loss (dB)  Isolation (dB) Min. between any 2 ports  Input-Output Input	Switching Time		< 50ms (From receipt of a command to implementation of path change)
Gain Flatness (dB)  Any 36MHz  Input Return Loss (db)  Output Return Loss (db)  Output Return Loss (dB)  Isolation (dB) Min. between any 2 ports  Input-Output  Input Pomer  Inp	Input & Output Ports		50Ω SMA (All ports DC blocked)
Any 36MHz	Gain (dB) Typ., mean across band		0±1
Input Return Loss (db)    Typ.	Gain Flatness (dB)		±1.5
Input Return Loss (db)  Min.  18  Output Return Loss (dB)  Typ.  Min.  12  Isolation (dB) Min. between any 2 ports  Input-Output Input Power Input Power Input RdBm, Min. 16dBm Input I	Any 36MHz		±0.25
Output Return Loss (dB)    Typ.	Input Return Loss (db)	Тур.	20
Output Return Loss (dB)  Min.  12  Isolation (dB) Min. between any 2 ports  Output-Output Input-Output Input-Output 10B GCP (dBm)  OIP3, 3rd order intercept point  Group Delay  AC Input / AC Consumption Input RF Power  System Control & Reliability  Ethernet via RJ45 with HTTPS & SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface. Via parent chassis.  Local Control  Input Input AC Input / AC Gonsumption  System Control  HMI capacitive touch screen, field replaceable		Min.	18
Isolation (dB) Min. between any 2 ports  Input-Output  Output-Output  Noise Figure (dB)  Noise Figure (dB)  Typical  Typical  Output-Output  14 typ., 16 max. (one input routed to one output)  Output power  OlP3, 3rd order intercept point  OIP3, 3rd order intercept point  Typ. 18 dBm, Min. 16dBm  Typ. 22 dBm, Min. 20dBm  Group Delay  AC Input / AC Consumption  Input RF Power  System Control & Reliability  Ethernet via RJ45 with HTTPS & SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable		Тур.	18
Isolation (dB) Min. between any 2 ports  Output-Output  Input-Output  C2150 MHz 55dB, >2150 MHz 50dB  Noise Figure (dB)  Typical  14 typ., 16 max. (one input routed to one output)  Output power  OlP3, 3rd order intercept point  Froup Delay  C1500 MHz  Typ. 18 dBm, Min. 16dBm  Typ. 22 dBm, Min. 20dBm  C10nput / AC Consumption  AC Input / AC Consumption  AC Input: 85-264Vac 50/60Hz, AC Consumption: 150W  Input RF Power  C350 MHz  Typ. 22 dBm, Min. 20dBm  C10nput: 85-264Vac 50/60Hz, AC Consumption: 150W  C150 MHz  C1500 MHz  Typ. 22 dBm, Min. 20dBm  C1500 MHz  C1500 MH	Output Return Loss (dB)	Min.	12
any 2 ports    Input-Output   California   Control & California   Cali		Input-Input	60
Input-Output		Output-Output	60
1dB GCP (dBm)  OIP3, 3rd order intercept point  1500 MHz Typ. 18 dBm, Min. 16dBm Typ. 22 dBm, Min. 20dBm  Group Delay  AC Input / AC Consumption Input RF Power  AC Input RF Power  System Control & Reliability  Remote Control & Monitoring  Ethernet via RJ45 with HTTPS & SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable	any 2 ports	Input-Output	<2150 MHz 55dB, >2150 MHz 50dB
OIP3, 3rd order intercept point  Typ. 18 dBm, Min. 16dBm Typ. 22 dBm, Min. 20dBm  Group Delay  <-1.0 ns across operational bandwidth AC Input / AC Consumption Input RF Power  System Control & Reliability  Remote Control & Monitoring Local Control  Typ. 18 dBm, Min. 16dBm Typ. 22 dBm, Min. 20dBm  AC Input: 85-264Vac 50/60Hz, AC Consumption: 150W  +20dBm absolute maximum  System Control & Reliability  Ethernet via RJ45 with HTTPS & SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP & Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable	Noise Figure (dB)	Typical	14 typ., 16 max. (one input routed to one output)
point >1500 MHz Typ. 22 dBm, Min. 20dBm  Group Delay <a href="#"><a href="#"><a href="#"><a href="#">Typ. 22 dBm, Min. 20dBm</a> Group Delay <a href="#"><a href="&lt;/td&gt;&lt;td colspan=2&gt;&lt;/td&gt;&lt;td&gt;0, output power&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;point &gt;1500 MHz Typ. 22 dBm, Min. 20dBm  Group Delay &lt; 1.0 ns across operational bandwidth  AC Input / AC Consumption AC Input: 85-264Vac 50/60Hz, AC Consumption: 150W  Input RF Power +20dBm absolute maximum  System Control &amp; Reliability  Remote Control &amp; Monitoring Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td rowspan=2&gt;OIP3, 3rd order intercept&lt;/td&gt;&lt;td&gt;&lt;1500 MHz&lt;/td&gt;&lt;td&gt;Typ. 18 dBm, Min. 16dBm&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;AC Input / AC Consumption  AC Input: 85-264Vac 50/60Hz, AC Consumption: 150W  +20dBm absolute maximum  System Control &amp; Reliability  Remote Control &amp; Monitoring  Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td&gt;&gt;1500 MHz&lt;/td&gt;&lt;td&gt;Typ. 22 dBm, Min. 20dBm&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Input RF Power +20dBm absolute maximum  System Control &amp; Reliability  Remote Control &amp; Monitoring Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td colspan=2&gt;Group Delay&lt;/td&gt;&lt;td&gt;&lt;1.0 ns across operational bandwidth&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;System Control &amp; Reliability  Remote Control &amp; Monitoring  Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td colspan=2&gt;AC Input / AC Consumption&lt;/td&gt;&lt;td&gt;AC Input: 85-264Vac 50/60Hz, AC Consumption: 150W&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Remote Control &amp; Monitoring  Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.  HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td colspan=2&gt;Input RF Power&lt;/td&gt;&lt;td&gt;+20dBm absolute maximum&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Web browser interface. Via parent chassis.  Local Control HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;System Control &amp; Reliability&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td colspan=2&gt;Remote Control &amp; Monitoring&lt;/td&gt;&lt;td&gt;Ethernet via RJ45 with HTTPS &amp; SNMPv3, 10BaseT/100 Base Tx. ETL TCP/IP, SNMP &amp; Web browser interface. Via parent chassis.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;SCHOOL IN THE SCHOOL STATE OF THE SCHOOL STATE&lt;/td&gt;&lt;td&gt;Local Control&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;HMI capacitive touch screen, field replaceable&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;PSU Redundancy Dual redundant and alarmed. Diode OR. Hot swappable&lt;/td&gt;&lt;td&gt;PSU Redundancy&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Dual redundant and alarmed. Diode OR. Hot swappable&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Matrix Card Field replaceable&lt;/td&gt;&lt;td&gt;Matrix Card&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Field replaceable&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;CPU Field replaceable&lt;/td&gt;&lt;td&gt;CPU&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Field replaceable&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;MTTR  20 minutes (15 minutes to retrieve spare part and 5 mins to replace)  Applies to LRUs only and assumed in-house stock&lt;/td&gt;&lt;td colspan=2&gt;MTTR&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Physical &amp; Environmental&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Physical &amp; Environmental&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Dimensions 1U high x 550mm deep x 19" td="" wide<=""><td colspan="2">Dimensions</td><td>1U high x 550mm deep x 19" wide</td></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a>	Dimensions		1U high x 550mm deep x 19" wide
Weight/Colour <10 kg / RAL9003—White (Semi-matte)	Weight/Colour		<10 kg / RAL9003—White (Semi-matte)
Temperature Operating: 0 to 45°C / Storage: -20°C to +75°C	Temperature		Operating: 0 to 45°C / Storage: -20°C to +75°C
Location Indoor use only	Location		Indoor use only
Humidity 20 to 90% non-condensing	Humidity		20 to 90% non-condensing
Altitude 2,000 feet AMSL (Operational) 8,000 feet AMSL (Storage) <i>Above Mean Sea Level</i>	Altitude		
Spec. Version 1.1			1.1

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy. Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.