AgileMax® 1RU
AM3223D CWDM
Complete OBI Elimination
RFOG Distribution Solution

FEATURES

- High-power internal EDFA
- –48 VDC option for network powering; 60/90 VAC line powering
- Multiple CWDM upstream wavelengths support R-ONUs for seamless integration with existing headend and customer premise equipment
- Multiple CWDM upstream transmitter wavelength options for re-transmission to headend or hub
- Upstream RF test point
- Eliminates Optical Beat Interference (OBI) from RFOG networks, allowing operators to deploy high capacity, FTTH networks that leverage existing DOCSIS® infrastructure
- Enables DOCSIS 3.0 and DOCSIS 3.1 upstream and downstream network capability
- Expands network reach and adds capability for higher split ratios in the optical network

PRODUCT OVERVIEW

The ARRIS AgileMax® is an exciting new breakthrough in RF-over-Glass (RFOG) FTTH network technology. Replacing the optical splitters commonly found in traditional RFOG architectures, next-generation AgileMax optical distribution technology allows operators to completely eliminate Optical Beat Interference (OBI) from their networks—even in networks with multiple, active upstream lasers. By eliminating OBI, operators can significantly expand their networks’ upstream and downstream capacity and data speed without changing back office infrastructure. As a result, AgileMax deployments overcome the cost, scalability, and capacity restrictions that limit RFOG performance, while greatly reducing operational complexity in these networks.
The AgileMax AM3223D features an internal, high-power EDFA that overcomes the splitter losses needed for distributed architecture FTTx designs, while also supporting additional passive splitters in the field that may be used in conjunction with ARRIS OBI-free ONUs. In addition, the AM3223D supports a wider operating range for upstream input levels than conventional passive splitters. The AM3223D also enables the use of R-ONUs with alternative CWDM wavelengths, excluding the 1550 nm band which is used by the AM3223D for the downstream path. A dedicated CWDM return transmitter, available with multiple wavelength options, provides the return link back to the headend or hub, enabling several AgileMax modules to share a common return fiber. The user variable level control enables operators to set the return transmission OMI to optimize return performance over a wide optical input range from the individual R-ONUs.

**Future-Proof Current Networks**

As operators migrate to higher-capacity DOCSIS 3.0 (and eventually DOCSIS 3.1) networks, they will need a way to eliminate OBI without compromising network performance. The ARRIS solution powered by AgileMax meets this need by enabling DOCSIS 3.0 and DOCSIS 3.1 network capacity, allowing operators to reach the full potential of their fiber infrastructure.

**Long Reach, Large Splits**

The AgileMax solution provides the flexibility to expand optical reach and split ratios, allowing operators to more easily deploy new FTTH networks as needed to support growing customer demand. AgileMax network deployments also can easily achieve twice the reach of traditional RFoG. Using AgileMax instead of passive splitters, combined with the use of multiple CWDM return wavelengths, enables operators to support up to 256 R-ONUs with a single AgileMax with absolutely no OBI in the upstream.

### SPECIFICATIONS (TYPICAL)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Wavelength</td>
<td></td>
</tr>
<tr>
<td>Downstream</td>
<td>1551 nm ± 7.5 nm</td>
</tr>
<tr>
<td>Upstream</td>
<td>CWDM band 1271 – 1611 nm, excluding 1551 nm ± 10 nm</td>
</tr>
<tr>
<td>Output Power, Downstream</td>
<td>+6 dBm (nominal)</td>
</tr>
<tr>
<td>Insertion Loss Uniformity, Downstream</td>
<td>± 1.0 dB</td>
</tr>
<tr>
<td>Number of Subscriber Ports</td>
<td>32</td>
</tr>
<tr>
<td>Upstream Optical Input Level (Distribution Ports)</td>
<td>-10 to +3 dBm</td>
</tr>
<tr>
<td>Downstream Optical Input Level</td>
<td>-5 to +6 dBm</td>
</tr>
<tr>
<td>Upstream Transmitter</td>
<td></td>
</tr>
<tr>
<td>Output Power</td>
<td>3 dBm</td>
</tr>
<tr>
<td>Wavelength</td>
<td>1511, 1531, 1591, or 1611 nm, selected by model number (See Note 1)</td>
</tr>
<tr>
<td>Upstream TX Mode Select</td>
<td>Constant transmit or Burst Mode (See Note 2)</td>
</tr>
<tr>
<td>RF Test Point</td>
<td>20 dBmV (See Note 3)</td>
</tr>
<tr>
<td>Power Consumption, –48 Vcc Units (Maximum)</td>
<td>15 watts</td>
</tr>
<tr>
<td>Maximum Input Current, –48 Vcc Units (@ –22 Vcc)</td>
<td>0.63 A</td>
</tr>
<tr>
<td>Optical Connectors</td>
<td>LC/APC</td>
</tr>
<tr>
<td>PON Wavelength Compatibility</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Input Voltage Range, –48 Vcc Units</td>
<td>–22 to –60 Vcc</td>
</tr>
<tr>
<td>Normal Operating Temperature Range</td>
<td>–40° to +50°C environment</td>
</tr>
<tr>
<td>Extended Operating Temperature Range</td>
<td>–51° to +60°C environment can be supported by adding 1RU of rack space above and below the AM3223D</td>
</tr>
<tr>
<td>Operating/Storage Humidity Range</td>
<td>5 to 90%, non-condensing</td>
</tr>
<tr>
<td>Dimensions</td>
<td>1.72 in H x 16.73 in W x 11.25 in D (4.37 x 42.49 x 28.575 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>8.5 lbs (3.86 kg)</td>
</tr>
</tbody>
</table>

**NOTES:**
1. 1471 nm, 1491 nm, 1551 nm, and 1571 nm return lasers are available when ordering a minimum quantity of AM3223D units.
2. Via front panel switch
3. With 27 dBmV/ch input at an ARRIS ONU input. Adjustable from the front panel from 22 dBmV to 7 dBmV.

© 2019 ARRIS Enterprises, LLC. All rights reserved.
## ORDERING INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>M</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>D</td>
<td>A</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>Y</td>
<td>N</td>
<td>D</td>
<td>L</td>
</tr>
</tbody>
</table>

1 - 2. Module Type
   - Rack Mount

3 - 4. Optical Split Ports
   - 32

5 - 6. EDFA Power (dBm)
   - 23 - 23 dBm internal EDFA

7. Upstream Receiver Port
   - D — 1271-1611 nm (excludes 1550 nm)

9. Return Laser Type\(^1\)
   - A — 1611 nm
   - D — 1591 nm
   - G — 1531 nm
   - H — 1511 nm

10. Additional Ports
    - N — None

11. Local PON Injection Port
    - N — None

13. Future
    - N — None

14. Package
    - 1 — 1RU

15. Dedicated Upstream Port
    - Y — Yes

16. Future 2
    - N — None

17. Powering
    - D — –48 VDC

18. Optical Connectors
    - L — LC/APC

### NOTE:

1. 1471 nm, 1491 nm, 1551 nm, and 1571 nm return lasers are available when ordering a minimum quantity of AM3223D units.

---

## RELATED PRODUCTS

- CHP CORWave® 3 Transmitters
- CP8xxxx RFoG ONUs
- CHP EDFAs
- HT354xH Transmitters
- CH3000

---

Note: Specifications are subject to change without notice.

Copyright Statement: © 2019 ARRIS Enterprises LLC. All rights reserved. ARRIS and the ARRIS logo are trademarks of ARRIS International plc and/or its affiliates. All other trademarks are the property of their respective owners. No part of this publication may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from ARRIS International plc ("ARRIS"). ARRIS reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of ARRIS to provide notification of such revision or change.

1512138-RevB_AgileMax AM3223D_DS_08APR19

(rev 04-2019)