Aviat Networks
HIGH-CAPACITY, LOW TCO WIRELESS TRANSPORT FOR WISPS

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July 2024

Capacity, Reliability and Simplicity with lower TCO…

Radio
More Capacity
Longer Distances
Industrial Applications
Private LTE/5G Access

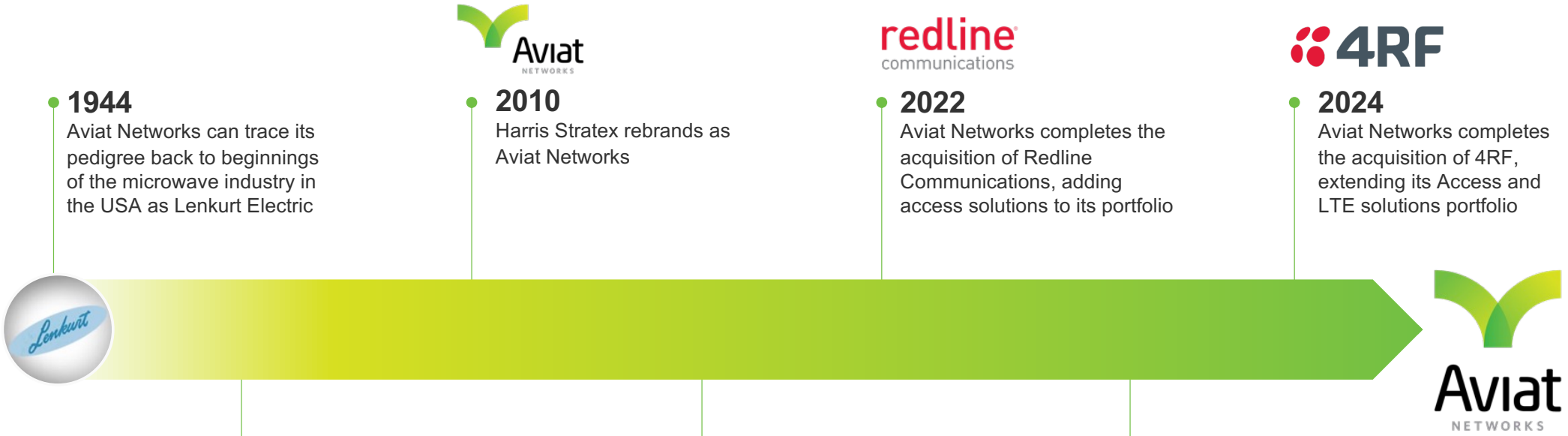
Routing
Resilient IP/MPLS
Routing to the Edge

Software
Automation for
Simplicity & Network
Reliability

Supply Chain
Online Design and
Ordering
Faster Deliveries
Minimized Inventory

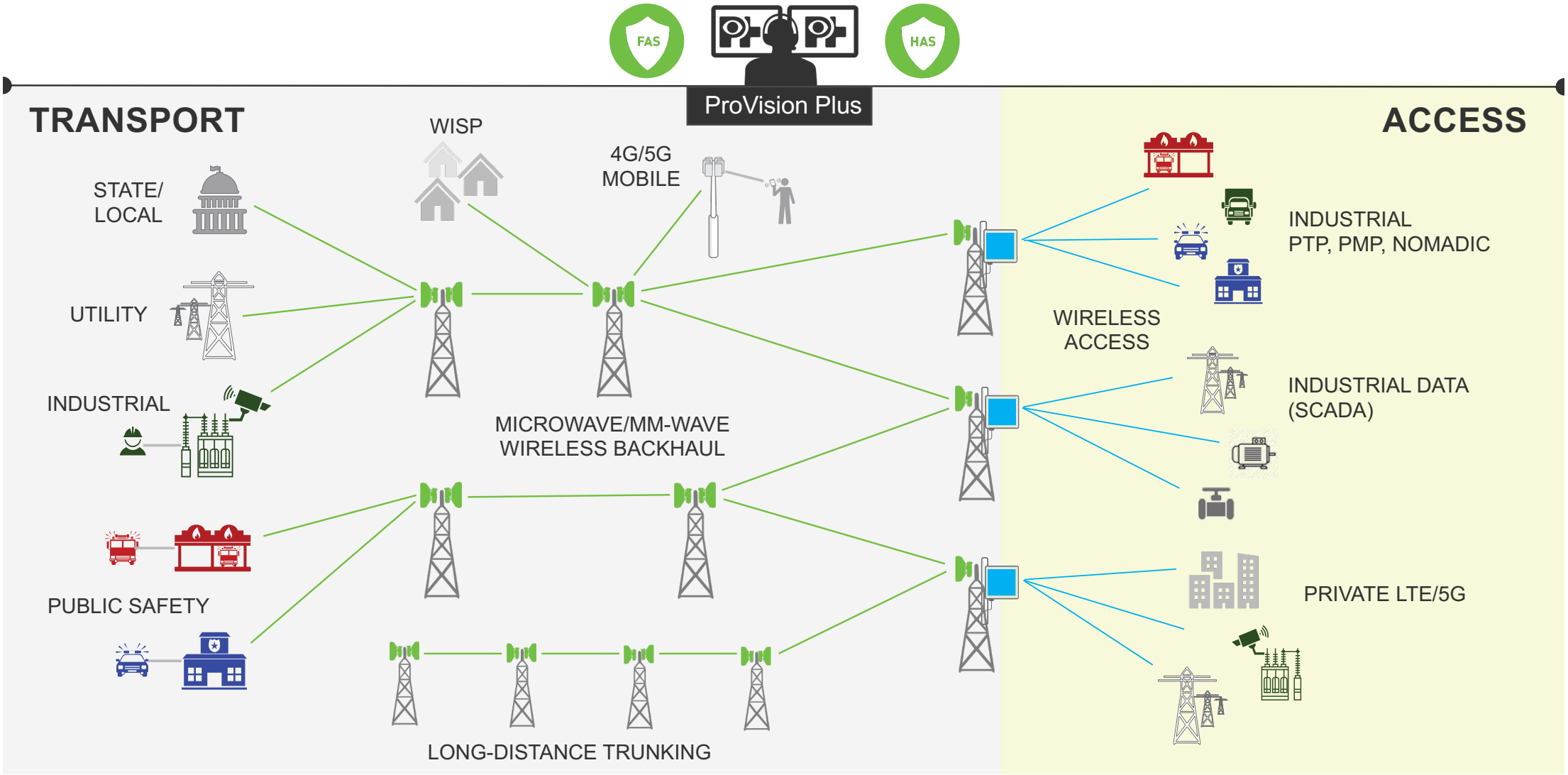
Aviat has an innovative portfolio with a focus on lowest TCO for 5G, Private Networks, and Rural Broadband

Over 80 Years of Expertise



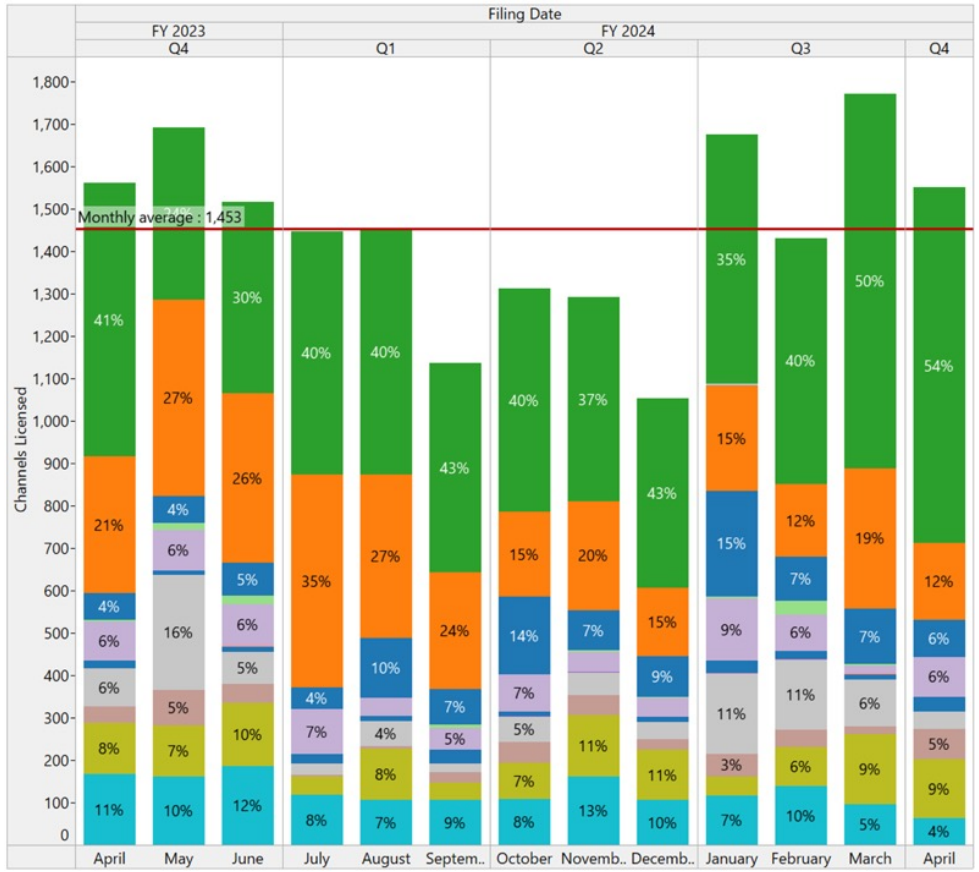
A Long History of Wireless Leadership driven by new Leadership and Consistent Execution

Wireless Solutions for Transport and Access Networks



Aviat WISP Credentials

- Aviat is the largest provider of microwave, E-Band and Multi-Band solutions to the USA - largest WISP market in the world
- WTM 4000 is the highest selling product in this market segment



Aviat knows and understands the WISP Market

Microwave, Routing and Access Portfolio Under Common Software Suite

Aviat Design | Aviat Store | myOrders | AviatCloud | Aviat Care | myNetwork | Aviat Educate

Health Assurance (HAS)
Detailed reports on network issues
Reduces downtime

ProVision Plus Network/Element Management
Simplifies network management
Easy trouble shooting with multi-layer visualization

Frequency Assurance (FAS)
Monitors and reports Interference
Protects against WiFi-6E

Split-Mount Systems
iPasolink VR

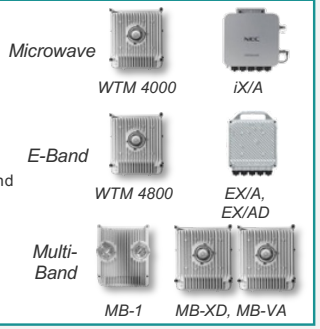
- 6 to 38GHz freq. band
- Sub-band free ODU options
- Modular and scalable indoor units
- Standard and High-Power ODU options
- No single point of failure options

Markets: Mobile Service Providers, Utilities, Public Safety, Oil & Gas, Mining, Transportation

All-Outdoor Systems
WTM 4000, EX/A, EX/AD

- Microwave, E-Band, Multi-Band
- Single, Dual Channel
- Full IP/ MPLS Capabilities
- Unique Multi-Band Extended Distance and Vendor Agnostic options
- 25GbE connectivity

Markets: Mobile Service Providers, WISPs, Utilities, Public Safety, Oil & Gas, Mining, Transportation



Trunking Systems
STR 4500, OBC2, 7000iP TRP

- Split Mount, All-Indoor, and All-Outdoor Trunking Systems
- Up to 20 channels with diversity
- 10 Gbps connectivity
- Flexible aggregation options

Markets: Mobile Service Providers, Utilities, Public Safety, Oil & Gas, Mining, Transportation

Indoor/Hybrid Radio
Eclipse IRU600, ODU600

- Ultra-High Tx Power, +37dBm
- Compact/expandable antenna branching
- Tough, Durable and Dependable
- Comprehensive native TDM features
- Strong Security (FIPS)

Markets: Utilities, Public Safety, Oil & Gas, Mining, Transportation

Microwave Routers
CTR8000 Series

Markets: Mobile Service Providers, WISPs, Utilities, Public Safety, Oil & Gas, Mining, Transportation

Wireless Transport

Private LTE/5G
RDL 6000
Aprisa LTE/5G
Aviat Core

- Base station, LTE/5G routers and EPC Core
- Power of a Macro in Small Cell footprint
- Low power consumption
- Scalable EPC
- Ruggedized, secure cellular routers

Markets: Utilities, Public Safety, Oil & Gas, Mining, Transportation

Industrial Access
Narrowband PTP, PTMP and Nomadic Solutions

- PTP, PTMP licensed and unlicensed
- UHF, VHF, 220MHz - 5.8GHz
- Hardened and secure
- Innovative nomadic, self align offering
- ATEX/Hazloc options

Markets: Utilities, Public Safety, Oil & Gas, Mining, Transportation, Smart Cities

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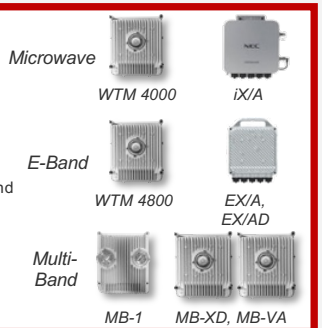

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Microwave Routers
CTR8000 Series

CTR 8740
CTR 8780

Markets: Mobile Service Providers, WISPs, Utilities, Public Safety, Oil & Gas, Mining, Transportation

Wireless Transport

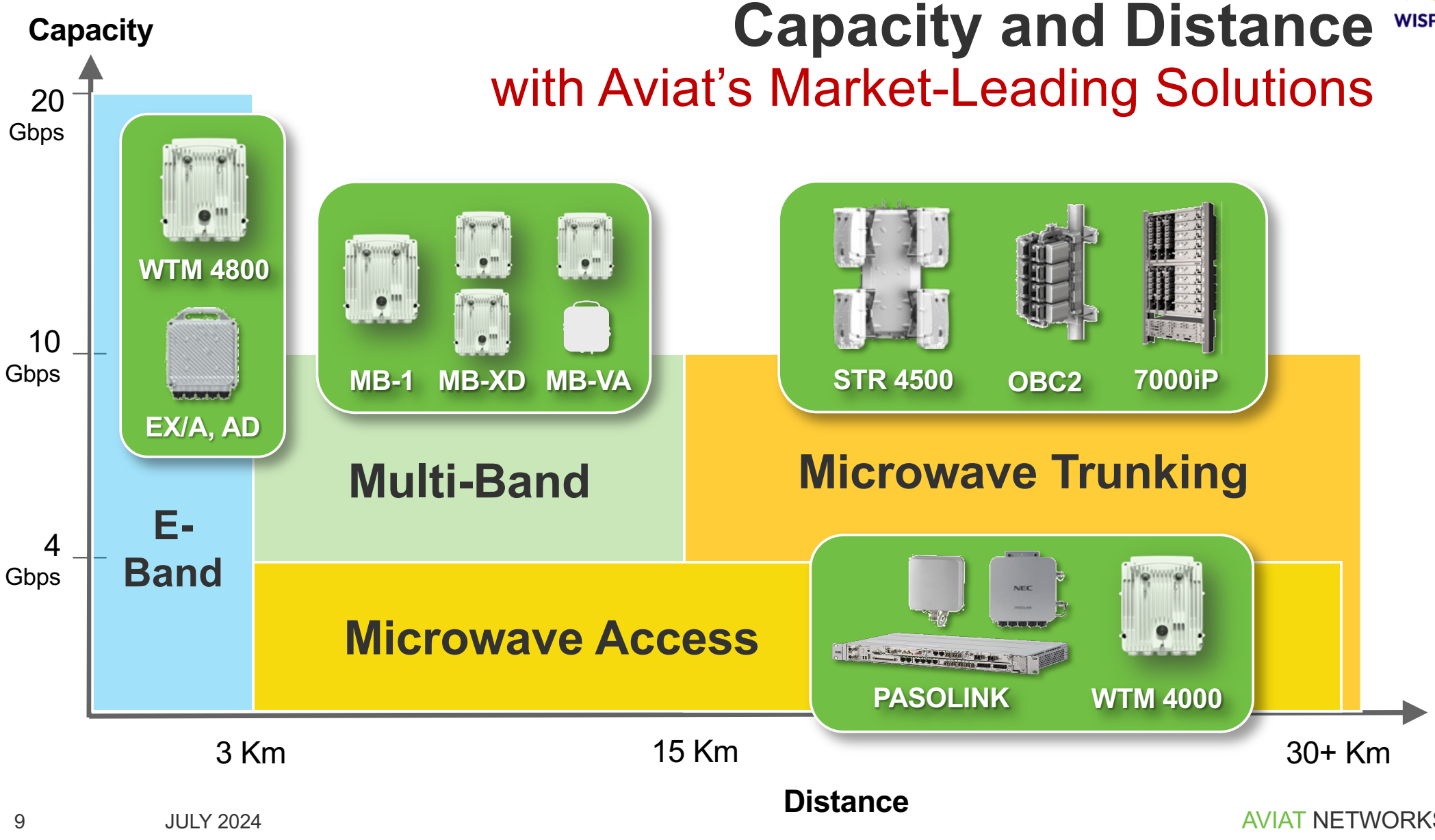
Wireless Access

AVIAT NETWORKS
WIRELESS TRANSPORT SOLUTIONS

Contents:

1. WTM 4000 All-Outdoor Platform
2. WTM 4800 E-Band
3. Multi-Band
4. Extended Distance Multi-Band
5. Multi-Band Vendor Agnostic
6. Premises and Cloud-based Software Tools
7. Local Presence and Support

Capacity and Distance
with Aviat's Market-Leading Solutions



WTM 4000

- Single 5-80 GHz all-outdoor platform
- Dual Transceiver
- Multi-channel, multi-band
- CE, IP/MPLS and SDN enabled

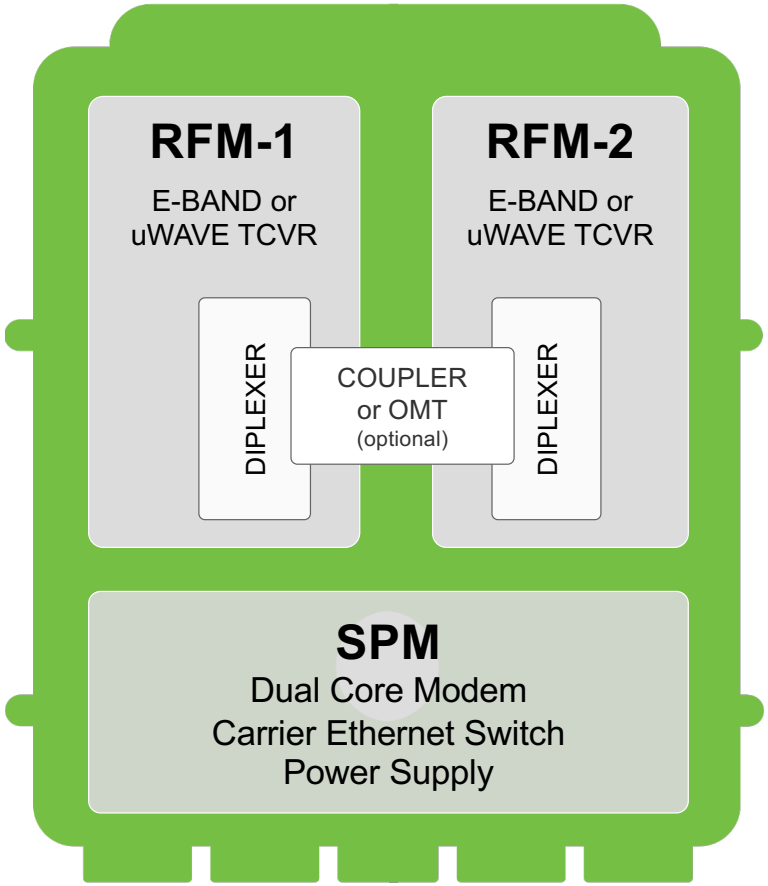
WTM 4000

All-Outdoor transport designed for 5G

- Microwave, E-Band and Multi-Band in a single common platform
- Unique modular, dual-transceiver design
- Carrier Aggregation (A2C+)
- Unique Single-Box Multi-Band solution
- Leading System Gain performance
- Integrated Space Diversity option
- Built-in Carrier Ethernet, IP/MPLS and SDN
- Quad-core option in development

Modular, Multi-Channel, Multi-Band architecture

- Dual-Transceiver 5 to 80 GHz design:
  - Single channel, single frequency band
  - Dual channel, single frequency band
  - Dual channel, multi-band
  - Any mix of bands can be supported
- Optional integrated Coupler or OMT



WTM 4000 The Leading All-Outdoor 5G Platform

WTM 4880

Dual Channel

WTM 4800

Single Channel

WTM 4800

Three Channel

WTM 4100

Single/Dual Channel

WTM 4200

Dual Channel

WTM 4400*

Quad Channel

WTM 4500

Single Channel

E-Band

80 GHz

Urban

Multi-Band

11/13/15/18/23 +80 GHz

Sub-Urban

Microwave

5 to 42 GHz

Sub-Urban

Microwave

5 to 11 GHz

Rural

** WTM 4400 is in development with planned availability in CY2025*

WTM 4000 All-Outdoor Microwave

WTM 4100
SINGLE-TRANCEIVER

- 5-42 GHz
- Single-Channel (1+0)
- Dual-Channel (2+0) with A2C+
- Up to 1.2 Gbps per channel
- Up to 5 Gbps with 4+0

WTM 4200
DUAL-TRANCEIVER

- 5-42 GHz
- Dual-Channel (2+0)
- Up to 2.5 Gbps
- Single- or Dual-Polarization with built-in Coupler/OMT
- Up to 5 Gbps with 4x4 LOS MIMO

WTM 4500
DUAL-TRANCEIVER

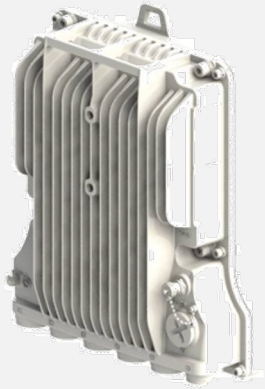
- 5-11 GHz
- Single-Channel (1+0)
- Up to 1.2 Gbps per channel
- Integrated Space Diversity Receiver

WTM 4000 compared to other AOD radios

WTM 4000

- ✓ E-Band and Multi-Band on same platform architecture
- ✓ A2C+ capacity doubling
- ✓ Internal coupler/OMT
- ✓ Simple installation
- ✓ Smallest and lightest dual-transceiver solution

Ceragon IP-50C



- ✗ E-Band on different platform
- ✗ Needs two boxes for Multi-Band
- ✗ No CA/A2C support
- ✗ External coupler/OMT, external diplexers (6-11 GHz)
- ✗ Max 2KQAM for ≥80MHz and ≥23GHz
- ✗ No high system gain support

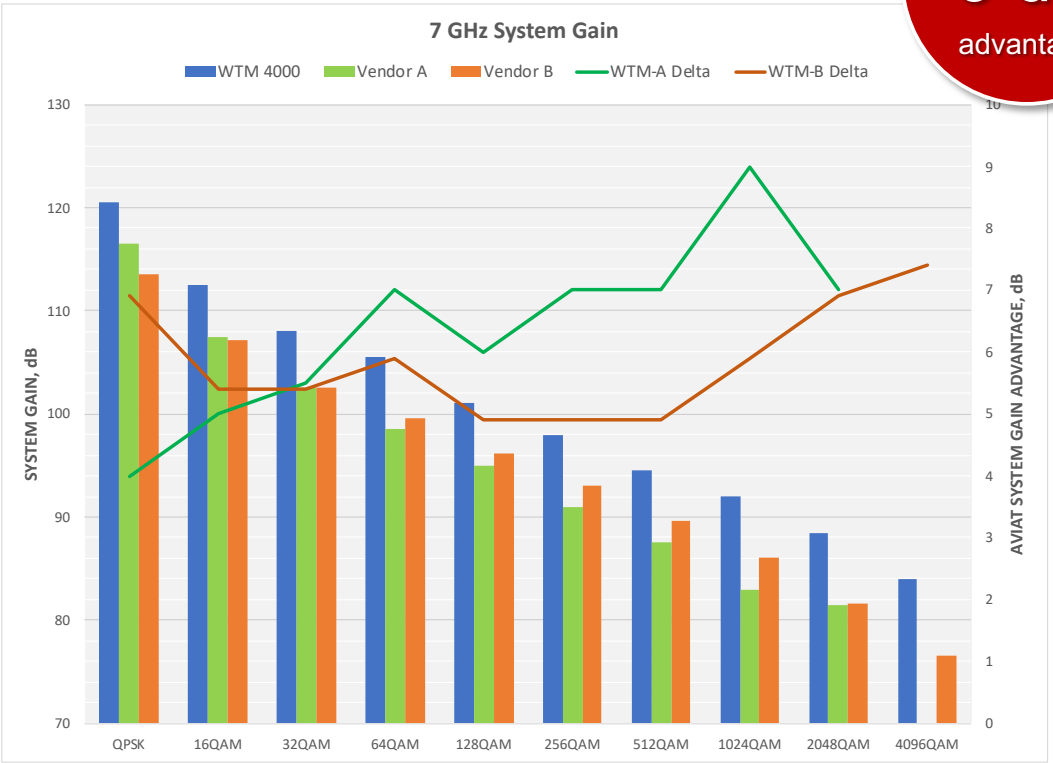
SIAE ALFOplus2

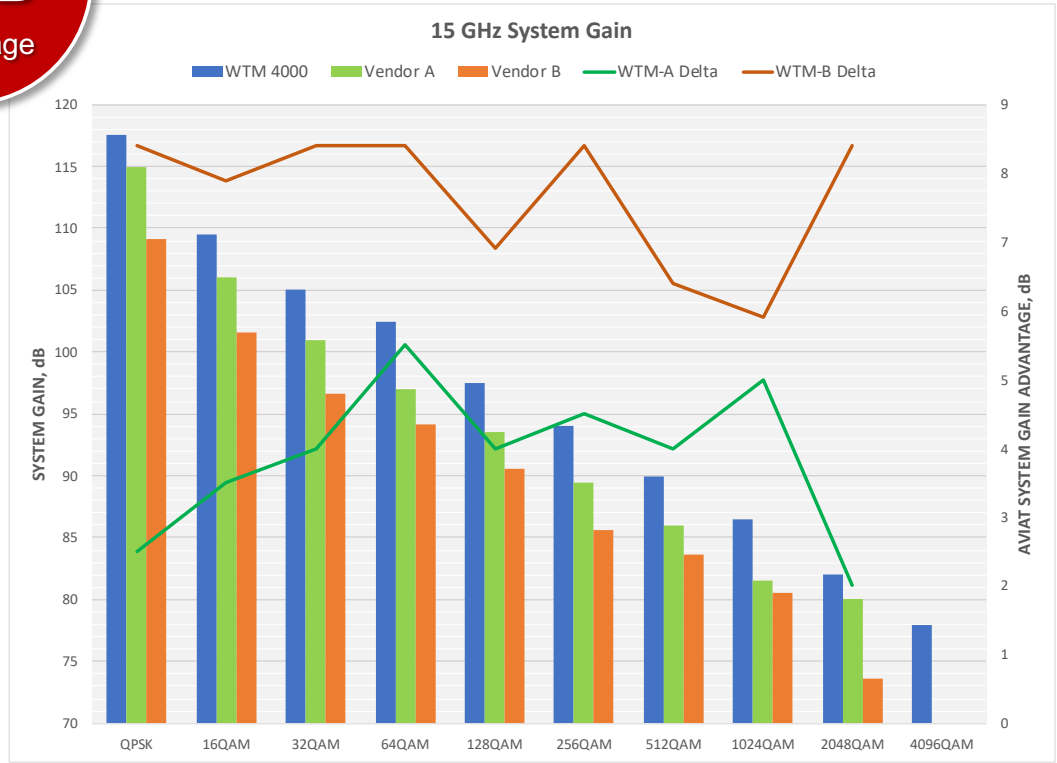
- ✗ E-Band on different platform
- ✗ Needs two boxes for Multi-Band
- ✗ No CA/A2C support
- ✗ No high system gain support
- ✗ Large and heavy

WTM 4000 supports All-Outdoor MW/EB/MB in a single design

Higher System Gain

up to 9 dB advantage

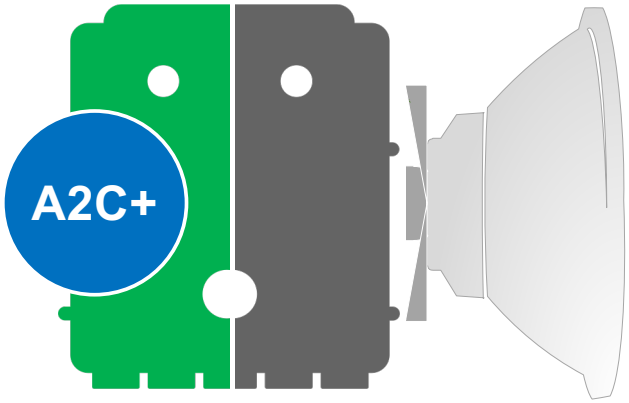


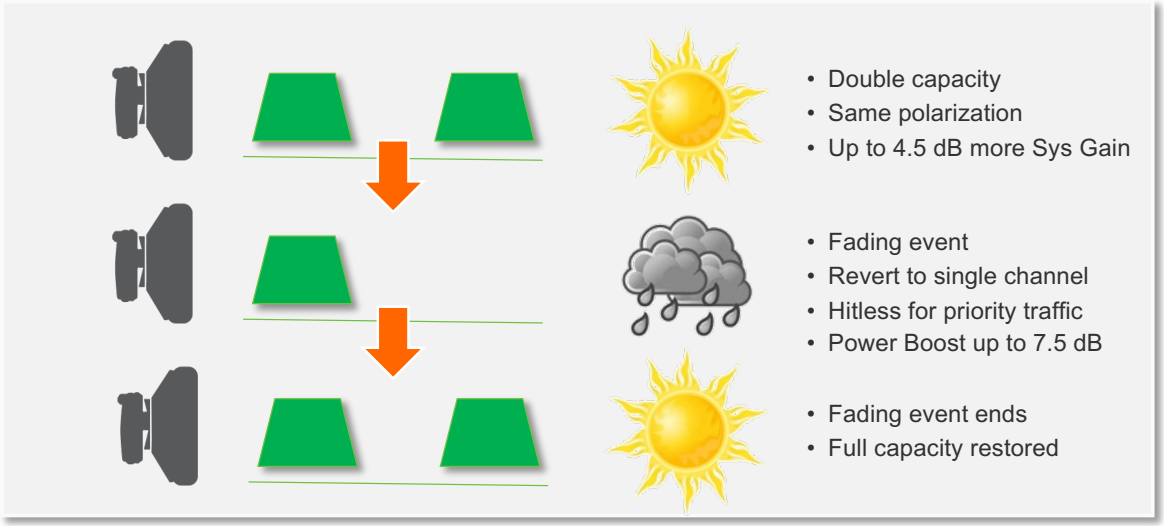


WTM 4000 System Gain outperforms most other radios in its Class

WTM 4000 A2C+/CA

Adaptive Dual-Channel, Single Transceiver



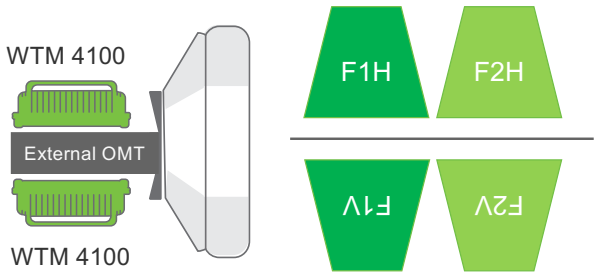


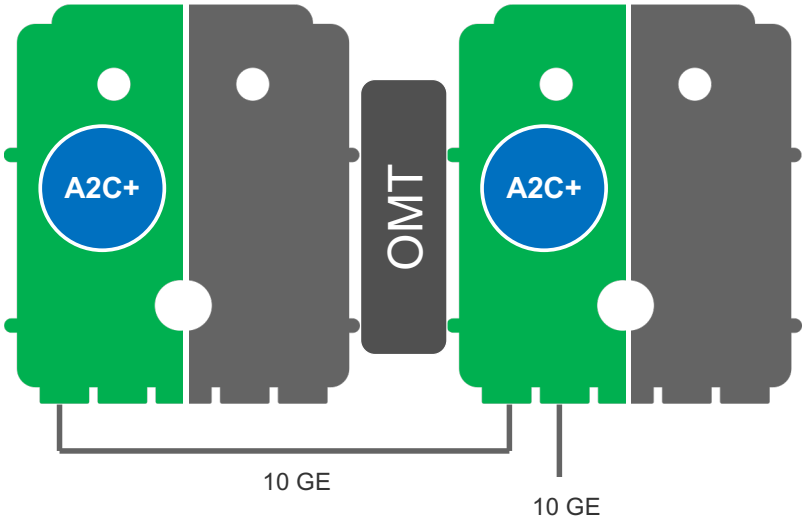
- A2C+ software enables a second RF channel on a single transceiver
- Adaptive – reverts to single channel with Power Boost (up to 7.5 dB) during fading event

Double capacity with same HW, better adaptive performance

WTM 4100 4+0

2x Dual-Channel, Single Transceiver, up to 5.0 Gbps





4+0, 2x WTM 4100 with A2C

- 4x channels: 7, 14, 28, 40, 56, 80 or 112 MHz
- QPSK to 4096QAM
- Single or Dual Polarization, optional XPIC
- External OMT, No Couplers

Up to 5 dB more System Gain for 4+0 compared to competing solutions

Aviat market leading E-BAND/MULTI-BAND

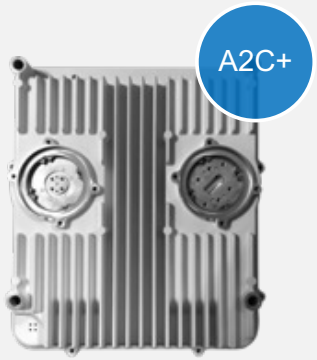
WTM 4800
SINGLE-CHANNEL E-BAND

- E-Band 80 GHz
- 1+0 configuration
- Up to 10 Gbit/s

WTM 4880
DUAL-CHANNEL E-BAND

- E-Band 80 GHz
- 2+0 with XPIC
- Up to 20 Gbit/s
- Integrated OMT
- Unique single box

WTM 4800
ONE-BOX MULTI-BAND

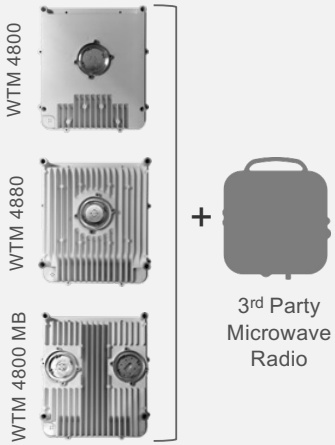


- E-Band + Microwave
- 2+0, or 3+0 with A2C+
- Up to 10 Gbit/s
- Unique single box

MB-XD
MULTI-BAND EXTENDED DISTANCE

- E-Band + Microwave
- 3+0 or 4+0
- Up to 22.5 Gbit/s
- Unique two box

MB-VA
MULTI-BAND VENDOR AGNOSTIC



- E-Band + 3rd Party Microwave
- 2+0, 3+0 or 4+0
- Up to 10 Gbit/s
- Unique two box

Capacity and Distance & Technology

Deployment type	Urban	Sub-Urban & Rural	Rural
Link Distance	< 3 km	< 10 km	10 km+
Links Distribution %	40%	40%	20%
Predominant Backhaul Technology (2027)	E-Band (W & D Band future)	??	Microwave
Capacity	Up to 20 Gbps		Up to 10 Gbps

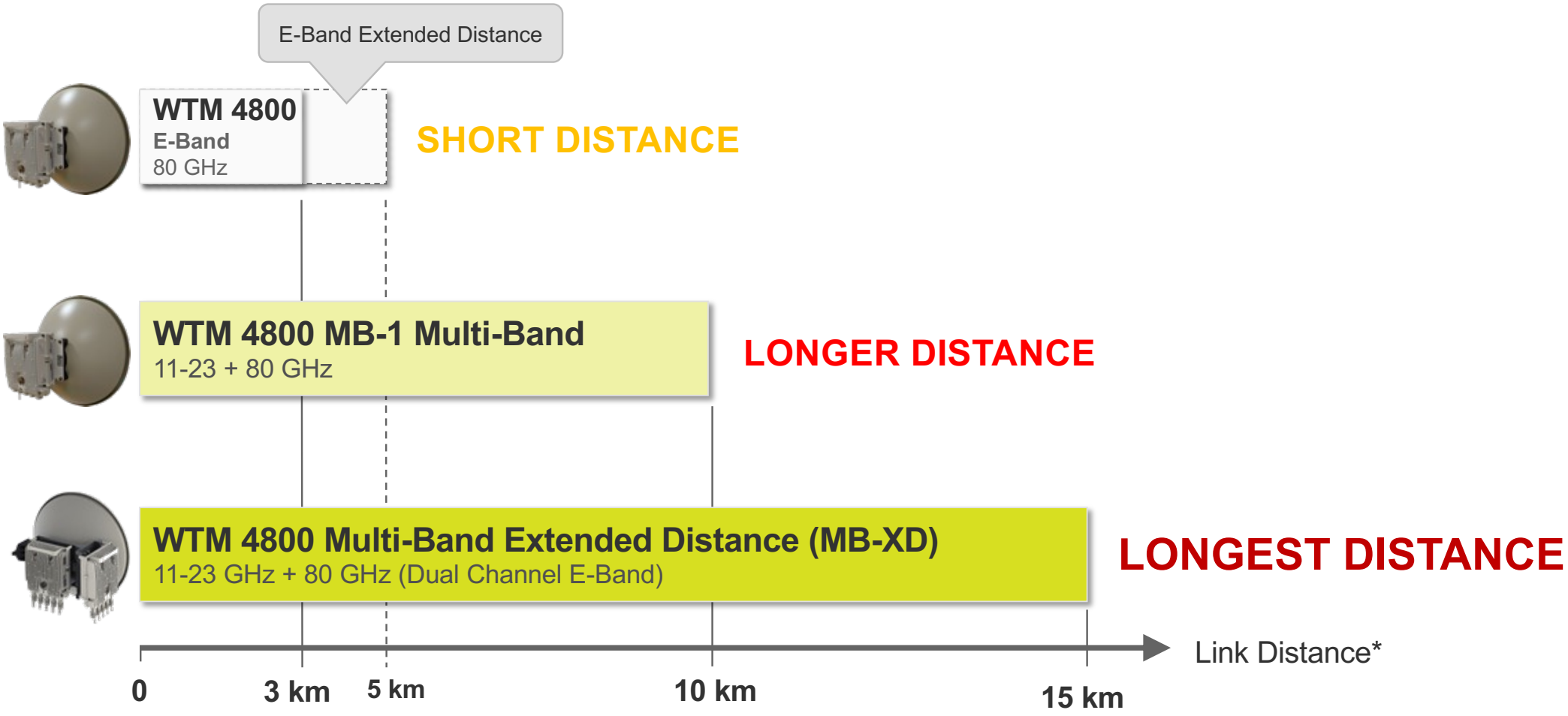
Main Challenge:

How to extend these capacities

To these Longer Distance Links

Most industry investment is to address high-capacity needs for 2 to 10 km range

Extending 10 Gbps Links with Aviat Multi-Band

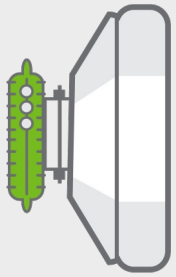


*Dependent on geographic/rain region and Availability target

Multi-Band

Band Carrier Aggregation (BCA) for Higher Link Capacities and Longer Reach

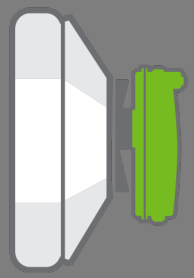
Low Band



- Longer links
- Narrow channels
- Lower capacity
- Higher congestion
- Lower Spectrum Fees

Multi-Band

High Band

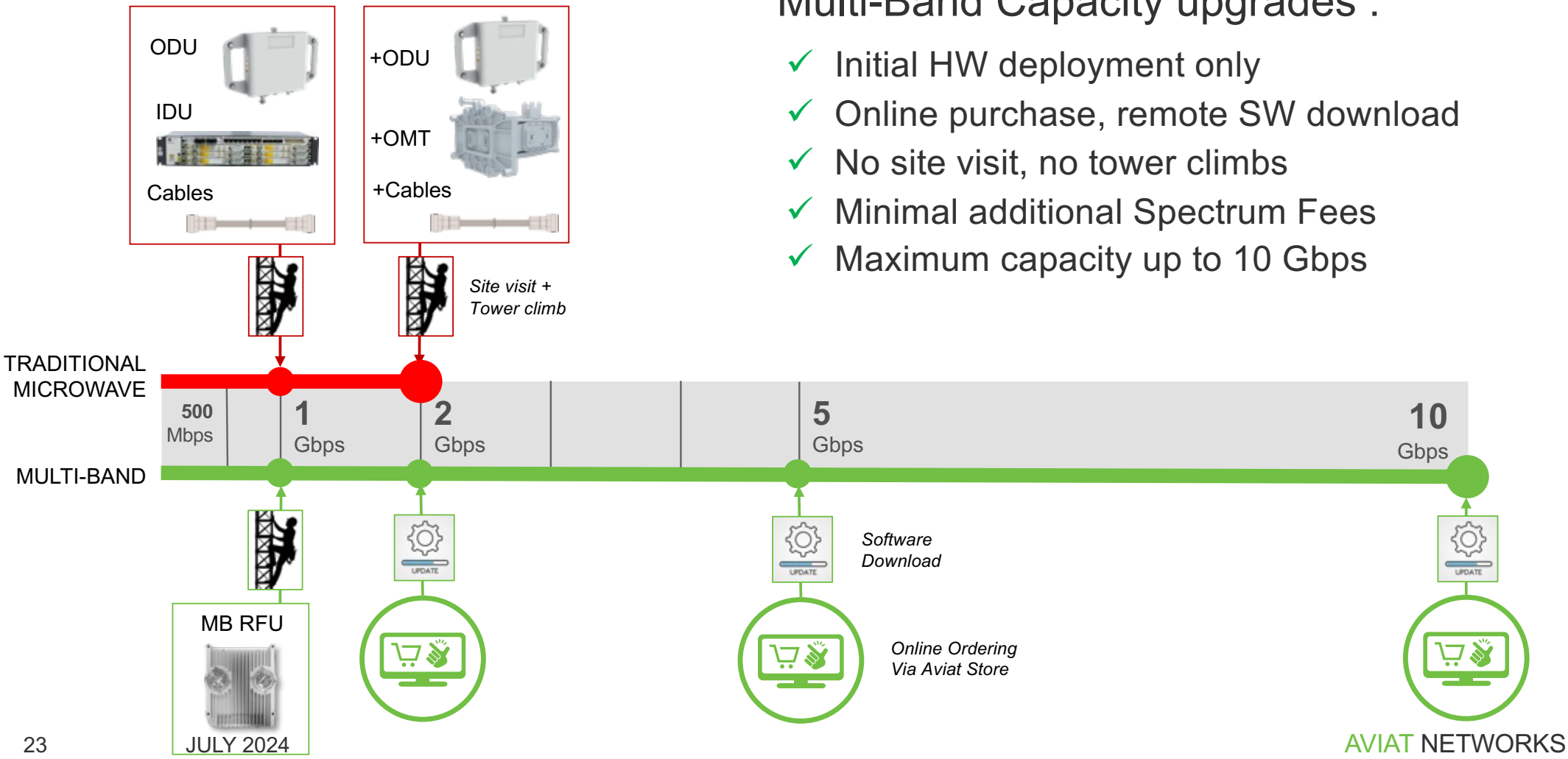


- Shorter links
- Wider channels
- Higher capacity
- Less congestion
- Lower Spectrum Fees

Availability **Capacity**

Effortless Capacity Upgrades

Traditional Microwave vs Multi-Band



Multi-Band Capacity upgrades :

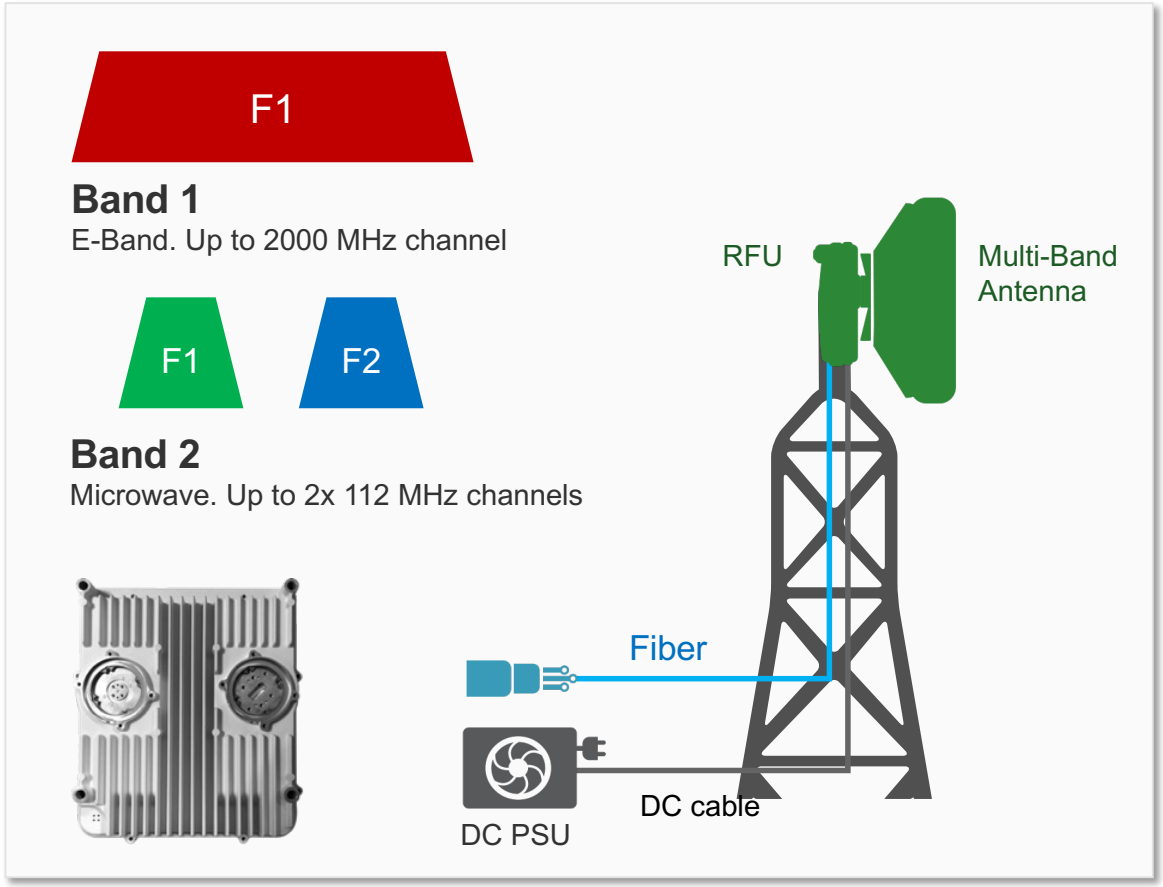
- ✓ Initial HW deployment only
- ✓ Online purchase, remote SW download
- ✓ No site visit, no tower climbs
- ✓ Minimal additional Spectrum Fees
- ✓ Maximum capacity up to 10 Gbps

AVIAT NETWORKS

WTM 4800 MB1 Multi-Band

Up to 10 Gbps in a single compact radio

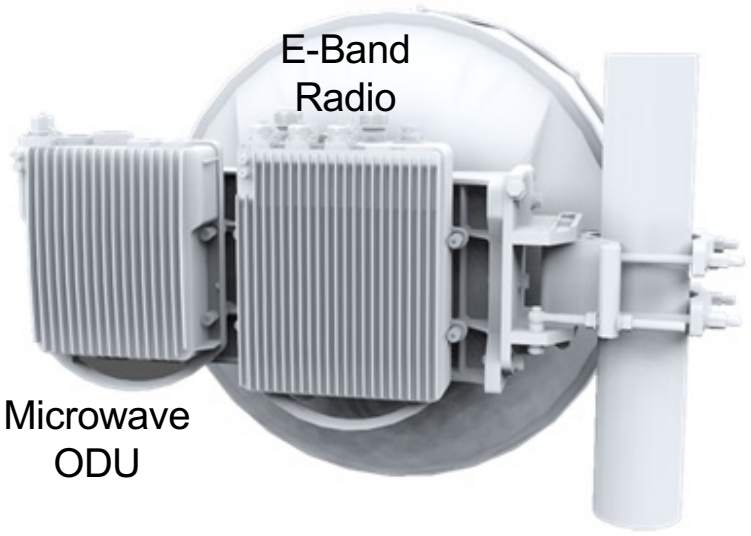
- One box to order, ship and install
- All-outdoor, no IDU required
- All software capacity upgrade
- E-Band + 11/13/15/18/23 GHz
- Single antenna, direct mount
- Lower tower and site costs
- Integrated Design tool



Much more Capacity and Lower TCO than Traditional Microwave

Comparing Multi-Band Solutions

Multi-Box Multi-Band



Indoor Unit

Aviat One-Box Multi-Band

WTM 4800
Multi-Band Radio

WTM 4800 MB-XD

Up to 10 Gbps, over 10 Km or more*

- Unique two-box, all-outdoor architecture
  - Dual-channel E-Band in one box
  - Single, dual or quad** channel Microwave in one box
- Integrated L1-LA traffic aggregation
- No indoor unit required
- Single antenna – 80 + 11/13/15/18/23 GHz
- Dual antenna – 80 GHz + other bands
- Simple, low power consumption

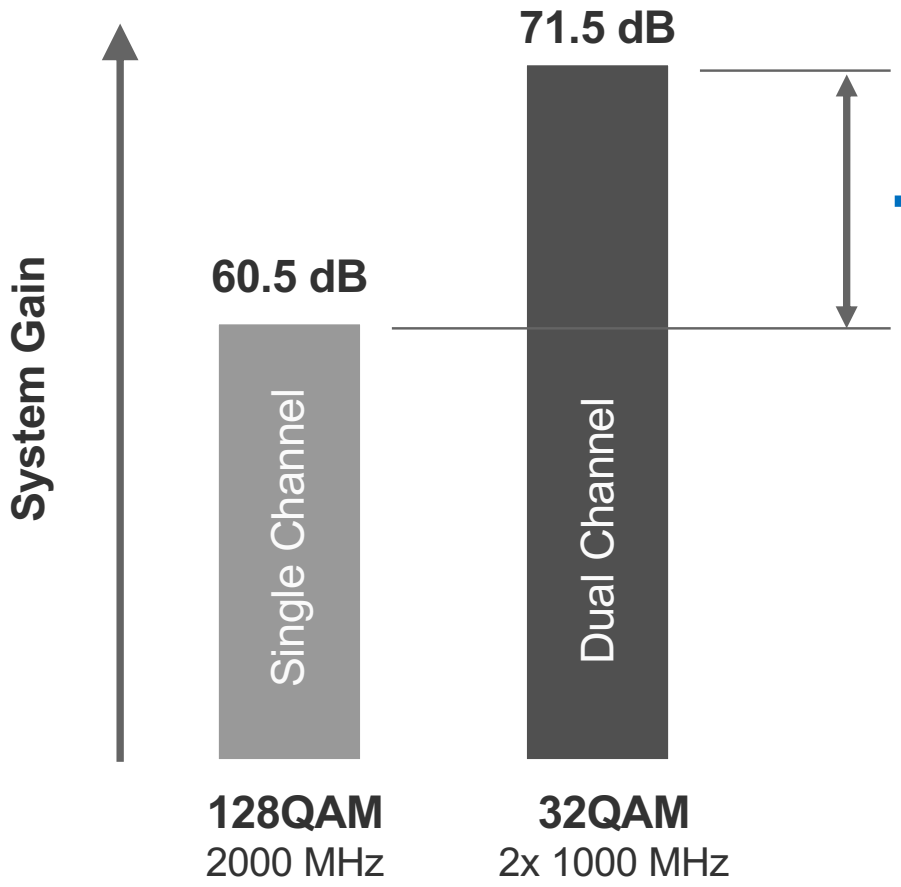
More Capacity over Longer Distances

* Distance range is for indication only. Actual link distance will be subject to path design, rain region, capacity and availability targets.

** WTM 4400 Quad Channel radio is Roadmap.

MB-XD E-Band System Gain advantage

Dual-Channel allows lower modulations for longer links



Alternatives for higher system gain:

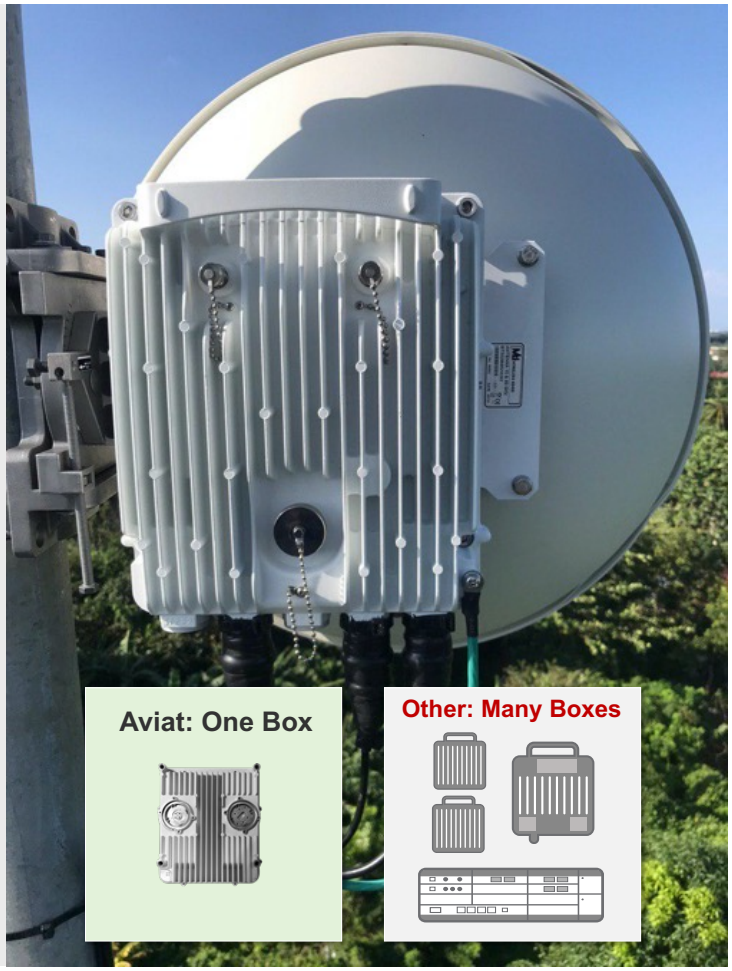
- Larger 0.9m antenna: 6 dB
  (With antenna steering mechanism)
- Higher Tx power: 3 dB
- Antenna + HPA: 9 dB

Higher cost, additional complexity, operational issues

Aviat Multi-Band

Unique one and two-box solutions for high-capacity 5G Transport

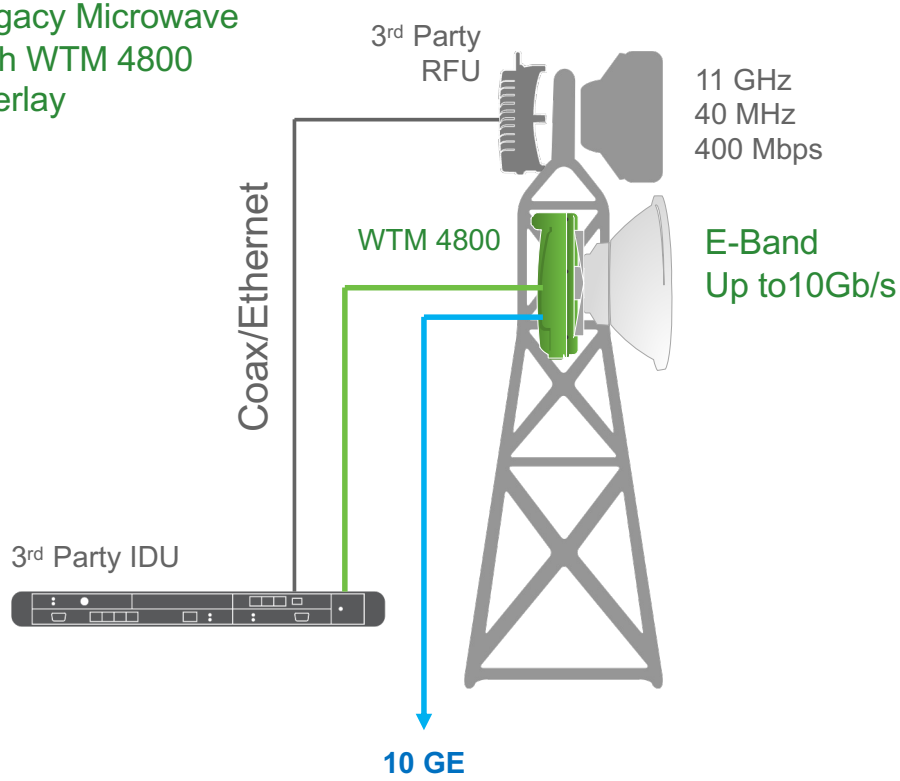
MB1



MB-XD

Vendor Agnostic Multi-Band

Aviat MB-VA
Legacy Microwave with WTM 4800 overlay



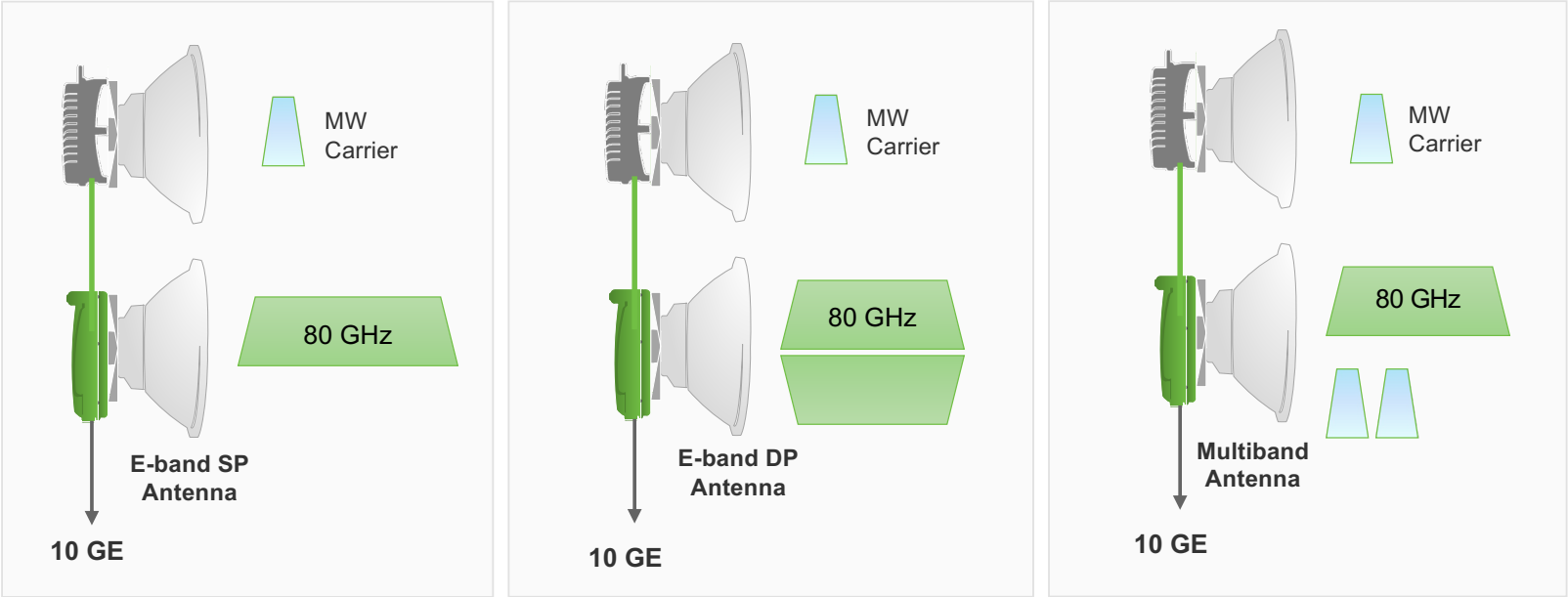
- High-capacity WTM 4800 E-Band (80 GHz) overlay to existing 3rd Party MW link
- Supports software scalable capacity up to 10 Gbps (MW+EB)
- L1LA combines traffic from both links onto single 10 GE interface
- Hitless support for MW traffic in the event of EB link outage
- WTM performs QoS, Scheduling and Shaping, Policing and Storm Control
- Separate E-Band antenna or single Multi-Band antenna (2ft)
- Optional Aviat WTM 4800 Multi-Band or MB-XD overlay

Microwave Multi-Band extends capacity for existing lower-capacity microwave bands

Multi-Band-VA Overlay Options

EXISTING
3rd Party
Eg: 11 GHz

NEW
WTM 4800
E-Band Radio
Multi-Band Radio



	MB Overlay	MB Overlay XD	Tri-band Overlay
Aviat Radio	WTM 4800	WTM 4880	WTM 4811/13/15/18/23
Max aggregate capacity	10 Gbps	10 Gbps	10 Gbps
Overlay Carriers	1x E-band, up to 2 GHz	2x E-band, up to 1 GHz	1x E-band, up to 2 GHz 2x MW (11, 13, 15, 18, 23 GHz)
Application	Capacity boost over medium distance	Capacity boost over long distance	Capacity boost over long distance with improved availability

Aviat Premises and Cloud-Based Software Tools

DESIGN
Link Planning & Design

- Design Microwave, E-Band and Multi-Band links in the cloud
- 3rd party product support
- Advanced features, eg: MIMO
- Equipment look-up database
- Free to use

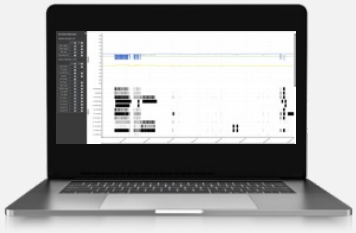
STORE
Online Ordering with Fast Delivery

- Fast and easy online ordering
- BoM creation, including radios, antennas, licenses and accessories
- Fast delivery from stock
- Order tracking

PROVISION+
Element Management

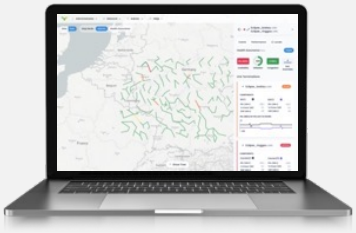
- Single pane of glass for all Aviat Transport and Access products
- Multi-layer network visualization and troubleshooting
- RestConf NBI and SDN

FAS
Frequency Assurance



- Monitor and report interference
- Protect against WiFi-6E interference issues
- Improve link performance, protect against outages

HAS
Health Assurance



- Reduces network downtime
- Predictive algorithms continuously analyze the network
- Identifies problems before impacts occur
- Simplifies capacity planning

Peace of Mind

- Assurance of working with an established and stable partner
- Focus on Microwave solutions
- Local presence and support
- Public company (Nasdaq: AVNW)
- Financially stable and profitable
- Microwave experts you can rely on

Local, Responsive Support

- Established in Australia for over 30 years
- Local Sales, Engineering, Admin and Logistics team
- In-region Repair & Return
  - Clarke, Philippines
- 24x7x365 Technical Assistance Hotline
- Melbourne Warehouse
- Local Training
- NZ-based Engineering escalation

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Pasolink VR

- Comprehensive Split-Mount Microwave
- Modular, Nodal or simple IDU options
- Variety of Redundancy options

Pasolink Short-Haul Portfolio

Indoor Units

Fixed IDU

VR2

Semi-Modular

VR4

Fully Modular

VR10

Outdoor Units

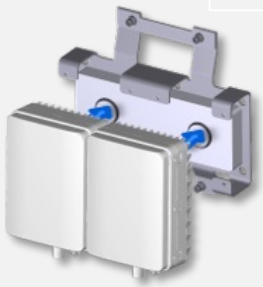
IAP3

IAG3

Microwave ODU's

OBC2

N+1



Outdoor Branching

All-Outdoor

EXA

E-Band Single

EXA/D

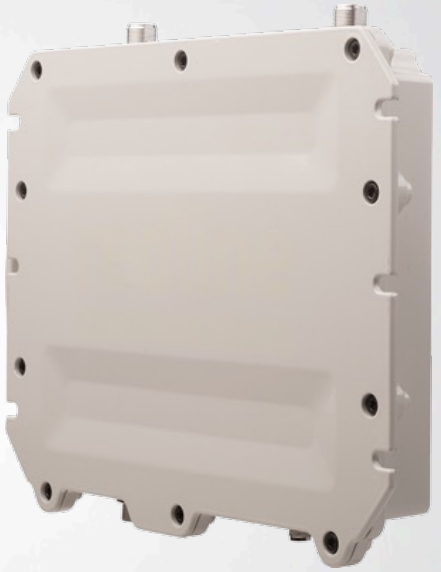
E-Band Dual

IXA

Microwave

RDL 3000

- Industrial NLOS PTP and PMP
- Ruggized for harsh environments
- Fixed and nomadic with self alignment



Aviat RDL 3000 Product Family

Ellipse

Base Stations

Remote terminals

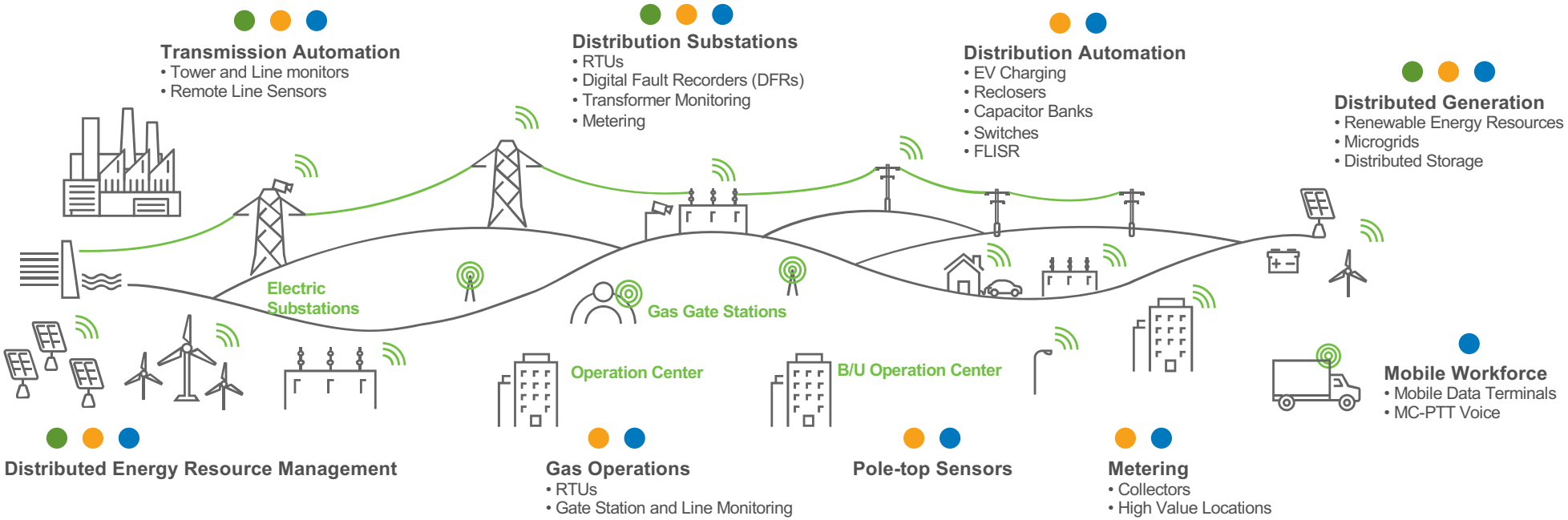
Enterprise	RAS	Elte	Edge	Connect	Endurance
Subscriber Access Units	Auto-Acquire Backhaul Terminals	Rugged Backhaul Micro Terminals	Extended Range Backhaul Terminals	TCP/IP & Serial Remote Terminals	HAZ-1 Backhaul Terminals
Price/performance	Self-aligning	All enclosed hardened	Extended range	With Transport functions	ATEX / UL certified

APRISA

- Industrial PTP/PMP and LTE/5G Router
- Ruggedized for harsh environments
- Private licensed/unlicensed bands, Private and Shared LTE

Complete FAN Solution for Mission-Critical Utility applications

A full suite of private radio and LTE cellular routers



Aprisa XE

Uniquely flexible point-to-point radio solution

Aprisa SRi
Aprisa SR+

Point-multipoint licensed and unlicensed radios

Aprisa LTE

Utility-grade 5G-ready cellular router

Aprisa – a highly Flexible Product Portfolio

	Private					Shared	Public
	Licensed	Licensed	Unlicensed	LTE	LTE	Third Party LTE	Third Party LTE
Offering	Aprisa XE	Aprisa SR+	Aprisa SRi	Aprisa LTE	Aprisa LTE	Aprisa LTE	Aprisa LTE
Type	Point-to-Point radio	Point-Multipoint radio	Point-Multipoint radio	3GPP UE device	3GPP UE device	3GPP UE device	3GPP UE device
Available Spectrum	Licensed ▪ 300-2500 MHz	Licensed ▪ VHF ▪ 700 MHz ▪ 220 MHz ▪ 900 MHz ▪ UHF	Unlicensed ▪ 900 MHz	Low band ▪ Anterix 900 MHz ▪ Dish 800 MHz	Mid band ▪ 2.5 GHz ▪ 3.7 GHz CBRS	Carriers ▪ FirstNet ▪ T-Mobile Government ▪ Verizon Frontline	Carriers ▪ Verizon ▪ AT&T ▪ T-Mobile ▪ USCellular
Spectrum Cost	Low	Low	None	Very High	Medium/High	None	None
Performance	High	High	Medium (interference limited)	High	Medium/Low (mid bands limit coverage)	High (but with high recurring opex)	Low (insufficient reliability and prioritization with recurring opex)
Applications	Critical point-to-point low-capacity links	Wide range of critical point-multipoint smart grid applications	Range of non-critical point-multipoint smart grid applications	Critical smart grid applications with high volume of end points	Smart grid and workforce automation applications with high-capacity needs	Critical first responder workforce automation and disaster recovery applications	Non-critical services

Aprisa provides the optimal solution across private licensed and unlicensed frequency bands, as well as private and shared LTE