

**LP-ORIONFXX Outdoor FDD Backhaul Radio on 5350 ~5510 MHz (Low band) / 5565 ~ 5725 MHz (High Band);
T/R spacing 215 MHz with 24 dBm@MCS8 with 150 Mbps (DL) / 150 Mbps (UL)@HT40 with Real TCP
Throughputs at HT20MHz of 75/75 Mbps and at HT40MHz of 150/150 Mbps external antenna**

LPORIONFXX_PFD_ENB01W

Features

- FULL DUPLEX with Single Antenna Design.
- 5 GHz PtP Ethernet bridge.
- 240 Mbps Real TCP Throughput (Uni-Directional).
- 150+150 Mbps Real TCP Throughput (Bi-Directional).
- Video Streaming up to 360 Mbps.
- IPTV broadcasting up to 240 Mbp.
- Low latency.
- Proprietary PoE powered:
X=1: 100 ~ 264 VAC 50-60Hz, 48 VDC output Converter an 48 VDC PoE Injector
X=2: Future Option.
- Optional enclosure with a high gain 35 dBi parabolic Integrated antenna under special order only.



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/ 150 Mbps (UL) @HT40 with Real TCP Throughputs
at HT20MHz of 75/75 Mbps and at HT40 MHz
of 150/150 Mbps external antenna

The Orion outdoor FDD Backhaul solution Radio Series has been designed for full duplex, high throughput, low Latency and excellent performance with dual RF cores inside the structure that highly enhance the performance

Dual 802.11n MIMO modules operating in a full duplex with Fast Transparent Forwarding technology offers a stable DL / UL tunnel with large capacity compared with Wi-Fi TDD radios.

A single antenna design not only reduces the shipping dimensions and cost, but also makes the installation an easier task that reduces risk and cost as well.

A Product Highlights

• **High Capacity/Low Latency by operation in full duplex operation mode.**

Full duplex operation can prevent the collision from the Tx / Rx processes and offers a higher throughput and lower latency time compared to traditional TDD(Time Division Duplex) system.

• **Up-Link / Down-link Capacity Flow Control**

The customer can change the capacity rate percentage of the UL /DL flow via the web configuration page, and can allocate the UL / DL capacity rate to fit the requirements of different applications such as surveillance, IP-TV broadcasting ...etc.

• **Robust design for harsh environments**

For complete outdoor applications, this radio balances the internal air pressure automatically, complies with the IP-68 water resistance standard and the IEC61000-4-5 standard.

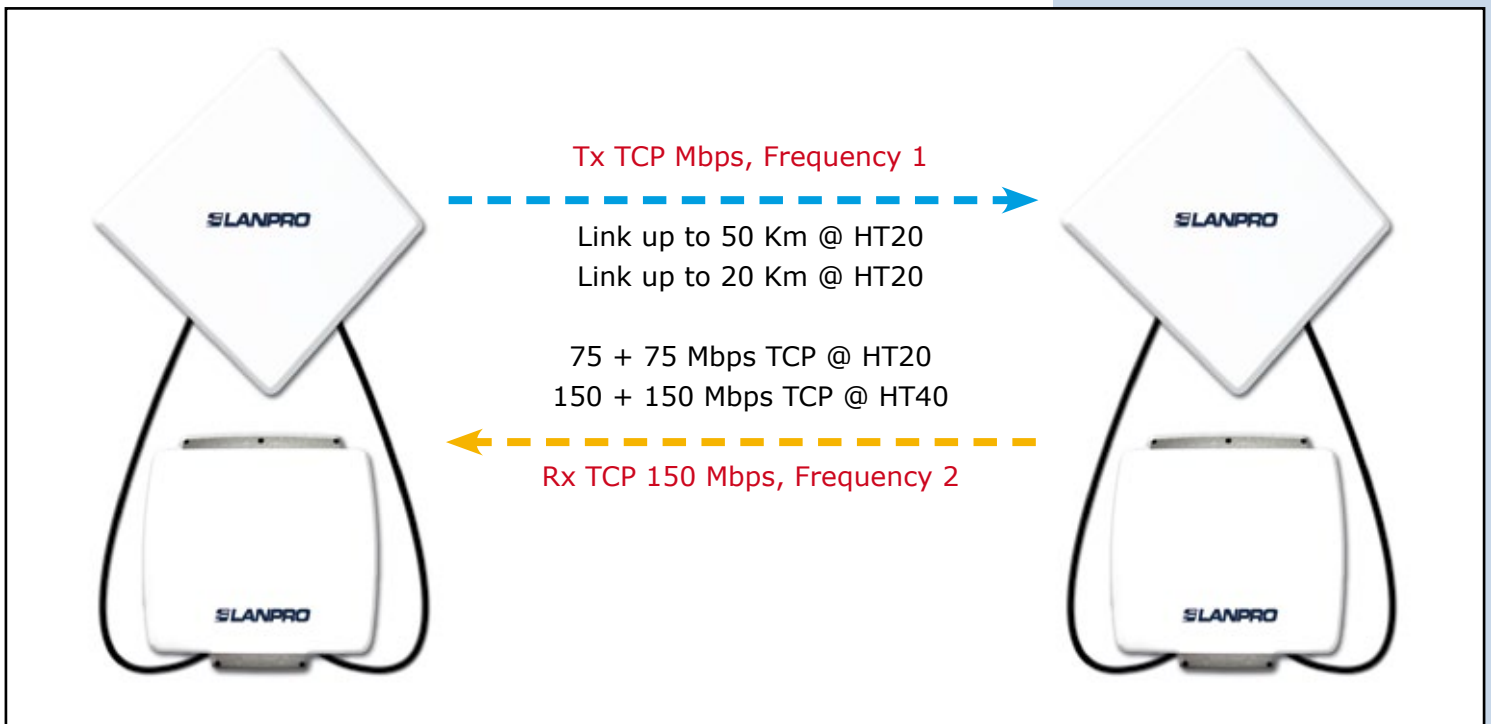
• **High efficiency Multicasting/Broadcasting**

Orion-TDD can provide more valuable solutions for video streams applications due to the highly efficient protocol design for multi-casting/broadcasting

• **Security**

WEP 64 / 128 / 152 bits, MAC access control, disable broadcast the SSID, client, Isolation, WPA2 (AES (AES-128 bits) build the highest security mechanism to prevent the malicious attacking from the Internet.

B Specifications



B Specifications

Frequency	5350 ~5510 MHz (Low band) / 5565 ~ 5725 MHz (High Band) ; T/R spacing 215 MHz							
	IEEE 802.11an / HT20				IEEE 802.11an / HT40			
MCS Index	Data Rate (Mbps)		Output Power (dBm)	Rx Sensitivity (dBm)	Data Rate (Mbps)		Output Power (dBm)	Rx Sensitivity (dBm)
	GI= 800ns	GI= 400ns			GI=800 ns	GI=400 ns		
MCS 8	13	14.4	24 (±1.5)	-94	27	30	22 (±1.5)	-90
MCS 9	26	28.9	23 (±1.5)	-92	54	60	22 (±1.5)	-89
MCS 10	39	43.3	22 (±1.5)	-90	81	90	21 (±1.5)	-87
MCS 11	52	57.8	21 (±1.5)	-87	108	120	20 (±1.5)	-83
MCS 12	78	86.7	20 (±1.5)	-84	162	180	19 (±1.5)	-80
MCS 13	104	115.6	19 (±1.5)	-80	216	240	18 (±1.5)	-77
MCS 14	117	130.3	18 (±1.5)	-78	246	270	17 (±1.5)	-75
MCS 15	130	144.4	18 (±1.5)	-76	270	300	17 (±1.5)	-73

C General Specifications

- TX / RX FDD.
- Integrated Multiple Radios Management.
- Fast Transparent Forwarding.
- Against Co-Band Interference.
- Up / Down Flow Control.
- **Wireless Security:** AES 128 bits.
- Watch Dog.
- **Antenna Alignment:** WEB GUI Local / Remote Information.
- **Firmware Upgrade:** Dual Images.
- **Wireless Interface:** 2 x N- Type Female Connectors (External antenna only).
- 10 / 100 / 1000 Base-T RJ-45 port with M25 Cable Gland.
- **Power Output:** 24 dBm (MCS8).
- **Integrated antenna Gain:** 35 dBi (Special Order Only).
- **EIRP:** 59 dbm (Special Order Only).
- **Power Consumption:**
 - Option H=1:** without Heater Max Power=12 Watt
 - Option H=2:** with Heater Max Power=24 Watt
 - Heater power consumption= 12 Watt on, 0 Watt off (On-Off control).
- **Ambient Temperature range:**
 - H=1:** Without heater: 0~55°C Standard Temperature Range.
 - H=2:** With heater: -30~55°C Extended Temperature Range.
- **Storage Temperature Range:** -30~70°C.
- **Relative Humidity:** 95% non-condensing
- **Power Suply Options:** LP-ORION Radios are 48 VDC powered,
 - X=1:** 100~264 VAC 50~60Hz, 48 VDC output Converter, 30 W max. and a 48 VDC PoE Injector
 - X=2:** Future Option.
- **Physical:**
 - Typical Dimensions:** 259 mm (L) x 250 mm (W) x 75 (H) mm.
 - Weight:** 1.8 Kg (3.97lb).
- **Warranty:** One (1) Year against manufacture or part defects.

E How to Order

LP-ORIONTGGBCAAXH

LP-ORION	T: Technology	GG: Power	B
LanPro ORION Series	T= TDD F= FDD	Power (dBm)	B=2=2.3~2.7 GHz
C	AA	X	H
C=4=4.9 ~ 6.1 GHz	AA= a: External antenna standard AA= ai: Integrated antenna (Under special order only)	X=1: With 120~240 VAC / 48 VDC Converter and a 48 VDC PoE Injector X=2: Future Option	H=1 No Heater, Standard Temperature Range (0~55°C) H=2 With Heater, Extended Temperature range (-30~55°C)

Typical Order example:

LP-ORIONF5524a11	Outdoor FDD Backhaul Radio on 5350~5510 MHz (Low band) / 5565~5725 MHz (High Band); T/R spacing 215 MHz with 24 dBm@MCS8 with 150 Mbps (DL) /150 Mbps (UL) @HT40 with Real TCP Throughputs at HT20 MHz of 75/75 Mbps and at HT40 MHz of 150/150 Mbps external antenna with a 100~240 VAC/48 VDC Converter and a 48 VDC output PoE Injector. Standard temperature range from (0~55°C).
LP-ORIONF5524a12	Outdoor FDD Backhaul Radio on 5350~5510 MHz (Low band) / 5565~5725 MHz (High Band); T/R spacing 215 MHz with 24 dBm@MCS8 with 150 Mbps (DL) /150 Mbps (UL) @HT40 with Real TCP Throughputs at HT20 MHz of 75/75 Mbps and at HT40 MHz of 150/150 Mbps external antenna and a 100 -240 VAC/48 VDC Converter a 48 VDC output PoE Injector. Includes Heater for extended temperature range of (-30~55°C).

LanPro is continuously improving its products and reserves the right to change specifications and availability without prior notice.