

Y-Packet 2 nLOS



2 & 4L/U GHZ
FULL ODU

CAPACITY UP TO 1 GBPS

1+0 / 1+1HSB / 1+1FD / 2+0 RLA / 2+0 XPIC RLA

UP TO 80 km

SPANS LARGE DISTANCES

ANTI-THEFT

GPS-BASED OPERATION LOCK

LOW CAPEX AND OPEX

TOUCHLESS CONFIGURATION
NFC CHIP

Y-Packet 2 nLOS

Y-Packet 2 nLOS is a high-capacity radio conceived with full outdoor approach that covers 1.9...2.3 GHz, 2.3...2.7 GHz, 3.8...4.2 GHz bands. Y-Packet 2 nLOS is easy to configure, manage and monitor.

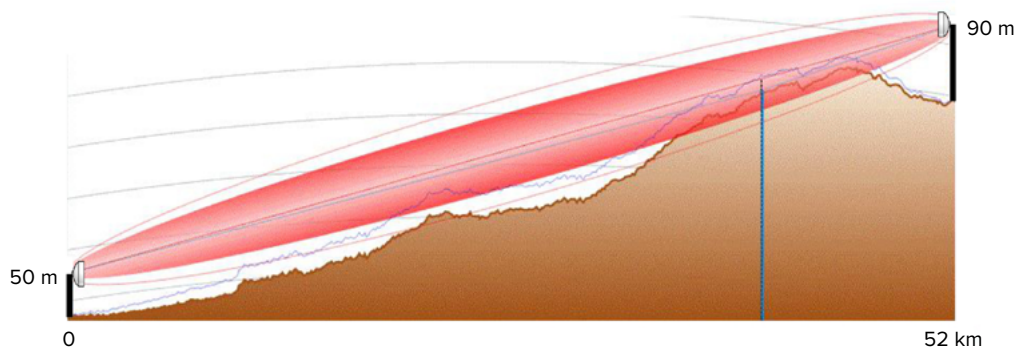
Y-Packet 2 nLOS is designed specifically for the organization of networks in remote or inaccessible areas, providing high capacity data transfer over links up to 80 kilometers even in nLOS conditions. Conceived as Full Outdoor, it can be powered by PoE injector or 48 VDC.

The nLOS radio implements state-of-the-art technologies, such as XPIC jointly with Radio Link Aggregation. Y-Packet 2 nLOS provides a capacity up to 1 Gbps at 56 MHz bandwidth and 1024 QAM and can be configured as 1+1 HSB for link protection, XPIC with Radio Link Aggregation or repeater. Y-Packet 2 nLOS provides a web management interface based on AJAX. Y-Packet 2 is equipped with an NFC chip, which allows to set parameters by bringing a smartphone close to the radio even when it is unpowered — a unique and innovative touchless configuration

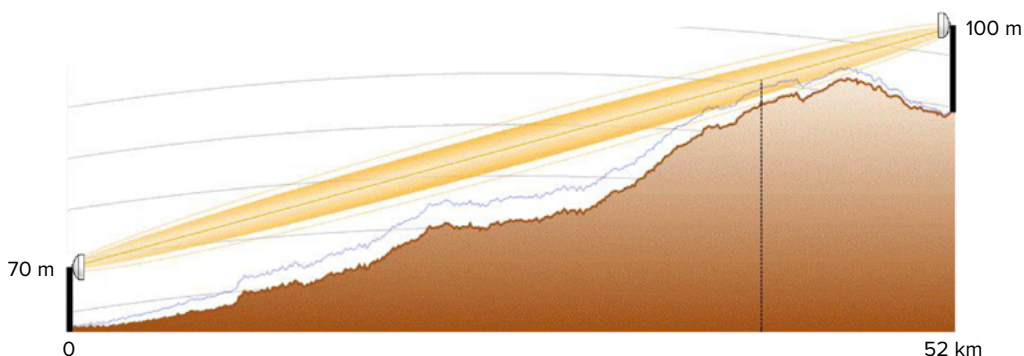
To secure installation sites, the in-built GPS records equipment position, and is able to lock transmission in case it is removed from site without authorization.

Lower frequency bands for lower CAPEX

Y-Packet 2 nLoS 2 GHz

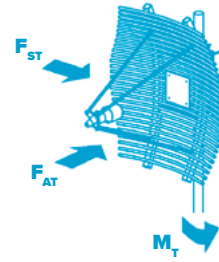


Y-Packet 8 GHz = Y-Packet 2 GHz + 15% mast height and × 2 wind load



Wind load comparison

Parameter	2 Ghz	7 GHz	2 GHz	7 GHz
	1.2 m	1.2 m	1.8 m	1.8 m
Antenna weight, kg	20	35	43	95
Wind force axial (F_{AT}) at 200 kmph, N	2 200	3 300	4 500	7 500
Wind force side (F_{ST}) at 200 kmph, N	800	1 360	2 000	3 700
Torque (M_T) at 200 kmph, Nm	800	1 050	1 090	2 830



CASE STUDY

One of the biggest mobile operators

Brasil

Objective: bring 3G connectivity to a small village.

Solution: Y-Packet 2 nLOS, 2.2 GHz.

Network summary: 70 km distance in nLOS conditions.

Configuration: 2 + 0 providing 170 Mbps capacity.



Y-Packet 2 nLOS operates at 2.2 GHz and provides high capacity and link protection over 70 km link with lowest CAPEX and OPEX that is impossible to reach with the help of other microwave, UHF and satellite solutions.

Achieved results

- New nLOS link with high capacity.
- Avoided high CAPEX, caused by extra equipment or satellite rent fee.
- Avoided high OPEX by having only outdoor equipment for network deployment.

SPECIFICATIONS

Band name	2	4L	4U
Frequencies, GHz	2.025...2.110 & 2.200...2.290	3.600...4.200	4.400...5.000
ITU-R recommendation	F.1098-1	F.382-8	F.1099-4 annex 3
Duplex diversion, MHz	175	13	300, 312
Frequency tuning	programmed, in an RF filter band with 250 kHz step		
System configurations	1 + 0 / 1 + 1 HSB / 1 + 1 FD / 2 + 0 RLA / 2 + 0 XPIC RLA		

Rx sensitivity at BER = 10⁻⁶, dBm

	Band name	2	4L / 4U
7 MHz	4QAM	-92	-93
	16QAM	-88	-88
	32QAM	-86	-86
	64QAM	-82	-82
	128QAM	-78	-78
	256QAM	-73	-73
14 MHz	4QAM	-92	-93
	16QAM	-85	-85
	32QAM	-82	-82
	64QAM	-79	-79
	128QAM	-75	-75
	256QAM	-72	-72
	512QAM	-68	-
1024QAM	-64	-	
28 MHz	4QAM	-89	-90
	16QAM	-81	-82
	32QAM	-78	-79
	64QAM	-74	-75
	128QAM	-71	-73
	256QAM	-67	-69
	512QAM	-64	-66
	1024QAM	-61	-62
56 MHz	4QAM	-87	-87
	16QAM	-79	-79
	32QAM	-75	-76
	64QAM	-71	-72
	128QAM	-68	-69
	256QAM	-65	-66
	512QAM	-64	-63
1024QAM	-61	-59	
60 MHz	4QAM	-87	-87
	16QAM	-79	-79
	32QAM	-75	-76
	64QAM	-71	-72
	128QAM	-68	-69
	256QAM	-65	-66
	512QAM	-64	-63
	1024QAM	-61	-59

Maximum output power, dBm

Band name	2	4L / 4U
4QAM	30	31
16QAM	30	28
32QAM	30	27
64QAM	29	26
128QAM	28	26
256QAM	28	26
512QAM	27	26
1024QAM	27	26
AATPC range	5...30	5...31

Capacity, Mbps

	7 MHz	14 MHz	28 MHz	56 MHz	60 MHz
4QAM	9.5	19.0	38.0	75.9	81.4
16QAM	20.1	40.2	82.9	169.3	181.3
32QAM	25.7	51.4	106.0	216.4	231.8
64QAM	31.3	62.5	129.1	263.5	282.3
128QAM	36.9	73.7	152.2	310.6	332.8
256QAM	42.4	84.9	175.3	362.2	388.1
512QAM	48.0	96.1	198.3	409.9	439.2
1024QAM	52.1	104.3	215.3	444.9	476.7
Modulations	Manual / Adaptive mode				

Other

Power voltage, V	~220 / -48 (PoE) or -48 (ODU)
Power consumption, Standard / High Power, W	45 / 65
Operating temperature, °C	-50...+50
Dimensions, mm	225 × 230 × 115
Weight, kg	4.9...5.8