Pro Range

SIL PICO
SIL MICRO
SIL LITE
SIL MAX
SIL BASE

5.1GHz – 5.8GHz
Wireless Links

OVERVIEW

The PRO Range is a class leading outdoor wireless transmission system that is designed to be easy to install and is extremely compact and rugged. Optimised for the highest capacity and long range. The PRO Range also supports Advanced Encryption Standard (**AES**) approved for use to protect Government Classified Information.

The PRO range is ideal for connecting networks in distant buildings and is perfect for use with CCTV and VoIP transmission due to ultra low latency.

Features

- **Point-to-Point** up to 1, 2, 6 or 40km with Integrated Antenna
- Up to **100 Mbps**, upgradable up to **500 Mbps** duplex data Throughput
- Up to **1000 Mbps** on the SIL MAX 1000
- **Point-to-MultiPoint**
- External Omni or Sector Antenna
- Built in 360° or 90° Sector
- Rugged case design for outdoor applications
- SNMP
- AES Encryption up to 256bit
- MIMO with Spatial Multiplexing
- DFS (Dynamic Frequency Selection)
- TPC (Transmit Power Control)
- PoE 802.3af
- WEB Management
- Surge protected radio and PSU
- Rugged mounting brackets
- SilverView Network Management Software
- 2 Year warranty

Distributed By:

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Technical Specifications

PRO Range	SIL PICO PCP (up to 1km paired Link)	SIL MICRO PCP (up to 2km paired Link)	SIL LITE PCP (up to 6km paired Link)	SIL MAX PCP (up to 40km paired Link) SIL MAX 1000-PCP (up to 20km paired Link)
Radio Specification				
Transmission rate	11ac: Up to 1.3Gbps, 11n: Up to 300Mbps, 11a Backwards Compatible			
MIMO	2x2 or 3x3 (MAX 1000) Spatial Multiplexed Streams			
Throughput	Up to 100Mbps as standard, upgradable up to 500Mbps via software key. SIL MAX 1000-PCP up to 1000Mbps			
Modulation	HT-OFDM with BPSK,QPSK, 16QAM, 64QAM, 256QAM			
Standards	IEEE802.11ac, IEEE802.11n, IEEE802.11a			
Channel Size	5MHz, 10MHz, 20MHz, 20/40/80/160MHz			
Channel (Country Dependent)	USA (FCC): 5.15GHz - 5.825GHz Europe (ETSI): 5.47GHz - 5.850GHz UK and EU Band B: 5.47GHz - 5.725GHz UK and EU Band C: 5.725GHz – 5.850GHz			
Operating frequency	5.1GHz - 5.8GHz			
RF output power	Up to 30dBm from ports			
Sensitivity	-82dBm@54Mbps, -74dBm@300Mbps, -68dBm@1.3Gbps			
Operating Mode	AP, Station and Bridge			
Antenna	12dBi Integrated Dual polarised Antenna (H+V)	15dBi Integrated Dual polarised Antenna (H+V)	18dBi Integrated Dual polarised Antenna (H+V)	23dBi Integrated Dual polarised Antenna (H+V) 18dBi - Tri polarised Antenna (45° +45° +V)
Horizontal/ Vertical BW	35° x 35°	30° x 30°	20° x 20°	10° x 10° 60° x 8° for MAX-1000
Security - Network				
802.1x, Radius, QoS, Vlan	Supports 802.1x Client and Server and Supports Radius Client, 802.11i, Asymmetric Bandwidth Control, 802.1Q: Management, trunk, access and transparent mode			
Electrical – Interface				
LAN/WAN	10/100/1000BASE-T(RJ-45) LAN Port (with Auto MDI/MDIX)			
Power	6 watts (typical), 16 watts (max) DC 24~48 (48~56) Volt or POE (included in kit 100-240vac)			
Surge Protection	6KV			
Management				
Remote Connection	Web, Telnet, ssh, SilverView Monitoring			
SNMP	SNMP V2			
Firmware	Upgradeable via web			
Physical				
Dimensions	Unpacked radio 11.9 x 12 x 4.5 (cm) each	Unpacked radio 17.9 x 12 x 4.5 (cm) each	Unpacked radio 21.5 x 21.5 x 7.7 (cm) each	Unpacked radio 37 x 37 x 9 (cm) each
Weight	Unpacked radio 0.3Kg Each	Unpacked radio 0.5Kg Each	Unpacked radio 1.6Kg Each	Unpacked radio 2.5Kg Each
Dust and Waterproof	IP66 Certified		IP67 Certified	
Mounting Bracket	Steel Bracket	3 Axis Magnesium alloy , wall or pole mount (included in kit)		
Environment				
Operating Temperature	-20~70℃ (Storage -40~90℃)			
Humidity	0～95 ﹪ (non-condensing)			
Other				
Warranty	2 Year Parts and labour (extendable to 5 Years)			
MTBF	60000 Hrs			
Pack Contents	2x Radios, 2 x POE injector, 2 x Basic Mounting bracket sets	2x Radios, 2 x POE injector, 2 x Mounting bracket sets	2x Radios, 2 x POE injector, 2 x Mounting bracket sets	2x Radios, 2 x POE injector, 2 x Mounting bracket sets

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Technical Specifications

PRO Range	SIL BASE-360 (Outdoor Radio with Built in 360° Omni Antenna)	SIL BASE-90 (Outdoor Radio Built in 90° Sector Antenna)	SIL BASE (Multipoint single radio)
Radio Specification			
Transmission rate	11ac: Up to 867Mbps, 11n: Up to 300Mbps, 11a Backwards Compatible		
MIMO	2x2 Spatial Multiplexed Streams		
Throughput	Up to 100Mbps as standard, upgradable up to 500Mbps via software key		
Modulation	HT-OFDM with BPSK,QPSK, 16QAM, 64QAM, 256QAM		
Standards	IEEE802.11ac, IEEE802.11n, IEEE802.11a		
Channel Size	5MHz, 10MHz, 20MHz, 20/40/80MHz		
Channel (Country Dependent)	USA (FCC): 5.15GHz - 5.825GHz Europe (ETSI): 5.47GHz - 5.850GHz UK and EU Band B: 5.47GHz - 5.725GHz UK and EU Band C: 5.725GHz – 5.850GHz		
Operating frequency	5.1GHz - 5.8GHz		
RF output power	Up to 30dBm from ports		
Sensitivity	-82dBm@54Mbps, -74dBm@300Mbps, -68dBm@1.3Gbps		
Operating Mode	AP, Station and Bridge		
Antenna	4 x 360° x 45° Omni Antennas (Built in)	13dBi Integrated Dual polarised 90° x 15°Sector Antenna (H+V) (Built in)	2 x Ntype female Sockets (H+V) Optional – 120/90 Sector antenna or 12dBi Dual polarised Omni
Security - Network			
802.1x, Radius, QoS, Vlan	Supports 802.1x Client and Server and Supports Radius Client, 802.11i, Asymmetric Bandwidth Control, 802.1Q: Management, trunk, access and transparent mode		
Electrical – Interface			
LAN/WAN	10/100/1000BASE-T(RJ-45) LAN Port (with Auto MDI/MDIX)		
Power	6 watts (typical), 16 watts (max) DC 24~48 (48~56) Volt or POE (included in kit 100-240vac)		
Surge Protection	6KV		
Management			
Remote Connection	Web, Telnet, ssh, SilverView Monitoring		
SNMP	SNMP V2		
Firmware	Upgradeable via web		
Physical			
Dimensions and Weight	Unpacked radio 18 x 18 x 25 (cm) 2Kg	Unpacked radio 45 x 17 x 6.5 (cm) 2.3Kg	Unpacked radio 22 x 22 x 7.5 (cm) 1.6Kg
Dust and Waterproof	IP66 Certified	IP67 Certified	
Mounting Bracket	Steel Bracket	3 Axis Magnesium alloy , wall or pole mount (included in kit)	
Environment			
Operating Temperature	-20~70℃ (Storage -40~90℃)		
Humidity	0～95 % (non-condensing)		
Other			
Warranty	2 Year Parts and labour (extendable to 5 Years)		
MTBF	60000 Hrs		
Pack Contents	1x Radios, 1 x POE injector, 1 x Basic Mounting bracket set	1x Radio, 1 x POE injector, 1 x Mounting bracket set	1x Radio, 1 x POE injector, 1 x Mounting bracket set

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Antenna Examples

Point to Point
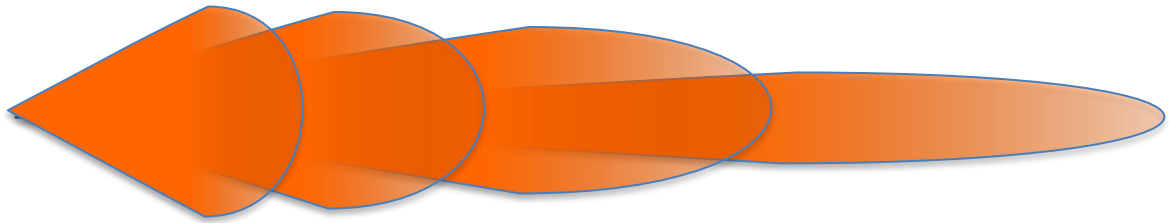
PICO 35°
≤ 1km

MICRO 30°
≤ 2km

LITE 20°
≤ 6km

MAX 10°
≤ 40km

Point to Multipoint

Beam Patterns

90° Sector
≤ 5km

360° Omni
≤ 3km
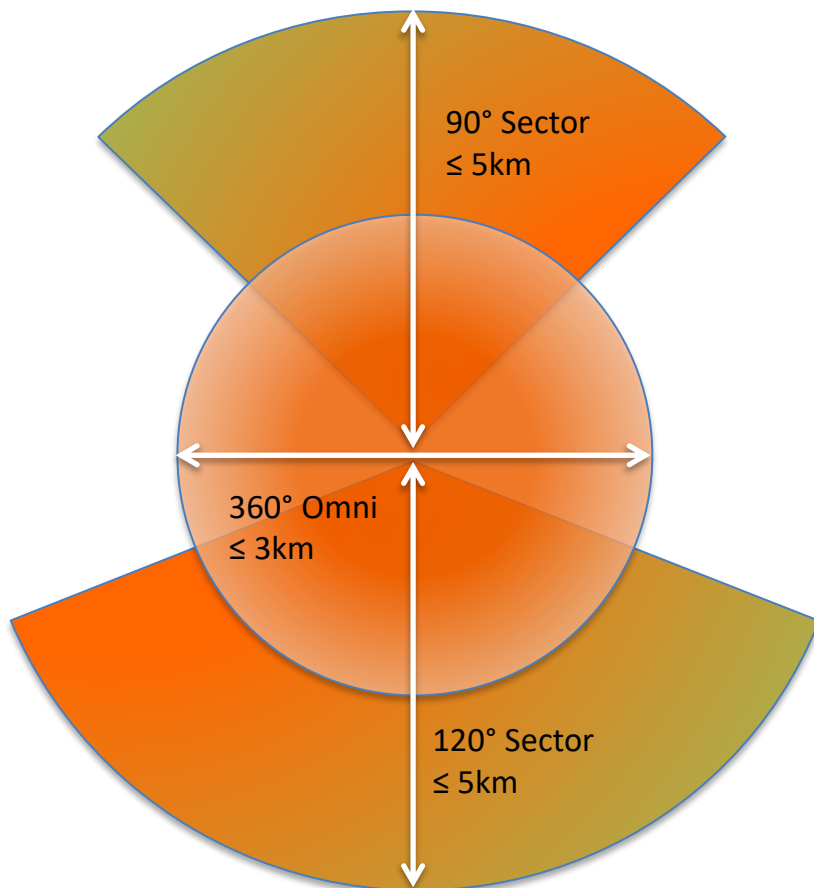
120° Sector
≤ 5km

Antenna System Options

90°

120°
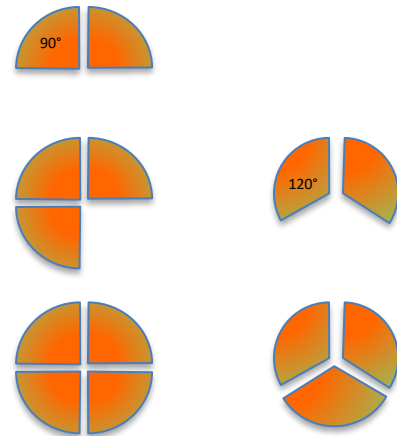
NOTES:
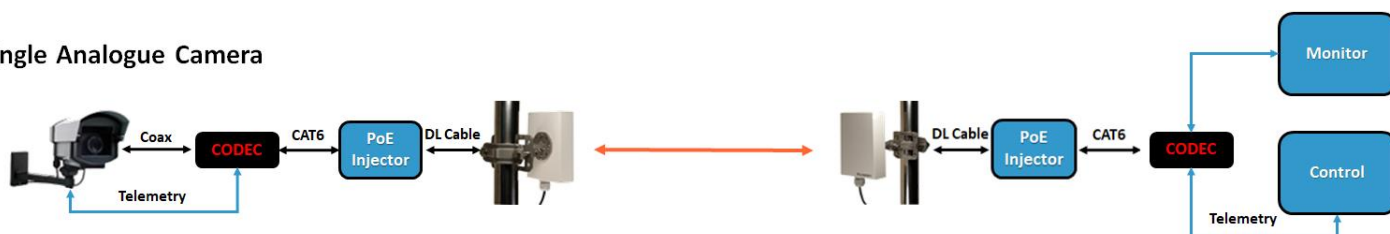
The **SIL BASE** can be fitted with either;
- External 12dBi Omni Antenna (≤3km)
- External 16/20dBi 90°/120° Sector Antenna (≤5km)

The **SIL BASE 90** has a built in 90° Sector Antenna (≤5km)

The **SIL BASE 360** has built in 360° 5/7dBi Omni antennas (≤500m)
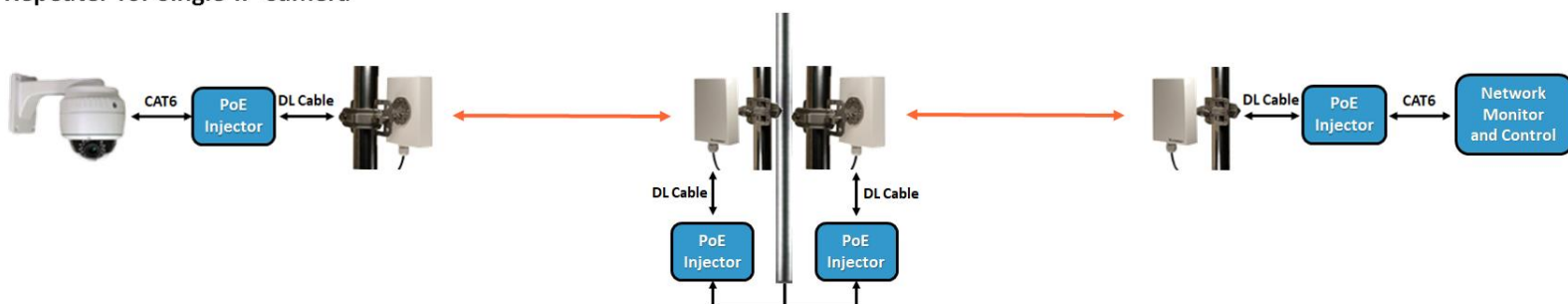
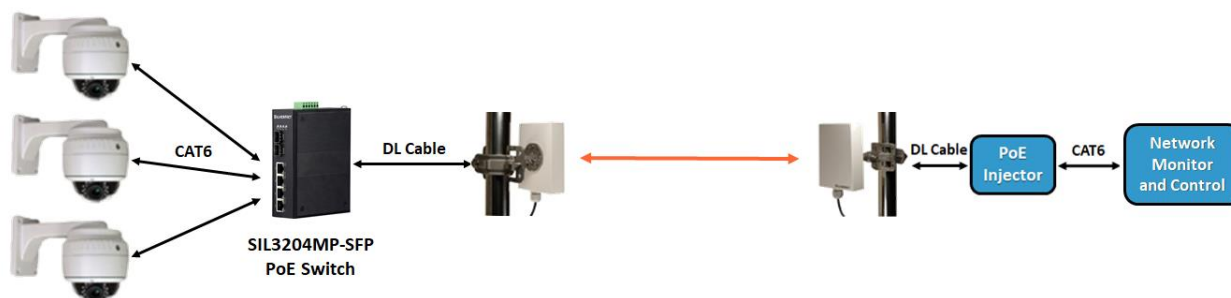Ver.1.0

Point to Point

Single Analogue Camera

Coax — CODEC — CAT6 — PoE Injector — DL Cable

Telemetry

DL Cable — PoE Injector — CAT6 — CODEC — Monitor / Control

Telemetry

Single IP Camera

CAT6 — PoE Injector — DL Cable

DL Cable — PoE Injector — CAT6 — Network Monitor and Control

Repeater for Single IP Camera

CAT6 — PoE Injector — DL Cable

DL Cable — PoE Injector

DL Cable — PoE Injector

DL Cable — PoE Injector — CAT6 — Network Monitor and Control

Multiple Camera Point to Point

CAT6 — SIL3204MP-SFP PoE Switch — DL Cable

DL Cable — PoE Injector — CAT6 — Network Monitor and Control

Part Code	Description
SIL PICO PCP	100Mbps up to 1km with built in dual polarised antenna.
SIL MICRO PCP	100Mbps up to 2km with built in dual polarised antenna.
SIL LITE PCP	100Mbps up to 6km with built in dual polarised antenna.
SIL MAX PCP	100Mbps up to 40km with built in dual polarised antenna.
SIL 100-PCP-U240	Single radio software upgrade from 100Mbps to 240Mbps.
SIL 240-PCP-U500	Single radio software upgrade from 240Mbps to 500Mbps.
SIL 100-PCP-U500	Single radio software upgrade from 100Mbps to 500Mbps.
SIL MAX 1000 PCP	1000Mbps up to 20km with built in dual polarised antenna.

Point to Multi-Point

Point to Multipoint with Base 500-90 and Relay with Backhaul
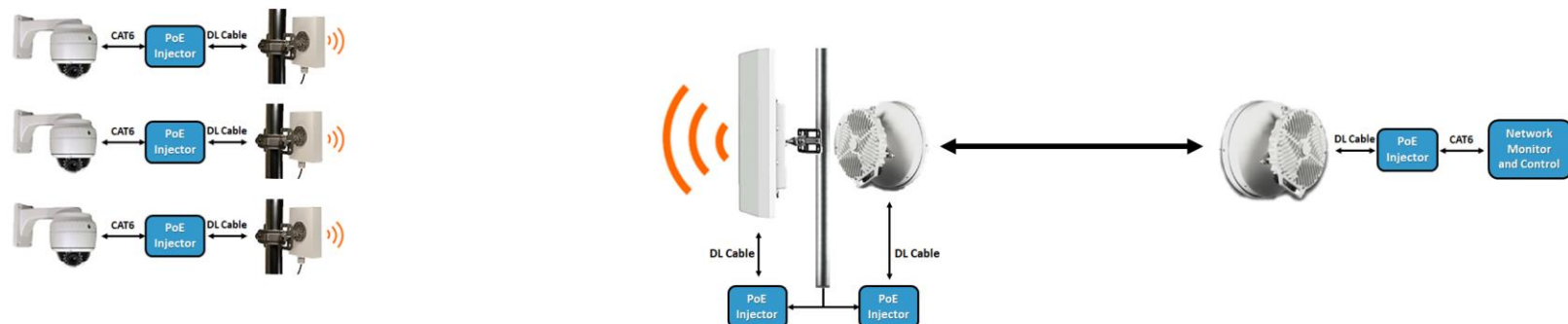
Point to Multipoint with Omni Antenna

Multipoint Base

Part Code	Description
SIL BASE	Multipoint base, up to 100Mbps with 2 x Ntype connectors for external antenna.
SIL BASE 90	Multipoint base, up to 100Mbps with built in dual polarised 90° sector antenna.
SIL BASE 360	Multipoint base, up to 100Mbps with built in dual polarised 360° Omni antenna.

Multipoint Clients

Part Code	Description
SIL PICO	100Mbps up to 1km single radio with built in dual polarised antenna.
SIL MICRO	100Mbps up to 2km single radio with built in dual polarised antenna.
SIL LITE	100Mbps up to 6km single radio with built in dual polarised antenna.
SIL 100-PCP-U240	Single radio software upgrade from 100Mbps to 240Mbps.
SIL 240-PCP-U500	Single radio software upgrade from 240Mbps to 500Mbps.
SIL 100-PCP-U500	Single radio software upgrade from 100Mbps to 500Mbps.

Long Range Point to Point

Long Range Point to Point with Dish Antenna

Long Range Point to Point with Grid Dish Antenna
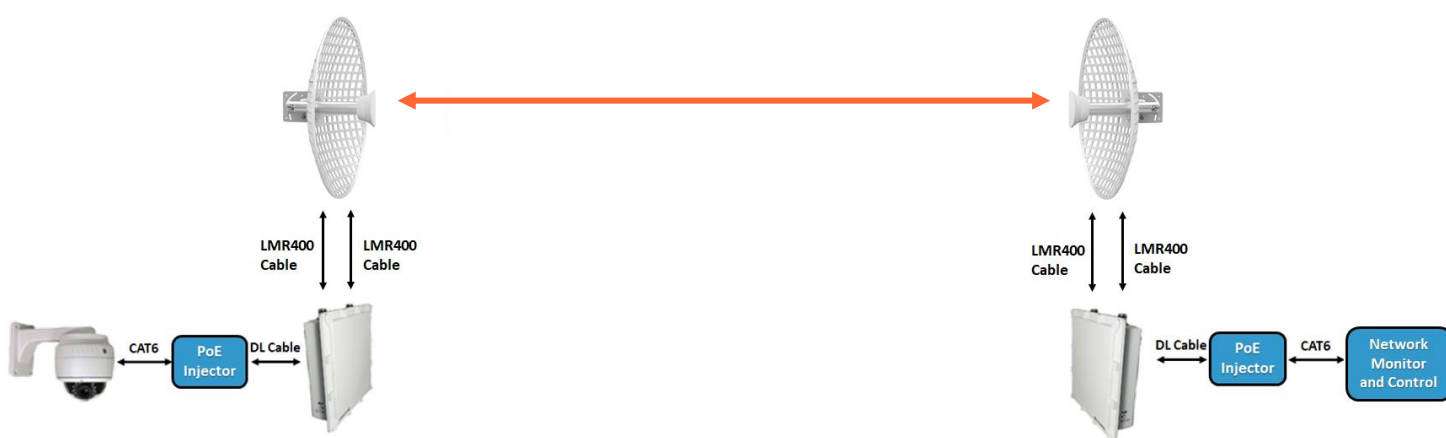
Part Code	Description
SIL BASE 500 DAN 5829	Long range point to point link with 29dBi dish antenna. Includes 2 x radio, 2 x PoE injector PSU, 2 x tilt and swivel bracket, 2 x Ntype to Ntype cables.
SIL BASE 500 DAN 5832	Long range point to point link with 32dBi dish antenna. Includes 2 x radio, 2 x PoE injector PSU, 2 x tilt and swivel bracket, 2 x Ntype to Ntype cables.
SIL BASE 500 DAN 5834	Long range point to point link with 34dBi dish antenna. Includes 2 x radio, 2 x PoE injector PSU, 2 x tilt and swivel bracket, 2 x Ntype to Ntype cables.
SIL BASE 500 GAN 5824	Long range point to point link with 24dBi grid antenna. Includes 2 x radio, 2 x PoE injector PSU, 2 x tilt and swivel bracket, 2 x Ntype to Ntype cables.
SIL BASE 500 GAN 5829	Long range point to point link with 29dBi grid antenna. Includes 2 x radio, 2 x PoE injector PSU, 2 x tilt and swivel bracket, 2 x Ntype to Ntype cables.

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Pro Range Antennas

	Dish Antenna			Grid Antenna		Omni Antenna	
	DAN5829	DAN5832	DAN5834	GAN5824	GAN5829	OAN2412	OAN5812
Frequency	4.9-6.0GHz	4.9-6.0GHz	4.9-6.0GHz	4.9-6.0GHz	4.9-6.0GHz	2.3-2.7GHz	4.9-6.0GHz
Gain	29dBi	32dBi	34dBi	24dBi	29dBi	12dBi	12dBi
Horizontal Beamwidth	6°	4°	3°	9°	6°	360°	360°
Vertical Beamwidth	6°	4°	3°	9°	6°	7°	7°
Max VSWR	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
F/B Ratio	>35dB	>35dB	>38dB	N/A	N/A	N/A	N/A
Wind Loading	125 mph	125 mph	125 mph	150 mph	150 mph	150 mph	150 mph
Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation
Connectors	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female
Dimensions (mm)	ø600	ø950	ø1250	ø400	ø600	1200*110*73	590*110*73
Weight (kg)	6.15	7	11.5	4.2	5.4	3.6	1.8
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

Pro Range Antennas

	5GHz			2.4GHz		
	SAN5819-120	SAN5820-90	SAN5818-90	SAN2415-120	SAN2417-90	SAN2416-90
Frequency	4.9-6.0GHz	4.9-6.0GHz	4.9-6.0GHz	2.3-2.7GHz	2.3-2.7GHz	2.3-2.7GHz
Gain	19dBi	20dBi	18dBi	15dBi	17dBi	16dBi
Horizontal Beamwidth	120°(6dB)	90°(6dB)	90°(6dB)	120°(6dB)	90°(6dB)	90°(6dB)
Vertical Beamwidth	4°	4°	8°	8°	8°	15°
Max VSWR	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
F/B Ratio	>25dB	>25dB	>25dB	>25dB	>25dB	>25dB
Wind Loading	150 mph	150 mph	150 mph	150 mph	150 mph	150 mph
Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation	Dual Polarisation
Connectors	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female	2*N-type Female
Dimensions (mm)	700*133*57	700*133*57	450*165*35	700*133*57	700*133*57	450*165*35
Weight (kg)	2.1	2.1	2.0	2.1	2.1	2.0
Certification	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS