/ DATA SHEET

Celona Antennas and Accessories

Specs for antennas and accessories: omni and sector antennas, GPS timing, PTP grandmaster clocks and splitters.



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Rev 4ccd91 | Last updated 11 November 2026

01 CN-ANT-OMNI-KIT

Omni-directional external antenna, 2-port for Celona outdoor access point

Part Number CN-ANT-OMNI-KIT

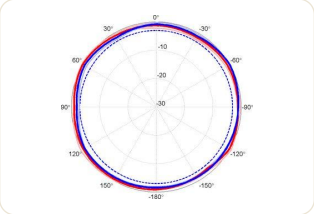
2-port omnidirectional antenna covering 3300-4200 MHz and 4400-5000 MHz with 12-13 dBi gain.

Includes two surge protectors and two LMR400 120" / 3m antenna cables. Two required per Celona outdoor AP.

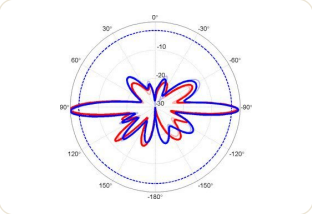
ELECTRICAL	
Frequency range	3300–4200 / 4400–5000
Polarization	Vertical and Horizontal
Gain	12-13 dBi
Elevation 3dB beamwidth	7 °
Electrical Downtilt	2 °
VSWR	< 2
Cross-pol ratio	> 20 dB
V-H port isolation	> 30 dB
Input power	50 W max per port
Impedance	50 Ω
Connector Type	Type N Female x 2

MECHANICAL	
Dimensions	Ø125 × 820 mm
Weight	4.5 kg
Mounting method	Mast
Radome material	PC/ASA

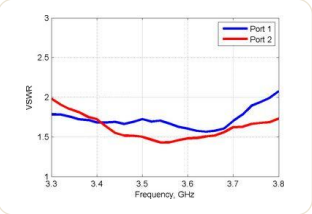
ENVIRONMENTAL	
Temperature range	-40° to +65° C / +150° F
Wind speed	210 km/h / 130 mph
UV protection	UV resistant PVC
Ingress protection	IP55 rain resistant
Lightning protection	DC Ground



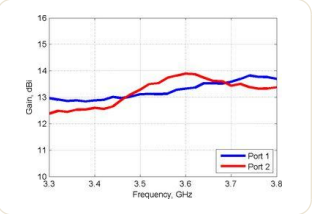
Azimuth patterns



Elevation patterns



VSWR



Gain

02 CN-ANT-33D-KIT

33-degree sectorized, 2-port external antenna for Celona outdoor access point

3.5 GHz to 4.2 GHz, 33 Degree Sector Antenna, 18.8 dBi, 2-Port, ±45 Slant

- 4° fixed electrical downtilt
- ProLine sector with stable and high gain
- Interference mitigation with azimuth and elevation side-lobe suppression
- Includes two surge protectors and two LMR400 120" / 3m antenna cables.
- Two required per Celona outdoor AP.

ELECTRICAL SPECIFICATION			
Frequency Band	MHz	3500-3800	3800-4200
Gain	dBi	18.5±0.2	18.8±0.3
Polarization		Slant (±45°)	Slant (±45°)
Horizontal HPBW	Degree	35±1	33±1
Horizontal Squint	Degree	±0.5	±0.5
Vertical HPBW	Degree	8.5±0.5	7.8±0.4
Electrical Downtilt	Degree	4	4
Front-to-Back Ratio @ 180°±30°	dB	35	33
Upper Side Lobe Suppression (+20°)	dB	15	15
Cross-polarization Ratio over HPBW	dB	15	13
VSWR		1.3 typ | 1.5 max	1.3 typ | 1.5 max
Return Loss	dB	17 typ | 14 max	17 typ | 14 max
Port-to-Port Isolation	dB	30	25
Max. Input Power per Port	W	50	50
Impedance	Ohms	50	50

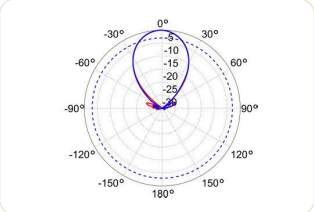
BRACKET SPECIFICATION	
Material Type	Powder Coated High- Strength Aluminium
Mechanical Tilt (Degree)	-1 to +18 (Slot 1) -7 to +11 (Slot 2)
Mounting Type	Pipe Mount
Mounting pole diameter	1.9cm - 11.4cm / 0.75" - 4.5"
Antenna-to-Pipe Distance	12.1cm / 4.8"
Bracket-to- Bracket Distance	47cm / 18.5"

MECHANICAL SPECIFICATIONS	
RF Connector Type	N-Type Female
RF Connector Quantity	2
RF Connector Position	Bottom of radome
Electrical Grounding	RF connector grounded to reflector and bracket
Radome Material	UV resistant PVC
Reflector Material	Fully-Enclosed Aluminium
Ingress Protection	IP55 rain and dust resistant
Wind Load, frontal	135N @ 160km/h | 30lbf @ 100mph
Max. Wind Speed	160km/h | 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

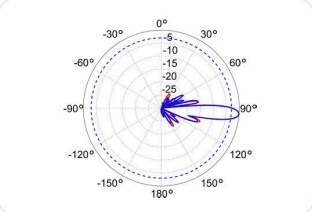
SECTOR DIMENSIONS	
Length	58.5cm / 23.0”
Width	17.4cm / 6.9”
Height	7.9cm / 3.1”
Net Weight, with brackets	5.7 kg / 12.5 lb

SHIPPING DIMENSIONS	
Length	102cm / 40”
Width	36cm / 14”
Height	36cm / 14”
Net Weight	7.3 kg / 16 lb

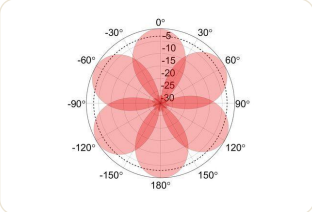
MEASUREMENT DEFINITIONS	
HPBW	Average and variation of the antenna’s 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Horizontal Squint	Angle in the antenna’s azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt	Angle in the antenna’s elevation pattern in which the maximum gain occurs.
Gain	Antenna’s average gain and variation in each frequency band.
Front to Back Ratio @ 180°±30°	Difference between the antenna’s maximum gain and the maximum gain in the antenna’s back lobe over ±30° angles.
Upper Side Lobe Suppression	The maximum value for the antenna’s elevation upper side lobes from the main beam to +20°.
Cross-polarization Ratio over HPBW (dB)	Maximum difference between the co-polarization and cross-polarization gain across the sector’s HPBW. diameter



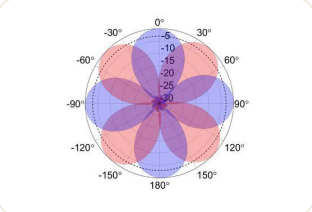
45 Slant - Azimuth Pattern



45 Slant - Elevation Pattern



Frequency - Reuse one



ABAB Channel Reuse

03 CN-ANT-90D-KIT

90-degree sectorized, 2-port external antenna for Celona outdoor access point

2-port sector antenna, 3300-3800 MHz, 90° HPBW

- High gain and slant dual polarization
- Simultaneously maximize coverage and minimize interference
- Ideal for 3-sector frequency-reuse one with LTE equipment
- Includes two surge protectors and two LMR400 120" / 3m antenna cables.
- Two required per Celona outdoor AP.

ELECTRICAL SPECIFICATION			
Frequency Band	MHz	3300-3550	3550-3800
Gain	dBi	16.7±0.25	16.5±0.25
Polarization		Slant (±45°)	Slant (±45°)
Horizontal HPBW	Degree	85±2	90±2
Horizontal Skew	Degree	±2	±3
Vertical HPBW	Degree	7±0.25	6.5±0.25
Electrical Downtilt	Degree	2	3.5
Front-to-Back Ratio @ 180°	dB	31	35
Front-to-Back Ratio @ 180°±30°	dB	28	28
Cross-polarization Ratio at Boresight	dB	25	23
Cross-polarization Ratio over HPBW	dB	20	17
VSWR		1.5 typ | 1.7 max	1.3 typ | 1.5 max
Return Loss	dB	14 typ | 12 max	18 typ | 14 max
Port-to-Port Isolation	dB	25	30
Max. Input Power per Port	W	50	50
Impedance	Ohms	50	50

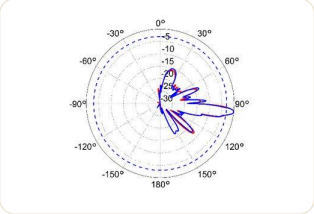
BRACKET SPECIFICATION	
Material Type	Hot Dipped Galvanized Steel
Mechanical Tilt (Degree)	-4 - 16
Mounting Type	Pipe Mount
Mounting pole diameter	2.5cm - 8.9cm / 1.25" - 3.5"
Antenna-to-Pipe Distance	13.1cm / 5"
Bracket-to-Bracket Distance	49cm / 19"

MECHANICAL SPECIFICATIONS	
RF Connector Type	Type N Female
RF Connector Quantity	2
RF Connector Position	Bottom of radome
Electrical Grounding	RF connector grounded to reflector and mounting bracket
Radome Material	UV resistant PVC
Ingress Protection	IP55 rain and dust resistant
Wind Load, frontal	240N @ 160km/h | 54 lbf @ 100mph
Max. Wind Speed	160km/h | 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

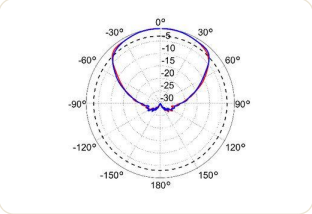
SECTOR DIMENSIONS	
Length	71cm / 27″
Width	27.9cm / 11″
Height	8.9cm / 3.5″
Net Weight, with brackets	3.2 kg / 10 lb

SHIPPING DIMENSIONS	
Length	102cm / 40”
Width	36cm / 14”
Height	36cm / 14”
Net Weight	8.2 kg / 18lb

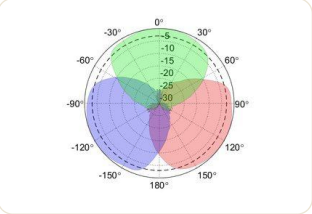
MEASUREMENT DEFINITIONS	
HPBW	Average and variation of the antenna’s 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Azimuth Skew	Angle in the antenna’s azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt	Angle in the antenna’s elevation pattern in which the maximum gain occurs.
Gain	Antenna’s average gain and variation in each frequency band.
Front to Back Ratio @ 180°	Difference between the antenna’s maximum gain and the gain directly behind the antenna (θ=180°).
Front to Back Ratio @ 180°±30°	Difference between the antenna’s maximum gain and the maximum gain in the antenna’s back lobe over ±30° angles.
Cross polarization at boresight	Difference between the co-polarization and cross-polarization gain at 0° (boresight).
Cross-polarization Ratio over HPBW (dB)	Maximum difference between the co-polarization and cross-polarization gain across the sector’s HPBW.



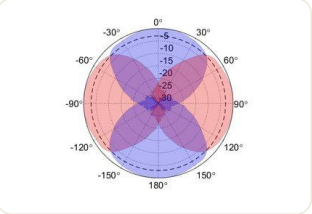
Port



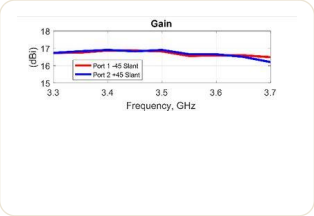
Port



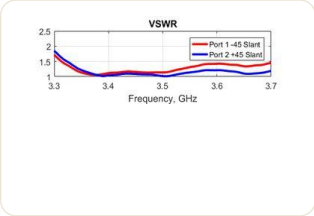
Frequency-Reuse One



ABAB Channel Reuse



1 - 45 Slant



2 + 45 Slant

04 CN-ANT-120D-KIT

120-degree sectorized, 2-port external antenna for Celona outdoor access point

2-port sector antenna, 3300-4200 and 4400-5000 MHz, 120° HPBW

- High gain and slant dual polarization
- Simultaneously maximize coverage and minimize interference
- Ideal for 2-sector frequency-reuse one with LTE equipment
- Includes two surge protectors and two LMR400 120" / 3m antenna cables.
- Two required per Celona outdoor AP.

ELECTRICAL SPECIFICATION			
Frequency Band	MHz	3300 - 4200	4400 - 5000
Gain	dBi	15.5	16.5
Polarization		Slant (±45°)	Slant (±45°)
Horizontal HPBW	Degree	115	90
Horizontal Squint	Degree	±4	±3
Vertical HPBW	Degree	8±1	6.5±0.25
Electrical Downtilt	Degree	3.5	3.5
Front-to-Back Ratio @ 180°	dB	18	18
Cross-polarization Ratio	dB	15	15
VSWR		1.7 typ | 2 max	1.3 typ | 1.5 max
Port-to-Port Isolation	dB	18	18
Max. Input Power per Port	W	50	50
Impedance	Ohms	50	50

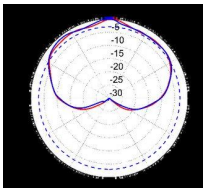
BRACKET SPECIFICATION	
Material Type	UPVC
Mechanical Tilt (Degree)	0 - 15
Mounting Type	Pipe Mount
Antenna Size	920 × 155 × 85 mm
Antenna Weight	5 kg

MECHANICAL SPECIFICATIONS	
RF Connector Type	Type N Female
RF Connector Quantity	2
RF Connector Position	Bottom of radome
Electrical Grounding	RF connector grounded to reflector and mounting bracket
Radome Material	UV resistant PVC
Ingress Protection	IP55 rain and dust resistant
Wind Load, frontal	220N @ 160km/h | 49lbf @ 100mph
Max. Wind Speed	160km/h | 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

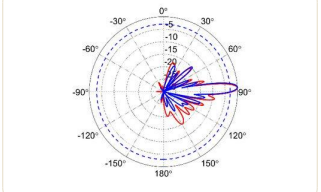
SECTOR DIMENSIONS	
Length	73.6cm / 29”
Width	17.8cm / 7”
Height	8.9cm / 3.5”
Net Weight, with brackets	5 kg / 11 lb

SHIPPING DIMENSIONS	
Length	102cm / 40”
Width	36cm / 14”
Height	36cm / 14”
Net Weight	9.5 kg / 21 lb

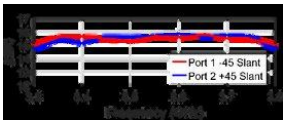
MEASUREMENT DEFINITIONS	
HPBW	Average and variation of the antenna's 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Horizontal Squint	Angle in the antenna's azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt	Angle in the antenna's elevation pattern in which the maximum gain occurs.
Gain	Antenna's average gain and variation in each frequency band.
Front to Back Ratio @ 180°	Difference between the antenna's maximum gain and the gain directly behind the antenna (θ=180°).
Front to Back Ratio @ 180°±30°	Difference between the antenna's maximum gain and the maximum gain in the antenna's back lobe over ±30° angles.
Cross polarization at boresight	Difference between the co-polarization and cross-polarization gain at 0° (boresight).
Cross-polarization Ratio over HPBW (dB)	Maximum difference between the co-polarization and cross-polarization gain across the sector's HPBW.



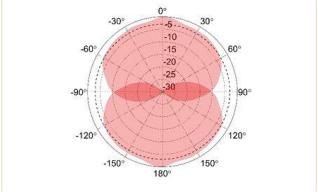
Port 1 - 45 Slant



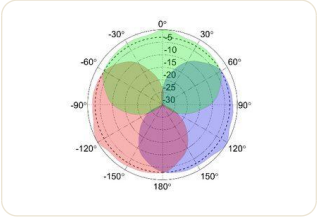
Port 2 + 45 Slant



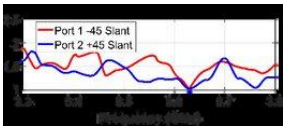
Gain



Frequency-Reuse One



Three Sector Deployment



VSWR

05 CN-ANT-65D-KIT

65-degree sectorized, 2-port external antenna for Celona outdoor access point

2-port sector antenna, 3300-4200 and 4400-5000 MHz, 65° HPBW

- High gain and slant dual polarization
- Simultaneously maximize coverage and minimize interference
- Ideal for 3-sector frequency-reuse one with LTE equipment
- Includes two surge protectors and two LMR400 120" / 3m antenna cables
- Two required per Celona outdoor AP

ELECTRICAL SPECIFICATION			
Frequency Band	MHz	3300- 4200	4400 - 5000
Gain	dBi	17	18
Polarization		Slant (±45°)	Slant (±45°)
Horizontal HPBW	Degree	63 ± 2	65 ± 2
Horizontal Skew	Degree	± 2	± 2
Vertical HPBW	Degree	6.5 ± 0.5	5.5 ± 0.5
Electrical Downtilt	Degree	3.5	3
Front-to-Back Ratio @ 180°	dB	35	38
Front-to-Back Ratio @ 180°±30°	dB	30	35
Cross-polarization Ratio at Boresight	dB	18	20
Cross-polarization Ratio over HPBW	dB	13	14
VSWR	dB	1.5 typ | 2 max	1.5 typ | 1.7 max
Return Loss		14 typ | 10 max	14 typ | 12 max
Port-to-Port Isolation	dB	20	25
Max. Input Power per Port	W	50	50
Impedance	Ohms	50	50

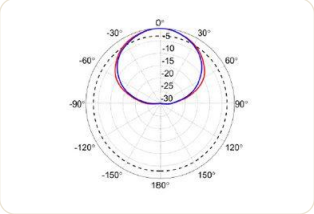
BRACKET SPECIFICATION	
Material Type	Hot Dipped Galvanized Steel
Mechanical Tilt (Degree)	-4 - 16
Mounting Type	Pipe Mount
Mounting pole diameter	2.5cm - 8.9cm / 1.25" - 3.5"
Antenna-to-Pipe Distance	13.1cm / 5"
Bracket-to-Bracket Distance	49cm / 19"

MECHANICAL SPECIFICATIONS	
RF Connector Type	Type N Female
RF Connector Quantity	2
RF Connector Position	Bottom of radome
Electrical Grounding	RF connector grounded to reflector and mounting bracket
Radome Material	UV resistant PVC
Ingress Protection	IP55 rain and dust resistant
Wind Load, frontal	170N @ 160km/h | 38 lbf @ 100mph
Max. Wind Speed	160km/h | 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

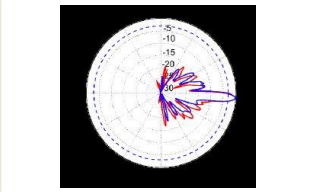
SECTOR DIMENSIONS	
Length	73.6cm / 29″
Width	17cm / 7″
Height	8.9cm / 3.5″
Net Weight, with brackets	4.5 kg / 10lb

SHIPPING DIMENSIONS	
Length	102cm / 40”
Width	36cm / 14”
Height	36cm / 14”
Net Weight	8.2 kg / 16 lb

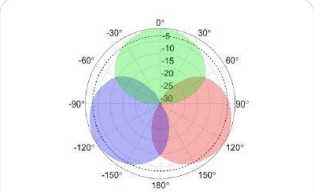
MEASUREMENT DEFINITIONS	
HPBW	Average and variation of the antenna’s 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Azimuth Skew	Angle in the antenna’s azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt	Angle in the antenna’s elevation pattern in which the maximum gain occurs.
Gain	Antenna’s average gain and variation in each frequency band.
Front to Back Ratio @ 180°	Difference between the antenna’s maximum gain and the gain directly behind the antenna (θ=180°).
Front to Back Ratio @ 180°±30°	Difference between the antenna’s maximum gain and the maximum gain in the antenna’s back lobe over ±30° angles.
Cross polarization at boresight	Difference between the co-polarization and cross-polarization gain at 0° (boresight).
Cross-polarization Ratio over HPBW (dB)	Maximum difference between the co-polarization and cross-polarization gain across the sector’s HPBW.



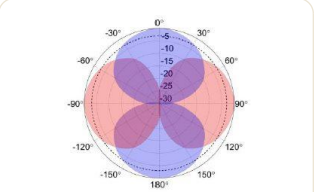
Azimuth Pattern



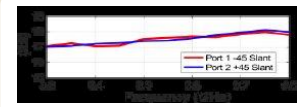
Elevation Pattern



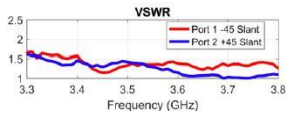
Frequency-Reuse One



ABAB Channel Reuse


Port 1 -45 Slant
Port 2 +45 Slant

Port


VSWR
Port 1 -45 Slant
Port 2 +45 Slant
2.5
2
1.5
1
3.3
3.4
3.5
3.6
3.7
3.8
Frequency (GHz)

Port

06 CN-ANT-90D-4P

90-degree sectorized, 4-port external antenna for Celona outdoor access point

4-port sector antenna, 3300-3800 MHz, 90° HPBW

- High gain and slant dual polarization
- Simultaneously maximize coverage and minimize interference
- Ideal for 4-sector frequency-reuse two with LTE equipment and CBRS deployments
- Includes four surge protectors and four LMR400 120" / 3m antenna cables
- One required per Celona outdoor AP

ELECTRICAL SPECIFICATION			
Frequency Band	MHz	3300-3550	3550-3800
Gain	dBi	16.5 ± 0.5	17 ± 0.3
Polarization		Slant (±45°)	Slant (±45°)
Horizontal HPBW	Degree	95 ± 5	90 ± 5
Horizontal Skew	Degree	±3	±3
Vertical HPBW	Degree	6.5 ± 0.3	6 ± 0.3
Electrical Downtilt	Degree	0	0
Front-to-Back Ratio @ 180°±30°	dB	30	30
Cross-polarization Ratio over HPBW	dB	15	14
VSWR		1.5 typ | 2 max	1.5 typ | 1.7 max
Return Loss	dB	14 typ | 10 max	14 typ | 12 max
Port-to-Port Isolation	dB	25	25
Max. Input Power per Port	W	50	50
Impedance	Ohms	50	50

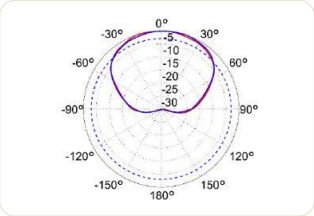
BRACKET SPECIFICATION	
Material Type	Power Coated Steel
Mechanical Tilt (Degree)	-2 - 8
Mounting Type	Pipe Mount
Mounting pole diameter	2.5cm - 8.9cm / 1.25" - 3.5"
Antenna-to-Pipe Distance	7.6cm / 3"
Bracket-to-Bracket Distance	52.4cm / 20.6"

MECHANICAL SPECIFICATIONS	
RF Connector Type	Type N Female
RF Connector Quantity	4
RF Connector Position	Bottom of radome
Electrical Grounding	RF connector grounded to reflector and mounting bracket
Radome Material	UV resistant PVC
Ingress Protection	IP55 rain and dust resistant
Wind Load, frontal	240N @ 160km/h | 54 lbf @ 100mph
Max. Wind Speed	160km/h | 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

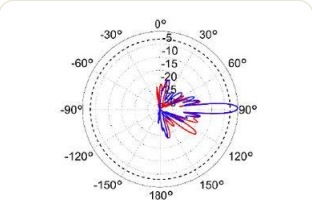
SECTOR DIMENSIONS	
Length	72cm / 28.3”
Width	27.9cm / 11”
Height	8.9cm / 3.5”
Net Weight, with brackets	10 kg / 22 lb

SHIPPING DIMENSIONS	
Length	102cm / 40”
Width	36cm / 14”
Height	36cm / 14”
Net Weight	13.6 kg / 30lb

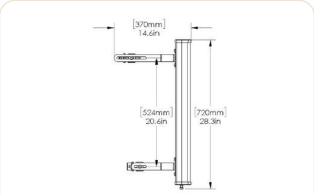
MEASUREMENT DEFINITIONS	
HPBW	Average and variation of the antenna’s 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Azimuth Skew	Angle in the antenna’s azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt	Angle in the antenna’s elevation pattern in which the maximum gain occurs.
Gain	Antenna’s average gain and variation in each frequency band.
Front to Back Ratio @ 180°±30°	Difference between the antenna’s maximum gain and the maximum gain in the antenna’s back lobe over ±30° angles.
Cross-polarization Ratio over HPBW (dB)	Maximum difference between the co-polarization and cross-polarization gain across the sector’s HPBW.



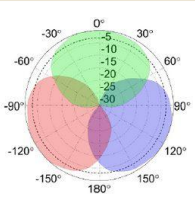
Azimuth Pattern



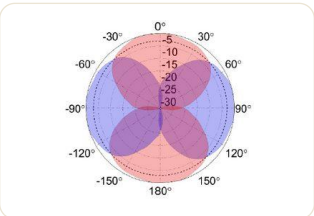
Elevation Pattern



Port



Frequency-Reuse One



ABAB Channel Reuse

07 CN-ANT-GPS-KIT

Industrial grade GPS/GLNSS external timing antenna for Celona indoor access point

1.574 GHz to 1.61 GHz, 32 dBi GPS/GLNSS Timing Antenna

- High Selectivity Dual Filter RF Architecture • 0.75" NPT and 1"-14 Marine Mount Compatible
- Eliminated high Power RFI Operating within • UV Resistant / Cool Gray for Reduced Visibility Multi-Located Base Station Environment
- Mounts to standard pipe up to 1-0.5"
- Impact Resistant ASA Radome
- High grade stainless steel and Dacron
- Rugged Die-Cast Aluminum Base plated steel mounting clamps
- Integrated Bulkhead, TNC Jack • Includes surge protector, cables (75ft, 15ft) and mounting brackets
- IP67 Rated

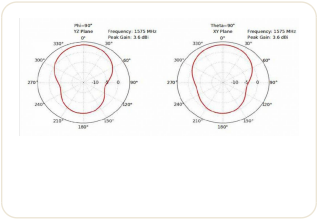
ELECTRICAL SPECIFICATION		MINIMUM	TYPICAL	MAXIMUM
Frequency Range	MHz	1,574		1,610
Output VSWR				2:1
Impedance	Ohms		50	
Gain	dBi		32	
Gain Variation	dBi		±3	
Noise Figure	dB		3.1	3.5
Out Of Band Rejection	dB			70
Operating DC Voltage	Volts	2.7		5.5
Current	mA		7	15

MECHANICAL SPECIFICATIONS	
Connector Type	TNC Female
Housing Plating / Color	Gray
Mounting Application	0.75″ NPT 316 SS Pipe
Operating Range	-40 °C to +85 °C
Data Wind Survivability CN-ANT	Sheet 150 MPH (241.4 KPH) -GPS-KIT, industrial grade GPS/GLNSS exte
timing a Humidity	ntenna for Celona indoor access point 95%

UNIT DIMENSIONS	
Base Diameter	8.9cm / 3.5″
Height	12.4cm / 4.9″
Weight	6.8 kg / 15 lb

SHIPPING DIMENSIONS	
Length	30.5cm / 12″
Width	30.5cm / 12″
Height	25.4cm / 10″
Net Weight	6.8 kg / 15 lb

MEASUREMENT DEFINITIONS	
Electrical Downtilt	Angle in the antenna's elevation pattern in which the maximum gain occurs.
Gain	Antenna's average gain.
Front to Back Ratio @ 180°±30°	Difference between the antenna's maximum gain and the maximum gain in the antenna's back lobe over ±30° angles.
Cross polarization Ration (dB)	Typical difference between the co-polarization and cross-polarization gain across the sector's 3 dB Beam width.



Typical Radiation Pattern – 1575 MHz



Typical Radiation Pattern – 1615 MHz

08 CN-PTP-GM-KIT

PTP Grandmaster Clock to be used in indoor deployments for access points to be phase synchronized

PTP Grandmaster Clock designed for small cell, 4G and 5G deployments

- IEEE-1588 PTP Grandmaster Clock
  - Multiple PTP Profiles (G.8265.1, G.8275.1, G.8275.2, Telecom-2008 Profile, 802.1AS, Enterprise Profile, Broadcast Profile SMPTE)
- Multi-Constellation (GPS, GLONASS, Beidou & Galileo)
- 15ns (1-sigma) time accuracy relative to GNSS reference
- Includes power adapter, bullet 360 antenna, 75-ft & 12-ft cables and surge protector
- Holdover of ±1.5us over 4hours (constant temperature and when locked to GPS for 7 days)
- Inputs: GNSS, 1588-PTP and SyncE
- Outputs: 1588-PTP, NTP, SyncE, PPS, and 10MHz
- Dedicated management port (1xRJ45)
- Network Management: SNMP, Web UI, CLI
- VLAN support
- IPv4 and IPv6

GENERAL SPECIFICATIONS	
Inputs	GNSS, 1588-PTP, SyncE
Outputs	PPS, 10MHz, NTP, PTP, SyncE
Ethernet Ports	1x Mgmt RJ45 1x 1G SFP 1x 1G RJ45
Protocols	PTP, NTP & SyncE
GNSS Antenna	SMA
Protocols:	IEEE-1588 (PTP), NTPv4, SyncE, IPv4, IPv6, TELNET, SFTP, SSH, RADIUS, TACACS+, SNMP, DAYTIME, TIME
Network management	SNMPv2, v3, HTTPS, CLI
User Interfaces:	CLI : Monitoring and Management Web UI :Monitoring and Management

REGULATORY & STANDARDS	
Operating Temperature	-40°C to +85°C
Operating Humidity	5%-95% RH non-condensing (+60°C)
Storage temperature	-55°C to +105°C
Safety & Health	UL EN 62368-1 CE, CISPR32 class A GR-63; Level 3 ETSI (EN55032/EN55024) EN 300019, Class T3.2
Electrical	EMC, ESD Immunity & susceptibility FCC Part 15 Class B / ICES 003 Class-B Korea KN32 / KN35 Class A EN 301 489-1, EN 301 489-19 EN 303 413 IEEE 1613-1 Telcordia GR-1089
Synchronization:	ITU: G.8265.x, G.8275.x (PRTC/T-GM) IEEE : PTP (IEEE 1588v2) IETF :NTPv4 (RFC5905)
Product compliance:	2014/53/EU (RED Directive) 2011/65/EU (RoHS2 Directive) 2012/19/EU (WEEE Directive)

PERFORMANCE	
Time of day accuracy	15ns (1-sigma) reference GNSS
Time stamp accuracy	<10 ns rms
Frequency accuracy	1.16x10^(-12) (one day ave.) Holdover: <1x10^(-10) /24hrs
Tracking to GPS	<15ns (locked) Holdover: < ±1.5µs/4hrs (7 days locked)
Power consumption	5W average, 10W maximum

PHYSICAL CHARACTERISTICS	
Length	20.8cm / 8.2"
Width	20cm / 7.9"
Height	4.4cm / 1.7"
Weight	3kg / 6 lb

POWER	
DC Power, dual feed	-36VDC to -72VDC
Current consumption	330mA (max)

09 C-PTP-GM-PLUS-KIT

Scalable PTP Grandmaster Clock for indoor deployments, supporting phase synchronization for up to 100 access points

PTP Grandmaster Clock designed for small cell, 4G and 5G deployments

- IEEE-1588 PTP Grandmaster Clock
  - Supports multiple PTP Profiles: ITU-T G.8265.1, G.8275.1, G.8275.2, Telecom-2019 Profile, IEEE 802.1AS, Enterprise Profile, Power Profile (C37.238 2011, C37.238-2017)Multi-Constellation (GPS, GLONASS, Beidou & Galileo)
- GNSS Precision Timing
  - Dual-frequency GNSS (L1 & L5)
  - Multi-Constellation support (GPS, GLONASS, Beidou, Galileo)
  - <5ns (1-sigma) time stability when tracking GNSS
  - Anti-jamming and anti-spoofing features
- Timing Accuracy and Holdover
  - 5ns time stability relative to GNSS reference
  - Holdover: ±1.5µs over 4 hours (when locked to GPS for 7 days)
- I/O and Connectivity
  - Inputs: GNSS Antenna, 1588-PTP, PPS, SyncE
  - Outputs: 1588-PTP, NTP, SNTP, SyncE, PPS, ToD, 10MHz
  - Ethernet Ports: 4 x 1G/10G SFP+, 2 x 10/100/1000 BASE-T RJ45 (PoE+ available on ETH0)
  - SMA connectors for GNSS Antenna, PPS_IN, PPS_OUT, CLK, FREQ, ToD
- Network Management and Protocols
  - Management: SNMPv2/v3, Web UI (HTTPS), CLI, NETCONF, RESTCONF
  - Protocols: PTP (IEEE 1588v2.1), NTPv4, SNTPv4, SyncE, IPv4, IPv6
- Physical Characteristics

- Compact 19” half-rack form factor (1U) - 20.8 x 20 x 4.4 cm
- Dual DC Power (-36VDC to -72VDC), PoE+ PD (optional, up to 25W)
- Operating temperature: -40°C to +50°C

- Compliance and Standards
  - Safety: UL EN 62368-1, CE
  - EMC: FCC Part 15 Class A, EN 301 489-1, EN 301 489-19
  - Environmental: RoHS, WEEE compliant

GENERAL SPECIFICATIONS	
Inputs	GNSS, 1588-PTP, SyncE
Outputs	PPS, 10MHz, NTP, PTP, SyncE
Ethernet Ports	4x 1G/10G SFP+, 2x 10/100/1000 BASE-T RJ45 (POE+ available)
Protocols	PTP, NTP & SyncE
GNSS Antenna	SMA (Female)
Protocols:	IEEE-1588 (PTP), NTPv4, SNTPv4, SyncE, IPv4/IPv6, SNMP, SSH, RADIUS, TACACS+
Network management	CLI, Web UI (HTTPS), SNMPv2/v3, NETCONF, RESTCONF
User Interfaces:	CLI : Monitoring and Management Web UI :Monitoring and Management

REGULATORY & STANDARDS	
Operating Temperature	-40°C to +50°C
Operating Humidity	5%-95% RH non-condensing (+60°C)
Storage temperature	-55°C to +105°C
Safety & Health	UL EN 62368-1 CE, CISPR32 class A GR-63; Level 3 ETSI (EN55032/EN55024) EN 300019, Class T3.2
Electrical	EMC, ESD Immunity & susceptibility FCC Part 15 Class B / ICES 003 Class-B Korea KN32 / KN35 Class A EN 301 489-1, EN 301 489-19 EN 303 413 IEEE 1613-1 Telcordia GR-1089
Synchronization:	ITU: G.8265.x, G.8275.x (PRTC/T-GM) IEEE : PTP (IEEE 1588v2) IETF :NTPv4 (RFC5905)
Product compliance:	2014/53/EU (RED Directive) 2011/65/EU (RoHS2 Directive) 2012/19/EU (WEEE Directive)

PERFORMANCE	
Time of day accuracy	15ns (1-sigma) reference GNSS
Time stamp accuracy	<10 ns rms
Frequency stability	1.16x10^(-12) (one-day average)
Tracking to GNSS	<15ns (locked) Holdover: < ±1.5µs/4hrs (7 days locked)
Power consumption	18-20W, POE+ option (25W max)

PHYSICAL CHARACTERISTICS	
Length	20.8cm / 8.2”
Width	20cm / 7.9”
Height	4.4cm / 1.7”

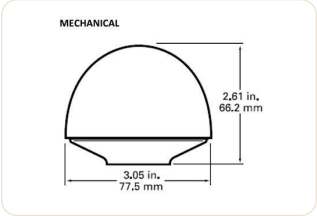
POWER	
DC Power, dual feed	-36VDC to -72VDC
Current consumption	500mA (max)

10 Bullet ™ 360 GPS Antenna

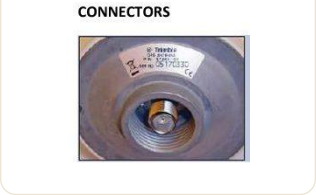
ENVIRONMENTAL SPECIFIATIONS	
Operating Temperature	-40°C to +90°C
Storage Temperature	-40°C to +90°C
Vibration	10 - 200 Hz Log sweep 3g (Sweep time 30 minutes) 3 axes
Shock	50g vertical, 30g all axes
Humidity Soak	+60°C @ 95% RH, 96 hours
Corrosion Salt Resistant	5% Salt spray tested, 96 hours

TECHNICAL / PERFORMANCE SPECIFICATIONS	3.3V	5.0V
Prime Power	3.3V DV (±10%)	5.0V DV (±10%)
Power Consumption	<13mA	<20mA
Gain	26dB ± 3dB (GPS)	28dB ± 3dB (GPS)
Output Impedance	50Ω	
Frequency	GPS L1 1575.42 ±3MHz BDS B1 1561 ±3MHz GLO G1 1602 ±3MHz	
VSWR	2.0 maximum	
Axial ratio	<5dB (GPS) <3dB	
Noise	2.0dB (typical)	
Bandwidth (10dB RL)	70 MHz (min)	
Out of Band rejection	fo= L1, B1, G1 fo ±50 MHz: 30 dB typ fo ±100MHz: 40dB typ	
Azimuth coverage	360° (omni-directional)	360° (omni-directional)
Elevation coverage	0°-90° elevation (hemispherical)	0°-90° elevation (hemispherical)
ESD	IEC 61000-4-2	

PHYISCAL CHARCTERISTICS - 3.3V & 5V DC ANTENNAS	
Dimensions	3.05”D x 2.61” H (77.5mm x 66.2mm)
Weight	7.0oz (200grams)
Enclosure	Off-white plastic
Connector	F-type & TNC (5V) - TNC (3.3V only)
Mounting	1” - 14” thread or ¾” pipe thread



Mechanical



Connectors



Connectors

11 CN-ANT-SPL

The Celona CN-ANT-SPL is a purpose-built antenna splitter designed for use with Celona 5G Outdoor AP21 units. It supports the deployment of sectoral antennas, enabling enhanced and optimized coverage for outdoor private 5G environments. For 4-sector deployments, 2 splitters are required per AP21. Typical use cases include oil & gas, utilities, mining, and large campus environments requiring robust and scalable outdoor 5G coverage.



KEY FEATURES	
Part Number	CN-ANT-SPL
Compatibility	Celona 5G Outdoor AP21
Function	2-way splitter for external sector antennas
Connector Type	N-Type (female)
Impedance	50 Ω
Frequency Range	600 MHz to 6000 MHz
Power Handling	Up to 30W (when used as splitter)
Insertion Loss	≤ 0.8 dB (typical)
DC Pass	200 mA per port (400 mA total)
Isolation	≥ 19 dB (typical)
Housing	Rugged aluminum alloy, outdoor-rated
Mounting	Compatible with AP21 mounting kits
Operating Temperature	-55°C to +60°C
Compliance	RoHS, CE, FCC

Applications

- Sectorized antenna deployments for AP21
- Extended outdoor coverage for private 5G
- Oil & gas, utilities, mining, and

Ordering information

ORDERING INFORMATION	
CN-ANT-SPL	Celona Antenna Splitter for 5G Outdoor AP21

12 Celona 5G Airkit with Indoor AP22

The Celona 5G Airkit, built with the Celona Indoor 5G AP22, is a portable, end-to-end private 5G solution designed for demo and showcase environments, providing private 5G connectivity for enterprise applications. This kit includes a 3-year subscription to Celona's private wireless services, powered by Celona Edge software and the Celona Orchestrator cloud for seamless SIM provisioning and management.



RF SPECIFICATIONS (5G)	
MIMO Configuration	2x2 MIMO UL/DL, supporting up to 256 QAM Modulation
Antenna	Built-in omnidirectional, max gain of 6 dBi

SPECIFICATIONS	
Compliance	3GPP Release 15 TDD
Power	Transmit Power: Up to 24 dBm per port Power Supply: PoE injector included (AC to PoE power)
Network Domain Support	Internal IP Domain
Performance and Capacity	Latency: <10ms one-way Concurrent Connections: Up to 128 active devices
Physical Dimensions (Airkit)	Size: 17.6 x 13.9 x 6.9 inches (447 x 353 x 176 mm) Weight: 30 lbs (13.6 kg)
Timing and Synchronization	PTP Grandmaster & IEEE 1588v2 PTP: Free running
Compliance and Certifications	AP22-48: FCC AP22-78: CE AP22-77: CE
Frequency Band Support	AP22-48 3.55-3.7 GHz AP22-78 3.3-3.8 GHz AP22-77 3.8-4.2 GHz
AP LED Indicators	System LED: Displays system status 5G LED: Indicates 5G connection status

5G Airkit Bring-Up Instructions

1. Power On: Connect the Airkit using the appropriate regional power plugs.
2. Assign AP and Edge: Ensure they are assigned to the customer orchestrator account and appear in the inventory.
3. Edge Cluster Creation: https://docs.celona.io/en/articles/7132992-edge-cluster-creation
4. Create a New Site: https://docs.celona.io/en/articles/7133069-create-a-new-site
5. Activate Celona Access Points: https://docs.celona.io/en/articles/7133150-activating-celona-access-points
6. LED Status: Wait until the 5G Airkit AP LEDs (system and 5G) turn solid blue (approx. 30 minutes).
7. Activate Devices and SIMs: Attach devices to the Celona 5G network. https://docs.celona.io/en/articles/7132329-celona-sim-lifecycle-management
8. Operational Status: Once LEDs are blue, the 5G Airkit is fully operational.

Key Components

- 5G Indoor n78 Access Point (3300–3800 MHz)

- E100 Mini Edge Device
- Celona Orchestrator (Cloud service)
- 20 Private SIM Cards
- Power Cable and International Plug(s)
- Celona Express Technical Support
- Limited Lifetime Warranty

Ordering information

3-year indoor 5G private wireless service subscription for one portable air kit including SIM provisioning, mobile core services via Celona Edge software, and Celona Orchestrator cloud services.

ORDERING INFORMATION	
C-S-AIRKIT-5G-48-NN-X-3	The air kit includes a 5G category A n48 (3550-3700 MHz) access point with integrated antennas, E100 Edge, switch, Celona Express technical support, limited lifetime warranty, and 20 private SIM cards.
C-S-AIRKIT-5G-78-NN-X-3	The air kit includes a 5G indoor n78 (3300-3800 MHz) access point with integrated antennas, E100 Edge, switch, Celona Express technical support, limited lifetime warranty, and 20 private SIM cards.
C-S-AIRKIT-5G-77-NN-X-3	The air kit includes a 5G indoor n77 (3800-4200 MHz) access point with integrated antennas, E100 Edge, switch, Celona Express technical support, limited lifetime warranty, and 20 private SIM cards.

13 Summary

The Celona 5G Airkit with AP22, certified for the US, EU, and UK, is optimized for rapid deployment in demos and showcases, providing flexible and high-performance private 5G connectivity for enterprises.