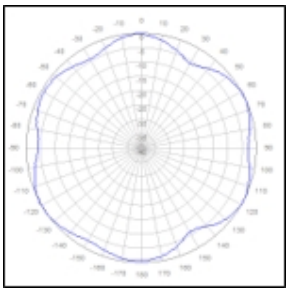
CX14OMI236-1C

NWAV™ X-Pol OMNI Cantenna

14-port 2.98 cu. ft 360° cantenna with RET-controlled HB: 2 ports 698-960 MHz, 4 ports 1695-2690 MHz, 4 ports 3550-3700 MHz, and 4 ports 5150-5925 MHz

- X-Pol, Small Cell Quasi OMNI antenna
- Suitable for pole or building mount
- 2x2 MIMO low-band, 4x4 MIMO for each AWS/PCS/CBRS/LAA
- Internal beam combining
- Dependent RET control for 1695-2700 MHz frequencies
- Suitable for LTE/UMTS/CDMA/GSM technologies
- Cost-effective solution for neutral host locations



Omni clover



Electrical specification (min/max)	Ports 1, 2			Ports 3, 4, 5, 6				
Frequency bands, MHz	698-798	824-894	880-960	1695-1880	1850-1990	1920-2180	2300-2500	2500-2690
Polarization	± 45°			± 45°				
Average gain over all tilts, dBi	4.8	4.9	5.2	9.0	9.2	9.9	10.1	9.9
Horizontal beamwidth (HBW), degrees	360°			360°				
Vertical beamwidth (VBW), degrees[1]	37°	30°	26°	15.4°	14.4°	13.5°	12.0°	11.0°
Electrical downtilt (EDT) range, degrees	0° (FET)			2-8° (RET)				
Cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0			1.5:1 / -14.0				
Max PIM, 2x20W carrier, dBc	-153			-153				
Maximum input power per port, watts	250			150				
Maximum composite power, watts	900							

Electrical specification (min/max)	Ports 7, 8, 9, 10	Ports 11, 12, 13, 14				
Frequency bands, MHz	3550-3700	5150-5250	5250-5350	5470-5725	5725-5850	5850-5925
Polarization	± 45°	± 45°				
Average gain over all tilts, dBi	5.0	5.5	5.7	5.5	5.5	5.6
Horizontal beamwidth (HBW), degrees	360°	360°				
Vertical beamwidth (VBW), degrees[1]	28°	24°	24°	20°	14°	18°
Electrical downtilt (EDT) range, degrees	0° (FET)	0° (FET)				
Cross-polar isolation, port-to-port, dB[1]	25	25				
Max VSWR / return loss, dB	1.5:1 / -14.0	1.5:1 / -14.0				
Max PIM, 2x20W carrier, dBc	N/A	N/A				
Maximum total input power, watts	50	0.5	0.125	0.125	0.5	0.5

[1] Typical value over frequency and tilt.

Note: To comply with FCC Title 47 Part 15 U-NII 1, the vertical beam upper side lobe at 5150-5250 MHz < -12 dB at > 30° above horizon

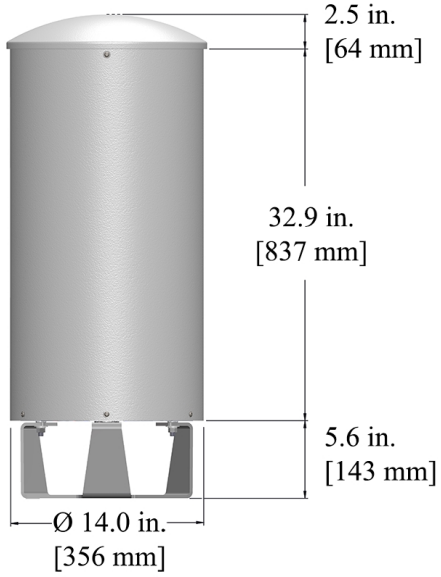
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CX14OMI236-1C

NWAV™ X-Pol OMNI Cantenna

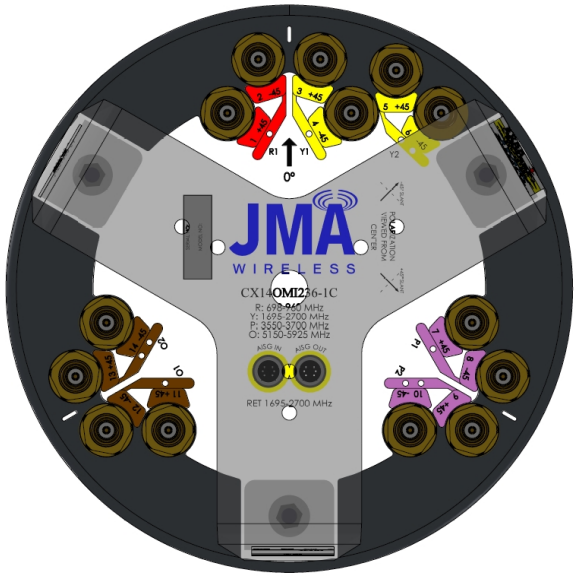
Mechanical specifications	
Dimensions height/diameter, inches (mm)	35.4/ 14 (746.8/ 355)
Antenna volume (cubic feet)	2.98
No. of RF input ports, connector type, and location	14 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	35 (15.9)
Rated wind survival speed, mph (km/h)	150 (241)
Frontal wind loading @ 160 km/h, lbf (N)	58.7 (261.2)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	1.17

Front view



End view

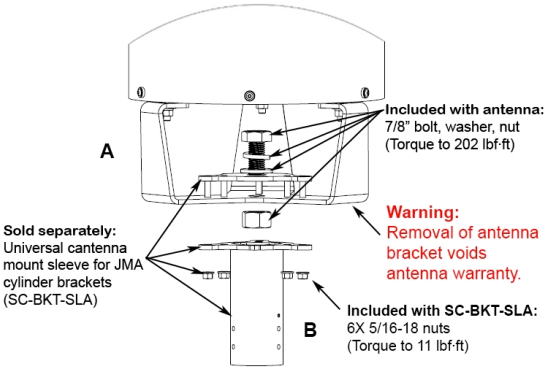
The 0 degree reference arrow corresponds to the 0 degree position in the antenna pattern file. Each antenna pattern file uses a top down orientation view (the patterns are viewed from the top of the antenna looking down).



Notes on cylinder brackets

- All CX* antennas come with the bottom mount bracket (marked as **A**) factory-installed (all factory testing is done with bracket attached)
- Hardware is included with each antenna to connect bottom bracket to different mounting systems.
- JMA cylinder brackets are compatible with bottom mount via universal cantenna mount sleeve (marked as **B**), sold separately.
- To mitigate potential risk of PIM issues, the recommended torque values need to be applied.

Mounting details



Small Cell solutions and mounting systems (sold separately)			
Side Arm Mounting System	SC-BKT-SA-(color)	Wide Diameter Pole	SC-BKT-WTPE-(color)
Steel Pole Mounting System	SC-BKT-SLA (color)		

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CX14OMI236-1C

NWAV™ X-Pol OMNI Cantenna

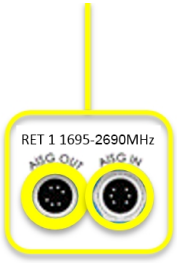
Ordering information	
Antenna model	**Description**
CX14OMI236-1C	2F X-Pol 14-port OMNI 360°, 1695-2690 MHz 2-8° RET, 4.3-10
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total no. of internal RETs high bands	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET topology

A single RET device controls all 3 sectors via the designated external AISG connector as shown below:

RET device	Band	RF port
1	1695-2690	3-6

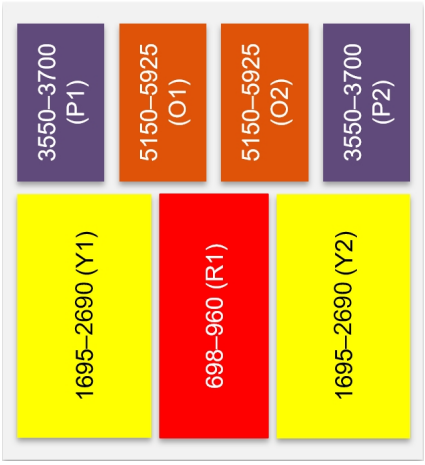


Array topology

7 sets of radiating arrays

R1: 698-960 MHz
Y1: 1695-2690 MHz
Y2: 1695-2690 MHz
P1: 3550-3700 MHz
P2: 3550-3700 MHz
O1: 5150-5925 MHz
O2: 5150-5925 MHz

Band	RF port
698-960	1-2
1695-2690	3-4
1695-2690	5-6
3550-3700	7-8
3550-3700	9-10
5150-5925	11-12
5150-5925	13-14



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SAMSUNG

Samsung Micro Radio

CBRS(N48) 4T4R Micro Radio

Samsung's CBRS 4T4R Micro Radio provides mobile operators with a cost-effective solution to fill coverage gaps encountered when Macro Radios are in use.

Model Code	RT4423-48A(DC) RT4423-48B(AC)

57196



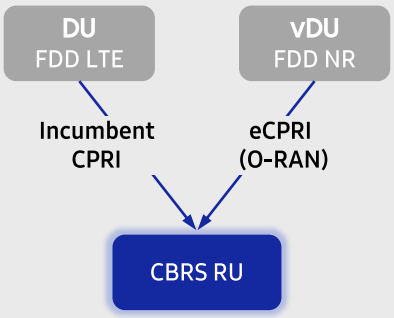
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Dual Personality

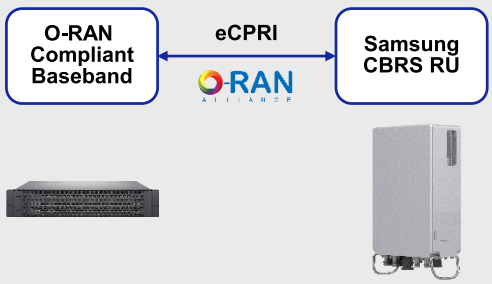
The new CBRS Radio supports existing CPRI and advanced eCPRI interfaces providing installation options for both legacy LTE and NR network equipment.



O-RAN Compliant

A standardized O-RAN radio supports implementing cost-effective networks capable of enhanced data throughput without compromising existing or new network investments.

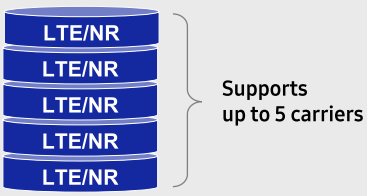
Samsung O-RAN products ensure state-of-the-art O-RAN technology will accelerate efforts for creating solid O-RAN ecosystems.



High Capacity

The number of carriers required varies according to site(region). Supporting multiple carriers is essential to customers as they seek to utilize all frequencies available to them.

The new CBRS radio can support up to 5 carriers which is and increase of 3 carriers over the capacity of the previous CBRS product.



Compact and Easy Installation

New CBRS RU is compact in it's design with a volume of 6L and weighing only about 7kg.

This compact design allows for various installation options including, tower, rooftop, pole, wall and shroud.

A clip on antenna is available providing flexibility to installation requirements.



w/o Clip-on antenna



w/Clip-on antenna

Technical Specifications

Item	Specification
Tech	LTE / NR
Band	B48, n48 / TDD
Frequency Band	3,550 – 3,700 MHz
RF Power	20 W (5 W x 4 Ports)
IBW/OBW	150MHz / 100MHz
Installation	Pole, Wall, Side by side (max 3 radio)
Size/ Weight	[Radio] w/o Clip-on antenna : 8.7 x 11.8 x 3.6 inch, 5.97L, 7kg w/ Clip-on antenna : 8.7 x 11.8 x 5.0 inch, 8.42L, 8.5kg *AC and DC type have same size and weight [Bracket Weight] Tilting & Swivel (EP97-02038A) : 2.51kg Fixed (EP97-02037A) : 1.31kg Side by side (EP97-02089A) : 8.0kg

[AWS/PCS 4T8R 640W] Specification

SAMSUNG

Item	4T8R ORU (640W)	
Product Name	RF4801d-25A	
Product Code	SFG-ARR9J	
Air interface	LTE, NR	
Band	B25(B2)	B66(B4)
Frequency	DL : 1930~1995 MHz	DL : 2110~2200 MHz
	UL : 1850~1915 MHz	UL : 1710~1780 MHz
IBW	65 MHz	90 MHz(DL) / 70 MHz (UL)
OBW	30 MHz	60 MHz
Carrier Bandwidth	LTE: 5/10/15/20 MHz, NR: 5/10/15/20/25/30/40 MHz	
# of carriers	3 carriers	5 carriers
Total # of carriers	6 carriers + AWS4(SDL) 1 carrier	
RF Chain	4T8R, 4T4R, 2T4R*, 2T4R+2T4R bi-sector*, 2T2R+2T2R bi-sector*	
RF Output Power	Total: 640 W (4x80W+4x80W or 4x60+4x100W)	
	4 x 80 W	4 x 100 W
Spectrum Analyzer	TX/RX Support	
RX Sensitivity	LTE: Typ. -104.6dBm@1Rx (SCS 15kHz, 25RBs 5MHz) NR : Typ. -104.4dBm@1Rx (SCS 15kHz, 25RBs 5MHz)	
Modulation	256QAM support, (1024QAM with 1~2 dB power back-off)	
Input Power	-48 VDC (-44 ~ -57 VDC)**	
Power Consumption	Typical 1810 Watt@ 100% RF load, room temp Typical 1940 Watt@ 100% RF load, all temp	
Size (WHD)	440x550x184 mm (17.3x21.7x7.2 inch)	
Volume	44.5 L	
Weight (w/o Solar Shield)	39.9 kg (87.96 lb.)	
Operating Temperature	-40℃ (-40℉) ~ 55℃ (131℉) (Without solar load)	
Cooling	Natural convection	
Unwanted Emission	3GPP 36.104	3GPP 36.104
	[B2] : FCC 47 CFR 24.238	[B66] : FCC 47 CFR 27.53 h)
	[BAS filtering] -30 dBm/100 kHz@2109.45 MHz per port -32 dBm/100 kHz@2108.95 MHz per port	
CPRI Cascade	Not supported	
Optic Interface	25 Gbps x 2 port (15/30km Bi-di or 15km tunable DWDM Duplex)	
RET & TMA Interface	AISG 3.0	
Bias-T	4 ports (2 ports per band)	
Mounting Options	Pole, wall, tower	
NB-IoT	2GB or 2IB or 1GB+1IB	
# of antenna port	8	
External Alarm	4Rx	
Fronthaul Interface	Opt. 7-2x	
Compression	BFPC 9bit	

* HW ready
** power booster is required (not supplied by Samsung)

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