

# cnRanger Tyndall Subscriber Module (SM)



The cnRanger™ Fixed LTE wireless platform from Cambium Networks substantially increases range and coverage, while reducing the cost and complexity typically associated with LTE networks.

- LTE Optimized for Fixed Wireless Broadband
- High power transmitter provides enhanced uplink
- Reliable yet cost effective subscriber for cnRanger system
- Easy installation, with “Point and Go” configuration and provisioning

## SPECIFICATIONS

### PRODUCT

Model Name	2 GHz Tyndall 101
Model Numbers	2LTE-SM-401 2LTE-SM-401-US 2LTE-SM-401-UK 2LTE-SM-401-EU

### INTERFACE

MAC (Media Access Control) Layer	TDD-LTE Advanced Release 10
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### PERFORMANCE

HARQ	Yes
Ultimate Sensitivity	-98 dBm

### SPECTRUM

Channel Spacing	1 MHz as specified in the BBU
Frequency Range	LTE Band 38: 2570 - 2620 MHz, LTE Band 40: 2300 - 2400 MHz, LTE Band 41: 2496 - 2690 MHz
Channel Width	5 MHz*, 10 MHz, 15 MHz, 20 MHz

Protocols Used	IPv4, UDP, TCP, IP, ICMP
Network Management	HTTP, HTTPS, SSH, cnMaestro
MTU	1516

Adaptive Modulation Levels (MCS)			Signal to Noise Required (SNR, in dB)		
MCS	SNR	MCS	SNR	MCS	SNR
0-QPSK	3	10-16QAM	11	20-64QAM	18
1-QPSK	3	11-16QAM	11	21-64QAM	18
2-QPSK	4	12-16QAM	11	22-64QAM	19
3-QPSK	5	13-16QAM	13	23-64QAM	21
4-QPSK	6	14-16QAM	14	24-64QAM	21
5-QPSK	7	15-16QAM	14	25-64QAM	22
6-QPSK	7	16-16QAM	15	26-64QAM	23
7-QPSK	8	17-64QAM	16	27-64QAM	24
8-QPSK	9	18-64QAM	16	28-64QAM	28
9-QPSK	10	19-64QAM	17		

\* future release

# SPECIFICATIONS

## SECURITY

Authentication SIM authentication via BBU, cnMaestro or Web GUI provisions BBU with SIM information

Encryption AES-128 and SNOW 3G

## LINK BUDGET

Transmit Power Range 66 dB dynamic range

Maximum Transmit Power 26 dBm

## CERTIFICATIONS

FCC ID Z8H89FT0044

ETSI EN 301 908-1 v11.1.1, EN 50385  
EN 62311, Draft EN 301 489-52 v1.1.0

## PHYSICAL

Surge Suppression EN61000-4-5: 1.2us/50us, 500 V voltage waveform

Environmental IP55

Temperature / Humidity -40°C to +60°C (-40°F to +140°F), 5-95% non-condensing

Weight (w/included mount) 4.4 lbs (2 kgs)

Dimensions (HxWxD) 10.2" (H) x 10.2" (W) x 3.6" (D) (260 mm x 260 mm x 92 mm)

Wind Survival 190 Km/Hr

Pole Diameter Range (w/included mount) 1.5" to 3.0" (38 to 76 mm)

Power Consumption 7.6 W

Power Supply 30 V PoE

## ANTENNA

Integrated Antenna Peak Gain 15 dBi

3 dB Beamwidth - Azimuth 30°

3 dB Beamwidth - Elevation 30°

Polarization Slant, +/- 45 Degrees

Front-to-Back Isolation >25 dB

Cross Polarization >23 dB

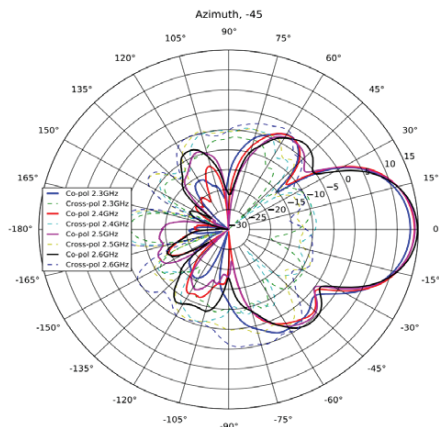
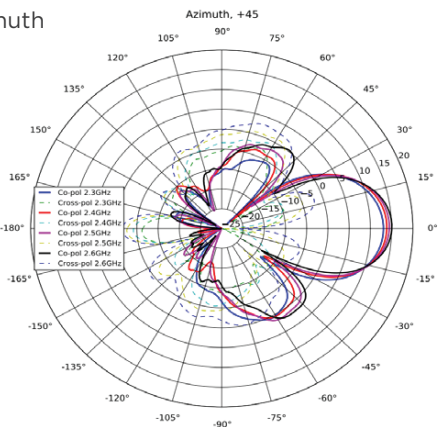
## FEATURES

LTE Standard for EPC and eNB 3GPP Release 10

Default Configuration Reset Supported via GUI

## PATTERNS

2 GHz Azimuth



2 GHz Elevation

