

**SOLUTION FOR 4G WIMAX BAND ONLY (2.496GHz – 2.69GHz)** NOTE 4.0

**MIMO Diversity Antenna [OPTIONAL]**

2.3-2.7GHz, 12dBi Omni antenna, N-Female, L=45", mount on 3/4" - 2 3/4" mast

NOTE 2.0

**MIMO Primary Antenna**

2.5-2.7GHz, 18.3dBi Panel antenna, N-Female, 15"x15"x0.49", mount on 3/4" to 2.5" OD pole, 30dB F2B

2ft LMR400 Cable, N-Male/N-Male Jumper

Lightning discharge device DC-6GHz, N-Fem, 50Ω, (OPTIONAL)

NOTE 1.0

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Roof

20ft LMR400 Coaxial Cable, N-Male/N-Male, Attenuation = 6.9db/100ft (1.4dB loss for this 20ft run)

In-Building or Weatherized Outdoor Enclosure

4G Modem, Pigtail & Adapter

WWAN ROUTER (CELL/WIMAX)

WiFi 802.11b/g/n (connect optional high gain outdoor 2.4GHz antennas)

CAT5/6 to LAN



**CLEAR 4G USB MODEM (PXU1900) DETAIL**

NOTE 3.0



**SIERRA WIRELESS 250U DETAIL**

NOTE 3.0

ANT#2: WiMax 2500 MHz MIMO Secondary  
ANT#1: - WiMax 2500 MHz MIMO Primary  
- CDMA 850/ 1900 MHz  
- GPS L1 1575 MHz

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**2.496-2.69GHz 4G WiMax Indoor Coverage Improvement**

Outdoor Antenna, WiMax USB Dongle, WiMax Router  
JOB # BWA-40850-xxxx  
Generic WiMax USB Modems

DRAWN BY: RT (Engr)  
APPROVED BY:

SIZE

LIC NO

DWG NO

REV

AZ ROC # 253407

BW-408500630-001

1A

FREQ(s): 2.4GHz ISM, 2.5-2.7GHz

SCALE

NO SCALE

FRN: 0018086041

SHEET

1 OF 1

**Bill of Materials**

ITEM	QTY.	RFWEL SKU	DESCRIPTION
1	1	RFW-PA2518B01	2.5-2.7GHz Wimax panel antenna, 18.3dBi, N-Female Jack
2	1	RFWAT2P50MNNF	2.3-2.7GHz Wimax Omnidirectional antenna, 12dBi, N-Female Jack
3	2	952302	2ft LMR-400 low loss coaxial cable (N-Male/N-Male)
4	2	LPNFN276V	Coax Lightning protector DC-6GHz, IL<0.7dB, 276VDC, N-Fem
5	2	CA3N020	20ft LMR-400 low loss coaxial cable (N-Male/N-Male)
6	2	{NOTE 3.0}	USB External Antenna Adapter (FME-Male) {See NOTE 3.0}
7	1	{NOTE 3.0}	USB WiMax Modem {See NOTE 3.0}
8	1	CL971107	N-Female/ FME-Female Connector
9	1	MBR1200	CradlePoint MBR1200 Failsafe Cellular/WiMax/WiFi Router

NOTES:

1.0 Ground per NEC-2005 Art820 using 14AWG+ grounding electrode.

2.0 For best performance separate primary and diversity antennas as much as practical and oriented away from each other. Orient primary antenna to direction of maximum received signal strength.

3.0 If using only one antenna, plug into the primary antenna "ANT1" (see 4G Modem Pic). See www.rfwel.com/forums for a discussion on using 1 vs 2 antennas.

4.0 For a dual-band (Wideband) 3G/4G solution that covers the 1.9GHz PCS band for 3G see http://www.rfwel.com/support/

5.0 Customize this kit with correct cable length, specific pigtail for your CPE/USB modem, lightning protection & different antenna types here: http://www.rfwel.com/shop/4G-USB-Modem-Outdoor-Antenna-Kit.html