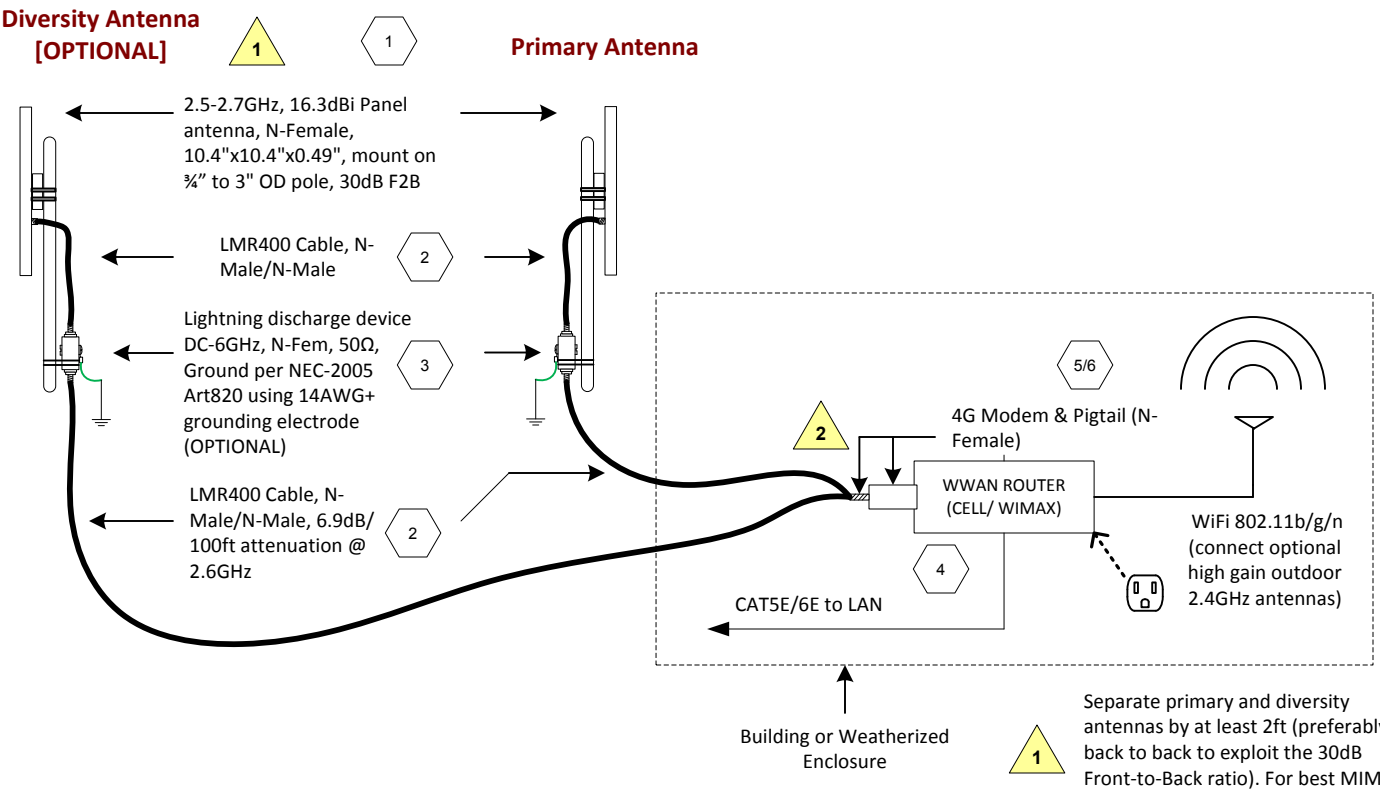
# Improving In-Building Coverage of Clear 4G USB Modem with outdoor directional panel antennas in MIMO topology

*Note it is the users responsibility to abide by Clearwire/FCC mandated EIRP limits. Contact us at support@rfwel.com for assistance with RF link budget analysis if unsure or simply to discuss your application.*




1 Separate primary and diversity antennas by at least 2ft (preferably back to back to exploit the 30dB Front-to-Back ratio). For best MIMO diversity gain orient in different directions & with different polarization (20dB cross polarization diversity).

2 If using only one antenna, plug into the primary antenna "ANT1"(see below). See www.rfwel.com/forums for a discussion on when MIMO dual antennas are most effective


## Sample Bill of Materials

| ITEM | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 2 | ARC-PA2516B01 | 2.5-2.7GHz Wimax panel antenna, 16dBi, N-Female Jack |
| 2 | 4 | 952310 | 10ft LMR-400 low loss coaxial cable (N-Male/N-Male) |
| 3 | 2 | LPNFNF276V | Coax Lightning protector DC-6GHz, IL<0.7dB, 276VDC, N-Fem |
| 4 | 1 | MBR1200 | CradlePoint MBR1200 Failsafe Cellular/WiMax/WiFi Router |
| 5 | 1 | RFWADPPXU1900NF | Clear 4G USB PXU1900 External Antenna Adapter |
| 6 | 1 | PXU1900 | Clear 4G USB WiMax Modem (Ubee PXU1900) |


RfWel® Radio Frequency Wireless Electronics
1616 S. Stapley Dr. Ste 103,
Mesa, AZ, 85204, U.S.A
www.rfwel.com | 480.218.1877


Clear WiMax Indoor Coverage Improvement

Using outdoor directional antenna to improve indoor coverage for the Clear 4G USB modem. Includes lightning surge protection & MIMO support

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|---|---|---|---|
| DRAWN BY: RT (Engr)<br>APPROVED BY: | SIZE | LIC NO<br>AZ ROC # 253407 | DWG NO<br>BW-00000000 | REV<br>1A |
| FREQ(s): 2.4-2.7GHz WiFi+WiMax | SCALE **NO SCALE** | FRN: 0018086041 | SHEET 1 OF 1 | |