

Extending Range of local WiFi using a high gain directional panel antenna and long range USB adapter.

Several other methods of extending the range of a wireless network exist including point-to-point bridging (several miles for line-of-sight links) contact us at <http://www.rfwel.com> to learn more.

Note it is the users responsibility to abide by FCC mandated EIRP limits. Contact us for assistance with RF link budget analysis if unsure.

Main WiFi Access Point

15dBi Omnidirectional antenna, N-Female, L=63", mount on 3/4" - 15/16" mast

Remote Client

2.4 GHz Panel Antenna, 19dBi gain, VSWR typ. <1.5:1, <30dB FB, 50Ω, N Jack (female), Mount on 1-3" OD pole

RP-SMA/ N-Male Cable

4' x 1 1/4" Al Mast w/ 4" Standoff Wall mounts. 1.25" OD

Laptop computer
Long Range USB Adapter

3 N-Male/N-Male Cable

4 Lightning discharge device DC-3GHz, N-Fem, 50Ω, Ground per NEC-2005 Art820 using 14AWG+ grounding electrode (OPTIONAL)

2 2.4GHz 1 Watt (30dBm) outdoor bidirectional amplifier w/ AGC

7 RP-SMA/ N-Male Cable

5 802.11b/g WLAN AP (RP-SMA connector)

CAT5E to local LAN

BOM

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	ANT2415DOMNI	2.4GHz Omnidirectional antenna, 15dBi, N-Female Jack
2	1	TSWL429330	2.4GHz 30dBm outdoor amp w/ AGC, N-Female Jack
3	2	952302	2ft 400-series low loss coaxial cable, N-Male/ N-Male
4	1	CL859902	Lightning surge protector DC-3GHz, IL<0.2dB
5	1	PPW-400	Pepwave Polepoint PPW-400 400mW 802.11b/g Indoor AP
6	1	ARCPA2419B01	2.4GHz Panel Antenna, 19dBi, N-Female Jack
7	2	CA4NMRSF010	10ft 400-series low loss coaxial cable, RP-SMA/ N-Male
8	1	FMW4-YMST4	4' Al Mast w/ 2 x 4" Standoff Wall Mounts, 1.25" OD
9	1	RLWLWAVMAG	High Power USB Adapter, 500mW, RP-SMA

Building or Enclosure

1 Range depends on number/type of obstructions & interferers including # of users. Several hundreds of feet possible. Contact us for ultra long range bridging (several miles)

2 Replace with PPW-401 Outdoor AP w/ 2x N-Female diversity antenna connectors & IP67 weatherproof enclosure



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DRAWN BY: RT (Engr)
APPROVED BY:

FREQ(s): 2.4GHz ISM

Generic 2.4GHz Long Range WLAN

Large Coverage WiFi, High Gain Omni, High Gain Panel, RF Bidirectional Amplifier & High power 802.11b/g Access Point.

SIZE	LIC NO	DWG NO	REV
	AZ ROC # 253407	BW-00000000	1A

SCALE	NO SCALE	FRN: 0018086041	SHEET	1 OF 1
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