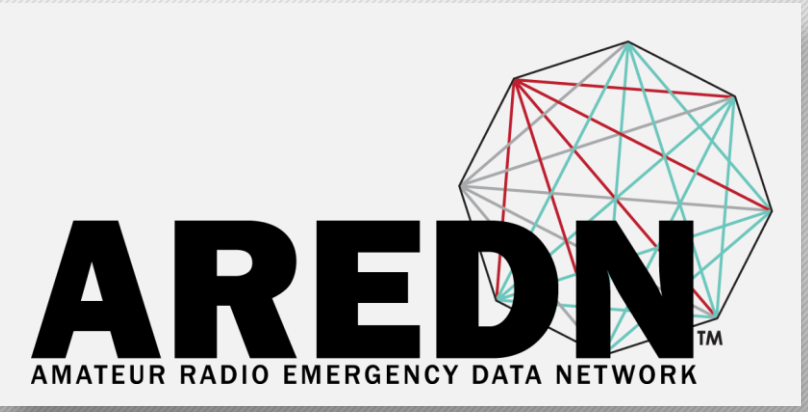
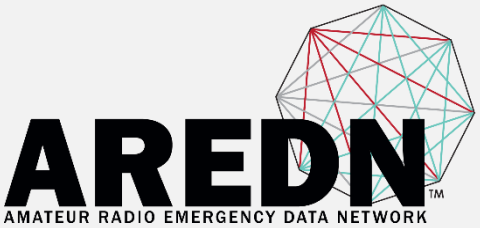


AREDN Overview

Randy Smith, WU2S

www.aredn.org

What is an AREDN Network?



See YouTube for a video introduction

http://youtu.be/fkl5Nbnz24Y

Purpose

The AREDN™ Project's focus is Emergency Communications (EmComm). It seeks to provide hams a means to implement this technology in practical ways to support local and regional emergency communications needs.

A High-Speed Data Network

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Setup

Self-configuring

Self-healing

Robust

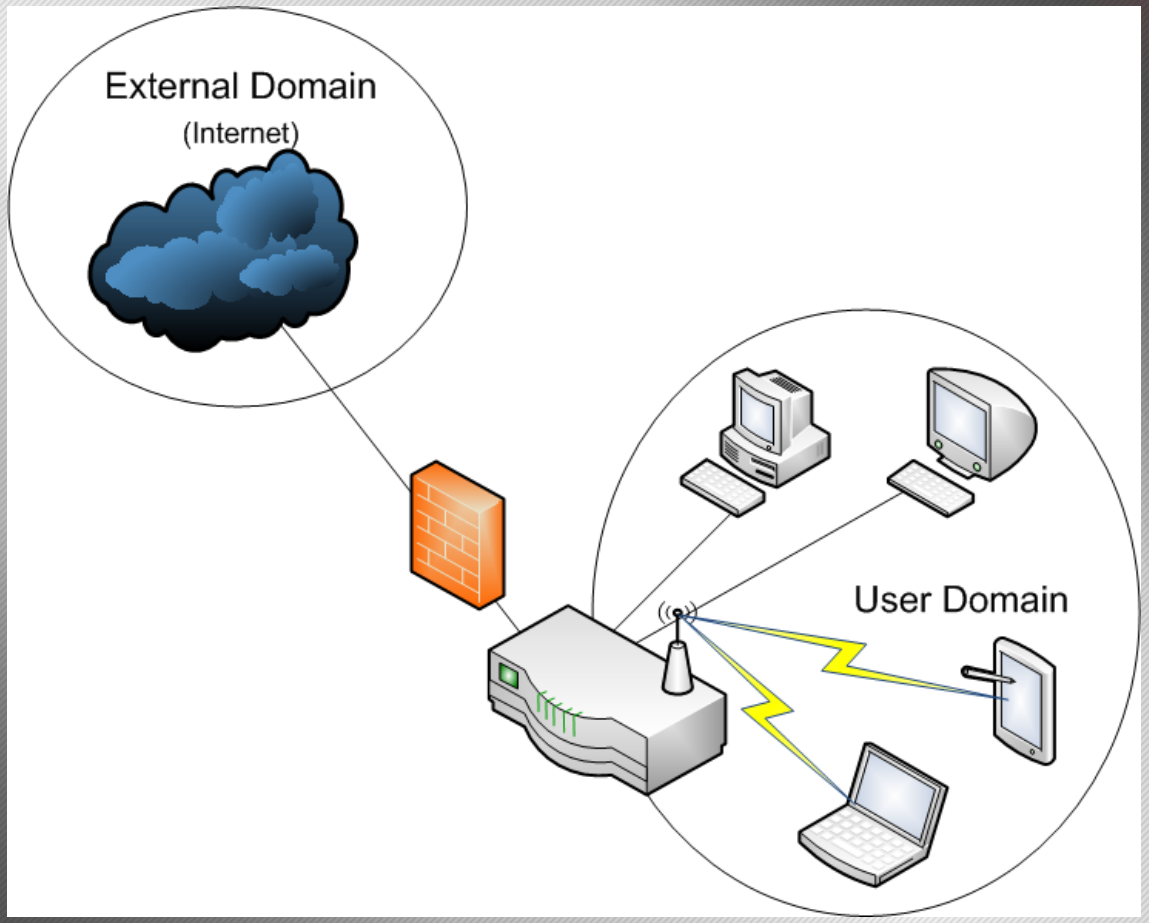
Commercial off-the-shelf hardware

Outdoor rated

Useful

IP based network

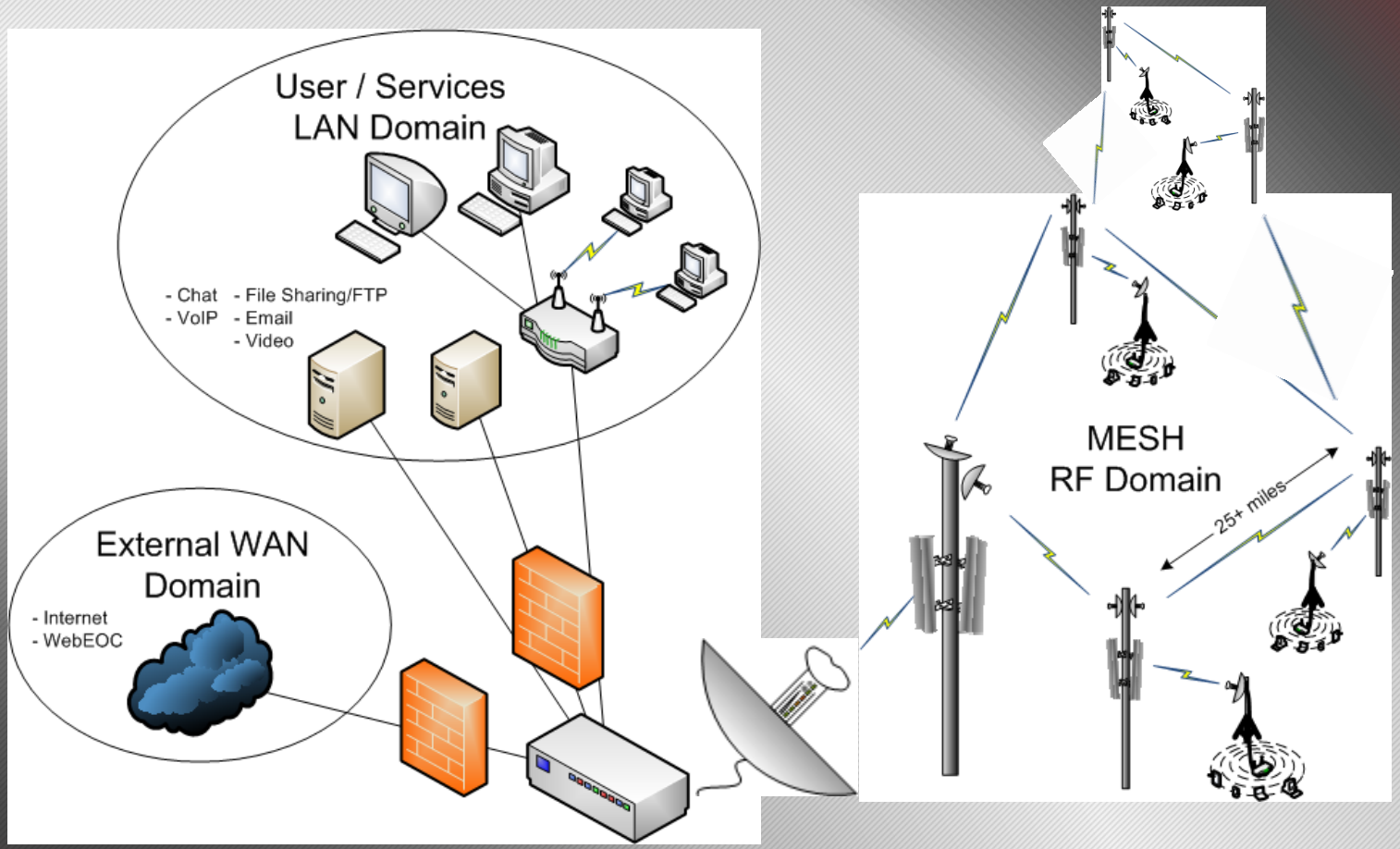
Supports familiar apps



How Standard WiFi Works

Internet to Home network through a router/firewall

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



How AREDN Works

A WiFi network "on steroids"

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

AREDN Offers 2 Non-Shared Channels on 2.4 GHz

2.4 GHz	Channel	-2	-1	0*	1	2	3	4	5	6
	Status	Ham Band			Shared Ham and ISM/WiFi Band					
	Freq	2.397	2.402	2.407	2.412	2.417	2.422	2.427	2.432	2.437

*Not available for use

24 Non-Shared Channels on 3.4 GHz

3.4 GHz	Channel	76	77	78	79	80	81	82	83	84	85	86	87
	Status	Ham Band											
	Freq	3.380	3.385	3.390	3.395	3.400	3.405	3.410	3.415	3.420	3.425	3.430	3.435

	88	89	90	91	92	93	94	95	96	97	98	99
	3.440	3.445	3.450	3.455	3.460	3.465	3.470	3.475	3.480	3.485	3.490	3.495

Refer to your local band plan for coordination

Channels on 2.4 and 3.4 GHZ

2 Non-Shared channels on 2.4 GHz

24 Non-Shared channels on 3.4 GHz

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

52 Channels, 7 Non-Shared, on 5.8 GHz

5.8 GHz														
	Channel	133	134	135	136	137	138	139	140	141	142	143	144	145
	Status	Shared Ham and ISM/WiFi Band												
	Freq	5.665	5.670	5.675	5.680	5.685	5.690	5.695	5.700	5.705	5.710	5.715	5.720	5.725
		146	147	148	149	150	151	152	153	154	155	156	157	158
		5.730	5.735	5.740	5.745	5.750	5.755	5.760	5.765	5.770	5.775	5.780	5.785	5.790
		159	160	161	162	163	164	165	166	167	168	169	170	171
		Shared Ham and ISM/WiFi Band												
		5.795	5.800	5.805	5.810	5.815	5.820	5.825	5.830	5.835	5.840	5.845	5.850	5.855
		172	173	174	175	176	177	178	179	180	181	182	183	184
										Ham Band				
		5.860	5.865	5.870	5.875	5.880	5.885	5.890	5.895	5.900	5.905	5.910	5.915	5.920

Refer to your local band plan for coordination

Channels on 5.8 GHz

7 Non-Shared channels on 5.8 GHz

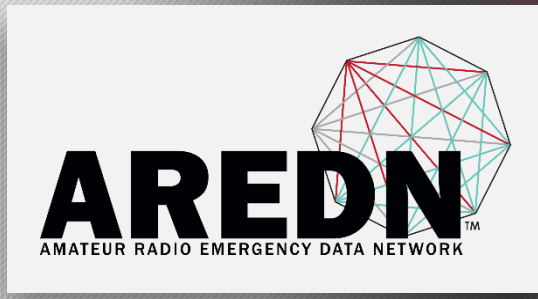
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

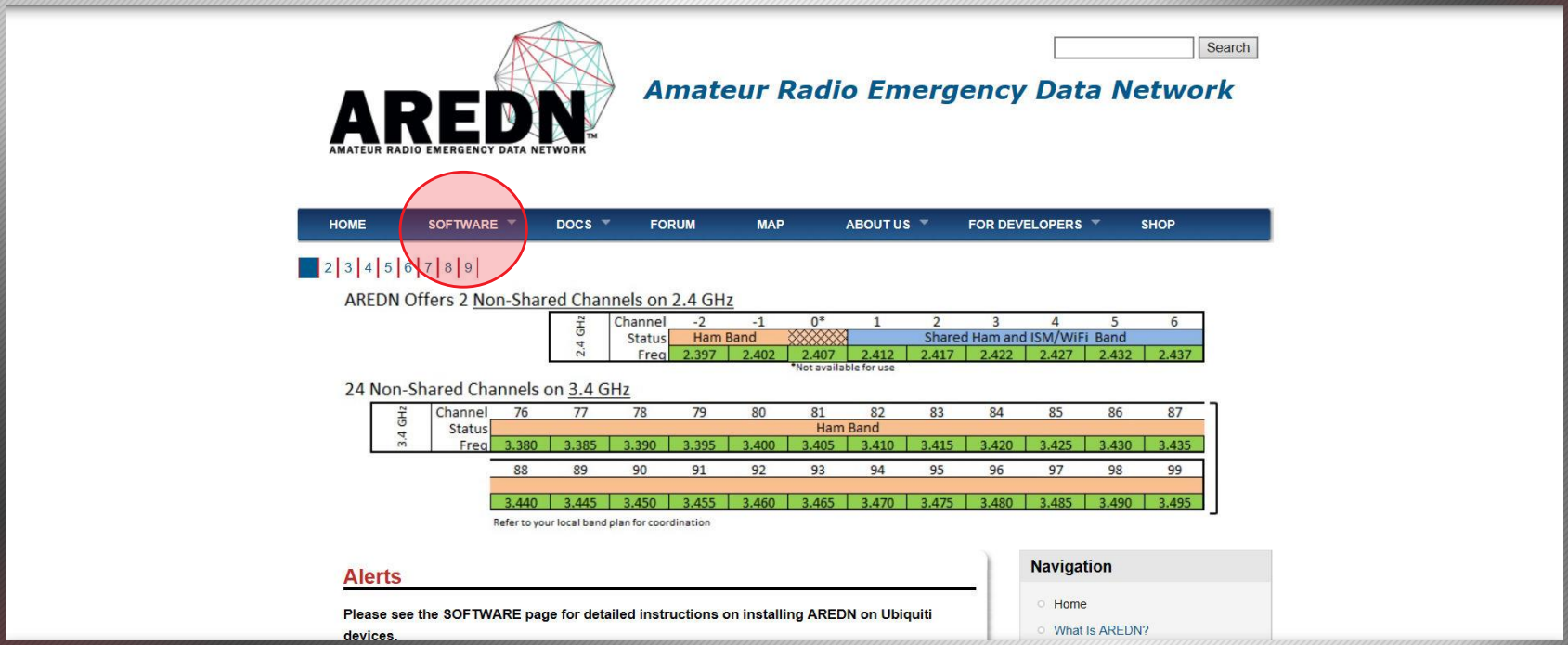
Current Version 3.16.1.0

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

- Supports 4 bands: 2.4, 3.4 and 5.8 GHz and 900 MHz
- Enables operation in Part 97 only bands
- Supports 802.11n and MIMO
- Improved data rate from 54 to 130 Mbps
- Supports Internet tunneling
- Over-the-air upgrade capability
- SNR charts aid aiming and troubleshooting

Where To Get the AREDN Software?




AREDN
AMATEUR RADIO EMERGENCY DATA NETWORK
Search
Amateur Radio Emergency Data Network
HOME
SOFTWARE
DOCS
FORUM
MAP
ABOUT US
FOR DEVELOPERS
SHOP
2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
AREDN Offers 2 Non-Shared Channels on 2.4 GHz
2.4 GHz
Channel -2 -1 0* 1 2 3 4 5 6
Status Ham Band Shared Ham and ISM/WiFi Band
Freq 2.397 2.402 2.407 2.412 2.417 2.422 2.427 2.432 2.437
*Not available for use
24 Non-Shared Channels on 3.4 GHz
3.4 GHz
Channel 76 77 78 79 80 81 82 83 84 85 86 87
Status Ham Band
Freq 3.380 3.385 3.390 3.395 3.400 3.405 3.410 3.415 3.420 3.425 3.430 3.435
88 89 90 91 92 93 94 95 96 97 98 99
3.440 3.445 3.450 3.455 3.460 3.465 3.470 3.475 3.480 3.485 3.490 3.495
Refer to your local band plan for coordination
Alerts
Please see the SOFTWARE page for detailed instructions on installing AREDN on Ubiquiti devices.
Navigation
Home
What Is AREDN?

AREDN
AMATEUR RADIO EMERGENCY DATA NETWORK

Search

Amateur Radio Emergency Data Network

HOME | SOFTWARE | DOCS | FORUM | MAP | ABOUT US | FOR DEVELOPERS | SHOP

SUPPORTED PLATFORM MATRIX
DOWNLOAD
INSTALLATION
NETGEAR SWITCHES
UBIQUITI SWITCHES

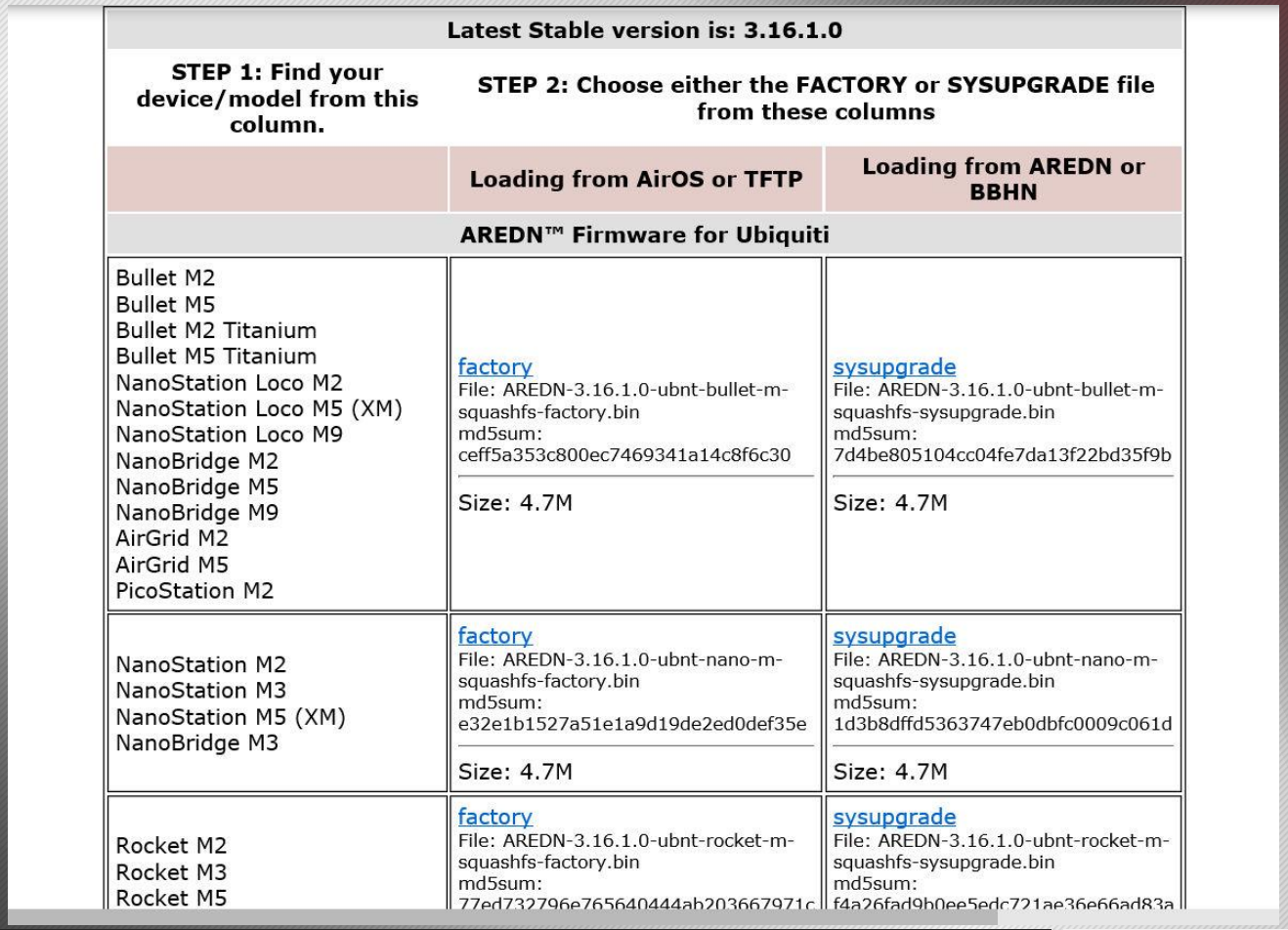
1 | 2 | 4 | 5

Alerts

Please see the SOFTWARE page for detailed instructions on installing AREDN on Ubiquiti devices.

Navigation

- Home
- What Is AREDN?



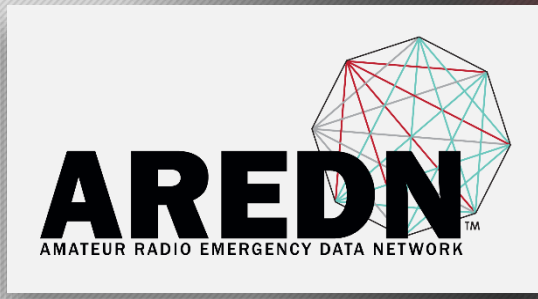
Latest Stable version is: 3.16.1.0		
STEP 1: Find your device/model from this column.	**STEP 2: Choose either the FACTORY or SYSUPGRADE file from these columns**	
	Loading from AirOS or TFTP	**Loading from AREDN or BBHN**
AREDN™ Firmware for Ubiquiti		
Bullet M2 Bullet M5 Bullet M2 Titanium Bullet M5 Titanium NanoStation Loco M2 NanoStation Loco M5 (XM) NanoStation Loco M9 NanoBridge M2 NanoBridge M5 NanoBridge M9 AirGrid M2 AirGrid M5 PicoStation M2	factory File: AREDN-3.16.1.0-ubnt-bullet-m-squashfs-factory.bin md5sum: ceff5a353c800ec7469341a14c8f6c30 Size: 4.7M	sysupgrade File: AREDN-3.16.1.0-ubnt-bullet-m-squashfs-sysupgrade.bin md5sum: 7d4be805104cc04fe7da13f22bd35f9b Size: 4.7M
NanoStation M2 NanoStation M3 NanoStation M5 (XM) NanoBridge M3	factory File: AREDN-3.16.1.0-ubnt-nano-m-squashfs-factory.bin md5sum: e32e1b1527a51e1a9d19de2ed0def35e Size: 4.7M	sysupgrade File: AREDN-3.16.1.0-ubnt-nano-m-squashfs-sysupgrade.bin md5sum: 1d3b8dffd5363747eb0dbfc0009c061d Size: 4.7M
Rocket M2 Rocket M3 Rocket M5	factory File: AREDN-3.16.1.0-ubnt-rocket-m-squashfs-factory.bin md5sum: 77ed732796e765640444ab203667971c	sysupgrade File: AREDN-3.16.1.0-ubnt-rocket-m-squashfs-sysupgrade.bin md5sum: f4a26fad9b0ee5edc721ae36e66ad83a

Software Download List

http://www.aredn.org/content/software

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

How To Install AREDN Firmware



Ubiquiti AirMAX Products

TP-Link CPE210/510

Check the airOS Version

- **Warning AirOS 5.6 and newer**
- **Do not flash a Ubiquiti device that is running, or has been running, airOS version 5.6 or higher with AREDN firmware.** We have become aware of a change that may be incompatible with current firmware images. We are looking into the concerns raised and will post more details as they are determined.
- **Are you using a supported device? Just because the device was made by Ubiquiti doesn't mean it will be able to be flashed to use AREDN! See the Supported Platform Matrix before continuing.**
- LINKS to AirOS 5.5.x for XW and XM hardware

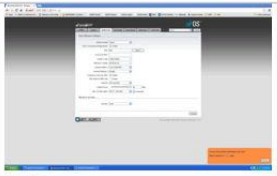
Check the airOS Version

- Before flashing a Ubiquiti device that is running or has been running AirOS version 5.6, please run the AREDN U-Boot Test program below before attempting a firmware load or upgrade.
- We have developed the following utility to help you determine if your device is compatible, as well as being able to take a BACKUP of your node's critical partitions.
- Download and run the AREDN U-Boot Test Setup Program. If the test results in a "GOOD/GOOD" result, then you may proceed to load the appropriate AREDN firmware onto it.

Initial installation of AREDN firmware onto a new node running Ubiquity airOS

The Easiest way to get convert an existing airOS Ubiquiti device to AREDN is to flash the device from its Web Interface.

If you have not made any changes to the device than it will be located at 192.168.1.20. and DHCP will not be enabled. If you have made changes please use your configuration for the steps below.

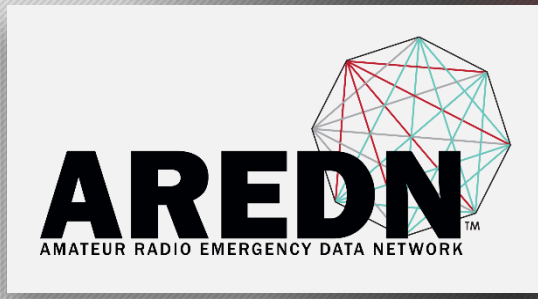
Download the "Factory" image for your firmware from the downloads page. Remember where you saved this file for later on	
Plug your computer directly into the Ubiquiti Power Injector LAN port and the Ubiquiti device into the Power port.	
	Go to the Network Connections, select the wired LAN connection you have connected to the power injector using with a **Right Click** and select **Properties**. Then select the **Internet Protocol (TCP/IP)** and click the **Properties** button. Another dialog box opens. Configure your computer to use an IP address of **192.168.1.22** with a subnet mask of **255.255.255.0**
	This is the initial airOS screen. Login to the airGrid M2 for the first time at http://192.168.1.20 per standard Ubiquiti instructions. (default username: ubnt password: ubnt)
	After logging in the next airOS screen is the **Wireless** tab. Ignore the message at the lower right in the orange box about changing the Administrator password.
	The **Main** tab page is selected and displayed. Note that the node's date and time are not set correctly yet. Nothing to do

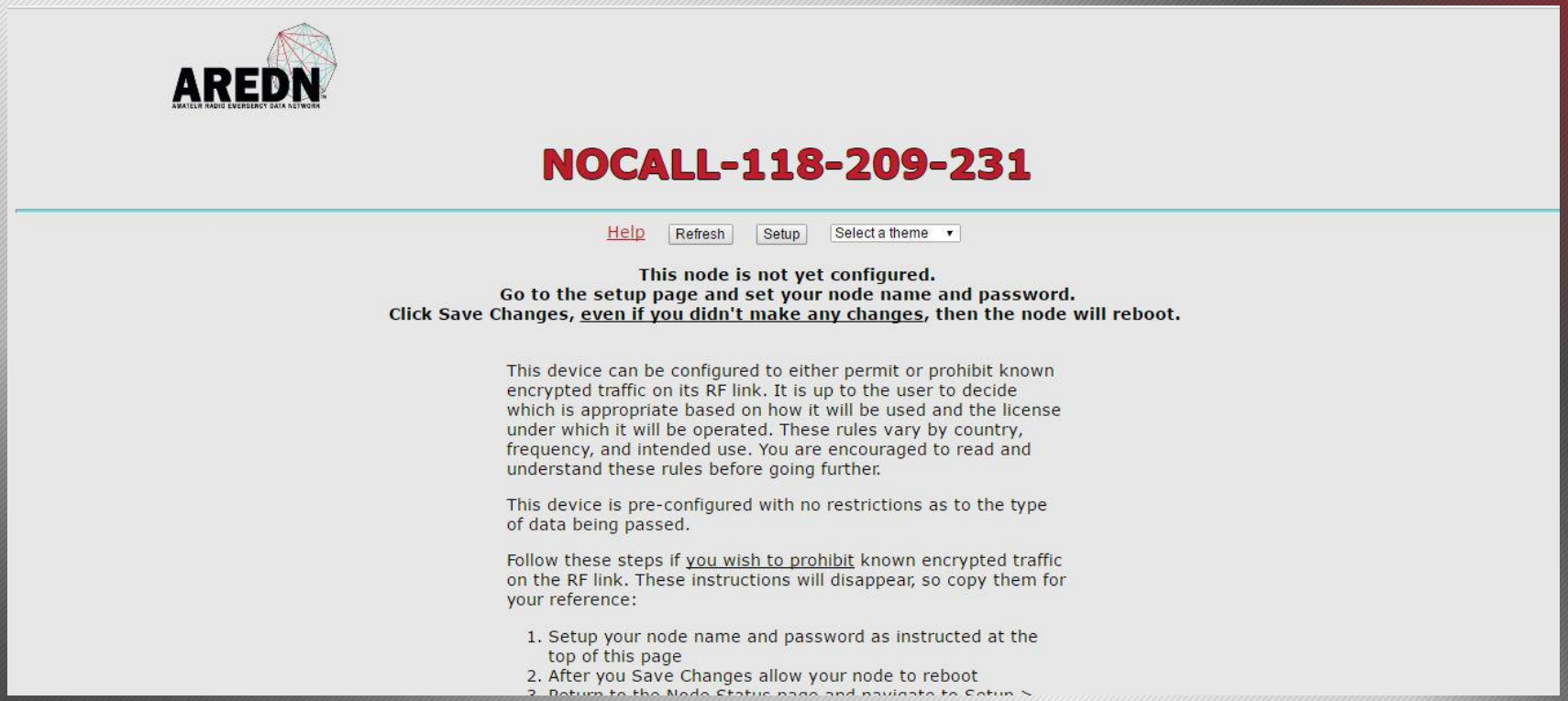
Step-by step Instructions

http://www.aredn.org/content/uploading-firmware-ubiquiti

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

How To Setup Your AREDN Node

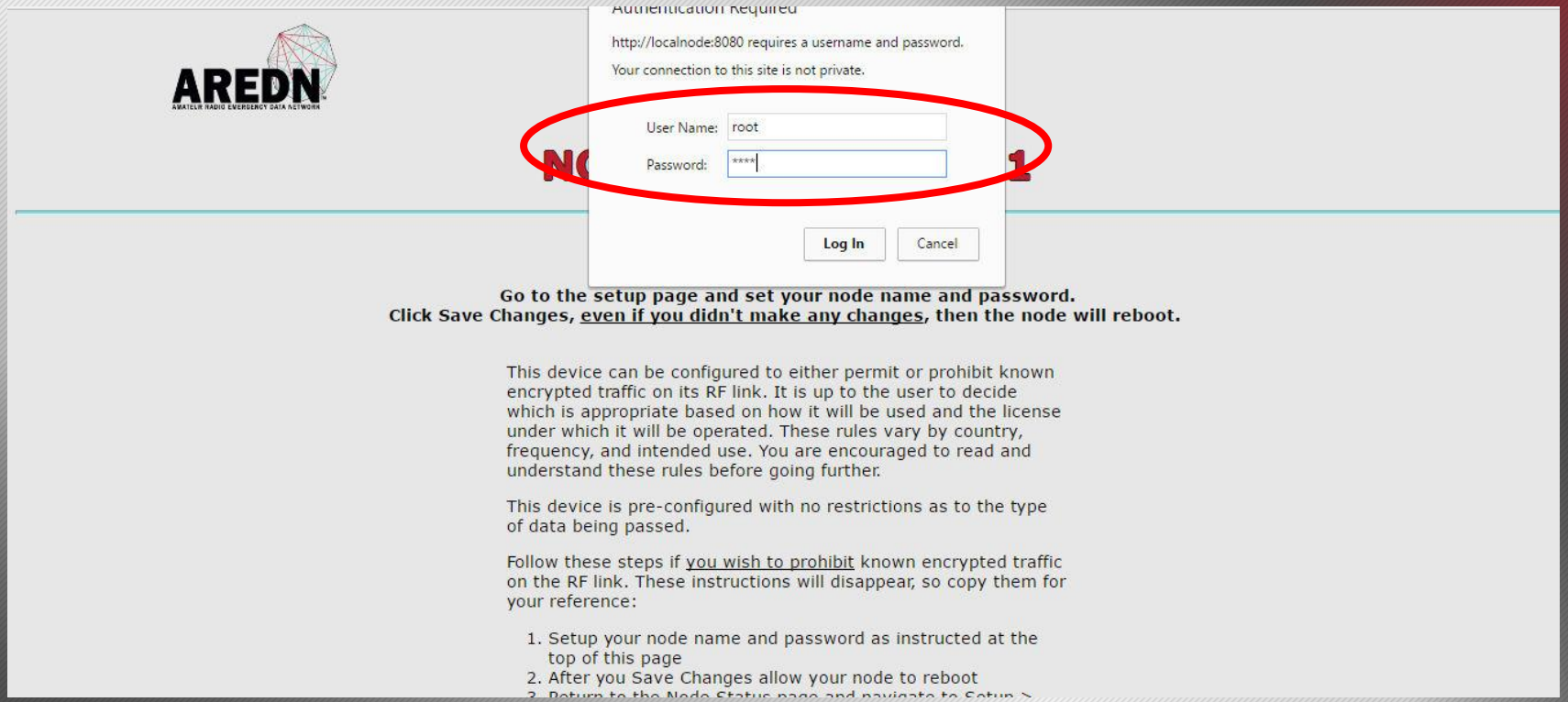




Ready to Setup AREDN

Complete the initial setup with our call sign and password

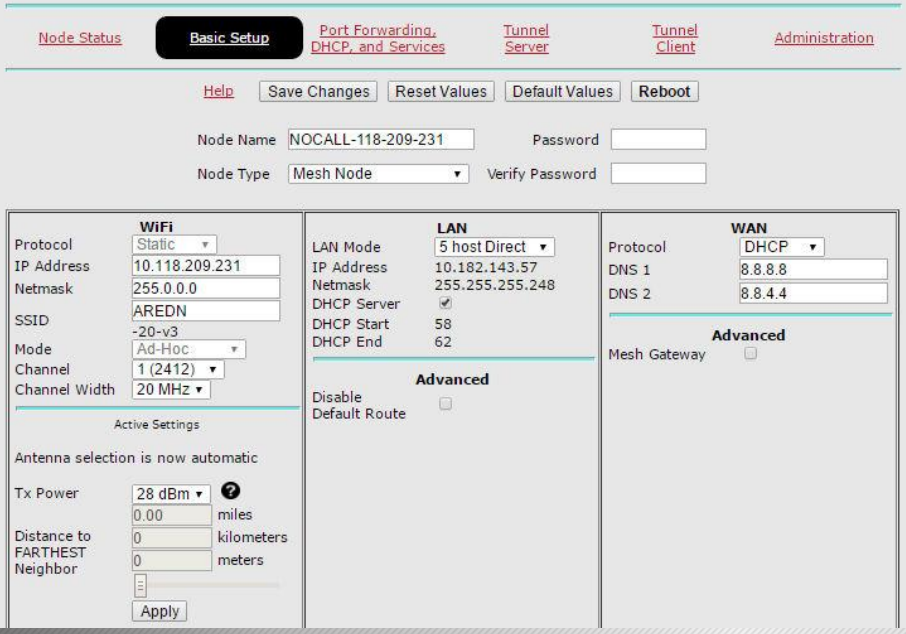
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Authentication for Setup

Enter User Name = root Password = hsmm

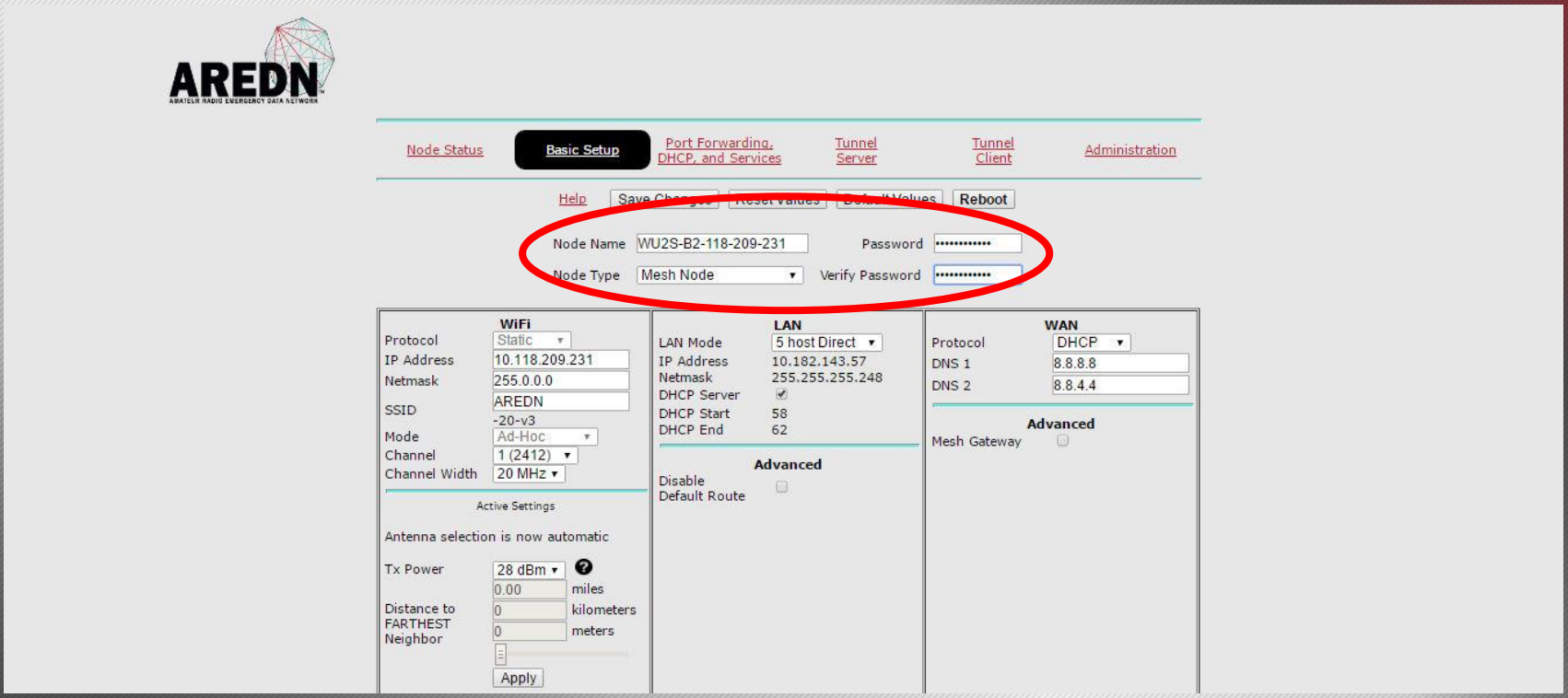
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Basic Setup Page

Initial display – MUST enter certain information

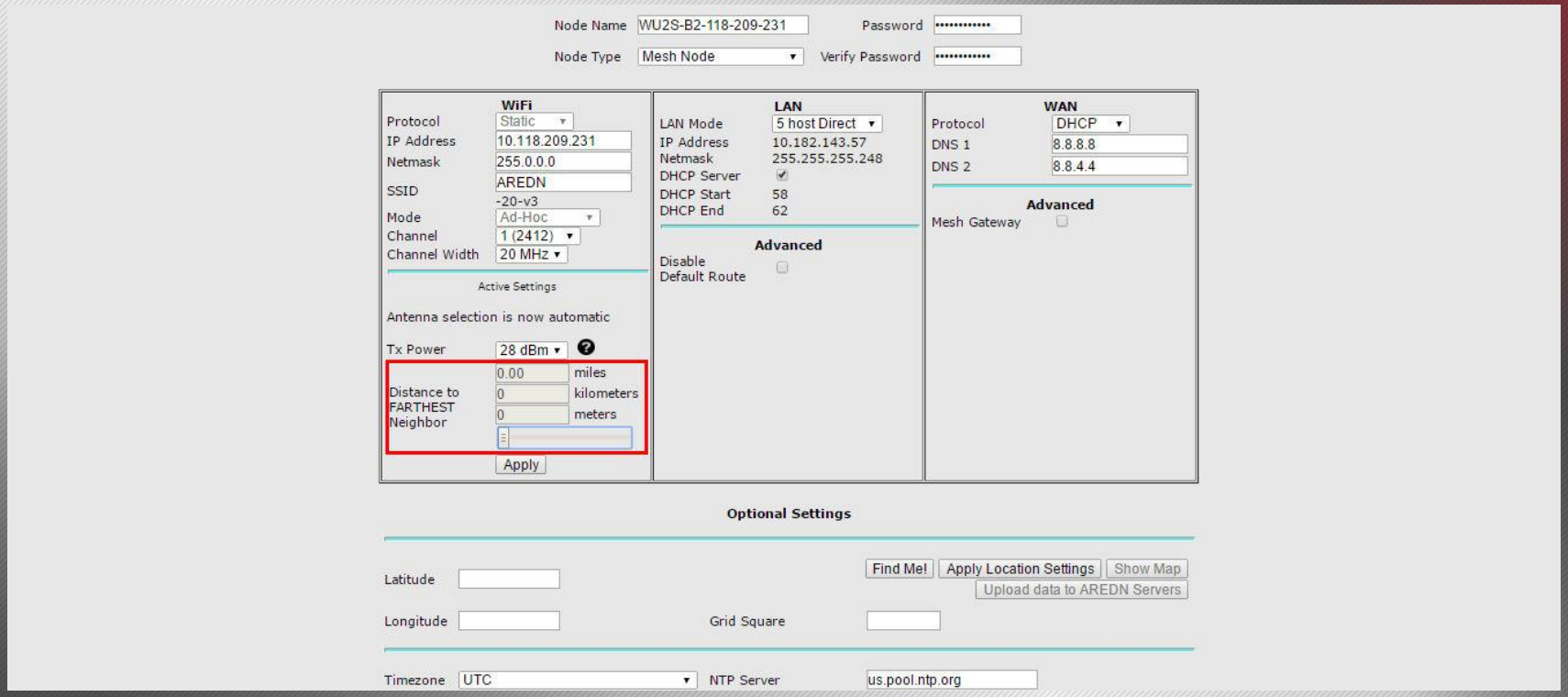
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Basic Setup Page

MUST enter callsign and password

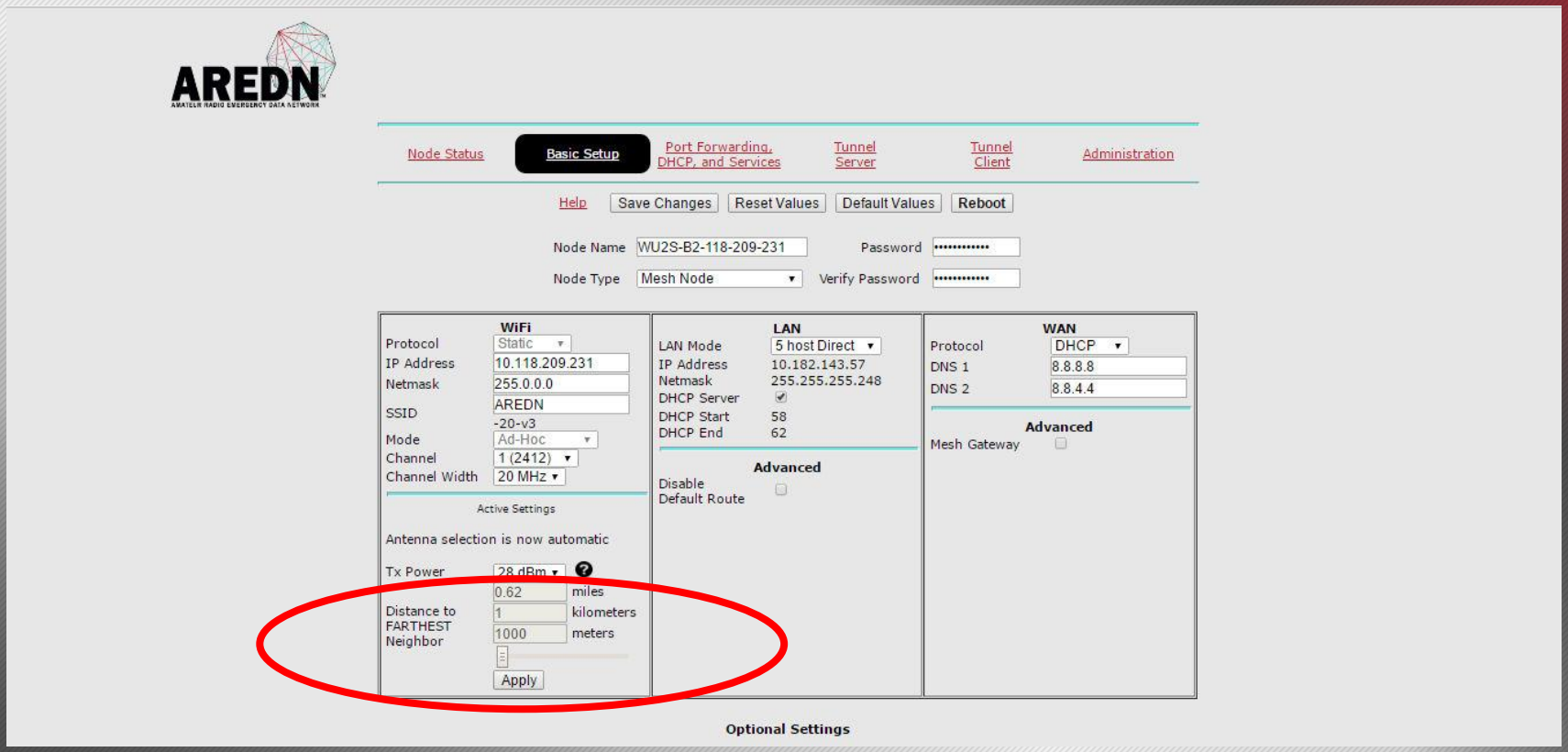
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Basic Setup Page

MUST enter distance parameter - Distance to farthest expected node

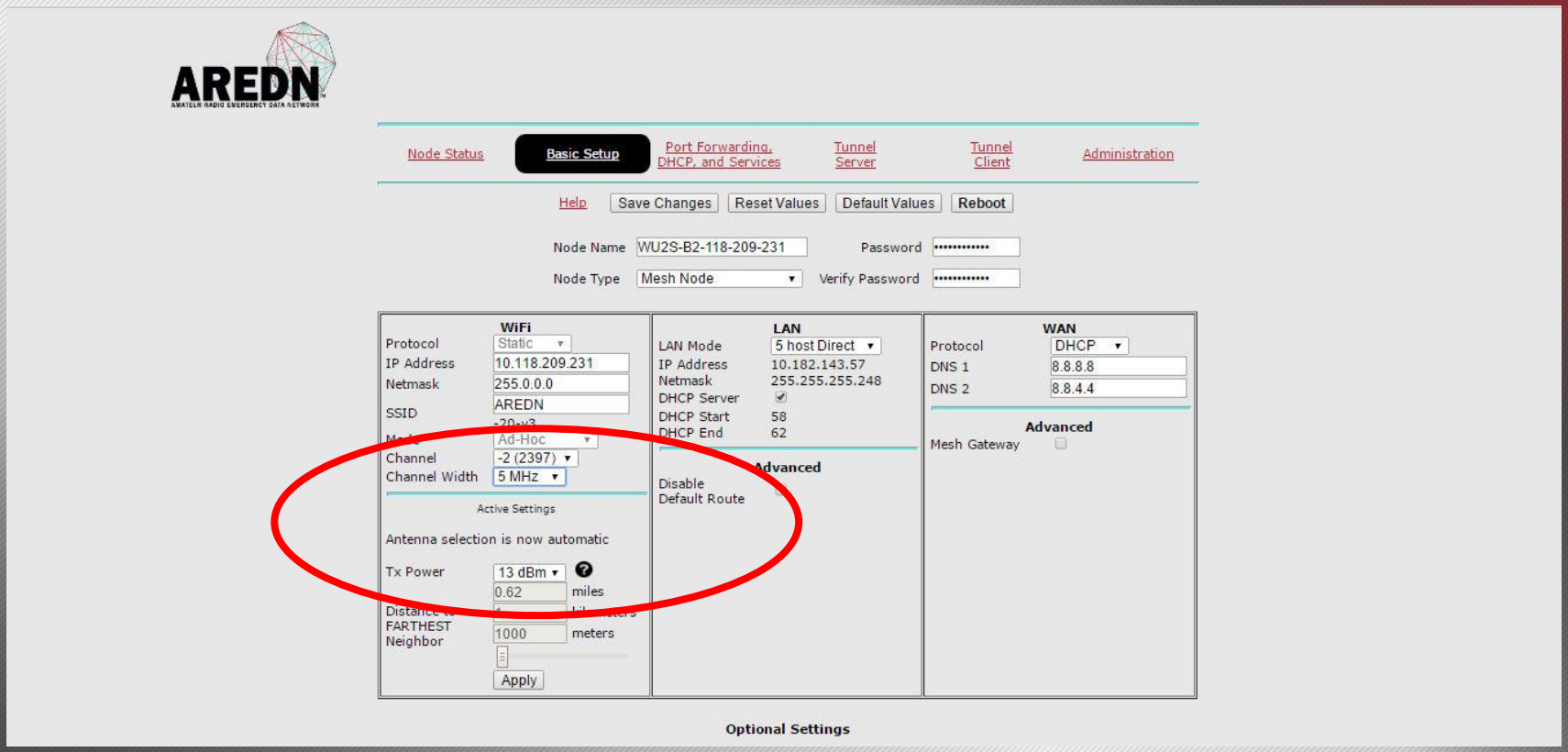
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Basic Setup Page

Distance parameter is set

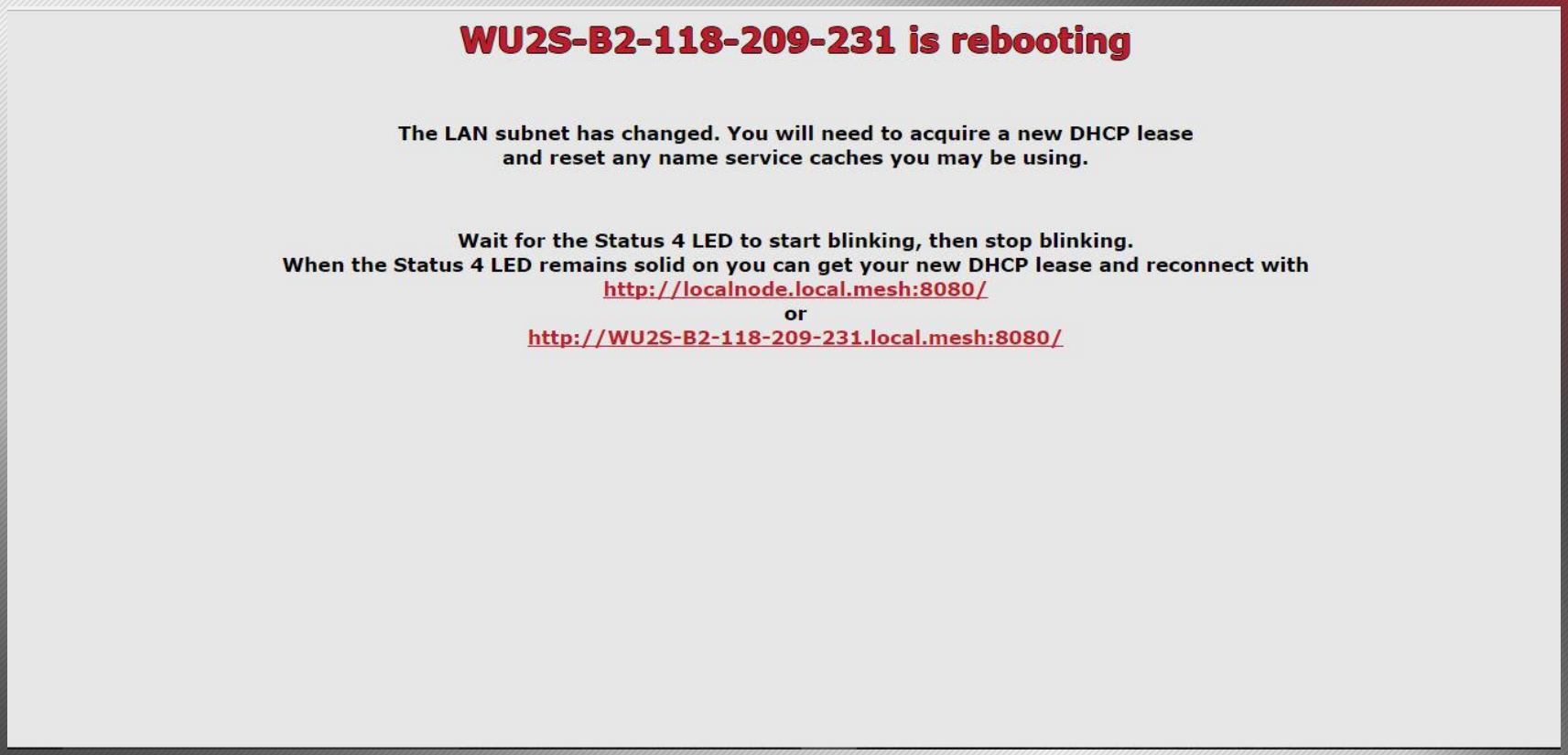
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Basic Setup Page

Channel and Tx Power changed

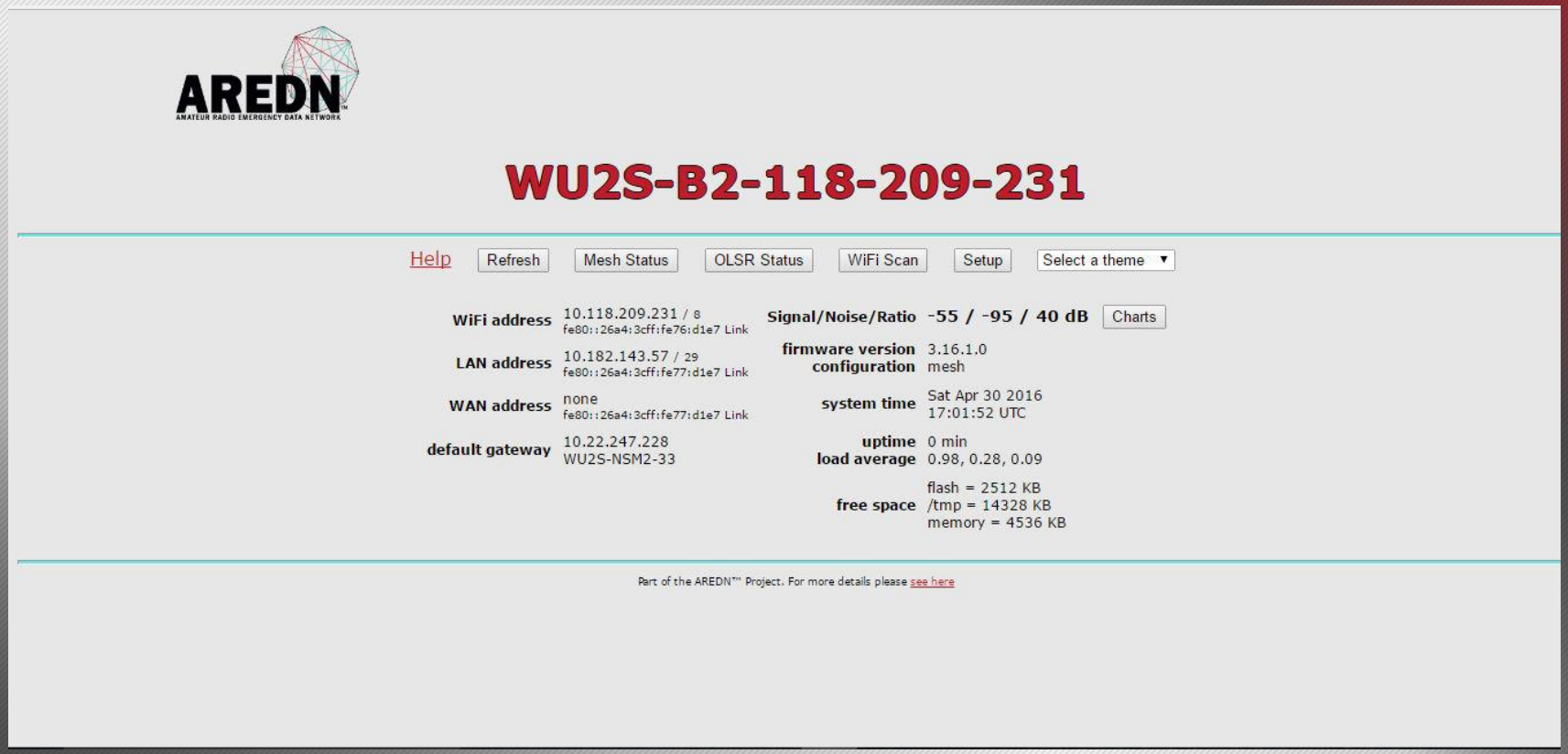
AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK



Save and Reboot

As soon as you click Save, the Reboot starts automatically

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

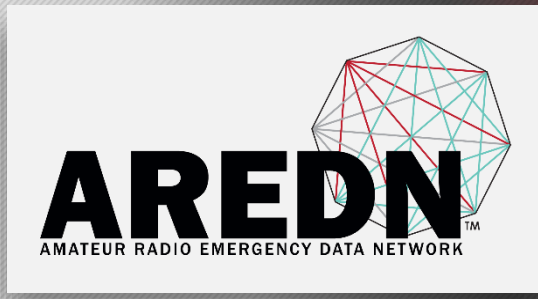


Setup Completed

Node is fully operational

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

What Equipment to Buy?



Supported Platform Matrix

The supported platform matrix identifies the make and models of hardware which may be used with AREDN firmware in the various frequency bands. The equipment marked with a green background is fully supported and tested. Models with a red background are NOT supported nor are they compatible with AREDN firmware. The orange background indicates equipment that is likely to work well, but has not yet been thoroughly tested. Equipment with a yellow background is in the research stage and may or may not achieve fully-supported status depending on test results.

Current As of AREDN™ 3.16.1.0 (updated on 09/27/2016)				
	Band			
Manufacturer/Model	900Mhz	2.4Ghz	3Ghz	5.8Ghz
Ubiquiti Networks (www.ubnt.com)				
AirGrid (XM revision/old)		M2		M5
AirGrid (XW)				AG-HP-5Gxx
AirRouter		M2		
AirRouter HP		M2		
Bullet		M2		M5

Supported Platform Matrix

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Current As of AREDN™ 3.16.1.0 (updated on 09/27/2016)				
	Band			
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AirGrid (XM revision/old)		M2		M5
AirGrid (XW)				AG-HP-5Gxx
AirRouter		M2		
AirRouter HP		M2		
Bullet		M2		M5
Bullet Titanium		M2		M5
NanoBeam (XW)				NBE-M5-16/19
NanoBridge	M9	2G18	M3	5G22/5G25
NanoStation Loco (XM)	M9	M2		M5
NanoStation Loco (XW)				M5
NanoStation (XM)		M2	M3	M5
NanoStation (XW)				M5
PicoStation		M2		
PowerBeam (see note 3)		PBE-M2-400		PBE-M5-300/400
PowerBeam				PBE-M5-620

Supported Platform Matrix

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

PowerBeam (see note 3)		PBE-M2-400		PBE-M5-300/400
PowerBeam				PBE-M5-620
Rocket (XM)	M900	M2	M3	M5
Rocket (XW)				M5
Rocket Titanium		M2		M5
Rocket Titanium (XW)				M5
TP-Link				
CPE		CPE210		CPE510
-				

GREEN = "GO"	AREDN Supported
RED="STOP"	No Compatibility or Support
ORANGE="CAUTION"	High Confidence of compatibility. Included in current release, but not rigorously tested
YELLOW="RESEARCHING"	Under research for future support consideration.
GREY="N/A"	No such device
**	In beta

Supported Platform Matrix

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Hams Are Frugal

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Nanostation Loco

Weight: M2/M5 = 0.18 kg
M9 = 0.9 kg

Gain: M9/M2 = 8 dBi
M5 = 13 dBi

Current Price: M2 = $46 - $49
M5 = $62 - $67
M9 = $113 - $129

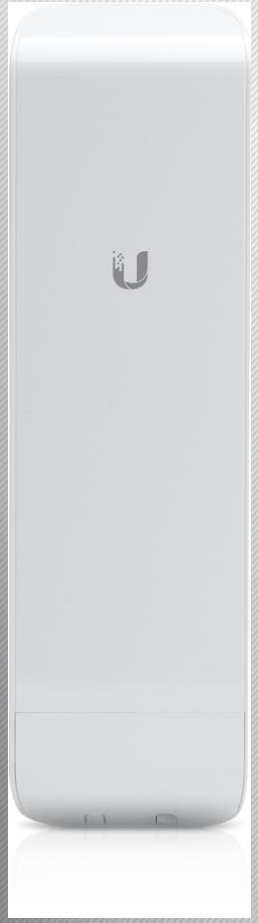
Memory: M2 = 32 Mb
M5/M9 = 64 Mb

Power Output: M9 = 28 dBm
M2/M5 = 23 dBm

Nanostation M

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Weight: M2/M5 = 0.40 kg
M3 = 0.50 kg
Gain: M2 = 10.4-11.2 dBi
M3 = 12.2-13.7 dBi
M5 = 14.6-16.1 dBi
Current Price: M2/M5 = $89
M3 = $129
Memory: M2/M3 = 32 Mb
M5 = 64 Mb
Power Output: M2 = 28 dBm
M3 = 25 dBm
M5 = 27 dBm



Rocket M

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Weight: M2/M3/M5/M9 =
0.50 kg

Gain: Depends on antenna

Current Price: M2 = $82 - $89

M3/M9= $179

M5 = $89

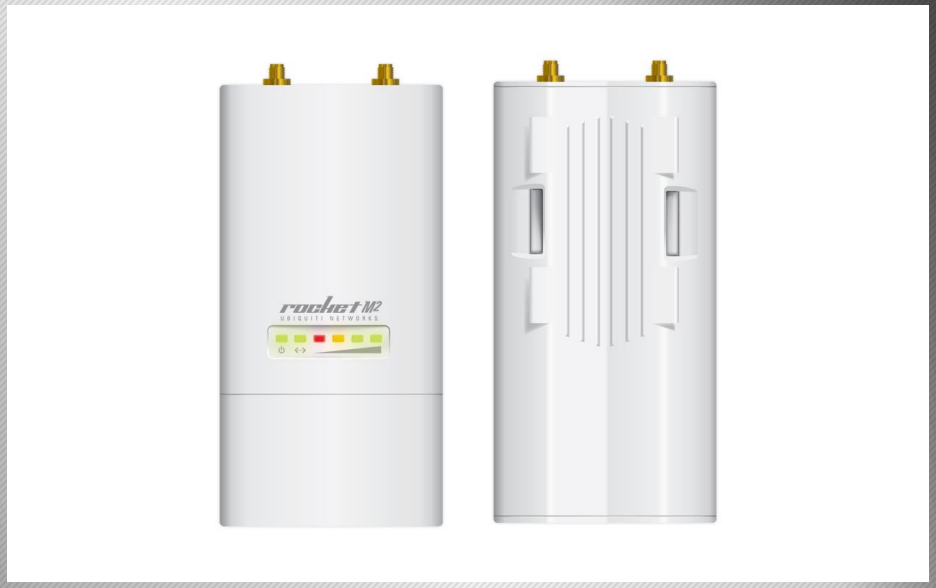
Memory: M2/M3/M5/M9
64 Mb

(*datasheet 128 Mb M2/M5)

Pwr Output: M2/M9 28 dBm

M3 = 25 dBm

M5 = 27 dBm



AirGrid - Single Polarity

AirGrid - 2 Antenna Sizes

Weight: M2/M5 = 1.65 kg

M2/M5 = 2.75 kg

Gain: M2/M5 = 16/23 dBi

M2/M5 = 20/27 dBi

Current Price:M2 = $46 - $49

M5 = $62 - $67

Memory: M2/M5 = 32 Mb

Power Output: M2 = 28 dBm

M5 = 25 dBm

Bullet – Single Polarity

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Bullet – Single Polarity

Weight: M2/M5 = 0.18 kg

Gain: M5/M5 = Depends on antenna selection

Current Price: M2/M5= $79

Memory: M2/M5 = 32 Mb

Power Output:

M2 = 28dBm

M5 = 25 dBm

AirRouter – Indoor Use

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Two Models – AR and AR-HP
Weight: AR/HP = .22/.32 kg
LAN Ports = 4
WAN Port = 1

Current Price:
AR = $32 - $39
AR-HP = $62
Memory: 32 Mb
Power Output:
AR = 19dBm
AR-HP = 28 dBm

TP-Link CPE210/510

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Weight: Unknown – about the same as a Nanostation

Gain: CPE210 = 9 dBi

CPE510 = 13 dBi

Current Price: CPE210 = $58

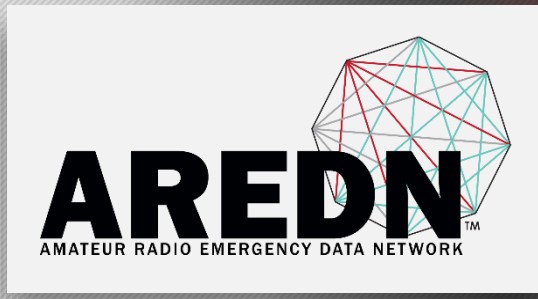
CPE510 = $64

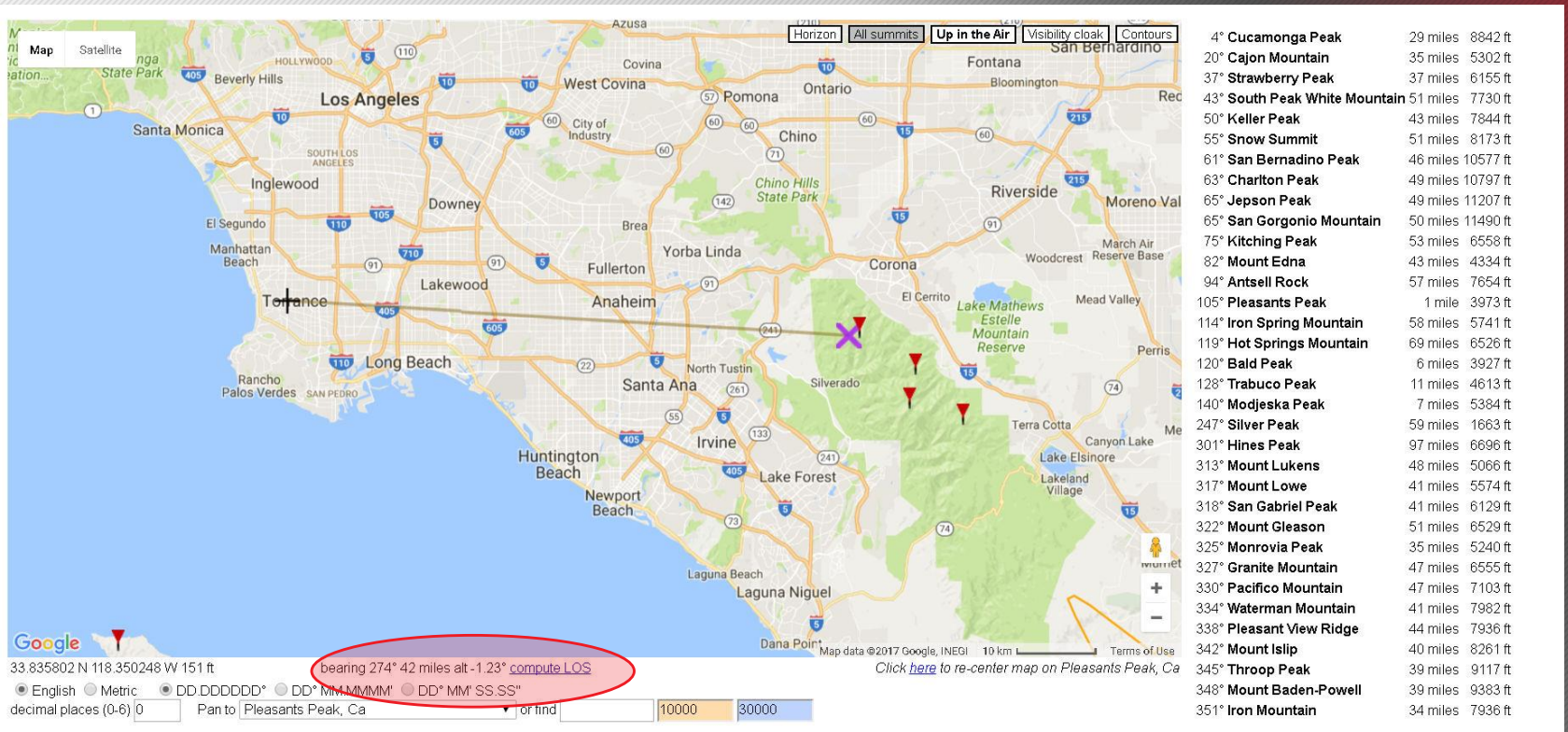
Memory: 210/510 = 64 Mb

Power Output: 210 = 27 dBm

510 = 23 dBm

RF Path Planning





4°	Cucamonga Peak	29 miles	8842 ft
20°	Cajon Mountain	35 miles	5302 ft
37°	Strawberry Peak	37 miles	6155 ft
43°	South Peak White Mountain	51 miles	7730 ft
50°	Keller Peak	43 miles	7844 ft
55°	Snow Summit	51 miles	8173 ft
61°	San Bernadino Peak	46 miles	10577 ft
63°	Charlton Peak	49 miles	10797 ft
65°	Jepson Peak	49 miles	11207 ft
65°	San Gorgonio Mountain	50 miles	11490 ft
75°	Kitching Peak	53 miles	6558 ft
82°	Mount Edna	43 miles	4334 ft
94°	Antsell Rock	57 miles	7654 ft
105°	Pleasants Peak	1 mile	3973 ft
114°	Iron Spring Mountain	58 miles	5741 ft
119°	Hot Springs Mountain	69 miles	6526 ft
120°	Bald Peak	6 miles	3927 ft
128°	Trabuco Peak	11 miles	4613 ft
140°	Modjeska Peak	7 miles	5384 ft
247°	Silver Peak	59 miles	1663 ft
301°	Hines Peak	97 miles	6696 ft
313°	Mount Lukens	48 miles	5066 ft
317°	Mount Lowe	41 miles	5574 ft
318°	San Gabriel Peak	41 miles	6129 ft
322°	Mount Gleason	51 miles	6529 ft
325°	Monrovia Peak	35 miles	5240 ft
327°	Granite Mountain	47 miles	6555 ft
330°	Pacifico Mountain	47 miles	7103 ft
334°	Waterman Mountain	41 miles	7982 ft
338°	Pleasant View Ridge	44 miles	7936 ft
342°	Mount Islip	40 miles	8261 ft
345°	Throop Peak	39 miles	9117 ft
348°	Mount Baden-Powell	39 miles	9383 ft
351°	Iron Mountain	34 miles	7936 ft

HeyWhatsThat Line of Sight

http://www.heywhatsthat.com/

Pleasants Peak to Marriott, Torrance, CA 42 miles

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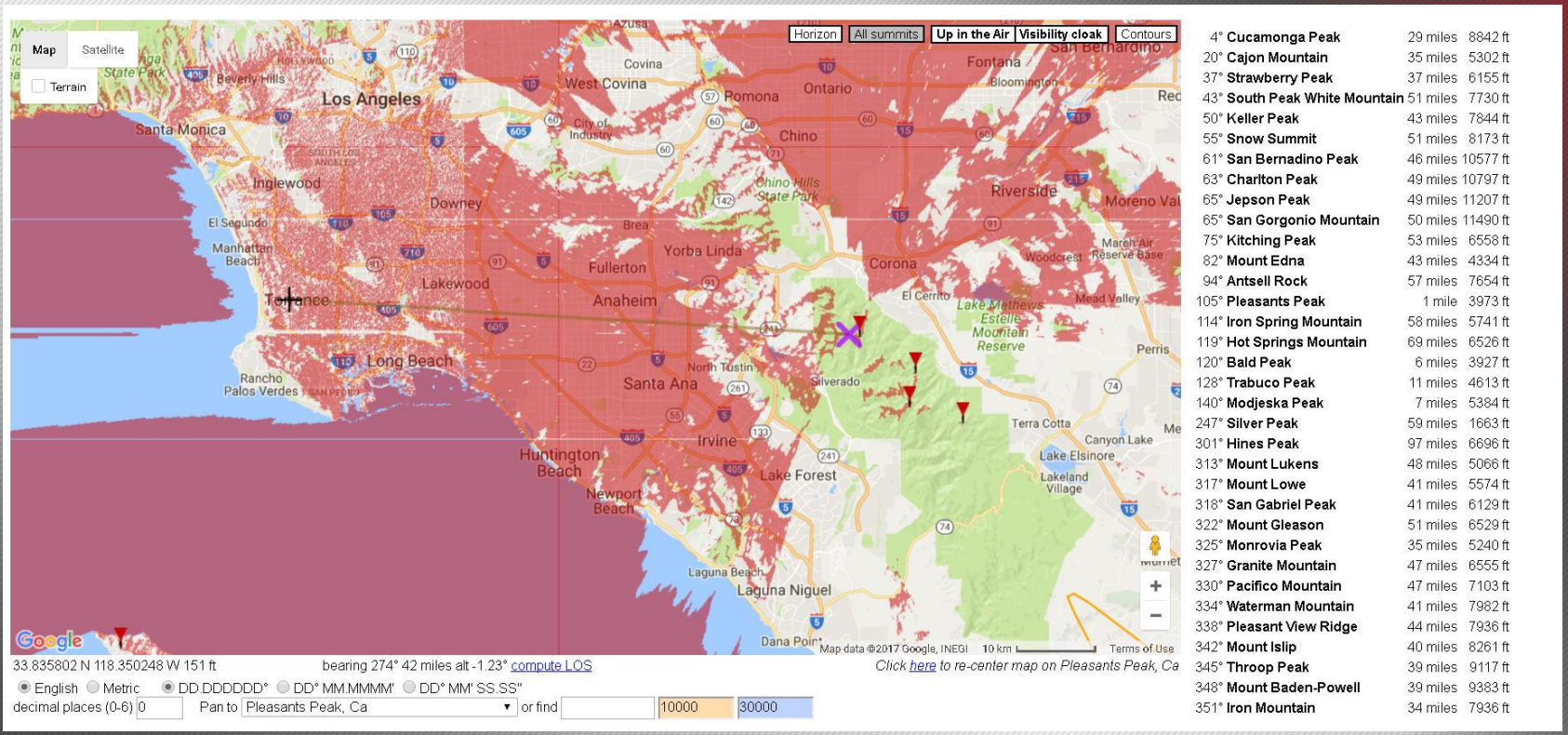
AMATEUR RADIO EMERGENCY DATA NETWORK



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HeyWhatsThat Line of Sight

Pleasants Peak Visibility Overlay

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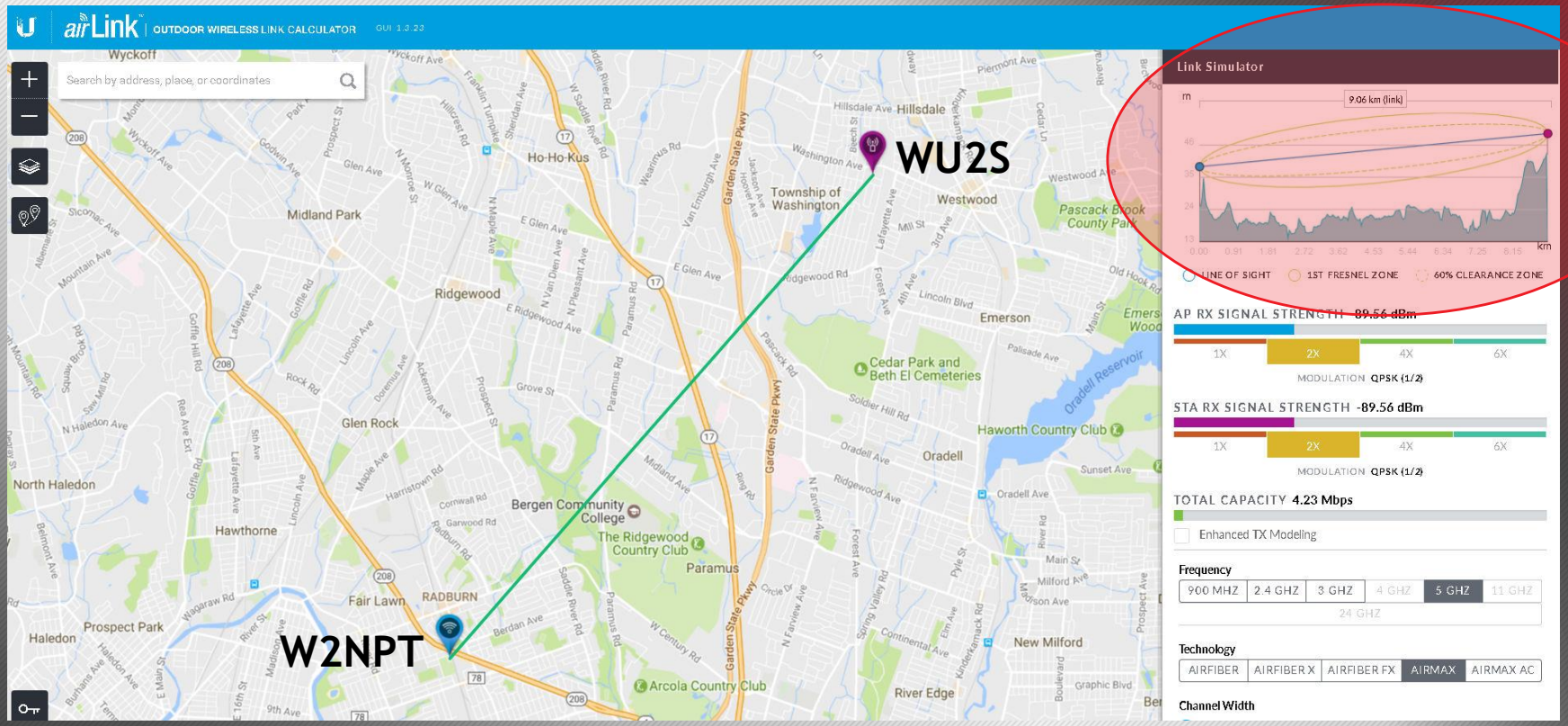


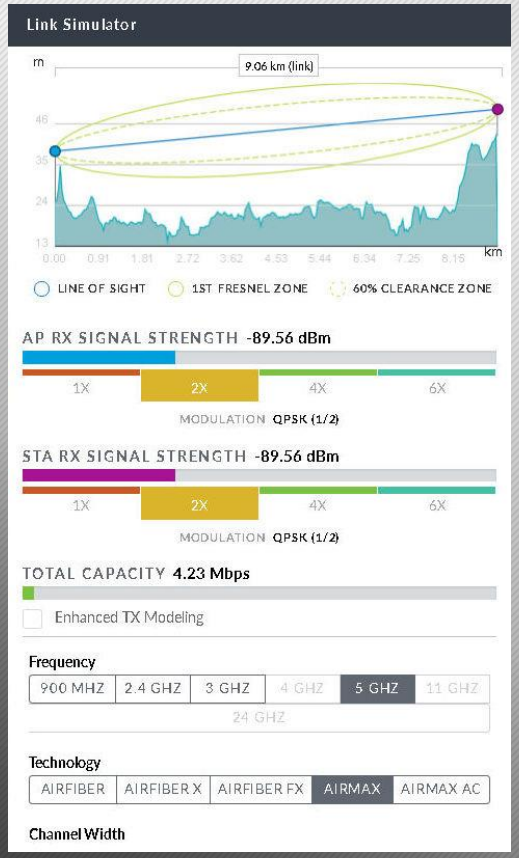
airLink™

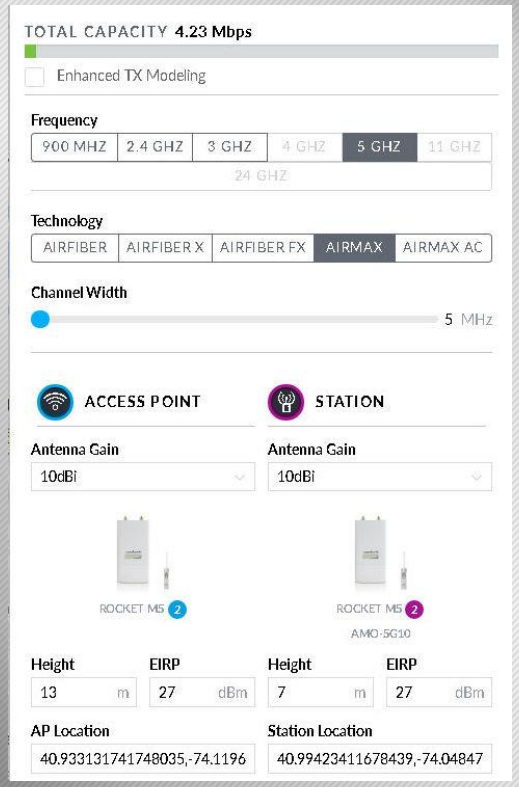
https://airlink.ubnt.com/

WU2S to W2NPT 9.06 km

AREDN™

AMATEUR RADIO EMERGENCY DATA NETWORK





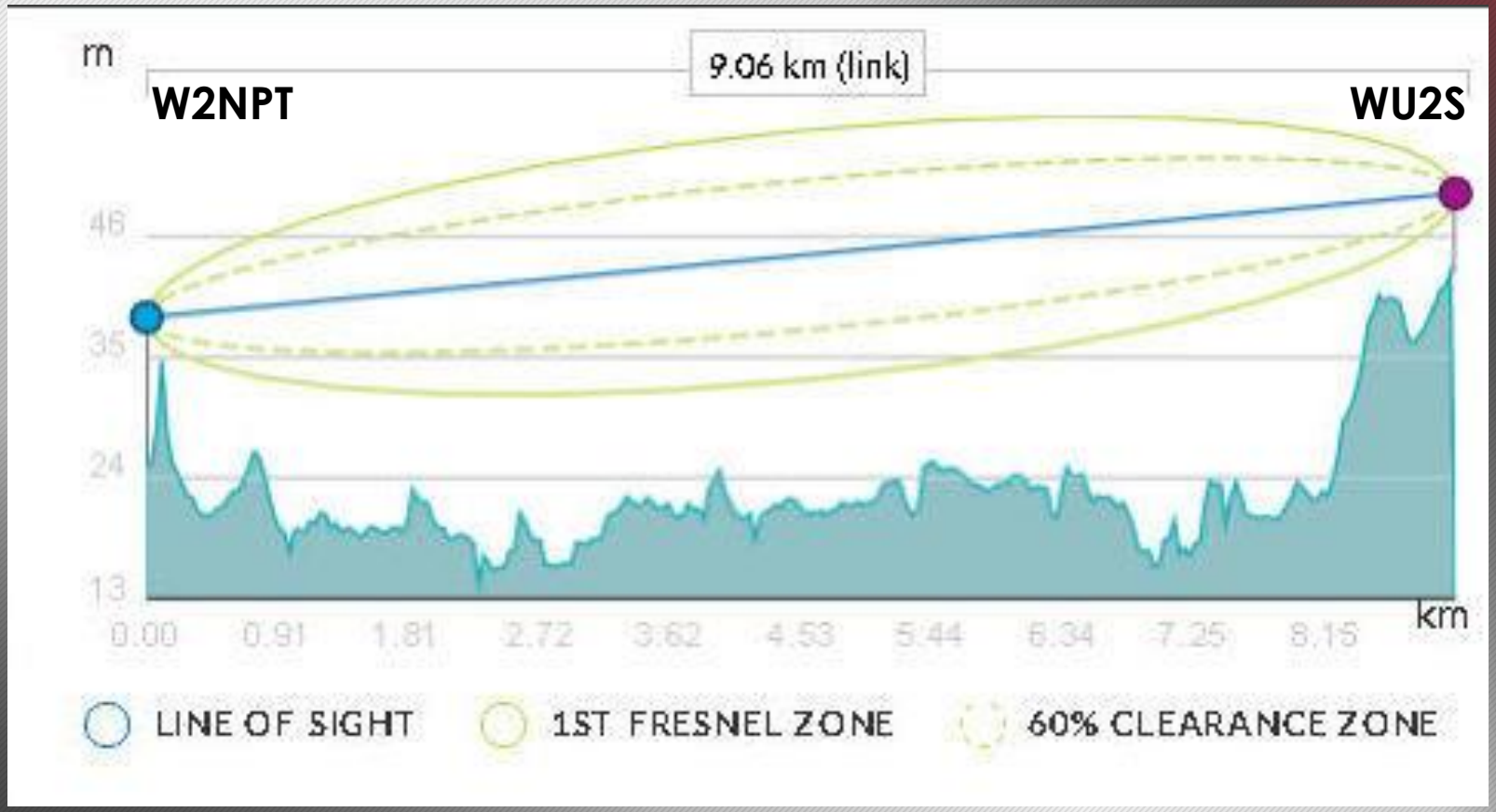
airLink™

https://airlink.ubnt.com/

WU2S to W2NPT 9.06 km

AREDN™

AMATEUR RADIO EMERGENCY DATA NETWORK



airLink™

https://airlink.ubnt.com/

WU2S to W2NPT 9.06 km

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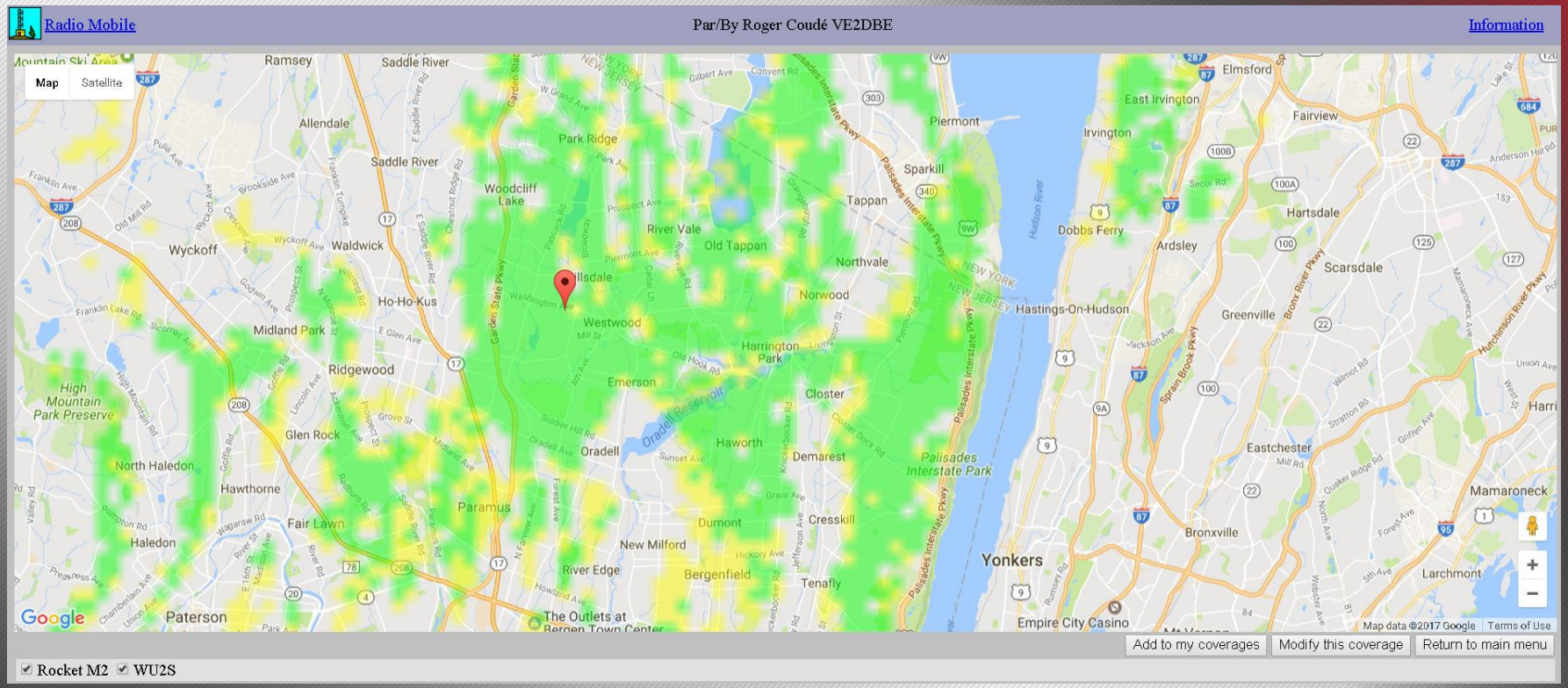
AMATEUR RADIO EMERGENCY DATA NETWORK



Radio Mobile

http://www.cplus.org/rmw/rmonline.html

WU2S 2GHz Coverage

By Roger Coudé VE2DBE

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Current Locations of Known AREDN Nodes

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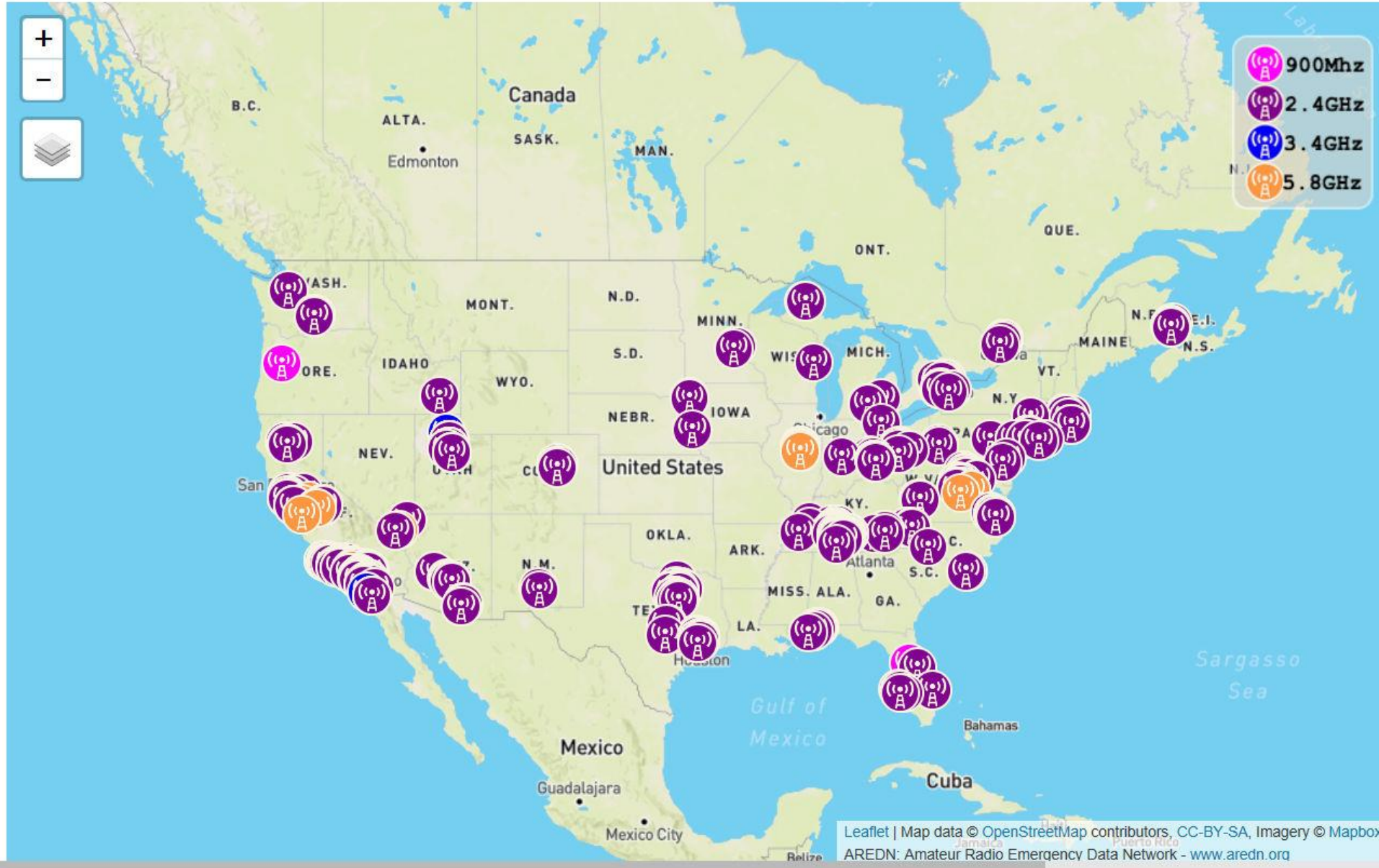
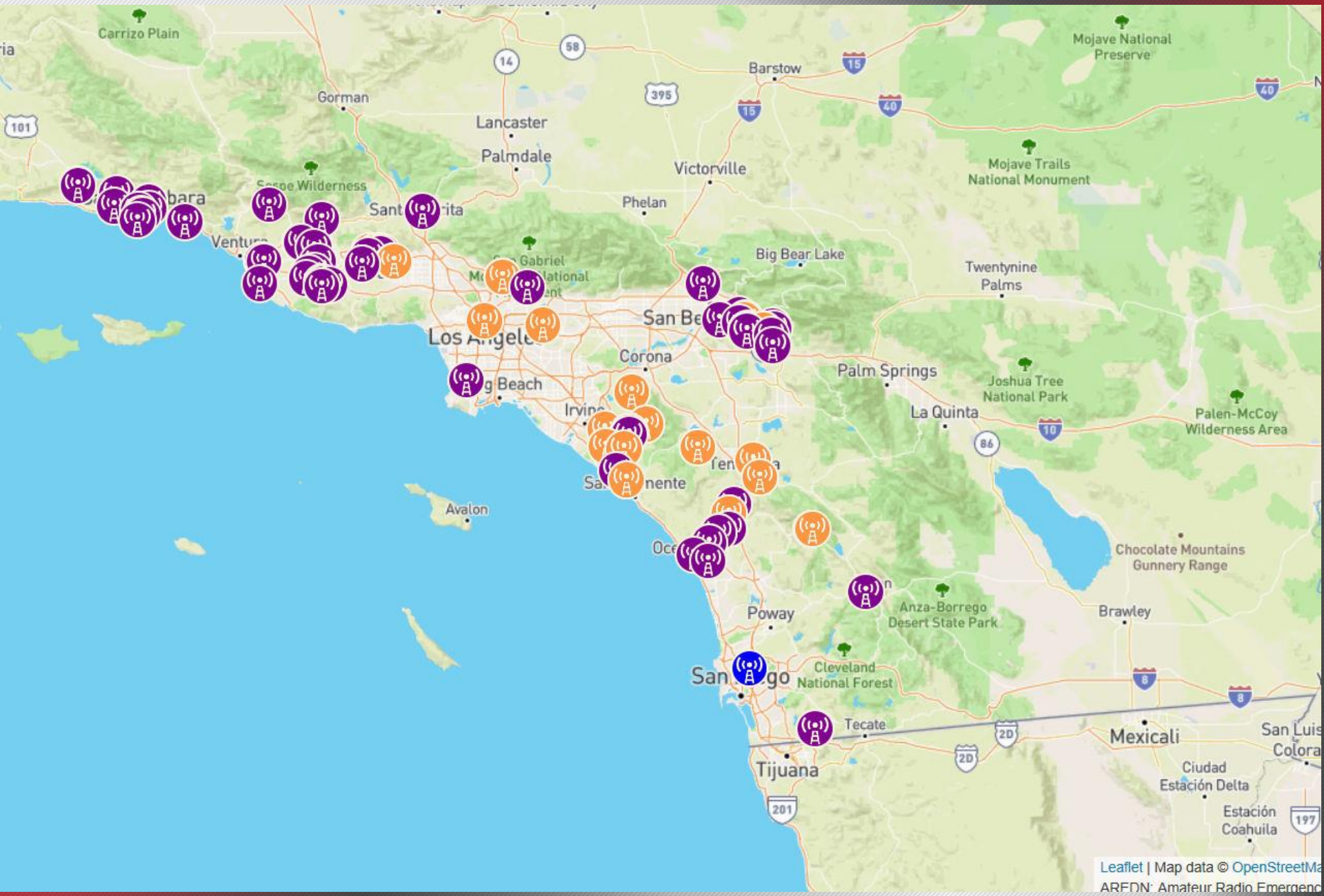
AMATEUR RADIO EMERGENCY DATA NETWORK

Thanks to KG6WXC for his work on the map!

Current known locations of AREDN nodes

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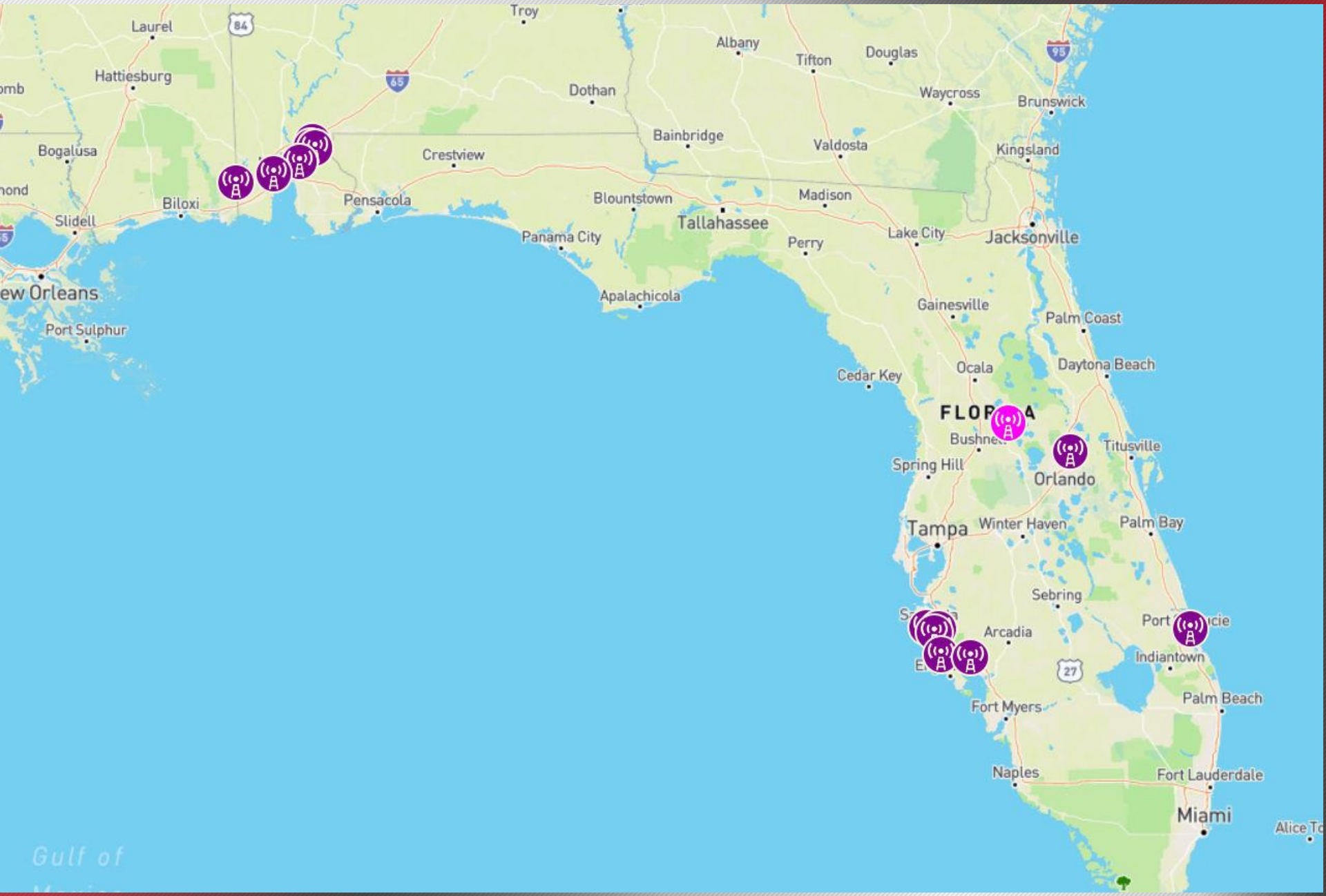
Mojave National Preserve
Barstow
Gorman
Lancaster
Palmdale
Victorville
Mojave Trails National Monument
Phelan
Big Bear Lake
Twentynine Palms
Corona
Palm Springs
Joshua Tree National Park
La Quinta
Palen-McCoy Wilderness Area
Irvine
Avalon
Chocolate Mountains Gunnery Range
Poway
Anza-Borrego Desert State Park
Brawley
Cleveland National Forest
Tecate
Mexicali
Tijuana
Ciudad Estación Delta
Estación Coahuila
Leaflet | Map data © OpenStreetMa
AREDN: Amateur Radio Emergenc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Laurel
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Albany
Tifton
Douglas
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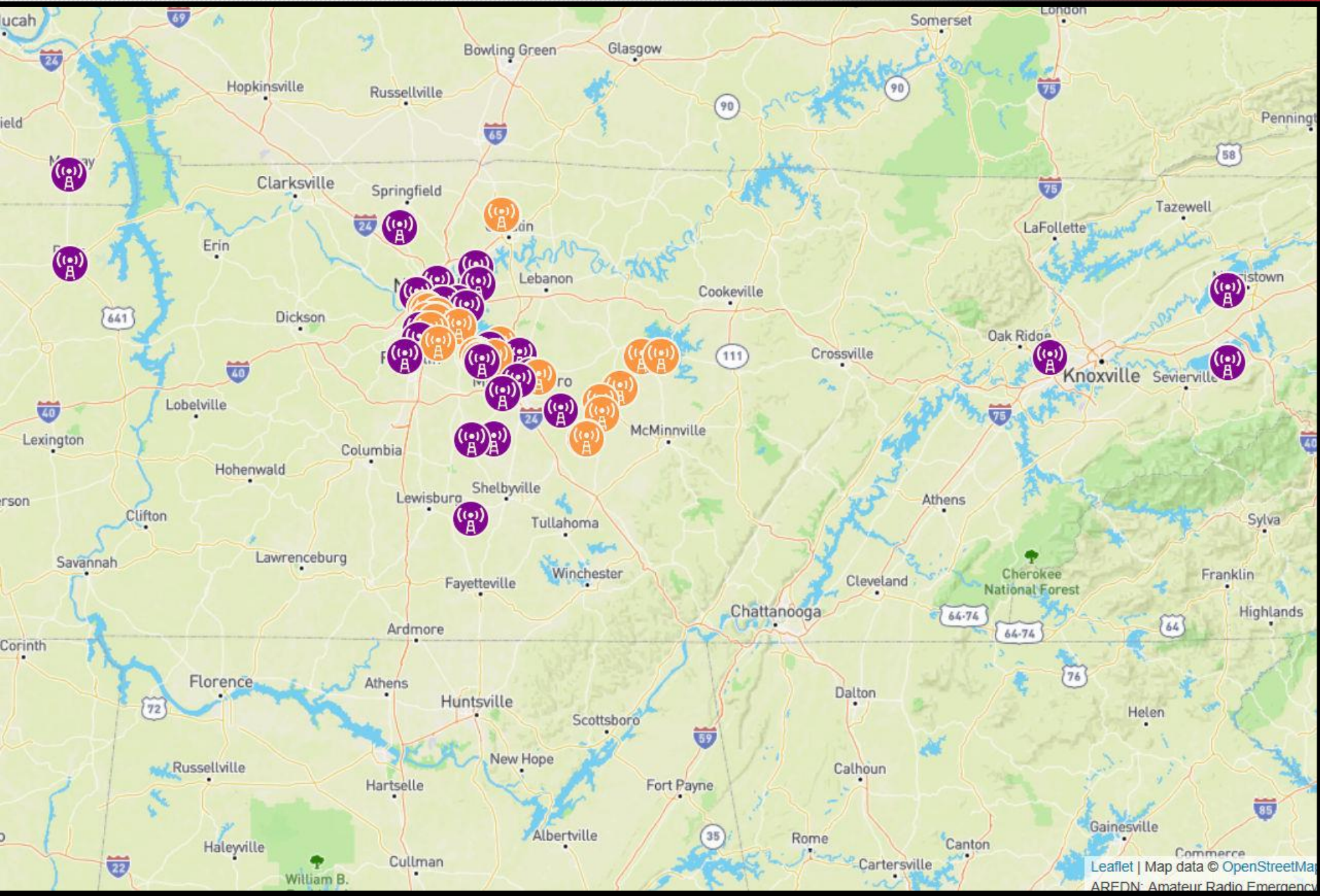
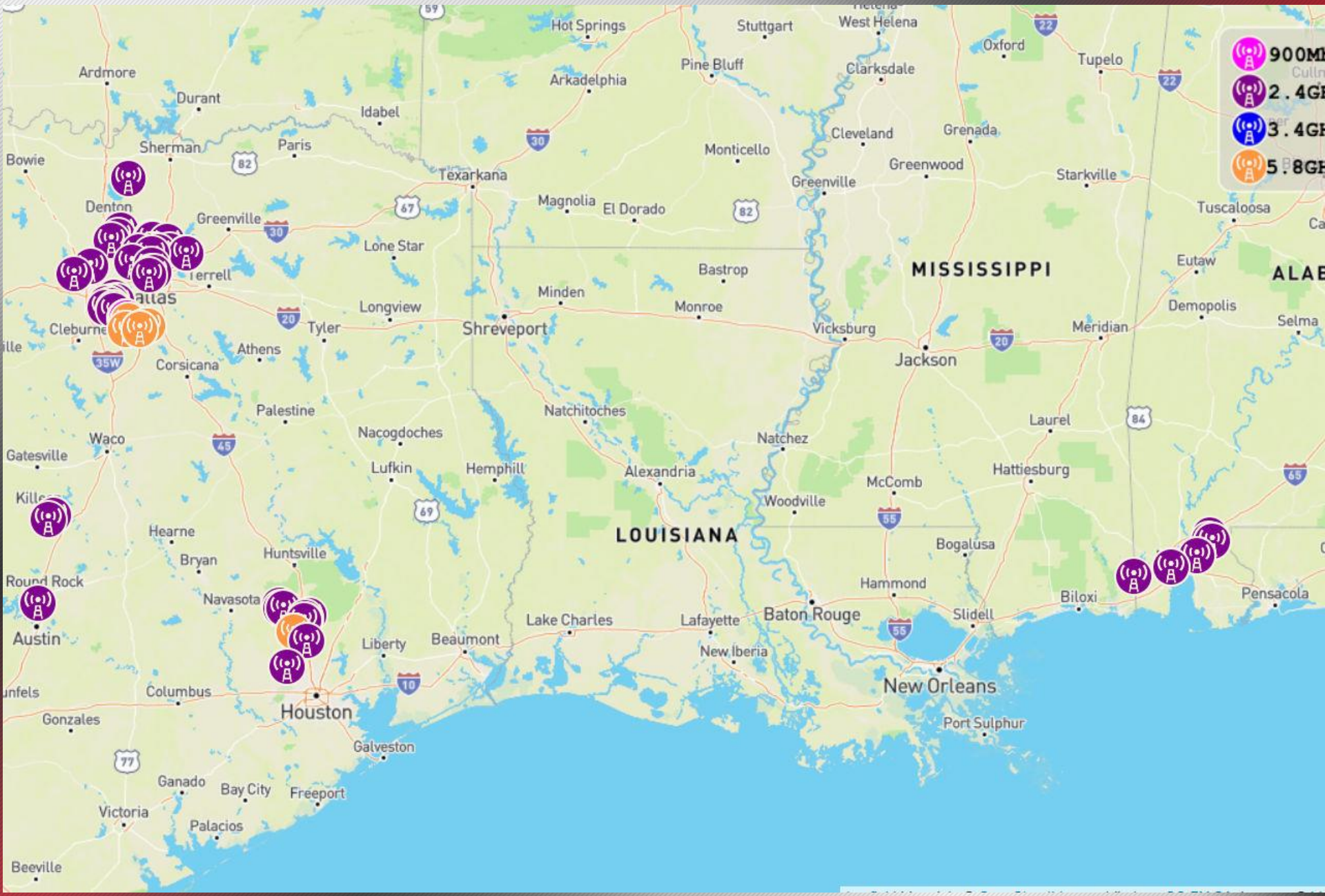
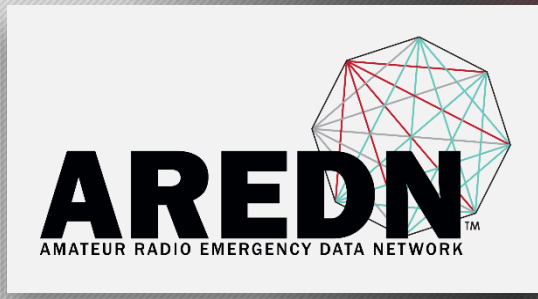
Hattiesburg
Dothan
Waycross
Brunswick
65
Bainbridge
Valdosta
Bogalusa
Crestview
Kingsland
Biloxi
Pensacola
Blountstown
Madison
Slidell
Tallahassee
Lake City
Jacksonville
Panama City
Perry
Apalachicola
Gainesville
Port Sulphur
Palm Coast
Cedar Key
Ocala
Daytona Beach
Titusville
Spring Hill
Orlando
Tampa
Winter Haven
Palm Bay
Sebring
Arcadia
Indiantown
27
Fort Myers
Palm Beach
Naples
Fort Lauderdale
Miami
Gulf of


Somerset
Bowling Green
Glasgow
Hopkinsville
Russellville
Clarksville
Springfield
Erin
Lebanon
Cookeville
Tazewell
LaFollette
Dickson
Oak Ridge
Crossville
Knoxville
Sevierville
Lobelville
Lexington
McMinnville
Columbia
Hohenwald
Shelbyville
Lewisburg
Athens
Clifton
Tullahoma
Sylva
Savannah
Lawrenceburg
Winchester
Fayetteville
Cleveland
Cherokee National Forest
Franklin
Chattanooga
Highlands
Ardmore
Florence
Athens
Huntsville
Dalton
Scottsboro
Helen
Russellville
New Hope
Hartselle
Calhoun
Fort Payne
Albertville
Gainesville
Haleyville
Rome
Canton
Cullman
Cartersville
William B.
Leaflet | Map data © OpenStreetMap


900MH
2.4GH
3.4GH
5.8GH
Hot Springs
Stuttgart
West Helena
Oxford
Tupelo
Ardmore
Durant
Idabel
Pine Bluff
Arkadelphia
Clarksdale
Sherman
Paris
Bowie
Texarkana
Monticello
Cleveland
Grenada
Greenwood
Starkville
Greenville
Denton
Magnolia
El Dorado
Tuscaloosa
Lone Star
Bastrop
MISSISSIPPI
Eutaw
Minden
Monroe
Demopolis
Longview
Shreveport
Vicksburg
Meridian
Selma
Tyler
Athens
Jackson
Corsicana
Palestine
Natchitoches
Laurel
Waco
Nacogdoches
Natchez
Gatesville
Lufkin
Hemphill
Alexandria
Hattiesburg
McComb
Woodville
LOUISIANA
Hearne
Huntsville
Bogalusa
Bryan
Round Rock
Hammond
Biloxi
Pensacola
Navasota
Lake Charles
Lafayette
Baton Rouge
Slidell
Austin
Liberty
Beaumont
New Iberia
Columbus
New Orleans
Houston
Gonzales
Port Sulphur
Galveston
Ganado
Bay City
Freeport
Victoria
Palacios
Beeville

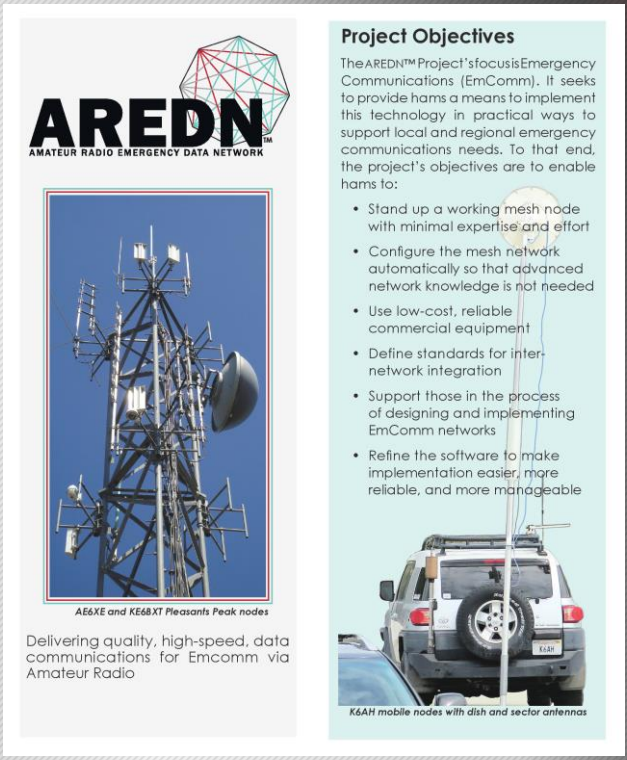
The AREDN Advantage



Project Objectives

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

- Stand up nodes with minimal expertise and effort
- Configure the mesh network automatically
- Use low-cost, reliable commercial equipment
- Refine the software for ease of use, reliability and manageability



Features & Benefits

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

- Exclusive Part 97 Channels
- Over-the-Air firmware upgrades
- Maximum data rate of 130 Mbps
- Low investment entry
- Rapid deployment and implementation
- Multiple antenna choices
- Interfaces easily with other Internet capable devices

At the Center of Emergency PrepAREDNess

AREDN™
AMATEUR RADIO EMERGENCY DATA NETWORK

Thank You from the AREDN Project Team

Randy Smith, WU2S
wu2s@aredn.org

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