

Wireless Device Purchasing Guide for VUMC Departments

OVERVIEW

This guide is intended to help VUMC departmental purchasing agents understand the technical requirements for connecting to the VUMC wireless network. To avoid costly purchases of hardware that will either not work on the VUMC wireless network or will only work in degraded performance and/or security modes, it is important to make informed decisions based on what the VUMC wireless infrastructure can support.

If you have any questions concerning devices and their technical specifications, VUMC IT is available to review your device's wireless specifications to ensure compatibility with the wireless network. Submit a Pegasus Ticket to [Evaluate Wireless Device Technical Specifications](#).

RECOMMENDATIONS

- For best performance, devices should support 5GHz.
- VUMC IT will support devices on the 2.4GHz wireless network, but *due to issues inherent with 2.4GHz wireless networks (limited capacity and performance as well as interference vulnerability), using these networks reliability cannot be guaranteed.*
- All device types should be tested on the VUMC production wireless network before purchasing devices and/or signing contracts.

SPECIFICATIONS

1. 5GHz (Recommended)
 - a. Wireless Protocols – 802.11a/n/ac/ax (any one or combination of the below)
 - i. 802.11a
 - ii. 802.11n (5GHz)
 - iii. 802.11ac
 - iv. 802.11ax
 - b. Voice Applications – (see *vuVoice/Mobile5* in Specification Summary Table below)
If purchasing a phone for enterprise voice applications (ex. Mobile Heartbeat), the device should also support:
 - i. 2x2 MIMO (essentially has two antennas/spatial streams)
 - ii. Roaming protocols 802.11k/r/v

2. 2.4GHz (Not Recommended*)

- a. Wireless Protocols – 802.11b/g/n (one or a combination of the below)
 - i. 802.11b (not supported)
 - ii. 802.11g
 - iii. 802.11n (2.4GHz)

*The 2.4GHz wireless is not recommended:

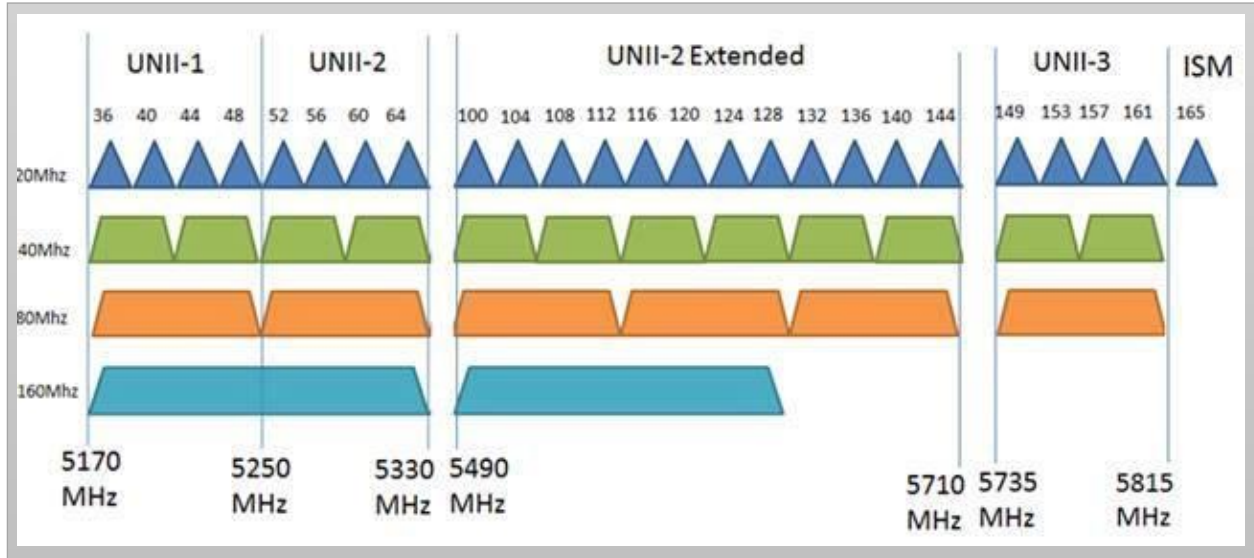
- Heavy Congestion
- Prone to Interference
- Unreliable performance
- Low throughput

SPECIFICATION SUMMARY TABLE

Wireless Network / SSID	Radio Band	Usage	IEEE Protocol	Security Policy	Authentication	Encryption	FCC Domain	Channels	Frequencies
<i>VUMCEmployee</i>	5GHz	Enterprise devices - VUNetID Required	802.11a/n/ac/ax	WPA2	802.1X/EAP w/PEAP MSCHAPv2	AES-CCMP	UNII-1 UNII-2 UNII-2e UNII-3	36-48 52-64 100-144 149-161	5170MHz-5250MHz 5250MHz-5330MHz 5490MHz-5730MHz 5735MHz-5815MHz
<i>vuVoice / Mobile5</i>	5GHz	Voice	802.11a/n/ac/ax 802.11k/v/r	WPA2	PSK	AES-CCMP	UNII-1 UNII-2 UNII-2e UNII-3	36-48 52-64 100-144 149-161	5170MHz-5250MHz 5250MHz-5330MHz 5490MHz-5730MHz 5735MHz-5815MHz
<i>Device5</i>	5GHz	Shared	802.11a/n/ac/ax	WPA2	PSK	AES-CCMP	UNII-1 UNII-2 UNII-2e UNII-3	36-48 52-64 100-144 149-161	5170MHz-5250MHz 5250MHz-5330MHz 5490MHz-5730MHz 5735MHz-5815MHz
<i>Device24WPA</i>	2.4GHz	Shared	802.11g/n	WPA2	PSK	AES-CCMP	ISM	1-13	2401MHz-2473MHz
<i>VUMCGuest</i>	2.4GHz	Personal	802.11g/n	WPA2	PSK	AES-CCMP	ISM	1-13	2401MHz-2473MHz

APPENDIX

5GHz – Channel & Frequency



2.4GHz – Channel & Frequency

