



a PARSONS Company



WAVE Wireless Communications

WAVE (Whisper Android Vehicle Enhancement) is a covert, high-bandwidth 60 GHz (WiGig) RF communications technology with inherent LPI/LPD characteristics for localized communications and data sharing. The technology leverages WiGig, also known as 60 GHz Wi-Fi, as a high-bandwidth, commercially available wireless standard (IEEE 802.11ad AND 802.11ay). Use of this standard avoids proprietary hardware/RF protocols while demonstrating speeds up to 2+ Gb/s.

High-Bandwidth Communication + LPI/LPD

The WAVE capability leverages our high-bandwidth 60 GHz RF technology called **Whisper**. This technology provides higher bandwidth compared to lower RF frequencies as well as LPI/LPD characteristics due to the WAVE frequency being absorbed by atmospheric oxygen, yielding a known and limited RF range.



Extremely Small Form Factor

High frequencies, like those used by Whisper, require very small antennas/space claims. This is advantageous because not only is the waveform covert, but so is the complementary hardware due to its small form factor – making it easier to transport, conceal, and implement into a vehicle.



Small Form Factor

Quick Assembly and Rugged Design

Quick assembly with no tools required. Integrated with the S20/S23 Juggernaut OPRTR case. IP 67 rated. Pass-through power/data from battery/radio (i.e., doesn't pull power from phone). TAK integration via our Whisper Wireless Access Point.



CHARACTERISTICS

Waveform

WiGig 60 GHz Wi-Fi

- IEEE 802.11ad
- IEEE 802.11ay

Speed

Up to 2+ Gb/s

Encryption

Unencrypted, AES 128, or AES 256

Beamforming Capability

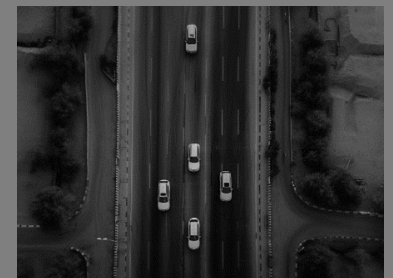
- Increased Reliability
- Better LPI/LPD
- Not subject to Humidity
- Not subject to Dust

Vs. Lower RF Frequencies

- Much Higher Bandwidth
- Inherent LPI/LPD

Example Use Cases

- Soldier Wireless Personnel Area Networks [WPANs]
- Intra-Vehicle Wireless Communication Networks
- Covert, high-bandwidth wireless data transfers (e.g., "Wireless Dead Drop" scenarios).



6161 Riverside Drive
Dublin, OH 43017 USA

614.571.4102
wave@ctic.us
www.ctic.us



PROTOTYPE WAVE KIT

Whisper Wireless Access Point (WAP): Provides a WiGig wireless hot spot within a vehicle. The Whisper Wireless Access Point also may include an integrated TAK Server.

Whisper Android Adapter (WAA): The Whisper Android Adapter is designed for the Samsung S20 or S23 Tactical Edition housed in a Juggernaut OPRTRR Phone Case. In-vehicle WiGig network created by wirelessly connecting WAA to WAP.

Additional Add-ons: Slots for a FlexPac Battery and other miscellaneous cables and/or accessories.



BACKGROUND

The Whisper technology, which serves as the backbone of the WAVE capability, was initially developed for the USAF Special Warfare Technologies Office in 2018/2019. It created a Personal Area Network (PAN) with the technology. Since then, the technology has been successfully demonstrated at numerous events, including Trident Spectre '20 and '21 (Red Teamed by JVAB '20/'21), SOCOM TE 19-3, and SOCOM TE 22-3. Current funding for the technology is provided by the US Army (with SOCOM as the end-user), SOCOM S&T, and commercial partners.

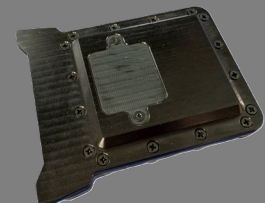
TECHNOLOGY STATUS

Status: Initial prototype design currently in build state - reference photo to the right.

Forward-Looking Design Plans: Reduced size and weight is planned for the advanced prototype.

System Demo & User Assessment: The system demonstration and user assessment for the completed WAVE kit is planned for early 2025.

Ongoing Development: The WAVE capability is continuing to improve through ongoing development focused on vehicle antenna design, manipulating the waveform, and dead drop EXFIL design.



Android Adapter

*Designed for S20/S23 in
Juggernaut OPRTRR Phone Case.*