



Problem Statement: SOF requires a USSOCOM Modular Payload (Modpayload) 6.1 compliant form factor Software Defined Radio (SDR) for use in communications systems.

Operational Use/Conditions: SOF will use the 1U Modpayload SDR to provide tactical command and control (C2) and communications capabilities to unmanned and manned platforms. The Modpayload SDR will operate in high altitude, desert, dense urban and maritime environments. The government intends to have the vendor develop a Modpayload solution if one doesn't meet the desired operational characteristics and performance attributes requested in the next section. However, the vendor must have a TRL 7 Modpayload SDR readily available. The Government will not accept any SDR solution that requires development to meet the Modpayload standard. The government will not be funding the development of a completely new SDR.

Desired Operational Characteristics and Performance Attributes:

The SDR must have open architecture that allows 3rd party vendors the ability to develop software/waveforms on the SDR.

The SDR must have a software development kit (SDK) that allows 3rd party vendors to build software/waveforms for the radio.

The SDR must have a Board Support Package and full documentation of all system APIs.

The SDR must consist of, at a minimum, a GPP/ARM/GPU processor and an FPGA.

The SDR must have a processor that can support a Real-Time Linux OS.

The FPGA must have over 200k logic cells and over 700 DSP slices.

The SDR must have a frequency operation from 30MHz – 6GHz.

The SDR must have two full RF Transceivers.

The SDR must have an instantaneous bandwidth (IBW) of at least 50MHz.

The SDR must be able to tune (re-center) the operating frequency in less than 50us.

The SDR must be able to independently tune the RF transceivers.

The SDR must be able to tune the RF transceivers in unison and maintain phase coherency between the two.

The SDR must have an RF output power of at least 1W (Minimum), 3.2W (Desired).

The SDR must be capable of support MIMO waveforms.

The SDR must have an internal AES-256 encryption capability.

The SDR must be able to interface with an external encryptor.

