MASTER NETWORK CENTRIC TRANSFORMATION

- Natively secured
- Range first
- Network centric: MANET
  - Combat mode: collaborative combat enabler
  - Command mode: IP backbone, High Data Rate
- Improved spectrum usage

MANEUVER
Military UHF Wideband Waveform
RADIOCOMMUNICATION PRODUCTS AND SOLUTIONS

MANEUVER
Military UHF Wideband Waveform

Available in SYNAPS-WAVE Library

NETWORK CENTRICITY
MANEUVER waveform enables networking the different tactical units so as to facilitate the battlefield digitization by selecting either command or combat mode during the mission preparation.

• Combat mode
  Designed to ensure fast and real time transmission between company and below. Nodes are gathered into communities of interest sharing the same communication needs, whatever their hierarchical attachments, supporting ad hoc combat voice, PLI*, warnings, Situation Awareness...
  Community of Interest is based on operational mission hence one node can simultaneously belong to several communities: hierarchical (C2 traffic) but also geographical or transverse Communities of Interest (convoys...).
  Type of traffic is mostly small data packets with real time delivery constraint, PLI or multi-combat voices.

• Command mode
  Designed to ensure an IP backbone network at brigade and below. Command mode is shaped to support video conference (morning briefing), video streaming (ex. sensors) and large files transfer (ex. target folder) as well as connection to external IP networks (LAN/WAN).

NATIVELY SECURED
Withstanding and mitigating threats in the tactical operational environment is achieved by the means of embedded communication security (COMSEC), network security (NETSEC) and transmission security (TRANSEC). The waveform features frequency hopping algorithm to defeat jammers in harsh environments.

HIGHEST OPERATIONAL RANGE
As range is definitely the key operational performance, MANEUVER embeds UHF SIMO (Single Input Multiple Output) technology. Hence, associated with adequate hardware, MANEUVER significantly improves the operational range especially in harsh and multipath environments.

Moreover, cooperative diversity algorithm provides robustness particularly adapted for real time/low latency services in mobile tactical networks.

MANEUVER is a multi-hop MANET (Mobile Ad hoc NETwork) waveform.

IMPROVED SPECTRUM USAGE
MANEUVER takes benefit of a network wide synchronization even without GNSS which enables an orthogonal frequency hopping in order to improve the frequency usage and mitigate co-site interference.

* PLI: Position Location Information

Main Features

Frequency/Throughput Characteristics
- Frequency: 225 to 512 MHz
- Bandwidth: 250 kHz/1.25 MHz
- Throughput: up to 1 Mbps

Networking
- MANET (Mobile Ad hoc NETworking)
- Fast network split/merge
- Automatic join/leave
- Node mobility (up to 300 km/h)
- Synchronization: with/without GNSS. Mixed Configuration

ECCM
- Orthogonal Frequency Hopping (TRANSEC)

Security
- Embedded COMSEC/NETSEC/TRANSEC
- Red/black architecture

Highest Operational Range
- SIMO
- Cooperative diversity

Combat Voice
- MELP 2400
- Up to 4 voice conferences on a single node
- Cooperative diversity for range extension

Compatible Platforms
The following platforms interoperate thanks to MANEUVER:
- SYNAPS-V
- SYNAPS-H
- SYNAPS-A
- SYNAPS-T

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