

The logo for the High Frequency Industry Association (HFIA) features the letters 'HFIA' in a large, bold, white sans-serif font. The letters are set against a background that is split horizontally into a yellow top half and a blue bottom half. The blue background has a subtle, wavy pattern.

HIGH FREQUENCY INDUSTRY ASSOCIATION

Summary Wideband HF Channel Availability Working Group

San Diego Convention Center

San Diego, California, USA

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THIS INFORMATION IS NOT EXPORT CONTROLLED

THIS INFORMATION IS APPROVED FOR RELEASE WITHOUT EXPORT RESTRICTIONS IN ACCORDANCE WITH A REVIEW OF THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR), 22CFR 120-130, AND THE EXPORT ADMINISTRATION REGULATIONS (EAR) 15 CFR 730-774.

Goals

- Under the auspices of the HF Industry Association (HFIA), collaboratively field a substantial number of HF wideband channel availability measurement stations in diverse locations worldwide (as far as possible)
- Use common hardware, (SDR and antenna), collection software, and analysis software so that results can be easily and accurately compared between all sites
- Share the collected data and analysis results among all members of the HFIA

Presentations:

- **Initial UK Results – Bram Watson – Babcock**
- **Thales results – Catherine Lamy-Bergot – Thales**
- **Further examination of noise-floor determination – Wm. Batts – Harris**
- **Different configurations and availability in southern Norway – Magnar Gåsland – Norwegian Defence**
- **Further validation of the Perseus as a measurement tool – J. Nieto – Harris**
- **Some results from Rockwell Collins**

Discussion Highlights:

- Clifton Labs Active Antenna operational checkout – how to make sure the antenna is gathering viable measurements. OIP verification of the antenna to ensure measured noise floor isn't being inflated by excessive IMD.
- Clifton Labs Antenna deployment review – Mount 1-2m above ground level, proper grounding, RF choke mounted some distance away from the antenna and high pass filter.
- Collection frequency dwell time changes (1m per 1MHz increase from 1s, as discussed by Thales).
- Channel availability metric threshold selection and intended channel traffic profile as an input to this determination.
- Proposed noise floor determination technique(s) discussion.
- Consideration of known allocated bands in channel availability results.
- Consideration of strong signal FFT spreading.
- Antenna factor for derivation of a field strength measurement

Discussion Highlights:

- Sharing and storage of collected results.
- Upcoming software release
- Impulsive noise (1ms to 100ms) can affect noise level estimation
- Review of collection and processing code graciously offered by Joe Lahart – Rockwell Collins.

Way Forward:

- Presentations will be placed on HFIA website
- New Software Distribution
 - All Source Code
 - Enhanced noise floor estimator
 - Contact wfurman@harris.com
- Participants planning additional measurements
 - If possible, provide analysis and other software tools developed
- Lets continue discussions via e-mail on