Revision of US Military HF Radio Standards

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Procedure (Review)

- Defense Standardization Program
  - Lead Standardization Activity: DISA
  - Preparing Activity: USAF OKC Air Logistics Ctr
  - Custodians (services and agencies)
- Technical Advisory Committee (TAC)
  - Informal technical team reporting to Working Group
  - Suggests changes to reflect state of the art
  - Provides technical “sanity check”

US Military HF Standards

- MIL-STD-187-721 Cancel
- MIL-STD-188-110B Update
- MIL-STD-188-141B Update
- MIL-STD-188-148A No update

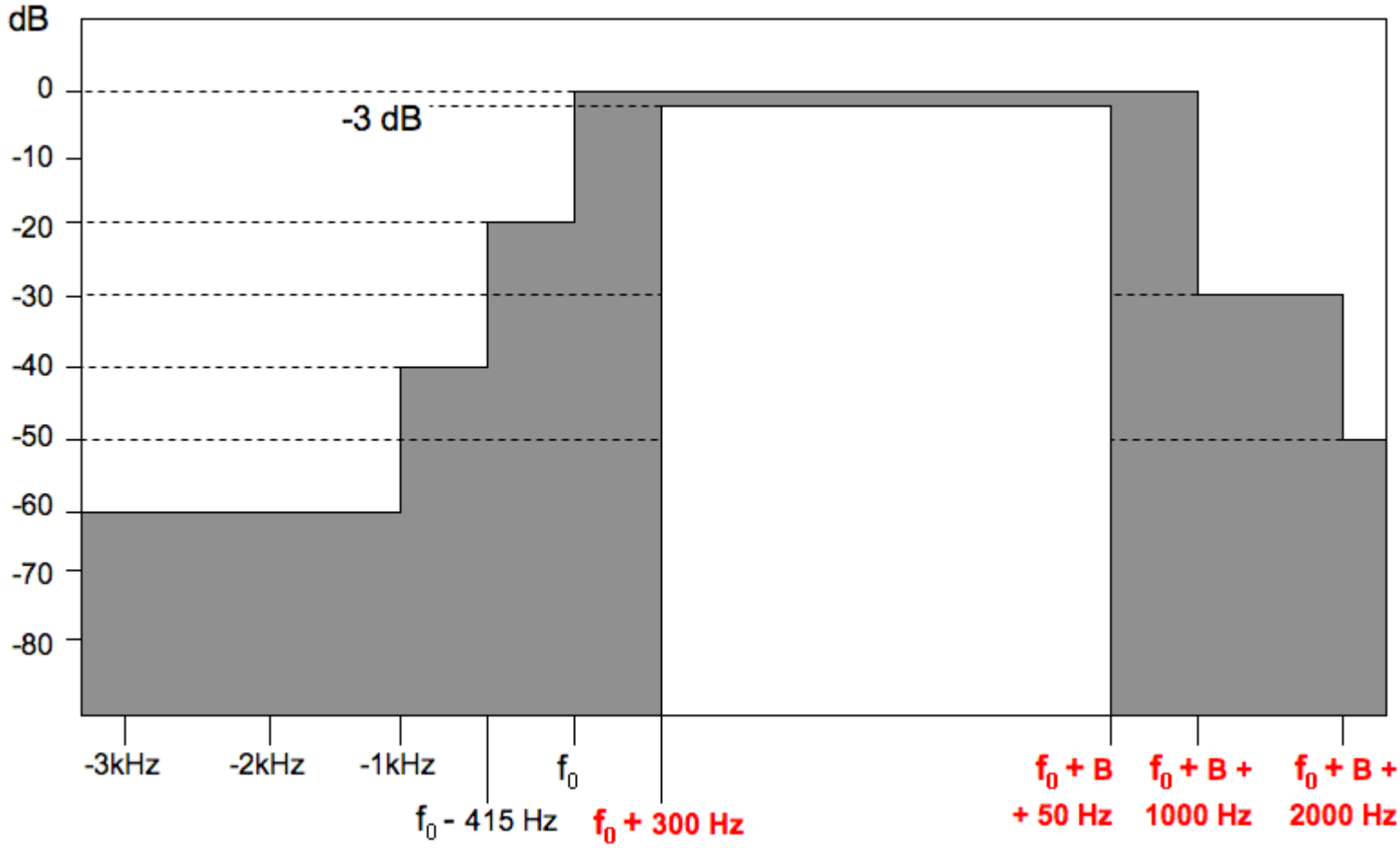
Goals for this Revision

- General cleanup
- Delete obsolete technology
- Reduce overlap with NATO STANAGs
- Introduce “Wideband HF” (WBHF)

MIL-STD-188-141C

- Working Group approved some major surgery:
  - Add wideband radio specs (up to 24 kHz channels)
  - Appendix C (3G): replace with reference to STANAG 4538
  - Information Only Appendices:
    - Appendix D (HF networking)
    - Appendix E (HF Applications)
  - Remove App F (3G Anti-jam), G (2G data protocol), H (HF MIB)
  - New Appendix F: Specs for Co-Sited Installations

MIL-STD-188-141C



MIL-STD-188-110C

- Working Group approved major surgery:
  - Removed VF, wireline, LF, and UHF modems
  - Removed Appendix A (16-tone waveform)
  - **Appendix B (39 tone) retained, but obsolescent**
  - Removed Appendix D (subnetwork interface)
  - Removed Appendix E (data link protocol pointer)

MIL-STD-188-110C

- TAC is finalizing:
  - New Appendix for LAN interface
  - New Appendix for Channel simulator specs
  - New Appendix for Wideband HF waveforms

Wideband Waveforms

- Scalable single-tone family up to 24 kHz
- NMSU workshop (August 2009)
- MILCOM paper (October 2009)
  - Overview of waveform designs
  - Performance estimates
  - Game-changing applications
- On-air testing (2009-2010)
- More details in other presentations later today

Estimated Timeline

- WBHF simulations & testing underway
- Final TAC coordination
- Coordination draft to Working Group
- Resolution Meeting?
- Publication possible by end of CY 2010

Future Work

- Next revision of MIL-STD-188-141: Wideband ALE (WBALE? Wide BALE?)
  - Manage spectrum use for wideband channels
  - Link setup
  - Link maintenance
  - Cognitive radio techniques?

- New TAC project; to commence when current revisions completed

Questions?