P25 Standards Update February 2021

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This document highlights TR-8 accomplishments and work in progress for 2021. The document will be updated after every TR-8 face to face meeting or after every Steering Committee update occurring in 2021. The filename reflects the date of the latest update. After the first 2020 version, each update will use blue font to indicate the updates.

Completed in 2021:

Air Interfaces

Wireline Interfaces

- **An addendum to the Trunking ISSI/CSSI Messages and Procedures Standard** has been approved for publication**.**
  This addendum will describe how the ISSI/CSSI interface may be used to connect a Trunking RF Sub System to an Inter Working Function (IWF) to enable interoperable services between P25 Systems and LTE Mission Critical Systems.
- **An addendum to the Trunking ISSI/CSSI Messages and Procedures for Supplementary Data Standard** has been approved for publication**.**
  This addendum will describe how the ISSI/CSSI interface may be used to connect a Trunking RF Sub System to an Inter Working Function (IWF) to enable interoperable services between P25 Systems and LTE Mission Critical Systems.

Security

Data

Broadband

Work in Progress:

Air Interfaces

- **Creation of a High Signal Strength Intermodulation Rejection Test** is in progress. Measurement Method for FDMA receivers completed ballot and technical comments were addressed. Publication of the Measurement Methods for P25 FDMA receivers is pending approval of associated Performance Recommendations. After approval of Measurement Methods for P25 FDMA receivers, TDMA and Analog FM Measurement Methods will be considered.
  This test will measure the ability of a P25 or analog conventional FM receiver to reject an unwanted broadband base station signal, thereby preventing degradation to the reception of a desired signal.
- **Creation of Performance Recommendations for High Signal Strength Intermodulation Rejection Measurements** is in progress.

Prior to publication of Measurement Methods for FDMA receivers, Performance Recommendations for FM receivers are being reviewed. Draft Performance Recommendations are in the second round of comment resolution. After approval of Measurement Methods for P25 TDMA and Analog FM, companion Performance Recommendations will be considered.
These P25 FDMA receiver performance recommendations are the companions to the P25 FDMA receiver Measurement Methods described in the bullet above. The performance recommendations establish minimum levels of performance. Manufacturer specifications are expected to identify actual performance of specific products. The current work is in the context of P25 FDMA. Future work will address P25 TDMA and analog conventional FM.

- **A revision to the TSB-88.1-E Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 1: Recommended Methods for Technology-Independent Narrowband Performance Modeling Telecommunications Systems Bulletin** is under consideration**.**
  This work will look into possible near-far interference issues for radios with wide pre-selectors in proximity of short-tower cellular systems at 700/800 MHz. This work is pending the completion of the P25 FDMA receiver Measurement Methods and Performance Recommendations.
- **A revision to the TSB-88.2 Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise** is under consideration.
  Ballot of various technical clarifications was approved at the February quorum meetings. Ballot closed May 27 with significant number of editorial comments. New topic was identified regarding 800 MHz Interstitial 12.5 kHz channels that will be published by the FCC later this year was identified in July. Post ballot revisions addressed propagation and noise associated with the interstitial channels. Revised document has completed TIA ballot and editorial ballot comment resolution is nearly complete.
- **A revision to the TSB-88.3 Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 3: Recommended Methods for Technology-Independent Narrowband Performance Verification** is under consideration.
  This work will consider (a) attenuation to account for building penetration, antenna height, and other factors for Coverage Acceptance Plans (CATPs) and (b) near-far interference for radios with wide pre-selectors in proximity of short tower cellular systems at 700/800 MHz. This work is pending the completion of the P25 FDMA receiver Measurement Methods and Performance Recommendations.
- **An addendum to the Trunking Interoperability Test Standard** is in progress**.**
  This addendum will clarify the testing procedures for System Wide Call.

Wireline Interfaces

- **Group Regrouping for the Trunking ISSI/CSSI Standard** is in progress.
  This work will enable dispatch equipment connected to Trunking Infrastructures via the ISSI/CSSI to control group regrouping services. Note the control channel messaging for

these services has already been standardized. A revised comment matrix has been distributed and modifications to the draft standard are in progress.

- **A revision to the Trunking ISSI/CSSI Messages and Procedures Standard** is in progress**.**
  This document will merge two previously published addendums (Addendum 1; Group Emergency Behaviors and Addendum 2; Errata to Fix Errors and Omissions) into the previously published parent document.

Security

- **A revision to the OTAR Messages and Procedures Standard** is in progress.
  This revision addresses errata that have been collected since the last publication. Comment resolution is complete and the revised draft is in final review prior to consideration for publication.
- **Definition of a Link Layer Encryption Security Service** is in progress. This work is occurring in the Encryption Task Group and is expected to impact several published TIA standards. The Overview of the new services is considered complete along with the TDMA Air Interface material. Material covering Trunking Control Channel Key Management is in progress. Material covering FDMA Common Air Interface modifications and Key Fill Interface modifications are pending review.
  This is the first big new technology upgrade for improved Security for all air interfaces of P25. It protects control channel control messages, and hides group and individual IDs.
- **An revision to the Key Fill Interface Standard** is in progress. The Encryption Task Group completed a draft addendum that has been provided to the TIA TR-8.3 Encryption Subcommittee. TR-8.3 has agreed to use the material in the addendum provided by the Encryption Task Group to create a revision to the published Key Fill Interface standard. Drafting of the revision is in progress.
  This will enable Key Fill Device (KVL) interface to a KMF, an Authentication Facility and another Key Fill Device.

Data

Broadband

- **Definition of 3GPP Mission Critical standard services interworking with TIA Land Mobile Radio standard services** is in progress**.**
  This document will describe interworking of features (example; group and individual calls) that are common between 3GPP LTE standards and P25 Trunking, P25 Conventional and Analog Conventional FM LMR standards. This document will be a basis for the modification of the ISSI, CSSI and DFSI standards to enable interface with a Mission Critical LTE Inter Working Function (IWF).