P25 Standards Update June 2021

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This document highlights TR-8 accomplishments for 2020 and 2021 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 2020:

Air Interfaces

- **A revision to the TIA-102 Documentation Suite Overview Telecommunications Systems Bulletin** was approved for publication.
  This revision updates the documentation suite and feature information to align with new publications that have occurred over the last 3 years.
- **A revision of ANSI/TIA-4950-B "Requirements for Battery-Powered, Portable Land Mobile Radio Applications in Class I, II, and III, Division 1, Hazardous (Classified) Locations" Standard** was approved for publication.
  This revision contains UL recommended improvements/clarifications to the document regarding electrical protection parameters updates

Wireline Interfaces

Security

- **An addendum to the Over The Air Rekeying Messages and Procedures Standard** was approved for publication.
  This will allow single key radios to use any Encryption Key ID and will allow multi-key radios to use any Encryption Key ID in order to ensure interoperability between single key and multi-key equipment.

Data

Broadband

Completed in 2021:

Air Interfaces

- **A revision to the TSB-88.2 Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise** was approved for publication.
  This revision includes various technical clarifications and propagation and noise associated with the 800 MHz Interstitial 12.5 kHz channels.

- **An addendum to the Trunking Interoperability Test Standard** was approved for publication.
  This addendum clarifies the testing procedures for System Wide Call.

Wireline Interfaces
- **An addendum to the Trunking ISSI/CSSI Messages and Procedures Standard** was approved for publication.
  This addendum describes 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** was approved for publication.
  This addendum describes 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

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Work in Progress:
Air Interfaces
- **Creation of a High Signal Strength Intermodulation Rejection Test** is in progress. Measurement Method and Performance Recommendations for FDMA receivers completed ballot and technical comments are being addressed. 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. The performance recommendations establish minimum levels of performance. Manufacturer specifications are expected to identify actual performance of specific products.
- **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.

- **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.

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 ballot.
  This revision addresses errata that have been collected since the last 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 technology upgrade is for improved Security for all air interfaces of P25. It protects control messages, and hides group and individual IDs.
- **A revision to the Key Fill Device Interface Standard** is in progress.
  This will enable Key Fill Device (KVL) interface to a KMF, an Authentication Facility and another Key Fill Device. The revision will merge the draft addendum provided by the Encryption Task group with the currently published document.

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). The descriptions of interworking with P25 Trunking are considered complete although additional clarifications may be considered. Work is currently focusing on interworking with P25 Conventional and Analog Conventional.