P1765

Submitter Email: kate.remley@nist.gov
Type of Project: Modify Existing Approved PAR
PAR Request Date: 21-Jan-2018
PAR Approval Date: 08-Mar-2018
PAR Expiration Date: 31-Dec-2019
Status: Modification to a Previously Approved PAR
Root PAR: P1765 **Approved on:** 26-Oct-2015

1.1 Project Number: P1765
1.2 Type of Document: Recommended Practice
1.3 Life Cycle: Trial Use

2.1 Title: Trial-Use Recommended Practice for Estimating the Uncertainty in Error Vector Magnitude of Measured Digitally Modulated Signals for Wireless Communications

Changes in title: Trial-Use Recommended Practice for Estimating the Uncertainty ~~In~~in ~~Measurements~~Error Vector Magnitude of Measured Digitally Modulated Signals for Wireless Communications~~with Application to Error Vector Magnitude and Other System-Level Distortion Metrics~~

3.1 Working Group: Modulated Signal Measurement Uncertainty (MTT/SCC/MSMU_WG)
Contact Information for Working Group Chair
Name: Kate Remley
Email Address: kate.remley@nist.gov
Phone: Office
Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Microwave Theory and Techniques Society/Standards Coordinating Committee (MTT/SCC)
Contact Information for Sponsor Chair
Name: Nick Ridler
Email Address: nick.ridler@npl.co.uk
Phone: 44 20 8943 7116
Contact Information for Standards Representative
Name: Michael Janezic
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 09/2018
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 05/2019

5.1 Approximate number of people expected to be actively involved in the development of this project: 25
5.2 Scope: This document provides recommended practices for the determination of uncertainty in the estimation of error vector magnitude of a measured digitally modulated wireless communication signal.

Changes in scope: This document provides recommended practices for the determination of ~~measurement~~ uncertainty ~~for digitally modulated signals used~~ in ~~wireless communications. Applications include~~ the ~~determination~~estimation of ~~uncertainty in system-level distortion metrics that are used in wireless communication standards, such as~~ error vector magnitude~~.~~ ~~Recommended~~of ~~best~~a ~~practices~~measured ~~are~~digitally ~~provided~~modulated ~~for~~wireless ~~each~~communication ~~metrics~~signal.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: The purpose of this standard is to provide agreed-upon best practices for determining uncertainty in the error vector magnitude of measured digitally modulated signals used in wireless communications. This will help to enable common design criteria and practices for systems design, test, and measurement.

Changes in purpose: The purpose of this standard is to provide agreed-upon best practices for determining ~~measurement~~ uncertainty in ~~digitally modulated signals used in wireless communications, including~~ the ~~measurement-based~~error ~~calculation~~vector magnitude of ~~error~~measured ~~vector~~digitally ~~magnitude~~modulated ~~and~~signals

~~other~~used ~~system-level~~in ~~distortion~~wireless ~~metrics~~communications. This will help to enable common design criteria and practices for systems design, test, and measurement.

5.5 Need for the Project: Many wireless telecommunication organizations and standards bodies require the calculation of various system-level distortion metrics to evaluate the quality of wireless circuits and systems when they are excited by digitally modulated signals. Such distortion metrics include error vector magnitude (EVM). The determination of these metrics always includes some uncertainty which should be well characterized in order to correctly evaluate the quality of the measured signal. The recommended practices described here provide guidance in the evaluation of uncertainty in the determination of the EVM of a measured digitally modulated communication signal.

5.6 Stakeholders for the Standard: Stakeholders include wireless telecommunication organizations and standards bodies who perform measurements of digitally modulated signals, as well as instrument manufacturers.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes: We are requesting modifications of the Project Authorization Request (PAR) for the development of the standard P1765 in two areas. First, as recommended by the MTT-S Standards Coordinating Committee, the scope of this standard should be limited to EVM and if we wish to extend this to other metrics in the future should submit new requests. As well, the date for submitting the initial version of this standard has already passed, so we are asking for an extension of this initial submission deadline to September of this year, with the final version submitted in May 2019. To reflect these changes, modifications are proposed to
Section 1. Title (limited to the EVM metric only)
Section 4. Dates
Section 5.1. Scope (limited to the EVM metric only)
Section 5.4 Purpose (limited to the EVM metric only)
Section 5.5 Need (limited to the EVM metric only)