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C63.25.3 - Subcommittee 1

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1

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ANSI C63.25.3 – Managed through SC1

- Draft American National Standard for Validation Methods for Radiated Emissions Test Sites, 18 GHz to 40 GHz
- Current site validation methods only extend up to 18 GHz, however testing is being performed at frequencies as high as 231 GHz. This standard will develop a list of acceptable types of test sites and their corresponding site validation methods and recommended criteria for frequencies from 18-40 GHz. Existing site validation methods will be leveraged where possible. Update: The frequency range for Reverb and CATR will not be limited

2

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C63.25.3 WG Duties

- This standard will specify the test site types and validation methods for use from 18 to 40 GHz for reference in product specific test method standards.
- SAC/OATS/FAR/FSOATS – exploring use of sVSWR, Time Domain sVSWR, and Mode Filtered sVSWR techniques
- Compact Antenna Test Range (CATR)
- Reverberation Chamber

3

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Recent Meeting highlights – SAC

- Martin Wiles is task group chair
- A number of antenna manufacturers are now participating – ETS Lindgren, Schwarzbeck Mess, and Seibersdorf
- Initial design of Alfords Loop antenna is now available and has been demonstrated – however it is being patented by ETS Lindgren and cannot be included
- Vector sVSWR method has been proposed by Alex Kriz – will be in CISPR, not C63

4

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Recent Meeting highlights – SAC

- Round robin testing of multiple antennas in one chamber is being discussed – more mature plan now – looking for labs
- Manuscript progressing, needs to be added to main manuscript and formatted correctly
- Potential problems with both TDsVSWR and CMF methods
- Not clear a validation method is actually needed

5

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Recent Meeting highlights – SAC

- a) The validation frequency range shall be 18 GHz to 40 GHz, with upper and lower bounds of the moving average set to 5% of the frequency range under validation, that is 17.1 GHz to 42 GHz.
- b) The transmit antennas specified for sVSWR methods in the range 18 GHz to 40 GHz shall be used, with consideration given to the ring down time in order to establish the signal gating parameters. Sufficient time shall be allowed at each measurement frequency for the ringing to cease before the measurement is performed. Although the antennas used for sVSWR are typically only characterized up to 40 GHz, they may be used up to 42 GHz without further characterization for the purposes of this site validation method.

6

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Recent Meeting highlights – SAC

- c) The receive antenna for site validation shall be the same type as the one that will be used for measurements on the test site being validated.
- d) The number of points in the frequency display of the vector network analyzer shall be at least 16601 .
- Note: 16601 points over a frequency range of 24.9 GHz yields a step size of 1.5 MHz.

7

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Recent Meeting highlights – SAC

- Zhong indicated that this method may not be technically correct in this frequency range without additional test positions - do we remove? Do we do a round robin?
- Perhaps an informative annex instead, as a diagnosis method for failing chambers
- Needs to be discussed further
- This may be a problem, Dieter and Alex indicated that their (commonly available) network analyzers only have 1601 points

8

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Recent Meeting highlights – CATR

- Robert Paxman was chairing this task group
- CATR team has concluded an initial draft and referred it to the WG
- Robert has stepped back from this work and the task group is currently inactive

9

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Recent Meeting highlights – Reverb

- Reverberation Chamber task group chaired by Phil Miller
- Last meeting was November 18, 2025
- TG was working towards a first final draft – need update from Phil on status, final text not yet received

10

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Future Tasks

- Main working group will resume meeting once the manuscript has been updated with CATR and reverb
- SAC Round Robin
- Develop round robins to validate the methods and cross correlate results across chamber types?

11

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Summary

- SAC TG is focusing on transmit antennas
- Reverb and CATR groups making good progress on text
- Completion of initial text should hopefully be this year, CATR and Reverb look to be back on track to be included in first edition
- Timeline will be dependent on the time it takes to perform a round robin, as appropriate

12