



## LIAISON STATEMENT

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**Title:** Formation of a new ETSI ISG for Terahertz Communications (THZ)

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**From (source):** ETSI ISG THZ

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**Copy to:** N/A

Response to: N/A  
(if applicable)

Attachments: N/A  
(if applicable)

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### 1. Overall description:

ETSI's new Industry Specification Group on Terahertz Communications (THz) was officially launched on the 8<sup>th</sup> of December 2022 with a kick-off meeting (KoM). ETSI ISG THz provides the opportunity for ETSI members to share their pre-standardization efforts on THz technology resulting from various collaborative research projects and being extended with relevant global initiatives, towards paving the way for future standardization of the THz technology.

ETSI ISG THz concentrates on establishing the technical foundation for the development and standardization of THz communications (0.1 - 10 THz).

The scope of the ISG THz can be summarized as follows:

- Define target scenarios;
- Define frequency bands of interest;
- Analyze specific radio propagation aspects for THz communication, such as molecular absorption, effect of micro-mobility, specific considerations for scattering, reflections, and diffractions, and considerations for near-field propagation;
- Analyze data from earlier measurement campaigns published in relevant literature;
- Perform channel measurements for the selected scenarios and frequency bands;
- Develop channel models for the selected scenarios and frequency bands;

- Establish baseline for THz technology fundamentals, including antenna assumptions, simulation assumptions, and deployment strategies.

ETSI ISG THz performs pre-standards work covering the following areas:

- Definition and selection of relevant use cases for THz communications;
- Mapping of selected use cases to relevant channel measurement scenarios;
- Definition of frequency bands of interest;
- Analysis of existing work in the area of THz channel measurements and modelling
- Performing of radio channel measurements and modelling, including:
  - indoor and outdoor environments, with and without mobility,
  - intra/inter device measurements and models,
  - sounding for integrated sensing and communication (ISAC),
  - sounding including reconfigurable intelligent surfaces (RIS),
  - machine learning (ML) methods to generate and analyze radio channels;
- Specification of the evaluation methodology for THz communication systems.

The four initial Work Items approved are:

- Identification of use cases for THz communication systems
- Identification frequency bands of interests for THz communication systems
- Channel Measurements and modeling in THz Bands
- RF Hardware Modeling

ISG THz prepares systematic output on channel models, system parameters, and evaluation assumptions for the evaluation of THz communication systems.

ISG THz encourages a continual exchange with relevant standardisation groups/bodies (either inside or outside of ETSI) to ensure they are informed and consider the work of ISG THz in their further relevant technology specifications developments.

Further information on the ISG THz terms of reference, work programme, planned deliverables, and other documentations are available through the ISG portal: [Link to ISG THz Portal.](#)

## **2. Actions:**

For information; no action required.

## **3. Date of next meetings of the originator:**

ISG THz Plenary Meeting #02

February 8-10, 2023, Sophia Antipolis

Best regards,

ETSI ISG THz Chair  
Dr. Thomas Kürner

ETSI ISG THz Vice-chair  
Dr. Mate Boban