WRC-27 Agenda Items 1.8,

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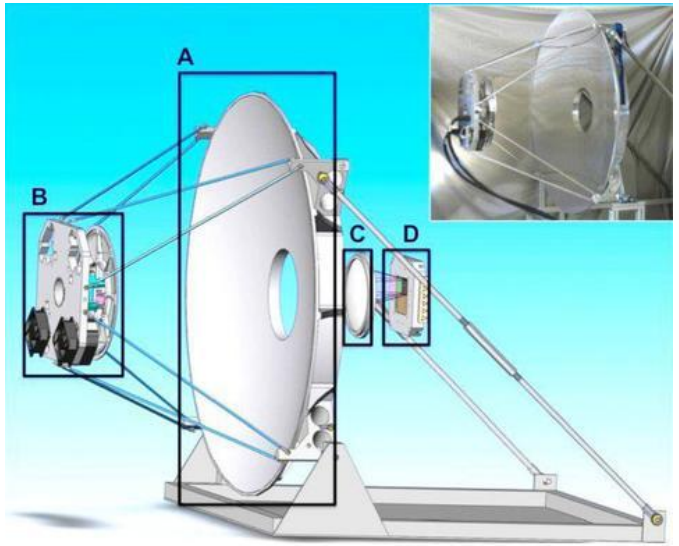
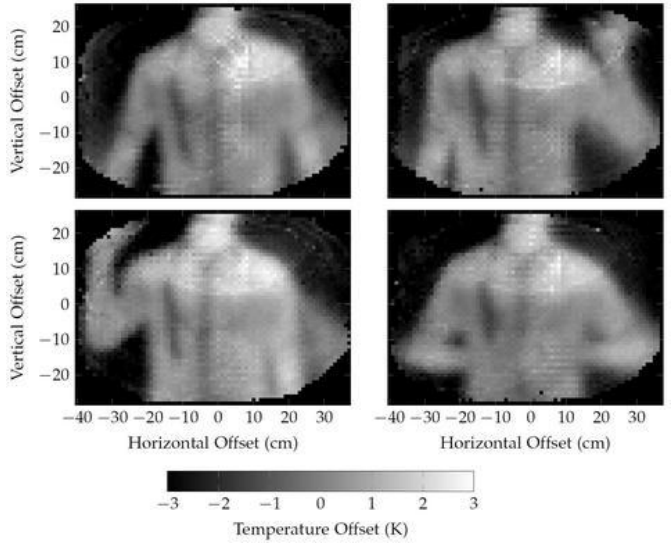
WRC27: **Agenda Item 1.8**



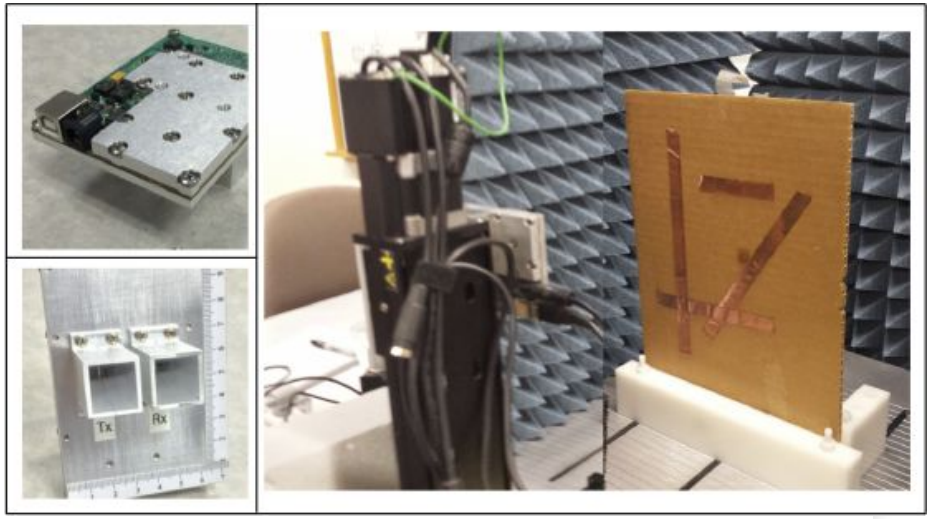
to consider possible additional spectrum allocations to the radiolocation service on a primary basis in the frequency range 231.5-275 GHz and possible new identifications for radiolocation service applications in frequency bands within the frequency range 275-700 GHz for millimetric and sub-millimetric wave imaging systems, in accordance with Resolution 663 (Rev.WRC-23);

Background:

- Lead ITU-R Working Party: WP6A, Participating ITU-R Working Party: WP6B, WP6C
- Key Focus Areas:
  - Technical characteristics of RLS
  - Global spectrum harmonization
  - Sharing and compatibility studies
- Relevance to WRC-2027 Preparation: This agenda item addresses the growing need for spectrum for advanced imaging and sensing technologies operating in millimeter and sub-millimeter wave bands.



WRC27: **Agenda Item 1.8** continued



Terahertz imaging systems usages:

- **terahertz imaging radar for standoff personnel screening**: operating in the terahertz range (which overlaps with the higher end of the sub-millimetric wave range), these systems are used for security screening and can detect non-metallic and metallic objects hidden under clothing.

Possible applications

- **security screening**: detecting concealed weapons, explosives, and other dangerous materials at airports, train stations, and other high-security areas.
- **medical imaging**: some research explores the use of sub-millimetric waves for medical diagnostics, though this is less common than security applications.
- **astronomical observations**: sub-millimetric waves are used in astronomy to study celestial objects and phenomena.

Possible India View: India could support this Agenda item due to increased spectrum needs for mm wave imaging systems