Document Details: Q&A in response to the call for proposals

Challenge: Development of Advanced Electromagnetic Sensors

Deadline for questions: Tuesday 2 September 2025

Questions publish date: Tuesday 9 September 2025

Technical Questions

Q1. Is there a target level for the detection of the emissions (e.g. -100 dBm or lower)?

A1.

Title	Sub title	Acceptable Value	MoSCoW	NOTES (including bands of interest, ref ITU Radio Regs 2012, *usages*)
Electric field strength detectable (minimum into 1Hz bandwidth) All based on Röhde & Schwartz equipment, demanding 2x less sensitivity i.e. 6 dB(V) (to allow for maturity).	@ 1 MHz	-42 dB (µV/m)	Could	Based on R&S FSWT Test Receiver with HE525 Antenna (-48, -49 dB µV/m)
	@ 10 MHz	-43 dB (µV/m)	Could	
	@ 30 MHz	-45 dB (µV/m)	Could	Based on R&S FSWT Test Receiver with HE525 Antenna (-51, HE526: -46 dB (µV/m)
	@ 100 MHz	-48 dB (µV/m)	Should	Based on R&S FSWT Test Receiver with HE526 Antenna (-54 dB µV/m)
	@ 200 MHz	-42 dB (µV/m)	Should	Based on R&S FSWT Test Receiver with HE526 or HE527 Antenna (-48 dB µV/m)
	@ 300 MHz	-39 dB (µV/m)	Must	Based on R&S FSWT Test Receiver with HE527 Antenna (-45, -48, -48 dB µV/m)
	@ 500 MHz	-42 dB (µV/m)	Must	
	@ 1 GHz	-42 dB (µV/m)	Must	
Dynamic Range		90 dB	Must	Based on R&S FSWT Test Receiver

Q2. Are shielding and concealment solutions part of the competition? For example, would a solution proposing shielding films or coatings be considered in scope or desirable?
A2. If possible the device should meet BS IEC standard – **BS EN IEC 55014-2:2021**

Q3. On form factor, portable/handheld and also rack mounting are mentioned, can you elaborate further on the preferred form factor?
A3. A form factor that can not exceed a 5U, 19” rack sized box.

- 21.3 cm high
- 48.26 cm wide
- 50 cm deep

Q4. Does the entire range 1MHz to 4GHz need to be demonstrated or is it sufficient to demonstrate spot frequencies within this range?

A4. The wider the frequency range (spot or continuous) a company can achieve/demonstrate would score hirer on the assessment.

Q5. Could we confirm that “Non-contact way to detect electromagnetic fields” refers to the electromagnetic signature of the sensor?

A5. It refers to the detection of RF signals in a free space environment. No electrical connections between the sensor and the emitter.