



Report from the event supported by RadioNet

TITLE *INTERNATIONAL SPECTRUM MANAGEMENT MEETING:
CEPT/ECC SE24 #99*

DATE: *12-15 JANUARY, 2020*

LOCATION: *COPENHAGEN, DANMARK*

MEETING WEBPAGE: *<https://www.cept.org/ecc/groups/ecc/wg-se/se-24/client/meeting-documents/>*

HOST INSTITUTE: *CEPT/ECC (ELECTRONIC COMMUNICATIONS COMMITTEE OF
EUROPEAN CONFERENCE OF POSTAL AND TELECOMMUNICATIONS
ADMINISTRATIONS)*

**RADIONET
BENEFICIARY / NO:** *INAF/04*

Report:

1 SCIENTIFIC SUMMARY

This was a spectrum management meeting related to technical issues. The goal of WP4.2 (spectrum management) is the protection of radio frequency bands allocated to the Radio Astronomy Service. The organizing body, the Electronic Communications Committee of European Conference of Postal and Telecommunications Administrations (CEPT/ECC) is responsible for radio communication regulation in European countries. At this meeting of its Working Group SE24, we, Ivan THOMAS (Paris Observatory) and Waleed MADKOUR (CRAF Frequency Manager), represented the Expert Committee on Radio Astronomy Frequencies (CRAF) of the European Science Foundation, which represents the European radio astronomical community in matters of radio frequency protection at the CEPT. ECC/SE24 is responsible for the Short Range Devices (SRD) Issues.

Among the topics, the two relevant for CRAF and for which contributions were presented were WI70 and WI71. None of the others items considered in the SE24 meeting were relevant for CRAF and radioastronomy.

SE24_70: HD-GBSAR within the 74-81 GHz band

The aims of this item is to output a report about the “feasibility of spectrum sharing between High-Definition Ground Based Synthetic Aperture Radar (HD-GBSAR) application using 1 GHz bandwidth within 74-81 GHz and existing services and applications”.

This report of SE24 will be use by SRDMG group of CEPT to consider the regulatory framework of SRD and update ECC and EC decisions.

The report include a single entry worst case compatibility study with radioastronomy proposed by Switzerland. Scientific input parameters have been proposed by CRAF. All RAS material have been discussed and validated during correspondence group meetings in the end of 2019.

Five contributions on WI 70 have been considered by the meeting:

- Contributions from ZF, the Rapporteur and Ericsson not related to the RAS study
- The latest version of the draft ECC Report on WI 70, provided by the Rapporteur, for consideration by the meeting.

The ECC report has been finalized by merging the content of the contributions and fixing the remaining issues including some editorial changes.

Finally, the revised version of the draft ECC Report on WI 70 was agreed to be forwarded to WG SE for approval for public consultation.

The results of the draft report for the RAS, in the conclusion and in the executive summary, are the following:

- **For radar in 74-75 GHz, 76-77 GHz and 77-78 GHz bands and RAS operating in adjacent bands**
Despite the probability of interference is extremely low, report propose the adoption of a circular exclusion zone for HD-GBSAR around the radio astronomy stations with a radius of 6.3 km
- **For 76-77 GHz and 77-78 GHz in-band sharing**
“A reasonable protection criteria is represented by the definition of a circular exclusion zone for HD-GBSAR around the radio astronomy station with a radius of 157 km.”
- The list of radio astronomy station in CEPT countries operating in the 76-81 GHz frequency range, for which the exclusion zone shall be respected is in an annex.

Actions for CRAF:

- to follow the report public consultation process for the final report
- to consider the regulatory process in the SRDMG group for implementation of the exclusion zones.

SE24_71: UWB radiodetermination in the range 116 - 260 GHz

The aims of this item is to output a report about the “Radiodetermination applications in the frequency range 116 - 260 GHz”.

This report of SE24 will be use by SRDMG group of CEPT to consider the regulatory framework of SRD and update ECC and EC decisions.

The draft report include a single entry worst case compatibility study with radioastronomy proposed by CRAF and some complementary material from ZF. The RAS material have been discussed during the correspondence group meetings in the end of 2019. ZF have brought some new elements to the study by a new contribution to the SE24#99 meeting. These news elements have been included in the draft report as draft elements and need to be discussed.

The report include also an issue for RAS concerning emissions in RR 5.340 bands.

Nine input contributions, including the draft ECC report on WI 71, submitted by the rapporteur, were considered by the meeting.

The document related to RAS were:

- SE24(20)015 from SIKORA AG

Contribution proposed minor adjustments of technical parameter and to extend the upper frequency limit from 190 GHz to 260 GHz for type C RDI-S application (Radiodetermination systems for industry automation in shielded environments), considering the scope of ETSI TR 103 498. These ware accepted.

CRAF opposed to extend studies for bands covering the RR 5.340 bands. This opposition was not considered by the group and administrations because this is related to a regulatory issue and have to be considered in the related group SRDMG and WGFM. The scope of the SE24 is to do the studies whatever the regulatory issues.

- SE24(20)020 from CRAF

CRAF provide a contribution with two parts:

- The first part to ask for removing the RR5.340 bands from the studied band for type C RDI-S applications

The meeting agreed to carry out the studies as far as possible with the available protection requirements. The decision on how to treat these specific protected bands for the particular application of RDI-S is proposed to be referred to the WGSE and/or WG FM.

It should also be notice that:

- ✓ CRAF have submitted an input short contribution to the SRDMG 15-17 January ECO meeting asking to remove passive RR 5.340 bands from bands for type C radars (RDI-S applications).
- ✓ Some emissions have already been allowed at European level in RR 5.340 bands, for ultra-wideband devices in 2007, by two decisions: CE-DEC-2018/785 and ECC-DEC(07)01. This special case have not to be considered as a precedent.

- The second part that bring some details about the atmospheric model and the calculation method to get the effective EIRP.

There was an opposition by ZF to consider high-latitude model for NOEMA. “High-latitude” word is conserved in the report but CRAF have to provide to ZF (and ready for the group) some inputs to “prove” the validity of this model.

The calculation examples were accepted and example 3 about TRP is not need.

- SE24(20)024 from ZF

This contribution provide a lot of new material that have not been discussed during the correspondence group meeting and that CRAF have discovered. Some materiel could have real impact on the CRAF study. This material have been included in the draft report staying subject to discussion.

Some question and opposition were raised by CRAF:

- Validity of the rec 2108 for the clutter loss in rural cases
 - To consider different zones around the RAS sites with status between rural/mid-urban/urban
 - to consider model case 3.3 (high elevation considered) and not 3.2 (terrestrial)
 - to not extrapolate the model in ITU-R Recommendation P.2108-0 and to use the upper frequency limit for the evaluation.
- Consideration of private road not in the IGN road database
- If statistical clutter loss is considered, aggregation of car radar also have to be taking account (studies are invited)

- Draft report update

The inside-vehicle type C radar application case have been removed from the report because of the lack of shielding evidence raised by CRAF and the lack of support from an industrial.

By considering the status of the work on the draft ECC report on WI 71, the meeting agreed to request WG SE for an extension of the deadline of WI71 for two meetings. The new target date would then be May 2021.

Actions for CRAF:

- to continue iterations with ZF about atmosphere model for NOEMA and clutter loss
- to consider a strategy for RR 5.340 bands
- to consider the regulatory process in the SRDMG group for implementation of the exclusion zones.

Next meetings

- SE24-WI71#5 Webmeeting, 24 march 2020, 10H-12H
- SE24#100 meeting, 20-22 April 2020, Copenhagen, ECO
- SRDMG#79 meeting, 22-24 April 2020, Copenhagen, ECO

2 AGENDA OF THE EVENT

The Agenda is considered by Work Items and by additional contributions. CRAF have been involved in two ECC draft reports for WI70 and 71 and have contributed by the document SE24(20)020

1. Opening of the meeting
2. Adoption of the Agenda SE24(20)001_Rev3
SE24(20)001_Annex 1_Rev2
3. Report and the activities since the 98th meeting
 - 3.1 Report from WG SE SE24(20)002
 - 3.2 Report from SRD/MG SE24(20)003
 - 3.3 Report from ETSI TG28 SE24(20)004
4. Issues in progress, SE24 work items

- 4.1 SE24_60: Wireless Power Transmission systems SE24(20)008
 - SE24(20)009
 - SE24(20)012
 - SE24(20)013
 - SE24(20)018
 - SE24(20)019

- 4.2 SE24_61: Additional studies on NBN SRDs operating in the band 915-921 MHz SE24(20)007
 - SE24(20)021
 - SE24(20)025
 - SE24(20)027

- 4.3 SE24_63: Updated UWB regulatory framework SE24(20)INFO1

- 4.4 SE24_69: Co-existence studies between SRDs in data networks and other SRDs SE24(20)007
 - SE24(20)010
 - SE24(20)022
 - SE24(20)025
 - SE24(20)INFO2

- 4.5 SE24_70: HD-GBSAR within 74 - 81 GHz
 - SE24(20)016
 - SE24(20)017
 - SE24(20)023
 - SE24(20)028
 - SE24(20)029

- 4.6 SE24_71: UWB radiodetermination in the range 116 - 260 GHz
 - SE24(20)005
 - SE24(20)006
 - SE24(20)011
 - SE24(20)014
 - SE24(20)015
 - SE24(20)020
 - SE24(20)024
 - SE24(20)030
 - SE24(20)031

- 4.7 SE24_72: Urban rail-FSS in 5925-5935 MHz
 - SE24(20)026
 - SE24(20)032

- 5. Possible new work items
- 6. Date and venue of next meeting(s)
- 7. Any other business
 - 7.1 Joint SE24 – SRD/MG Meeting SE24(20)INFO3

- 8. Closure of the meeting

3 PARTICIPANTS

The participants at these meetings are all experts in spectrum management, on technical and/or regulatory aspects. Some represent the national spectrum Agencies of the CEPT member countries, others industry involved in SRD, or the potential victim services (fixed services, radars, etc.), and others represent accredited scientific organizations such as CRAF (radio astronomy).

The attendance list published for this meeting by the ECC/SE24 is available on the meeting website (Document SE24(20)033 Annex 1).

No conference picture was posted online by the ECC.

4 RADIO NET FINANCIAL CONTRIBUTION

The RadioNet support of 1000€ was used to pay for the attendance of the CRAF member Ivan Thomas (nationality: France).

5 PUBLICATIONS

This meeting will not result in scientific publications. CRAF's input to CEPT/ECC meetings consists of technical compatibility studies on the protection of the radio astronomy service from other services, technical advice, and contribution to CEPT or ECC texts (recommendations, reports, etc.). The input and output documents are publicly available on the ECC web site.

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