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|  | **Electronic Communications Committee****Working Group Spectrum Engineering** | **Doc. SE(19)129** |

**Report from the 83rd Meeting of**

**Working Group Spectrum Engineering**

**ECO, Copenhagen, Denmark**

**30 September – 2 October 2019**



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# Opening of the meeting

The 83rd meeting of WG SE was held in ECO premises in Copenhagen (Denmark), from the 30th September to the 2nd October 2019.

The WG SE Chairman informed the participants that one document has to be considered for final approval and three documents have to be considered for public consultation. In addition to that, ongoing work on different topics needed to be reviewed.

# Adoption of the Agenda, Schedule of Work

The draft agenda was adopted as contained in document [SE(19)083Rev5](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53789) and updated during the meeting. The last version is attached in [Annex 01](https://www.cept.org/Documents/wg-se/53916/se-19-129a01_annex-01-final-agenda-of-the-83rd-wgse-meeting). The Chairman’s notes are contained in [SE(19)084](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53790)Rev2.

# Chairmanships

ECC has provided an overview of chairmanships ([SE(19)INFO001](https://www.cept.org/Documents/wg-se/53171/se-19-info001_overview-of-chairmanships)).

## STG Chairmanship

In order to ensure the transition until a new chairman is designated for STG. Dr. Ivica Stevanovic was appointed as acting chairman untill WG SE #83 meeting. Chairman of WG SE Mr. Jérôme André thanked Dr. Ivica Stevanovic for the work provided during this transition period. ECO nominated Dr. Zeljko Tabakovic for this position and WG SE appointed him by acclamation as new STG chairman.

## WG SE Vice-Chairmanship call for nomination

As the second mandate of Mr. Krunoslav Bejuk will come to its end in January 2020, WG SE will have to nominate a new Vice-Chairperson. Administrations are invited to nominate candidates for the WG SE vice-chairmanship.

# Matters arising from meetings of:

## ECC

The minutes of the 51st ECC meeting that took place from the 2nd to 5th March 2019 are available in Document [ECC(19)081](https://www.cept.org/Documents/ecc/52555/ecc-19-081_minutes-51st-ecc-meeting).

Extract of elements relevant for WG SE from this ECC minutes is provided in Document [SE(19)085](https://www.cept.org/Documents/wg-se/53167/se-19-085_extract-from-minutes-of-the-51st-ecc-meeting). Elements highlighted in yellow were considered by WG SE.

## ECC PT1

The draft minutes of the 63rd ECC PT1 meeting that took place from the 10th to 12th September 2019 are available in Document [ECC PT1(19)252](https://www.cept.org/Documents/ecc-pt1/53740/ecc-pt1-19-252_draft-minutes-of-63rd-ecc-pt1-meeting).

Extract of elements relevant for WG SE from this ECC PT1 minutes is provided in Document [SE(19)086](https://www.cept.org/Documents/wg-se/53761/se-19-086_extract-of-the-draft-minutes-of-63rd-ecc-pt1-meeting). Elements highlighted in yellow were considered by WG SE.

## WG FM

The minutes of the 94th WG FM meeting that took place from the 3rd to 7th June 2019 are available in Document [FM(19)133](https://www.cept.org/Documents/wg-fm/52137/fm-19-133_final-minutes-of-the-94-wgfm-meeting-tallinn-june-2019).

Extract of elements relevant for WG SE from this WG FM minutes is provided in Document [SE(19)087](https://www.cept.org/Documents/wg-se/52670/se-19-087_extract-from-minutes-of-the-94-wgfm-meeting). Elements highlighted in yellow were considered by WG SE.

##  CPG

The minutes of the CPG19-8 and CPG19-9 meeting that took place respectively from the 20th to the 24th May 2019 and from the 26th to the 30th August 2019 are available in Documents [CPG(19)101](https://www.cept.org/Documents/cpg/51778/cpg-19-101_minutes-cpg19-8) and [CPG(19)143](https://www.cept.org/Documents/cpg/53666/cpg-19-143_minutes-cpg19-9).

Extracts of elements relevant for WG SE from the CPG minutes are provided in Documents [SE(19)088](https://www.cept.org/Documents/wg-se/53382/se-19-088_extract-of-minutes-cpg19-8) and in [SE(19)088b](https://www.cept.org/Documents/wg-se/53756/se-19-088b_extract-of-minutes-cpg19-9). Elements highlighted in yellow were considered by WG SE.

## ETSI

A report of the relevant ETSI activities including the results of the 68th ERM meeting from the 25th to 28th June 2019 was provided [SE(19)0089](https://www.cept.org/Documents/wg-se/53853/se-19-089_etsi-lo-report) and introduced by the ETSI Liaison Officer Dr. Michael Mahler. Most of the issues were related to SE24 matters, they were covered in detail when addressing SE24 topics.

# Documents for final approval after Public Consultation

The deliverables sent to public consultations and comments received during the consultation period of the documents sent by the 82nd WG SE meeting were provided by ECO ([SE(19)100Rev1](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53739) and [SE(19)101](https://www.cept.org/Documents/wg-se/53461/se-19-101_outcome-of-the-public-consultation-on-draft-ecc-report-304) with their corresponding annexes).

WG SE was invited to consider the received comments and updated ECC Report from relevant project teams as well as contributions where appropriate.

## Draft ECC Report 304: Advanced technologies for fixed GSO FSS earth stations in the 27.5-29.5 GHz band

The WI SE40\_34 is dealing with the feasibility of using newly developed technologies to enable opportunistic use, by FSS Earth stations that are not individually coordinated and licensed, in portions of the 27.5-29.5 GHz band currently identified for FS use under ECC Decision (05)01.

The SE40 chairman, Dr. Marco Marcovina, introduced the updated report which contains SE40 proposals for the resolution of the outcome of the public consultation.

WG SE received two contributions proposing some modifications to the report: the first one from the Russian Federation [SE(19)116](https://www.cept.org/Documents/wg-se/53672/se-19-116_modification-of-draft-report-304_russianfederation) to the executive summary and section 8, and the second one from Viasat [SE(19)INFO009](https://www.cept.org/Documents/wg-se/53733/se-19-info009_viasat-proposed-revisions-to-exec-summary-draft-report-304) to the executive summary only.

The Polish administration considered that their comments on hydrometeor scattering were not fully covered by the proposed resolution of the public consultation. The WG SE chairman established a drafting group focused on the resolution of remaining comments on the executive summary, the conclusions of section 8 and the scattering effect that solved the issues.

After having reviewed the input documents on this topic and agreed on some modifications, WG SE adopted the ECC Report 304 for publication (as contained in [Annex 05](https://www.cept.org/Documents/wg-se/53929/se-19-129a05_annex-05-ecc-report-304-advanced-technologies-for-fixed-gso-fss-earth-stations-in-the-275-295-ghz-band)). The corresponding WI SE40\_34 was closed.

WG FM was informed about the adoption of this report through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

Note: a new work item for complementary studies was established: see section 10.4.1.

## Appendix 2 of the draft ECC Report 306: CEPT investigations on possible usage of low power audio PMSE in the band 960-1164 MHz

This section is addressing a document already sent for public consultation but for which final approval will be considered at the 84th WG SE meeting

ECC Report 306 is dealing with the possible introduction of low power audio PMSE within the band 960-1164 MHz used by aeronautical applications.

ECC clarified the process at its 49th meeting in Bordeaux, 23-26 October 2018: ECC intends to adopt in March 2020 (PC in July 2019) an ECC Report on CEPT investigations on possible usage of low power audio PMSE in the band 960-1164 MHz. The main body should be prepared by WG FM and should aim to be rather short, including general frequency management considerations. The deliverables from FM and SE should be included as annexes as follows:

* The deliverable prepared by WG SE on the technical studies relating to sharing of low power audio PMSE (excluding airborne use) with aeronautical applications in the frequency band 960-1164 MHz, to be provided to WG FM at its meeting in June 2019. If there is no consensus on the technical analysis, the report will include all technical analyses under discussion. In this case, the conclusion will be limited to presenting the differences between each analysis from a technical perspective.
* The deliverable prepared by WG FM further developing the report on “Preliminary investigations on regulatory and legal issues on the feasibility of introducing low power audio PMSE in the band 960-1164 MHz” for completion by June 2019.

Appendix 1 addresses various regulatory and legal issues with regard to the feasibility of introducing audio PMSE in the frequency band 960-1164 MHz.

Appendix 2 addresses numerous technical studies that have been considered. The Appendix 2 was prepared by SE7, provisionally approved by WG SE and sent to WG FM that merged the various input documents. Finally ECC agreed to send the draft ECC Report 306 for public consultation. The deadline to provide comments has been fixed the 13-09-2019.

ECO prepared a compilation of the received comments leading to a 87 pages document ([SE(19)100A01-A28](https://www.cept.org/Documents/wg-se/53738/se-19-100a01-a28_responses-to-pc-on-draft-ecc-report-306)). After consideration of these received comments, the SE7 chairman indicated that from his point of view there were not so many controversial issues raised during the PC on appendix 2. WG SE discussed a possible way forward on how to help SE7 in solving this large number of comments, without spending too much time at the next SE7 meeting in December.

WG SE agreed that ECO will provide as for any public consultation, the compilation of the comments in a revised draft ECC Report after PC and that a second version of this revised draft ECC report will be prepared in collaboration between SE7 chairman and ECO in which all the comments that are considered of editorial nature would be accepted. The remaining comments that would need further consideration within SE7 December meeting would be left with track changes. If any of the comments accepted by ECO and the SE7 chairman is considered controversial, the issue can be raised at December SE7 meeting.

# Report from Project Team SE7 (Compatibility and sharing issues of mobile systems)

## Progress report of SE7

The SE7 Chairman, Mr. Petteri Jokela (Finland), introduced the SE7 progress report available in [SE(19)090](https://www.cept.org/Documents/wg-se/53832/se-19-090_se7-progress-report).

## Expected deliverables for public consultation

### WI SE7\_29 (Report #B : Frequency band 1900-1920 MHz) : Compatibility studies for the Railway Mobile Radio (RMR) systems in the 900 MHz range and in the band 1900-1920 MHz as well as in the tuning range of 2290-2400 MHz

Draft ECC Report Part B relative to the frequency band 1900-1920MHz to address WI SE7\_29 (see 6.3.2) has been prepared by SE7. The report answers to the WG FM invitation to study the possibility to introduce FRMCS in the 1900-1920 MHz band as requested by task three of the EC mandate on RMR.

The original intention was to provide Report #B for provisional approval at the October meeting of WG SE, since it is quite mature already, but during the SE7 September meeting, it was requested to have also compatibility studies with DECT outdoor devices, whereas the current studies are made with DECT indoor devices only. Also it was seen useful to have all three draft Reports to go for public consultation together, since they are interrelated.

At the WG SE #83 meeting, France submitted Doc. [SE(19)126](https://www.cept.org/Documents/wg-se/53855/se-19-126_consideration-of-reportb-on-frmcs-for-public-consultationhttps%3A/www.cept.org/Documents/wg-se/53855/se-19-126_consideration-of-reportb-on-frmcs-for-public-consultation) highlighting the maturity of the studies contained in the Report, justifying the position of France to provisionally approve the Report for PC. France raised also the fact that Reports #A and #C do not contain any technical compatibility study at this stage. The view of France was that sending Report #B to PC, would let more time to SE7 to work on Reports #A and #C.

UK supported by Germany, Sweden and Denmark indicated that they were not in favor of sending Report #B to PC, for the same reasons expressed at SE7 meeting mentioned above. UK indicated that additional information on DECT outdoor usage for PMSE applications were provided during the last SE7 meeting and should be taken into account in the studies. Germany indicated that the DECT forum is of the view that further studies are required with DECT outdoor.

In addition, considering that the frequency bands 1880-1900 MHz and 1900-1920 MHz are also a candidate for UAS applications, WG FM invites WG SE to conduct some of the studies between FRMCS and UAS.

Switzerland supported by Portugal indicated that they were of the view that the report is mature enough to be sent to PC. If some administrations want to contribute with further studies, the possibility should be given to them during the public consultation period.

The WG SE chairman reminded that the three ECC reports are to be completed by January 2020 for public consultation, to comply with the deadline imposed by EC mandate. An agreement on public consultation of Report #B would allow SE7 to focus on the progress of the two other reports, noting that neither Report #A nor #C contain any technical study at this stage.

After consideration of the elements provided and discussions, WG SE decided not to send the Report #B to public consultation at this meeting but to wait the next WG SE meeting. Administrations and interested parties are invited to contribute with the complementary studies identified during the last SE7 meeting and WG SE#83.

Even though the Report #B was not accepted for PC, it was presented in detail and no comments were provided by the group on the existing content.

If no contributions are received on Report #B by the next WG SE meeting, then WG SE will consider these existing studies as agreed for PC.

## *France provided the following statement:*

*“France’s opinion is that Report #B can be presented to WG SE for approval. However, some administrations were of the view that additional studies (in particular regarding the outdoor usage of DECT) are needed before the report is ready for public consultation. These administrations expressed during the meeting their willingness to provide these new technical material and studies at the next meeting of SE7 in December. France would like to emphasize that in case this new information is missing at the December meeting, there is likely to be a non-negligible impact on the commitment of SE to comply with the deadline imposed by EC*C.”

## WI in progress

WG SE considered the SE7 progress on the following Work Items:

### WI SE7\_28: CEPT investigations on possible usage of low power audio PMSE in the band 960-1164 MHz

Please see Section 5.2 for details.

### WI SE7\_29 (Report #A : 900 MHz range, Report #C: Frequency band 2290-2400 MHz): Compatibility studies for the Railway Mobile Radio (RMR) systems in the 900 MHz range and in the band 1900-1920 MHz as well as in the tuning range of 2290-2400 MHz

WI SE7\_29 is about the compatibility analysis of railway mobile radio in the 900 MHz range and in the band 1900-1920 MHz as well as in the tuning range of 2290-2400 MHz considering that the term “RMR” is used for both GSM-R and future railway mobile communication system (FRMCS).

WG SE received a LS from FM56 ([Doc. SE(19)128](https://www.cept.org/Documents/wg-se/53866/se-19-128_fm56-ls-to-se7-and-pt1)), indicating that the work should focus on the frequency band 2290-2300 MHz, for Report #C.

Reports #A and C were presented to the meeting containing no technical studies.

WG SE noted the progress of the activities. The WI was modified in order to reflect the FM56 request to modify the frequency range to 2290-2300 MHz. Administrations are invited to provide technical studies for consideration in Report #A and Report #C, taking into account the schedule of EC mandate on RMR.

### WI SE7\_30: Update of ECC Report 200

WI SE7\_30 is about the development of technical conditions; in particular, minimum required separation distances, in order to protect E-GSM-R applications operating in the frequency bands 873-876 MHz/918-921 MHz from harmful interference caused by SRDs/RFIDs operating in the frequency bands 874-876 MHz/915-921 MHz.

SE7 chairman indicated that the studies are mainly finished, but some clarification is still needed, on how directional antennas of the ER-GSM base stations affect the separation distances. Also the antenna height of 4.5 m used for non-specific SRDs needs confirmation.

WG SE noted the progress of the activities.

### WI SE7\_31: UAS in the 1880-1920 MHz and 5000-5010 MHz bands

WI SE7\_31 aims to provide technical compatibility studies related to UAS (Unmanned Aircraft System) in the 1880-1900 MHz, 1900-1920 MHz and 5000-5010 MHz bands:

* The commercial use of Command and Control (C2) by UAS in the 1900-1920 MHz and 5000-5010 MHz bands;
* The governmental use of command and control as well as payload systems by UAS in the 1880-1900 MHz and 1900-1920 MHz bands.

WG FM sent an updated scope related to this working item (Doc. [SE(19)102](https://www.cept.org/Documents/wg-se/52031/se-19-102_ls-to-wgse-and-pt1-on-uas-studies)). No impact on the scope of the WI was noted. The comments section of the WI was updated to reflect that the LS from WG FM was amended.

Eurocontrol indicated that the term “Command and Control” should be replaced by “Communication” instead, noting that this decision has to be driven by WG FM.

WG SE noted the progress of the activities.

## New WI

There was no new WI expected.

## Other issues

There were no other issues addressed during WG SE meeting.

## Next meetings

SE7 has reserved dates for the following meetings:

* 9-11 December 2019 at ANFR, Paris. The priority should be given to WI SE7\_29 and the resolution of comments for ECC Report 306. The two first days will cover the RMR as the third day will cover the resolution of ECC Report 306-Appendix 2, public consultation.
* 20 January 2020 at ECO, Copenhagen. Dedicated to RMR for EC mandate.

# Report from Project Team SE19 (Fixed Service)

## Progress report of SE19

The SE19 Chairman, Mr. Josch Luxa (Germany), introduced the SE19 progress report available in [SE(19)091](https://www.cept.org/Documents/wg-se/53845/se-19-091_se19-progress-report).

## Expected deliverables for public consultation

No deliverables were expected for public consultation.

## WI in progress

WG SE considered the SE19 progress on the following items:

### WI SE19\_24: Coordinated inputs to ITU-R WP5C

This WI considers the coordination of contributions related to FS channel arrangements to ITU-R F series recommendations.

For several meetings SE19 worked on an input contribution to ITU-R WP 5C to include a proposal for “short-term” criteria in the revision of ITU-R Recommendation F.758. The SE19 meeting discussed all contributions and decided that further consideration of this topic is needed. SE19 agreed that the issue was very important and a detailed description of the "generic methodology" for deriving the short-term protection for meeting the error performance objectives (EPO) for FS links is presently missing in ITU-R Recommendations.

Therefore SE19 agreed that a possible ECC Report on a methodology for “short term” protection criteria for FS would provide information needed for further studies at least in CEPT countries. This document then could also be basis basis for further contributions to ITU-R WP5C or development of a ECC Recommendation.

WG SE recognized the importance of this work, especially that some related activities are ongoing within other PTs like SE45. Nevertheless the new ECC Report is envisaged to derive a generic methodology for protection criteria other than long term and is not related to any other service than FS.

Since the revisions of Recommendations ERC 12-03 and T/R 12-01 were adopted during the last WG SE meeting, SE19 is also planning to prepare a contribution to WP-5C on the possibility of revision of ITU-R Recommendations F.595 and F.749.

WG SE noted the progress of the activities and agreed to have a dedicated new work item for the protection criteria of the fixed service including short term criterion and fractional degradation performance (see section 7.4.1).

### WI SE19\_40: To consider ECC Report to evaluate the impact of the doubling of maximum channel width for some selected FS bands in the range from 11 to 38 GHz (11 GHz, 18 GHz, 23 GHz, 28 GHz, 32 GHz, 38 GHz).

Although the revision of the respective ECC/ERC Recommendation to introduce doubling of maximum channel width is finished, SE19 works on the development of a draft ECC Report dealing with the possible implications of using a single wide channel instead of two adjacent channels with the same total bandwidth in terms of interference, both in band (sharing) and out of band (compatibility).

The analysis provided in the draft Report, based on worst case and intended to study possibility of major problems when aggregating adjacent existing channels, concludes that such kind of problems are not expected.

The analysis in the draft Report is made over a single channel of 56 MHz. Conclusions are considered valid also for transition from 112 to 224 MHz, due to the similarities of equipment requirements and transmission masks.

This WI was accidentally closed during the last WG SE meeting, given the necessity to develop a report; this WI has been reactivated with an extension of the original deadline. WG SE noted the progress of SE19 on the topic.

### WI SE19\_41: Guidelines on how to plan Bands and Channels (Carriers) Aggregation (BCA) Fixed Service Links

This WI aims to develop guidelines for the proper planning of BCA FS links to meet the 5G backhaul needs in terms of network capacity. Aspects connected to link budget, e.g. the different payload availability of the link and the use of dual band antennas have to be considered.

Bands and Carriers Aggregation is a new technology that is taking place in the mobile backhaul arena to better serve the requirement of the new backhaul network.

BCA is a quite new concept enabling an efficient use of the spectrum through a smart aggregation, over a single physical link, of multiple frequency channels (in the same or different frequency bands). The working document explains the general concept of BCA and provides information e.g. on link budget, the link availability, the use of dual band antennas and is giving examples for various use cases.

WG SE noted the progress of SE19 on the topic. Interested parties are invited to contribute to this WI using the correspondence activity.

### WI SE19\_42: Considerations of FS use within CEPT administrations towards introduction of 5G in the 26 GHz band

This WI is dealing with a questionnaire on the possible future options regarding the FS currently in the 26 GHz band due to future usage of this band by 5G, in order to provide a comprehensive overview on the spectrum strategy envisaged by the CEPT countries.

PT SE19 discussed the questions and prepared a revision of the document on which it was agreed to ask WG SE for adoption for distribution to CEPT administrations.

Having in mind that most of the CEPT administrations did not finish their consideration process on the possible procedure towards introduction of 5G in the 26 GHz band yet, but that the introduction is envisaged to start in 2020, SE19 proposed that the possible period for feedback from administrations should be two months. This would give administrations sufficient time to reflect their activities towards introduction of 5G in the 26 GHz band.

Sweden indicated that they would like that the questionnaire should also cover the fixed service in the 28 GHz band, noting that the introduction of 5G in the 26 GHz band could impact the adjacent band at 28 GHz. To cover this request, a general question was added at the end of the questionnaire to reflect that any administration can have the opportunity to provide free comment.

WG SE noted the SE19 progress on the activities. The questionnaire is available in [Annex 08](https://www.cept.org/Documents/wg-se/53930/se-19-129a08_annex-08-questionnaire-on-considerations-of-fs-use-within-cept-administrations-towards-introduction-of-5g-in-the-26-ghz-band). The appropriate time frame for the release of the questionnaire was discussed and it was agreed that the questionnaire should be delivered to administrations after WRC 19 in the beginning of January 2020. Expected feedback from administrations could then be compiled during the next meeting of SE19 in April 2020. WG FM was informed about the questionnaire through the LS in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## New WI

### WI SE19\_43: To derive a methodology for FS protection criteria except long term

This draft WI is proposing to derive a general methodology for “short term” criteria for fixed service and evaluate the relationship between "long term" and "short term" protection criteria and FDP (Fractional degradation of performance).

WG SE created a new [WI](https://eccwp.cept.org/WI_Detail.aspx?wiid=709) on FS protection criteria. It was supported by Germany, Austria France, Switzerland and Czech Republic. WG FM was informed about the creation of this new WI through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE19\_44: New microwave PMP technologies based on active antennas for 5G backhaul above 26GHz

This draft WI is proposing to study new microwave PMP technologies based on active antennas for 5G backhaul. The scope of the WI includes the following:

* To assess the technical feasibility of a new microwave transport network PMP system based on active antennas, beamforming and interference cancellation techniques.
* To evaluate coordination as well as aspects of planning with existing FS including suitable frequency bands/approaches for these new PMP systems in the bands already allocated to the FS above 26 GHz.

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=710) on P-MP fixed station taking into account the comments addressed during the meeting. It was supported by Germany, Austria, France, Hungary, Czech Republic, Romania, United Kingdom, and Switzerland[[1]](#footnote-1). WG FM and ECC PT1 were informed about the creation of this new WI through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE19\_45: Consideration of ECC Recommendations due to discrepancy with ERC Rec 70-03.

WG FM sent a LS to WG SE [SE(19)105](https://www.cept.org/Documents/wg-se/52078/se-19-105_ls-out-response-to-wgse-on-srd-work-items) including a comment on the new less restrictive limit in ERC Recommendation 70-03 – Annex 3. Taking into account this LS, the meeting agreed that ECC REC (05)02 and ECC REC (09)01 may need further consideration, as the revision of ERC REC 70‑03 has reference to a different frequency range (57-66 GHz).

Concerning the references to the recent updates of ETSI standards for fixed services in ECC Recommendations, it has been agreed that it can be addressed editorially by ECO.

Czech Republic indicated that it was not in favour of withdrawing the Recommendation (09)01 and Recommendation (05)02 because of fixed service deployment in accordance with this regulatory provision in the near future.

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=711) on revision of ECC REC (05)02 and ECC REC (09)01 and invite SE19 to consider the discrepancy with the Annex 3 of the updated REC 70-03 Annex 3. The WI was supported by Germany, Austria, Czech Republic, United Kingdom and Switzerland. WG FM was informed about the creation of this new WI through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## Other issues

There was no other issue.

## Date of future meetings

Physical meetings:

* SE19 meeting #84: 21.-23. April 2020 – Budapest- Hungary
* SE19 meeting #85: 01.-03. September 2020 – TBD
* SE19 meeting #86: 01.-02. December 2020– TBD

Web meetings:

* Joint webmeeting with SE45 on FS short term: [25. October 11 a.m. – 01.p.m]
* LS to SE24#1: 03. December 2019 11 a.m.-01 p.m.
* Input to ITU-R on Revision of Rec 595 and 749: 07 January 11 a.m. -01 p.m.
* WI\_40#1: 21. January 2020 11 a.m.-01 p.m.
* WI\_40#2: 24. March 2020 11 a.m.-01 p.m.

# rt from Project Team SE21 (Unwanted Emissions)

## Progress report of SE21

The SE21 chairman Mr. Craig Scott introduced the progress report available in [SE(19)092](https://www.cept.org/Documents/wg-se/53731/se-19-092_se21-progress-report).

## Expected deliverables for public consultation

### Draft ECC Report 310: To collect relevant receiver parameters, considering the future role of receiver parameters in spectrum management and sharing studies

The draft ECC Report was developed under WI SE21\_18 and is about parameters of receivers and their performance in the sharing and compatibility studies.

The draft ECC Report contains the principles of receivers and associated characteristics, some typical performance of receivers based on measurements (RLAN, DECT, TETRAPOL, TETRA, GSM-R UE, DTT, DCF77), the sources of the information on the receiver equipment, the impact and consideration of receiver in compatibility studies.

The SE21 chairman Mr. Craig Scott introduced the draft report in details as provided in Doc. [SE(19)092A01Rev1.](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53732)

WG SE noted the LS to WG SE and SE21 on Publication of TS 103567 V1\_1\_1 “Requirements on signal interferer handling“ ([Doc. SE(19)INFO011](https://www.cept.org/Documents/wg-se/53841/se-19-info011_etsi_erm_lsout_to_wgse_and_se21_on_publication_of_ts_103567_v1_1_1)). As this document was adopted very recently (September 2019), a reference to it was added in the draft report (Section 6.2) with the caveat that SE21 did not have time to review or analyse it.

SE21 proposed to align the WI with what has been delivered in accordance with the proposition in Doc. [SE(19)092A02Rev1](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53210).

WG SE adopted draft ECC Report 310 for public consultation as attached in [Annex 06](https://www.cept.org/Documents/wg-se/53920/se-19-129a06_annex-06-draft-ecc-report-310-to-collect-relevant-receiver-parameters-considering-the-future-role-of-receiver-parameters-in-spectrum-management-and-sharing-studies). WG SE updated the scope of the WI as proposed by SE21 in Doc. [SE(19)092A02Rev1](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53210). WG FM and ECC PT1 have been informed about the situation through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## WI in progress

### WI SE21\_09: Coordinated inputs to ITU-R on unwanted emission issues.

This WI considers the coordination of contributions related to unwanted emissions.

ITU-R WP 1A decided not to open a revision of Recommendation ITU-R SM.329.

No input was received on this Work Item.

WG SE noted the progress of the activities.

### WI SE21\_22: Update of the ECC Report 249

This WI aims:

* To collect and review measurements in particular for 5G BS and UE, fixed service and DTT measurements
* To review as appropriate, the existing parameters with up to date measurements if available and to complete with additional systems if possible

This result of the revision should determine if a revision of ECC Recommendation(19)02 is required based on the new findings in the revised ECC Report 249.

SE21 chairman highlighted that the SE21 membership request that measurements of 5G AAS systems be provided by vendors to be included in the updated report (both in bands below 6 GHz and mmWave above 24.25 GHz).

As well, the scope of the WI was proposed to be updated following discussions in SE21 to address the following additional issues:

* Masks for use in sharing studies. These were under development under the previous work item (WI SE21\_19) but were not included in the scope of WI SE21\_22. It was considered that it would be useful to continue development of this concept (either for including in the revised ECC Report 249 or in a revision of ECC Recommendation(19)02)
* Assessment of the aggregate effect of spurious emissions for consideration in studies.

WG SE noted the progress of the activities and revised the scope of the WI as proposed by SE21 in Doc. [SE(19)092A05](https://www.cept.org/Documents/wg-se/53211/se-19-092a05_proposed-modification-to-wi_se21_22). WG FM was informed about the update of this WI through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE\_11: Monitoring of the development of ETSI Harmonised standard.

This WI is dealing with the monitoring of the development of ETSI Harmonised standards:

* Spreadsheet summarizing the ETSI harmonised standards under development and their relationship with ECC deliverables and activities;
* LS to ETSI in case of inconsistencies between ETSI HS and corresponding ECC deliverables.

SE21 did not receive any input on this agenda item. The ECO noted that maintenance of the spreadsheet on ETSI Harmonised Standards is currently on hold while ECO and ETSI discuss how best to convey this information.

WG SE noted the progress of the activities.

## New WI

There were no new work items.

## Other issues

### AAS measurement in the field

SE21 addressed the LS to ECC PT1 and FM22 on the measurements of 5G AAS in the field. PT1 replied on this topic noting that they are ready to contribute to the work [SE(19)114](https://www.cept.org/Documents/wg-se/53577/se-19-114_ls-to-wgse-and-wgfm-pt1-activities-on-measurement-of-5g-aas-in-the-field). It was noted that the organisation of the work is a matter for ECC SG.

The subject of AAS measurements in the field was discussed, it was noted that this issue is not clearly within the terms of reference of a single WG SE group but the issue covers a number of ECC groups. While it is clear that work needs to be undertaken, handling of this topic will require co-ordination within the ECC steering group first. The 84th WG SE meeting will be able to clarify how this topic will be handled. At this stage SE21 is asked to hold active work on this topic until further guidance can be given.

It is not clear who will lead the work in ECC or if there would be a single lead. It was noted that the relevant topics on this subject could also be distributed to the relevant groups. However, WG SE discussed some options on if it was to lead the work what an appropriate group, project team or forum group would be. The options identified were the following:

1. Establish a new Project Team;
2. Temporally change the terms of reference of SE21 to cover this topic;
3. Establish an Adhoc group attached to SE21;
4. Establish a forum group;
5. Assign it to another project team.

Germany ([SE(19)124](https://www.cept.org/Documents/wg-se/53840/se-19-124_proposed-wg-se-ls-3gpp-on-measurement-of-5g-aas-in-the-field-short-amendment)) proposed to add one question to the proposed LS from SE21 ([SE(19)092A08](https://www.cept.org/Documents/wg-se/53212/se-19-092a08_proposed-wg-se-ls-3gpp-on-measurement-of-5g-aas-in-the-field)). Clarification was also requested on the question relative to the antenna pattern of 5G AAS.

WG SE agreed on a LS to be send to 3GPP TSG RAN and ETSI TC ERM requesting more detailed information from 3GPP including their work plan to address AAS field measurements. This LS is available in [Annex 09](https://www.cept.org/Documents/wg-se/53931/se-19-129a09_annex-09-ls-on-cept-activities-on-measurement-of-5g-aas-in-the-field).

### Aggregate spurious emissions

The subject of aggregate spurious emissions was discussed based on the liaison statement between SE24 and SE21. SE21 proposed to update work item SE21\_22 to include this topic (see Section 8.3.2).

SE24 is asked to note the update work item SE21\_22 to include a topic on aggregate spurious emissions. Other project teams, in particular SE24, have to be aware that SE21 will continue its work on this topic that may lead to an update of the way aggregate spurious emissions need to be taken into account in sharing and compatibility studies.

### Question related to the last version of ERC/REC 74-01

ECC received a question from EC ([SE(19)115](https://www.cept.org/Documents/wg-se/53412/se-19-115_european-commission-question-on-rec74-01)) on the last version of ERC/REC 74-01, in relation with two ETSI harmonised standards dedicated to surveillance radars.

WG SE invited SE21 to prepare a draft LS to reply to EC in order to be reviewed by WG SE#84 followed by ECC for approval.

## Dates of future meetings

* 108th SE21: 17-19 December (Edinburgh, United Kingdom).
* 109th SE21 25-27th March 2020. (Exact dates TBC – Host needed)
* 110th SE21 June / July 2020.

#  Report from Project Team SE24 (Short Range Devices)

## Progress report of SE24

The SE24 chairman Mr. Fatih Mehmet Yurdal presented the SE24 progress report as contained in Doc. [SE(19)093](https://www.cept.org/Documents/wg-se/53777/se-19-093_se24-progress-report).

## Expected deliverables for public consultation

No deliverables are expected for public consultation.

## WI in progress

### WI SE24\_60: WPT applications

This WI covers generic WPT systems/devices operating in various frequency ranges e.g. 19-21 kHz, 58-62 kHz, 79-90 kHz and 100-300 kHz. ECC Report 289 “Wireless Power Transmission (WPT) systems for electrical vehicles (EV) operating within 79-90 kHz band” provides studies for electrical vehicles applications.

It was discussed that for WPT “old” medical applications, which meet the limits in annex 9 of ERC REC 70-03 and in ERC REC 74-01, and which are in the market (i.e. are in use) since many years (i.e. more than 10 years) with no problem to any other system or radio service, no studies may be necessary. The study could be focused only on “new” medical WPT devices which are not yet put onto the market (i.e. not yet in use, but which may require different limits than those in ERC REC 70-03). WG SE agreed to communicate this fact to WG FM and to seek for guidance if such a procedure could be applied and if it would have any impact on the regulatory aspects. Recent information about the actual use of different medical WPT devices is provided in [SE(19)093A1](https://www.cept.org/Documents/wg-se/53779/se-19-093a01_technical_details_and_parameters-of-wpt-devices).

Given the progress on the topic SE24 requested WG SE to extend the deadline of the work item by 1 year (to January 2021).

WG SE noted the progress of the activities and decided to extend the deadline of the work item by 1 year (to January 2021). With regards to medical WPT devices, WG SE decided to consult WG FM on the topic in order to check the regulatory impact through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE24\_61: Study on high power SRDs on the first RFID interrogator channel at 916.3 MHz of the frequency band 915-921 MHz

This WI aims to develop the conditions of implementation of NBN SRDs in the first RFID interrogator channel centered at 916.3 MHz of the frequency band 915-921 MHz. Indeed, the use of high power SRDs in the first RFID interrogator channel requires additional study, to consider whether NBN SRD can be operated at 500 mW (with APC) and duty cycle of 2.5% (with NAPs at 10% duty cycle). If this is not feasible, other possibilities, such as the reduction in transmit power necessary for coexistence could be studied.

SE24 received a reply liaison statement from SE21 about aggregation of spurious emissions in sharing and compatibility studies (SE24(19)039). After considering the LS, the group agreed that assumptions of spurious emission levels used in sharing and compatibility studies should in the first step be based on conformance limits defined in EC/ECC Recommendations/ Decisions and ETSI Harmonised Standards. In a second step, another set of studies should be conducted using typical values of spurious emissions based on a measurement campaign, which should take into account sufficient number of typical devices. See Section 8.5.2 on PT SE21 progress as well.

Given the progress on the topic SE24 requested WG SE to extend the deadline of the work item by 1 year (to January 2021).

WG SE noted the progress of the activities and granted a one year extension on this WI. WG FM was informed about the situation through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE24\_63: Studies related to an updated UWB regulatory framework

This WI scope is to conduct studies with regards to the intended update of the existing UWB regulatory framework based on the SRdocs TR103 313 and TR 103 314 to answer the permanent EC mandate on UWB.

WG SE noted the lack of contributions and agreed to invite the interested industry to contribute to the work and/or to contact the regulators to present their needs. Given the lack of contributions, an extension to May 2021 was requested.

WG SE noted the progress of the activities and granted an extension to May 2021.

### WI SE24\_69: New co-existence studies between various SRD applications and SRDs in data networks

This WI aims to study the various solutions for coexistence

* between different SRD technologies in data networks;
* between SRDs in data networks and other SRDs.

The study is based on operations in line with the current regulation in ERC REC 70-03 Annexes 1 to 2 and in those new bands in the current RSCOM decision (500 mW opportunities are limited to the existing channels which can be operated at 500 mW). UL transmissions will also be taken into account.

Note: All or part of the bands 870-874.4 MHz and 915-919.4 MHz may not be available in some European countries because of the use of sub-bands for defence/ governmental systems.

With regards to the aggregation of spurious emission, the same approach detailed in Section 9.3.2 will be adopted for this WI.

An LS was received from SE7 requesting additional technical characteristics of SRD systems in adjacent bands related to WI SE7\_29 on 900 MHz. SE24 sent a reply LS to SE7 by providing the available set of requested SRD features, which is given in Doc. [SE(19)093A06](https://www.cept.org/Documents/wg-se/53785/se-19-093a06_ls-to-se7-on-srd-characteristics). This set of parameters could be completed in the future, if further elements are available within SE24.

A draft LS (Doc. [SE(19)093A5](https://www.cept.org/Documents/wg-se/53783/se-19-093a05_draft-reply-ls-to-etsi-tc-erm-on-nbn-systems)) is proposed by SE24 in order to respond to the LS from ETSI ERM, in order to provide additional parameters to those of TR 102 886 v1.1.1 (2011-07).

WG SE noted the progress of the activities. A response LS was sent to ETSI ERM as contained in [Annex 10](https://www.cept.org/Documents/wg-se/53932/se-19-129a10_annex-10-reply-ls-to-etsi-tc-erm-on-nbn-systems).

### WI SE24\_70: HD-GBSAR within 74 - 81GHz

This WI considers the feasibility of spectrum sharing by High-Definition Ground Based Synthetic Aperture Radar (HD-GBSAR) application using 1 GHz bandwidth within 74 - 81 GHz frequency range and existing services and applications.

A number of contributions on WI 70 have been considered by the meeting and the draft ECC report was revised in the light of these contributions. The draft ECC report on WI 70 will be considered further by correspondence.

WG SE noted the progress of the activities.

### WI SE24\_71: UWB radiodetermination in the range 116 - 260 GHz

This WI aims to carry out studies for sensor types and scenarios A, B, and C taking into account ETSI TR 103 498. The studies can also include other types of UWB technology based sensors which are not described in ETSI TR 103 498. Such information may be considered based on contributions within the process. One example is automotive radars.

A number of contributions were considered by the meeting. It was agreed to update the draft ECC report in the light of these contributions as appropriate. However, due to the huge amount of new material, the meeting decided to transfer the contents of these contributions to the draft Report in the aftermath of the SE24 meeting by the rapporteur of WI71.

A liaison statement was sent by SE24 to SE19 requesting the review of the technical parameters for fixed services operating in the 71-76 GHz/81-86 GHz, if these parameters can also be used in the respective frequency range 116 to 260 GHz currently under study in WI71.

WG SE noted the progress of the activities.

## New WIs

### WI SE24\_72: Co-ordination distances between the new Urban Rail services and FS in the 5925 to 5935 MHz band to revise ECC/DEC/(08)01 on ITS

This WI (triggered by WG FM [SE(19)106](https://www.cept.org/Documents/wg-se/52079/se-19-106_ls-out-to-wgse-on-studies-in-line-with-revised-ecc-dec-08-01-on-its-5925-5935-mhz)) aims to study the co-ordination distances that would be needed between the new Urban Rail services and Point to Point applications of the Fixed Service operating co-channel in the 5925 to 5935 MHz band, noting that, the intent of the work is to provide guidance for administrations when they may need to consider initiating national or cross border co-ordination procedures between these two different users.

Concerns were expressed with regards to the very short period dedicated to the studies. WG SE chairman will coordinate with WG FM chairman in order to clarify the situation.

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=713) on this issue.

## Other issues

### Closing WI SE24\_67 and SE24\_68

With its LS on SRD work items ([SE(19)105](https://www.cept.org/Documents/wg-se/52078/se-19-105_ls-out-response-to-wgse-on-srd-work-items)), WG FM supported WG SE to close down the two work items SE24\_67 (LPWAN UNB new channel access options) and SE24\_68 (Wideband data transmission systems in 863-868 MHz) due to the lack of contributions and the difficulty to find rapporteurs.

WG SE closed WI SE24\_67 and SE24\_68. The ECC work program is update accordingly and WG FM was informed about the situation through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### Spectrum needs of NBN systems:

WG FM had endorsed the request by SRD/MG to SE24 in December 2018 to carry out a study of spectrum outside of the RFID interrogator channels in the band 915 - 919.4 MHz and to determine the appropriate technical parameters for networked SRDs in the following two frequency ranges:

* Range A – 916.5 to 917.3 MHz
* Range B – 917.7 to 918.5 MHz

SE24#98 meeting considered the issue again and agreed to propose to WG SE not to create a new work item for this issue, but include it in WI 69.

WG SE agreed on the principle.

### Technical characteristics of multiple gigabit wireless systems (MGWS) in radio spectrum between 57GHz and 71GHz

WG SE was in copy a LS ([SE(19)INFO005](https://www.cept.org/Documents/wg-se/52666/se-19-info005_srdoclsout_to_wgfm_on_tr_103_583_mgws_in_60_ghz)) sent by ETSI TC ERM to WG FM on a new SRdoc related to the technical characteristics of multiple gigabit wireless systems (MGWS) in radio spectrum between 57GHz and 71GHz.

Technical study on this topic would be triggered by WG FM as appropriate.

## Dates of future meeting

* 99th meeting of SE24 was agreed to be held on 13-15 January 2020 in Copenhagen/Denmark.

# Report from Project Team SE40 (Space service compatibility issues)

## Progress report of SE40

The SE40 chairman Dr. Marco Marcovina presented the progress report of SE40 as contained in [SE(19)094](https://www.cept.org/Documents/wg-se/53808/se-19-094_se40-progress-report).

## Expected deliverables for public consultation

No deliverables expected for public consultation.

## WI in progress

### WI SE40\_36: Modification to software routines and subsequent description for evaluation of the measurement of Iridium OoB emissions in the RAS band 1610.6-1613.8 MHz

The WI is dealing with the update of the software to simulate the aggregate impact of the complete constellation of 66 satellites of Iridium constellation on radio astronomy based on number of monitoring campaigns to identify the unwanted emissions falling into the radioastronomy band 1610.6-1613.8MHz.

At this stage SE40 has not finalized the routines for data processing and a final result on the interference level caused by Iridium-NEXT into the radio astronomy service is not available. Additional considerations on the methodology used to conduct the measurements to check the modification of the software routine are planned by SE40.

WG SE noted the progress of the activities and extended the deadline of the WI until May 2020.

### WI SE\_12: Iridium interference measurement in the band 1610.6-1613.8 MHz in Leeheim as requested in ECC/DEC/(09)02

Following the first measurements of the emissions of Iridium Next satellites in 2017, several measurement aspects were identified that required further improvement, related to the Leeheim station as well as to the post-processing tools used to estimate the RAS data loss in the adjacent band 1 610.6 – 1 613.8 MHz.

During the 65th meeting of SE40 the results of the measurements performed by the Leeheim station, were presented. The data and the measurement report were distributed to representatives of administrations members of the SatMoU as well as to the representative of Iridium.

Concerning SatMoU, WG SE is invited by ECC [SE(19)112](https://www.cept.org/Documents/wg-se/52755/se-19-112_ls-from-ecc-letter-to-sat-mou-management-committee) to provide all relevant information in time for the upcoming ECC plenary meeting to the ECO, which will prepare an appropriate input document for that meeting based on the information received.

SE40 drafted a response LS to FM 22, FM 44 and Sat MoU following the LS received from the ECC. However taking into account the German contribution Doc. [SE(19)127](https://www.cept.org/Documents/wg-se/53854/se-19-127_proposal-regarding-the-se40-ls-on-the-future-satellite-monitoring-needs) requesting some clarification from Leeheim institute, WG SE agreed that further considerations by SE40 is needed to provide accurate technical capability of Leeheim facilities.

WG SE considered the progress of the activities. With regards to the reply LS to FM 22, FM 44 and Sat MoU, it was decided to postpone sending the LS and to task SE40 to further review the LS and to develop an annex that describes technical capabilities of Leeheim station. This annex should be developed in coordination with Leeheim.

Through Doc. [SE(19)123](https://www.cept.org/Documents/wg-se/53824/se-19-123_satmou-questionnaire-proposal) proposed by ECO, WG SE further developed and approved a questionnaire to administrations in order to address the request from the ECC to provide information on how CEPT administrations, which did not sign the MoU, do monitor satellite services.

WG SE adopted the questionnaire proposed by ECO as available in [Annex 11](https://www.cept.org/Documents/wg-se/53933/se-19-129a11_annex-11-satmou-questionnaire-proposal). WG FM was informed about the situation through the LS contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## New WI

### WI SE40\_38: Sensing mechanism for uncoordinated FSS Earth stations in 28 GHz

A new WI was proposed by a multi country contribution [SE(19)118](https://www.cept.org/Documents/wg-se/53775/se-19-118_multicountry-proposal-for-new-se40-wi-on-sensing-mechanism) (Austria, Germany, Lithuania and Poland) in order to study sensing mechanism.

Discussions during the development of the draft ECC Report 304 showed that under certain conditions the sensor might not be capable to fulfil the requirements necessary to detect all possible interfered FS-Links. It was thus proposed to work on a new Report that should evaluate requirements and parameters e.g. threshold for possible sensing mechanism for uncoordinated earth station in 28 GHz to ensure proper detection of possible interfered FS-Links in the same band..

The Russian Federation indicated that any repetition should be avoided with regards to the work already done in ECC Report 304. The Russian Federation considers that the theoretical studies available in ECC Report 304 are sufficient, if the work is related to practical measurements as the sensors are not yet available then the work should be postponed.

During the discussions, it was indicated that the theoretical studies in ECC Report 304 did not reflect all possible cases, especially with regards to FS output power. It would be valuable to continue studies by covering different use cases that reflects the representative FS deployment in different countries.

WG SE agreed that this work should be done with close cooperation with SE19.

*The UK administration provided the following statement:*

*“ECC Report 304 explores an interesting sharing concept between uncoordinated FSS terminals and the FS service and provides an analysis of its possible implementation. Based on this analysis it seems that the sharing concept would not be implementable in practice in many CEPT countries, for instance because they cannot know the FS channelisation and band plan and/or because they do not have a Fixed Service database; concerns have also been raised about whether a solution based on sensing could really protect every FS terminal. For this reason, we believe there is little benefit in continuing work on this issue and that this national matter should be left entirely to individual administrations.”*

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=715) titled “Sensing mechanism for uncoordinated FSS Earth stations in 28 GHz”. It was supported by: Austria, Germany, France, Lithuania, Netherlands, Poland and Switzerland. WG FM was informed about this new work item through the liaison statement contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

Administrations interested in such sensing mechanism analysis, are invited to provide contribution on their fixed service deployment to SE19 and/or SE40.

### WI SE40\_39: Amateur and RNSS in the band 1240-1300 MHz

The WI is dealing with the development of possible scenarios with conditions or limitations that may be applied to the amateur service to ensure the future coexistence of both services and avoid cases of interference based on the two measurement reports available in [SE(19)103](https://www.cept.org/Documents/wg-se/52067/se-19-103_ls-out-to-wgse-on-compatibility-between-rnss-and-amateur-service-1240-1300-mhz%2A) Appendix 1 and 2.

Taking into account the different contributions on the topic [SE(19)103](https://www.cept.org/Documents/wg-se/52067/se-19-103_ls-out-to-wgse-on-compatibility-between-rnss-and-amateur-service-1240-1300-mhz%2A), [SE(19)094A08](https://www.cept.org/Documents/wg-se/53715/se-19-094a08_working-document-towards-new-draft-ecc-report-amateur-vs-rnss), and [SE(19)125](https://www.cept.org/Documents/wg-se/53851/se-19-125_ls-to-wgse-on-rnss-isues), WG SE drafted a new WI based on [SE(19)121Rev2](https://www.cept.org/ecc/groups/ecc/wg-se/client/meeting-documents/file-history/?fid=53811) (France).

IARU expressed concerns with regards to the victim receiver characteristics, especially given the fact that some low cost receiver may be available on the market. IARU is of the view that the WI should refer to the RED obligations. However, this proposal did not receive support from administrations, noting the risk of misunderstanding in such context.

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=716) to address the coexistence between RNSS and amateur service in the band 1240-1300 MHz, recognizing that the RNSS is primary and the amateur service/amateur satellite service is secondary. WG FM was informed about the creation of this new WI through the LS contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

### WI SE40\_40: Technical studies to contribute to the update of the annex 2 of ERC Decision (99)06

WG SE received a LS from WG FM, Doc. [SE(19)104](https://www.cept.org/Documents/wg-se/52077/se-19-104_ls-out-to-wgse-on-technical-studies-in-line-with-erc-dec-99-06), indicating that during WG FM#94 it was proposed to include the Hiber system as a new Satellite Personal Communication System operating below 1 GHz (S-PCS < 1 GHz) under the Annexes of ERC/DEC/(99)06. According to this Decision, it is first needed that all necessary inter-service and intra-service compatibility studies for this S-PCS < 1 GHz system have been successfully completed for inclusion in Annex 2 of ERC/DEC/(99)06. In complement to the LS received from WG FM, PT FM44 invited WG SE to conduct the relevant compatibility studies for Hiber, ARGOS and SWARM systems, Doc. [SE(19)122](https://www.cept.org/Documents/wg-se/53812/se-19-122_ls-to-se40-about-swarn-and-argos-satellite-systems). The WG SE Chairman also informed WG SE of the ECC guidance on this subject in section 11.4.2 of Doc. [SE(19)085](https://www.cept.org/Documents/wg-se/53167/se-19-085_extract-from-minutes-of-the-51st-ecc-meeting).

The Netherlands pointed out that studies should be provided to WG FM and FM44 directly as soon as one system has completed its technical analyses, as requested in the LS from FM44.

Taking into account the different contributions on the topic ([SE(19)INFO010](https://www.cept.org/Documents/wg-se/53747/se-19-info010_assessment-on-the-need-of-compatibility-studies), [SE(19)104](https://www.cept.org/Documents/wg-se/52077/se-19-104_ls-out-to-wgse-on-technical-studies-in-line-with-erc-dec-99-06), [SE(19)122](https://www.cept.org/Documents/wg-se/53812/se-19-122_ls-to-se40-about-swarn-and-argos-satellite-systems), [SE(19)085](https://www.cept.org/Documents/wg-se/53167/se-19-085_extract-from-minutes-of-the-51st-ecc-meeting)), WG SE drafted a new WI based on the proposal from France (Doc. [SE(19)120](https://www.cept.org/Documents/wg-se/53810/se-19-120_draft-wi-se40_xx-rev-erc-99-06)).

WG SE created a new [WI](http://eccwp.cept.org/WI_Detail.aspx?wiid=717) to address the compatibility to be conducted according to ERC/DEC/(99)06. WG FM was informed about the creation of this new WI through the LS contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## Other issues

### Possible new WI on update of ECC report 271

SE40 received a request to update ECC Report 271, based on the received information that the parameters of the SpaceX systems have changed since the approval of the Report. The proposed WI did not receive enough support to be created.

Given the lack of support, no WI was created on this topic. However, SE40 is invited to further consider this issue, seeking coordination with FM44 and ETSI to consolidate the updated SpaceX parameters to be taken into account in the future study.

### Proposition to expand terrestrial use of 2.4GHz MSS band

Globalstar, Nokia, RED Technologies have been invited by FM44 to share their input ([SE(19)INFO008](https://www.cept.org/Documents/wg-se/53729/se-19-info008_proposition-to-expand-terrestrial-use-of-24ghz-mss-band)) with WG SE. The authors invite administrations, through the contribution, to consider the opportunity of the deployment of a low-power ATC service offering (Globalstar’s plan is for “private LTE” and “Industrial Internet of Things (IIoT)”) in CEPT countries using the band allocated to MSS. The proponents indicated that the deployment of low power ATC will not impact the integrity of MSS use. ECC Report 165 is considered outdated and needs review with respect to the suggested low-power ATC parameters and use cases for the 2.4 GHz MSS band. As part of this update, the proponents are of the view that technical studies should be conducted to establish the specific power limits by which such an ATC service can operate.

Slovakia and UK expressed concerns about the proposal to transfer an MSS use to a terrestrial mobile use. Concerns were raised on the possible compatibility with other services.

UK and the Russian Federation indicated that if dealing with an IMT system, then the appropriate group to lead the studies should be ECC PT1 and not WG SE.

WG SE took note of the targeted usage and the content of the document, noting that the decision to create a potential new WI will be discussed at WG FM level.

# Report from Project Team SE45 (WAS/RLANs in the frequency band 5925 – 6425 MHz)

## Progress report of SE45

SE45 chairman Dr. Ivica Stevanovic introduced the progress report of SE45 as contained in [SE(19)119](https://www.cept.org/Documents/wg-se/53787/se-19-119_se45-progress-report).

## Expected deliverables for public consultation

There is no document expected for public consultation.

## WI in progress

Based on the liaison statement received from WG FM ([SE(19)107](https://www.cept.org/Documents/wg-se/52080/se-19-107_ls-out-to-wgse-on-further-studies-on-stc-wrt-was-rlan-6ghz)) and the guidance from the WG SE Chairman, SE45 started the work on studies complementary to ECC Report 302. The studies are dealing with the short-term protection of fixed service point-to-point applications from WAS/RLAN indoor-only deployments as well as potential WAS/RLAN portable outdoor devices with lower power levels. SE45 also considered several initial studies on the short-term protection of the fixed service.

SE45 highlighted that some additional parameters that are needed for the short-term interference studies related to the power level distributions of outdoor “very low power” portable devices (that have not been used or needed in the ECC Report 302) have to be defined.

## New WI

WG FM (Doc. [SE(19)107](https://www.cept.org/Documents/wg-se/52080/se-19-107_ls-out-to-wgse-on-further-studies-on-stc-wrt-was-rlan-6ghz)) asks WG SE to complement the existing studies of ECC Report 302 as appropriate, related to the results so far for the FS short-term protection studies between point-to-point applications and WAS/RLAN indoor only deployments as well as potential WAS/RLAN portable devices that operate outdoor with power levels significantly lower than that for indoor use.

During the discussions, Germany preferred to have the outcome of the studies in a dedicated ECC Report going through a public consultation, while France indicated that the time frame would not allow this procedure. Sweden, Netherlands, Russian Federation and Austria indicated that they understand both views, and agree not to have a public consultation provided that full transparency is ensured. The chairman of WG SE will coordinate with the chairman of WG FM to see how this transparency can be ensured via WG FM public consultation.

WG SE chairman invited SE45 to focus in the technical aspect of the LS from WG FM, letting flexibility on the type of deliverables to be decided during the next WG SE meeting.

WG SE adopted a new WI [SE45\_02](https://eccwp.cept.org/default.aspx?groupid=66) and indicated that short term criterion issues should be considered in coordination with SE19.

## Other issues

No other issues were identified.

## Dates of future meetings

* SE45#8.1: 8 Oct. 2019 (18:30–20:30 CEST), web meeting
* SE45#9: 9 Dec. 2019 (13:30 CET) – 11 Dec. 2019 (13:30 CET), ECO, Copenhagen
* SE45#10: [20-22 January 2020, TBD]

# STG (SEAMCAT)

The STG acting chairman Dr. Ivica Stevanovic introduced the STG progress report as contained in [SE(19)095](https://www.cept.org/Documents/wg-se/53708/se-19-095_stg-progress-report).

It was highlighted that a certain number of features were incorporated in the new official version of SEAMCAT. A new link budget calculator was introduced in its first version. Some new propagation model were added or improved. A new possibility to simulate simultaneously indoor and outdoor transceivers with different antenna heights is now available. Different spectrum masks have been updated. As well, new antenna patterns were added or updated.

Dr. Ivica Stevanovic presented the Roadmap for the SEAMCAT development for the year 2020 available in [SE(19)095A03](https://cept.org/Documents/wg-se/53587/se-19-095a03_seamcat-roadmap-2020). The priority on the roadmap features is left to STG decision, except for feature 1 (of the Roadmap, [Annex 12](https://www.cept.org/Documents/wg-se/53925/se-19-129a12_annex-12-seamcat-roadmap-2020)) for which the highest priority is given by WG SE.

WG SE noted progress activities and approved the roadmap for SEAMCAT development.

## WI in Progress

The WI is about the development of the CEPT simulation tool SEAMCAT including the supporting user manuals.

STG is still continuing its activities on various topics such: terrain data incorporation, improvement to antenna gains plot. STG#64 decided to invite stakeholders to discuss about the issues related to the definition and implementation of a single sector in cellular systems.

As revision of several relevant ITU-R P-Series Recommendations implemented in SEAMCAT is approved by ITU-R SG 3, there will be a need to update the implementations of these propagation models in SEAMCAT. The implementation of Manhattan grid and incorporation of the indoor-indoor propagation model ITU-R P.1238 is ongoing.

WG SE noted the progress on the development of SEAMCAT. For further information, administrations are invited to refer directly to the STG report.

## New WI

There is no new WI expected at this meeting.

## Dates of future meetings

* STG #65: 12–13 December 2019 at ANFR, Maisons-Alfort, France.
* STG#66: March 2020, ENSEA, Cergy Pontoise, France.
* STG#67: June 2020, Telefonica, Berlin.

# FG Wind Turbines

## WI SE\_14: Technical impact of wind turbines on various radiocommunication services

Dr. Gabrielle Owen (NL) introduced the progress report as contained in [SE(19)096](https://www.cept.org/Documents/wg-se/53753/se-19-096_progress-report-from-fg-wind-turbine-rapporteur). It was indicated that the finalization of annex 1 is still pending and expecting finalisation by 2020.

WG SE noted the progress of the activities. The target date was updated to May 2020.

# FG Intermodulation product

## WI SE\_15: Development of an algorithm for receiver Intermodulation (IM)

No progress was made on this topic since the last WG SE. A proposition was made to shift this item to PT SE21 and to close the forum group as related issues are treated within SE21.

The SE21 accepted to cover the topic under his group. WG SE chairman will check with the forum group chairman if such a way forward would be agreeable.

# Leeheim measurements

See Section 10.3.2.

# EMC and PLT issues

No information were available for this WG SE meeting.

# ECO

The ECO representative Dr. Zeljko Tabakovic presented the latest developments in the Office that were of interest for WG SE ([SE(19)099](https://www.cept.org/Documents/wg-se/53457/se-19-099_eco-assistance-to-wgse)). Dr. Zeljko Tabakovic also presented ECO Bulletin on other Regions ([SE(19)INFO003](https://www.cept.org/Documents/wg-se/53456/se-19-info003_eco-bulletin-july-2019)). WG SE thanks ECO for its assistance.

# WG SE Work Programme – WG SE PT Terms of reference

The Work Programme was updated during the meeting, see [Annex 13](https://www.cept.org/Documents/wg-se/53934/se-19-129a13_annex-13-wgse-updated-work-program).

# Any other business

## Draft revision of ECC Recommendation (15)01 : cross-border coordination for mobile/fixed communications networks (MFCN) in the frequency bands: 694-790 MHz, 1452-1492 MHz, 3400-3600 MHz and 3600-3800 MHz, amended on 5 February 2016

Due to WRC-19, WG FM will not meet before February 2020. In order to avoid delay in the process of the adoption of the draft revision of the Recommendation (15)01 prepared by ECC PT1, Chairman of WG FM invited WG SE to consider the provisional approval of this document for public consultation. The review of the comments will be addressed by WG FM and its appropriate project team.

The rapporteur in charge of the revision of this Recommendation, Ms. Keite Dyvrande (France), introduced the document as available in Doc. [SE(19)117](https://www.cept.org/Documents/wg-se/53707/se-19-117_draft-revision-of-ecc-recommendation-15-01-cross-border-700-mhz-1500-mhz-3600-mhz-pc). The revision of the ECC Recommends contains provisions for cross-border coordination between Mobile/Fixed Communications Networks (MFCN) systems in border areas, following the harmonised technical conditions for the frequency bands 694-790 MHz MHz (700 MHz), 1427-1518 MHz and 3400-3800 MHz defined in the relevant ECC Decisions.

This Recommendation covers Wideband vs. Wideband cross-border coordination scenarios, but does not address cross-border coordination of MFCN vs. other systems in these bands. In this recommendation Wideband systems (WB) include LTE and New Radio (NR).

WG SE considered the revision of this Recommendation and decided to send this Revision to public consultation as in [Annex 07](https://www.cept.org/Documents/wg-se/53921/se-19-129a07_annex-07-draft-revision-of-ecc-recommendation-15-01-cross-border-700-mhz-1500-mhz-3600-mhz-for-pc). ECC PT1 has been informed through the LS contained in [Annex 04](https://www.cept.org/Documents/wg-se/53935/se-19-129a04_annex-04-ls-to-wg-fm-and-ecc-pt1-on-wgse-work-progress).

## Dates for the public consultation

WG SE agreed on the dates for the public consultation of WG SE deliverables as follows:

For Draft ECC Report 310:

* Notification period with administrations: 7th to 18th October 2019
* Public consultation: 21st October to 10th December 2019

For Draft revision of ECC Recommendation (15)01:

* Notification period with administrations: 7th to 18th October 2019
* Public consultation: 21st October to 14th December 2019

## WRC-19

The Chairpersons of project team are invited to avoid any meeting during WRC-19.

# Date and place of future meetings

The dates for the following WG SE meetings in 2020 have been agreed:

* 84th WG SE: 27 January – 31 January 2020, Split, Croatia
* 85th WG SE: 11 May – 15 May 2020, ISPRA (JRC), Italy
* 86th WG SE: 28 September - 2 October 2020 , TBD, Lithuania

*Administrations are invited to consider hosting in 2021 and 2022.*

# Approval of the Report of the Meeting

The minutes of the meeting have been reviewed for approval by the participants. WG SE agreed that editorial corrections may be introduced by WG SE chairmanship.

# Closure of the meeting

The meeting was closed the Wednesday the 2nd of October 2019, at 15h37. The WG SE Chairman thanked all the participants for the spirit of cooperation and wished to all a safe journey. He also thanked ECO for their help and for hosting the meeting in excellent conditions.

1. Serbia and Slovenia had indicated support at the SE19 meeting but were not present at WG SE meeting. [↑](#footnote-ref-1)