|  |  |
| --- | --- |
| **Radiocommunication Study Groups** |  |
|  |  |
|  |  |
| Source: Document 5D/TEMP/15 | **Revision 1 to**  **Document IMT-2020/27-E** |
| **16 December 2019** |
| **English only** |
| Working Party 5D | |
| Observations of SWG Evaluation (Proponent Nufront) | |

PART I  
(WP 5D #33 meeting)

**IMT-2020 submission in Document 5D/1300 (Proponent Nufront)**

Working Party 5D (WP 5D) has so far identified at WP 5D meeting #33, in its review of the **Proponent** **Nufront updated submission in** Document[5D/1300](https://www.itu.int/md/R15-WP5D-C-1301/en), the submission in Document 5D/1300 meets the completeness of step 3.

Observations on the submitted self-evaluation

The criteria for the self-evaluation is found in the template for the document IMT-2020/YYY in Section 4.3 “Self-Evaluation”. See document [5D/1110](https://www.itu.int/md/R15-WP5D-C-1110/en) Chapter 5, Attachment 5.9, Chairman’s Report of WP 5D Meeting #31, October 2018.

A summary of key findings is provided in Part I Attachment 1.

Conclusion:

***4.3) Self-evaluation:*** *The entity that proposes a candidate RIT or SRIT to the ITU-R (the proponent) shall include with it either an self-evaluation or an evaluation submitted by another entity and endorsed by the proponent, and based on the compliance templates in § 5.2.4. (Report ITU-R M.2411 section 5.1 § 2).*

Self-evaluation supplied: X Yes  No

Comments (specify)

**These submissions by the Nufront Proponent are determined to have satisfactorily fulfilled Section 4.3 for the self-evaluation.**

Evaluation type **X** provided by proponent (for the Nufront RIT)

Comments (specify the entity)

SWG Evaluation requests that this compete document be included in the relevant IMT-2020/YYY document for the **Proponent** **Nufront** submission.

part i  
Attachment 1

Summary of discussions by SWG Evaluation for IMT-2020 submission   
in Document 5D/1300 (Proponent Nufront)



PART II  
(WP 5D #33 Meeting)

**IMT-2020 submission in Document 5D/1238 (Proponent Nufront)**

Working Party 5D (WP 5D)has so far identified at WP 5D meeting #32, in its review of the **Proponent** **Nufront submission in Document** [5D/1238](https://www.itu.int/md/R15-WP5D-C-1238/en),some submission deficiencies and clarification of technology issues which impact the submission and the ability of WP 5D to have the submission move forward in the IMT-2020 process. The proponent had been requested in the discussions in Meeting #32 to remedy the deficient information and it is noted that **Nufront** did provide further information. This is a summary of the observations of SWG Evaluation.

Observations on the submitted self-evaluation

The criteria for the self-evaluation is found in the template for the document IMT-2020/YYY in Section 4.3 “Self-Evaluation”. See document [5D/1110](https://www.itu.int/md/R15-WP5D-C-1110/en) Chapter 5, Attachment 5.9, Chairman’s Report of WP 5D meeting # 31, October 2018.

A summary of key findings is provided in Part II Attachment 1.

Part II Attachment 2 provides the further information supplied to WP 5D meeting #32 during the course of the meeting by the Proponent in response the request by SWG Evaluation for the Proponent to provide the information required by the process in such format as mandated by the process. Part II Attachment 2 should be considered, on a going forward basis in WP 5D as an official part of the submission provided in Document 5D/1238, i.e, as an Amendment.

Conclusion:

***4.3) Self-evaluation:*** *The entity that proposes a candidate RIT or SRIT to the ITU-R (the proponent) shall include with it either an self-evaluation or an evaluation submitted by another entity and endorsed by the proponent, and based on the compliance templates in § 5.2.4. (Report ITU-R M.2411 section 5.1 § 2).*

Self-evaluation supplied: X Yes

Comments (specify)

**This submission cannot, in its current form, be determined to have satisfactorily fulfilled Section 4.3 for the self-evaluation. The supplied self-evaluation and any amendments accepted during WP 5D meeting #32 *for Nufront “EUHT” RIT* do not yet permit WP 5D to determine** **if a complete and satisfactory self-evaluation as required by the IMT-2020 process has been fully provided.**

**The Proponent should provide the full details requested in the process and in the specifically defined way to WP 5D, considering the comments raised in meeting #32, in order for WP 5D to proceed further in the process with this submission.**

Evaluation type **X** provided by proponent (for the Nufront “EUHT” RIT)

Comments (specify the entity)

SWG Evaluation requests that this compete document be included in the relevant IMT-2020/YYY document for the **Proponent** **Nufront** Submission.

PART II  
Attachment 1

Summary of discussions by SWG Evaluation for IMT-2020 submission   
in Document 5D/1238 (Proponent Nufront)

Issues discussed in the meeting:

− There is not reference of the current specification provided in the description template for verification in 5D and further evaluation by IEGs yet. The description template seems not sufficient to IEG proceeding the evaluation? How to get access to those materials?

• Answer from Nufront is that they will provide their specification or useful information for this purpose. A complete version in English (but not official version) can be provided in 1 month. So far Nufront suggests IEGs following the description template.

• Hyperlinks may be provided to 5D for further reference, as claimed by Nufront.

− Legal right to use the standardization including Nufront technology for evaluation (see Note below).

• For time being, there is not free version (in Chinese, there is not English version yet) online to be downloaded from National standardisation website.

• There is a concern that whether that allows the organisations to freely review them as a reference and whether there will be an illegal issue

− Considering business matters issue, is there any SDO involved to publish those standardizations (See Note below).

− Since those specifications were created several years ago, whether those specs will be updated or not?

Nufront: those specifications were created last year (2018) and some new features are added now. So the techniques applied to self-evaluation are not technically identical to the current standardisations published.

NOTE: With respect to matters that are associated with any discussion of legal, IPR or business matters further consultation with the Bureau is necessary to ensure that the statements initially provided in the course of the discussions in SWG Evaluation are properly reflected in the documentation. Consequently, edits may be provided by the BR to the draft text currently being discussed.

− There are concerns on the description of 5.2.3.2.8.3 in description template; whether can the countries who are following Recommendation ITU-R M.1036 by FDD bands use this technology:

• Need more proper description heading for the frequency ranges applied to the technology

• Need clarification of overlapping of the higher frequency bands which are exactly same as those provided from 3GPP

• This technology can only support TDD

− Regarding connection density, there is different frequency bandwidth applied in characteristic template and self-evaluation report:

• It is clarified by Nufront that the bandwidth in characteristic template is the minimum bandwidth of a carrier while the bandwidth described in mMTC of self-evaluation report is the bandwidth of a resource unit.

• The meeting needs clear clarification inside these two documents.

− Under 5.2.3.2.11.2.1 of description template, there is not any exact value listed. There is concern that whether the technology can support the maximum transmit power which is applied in self-evaluation (the values used in self-evaluation follow what were defined in Report ITU-R M.2412)

• The meeting needs clarification from Nufront.

− Summarized issues:

• There is need of detailed technical information for the purpose of evaluation, particularly simulation:

○ Which requires the complete and legal specifications provided from the proponent.

○ In the basis of Resolution ITU-R 65, the requested relevant information is expected to be received by this meeting. The difficulty in this meeting is that insufficient information provide to support evaluation.

• There is need for the detailed technical specifications to be provided in step 8 that would be incorporated in the Recommendation ITU-R M.[IMT-2020.SPEC]

○ Which requires the complete and legal business details to publish, provided from the proponent;

○ Either GCS/references; or

○ DIS.

• There is need for detailed and explicitly clarifications on the overall concerns in this meeting

PART II

Attachment 2

Amendment 1 to IMT-2020 submission in Document 5D/1238

(Proponent Nufront)

**Source:**



Nufront’s Response to the Comments Raised in SWG Evaluation

# 1 Specification is needed for evaluation

The English version of EUHT specification is available at:

<http://www.nufront.com/en/uploadfile/2019/Enhanced%20Ultra%20High%20Throughput%20(EUHT)%20Technology%20Specification.pdf>.

This hyperlink could also be included in the document IMT2020/YYY.

# 2 Legal right to use the standardization including Nufront’s technology for evaluation.

In the submitted "Completion of Relevant Business Matters for the Proponents of the IMT-2020 process" form, Nufront states that Nufront has the legal rights to use the material in conjunction with the Steps of the IMT-2020 process.

The national standardization committee of China also confirmed that Nufront has the legal right to use the content and description of the technology, including patents and copyright and make it freely and legally accessible by public.

# 3 Need more proper heading of frequency range

Current heading is N1, N2,…, which might bring confusion with the heading of 3GPP n1, n2, …

Can be set to B1, B2, …, or no heading for better clarification.

Also, the “IMT bands (from 450 MHz to 6 000 MHz)” in characteristics template can set to “Sub‑6 GHz bands (from 450 MHz to 6 000 MHz)” for better clarification.

# 4 Same higher frequency band as those provided by 3GPP.

EUHT RIT can support the various higher frequency bands which 3GPP NR supports. There is overlapping between 24 250-27 500 MHz (26 GHz band) and 26 500‑29 500 MHz (28 GHz band) due to the current different regional regulations which is expected to be coordinated in WRC-19. EUHT supports both the overlapping bands to utilize more spectrum.

# 5 Whether can the countries who are following Recommendation ITU-R M.1036 by FDD band use this technology?

EUHT RIT only supports TDD.

# 6 Regarding connection density, different bandwidth in characteristics template and evaluation report

The bandwidth in characteristics template is the minimum bandwidth of a carrier while the bandwidth described in connection density evaluation report is the bandwidth of a resource unit, which is 625 kHz. In the submitted excel file of connection density evaluation results, it explicitly states that “TCH scheduling unit is 625 kHz.”

The “Bandwidth” of density connection in evaluation report can set to “Bandwidth of resource unit” for better clarification.

# 7 There is not exact value for maximum transmit power of base station. There is concern that whether the technology can support the maximum transmit power which is applied in evaluation report

There is no limit on the maximum transmit power of base station in EUHT RIT. In the evaluation report for EUHT RIT, the transmit power value of base station complies with Report ITU-R M.2412, which is the requirement for submission. EUHT can support the transmit power value given in Report ITU-R M.2412.

The possible limit on the maximum transmit power of base station is from the regional regulatory requirements.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_