



**Report ITU-R M.2498-0**  
(12/2021)

**The outcome of 'Way Forward' Option 2 for  
"ETSI (TC DECT) and DECT Forum  
Proponent" of the evaluation, consensus  
building and decision of the IMT-2020  
process (Steps 4 to 7), including  
characteristics of IMT-2020 radio interfaces**

**M Series**  
**Mobile, radiodetermination, amateur**  
**and related satellite services**



## Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

## Policy on Intellectual Property Right (IPR)

ITU-R policy on IPR is described in the Common Patent Policy for ITU-T/ITU-R/ISO/IEC referenced in Resolution ITU-R 1. Forms to be used for the submission of patent statements and licensing declarations by patent holders are available from <http://www.itu.int/ITU-R/go/patents/en> where the Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the ITU-R patent information database can also be found.

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<b>SM</b>	Spectrum management

*Note: This ITU-R Report was approved in English by the Study Group under the procedure detailed in Resolution ITU-R 1.*

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## REPORT ITU-R M.2498-0

**The outcome of ‘Way Forward’ Option 2 for “ETSI (TC DECT) and DECT Forum Proponent” of the evaluation, consensus building and decision of the IMT-2020 process (Steps 4 to 7), including characteristics of IMT-2020 radio interfaces**

(2021)

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## 1 Introduction

As recorded in Report ITU-R M.2483-0, there were six relevant evaluation reports received on the ETSI (TC DECT) and DECT Forum candidate submission in IMT-2020/17(Rev.1). In light of these reports and subsequent discussions, a ‘Way Forward’ Option 2 evaluation was agreed for the candidate at the Working Party (WP) 5D meeting #36<sup>e</sup> and recorded in Document IMT-2020/52, representing an approach respecting both Resolution ITU-R 65 and the IMT-2020 process developed from Resolution ITU-R 65.

In the ‘Way Forward’ Option 2 evaluation, ITU-R had determined that the candidate SRIT submission from ETSI (TC DECT) and DECT Forum would require additional evaluation to conclude the final assessment through Steps 6 and 7 of the IMT-2020 process. The candidate technology submission proposal referenced above would on an exceptional basis continue in the process, rewinding to the start of Step 4 in order to consider additional material and the subsequent Steps 5 to 8 of the ‘Way Forward’ Option 2.

The candidate technology submission proposal referenced above would consequentially be included in a timely revision to the published first release of Recommendation ITU-R M.2150. The detailed schedule of critical items and milestones for the ‘Way Forward’ Option 2 towards a focused revision 1 (as indicated in Document IMT-2020/52 Part 1) of the published initial release of Recommendation ITU-R M.2150 – Detailed specifications of the radio interfaces of IMT-2020 were included in Document IMT-2020/53 and illustrated in Fig. 1 from that document, reproduced here for reference in understanding the steps of the ‘Way Forward’ Option 2 process.

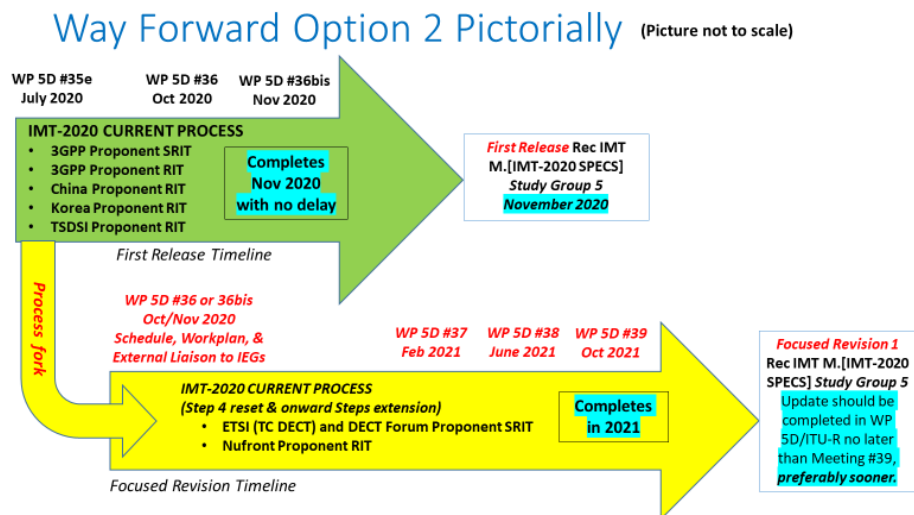
The registered Independent Evaluation Groups (IEGs) participating in the IMT-2020 process were invited to re-engage in the ‘Way Forward’ Option 2 evaluation Step 4 work for the candidate technology submission, while the schedule and actions of the proponent and WP 5D were also provided in Document IMT-2020/53. There were six IEGs that had re-engaged in the ‘Way Forward’ Option 2 evaluation for the candidate technology submission from ETSI (TC DECT) and DECT Forum.

The agreed approach for consideration of evaluation reports prior to ‘Way Forward’ Option 2 and those resulting from ‘Way Forward’ Option 2 in the re-evaluation process was listed in Document IMT-2020/54, which was the guideline for the ‘Way Forward’ Option 2 evaluation.

The work undertaken for the ‘Way Forward’ Option 2 shall also continue to adhere to the relevant IMT-2020 process guidance documents found in:

- Resolution ITU-R 65 – Principles for the process of future development of IMT for 2020 and beyond,
- Document IMT-2020/2(Rev.2) – Submission, evaluation process and consensus building for IMT-2020,
- Report ITU-R M.2410 – Minimum requirements related to technical performance for IMT-2020 radio interface(s),
- Report ITU-R M.2411 – Requirements, evaluation criteria and submission templates for the development of IMT-2020, and particularly
- Report ITU-R M.2412 – Guidelines for evaluation of radio interface technologies for IMT-2020.

FIGURE 1  
Executive Summary of proposed 'Way Forward' Option 2



## 2 Scope

The Report is the record of the work performed after receipt of complete proposals for IMT-2020 candidate SRIT (IMT-2020/17(Rev.1))<sup>1</sup>, including evaluation activity and consensus building according to IMT 2020/52, IMT-2020/53 and IMT-2020/54 in the 'Way Forward' Option 2. This Report contains outcome and conclusions of the rewound Steps 4 to 7 of the 'Way Forward' Option 2. These steps correspond to:

- Step 4: Evaluation of candidate RITs or SRITs by Independent Evaluation Groups.
- Step 5: Review and coordination of outside evaluation activities.
- Step 6: Review to assess compliance with minimum requirements.
- Step 7: Consideration of evaluation results, consensus building and decision.

The details of these steps are provided in Document IMT-2020/2(Rev.2).

## 3 Related text references

Recommendation ITU-R M.2150	Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2020 (IMT-2020)
Report ITU-R M.2410	Requirements related to technical performance for IMT-2020 radio interface(s)
Report ITU-R M.2411	Requirements, evaluation criteria and submission templates for the development of IMT-2020
Report ITU-R M.2412	Guidelines for evaluation of radio interface technologies for IMT-2020
Report ITU-R M.2483-0	The outcome of the evaluation, consensus building and decision of the IMT-2020 process (Steps 4 to 7), including characteristics of IMT-2020 radio interfaces

<sup>1</sup> IMT-2020 documents referred to in this Report are found on the ITU-R web page: "IMT-2020 submission and evaluation process" (<https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/imt-2020/Pages/submission-eval.aspx>).



Document IMT-2020/2(Rev.2)	Submission and evaluation process and consensus building for IMT-2020
Document IMT-2020/52	Agreed 'way forward' Option 2 for "ETSI (TC DECT) and DECT Forum proponent" and "Nufont proponent" candidate technology submissions for IMT-2020
Document IMT-2020/53	Detailed schedule and actions for 'Way Forward' Option 2 related to “ETSI (TC DECT) and DECT Forum Proponent” and “Nufont Proponent” candidate technology submissions for IMT-2020
Document IMT-2020/54	Approach for consideration of Evaluation Reports prior to Option 2 and those resulting from Option 2 in the re-evaluation process
Resolution ITU-R 65	Principles for the process of development of IMT for 2020 and beyond

### 3.1 List of acronyms and abbreviations

IMT	International Mobile Telecommunications
RIT	Radio interface technology
SRIT	Set of radio interface technologies

## 4 Summary of submissions

Following the guidelines of the IMT-2020 process, the candidate technology submissions accepted by ITU-R under Step 3<sup>2</sup> were reviewed and the following was acknowledged as ‘complete’<sup>3</sup> candidate technology submission as per § 5 of Report ITU-R M.2411:

- IMT-2020/17(Rev.1) – Acknowledgement of candidate SRIT submission from ETSI (TC DECT) and DECT Forum under step 3 of the IMT-2020 process.

For convenience, this submission is attached to Annex 1 of this Report.

## 5 Conclusion for Steps 4 to 7

### 5.1 Results of Steps 4, “Evaluation of candidate RITs or SRITs by Evaluation Groups” and Step 5, “Review and coordination of outside evaluation activities”

Under Step 4 (re-evaluation) of the ‘Way Forward’ Option 2, “ETSI (TC DECT) and DECT Forum Proponent” candidate technology submission was evaluated by Independent Evaluation Groups (IEG) that registered with the ITU-R in conformance with the process. In this step, the candidate technology submission was re-evaluated based on Reports ITU-R M.2411 and ITU-R M.2412.

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<sup>2</sup> As announced in [Circular Letter 5/LCCE/59 Addendum 5](#).

<sup>3</sup> In the IMT-2020 process, an acknowledgement of a “complete” submission under Step 3 does not imply any conclusions on the results of the formal evaluation under Steps 4 to 7. A submission is acknowledged as ‘complete’ if it fulfilled, for that candidate technology submission, supplying all requested information in the format specified following the guidance of Report ITU-R M.2411 – Requirements, evaluation criteria and submission templates for the development of IMT-2020.

An Evaluation Group discussion area was opened during Step 4 of the ‘Way Forward’ Option 2 between June 2020 and October 2021 to facilitate activities among IEGs and the proponents, and among IEGs.

Six IEGs re-engaged in re-evaluation of the candidate technology submission. The evaluation reports received from six IEGs were considered by ITU-R under Steps 4 and 5 of the ‘Way Forward’ Option 2, as appropriate. These evaluation reports, including their revisions, are included in Annex 2 of this Report.

The list of the evaluation reports of the IEGs and a summary of the mapping of the candidate technology submissions is shown in Table 1.

TABLE 1  
**Index of documents related to IEG Evaluation Reports  
for the Candidate Technology Submissions of IMT-2020/17(Rev.1)  
under Step 4 of the ‘Way Forward’ Option 2**

IMT-2020/xx	Summary of rewind Step 4 of the IMT-2020 Process for Evaluation of IMT-2020 Candidate Technology Submissions IMT-2020/17(Rev.1)		
Registered Independent Evaluation Group/summary	Summary of IEG Evaluation Results	Based on or References IEG Contributions Docs. 5D/	Evaluation Reports History Documents
ETSI Evaluation Group	IMT-2020/70	5D/576 (DECT)	IMT-2020/55(Rev.1)
Wireless World Research Forum	IMT-2020/56 Rev 2	5D/736 (DECT)	IMT-2020/56(Rev.2)
Canadian Evaluation Group	IMT-2020/69	5D/90 (DECT) 5D/624 (DECT) 5D/738 (DECT)	IMT-2020/61(Rev.1)
5G India Forum	IMT-2020/65	5D/741 (DECT)	IMT-2020/62(Rev.1)
The Fifth Generation Mobile Communications Promotion Forum, Japan	IMT-2020/66	5D/739 (DECT) 5D/754 (DECT)	IMT-2020/63(Rev.1)
TTA 5G Technology Evaluation Special Project Group	IMT-2020/71	5D/707 (DECT)	IMT-2020/64

The IEGs utilized the defined ITU-R evaluation methodology and criteria established in the relevant ITU-R Reports covering IMT-2020. ITU-R concluded that the IEGs had fulfilled their role in the ‘Way Forward’ Option 2 and that the inclusion of views from organizations external to the ITU-R had been useful to the work on ‘Way Forward’ Option 2 and had contributed to the success of the ‘Way Forward’ Option 2 process.

Considering the requirements, evaluation criteria and submission templates for the development of IMT-2020 included in Report ITU-R M.2411, the minimum requirements related to technical performance for IMT-2020 radio interface(s) included in Report ITU-R M.2410, and the guidelines for evaluation of radio interface technologies for IMT-2020 included in Report ITU-R M.2412, the following conclusions have been reached.

#### **5.1.1 Summary of the evaluations received for the candidate SRIT submission from ETSI (TC DECT) and DECT Forum (Document IMT-2020/17(Rev.1))**

There were relevant evaluation reports received from six IEGs for the “DECT 2020 NR RIT” component of ETSI (TC DECT) and DECT Forum proposal in Document IMT-2020/17(Rev.1). Based on the evaluation results for DECT 2020 NR RIT component, which applies only to Urban Macro-URLLC and Urban Macro-mMTC test environments,

- Three IEGs were of the opinion that the ‘DECT 2020 NR RIT’ component of the candidate ETSI (TC DECT) and DECT Forum proposal in IMT-2020/17(Rev.1) met the minimum requirements of Urban Macro-URLLC and Urban Macro-mMTC test environments.
- Two IEGs were of the opinion that the ‘DECT 2020 NR RIT’ component of the candidate ETSI (TC DECT) and DECT Forum proposal in IMT-2020/17(Rev.1) met the minimum requirements of Urban Macro-mMTC test environment. These two IEGs cannot reach conclusion whether the ‘DECT 2020 NR RIT’ component met the minimum requirements on Urban Macro-URLLC test environment.
- One received evaluation report did not contain a conclusion whether the ‘DECT 2020 NR RIT’ component met the minimum requirements of Urban Macro-mMTC and Urban Macro-URLLC test environments.

#### **5.1.1.1 References to evaluation reports for the candidate SRIT submission (Document IMT-2020/17(Rev.1)) from ETSI (TC DECT) and DECT Forum**

The ITU-R views of the relevant evaluation reports from the IEGs and the individual IEG analyses for the ETSI (TC DECT) and DECT Forum technology, included in Annex 2 of this Report, are as follows:

- IMT-2020/70 – Summary results of evaluation of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1) by ETSI EG.
- IMT-2020/66 – Summary results of evaluation of IMT-2020 candidate technology submission in Documents IMT 2020/17(Rev.1) by The Fifth Generation Mobile Communications Promotion Forum.
- IMT-2020/56(Rev.2) – Summary results of evaluation of IMT-2020 candidate technology submissions in Documents IMT-2020/17(Rev.1) by Wireless World Research Forum IEG.
- IMT-2020/71 – Summary results of evaluation of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1) by TTA SPG33.
- IMT-2020/65 – Summary results of evaluation of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1) by 5G India Forum IEG.
- IMT-2020/69 – Summary results of evaluation of IMT-2020 candidate technology submissions in Documents IMT-2020/17(Rev.1) by the Canadian Evaluation Group (CEG).

## **5.2 Results of Step 6, “Review to assess compliance with minimum requirements”**

Under Step 6 of the ‘Way Forward’ Option 2 and guidelines, an assessment of each proposal was made as to whether it met a version of the minimum technical requirements and evaluation criteria of the IMT-2020 process in force as described in Report ITU-R M.2411. The evaluation methodology is described in Report ITU-R M.2412. The version of the minimum technical requirements used is described in Report ITU-R M.2410.

In this step, the evaluated proposal for a RIT/SRIT is assessed as a qualifying RIT/SRIT, if a RIT/SRIT fulfils the minimum requirements for the five test environments comprising the three usage scenarios.

Such a qualified RIT/SRIT will go forward for further consideration in Step 7.

Based on a review of the evaluations carried out by the IEGs as well as the self-evaluations from the proponents, the conclusions of the ITU-R for Step 6 are presented in the following sub-sections. Thus, the summary view of the evaluations indicated in § 5.1 are directly relevant to this assessment.

Each candidate technology submission is separately addressed for compliance with regard to services, spectrum and technical performance and for confirmation as a qualifying RIT/SRIT.



### **5.2.1 Results of assessment in Step 6 for the candidate SRIT submission (Document IMT-2020/17(Rev.1)) from ETSI (TC DECT) and DECT Forum Proponent**

The ITU-R summary view of the candidate technology submission from the ETSI (TC DECT) and DECT Forum (IMT-2020/17(Rev.1)) is presented below. The individual detailed analysis of compliance for each of the items defined in Report ITU-R M.2411 is included in the Tables in Annex 3 to the present Report.

#### **Compliance related to services**

*3GPP Component* meets the minimum requirements for services.

*ETSI (TC DECT) and DECT Component* meets the minimum requirements for services.

The technology proposed by ETSI (TC DECT) and DECT (IMT-2020/17(Rev.1)) meets the minimum requirements for services.

#### **Compliance related to spectrum**

*3GPP Component* meets the minimum requirements for spectrum.

*ETSI (TC DECT) and DECT Component* meets the minimum requirements for spectrum.

The technology proposed by ETSI (TC DECT) and DECT (IMT-2020/17(Rev.1)) meets the minimum requirements for spectrum.

#### **Compliance related to technical performance**

*3GPP Component* meets the minimum requirements for technical performance.

*ETSI (TC DECT) and DECT Component* meets the minimum requirements for technical performance.

The technology proposed by ETSI (TC DECT) and DECT (IMT-2020/17(Rev.1)) meets the minimum requirements for technical performance.

#### **Assessment of the candidate technology proposal as a qualifying RIT/SRIT**

ITU-R confirms that the SRIT of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Indoor Hotspot-eMBB test environment.

ITU-R confirms that the SRIT of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Dense Urban-eMBB test environment.

ITU-R confirms that the SRIT of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Rural-eMBB test environment.

ITU-R confirms that the SRIT of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-mMTC test environment.

ITU-R confirms that the SRIT of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-URLLC test environment

This is specifically indicated for each of component RITs for Urban Macro-mMTC and Urban Macro-URLLC environments as shown below:

ITU-R confirms that the *3GPP Component RIT* of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-mMTC test environment.

ITU-R confirms that the *ETSI (TC DECT) and DECT Component RIT* of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-mMTC test environment.

ITU-R confirms that *3GPP Component RIT* of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-URLLC test environment.

ITU-R confirms that the *ETSI (TC DECT) and DECT Component RIT* of the candidate technology submission in IMT-2020/17(Rev.1) meets the minimum requirements of the Urban Macro-URLLC test environment.

**Step 6 Assessment for SRIT proposal (Document IMT-2020/17(Rev.1)) from ETSI (TC DECT) and DECT Forum:**

*The evaluated candidate SRIT proposal (Document IMT-2020/17(Rev.1)) from ETSI (TC DECT) and DECT Forum is assessed by ITU-R as satisfactorily fulfilling the minimum requirements for the five test environments comprising the three usage scenarios with each component RIT of the SRIT also fulfilling the minimum requirements of at least two test environments. Thus, this ETSI (TC DECT) and DECT Forum SRIT proposal is ‘a qualifying SRIT’ and therefore will go forward for further consideration in Step 7.*

**5.3 Result of Step 7, “Consideration of evaluation results, consensus building and decision”**

**5.3.1 Consideration of evaluation results**

The candidate technology submission proposals that has entered Step 7 is acknowledged and listed below (and their respective SRIT or RITs) has individually satisfied the requirements of Resolution ITU-R-65, resolves 6 e) and f) *fulfilling the minimum requirements for the five test environments comprising the three usage scenarios*<sup>4</sup>.

Therefore, the IMT-2020 candidate technology submission proposal listed below will be accepted for inclusion in the standardization phase described in Step 8.

- IMT-2020/17(Rev.1) – Acknowledgement of candidate SRIT submission from ETSI (TC DECT) and DECT Forum under step 3 of the IMT-2020 process

**5.3.2 Consensus building and decision**

Based on the above consensus views, the following table summarizes the candidate submission and the conclusions, including any consensus building.

<b>Radio Interface Technologies:</b>	<b>NAME: DECT 5G – SRIT</b>
<b>Proponent (submission in):</b>	IMT-2020/17(Rev.1)
<b>Determination whether the RIT or SRIT meets the requirements of Res. ITU-R 65, resolves 6 e) and f), for the five test environments comprising the three usage scenarios</b>	YES (Requirements met for five test environments)
<b>Inclusion in the standardization phase described in Step 8</b>	YES

**6 Characteristics of the technologies and basis of the specifications for Step 8**

In Step 8, a (set of) IMT-2020 terrestrial component radio interface Recommendation(s) is (are) developed within the ITU-R based on the results of Step 7, sufficiently detailed to enable worldwide compatibility of operation and equipment, including roaming.

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<sup>4</sup> In order to reach Step 7, each component RIT of the SRIT needed to still fulfil the minimum requirements of at least two test environments to be assessed as a ‘qualifying SRIT’ in Step 6.

## **6.1 Detailed specifications for the radio interface technologies for IMT-2020 in Step 8**

Under Step 8 of the IMT-2020 process, the detailed technical specifications for the Terrestrial Radio Interface Technologies in IMT-2020 will be provided in a Recommendation to be developed<sup>5</sup> (“Detailed specifications of the terrestrial radio interfaces of IMT-2020”).

### **6.1.1 Characteristics of radio interface technologies for IMT-2020 in Step 8 for the candidate SRIT submission (Document IMT-2020/17(Rev.1)) from ETSI (TC DECT) and DECT Forum**

Based on the consensus views in in § 5.3, “*DECT 5G – SRIT*” is accepted for Step 8. The basis for specifying the “*DECT 5G – SRIT*” technology in Step 8 is Document IMT-2020/17(Rev.1).

As provided for in IMT-2020/20 Process and the use of Global Core Specification (GCS), References and Related Certifications in Conjunction with Recommendation ITU-R M.2150, the *GCS Proponent* for the “*DECT 5G – SRIT*” in Step 8 is “*ETSI (TC DECT) and DECT Forum*”.

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<sup>5</sup> Once the Recommendation has been developed the exact reference to the Recommendation will be added as an editorial action.

## Annex 1

Index of IMT-2020 documents for each final submission<sup>6</sup> in ‘way forward’ Opt 2

RIT/SRIT Proponent	Acknowledgement of submission (IMT-2020/YYY)		Observations of SWG evaluation		Submission history	
<b>ETSI (TC DECT) and DECT Forum</b>	Document IMT-2020/17 (Rev.1)	Acknowledgement of candidate SRIT submission from ETSI (TC DECT) and DECT Forum under Step 3 of the IMT-2020 process	Document IMT-2020/26 (Rev.1)	Observations of SWG Evaluation - IMT-2020 submission in Documents 5D/1230 and 5D/1253 (Proponents ETSI (TC DECT) and DECT Forum)	Document IMT-2020/6 (Rev.4)	Submission received for proposals of Candidate Radio Interface Technologies from Proponent ‘ETSI’ and ‘DECT Forum’ under step 3 of the IMT-2020 process

<sup>6</sup> Source: Report on the Thirty-third Meeting of Working Party 5D (Geneva, 10-13 December 2019) Document 5D/37 Chapter 1, § 3.4.3.

## **Annex 2**

### **Summary and details of Evaluation Reports from Independent Evaluation Groups in ‘way forward’ Opt 2**

#### **IMT-2020/70**

Summary results of evaluation by ETSI EG of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1).

#### **IMT-2020/66**

Summary results of evaluation by The Fifth Generation Mobile Communications Promotion Forum of IMT-2020 candidate technology submission in Documents IMT-2020/17(Rev.1) and IMT-2020/18(Rev.1).

#### **IMT-2020/56 Rev 2**

Summary results of evaluation by Wireless World Research Forum IEG of IMT-2020 candidate technology submissions in Documents IMT-2020/17(Rev.1) and IMT-2020/18(Rev.1).

#### **IMT-2020/71**

Summary results of evaluation by TTA SPG33 of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1) and IMT-2020/18(Rev.1).

#### **IMT-2020/65**

Summary results of evaluation by 5G India Forum IEG of IMT-2020 candidate technology submission in Document(s) IMT-2020/17(Rev.1) and IMT-2020/18(Rev.1).

#### **IMT-2020/69**

Summary results of evaluation by the Canadian Evaluation Group (CEG) of IMT-2020 candidate technology submissions in Documents IMT-2020/17(Rev.1) and IMT-2020/18(Rev.1).

### Annex 3

#### Detailed compliance template summaries<sup>7</sup> in ‘way forward’ Option 2

#### A Candidate submission from ETSI (TC DECT) and DECT Forum (Document IMT-2020/17(Rev.1)) in ‘way forward’ Option 2

TABLE 2

Compliance template for services in ‘way forward’ Option 2

	Service capability requirements	ITU-R confirmation that the requirement is met by the candidate technology proposal
<b>5.2.4.1.1</b>	<b>Support for wide range of services</b> Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)? <input type="checkbox"/> YES / <input type="checkbox"/> NO Specify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.	Yes

TABLE 3

Compliance template for spectrum in ‘way forward’ Option 2

	Spectrum capability requirements	ITU-R confirmation that the requirement is met by the candidate technology proposal
<b>5.2.4.2.1</b>	<b>Frequency bands identified for IMT</b> Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations? <input type="checkbox"/> YES / <input type="checkbox"/> NO Specify in which band(s) the candidate RIT or candidate SRIT can be deployed.	Yes
<b>5.2.4.2.2</b>	<b>Higher Frequency range/band(s)</b> Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz? <input type="checkbox"/> YES / <input type="checkbox"/> NO Specify in which band(s) the candidate RIT or candidate SRIT can be deployed. NOTE – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement.	

<sup>7</sup> Reference Report ITU-R [M.2411](#), § 5.2.4.



TABLE 4

## Compliance template for technical performance in ‘way forward’ Option 2

Minimum technical performance requirements item (5.2.4.3.x), units, and Report ITU-R M.2410 section reference	Category			Required value	ITU-R confirmation that the requirement is met by the candidate technology proposal
	Usage scenario	Test environment	Downlink or uplink		
<b>5.2.4.3.1</b> Peak data rate (Gbit/s) (4.1)	eMBB	Not applicable	Downlink	20	Yes
			Uplink	10	
<b>5.2.4.3.2</b> Peak spectral efficiency (bit/s/Hz) (4.2)	eMBB	Not applicable	Downlink	30	
			Uplink	15	
<b>5.2.4.3.3</b> User experienced data rate (Mbit/s) (4.3)	eMBB	Dense urban – eMBB	Downlink	100	
			Uplink	50	
<b>5.2.4.3.4</b> 5 <sup>th</sup> percentile user spectral efficiency (bit/s/Hz) (4.4)	eMBB	Indoor hotspot – eMBB	Downlink	0.3	YES
			Uplink	0.21	
	eMBB	Dense urban – eMBB	Downlink	0.225	
			Uplink	0.15	
	eMBB	Rural – eMBB	Downlink	0.12	
			Uplink	0.045	
<b>5.2.4.3.5</b> Average spectral efficiency (bit/s/Hz/ TRxP) (4.5)	eMBB	Indoor hotspot – eMBB	Downlink	9	
			Uplink	6.75	
	eMBB	Dense urban – eMBB	Downlink	7.8	
			Uplink	5.4	
	eMBB	Rural – eMBB	Downlink	3.3	
			Uplink	1.6	
<b>5.2.4.3.6</b> Area traffic capacity (Mbit/s/m <sup>2</sup> ) (4.6)	eMBB	Indoor-hotspot – eMBB	Downlink	10	
<b>5.2.4.3.7</b> User plane latency (ms) (4.7.1)	eMBB	Not applicable	Uplink and Downlink	4	
	URLLC	Not applicable	Uplink and Downlink	1	
<b>5.2.4.3.8</b> Control plane latency (ms) (4.7.2)	eMBB	Not applicable	Not applicable	20	
	URLLC	Not applicable	Not applicable	20	
<b>5.2.4.3.9</b> Connection density (devices/km <sup>2</sup> ) (4.8)	mMTC	Urban macro – mMTC	Uplink	1 000 000	
<b>5.2.4.3.10</b> Energy efficiency (4.9)	eMBB	Not applicable	Not applicable	Capability to support a high sleep ratio and long sleep duration	

TABLE 4 (*end*)

Minimum technical performance requirements item (5.2.4.3.x), units, and Report ITU-R M.2410 section reference	Category			Required value	ITU-R confirmation that the requirement is met by the candidate technology proposal
	Usage scenario	Test environment	Downlink or uplink		
<b>5.2.4.3.11</b> Reliability (4.10)	URLLC	Urban macro – URLLC	Uplink or Downlink	1-10 <sup>-5</sup> success probability of transmitting a layer 2 PDU (protocol data unit) of size 32 bytes within 1 ms in channel quality of coverage edge	YES
<b>5.2.4.3.12</b> Mobility classes (4.11)	eMBB	Indoor hotspot – eMBB	Uplink	Stationary, Pedestrian	
	eMBB	Dense urban – eMBB	Uplink	Stationary, Pedestrian, Vehicular (up to 30 km/h)	
	eMBB	Rural – eMBB	Uplink	Pedestrian, Vehicular, High speed vehicular	
<b>5.2.4.3.13</b> Mobility Traffic channel link data rates (bit/s/Hz) (4.11)	eMBB	Indoor hotspot – eMBB	Uplink	1.5 (10 km/h)	
	eMBB	Dense urban – eMBB	Uplink	1.12 (30 km/h)	
	eMBB	Rural – eMBB	Uplink	0.8 (120 km/h)	
				0.45 (500 km/h)	
<b>5.2.4.3.14</b> Mobility interruption time (ms) (4.12)	eMBB and URLLC	Not applicable	Not applicable	0	
<b>5.2.4.3.15</b> Bandwidth and Scalability (4.13)	Not applicable	Not applicable	Not applicable	At least 100 MHz	
				Up to 1 GHz	
				Support of multiple different bandwidth values	