Table A

Candidate Technology – Proponent 3GPP RIT (IMT2020/14)

# A. Candidate Technology – 3GPP RIT (IMT2020/14)

**Sources**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| 5D/50 | 5D/55 | 5D/69 | 5D/90 | -NA- | 5D/121 | 5D/95 | 5D/49 | 5D/94 | 5D/136 | 5D/123 | -NA- | -NA- |

Note:  For the 5GIF column in the tables, some of the information in the previous version was based on invited verbal interventions from 5GIF on the technical discussions related to the evaluation reports during the WP 5D meeting #34 and was therefore previously indicated in [ ] format and preliminarily reflected in the relevant outcome of Step 4 (Document IMT-2020/38). At Meeting #34 it was agreed that WP 5D would review the information and the [ ] status in Meeting #35. 5GIF submitted the final evaluation report to Meeting #35, which is consistant with the verbal intervesions in Meeting #34. Hence in Meeitng #35, WP 5D agreed the information and removed the [ ] status and accordingly updated this and other relevant documents, as the conclusions from 5GIF have not changed..

#### 5.2.4.1 Compliance template **for** services

**TABLE A.1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Service capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.1.1** | **Support for wide range of services**Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)?: YES / NOSpecify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.(1) | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes | Yes |  |  |   |

#### 5.2.4.2 Compliance **template** for spectrum

**TABLE A.2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Spectrum capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.2.1** | **Frequency bands identified for IMT**Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed. | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes | Yes |  |  |   |
| **5.2.4.2.2** | **Higher Frequency range/band(s)**Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed.NOTE 1 – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement. | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes | Yes |   |  |  |

#### 5.2.4.3 Compliance template for **technical** performance

**TABLE A.3**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes | Yes |   |  |  |
| Uplink | 10 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 15 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 50 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 0.21 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 0.15 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| eMBB | Rural – eMBB | Downlink | 0.12 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 0.045 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| **5.2.4.3.5**Average spectral efficiency (bit/s/Hz/ TRxP)*(4.5)* | eMBB | Indoor Hotspot – eMBB | Downlink | 9  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 6.75  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| eMBB | Dense Urban – eMBB | Downlink | 7.8  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 5.4  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| eMBB | Rural – eMBB | Downlink | 3.3  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Uplink | 1.6  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes |  Yes |   |   |  |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| URLLC | Not applicable | Uplink and Downlink | 1 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| URLLC | Not applicable | Not applicable | 20 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 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 | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.12**Mobility classes*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | Stationary, Pedestrian | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| eMBB | Dense Urban – eMBB | Uplink | Stationary, Pedestrian,Vehicular (up to 30 km/h) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| eMBB | Rural – eMBB | Uplink | Pedestrian, Vehicular, High speed vehicular | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.13**MobilityTraffic channel link data rates (bit/s/Hz)*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | 1.5 (10 km/h) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| eMBB | Dense Urban – eMBB | Uplink | 1.12 (30 km/h) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| eMBB | Rural – eMBB | Uplink | 0.8 (120 km/h) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| 0.45 (500 km/h) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| Up to 1 GHz | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
| Support of multiple different bandwidth values(4) | Yes | Yes | Yes | Yes |   | Yes | Yes | Yes | Yes | Yes |   |   |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table B

Candidate Technology – Proponent 3GPP SRIT (IMT2020/13)

#  Candidate Technology – 3GPP SRIT (IMT2020/13)

**Sources**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| 5D/50 | 5D/55 | 5D/69 | 5D/90 | -NA- | -NA- | 5D/96 | -NA- | 5D/94 | 5D/136 | 5D/123 | -NA- | -NA- |
|  |  |  |  |  |  |  |  |   |  |  |  |  |

#### 5.2.4.1 Compliance template **for** services (both RIT components)

**TABLE B.1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Service capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.1.1** | **Support for wide range of services**Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)?: YES / NOSpecify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.(1) | Yes | Yes  | Yes | Yes |  |  | Yes |  |  | Yes |  |  |  |

#### 5.2.4.2 Compliance **template** for spectrum (both RIT components)

**TABLE B.2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Spectrum capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.2.1** | **Frequency bands identified for IMT**Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed. | Yes | Yes  | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| **5.2.4.2.2** | **Higher Frequency range/band(s)**Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed.NOTE 1 – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement. | Yes | Yes  | Yes | Yes |  |  | Yes |  |  |  |  |  |  |

#### 5.2.4.3 Compliance template for **technical** performance (SRIT both RIT components)

**TABLE B.3a**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 | Yes | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 10 | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 15 | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 50 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 0.21 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 0.15 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Downlink | 0.12 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 0.045 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.5**Average spectral efficiency (bit/s/Hz/ TRxP)*(4.5)* | eMBB | Indoor Hotspot – eMBB | Downlink | 9  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 6.75  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 7.8  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 5.4  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Downlink | 3.3  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
|  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Uplink | 1.6  |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
|  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| URLLC | Not applicable | Uplink and Downlink | 1 |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 |  | Yes |   | Yes |  |  |  |  |  |  |  |  |  |
| URLLC | Not applicable | Not applicable | 20 |  | Yes |   | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  |  | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 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  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.12**Mobility classes*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | Stationary, Pedestrian | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | Stationary, Pedestrian,Vehicular (up to 30 km/h) | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | Pedestrian, Vehicular, High speed vehicular | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.13**MobilityTraffic channel link data rates (bit/s/Hz)*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | 1.5 (10 km/h) |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | 1.12 (30 km/h) |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | 0.8 (120 km/h) |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| 0.45 (500 km/h) |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Up to 1 GHz | Yes  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
| Support of multiple different bandwidth values(4) |  | Yes |  | Yes |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

#### 5.2.4.3 Compliance template for **technical** performance (SRIT – NR Component)

**TABLE B.3b**

 *Refer to Table A.3* *for candidate technology – 3GPP RIT (IMT 2020/14)*

#### 5.2.4.3 Compliance template for **technical** performance (SRIT – LTE Component)

**TABLE B.3c**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |   |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| Uplink | 10 | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| Uplink | 15 | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| Uplink | 50 |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| Uplink | 0.21 |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| Uplink | 0.15 |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| eMBB | Rural – eMBB | Downlink | 0.12 |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| Uplink | 0.045 |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| **5.2.4.3.5**Average spectral efficiency (bit/s/Hz/ TRxP)*(4.5)* | eMBB | Indoor Hotspot – eMBB | Downlink | 9  |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| Uplink | 6.75  |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 7.8  |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| Uplink | 5.4  |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| eMBB | Rural – eMBB | Downlink | 3.3  |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
|  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| Uplink | 1.6  |  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
|  |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 |  |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 | Yes |   | Yes |  |  |  |  |  | Yes |  |  |  |  |
| URLLC | Not applicable | Uplink and Downlink | 1 |  |  | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 | Yes |  | Yes |  |  |  |  |  | Yes |  |  |  |  |
| URLLC | Not applicable | Not applicable | 20 | Yes |  | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  |  | Yes | Yes |  |  |  |  |  | Yes | Yes |  |  |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration | Yes | Yes | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 success probability of transmitting a layer 2 PDU (protocol data unit) of size 32 bytes within 1 ms in channel quality of coverage edge |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.12**Mobility classes*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | Stationary, Pedestrian |  |  |  |  |  |  |  |  | Yes |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | Stationary, Pedestrian,Vehicular (up to 30 km/h) |  |  | Yes |  |  |  |  |  | Yes |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | Pedestrian, Vehicular, High speed vehicular |  |  | Yes |  |  |  |  |  | Yes |  |  |  |  |
| **5.2.4.3.13**MobilityTraffic channel link data rates (bit/s/Hz)*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | 1.5 (10 km/h) |  |  |  |  |  |  | Yes |  | Yes |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | 1.12 (30 km/h) |  |  | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | 0.8 (120 km/h) |  |  | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| 0.45 (500 km/h) |  |  | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 |  |  | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz | Yes |   | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
| Up to 1 GHz | No |  |  |  |  |  |  |  | No |  |  |  |  |
| Support of multiple different bandwidth values(4) |  |  | Yes |  |  |  | Yes |  | Yes |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table C

Candidate Technology – Proponent China RIT (IMT2020/15)

**C. Candidate Technology – China RIT (IMT2020/15)**

Refer to compliance template in TABLE A.3 and TABLE B.3c, noting that the followings (see ATTACHMENT 1 to IMT-2020/24);

* WP 5D has concluded that NR part in Document IMT-2020/15 and Document IMT-2020/14 are technically identical submissions, therefore a single evaluation is applicable to both.
* WP 5D has concluded that NB-IoT part of Document IMT-2020/15 and NB-IoT feature in Document IMT-2020/13 are technically identical, therefore a single evaluation on NB-IoT is applicable to both.

Table D

Candidate Technology – Proponent Korea RIT (IMT2020/16)

# *D*. Candidate Technology – Korea RIT (IMT2020/16)

Refer to compliance template in TABLE A.3, noting that WP 5D has concluded that Documents IMT-2020/16 and IMT-2020/14 are technically identical submissions,therefore a single evaluation is applicable to both (see ATTACHMENT 1 to IMT-2020/25).

Table E

Candidate Technology – Proponent ETSI (TC DECT) & DECT Forum SRIT (IMT2020/17(Rev.1))

# E. Candidate Technology – DECT SRIT (IMT2020/17)

**Sources**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| 5D/50 | 5D/60 | 5D/69 | 5D/90 | -NA- | -NA- | -NA- | -NA- | -NA- | 5D/136 | -NA- | -NA- | -NA- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

Note:  For the 5GIF column in the tables, some of the information in the previous version was based on invited verbal interventions from 5GIF on the technical discussions related to the evaluation reports during the WP 5D meeting #34 and was therefore previously indicated in [ ] format and preliminarily reflected in the relevant outcome of Step 4 (Document IMT-2020/38). At Meeting #34 it was agreed that WP 5D would review the information and the [ ] status in Meeting #35. 5GIF submitted the final evaluation report to Meeting #35, which is consistant with the verbal intervesions in Meeting #34. Hence in Meeitng #35, WP 5D agreed the information and removed the [ ] status and accordingly updated this and other relevant documents, as the conclusions from 5GIF have not changed..

#### 5.2.4.1 Compliance template **for** services[[1]](#footnote-1) (both RIT components)

**TABLE E.1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Service capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.1.1** | **Support for wide range of services**Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)?: YES / NOSpecify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.(1) | *Inconclusive* (DECT 2020 NR RIT component) |  | Inconclusive(DECT 2020 NR RIT component) | *Inconclusive* (DECT 2020 NR RIT component) |  |  |  |  |  | Inconclusive (DECT2020 NR component) |  |  |  |

#### 5.2.4.2 Compliance **template** for spectrum (both RIT components)

**TABLE E.2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Spectrum capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.2.1** | **Frequency bands identified for IMT**Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed. |  |  |  | Yes(DECT 2020 NR RIT component) |  |  |  |  |  | Yes (DECT2020 NR component) |  |  |  |
| **5.2.4.2.2** | **Higher Frequency range/band(s)**Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed.NOTE 1 – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement. |  |  |  | Yes(DECT 2020 NR RIT component) |  |  |  |  |  | Inconclusive (DECT2020 NR component) |  |  |  |

*No Compliance template for the SRIT submission provided*

#### 5.2.4.3 Compliance template for **technical** performance (SRIT)

**TABLE E.3a**

#### 5.2.4.3 Compliance template for **technical** performance (3GPP NR RIT component)

**TABLE E.3c**

 *Refer to Table A.3* *for candidate technology – 3GPP RIT (IMT 2020/14)*

#### 5.2.4.3 Compliance template for **technical** performance (DECT 2020 NR RIT component)

**TABLE E.3c**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 0.21 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 0.15 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Downlink | 0.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uplink | 0.045 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.5**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  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URLLC | Not applicable | Uplink and Downlink | 1 |  |  |  |  |  |  |  |  |  | No |  |  |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| URLLC | Not applicable | Not applicable | 20 |  |  |  |  |  |  |  |  |  | Yes |  |  |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  |  |  |  | Inconclusive |  |  |  |  |  | Inconclusive |  |  |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 success probability of transmitting a layer 2 PDU (protocol data unit) of size 32 bytes within 1 ms in channel quality of coverage edge | NO |  | NO | Yes, Yes |  |  |  |  |  | No |  |  |  |
| **5.2.4.3.12**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 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.13**MobilityTraffic 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) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 |  |  |  |  |  |  |  |  |  | inconlusive (DECT2020, URLLC) |  |  |  |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz |  |  |  | Yes |  |  |  |  |  | No |  |  |  |
| Up to 1 GHz |  |  |  | Yes  |  |  |  |  |  | No |  |  |  |
| Support of multiple different bandwidth values(4) |  |  |  | Yes  |  |  |  |  |  | Yes |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table F

Candidate Technology – Proponent Nufront RIT (IMT2020/18(Rev.1))

# F. Candidate Technology – EUHT RIT (IMT2020/18)

**Sources**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| 5D/50 | NA- | -NA- | 5D/90 | 5D/120 | NA- | 5D/97 | NA- | NA- | 5D/136 | 5D/125 | 5D/146 | 5D/129 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

Note:  For the 5GIF column in the tables, some of the information in the previous version was based on invited verbal interventions from 5GIF on the technical discussions related to the evaluation reports during the WP 5D meeting #34 and was therefore previously indicated in [ ] format and preliminarily reflected in the relevant outcome of Step 4 (Document IMT-2020/38). At Meeting #34 it was agreed that WP 5D would review the information and the [ ] status in Meeting #35. 5GIF submitted the final evaluation report to Meeting #35, which is consistant with the verbal intervesions in Meeting #34. Hence in Meeitng #35, WP 5D agreed the information and removed the [ ] status and accordingly updated this and other relevant documents, as the conclusions from 5GIF have not changed..

#### 5.2.4.1 Compliance template for services

**TABLE F.1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Service capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.1.1** | **Support for wide range of services**Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)?: YES / NOSpecify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.(1) |  NO |  |   |  Inconclusive |  |  | NO |  |  | NO |  | YES | No |

#### 5.2.4.2 Compliance **template** for spectrum

**TABLE F.2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Spectrum capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.2.1** | **Frequency bands identified for IMT**Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed. |   |  |   | Yes  |  |  |  |  |  | Inconclusive |  | YES | Inconclusive |
| **5.2.4.2.2** | **Higher Frequency range/band(s)**Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed.NOTE 1 – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement. |   |  |   | Yes |  |  |  |  |  | Inconclusive |  | YES  | Inconclusive |

#### 5.2.4.3 Compliance template for **technical** performance

**TABLE F.3**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 |  |  |  | Yes |  |  |  |  |  | No | Yes | Yes | No |
| Uplink | 10 |  |  |  | Yes  |  |  |  |  |  | No | Yes  | Yes | No |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 |  |  |  | Yes  |  |  |  |  |  | No | Yes  | Yes | Yes |
| Uplink | 15 |  |  |  | Yes  |  |  |  |  |  |  | Yes  | Yes | Yes |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 |  |  |  |  |  |  |  |  |  | No | Yes  | Yes | No  |
| Uplink | 50 |  |  |  |  |  |  |  |  |  | No | Yes  | Yes | No  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 | No |  |  | Inconclusive |  |  | No |  |  | No |  | Yes | No |
| Uplink | 0.21 | No  |  |  | Inconclusive |  |  | No  |  |  | No |  | Yes | No |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 | Yes |  |  | Inconclusive |  |  | Yes |  |  | Yes |  | Yes | Yes  |
| Uplink | 0.15 | No  |  |  | Inconclusive |  |  | No  |  |  | No |  | Yes | No  |
| eMBB | Rural – eMBB | Downlink | 0.12 |  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| Uplink | 0.045 | No  |  |  | Inconclusive |  |  | No |  |  |  |  | Yes |  |
| **5.2.4.3.5**Average spectral efficiency (bit/s/Hz/ TRxP)*(4.5)* | eMBB | Indoor Hotspot – eMBB | Downlink | 9  | No  |  |  | Inconclusive |  |  | No |  |  | No |  | Yes | No |
| Uplink | 6.75  | No  |  |  | Inconclusive |  |  | No |  |  | No |  | Yes | No |
| eMBB | Dense Urban – eMBB | Downlink | 7.8  | No  |  |  | Inconclusive |  |  | No |  |  | No |  | Yes | No |
| Uplink | 5.4  | No  |  |  | Inconclusive |  |  | No |  |  | No |  | Yes | No |
| eMBB | Rural – eMBB | Downlink | 3.3  |  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
|   |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| Uplink | 1.6  | Yes (Config B) |  |  | Inconclusive |  |  | Yes(Config B) |  |  |  |  | Yes |  |
|  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 |  |  |  |  |  |  |  |  |  | No | No | Yes | No |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 |  |  |  |  |  |  |  |  |  |  | No | Yes |  |
| URLLC | Not applicable | Uplink and Downlink | 1 |  |  |  |  |  |  |  |  |  |  | No | Yes |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 |  |  |  |  |  |  |  |  |  |  | Yes | Yes |  |
| URLLC | Not applicable | Not applicable | 20 |  |  |  |  |  |  |  |  |  |  | Yes | Yes |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  |  |  |  | Inconclusive  |  |  |  |  |  |  |  | Yes |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration |  |  |  | Yes |  |  |  |  |  |  |  | Yes | No |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 success probability of transmitting a layer 2 PDU (protocol data unit) of size 32 bytes within 1 ms in channel quality of coverage edge | No |  |  | Inconclusive  | No |  | No, No |  |  | No |  | Yes | No,No |
| **5.2.4.3.12**Mobility classes*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | Stationary, Pedestrian |  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| eMBB | Dense Urban – eMBB | Uplink | Stationary, Pedestrian,Vehicular (up to 30 km/h) |  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| eMBB | Rural – eMBB | Uplink | Pedestrian, Vehicular, High speed vehicular |  |  |  | Inconclusive |  |  |  |  |  |  |  | Yes |  |
| **5.2.4.3.13**MobilityTraffic channel link data rates (bit/s/Hz)*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | 1.5 (10 km/h) |  |  |  |  |  |  |  |  |  |  |  | Yes |  |
| eMBB | Dense Urban – eMBB | Uplink | 1.12 (30 km/h) |  |  |  |  |  |  |  |  |  |  |  | Yes |  |
| eMBB | Rural – eMBB | Uplink | 0.8 (120 km/h) |  |  |  |  |  |  |  |  |  |  |  | Yes |  |
| 0.45 (500 km/h) |  |  |  |  | Yes |  |  |  |  |  |  | Yes |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 |  |  |  |  |  |  |  |  |  | Inconclusive | Yes | Yes | No |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz |  |  |  | Yes |  |  |  |  |  | Yes |  | Yes |  |
| Up to 1 GHz |  |  |  | Yes |  |  |  |  |  | No |  | Yes |  |
| Support of multiple different bandwidth values(4) |  |  |  | Yes |  |  |  |  |  | Yes |  | Yes |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table G

Candidate Technology – Proponent TSDSI RIT (IMT2020/19(Rev.1))

# G. Candidate Technology – TSDSI RIT (IMT2020/19)

**Sources**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| 5D/50 | 5D/61 | -NA- | 5D/90 | 5D/120 | 5D/122 | -NA- | -NA- | 5D/94 | -NA- | 5D/124 | -NA- | -NA- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

#### 5.2.4.1 Compliance template **for** services

**TABLE G.1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Service capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.1.1** | **Support for wide range of services**Is the proposal able to support a range of services across different usage scenarios (eMBB, URLLC, and mMTC)?: YES / NOSpecify which usage scenarios (eMBB, URLLC, and mMTC) the candidate RIT or candidate SRIT can support.(1) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |

#### 5.2.4.2 Compliance **template** for spectrum

**TABLE G.2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Spectrum capability requirements | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| **5.2.4.2.1** | **Frequency bands identified for IMT**Is the proposal able to utilize at least one frequency band identified for IMT in the ITU Radio Regulations?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed. |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.2.2** | **Higher Frequency range/band(s)**Is the proposal able to utilize the higher frequency range/band(s) above 24.25 GHz?: YES / NOSpecify in which band(s) the candidate RIT or candidate SRIT can be deployed.NOTE 1 – In the case of the candidate SRIT, at least one of the component RITs need to fulfil this requirement. |   |  |  |  |  | Yes  |  |  |  |  |  |  |  |

#### 5.2.4.3 Compliance template for **technical** performance

**TABLE G.3**

| Minimum technical performance requirements item (5.2.4.3.x), units, and ReportITU-R M.2410-0 section reference(1) | Category | Required value | 5GIA | ATIS | ChEG | CEG | WWRF | TCOE (INDIA) | 5GMF | TTA SPG33 | TPCEG | 5GIF | AEG | Bnrist | CIRAT |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage scenario | Test environment | Downlink or uplink |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5.2.4.3.1**Peak data rate (Gbit/s)*(4.1)* | eMBB | Not applicable | Downlink | 20 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 10 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.2**Peak spectral efficiency (bit/s/Hz)*(4.2)* | eMBB | Not applicable | Downlink | 30 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 15 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.3**User experienced data rate (Mbit/s)*(4.3)* | eMBB | Dense Urban – eMBB | Downlink | 100 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 50 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.4**5th percentile user spectral efficiency (bit/s/Hz)*(4.4)* | eMBB | Indoor Hotspot – eMBB | Downlink | 0.3 |  |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 0.21 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 0.225 |  Yes  |  |  |  |  | Yes |  |  |  |  | Yes |  |  |
| Uplink | 0.15 |  Yes  |  |  |  |  | Yes |  |  |  |  | Yes |  |  |
| eMBB | Rural – eMBB | Downlink | 0.12 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 0.045 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.5**Average spectral efficiency (bit/s/Hz/ TRxP)*(4.5)* | eMBB | Indoor Hotspot – eMBB | Downlink | 9  |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 6.75  |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Downlink | 7.8  |  Yes |  |  |  |  | Yes |  |  |  |  | Yes |  |  |
| Uplink | 5.4  |  Yes |  |  |  |  | Yes |  |  |  |  | Yes |  |  |
| eMBB | Rural – eMBB | Downlink | 3.3  |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
|   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Uplink | 1.6  |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
|  Yes  |  |  |  |  | Yes |  |  |  |  | Yes  |  |  |
| **5.2.4.3.6**Area traffic capacity (Mbit/s/m2)*(4.6)* | eMBB | Indoor-Hotspot – eMBB | Downlink | 10 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.7**User plane latency(ms)*(4.7.1)* | eMBB | Not applicable | Uplink and Downlink | 4 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| URLLC | Not applicable | Uplink and Downlink | 1 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.8**Control plane latency (ms)*(4.7.2)* | eMBB | Not applicable | Not applicable  | 20 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| URLLC | Not applicable | Not applicable | 20 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.9**Connection density (devices/km2)*(4.8)* | mMTC | Urban Macro – mMTC | Uplink | 1 000 000  |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.10**Energy efficiency*(4.9)* | eMBB | Not applicable | Not applicable | Capability to support a high sleep ratio and long sleep duration |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.11**Reliability*(4.10)* | URLLC | Urban Macro –URLLC | Uplink or Downlink | 1-10−5 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 |  |  |  |  |  |  |  |
| **5.2.4.3.12**Mobility classes*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | Stationary, Pedestrian |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | Stationary, Pedestrian,Vehicular (up to 30 km/h) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | Pedestrian, Vehicular, High speed vehicular |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.13**MobilityTraffic channel link data rates (bit/s/Hz)*(4.11)* | eMBB | Indoor Hotspot – eMBB | Uplink | 1.5 (10 km/h) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Dense Urban – eMBB | Uplink | 1.12 (30 km/h) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| eMBB | Rural – eMBB | Uplink | 0.8 (120 km/h) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| 0.45 (500 km/h) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.14**Mobility interruption time (ms) *(4.12)* | eMBB and URLLC | Not applicable | Not applicable | 0 |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| **5.2.4.3.15**Bandwidth and Scalability*(4.13)* | Not applicable | Not applicable | Not applicable | At least 100 MHz |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Up to 1 GHz |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
| Support of multiple different bandwidth values(4) |   |  |  |  |  | Yes |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. If a proponent determines that a specific question does not apply, the proponent should indicate that this is the case and provide a rationale for why it does not apply. [↑](#footnote-ref-1)