

**SHARP**

Be Original.

# Views on Rel-18 RedCap enhancements

**RWS-210223**

**Agenda Item: 4.2**

**3GPP TSG Rel-18 Workshop**

**Electronic Meeting, June 28 - July 2, 2021**

- **In Rel-15/16**

eMBB, mMTC, URLLC and TSC use cases which are identified as 5G scenario and covered in the same network

- **In Rel-17**

Following categories of mid-range use cases were identified for further enhancement

- **Industrial wireless sensors**
- **Video surveillance**
- **Wearables**

These use cases focus on the requirement of

- **Device complexity**
- **Device size**
- **Power consumption**

# Target in Rel-18 RedCap

---

## Motivation to enhance RedCap

- **More use cases (in addition to the Rel-17 use cases)**
- **Further UE complexity reduction**
- **Performance enhancement (including for Rel-17 use cases)**
  - **Longer battery life with power saving**
  - **Throughput enhancement**
  - **Higher reliability**

# Work area in Rel-18 RedCap

---

- **Further UE complexity reduction**

- Reduced maximum UE bandwidth from Rel-17 RedCap (FR1: 20MHz, FR2: 100MHz)
  - **E.g. 5/10 MHz for FR1 and 20/50 MHz for FR2**

- **Power consumption optimization**

- RRM relaxation for serving cell can be introduced to reduce the power consumption of stationary RedCap devices
  - **L3 measurement relaxation**
- Simplified beam management for stationary RedCap devices
  - **Beam management optimization**

# Work area in Rel-18 RedCap

---

- **Throughput enhancement**

- For Rel-17 and more use cases, higher throughput is also considered as the enhancement
  - **Intra-band CA**
  - **40MHz or more BW for data channel**
  - **MIMO enhancement**

- **UL enhancement for UL heavy traffic**

- Industrial wireless sensors and video surveillance are typical UL heavy traffic, and can be enhanced for higher resource utilization efficiency
  - **One DCI for multiple UL grants**

- **Enhancement for higher reliability**

- More robust transmission for sensors in complex layout scenarios and safety related
  - **PDCCH enhancement (CORESET bundle, bigger AL ,...)**

- RAN include in Rel-18 the enhancements of RedCap from following perspective
  - **More use cases (in addition to the Rel-17 use cases)**
  - **Further UE complexity reduction**
  - **Performance enhancement (including for Rel-17 use cases)**

**SHARP**

Be Original.