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|  | **Radiocommunication Study Groups** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
|  |  |
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| **24 May 2016** |
| **English only** |
| Annex 28 to Working Party 5A Chairman’s Report |
| working document towards a preliminary draft new report itu-r M.[300GHz\_MS\_CHAR] |
| Technical and operational characteristics and applications of the land mobile service operating in the frequency band 275-450 GHz |

WRC-19 agenda item 1.15

# 1 Introduction

# 2 Scope

# 3 Related Recommendation and Report

|  |  |
| --- | --- |
| Report ITU-R SM.2352-0: | Technology trends of active services in the frequency range 275‑3 000 GHz |

# 4 List of acronyms and abbreviations

|  |  |
| --- | --- |
| BBU | Base band unit |
| RRH | Remote radio head |

# 5 Definition of terahertz (THz) and others

*[Editor’s note: This section will review section 2.1 to Report ITU-R SM.2352-0 from the points of view of the land mobile service applications and technologies.]*

# 6 Regulatory information above 275 GHz

# 7 Overview 300 GHz close proximity radiocommunication system

*[Editor’s note: This section will identify the specific frequency bands and land mobile service applications which will be used for sharing and compatibility studies with passive services by WP 1A.]*

# 8 System characteristics

*[Editor’s note: Technical and operational characteristics of the land mobile radiocommunication system operating in the frequency band 275-450 GHz are invited to be addressed in this section.]*

## 8.1 A close proximity radiocommunication system

A close proximity land mobile radiocommunication system operating in the band 275-320 GHz is shown in Table 1.

TABLE 1

Technical and operational characteristics of a land mobile CPRS applications operating
in the frequency band 275-320 GHz

| Frequency band (GHz) | 275-320 |
| --- | --- |
| Deployment density  | Depending on outdoor usage |
| Duplex Method | TDD |
| Modulation | OOK/BPSK/QPSK/16QAM |
| Average distance between CPRS[[1]](#footnote-1) fixed and mobile devices (m) | 0.1 |
| Maximum between CPRS fixed and mobile devices (m) | 1 |
| Antenna height (m) | TBD |
| Antenna beamwidth (degree) | 3-10  |
| Frequency reuse  | 1  |
| Antenna pattern  | TBD |
| Antenna polarization  | Liner |
| Indoor CPRS fixed device deployment (%) | 90 |
| Indoor CPRS fixed device penetration loss (dB) | >100 |
| Feeder loss (dB) | 2 |
| Maximum CPRS fixed device output power (dBm) | 10 |
| Channel bandwidth (GHz) | 2.16/4.32/8.64/12.96/17.28/ 21.60/43.20 |
| Transmitter spectrum mask  | TBD |
| Maximum CPRS fixed device antenna gain (dBi) | 30 |
| Maximum CPRS mobile device antenna gain (dBi) | 30 |
| Maximum CRPS fixed device output power (e.i.r.p.) (dBm) | 40 |
| Maximum CRPS mobile device output power (e.i.r.p.) (dBm) | 40 |
| Average CPRS fixed device activity (%) | 20 |
| Average CPRS fixed device power (dBm (e.i.r.p)) | 20 |
| Receiver noise figure typical (dB) | 15 |

## 8.2 [T.B.D.]

# 9 Summary

# 10 References

# 11 Annex(s) [if necessary]

1. CPRS stands for Close Proximity Radiocommunication System. [↑](#footnote-ref-1)