

Annex 2 to SSAC Paper 3/2024

HKCA 1083
ISSUE 1
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PERFORMANCE SPECIFICATION FOR ACTIVE ANTENNA SYSTEM (AAS) BASE STATION



FOREWORD

1. This specification is prescribed under section 32D of the Telecommunications Ordinance (Cap 106) (“the Ordinance”) to set out the technical and evaluation requirements for Active Antenna System (AAS) Base Station (BS). Equipment falling into the scope of this specification shall meet the stipulated requirements.
2. Under the Ordinance, the possession or use of any radiocommunications apparatus or any apparatus emitting radio frequency energy must be covered by an appropriate licence issued by the Communications Authority (CA) with the exception of those specifically exempted from licensing under the Ordinance, such as those covered by the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order (Cap 106Z).
3. At present, the Office of the Communications Authority (OFCA) operates a **Hong Kong Telecommunications Equipment Evaluation and Certification (HKTEC) Scheme**. Details of the HKTEC Scheme can be found in the information note OFCA I 421. Under the HKTEC Scheme, suppliers or manufacturers shall apply for certification of their apparatus against this specification. The application procedures for certification of radiocommunications apparatus can be found in the information note OFCA I 401.
4. The CA may amend any part of this specification as and when it deems necessary.
5. In case of doubt about the interpretation of this specification, the methods of carrying out the test and the validity of statements made by the equipment manufacturers or suppliers about the equipment, the decision of the CA shall be final.
6. The HKCA specifications and information notes issued by the CA can be downloaded from OFCA’s website at <http://www.ofca.gov.hk>. Enquiries about this specification may be directed to -

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AMENDMENT TABLE

| Item | Issue No. | Clause | Description |
|------|-------------------------|--------|---------------|
| 1. | Issue 1 January 2024 | All | First Release |

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1. SCOPE

This specification sets out the performance and evaluation requirements for Active Antenna System (AAS) Base Station (BS) supporting single-RAT UTRA FDD, single-RAT E-UTRA and Multi-Standard Radio (MSR) (UTRA FDD, E-UTRA, NR) for mobile communications services (hereafter referred to as “the equipment”).¹

2. OPERATING FREQUENCIES

The frequency bands for the equipment are as follows -

| | BS Receive | BS Transmit |
|----------------------|-------------------|--------------------|
| Paired Band | 703 – 738 MHz | 758 – 793 MHz |
| | 825 – 837.5 MHz | 870 – 882.5 MHz |
| | 880 – 915 MHz | 925 – 960 MHz |
| | 1710 – 1785 MHz | 1805 – 1880 MHz |
| | 1920 – 1980 MHz | 2110 – 2170 MHz |
| | 2500 – 2570 MHz | 2620 – 2690 MHz |
| Unpaired Band | 2300 – 2390 MHz | |
| | 3300 – 3400 MHz | |
| | 3400 – 3600 MHz | |

3. TECHNICAL REQUIREMENTS

3.1 The equipment shall meet the technical requirements specified in all relevant standards given in subclause (a) or (b) below –

- (a) Standards published by the European Telecommunications Standards Institute (ETSI):
 - (i) ETSI EN 301 908-1 “IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements”

¹ Abbreviations:

| | |
|--------|--------------------------------------------|
| E-UTRA | Evolved Universal Terrestrial Radio Access |
| FDD | Frequency Division Duplex |
| NR | New Radio |
| RAT | Radio Access Technology |
| UTRA | Universal Terrestrial Radio Access |

- (ii) ETSI EN 301 908-23 “IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 23: Active Antenna System (AAS) Base Station (BS)”
 - (b) Standards published by the 3rd Generation Partnership Project (3GPP) (excluding test items that are not covered in the ETSI standards in subclause (a) above):
 - (i) 3GPP TS 37.145-1 “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Active Antenna System (AAS) Base Station (BS) conformance testing; Part 1: Conducted conformance testing”
 - (ii) 3GPP TS 37.145-2 “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Active Antenna System (AAS) Base Station (BS) conformance testing; Part 2: Radiated conformance testing”
- 3.2 For equipment operating in the 3400 – 3600 MHz band, any unwanted emissions in the 3700 – 4200 MHz band shall not exceed -52 dBm/MHz.

4. EVALUATION REQUIREMENTS

The equipment shall comply with the operating frequencies and technical requirements as specified in clauses 2 and 3 respectively. Compliance with the technical requirements shall be evaluated in accordance with the procedures specified in the respective standards as given in clause 3.

5. REFERENCE

- (a) ETSI EN 301 908-1 “IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements”
- (b) ETSI EN 301 908-23 “IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 23: Active Antenna System (AAS) Base Station (BS)”
- (c) 3GPP TS 37.105 “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Active Antenna System (AAS) Base Station (BS) transmission and reception”
- (d) 3GPP TS 37.145-1 “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Active Antenna System (AAS) Base Station (BS) conformance testing; Part 1: Conducted conformance testing”

- (e) 3GPP TS 37.145-2 “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Active Antenna System (AAS) Base Station (BS) conformance testing; Part 2: Radiated conformance testing”

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