

RADIO SPECTRUM AND TECHNICAL STANDARDS ADVISORY COMMITTEE

**Proposal for Developing HKCA Specification
for Multi-Standard Radio Base Stations**

Purpose

This paper seeks members' views on the proposal to develop HKCA specification for Multi-Standard Radio (MSR) base stations.

Background

2. MSR base stations are base station equipment that can support multiple radio access technologies (e.g. GSM¹, UTRA² and E-UTRA³) in a single compact unit. The use of MSR base stations may help operators to reduce cost in terms of equipment space, power, operation and maintenance. In addition, based on software-defined radios, MSR base stations can be flexibly configured to work on different radio access technologies and different frequency bands.

International Standards on MSR Base Stations

3. The European Telecommunications Standards Institute (ETSI) has published harmonized standards covering conformance test specifications for MSR base stations. A list of the standards is attached in the Annex. It is noted that the ETSI standards have covered all the radio access technologies and frequency bands used for mobile services in Hong Kong.

The Proposal

4. MSR base stations are now available in the market. OFCA has received an enquiry from equipment supplier about the potential use of MSR equipment

¹ GSM (Global System for Mobile communications) is the second generation (2G) radio access technology.

² UTRA (Universal Terrestrial Radio Access) is a third generation (3G) radio access technology, the Frequency Division Duplex (FDD) version of which is commonly known as WCDMA.

³ E-UTRA (Evolved UTRA) is the radio access technology commonly known as Long Term Evolution (LTE).

in Hong Kong. Nevertheless, it is uncertain at this stage about the intention of local mobile network operators to deploy MSR base stations in Hong Kong. Subject to the need of local industry, OFCA may develop HKCA specification for MSR base stations in order to facilitate the potential rollout of MSR base stations by local mobile network operators.

Advice Sought

5. Members are invited to give their comments on paragraph 4 above.

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List of ETSI Harmonized Standards covering
Conformance Testing for MSR Base Stations

- (a) **EN 301 908-18** - the technical and evaluation requirements (conducted measurements) for MSR base stations supporting a combination of GSM, UTRA and E-UTRA radio access technologies.
- (b) **EN 301 908-1** - technical and evaluation requirements (radiated measurements) on radiated emissions from base stations, common to base stations for International Mobile Telecommunications (IMT), e.g. UTRA FDD, E-UTRA (not including GSM).
- (c) **EN 301 908-14** - technical and evaluation requirements (conducted measurements) for base stations supporting E-UTRA (i.e. LTE). MSR base stations shall conform to EN 301 908-14 for single-technology E-UTRA operation.
- (d) **EN 301 908-3** - technical and evaluation requirements (conducted measurements) for base stations supporting UTRA FDD (i.e. WCDMA). MSR base stations shall conform to EN 301 908-3 for single-technology UTRA FDD operation.
- (e) **EN 301 502** - technical and evaluation requirements (both conducted and radiated measurements) for base stations supporting GSM. MSR base stations shall conform to EN 301 502 for single-technology GSM operation.