

**For information  
on 10 December 2007**

**Legislative Council Panel on  
Information Technology and Broadcasting**

**Public Consultation on Creation of Class Licences  
for Radio Frequency Identification Tag,  
Medical Implant Communication System Device  
and Taxi Mobile Stations**

**INTRODUCTION**

This paper briefs Members on the consultation exercises launched by the Office of the Telecommunications Authority (“OFTA”) on 7 December 2007 concerning the creation of two class licences for 433 MHz radio frequency identification (“RFID”) tag and 402 – 405 MHz medical implant communication system (“MICS”) device, under section 7B(2) of the Telecommunications Ordinance (Cap. 106) (“the Ordinance”). OFTA also intends to consult the public on the creation of a class licence for taxi mobile stations in early 2008.

**BACKGROUND**

RFID System

2. An RFID system is a low power radio system comprising RFID tags and interrogators. The RFID tag is intended for attachment to an item, which a user wishes to manage. It stores a tag ID number and other data regarding the tag or item and communicates this information to the interrogator. The interrogator, which is a radio device capable of communicating to tags within its radiofrequency communication range, controls the protocol, reads information from the tag, directs the tag to store data in some cases, and ensures message delivery and validity.

3. In Hong Kong, OFTA has already allocated frequencies in a number of frequency bands including 135 kHz, 13.56 MHz, 860 – 960 MHz and 2.45 GHz bands for RFID systems. These frequency bands have been specified by the International Standard Organisation (“ISO”) for use by RFID technologies. Examples of RFID system applications in Hong Kong include electronic payment systems (e.g. Octopus card), electronic toll collection systems (e.g. Autotoll card), and Automatic Baggage Handling and Reconciliation System deployed at the Hong Kong International Airport. The use of RFID systems operating in the frequency bands is exempted from licensing under the Telecommunications (Telecommunications Apparatus)(Exemption from Licensing) Order.

4. In 2004, ISO has also specified the use of 433 MHz for RFID applications. 433 MHz RFID system for use at seaports has now received wide acceptance in economies including the Mainland China, the United States, European countries, Korea, Singapore and Taiwan.

#### MICS Device

5. Commonly used for regulating heart rates, controlling pain, administering pharmaceuticals etc., an MICS comprises an active implantable medical radio device placed inside a human body and an external programmer/control radio device. The two radio devices will exchange data through a wireless communication link which enables a clinician to reprogramme the implantable device and obtain useful diagnostic information. Because of their short-range communication, these devices require a transmitter power of a very low level and thus their operation will not cause harmful interference to other communications installations. The 402 – 405 MHz band is widely used for MICS in countries including the United States, Canada, Australia, and European Union’s members.

## **CLASS LICENCES FOR RFID AND MICS**

6. In anticipation of rising interest in RFID and MICS applications, OFTA proposes to create two class licences so as to allow the community to use the 433 MHz RFID systems<sup>1</sup> and 402 – 405 MHz MICS devices. Use of class licence is an administratively simple approach, whereby the users concerned are licensed without the need to undergo an application and processing procedure. It is an effective and efficient means to regulate the operation of radio devices with low interference potential.

## **BENEFITS**

7. RFID has been widely recognized as the emerging technology capable of enhancing efficiencies for shipping port management and the logistics sector. The use of MICS devices would facilitate the development of medical services and support improved healthcare services. Allocating frequencies for use of RFID systems and MICS devices is in line with the Government objective of facilitating the wider applications of advanced technologies and ensuring the use of spectrum is socially economical and efficient, with a view to attaining maximum benefits for the community.

## **TECHNICAL PARAMETERS**

8. Having regard to worldwide deployment, the international standards and spectrum compatibility issues, OFTA proposes that RFID tags and MICS devices covered by their respective class licences shall comply with the following transmitter parameters:

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<sup>1</sup> While exemption order is used to cover the use of RFID applications in the 135 kHz, 13.56 MHz, 860 – 960 MHz and 2.45 GHz bands, OFTA proposes to use class licence instead of the exemption order to cover the new 433 MHz RFID tag. Since the introduction of class licence system in the amended Ordinance in 2000, it has been the intention of the Telecommunications Authority to gradually replace the exemption order by the class licence system. The advantages of replacing the exemption order with class licence system are two-folds. Firstly it allows the continual maintenance of a simple licensing arrangement. Secondly, it is more flexible for the Telecommunications Authority to amend the existing conditions or adopt new conditions to meet the changing need of the industry.

(a) for RFID tags

frequency band:	433.92 MHz
power limit:	2.2 mW e.r.p.
occupied bandwidth:	500 kHz (max)

(b) for MICS devices

frequency band:	402 – 405 MHz
power limit:	25 $\mu$ W e.i.r.p.
channel bandwidth:	300 kHz

9. In addition to the transmitter parameters set out in paragraph 8 above, the RFID tags and MICS devices shall conform to the technical specifications prescribed under section 32D of the Ordinance. In consultation with the industry, OFTA has prepared two technical specifications<sup>2</sup> to set out the detailed technical and operational requirements for RFID tags and MICS devices.

## **CLASS LICENCE FOR TAXI MOBILE RADIO STATIONS**

10. Taxi radio call system is used by the taxi associations as a means for maintaining communication between the taxi call centre and the taxis on the move. Since September 1995, OFTA has been using the Public Radiocommunications Service (PRS) Licence to license the operation of taxi radio call system. OFTA intends to introduce a newly created licence for the taxi radio call system after the existing PRS licence expires in September 2008. Alongside with the change of licence type, OFTA proposes to create a class licence to cover the possession and use of the taxi mobile stations in order to maintain a simple licensing arrangement<sup>3</sup>.

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<sup>2</sup> HKTA 1051 entitled "Performance Specification for Radio Frequency Identification (RFID) Equipment Operating in the 433 MHz Band", and HKTA 1052 entitled "Performance Specification for Medical Implant Communication Systems".

<sup>3</sup> Currently, possession and use of taxi mobile stations connected lawfully to the network or system under a PRS Licence are exempted from licensing under section 4 of the Telecommunications (Telecommunications Apparatus)(Exemption from Licensing) Order.

## WAY FORWARD

11. On 7 December 2007, OFTA issued two separate consultation papers<sup>4</sup> on creation of class licence for RFID tag and creation of class licence for MCIS device, and invited public views and comments on the proposals set out in the consultation papers, as well as the draft Class Licences and draft technical specifications set out at the Appendices to the consultation papers. The deadline for the consultation is 4 January 2008. After considering the views and comments received in the consultation exercise, OFTA will finalise the details of the class licences.

12. On the proposal of creating a class licence for taxi mobile stations, OFTA has conducted a consultation with the taxi trade on the proposed new licensing regime and ended on 30 November 2007. After considering the views from the taxi trade, OFTA would consult the public for the creation of a class licence for the taxi mobile stations in early 2008.

Office of the Telecommunications Authority  
3 December 2007

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<sup>4</sup> They are *Consultation Paper on the Creation of a Class Licence for Radio Frequency Identification Tag under Section 7B(2) of the Telecommunications Ordinance (Cap. 106)*, and *Consultation Paper on the Creation of a Class Licence for Medical Implant Communication System Device under Section 7B(2) of the Telecommunications Ordinance (Cap. 106)*.