

## WHITE PAPER ON License Free Low Powered Micro Cellular Systems

DoT through its letter No. 20-281/2010-AS-I Vol.XII (pt) dated 8th May 2019 (Annexure-I), inter-alia, informed TRAI that the National Digital Communications Policy (NDCP) 2018, under its 'Propel India' mission, envisages one of the strategies as 'Reforming the licensing and regulatory regime to catalyse Investments and Innovation and promote Ease of Doing Business'. Enabling unbundling of different layers (e.g. infrastructure, network, services and application layer) through differential licensing is one of the action plans for fulfilling the afore-mentioned strategy.

There is an existing TRAI Consultation vide Reference No. 21/2019 dated 9<sup>th</sup> December 2019 "Pre-Consultation Paper on Enabling Unbundling of Different Layers Through Differential Licensing" with link as <https://www.traai.gov.in/pre-consultation-paper-enabling-unbundling-different-layers-through-differential-licensing>

Though more than 2 years have passed, yet TRAI Recommendations are awaited.

OFCOM also had adopted somewhat similar strategy about a decade back.

The White Paper has suggestion to create Indian companies like QUALCOMM who were given spectrum free in early 90 for US invented Mobile system.

One of the differential licensing option can be through adoption of a **license free approach through Micro cellular low powered telecommunication systems** with maximum EIRP up to 4 Watts with FDD access techniques making use of indigenously developed systems and technology. It can be implemented by allocating a small chunk of spectrum in the frequency band 1800 MHz that is presently used by existing wireless users of captive systems subject to using only Indian designed & owned 4G / LTE system. Maximum EIRP of 36 dbm can be as per IND 55 NFAP 2011. Annex A may be seen.

**License Free Low Powered Micro Cellular Systems** will address requirements for **private non-commercial usage** and get further synergies for **Small Sized LTE based mobile systems, with its various derivatives including rural and disaster communications, and NIB (Network in Box)** as was also envisaged in DOT Gazette Notification No. 18-10/2017- IP dated 29th August 2018.

### **Test Licenses**

This can be a strategic move. The Authority/ DoT could easily support through provision of **test licenses in appropriate LTE bands to start with.**

India can take the lead and allow, and **support indigenously developed private mobile systems say for a period of 5 to 10 years. Spectrum reservation** can be done for 5+5 MHz in FDD LTE band or 5 MHz TDD LTE band.

Now there are additional bands that are being used by Licensed Service Providers or are part of TRAI Recommendations including for 5G auction and are being planned in

various parts of the world including for **private mobile networks**. These include spectrum bands in the 700MHz, 800MHz, 900MHz, 1800MHz, 2100MHz, 2300MHz, 2500MHz, 3300-3600 MHz, 26 GHz, 40 GHz, 50 GHz, and 66 GHz bands for mobile services. **Further studies can be carried out by WPC to identify other right set of frequency slots for ready usage that can support indigenously developed private mobile systems.**

#### ANNEX A

##### 1. Extracts from NFAP 2011 (September 2011)

'India Remarks' in the National Frequency Allocation Table (Sept 2011) Foot Notes are as below:

###### IND 50

Requirements for Micro cellular low powered, telecommunication systems with maximum EIRP up to 4 Watts, FDD access techniques may be considered at specific locations for indigenously developed systems and technology, in a small chunk, in the frequency band 900 MHz presently used by existing wireless users of captive systems subject to co-ordination on case-by-case basis.

###### IND55

Requirements for Micro cellular low powered telecommunication systems with maximum EIRP up to 4 Watts, FDD access techniques may be considered at specific locations for indigenously developed systems and technology, in a small chunk, in the frequency band 1800 MHz presently used by existing wireless users of captive systems subject to co-ordination on case-by-case basis.

#### **We can support indigenously developed private mobile systems in the country based on NFAP plan 2011 itself?**

A decade back some domestic companies had designed private GSM networks where the PABX was acting as the MSC and all features & functions were configured exactly the way customers were doing it for the PBX. BSC & BTS were configured for RF functions. There was lot of traction from Defense, NDMA, Railways and large PSU "factory cum residential" complexes but eventually no license free approach was not entertained at that time.

**Similar past precedence have existed prior to 2007 for Corpect that reserved spectrum for Indian R&D based products.**

##### 2. OFCCOM

**OFCCOM had allowed Low-power concurrent use in the spectrum bands 1781.7 –1785 MHz paired with 1876.7 – 1880 MHz more than a decade back.**