

**DIGICEL (PNG) LIMITED**

**Submission to NICTA**

***Public Consultation on Draft Band Plan 800 MHz***

**15 April 2021**

*This submission is provided to NICTA for the purpose of the current public inquiry only and may not be used for any other purpose*

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# 1 Executive Summary

Digicel welcomes this opportunity to respond to the public consultation on “Draft Band Plan 800 MHz” conducted by the National Information & Communications Technology Authority of Papua New Guinea (“NICTA”). As the leading provider of telecommunication services in Papua New Guinea, Digicel welcomes this opportunity to share its global experience of spectrum management and related matters.

As requested, Digicel has provided in this document comprehensive comments and feedback on the NICTA proposals contained in the Draft Band Plan and can summarise these as follows:

- The proposed band plan is not consistent with any current or planned 3GPP band plan. This will affect the availability of compatible devices and should be avoided.
- Given the timescales associated with ensuring new devices support new 3GPP bands, which Digicel believes to be 2-3 years, there would be no compatible devices even if the 3GPP band was defined today.
- Having spent the past 14 years constructing and operating a national radio network in Papua New Guinea and in doing so overcoming many challenges, Digicel believes plans for a new national PPDR network are poorly conceived. Digicel does not believe any such network will materialise in Papua New Guinea.
- As an alternative and consistent with APT policies on PPDR networks, Digicel believes that a co-operative agreement with an established commercial national operator to share their network would be a far better solution for Papua New Guinea. PPDR-commercial network co-operation is fully supported by 3GPP releases and Digicel, as the natural partner network in Papua New Guinea, would welcome the opportunity to discuss this concept further with NICTA and interested parties.
- Digicel believes that NICTA should adopt a needs-based approach to allocating spectrum in Papua New Guinea instead of allocating equal amounts of spectrum to all licensed operators. All spectrum allocations should be fully justified, and a firm use-it-or-lose-it policy should be implemented and enforced.

Further details are provided in the remainder of this document. Digicel would be more than happy to discuss with NICTA anything that is unclear or to further explore any of the ideas.

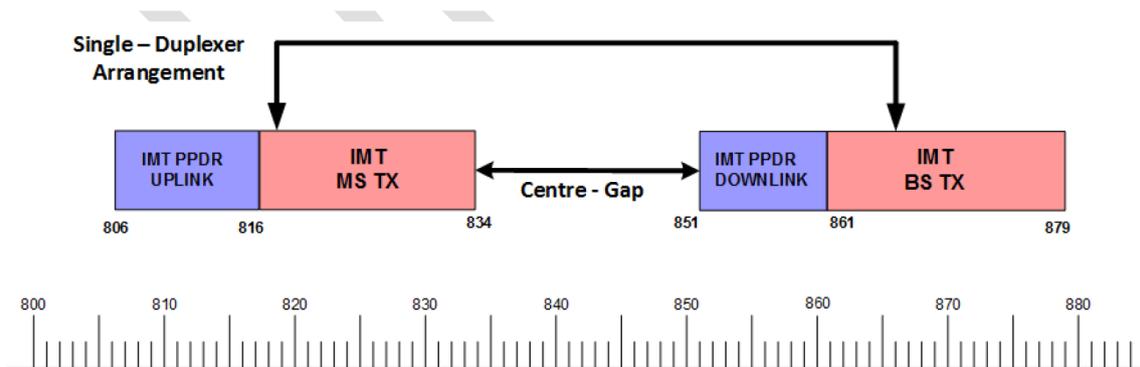
## 2 Introduction

Digicel welcomes this opportunity to participate in the public consultation on “Draft Band Plan – 800 MHz” and to provide feedback and comments as requested.

## 3 Background

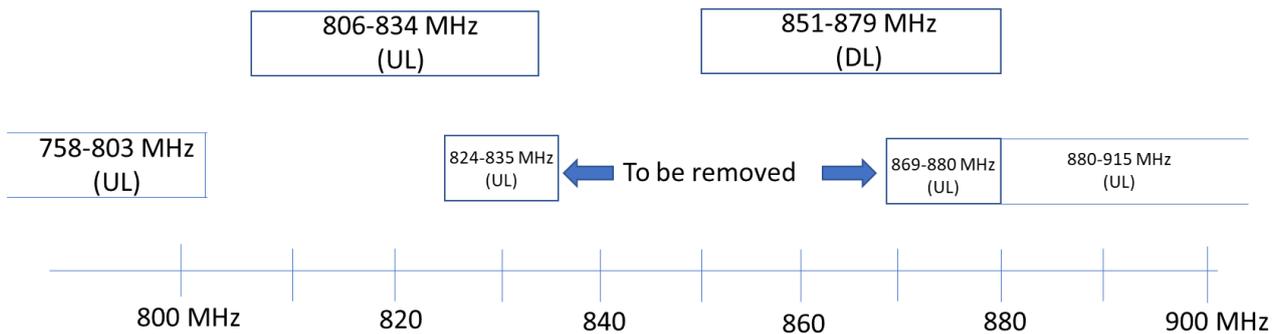
The draft band plan contains proposals to implement a band plan for part of the 800 MHz band in PNG. This proposal is as follows:

Uplink: 806 MHz – 834 MHz. Downlink: 851 MHz – 879 MHz. This is shown in the Diagram below.



This Duplex spectrum allocation of 28 MHz is further divided between a reservation of 10 +10 MHz for PPDR (Public Protection and Disaster Relief) and 18 MHz for public Mobile telephony services. This would be shared between the licensed operators in PNG.

The diagram below shows this proposed band plan against the nearby spectrum allocations in PNG.



The spectrum on the left is the Downlink of band 28 while the spectrum on the right is the uplink of band 8. The current part of band 5 used by the TPNG CDMA service with 11 MHz is also shown. This will be removed as part of any rationalisation of the 800 MHz band.

## 4 Comments and Feedback

### 4.1 Lack of 3GPP defined Spectrum Band

The proposed spectrum plan comprising both the PPDR allocation and the commercial Mobile services spectrum does not align with any current 3GPP plan. This means that there will be no handsets available in the market capable of using this spectrum. On this basis, this proposed allocation should be avoided.

### 4.2 Timescales Associated with Adopting New 3GPP Spectrum Plans

In the event that this band structure is proposed on the basis that a 3GPP band will be defined to cover this, this really is a long-term exercise. In Digicel's opinion, this will take 2-3 years before devices will appear capable of supporting this band. In Digicel's experience, the band plan will be unusable until then.

Even if there is a 3GPP defined plan available at some future date, devices have a limit on the number of bands that they can support. The more popular or international bands will be top of the supported list with specialised or rare bands at the bottom of the list (if they make it on to the list). In all probability, devices for the Papua New Guinean market capable of using this band plan will not be COTS devices but rather bespoke or customized devices with associated price premiums. This is not consistent with having low costs of entry for Papua New Guinea's users.

### 4.3 PPDR Plans and Dependency on National Network

The PPDR plans in the draft band plan reflect APT thinking and policy on dedicated spectrum for PPDR networks. The stumbling point is that this will require the construction of a national network and this will not be easy in a country such as Papua New Guinea with its challenging terrain. Any national network construction activities will take many years and at what cost? Will this really happen in Papua New Guinea? With Digicel's wealth of experience constructing and operating a national network in Papua New Guinea, Digicel does not believe this will happen.

### 4.4 Realistic Options for a National PPDR Network in PNG

Digicel believes a new national PPDR network is not a realistic option in Papua New Guinea. Instead, Digicel believes that it would be more prudent to consider some of the other approaches suggested in various APT PPDR guidance and advice documents. A cooperation agreement with an existing commercial mobile operator would be a far more effective plan to achieve a national PPDR network. Latest 3GPP releases support features to allow PPDR networks to share commercial networks while enjoying guaranteed QOS levels, pre-emption and priority access, benefiting from hardened networks as well as a quick-to-market approach. Such networks are now being deployed elsewhere in the world with a very significant undertaking, the ESN network already operational in the UK.

In Papua New Guinea, Digicel would be the natural partner network for any such PPDR plans. Indeed, there could even be provision for a number of temporary sites or COWS, part of the Digicel network that could be deployed at very short notice, by air or sea or land, to support national disasters in locations with no existing coverage.

Digicel would welcome the opportunity to discuss this concept further.

### 4.5 Spectrum Allocation Policies

Traditionally, spectrum has been allocated in Papua New Guinea on an equal basis to each operator. So bands are split evenly between TPNG/Bmobile and Digicel and keeping provision for a third

operator. The 900 MHz band started on this basis with 11.6 MHz per operator but is now split evenly between TPNG/Bmobile and Digicel. The 1800 band is similarly divided as is Band 28 with a provision of 15 + 15 MHz for each of the three operators which are TPNG/Bmobile, Digicel and the new entrant ATH. These allocations have absolutely no correlation with the spectrum requirements of the operators concerned. These allocations are more of a right with some operators underusing their allocations while others are screaming out for more spectrum to meet the demands in their networks. Some Papua New Guinean operators are not even using the spectrum that has set aside for them, as is the case with the TPNG/Bmobile band 28 allocation. Such has been the stifling predicament for a number of years now.

Papua New Guinea has emerged as a mature network country, with two operators approaching 14 years. It is time that spectrum availability matched the requirements and demands of operators. There is no place for any sentiment that operators have matched spectrum allocations, irrespective of the network demands.

International reports as well as domestic reports put Digicel's share of the Papua New Guinean mobile market in the low to mid 90% figures. So, with 3 million subscribers, this means the current competitor in Papua New Guinea to Digicel, TPNG/Bmobile, will be operating with subscriber numbers in the couple of hundred thousand. These disparate subscriber bases simply cannot have the same spectrum demands to meet the requirements of its subscribers so why should they have the same spectrum allocations?

So once an appropriate 3GPP band structure has been decided for the 800 MHz band in Papua New Guinea, Digicel urges NICTA to adopt a strict demand basis for the award of any 800 MHz spectrum.