



PUBLIC CONSULTATION

The Commercial use of ISM “Unlicensed” Spectrum

Issued by:

The Turks and Caicos Islands
Telecommunications Commission

on

July 22, 2019

Ref: PN 2019-6

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1. Introduction

The Telecommunications Commission (the Commission) is conducting a consultation into the use of the unlicensed frequency bands in the 900 MHz, 2.4 GHz and 5.8 GHz as a delivery mechanism to provide public telecommunications services, especially those that are offered commercially-for-profit over an unlicensed architecture, and to assess whether such commercial applications should be permitted within the Turks & Caicos Islands.

The unlicensed band, which is commonly called the ISM band (Industrial, Scientific and Medical) is reserved globally for industrial, scientific and medical purposes, and is typically used to facilitate personal wireless computer networks (Wi-Fi) and other low powered consumer grade electronics that can be used without a licence.

Globally, in some jurisdictions, commercial use of the ISM band is allowed, but due to the potential for interferences, the uptake is low. However, some licensed telecommunications service providers typically use the ISM band to provide last mile connectivity to their customers or for backhaul links, while others such as Wireless Internet Service Providers (WISPs), use the band to provide internet access.

Due to the differing rules and regulations that apply to ISM bands from jurisdiction to jurisdiction, the Commission is conducting a consultation on the matter. As such, Industry stakeholders and the wider public are invited to participate and provide comments to the consultation questions that are defined within this consultation document.

2. Background

The Telecommunications Commission received an application on March 4, 2019 from AFF Installations Limited for an Internet Service Provider (ISP) licence to provide wireless Internet services via the implementation of hotspots and point-to-multipoint (PTMP) networks in Providenciales using ISM band frequencies in the 2.4 and 5.8 GHz range. Their application requested the use of an INS-2 ISP licence, a sub-ISP licence category allocated for small to medium-sized ISP networks, which limits the subscriber total to five hundred users.

AFF Installations Limited application was reviewed and published for public consultations in the Gazette on March 13, 2019. During this process, one comment was received in response to this publication notice.

The Commission at its board meeting held on June 20th, 2019, considered AFF Installations' application and decided that further public consultation was necessary on the matter before a decision was made. This decision precipitated this consultation into the use of the ISM band for public telecommunication services.

3. Overview of ISM Bands

The ISM bands in general are unlicensed frequency bands which do not have any regulatory protections governing their usage. This means that devices operating within them must accept harmful interferences from other devices that share the same space. However, ISM equipment is known to have embedded technology within them to prevent interferences by using a technique

known as spread spectrum. In spread spectrum technology, information is transmitted across multiple radio frequency channels using a modulation technique known as frequency hopping.

ISM devices are subjected to minor regulatory controls which define and set limits on their technical and operational parameters based on its application. In the USA, ISM equipment is regulated under the Federal Communications Commission (FCC) CFC 47 Part 15 rules. These same rules are also used to regulate ISM equipment here in the Turks & Caicos Islands.

4. TCI ISM Band Frequencies:

The table below defines the frequency bands that are designated for ISM use.

BAND	FREQUENCY RANGE (MHz)
900 MHz	905 - 928
2.4 GHz	2400 - 24835
5.8 GHz	5725 - 5850

5. Consultation Questions

1. The ISM bands are unlicensed bands that are designated for ISM applications. Users of these bands (Commercial/non-Commercial) use the spectrum free of cost. Should the commercial use of the ISM band for public telecommunication services be allowed over “free” spectrum?
2. The ISM bands are shared among many devices and may at times become overcrowded. Given its propensity to interferences, do you think that it is a viable platform to deliver commercial services on?
3. Commercial services in the ISM bands are allowed in some countries. In some countries, Wireless Internet Service Providers (WISPs) use the ISM bands to provide internet services to rural areas. Should the ISM bands be allowed to provide Internet services here in the TCI generally, or should it be restricted to only underserved or less densely populated areas within the community?
4. The Commission proposes that if commercial use of the ISM band is permitted, that such services is limited to a fixed number of users. Do you agree that the commercial use of the ISM should be limited to a set number of subscribers?
5. If the ISM band is not allowed to deploy commercial services, then what other viable alternatives do you think would best facilitate small telecommunication operators as it relates to the use of spectrum?

6. Consultation Submission Instructions

All responses to this consultation should be submitted by **August 19, 2019**.

Responses can be submitted electronically at consultations@tcitelecommission.tc or delivered via hand or courier to the following address:

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