



# TURKS AND CAICOS ISLANDS TELECOMMUNICATIONS COMMISSION

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September 30, 2010

## COMMISSION DECISION 2010 – 11

### Re: Spectrum Interference on Digicel's GSM Mobile Services

#### Background

A complaint of interference in the spectrum range 894.6 MHz – 904.4 MHz was lodged with the Telecommunications Commission by Digicel (Turks and Caicos) Limited on September 2, 2010. It was Digicel's position that this interference was likely (but not definitely) being caused by IslandCom Wireless's network. On September 3, 2010, the Commission called a meeting with Digicel and IslandCom to hear Digicel's complaint and to further investigate possible sources of interference. At the meeting IslandCom agreed to test its network to insure that they were compliant and not the source of interference.

On September 14, 2010, a second meeting was held with both of the above operators and LIME to identify and clear up the possible sources of interference. Digicel presented its case once more and everyone present was able to review it in detail and to point out possible reasons for the degradation of their network. IslandCom Wireless presented its report on North West Point which had been identified as one of the worst reported sites of interference and conclusively stated that their equipment met all the required standards and was compliant with the Manufacturing, 3GPP, and other relevant standards.

At the second worst site of interference namely The Providenciales International Airport, it was confirmed that LIME had a repeater installed which was tuned to amplify the entire 850 MHz band. LIME stated however that they would be retuning their repeater so that only their own signals would be amplified and repeated by the weekend.

The Commission presented a new frequency assignment proposal for all operators to consider which they believed would help minimize the impact of the interference on the operators' network. The Operators were asked to consider the proposed assignments and get back to the Commission with their comments on the best way forward. IslandCom immediately rejected their assignment as it provided only 9 MHz of spectrum for their use on the stated basis that their network can only grow in 5 MHz intervals, so they

required at least 10 MHz of spectrum to grow and effectively compete with the other Cellular Operators.

Subsequently, on September 20, 2010 the Commission released a more comprehensive proposal for the consideration of the Operators entitled *GSM 850 MHz and 900 MHz Interference Issue Recommendations*. For the most part, the Operators agreed with the portions of the proposed solutions document that affected them and lobbied the Commission to implement what was in their best interest.

## **COMMISSION DECISION**

At its sitting on September 30, 2010, the Commission considered the submissions of Digicel, IslandCom and Lime, and has determined the following:

From the testing conducted by both Digicel and IslandCom, and the findings presented to the Commission, the Commission has not found any evidence that IslandCom is operating outside of their assigned frequency area nor have they found that the IslandCom WCDMA carriers is the cause of Digicel's interference. To the contrary the Commission agrees with Digicel's report of September 16, 2010 which confirms that at present Digicel's systems are allowing IslandCom WCDMA signals to be passed on to their receivers unfiltered where it states *"The solution to the problem is to install custom made band-pass filters in the receive paths of the RBSs."* Therefore, the Commission has decided that Digicel will remain in their current assignment 894.6 – 904.4 MHz Uplink and 939.6 – 949.4 MHz Downlink and that adequate custom filters should be installed in their network to protect their network from neighboring signals.

Additionally, the Commission has decided that LIME be required to retune its network to the spectrum assignment of 824.2 – 836.8 MHz Uplink and 869.2 – 881.8 MHz Downlink and to have this work completed, and the spectrum released by October 31, 2010.

Tentatively, and subject to change, the Commission is assigning IslandCom to operate between 837.4 – 847.4 MHz Uplink and 882.4 – 892.4 MHz Downlink. By November 30, 2010 IslandCom is required to retune its existing network to the first half of this assignment starting at 837.4 – 842.4 MHz Uplink and 882.4 – 892.4 MHz Downlink. Before expanding their network into the second half of this assignment IslandCom is to inform the Commission and consult with the other Carriers to ensure that their expansion will not adversely interfere with the other carriers.

Due to the closeness of spectrum assignments and the different technologies employed in the 850 MHz and 900 MHz cellular bands, the Commission is requiring all cellular operators to protect their networks through the installation of adequate filtering in their uplinks and downlinks. To minimize interferences, co-location is also encouraged wherever possible.