HOPPING PROTOCOLS DECLARATION

12/18/2015

RE: Hopping Protocols Declaration

FCC ID: 2AGHF-RCOMBS001

IC ID: 20816-RCOMBS001
IC Model Number: RCOMBS001

To Whom It May Concern:

Description of Frequency Hopping

The hopping occurs inside the 10MHz channel occurs as part of the baseband digital signal presented to the analogue part of the radio.

The data for a thin pipe is mapped onto 2 tiles each of 225kHz bandwidth in a single time slot and there are 20 thin pipes in any one time slot defining a required sequence of 20 frequency hops.

The hopping sequence is defined as:

1 ,11, 2, 12, 3, 13, 4, 14, 5, 15, 6, 16, 7, 17, 8, 18, 9, 19, 10, 20

Tiles ±n represent the pair of tiles n above and n below the DC subcarrier. That is to say the two tiles frequencies are symmetrical and centred around the 0Hz (baseband) point. The middle subcarrier is not used.

Thus the thin burst with Pipe ID 0 will be mapped onto tiles ±1 on frame 0, ±11 on frame 1, ±2 on frame 2 etc. (repeating after 20 frames).

The thin burst with Pipe ID 1 will be mapped onto tiles ±2 on frame 0, Pipe ID 2 to tiles ±3 on frame 0 etc.

This is illustrated in Figure 1.

The time frame structure of 100ms means that for each BCM (mobile part) the frequency will change every 100ms therefore with 40 frequencies, each of 225kHz bandwidth (total 9MHz of the 10MHz channel allocation) and of which two are used at the same time, the complete hopping sequence will be covered in 2 seconds.

Yours faithfully

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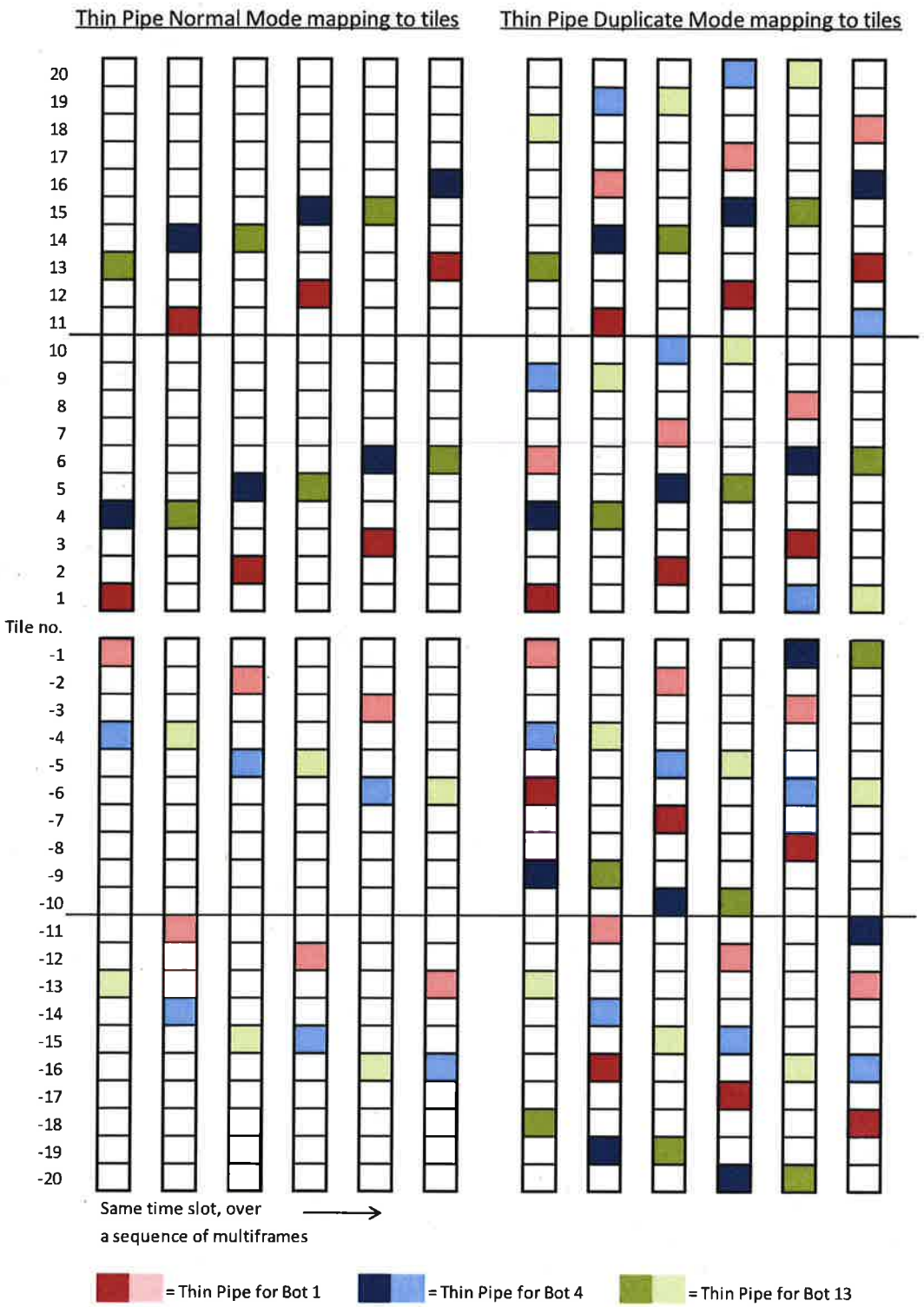

Figure 1: Illustration of frequency hopping