ATIS STANDARD

ATIS-0700040

ATIS Standard on -

North American Spectrum Bands (United States and Canada)

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Abstract

This document summarizes the commercial and commercial/unlicensed wireless bands currently used in North America.

Foreword

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Wireless Technologies and Systems Committee (WTSC) develops and recommends standards and technical reports related to wireless and/or mobile services and systems, including service descriptions and wireless technologies. WTSC develops and recommends positions on related subjects under consideration in other North American, regional, and international standards bodies.

The mandatory requirements are designated by the word shall and recommendations by the word should. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word may denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, WTSC, 1200 G Street NW, Suite 500, Washington, DC 20005.

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ATIS Standard on –

North American Spectrum Bands

1 Introduction

Mobile system operators are deploying wireless systems across North America with a choice of standardized technologies in different frequency bands. The objective of this document is to summarize and indicate the commercial and unlicensed wireless bands currently used in North America.

2 Background

The basic US Wireless Bands (as designated by 3GPP TSG RAN WG4) are listed in Table 2.1. Over the years, the various bands have been modified and expanded to allow additional bandwidth/capacity. The various bands are illustrated and further identified in the remainder of the document. Specific band numbers with issues have been identified in the notes of Table 2.1. No Carrier Aggregation documentation will be included in this document.

Table 2.1 – United States Band Numbers with Frequencies

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit			Downlink (DL) operating band BS transmit UE receive			Duplex Mode
	F_{UL_low} – F_{UL_high}			F_{DL_low} – F_{DL_high}			
2	1850 MHz	–	1910 MHz	1930 MHz	–	1990 MHz	FDD
4	1710 MHz	–	1755 MHz	2110 MHz	–	2155 MHz	FDD
5	824 MHz	–	849 MHz	869 MHz	–	894MHz	FDD
7	2500 MHz	–		2620 MHz	–	2690 MHz	FDD
12	699 MHz	–	716 MHz	729 MHz	–	746 MHz	FDD
13	777 MHz	–	787 MHz	746 MHz	–	756 MHz	FDD
14	788 MHz	–	798 MHz	758 MHz	–	768 MHz	FDD
17	704 MHz	–	716 MHz	734 MHz	–	746 MHz	FDD
23[1]	2000 MHz	–	2020 MHz	2180 MHz	–	2200 MHz	FDD
24	1626.5 MHz	–	1660.5 MHz	1525 MHz	–	1559 MHz	FDD
25	1850 MHz	–	1915 MHz	1930 MHz	–	1995 MHz	FDD
26	814 MHz	–	849 MHz	859 MHz	–	894 MHz	FDD
29	NA			717 MHz	–	728 MHz	FDD[2]
30	2305 MHz	–	2315 MHz	2350 MHz	–	2360 MHz	FDD
41	2496 MHz		2690 MHz	2496 MHz		2690 MHz	TDD
46	5150 MHz	–	5925 MHz	5150 MHz	–	5925 MHz	TDD[8]
47	5855 MHz	–	5925 MHz	5855 MHz	–	5925 MHz	TDD[11]
48	3550 MHz	–	3700 MHz	3550 MHz	–	3700 MHz	TDD
49	3550 MHz	–	3700 MHz	3550 MHz	–	3700 MHz	TDD[16]
66	1710 MHz	–	1780 MHz	2110 MHz	–	2200 MHz	FDD[4]
70	1695 MHz	–	1710 MHz	1995 MHz	–	2020 MHz	FDD[10]
71	663 MHz	–	698 MHz	617 MHz	–	652 MHz	FDD