FedEx 3550-3650 MHz Experiment Proposal

1 Introduction

FedEx (NYSE:FDX) is an American multinational courier delivery services company headquartered in Memphis, Tennessee. With networks that span billions of people across six continents, delivering is our business. It's also our responsibility to deliver the resources that improve the lives of those we serve.

When we help businesses access new markets, they grow and create jobs that boost standards of living in their communities. Investments in safer and more sustainable transportation improve our own footprint and make our communities more livable. A more connected world sparks innovation when shared ideas, goods and technologies interact to transform how we live and work.

We believe a connected world is a prosperous and sustainable world. And we aim to deliver that forward. For more information please visit our website: https://about.van.FedEx.com/

2 Experiment Description

FedEx is working with its partner company Nokia to evaluate and trial a private LTE system operating in the frequency range of 3550-3650 MHz to establish its suitability to support operations at the FedEx Superhub located in Memphis, Tennessee.

This trial will consist of up to 4 fixed site base stations and will be located inside the geographical region described in Section 2. **Note: this trial area is outside the exclusion zone defined by NTIA (TR-15-517r1).** Up to 40 mobile devices will operate within the areas of the fixed base stations. All base station equipment is prototype hardware, controlled and owned by NOKIA and will be removed after the conclusion of the trial. The intent is to operate the LTE uplink/downlink 24 hours per day 7 days per week.

The main objectives of this trial are to prove that private LTE over CBRS can be used as superior mobile connectivity technology for increasing our enterprise operations efficiency, improving our technician safety and enhancing overall communications quality which contributes to the general acceptance and broader usage of this mobile technology.

3 Transmitter Information

Up to 5- 20 MHz LTE RF channels per base station will be operated within the requested frequency range at any one time.

The maximum EIRP for mobile and fixed sites is listed in Table 1. The fixed sites support MIMO and the defined power is the maximum radiated power for an individual antenna. A directional antenna may be used but it's listed as OMNI to not restrict orientation.

Table 2 defines the deployment radiuses where all fixed cell sites will be located during testing period.

Table 1 Transmitter Information

Type	Transmit Frequency (MHz)	Conducted TX Power (dBm)	Maximum Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	ERP (dBm)	ERP (W)	Maximum Transmission Bandwidth (MHz)	Emissions Designator
Fixed	3550-3650	33	18	51	126	49	76.94	20	20M0W7W
Mobile	3550-3650	23	0	23	0.2	20.15	0.12	20	20M0W7W

Table 2 Fixed Site Location Radius and Mobile Operational Radius

		Operational Center Point		Fixed Site Location and Mobile Operational Radius	
Location Description	Location #	Lat	Long	Miles	km
Superhub Courtyard #1	1	35° 3'55.46"N	89°58'21.22"W	0.3	0.48
Superhub Courtyard #2	2	35° 3'52.77"N	89°58'25.12"W	0.3	0.48
Superhub Courtyard #3	3	35° 3'54.54"N	89°58'36.25"W	0.3	0.48
Superhub Courtyard #4	4	35° 3'54.30"N	89°58'35.75"W	0.3	0.48

4 Interference Coordination

Immediate requests for FedEx to stop transmission should be emailed to mjbrant@fedex.com. Alternatively, a shutdown requested can be submitted through Stephen Routh who can be contacted at (901) 481-5319 or stephen.routh@fedex.com