Date: **October 11, 2018**

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Subject:	**Mount Analysis Report**	
Carrier Designation:	**Sprint Upgrade**	
	Carrier Site Number:	CT43XC805
	Carrier Site Name:	--
Crown Castle Designation:	**Crown Castle BU Number:**	806369
	Crown Castle Site Name:	HRT 094 943225
	Crown Castle JDE Job Number:	519253
	Crown Castle Order Number:	450703, Rev. 0
Engineering Firm Designation:	**Infinigy Report Designation:**	600-002
Site Data:	**439-455 Homstead Ave, Hartford, CT, 06105**	
	Latitude 41˚47'01.61" Longitude -72˚42'13.66"	
Structure Information:	**Tower Height & Type:**	**140.0 ft Monopole**
	Mount Elevation:	**103.0 ft**
	Mount Type:	**13 ft Platform**

Dear Patricia Pelon,

Infinigy is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of Sprint's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

13 ft Platform (typical) **Sufficient**

The analysis has been performed in accordance with the TIA-222-H Standard. This analysis utilizes an ultimate 3-second gust wind speed of 117 mph from the 2015 International Building Code. Exposure Category B with a maximum topographic factor, Kzt, of 1.0 and Risk Category II was/were used in this analysis.

We at Infinigy Engineering, PLLC appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount analysis prepared by: Christopher Kudlacik

Respectfully Submitted by:

Joseph R. Johnston, P.E.
VP Structural Engineering/Principal

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1) INTRODUCTION

This mount is an existing 13 ft platform mapped by Tower Engineering Professionals dated July 28, 2008.This mount is installed at the 103 ft elevation on 3 sector(s) of the 140 ft Monopole**.**

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Live Loading Wind Speed:	30 mph
Man Live Load at Mount Pipes:	500 lb

Table 1 - Final Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
103	105	3	RFS	APXVSPP18-C-A20	Platform
		3	Nokia	AAHC	
	104	3	RFS	IBC1900BB-1	
		3	RFS	IBC1900HG-2A	
104	102	3	Alcatel Lucent	800MHZ 2x50W RRH w/ Filter	Chain Mounts
	104	3	Alcatel Lucent	PCS 1900MHZ 4x45W-65MHZ	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	Sprint Application	450703, Rev. 0	CCI Sites
Mount Mapping	July 28, 2008	806369	CCI Sites
Photos	June 25, 2018	806369	CCI Sites

3.1) Analysis Method

RISA-3D (Version 17.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
4) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A53 (GR 35)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (13 ft Platform, Typical)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Standoff	M12	103.0	31.6%	Pass
	Horizontal	M4		57.8%	Pass
	Mount Pipe	MP9		41.2%	Pass
	Platform Angle	M18		49.2%	Pass
	Bolt Check	--		22.7%	Pass

Structure Rating (max from all components) =	57.8%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) All sectors are typical

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.