THE PORT AUTHORITY OF NY & NJ

Engineering Department

October 16, 2006

Mr. Felix Melendez, Chairperson – 4.9 GHz Working Group, Region 8 Planning Committee
City of New York – Dept. of Information Technology and telecommunications
11 Metro Tech Center, Brooklyn, NY 11201

Subject: Port Authority 4.9 GHz Test Implementation Coordination Request (LaGuardia Airport)

Dear Mr. Melendez:

This letter is to provide the Region 8 700 MHz Planning committee information on the Port Authority of New York and New Jersey (PANYNJ) intentions to radiate within the 4.9 GHz civil band with a request for coordination.

The PANYNJ currently has a FCC license (Registration Number - 0003462488, Call Sign - WPYQ656) to radiate in the 4.9 GHz band within the FCC rules. This license authorizes operation within a 40 kilometers radius from the Statue of Liberty.

The PANYNJ is in the process of implementing a Public Safety System (subject to confidentiality) at the four major airports in NY and NJ. These four airports include LaGuardia, JFK International, Newark Liberty, and Teterboro. The intent of the System meets the "Level 1: Protection of Human Life" application priority as identified in the 4.9 GHz Work Group Guidelines. A permanent 4.9 GHz system will follow initial test activity and will require new and separate FCC licenses for each installed radio node.

The present coordination request is to use the existing 4.9 GHz license to support first phase of the test effort being planned for LaGuardia airport as well as a permanent installation at the site upon successful testing. Coordination requests for the remaining three airports will be submitted under separate cover.

The testing effort will involve the temporary installation of nine (9) 4.9 GHz radios as part of a network and radio design verification effort at the LaGuardia Airport. Specifically, the configuration consists of 5 nodes, four of which will have two 4.9 GHz radios each attached to their respective 120 degree sectored antenna. A fifth radio node will be mounted in a vehicle and will use a 5.5 dBi omnidirectional antenna. The test objective is to characterize the performance of the chosen radios under static and mobile conditions. The testing will take place both during daylight and nighttime hours, in good weather and bad.

Each 4.9 GHz radio being deployed is part of the Cisco 3200 family of Mobile Access Routers. The output power of this radio does not exceed 19 dBm (80 mW). Each radio is accompanied with a 120 degree sectored antenna that has a gain of 15 dBi. The radio incorporates the high-power DRSC-C mask to minimize potential co-channel interference and is compliant with FCC Docket #00-32 on 4.9 GHz ruling. Per the Region 8 4.9 GHz Guidelines, the System design will limit the use of the 4.9 GHz band to one of four possible 10 MHz channels. The System will use the 10 MHz channel as recommended by the Region 8 Planning Committee. The maximum Isotropic Effective Radiated Power (EIRP) allowed across a 10 MHz channel radio/antenna combination using the DRSC-C mask is 39 dBm. The System configuration does not exceed 34 dBm (2.5W).

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Included with this coordination request is a set of contour maps for the LaGuardia Airport test installation.

Kindly advise if any additional information is required for proper and successful coordination. Notice of successful coordination at the LaGuardia Airport at your earliest convenience is greatly appreciated.

Should you have any questions I can be reached at (973) 792-4455 or via email at vrevanka@panynj.gov.

Very truly yours,

Vijay Revankar, P.E.
Principal Engineer – Electronics Group
Engineering Design Division
Tel: (973) 792-4455
Fax: (973) 792-4302

Attachments:

1. Public Safety System, LaGuardia Airport 4.9 GHz Wireless Testbed, Interference Contour Map.

Distribution:

Sean O'Hara – Vice Chairperson, 4.9 GHz Work Group
Beatrice Opee – Secretary, 4.9 GHz Work Group
Angel Martinez – PANYNJ, Project Management Division
Rainer Burger – PANYNJ, Project Management Division
Charles Clinton – PANYNJ, Project Management Division
Mark Gamba – PANYNJ, Engineering Department

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Raytheon
Network Centric Systems

Public Safety System

LaGuardia Airport 4.9 GHz Wireless Testbed

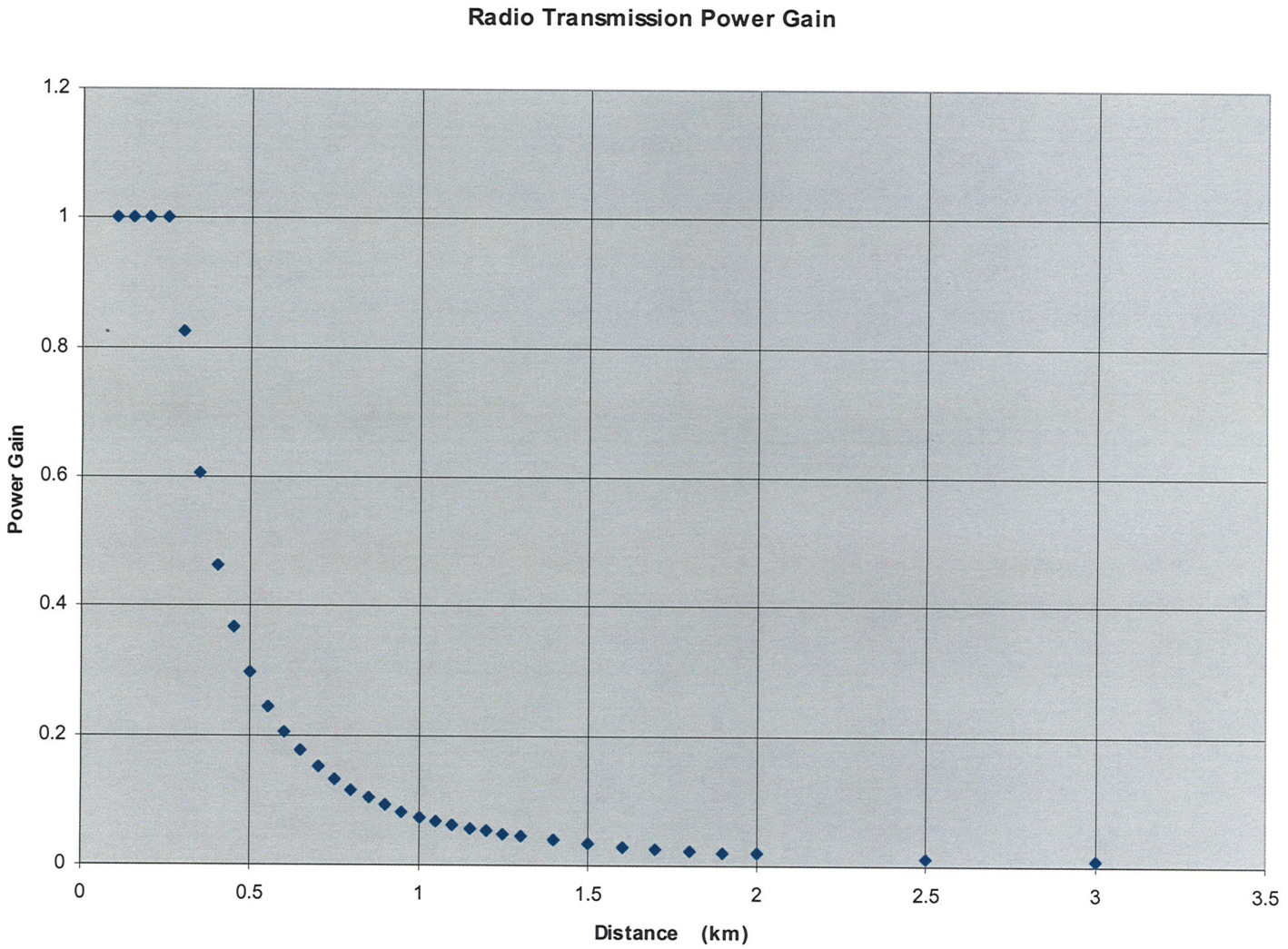
Interference Contour Map

Sept 16, 2006
Revision - 1

Interference Contour Map Overview

- The 4.9 GHz Interference Contour Map represents the effects of the radio transmitter (no effects due to receiver antenna gain, receiver sensitivity)
- Radio Transmitter Characteristics
  - Cisco 3200 Series 4.9 GHz Wireless Mobile Interface Card
  - 16 dBm Maximum Transmit Power
  - Orthogonal Frequency Division Modulation
    - BPSK, QPSK, 16-QAM, 32-QAM
- Transmitter Antenna Characteristics
  - 120 Degree Sectorized Antenna (FCC Certified with Cisco 3200)
  - 15 dBi Antenna Gain

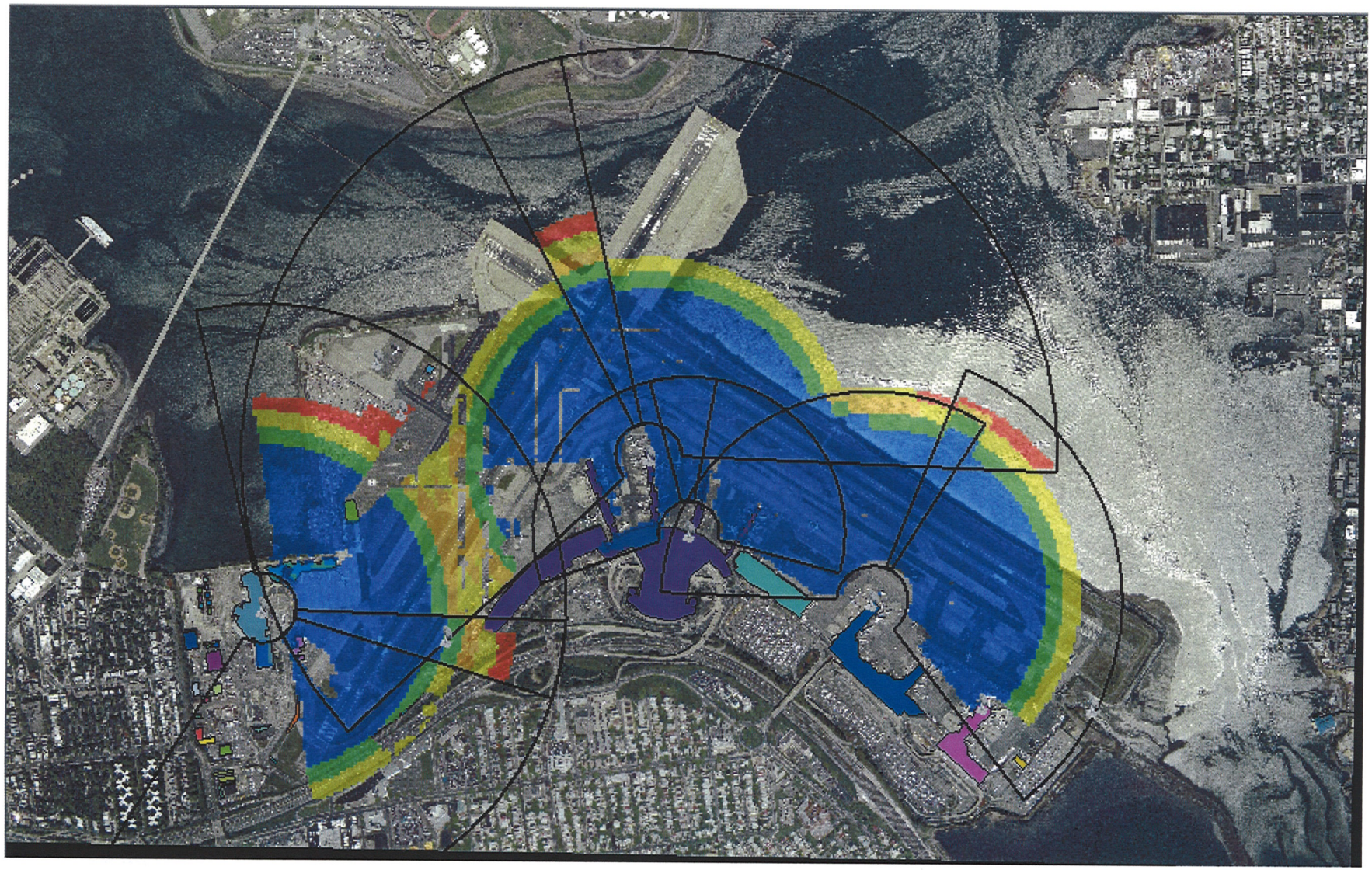
Power Gain vs. Distance



Interference Contour Map Color Designations

Contour Map Color	High Power Point (dBm)	Low Power Point (dBm)
	+29.0	-65.26
	-65.26	-70.36
	-70.36	-75.36
	-75.36	-85.26
	-85.26	< -85.26

LGA Wireless Testbed - 4.9 GHz Interference Contour Map



Federal Communications Commission
Wireless Telecommunications Bureau

150

RADIO STATION AUTHORIZATION

Licensee: PORT AUTHORITY OF NEW YORK AND NEW JERSEY

FCC Registration Number (FRN): 0003462488

C CLINTON
PORT AUTHORITY OF NEW YORK AND NEW JERSEY
2 GATEWAY CENTER 16SW
NEWARK NJ 07102

Call Sign	File Number
WPYQ656	0001462697

Radio Service
PA - Public Safety
4940-4990 MHz Band

Regulatory Status
PMRS

Frequency Coordination Number

Grant Date	Effective Date	Expiration Date	Print Date
09-30-2003	09-30-2003	09-30-2013	10-01-2003

STATION TECHNICAL SPECIFICATIONS

Fixed Location Address or Mobile Area of Operation

Loc. 1
Area of Operation
Operating within a 40.0 km radius around 40-41-21.0 N 74-2-40.0 W,
NEW YORK, NEW YORK,NY,
LOCATION 1 SPECIAL CONDITION: Except for those stations requiring an individual license under Rule 90.1207(b), this license authorizes mobile and base stations anywhere within its authorized area.

Loc. 2
Area of Operation
Operating within a 40.0 km radius around 40-41-21.0 N 74-2-40.0 W,
NEW YORK, NEW YORK,NY,
LOCATION 2 SPECIAL CONDITION: Except for those stations requiring an individual license under Rule 90.1207(b), this license authorizes temporary fixed stations anywhere within its authorized area.

Antennas

Loc. No.	Ant. No.	Frequencies (MHZ)	Sta. Cls.	No. Units	No. Pagers	Emission Designator	Output Power (watts)	ERP (watts)	Ant. Ht./Tp meters	Ant. AAT meters	Construct Deadline Date
1	1	4940.00000		0	0						
		4990.00000									
2	1	4940.00000		0	0						
		4990.00000									

Control Points

Control Pt. No.	Address
	PANYNJ 2 GATEWAY CENTER 16SW

Conditions:
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 706.

Licensee Name: PORT AUTHORITY OF NEW YORK AND NEW JERSE

Call Sign: WPYQ656 File Number: 0001462697 Print Date: 10-01-2003

City	County	State	Telephone Number
NEWARK	ESSEX	NJ	(973)792-4417

Additional Waivers/Conditions

This license gives the licensee authority to operate on any authorized channel in the 4940 - 4990 MHz band within its licensed area of operation. The licensed area of operation includes the legal jurisdiction of the licensee, or in the case of a nongovernment organization, the legal jurisdiction of the state or local government entity supporting the nongovernmental organization.

Antenna structures for land, base and fixed stations authorized by the Wireless Telecommunications Bureau for operation at temporary unspecified locations may be erected without specific prior approval of the Commission where such antenna structures do not exceed a height of 60.96 meters (200 feet) above ground level; provided that the overall height of such antennas more than 6.10 meters (20 feet) above ground, including their supporting structures (whether natural formation or man-made), do not exceed any of the slope ratios set forth in Section 17.7(b). Any antenna to be erected in excess of the foregoing limitations requires prior Commission approval. Licensees seeking such approval should file application for modification of license. In addition, notification to the Federal Aviation Administration is required whenever the antenna will exceed 60.96 meters (200 feet) above the ground and whenever notification is otherwise required by Section 17.7 of the Commission's Rules. Such notification should be given by filing FAA Form 7460-1, Notice of Proposed Construction or Alteration, in duplicate, with the nearest office of the Federal Aviation Administration, which form is available from that office.

Base or Temporary Fixed stations that meet Rule 90.1207(b) must apply for a separate authorization.