## Indiana Paging Network, Inc. Experimental STA Request 0721-EX-ST-2016

## NARRATIVE STATEMENT

By this application, Indiana Paging Network, Inc. respectfully requests special temporary authority ("STA") for a five month period from **June 10 through September 30**, **2016**, to test, evaluate and demonstrate a prototype radio communications system designed to support the communications requirements of an entity responsible for maintaining critical infrastructure within the state of Indiana. Specifically, Indiana Paging proposes to operate a prototype system so that it may demonstrate the functionality and capability of the system, determine user acceptability, and obtain needed feedback to improve and enhance the design of the system. The experimental activities will be conducted on a non-interference basis using a limited number of non-Federal Government channels in the 929 and 931 MHz band that have already been pre-coordinated for such operation.

Indiana Paging does not seek authority to conduct market studies under the requested experimental authority. Nor does it propose to market, sell, or lease prototype equipment to end users in conjunction with this test. The participants in the test will be advised that operation is being conducted under an experimental authority issued to Indiana Paging and is temporary. After the experimentation ceases, Indiana Paging will recall and recover all devices that do not comply with FCC regulations.

The following information is provided in support of this request:

#### Proposed Operations / Locations and Frequencies:

As noted above, Indiana Paging requests authority to test, evaluate and demonstrate a prototype radio communications system designed to support the communications requirements of an entity engaged in supporting critical infrastructure within the state of Indiana. To obtain valid data and to present an accurate demonstration of real-world operations, Indiana Paging must deploy a sufficient number of transmitters during its test to simulate actual usage. The proposed locations of the base stations are identified in the table presented as an Attachment. Receive-only units will operate within 80 kilometers of these locations. Indiana Paging also seeks authority to relocate the transmitter sites as necessary or, at the request of the user, demonstrate the system from other sites, but in no event will the transmitters be located outside of the state of Indiana or exceed a total of twenty sites.

Operation under this experimental STA will be conducted on a non-interference basis on a limited number of channels on non-Federal Government frequencies in the 929 MHz band allocated under Section 22.531 of the FCC's rules for the Paging and Radiotelephone Service and Section 90.494 for the Industrial/Business Pool. 47 C.F.R. §§ 22.531, 90.494 (2015). Specifically, Indiana Paging seeks to deploy approximately three but not more than five channels per site that have been recommended by FCC frequency coordinators or that are currently under review for licensing for such operation. Moreover, as mentioned above, Indiana Paging will likely conduct tests at twenty or fewer transmitter sites at any given time and will limit the power, area of operation, and transmitting times to the <u>minimum</u> necessary to evaluate the system. Nevertheless, to ensure it has flexibility to test the system more expansively, if needed, Indiana Paging has requested authorization to conduct tests on any of the channels it has specified so that it has the option to deploy alternative (non-Federal Government) channels in the band to avoid interference as necessary.

### Technical Specifications:

Non-Federal Government Frequencies Only:	929.0375, 929.0625, 929.0875, 929.1625, 929.2625, and 931.7875 MHz
Base Station Power:	< 3500 W Peak Effective Radiated Power (ERP);
	(all power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation)
Bandwidth:	<20 kHz per channel
Modulation:	Frequency Modulation
Emission Designators:	15K0F2D, 16K0F1D, 16K0F3C, 16K0F3E
Station Antenna:	Omnidirectional up to 9 dBi Gain

Indiana Paging also requests a waiver of the station identification requirements set forth in Section 5.115 of the Commission's rules, 47 C.F.R. § 5.115 (2015).

#### Antenna Information:

The antennas used for these tests will be installed and operated in accordance with all FAA and FCC rules and regulations.

#### **Restrictions on Operation / Interference Protection:**

Indiana Paging recognizes that experimental operations must not cause harmful interference to authorized facilities. As stated above, operation under this experimental STA will occur only on a limited number of non-Federal Government channels allocated under the FCC's rules and that have been pre-coordinated for such use. Indiana Paging will also coordinate with existing licensees, as necessary, but has selected channels that are not assigned in the test area or that are sufficiently distant so as not to pose interference concerns. Should interference occur, however, Indiana Paging will take

immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

In addition, Indiana Paging will advise entities participating in the test that permission to operate as proposed in this application has been granted under experimental authority issued to Indiana Paging, that such operation is strictly temporary, and that the operation may not cause harmful interference. To that end, Indiana Paging proposes to label prototype equipment or associated written information as follows:

#### **FCC STATEMENT**

Permission to operate this device has been granted under experimental authority issued by the Federal Communications Commission to Indiana Paging Network, Inc., is strictly temporary and may be cancelled at any time. Operation is subject to the condition that it not cause harmful interference. This device is not, and may not be, offered for sale or sold until the approval of the FCC has been obtained. Thus, the user does not hold a property right in the device and may be required to return the device.

#### Public Interest Statement:

Indiana Paging submits that issuance of expedited special temporary authority as requested is in the public interest, convenience, and necessity. Grant of such authority will permit Indiana Paging to design and develop an innovative system that will accommodate the communications needs of an entity supporting critical infrastructure within the state of Indiana.

#### Contact Information:

#### Indiana Paging Contact:

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# **ATTACHMENT**

# **Experimental Test Locations**:

Site Name	Address	Latitude N	Longitude W
La Porte	5103 W 250 N, La Porte, IN	41-38-36	86-48-00
Huntington	235 W. 600 N, Huntington, IN	40-54-53	85-27-22
Richmond	5451 State Road 121, Richmond, IN	39-50-58	84-49-36
Indianapolis	200 North Illinois Street, Indianapolis, IN	39-46-13	86-09-37
Glenwood	State HWY 44 & CR 650 W, Glenwood, IN	39-37-21	85-15-46
Hardinsburg	S. Marengo Pike, Hardinsburg, IN	38-25-38	86-17-31
Elberfeld	Rd 1220 South, Elberfeld, IN	38-10-52	87-29-13
Indiana	At temporary fixed locations in the State of Indiana (within 250 km of the coordinates listed)	39-46-14	86-09-29

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