

## EXHIBIT - SPECIAL TEMPORARY AUTHORITY JUSTIFICATION

### Narrative Statement

Loon Inc. ("Loon") outlines below its need for the requested Special Temporary Authority (STA) and the compelling reasons why this STA should be granted expeditiously. Loon requests that the STA be granted for a period of 180 days. The STA is needed to support licensed mobile carriers' restoration of limited communications capability in areas of Puerto Rico and the United States Virgin Islands (MTA025) affected by Hurricanes Irma and Maria. Specifically, Loon balloons with directional antennas will be positioned over Puerto Rico and/or the US Virgin Islands and used to relay communications between ground terminals interconnected with wireless carrier networks, and end users' handsets that are capable of utilizing LTE Band 8. The frequencies specified in this application will be used in conjunction with Part 15 unlicensed Wi-Fi to support these communications.

Loon has obtained the consent of all license holders for the frequencies 896-901.3 MHz and 937.0-942.0 MHz in Puerto Rico and the US Virgin Islands, as evidenced by the accompanying letters. Loon will provide service to the US Virgin Islands only to the extent it can be done without interference to services in the British Virgin Islands, and in consultation with potentially affected licensees in the British Virgin Islands. Loon holds all necessary government authorizations for the related aeronautical activities.

In connection with the proposed operations, end user wireless devices would operate at power levels consistent with Band 8 in the European Union (UE Class 3 with max power of 23dBm, +/-2dB tolerance). Loon is advised that this may include a temporarily update to the software on the device through an Over the Air (OTA) update to allow Band 8 operation, and that at the end of the authorization, a separate OTA update would disable this operation. These devices include devices from Samsung, Apple, LG, or other manufacturers operating on carrier networks.

The proposed experimental operations accordingly will be conducted without harmful interference to other authorized users. Should any interference be reported, the proposed tests will cease immediately unless and until the interference is resolved to the satisfaction of the complainant. Protected users should report possible interference to Leonard Bouygues of Loon (email: [LoonMC@google.com](mailto:LoonMC@google.com); telephone: 650-966-7655).

Loon is authorized to state that the Puerto Rico Telecommunications Regulatory Board supports this application.

Legal Contact	Technical Contact
Austin Schlick Google LLC 25 Massachusetts Avenue NW, 9th Floor Washington, DC 20001 <a href="mailto:schlick@google.com">schlick@google.com</a>	Ben Wojtowicz 1600 Amphitheater Parkway Mountain View, CA 94043 847-767-0554 <a href="mailto:bwojtowi@x.team">bwojtowi@x.team</a>

## Transmitter Equipment and Station Details

### Radio Information

<b>Equipment</b>	Various custom equipment manufactured by Loon (various custom)
<b>Quantity</b>	Up to 30 at any time
<b>Area of Operation</b>	Puerto Rico and the United States Virgin Islands (MTA025)

<b>Frequency</b>	<b>Low (MHz)</b>	<b>High (MHz)</b>
Various custom	896.0	901.3
Various custom	937.0	942.0

### Antenna Details

<b>Antennas</b>	Ethertronics Part No. 1003445	Ethertronics Part No. 1003113
<b>Type</b>	Dual-polarization dipole	Dual-polarization dipole/monopole
<b>Gain</b>	8 dBi @ 0 degrees from boresight	3 dBi @ 45 degrees from boresight
<b>Beam Width at Half-Power Point</b>	90 degrees from boresight, symmetric	120 degrees from boresight, symmetric
<b>Orientation in Horizontal Plane</b>	Boresight pointing towards the earth	Boresight pointing towards the earth
<b>Orientation in Vertical Plane</b>	Boresight pointing towards the earth	Boresight pointing towards the earth

### Transmitter

<b>Radio</b>	<b>Modulation</b>	<b>Emission Designator</b>	<b>Bandwidth (MHz)</b>	<b>Max Output Power (W)</b>	<b>Max ERP (W)</b>
Various custom with antenna #1003445	LTE (BPSK, QPSK, 16QAM, 64QAM)	5M00W7W	5MHz	5W	19.3W
Various custom with antenna #1003113	LTE (BPSK, QPSK, 16QAM, 64QAM)	5M00W7W	5MHz	5W	6.1W

October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology

Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that High Tech Communications Services Inc. (“High Tech”) consents to the use of all frequencies licensed to it by the FCC within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz by Loon Inc. and its affiliates (“Loon”), within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are Call Sign WPRJ247 (896.1375 MHz; 896.15 MHz; 896.1625 MHz; 896.175 MHz; 896.1875 MHz; 896.2 MHz; 896.2125 MHz; and 896.2375 MHz). High Tech is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e., not to extend beyond April 4, 2018).

High Tech is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,



Annie Salado  
Sales Manager  
High Tech Communications Services Inc.  
Tel: (787) 769-5025

October 6, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology

Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that MilkyWay Communications, LLC ("MilkyWay") consents to the use of all frequencies licensed to it by the FCC within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz by Loon Inc. and its affiliates ("Loon"), within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are Call Sign WPUM677 (941.0875-941.1 MHz). MilkyWay is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e. not to extend beyond April 4, 2018).

MilkyWay is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,



Dennis L. O'Neill  
Manager  
MilkyWay Communications, LLC  
301-758-5595

cc: Thomas Gutierrez, Esq.  
(Counsel for MilkyWay Communications, LLC)

October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology

Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that North Sight Communications, Inc. ("North Sight") consents to the use of all frequencies licensed to it by the FCC within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz by Loon Inc. and its affiliates ("Loon"), within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are Call-Sign KNNY214-(898.25625-898.38125 MHz and 937.25625-937.38125) and Call Sign KNNY215 (897.25625-897.38125 MHz). North Sight is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e. not to extend beyond April 4, 2018).

North Sight is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,



Wilfredo Miranda  
President & CEO  
North Sight Communications, Inc.  
Tel: (941) 799-1211



October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology

Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that PDV Spectrum Holding Company, LLC ("PDV") consents to the use of all frequencies licensed to it by the FCC within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz by Loon Inc. and its affiliates ("Loon"), within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are as follows:

<b>Call Sign</b>	<b>Frequency Range (MHz)</b>
KNNX754	896.25625-896.38125
KNNX918	896.75625-896.88125
KNNX755	897.00625-897.13125
KNNX474	897.50625-897.63125
KNNX475	898.00625-898.13125; 937.00625-937.13125
KNNX476	898.50625-898.63125; 937.50625-937.63125
KNNX938	898.75625-898.88125; 937.75625-937.88125
KNNX939	899.00625-899.13125; 938.00625-938.13125
KNNX477	899.25625-899.38125; 938.25625-938.38125
KNNX667	899.50625-899.63125; 938.50625-938.63125
KNNX867	899.75625-899.88125; 938.75625-938.88125
KNNY255	900.00625-900.13125; 939.00625-939.13125
KNNX478	900.50625-900.63125; 939.50625-939.63125

PDV is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e., not to extend beyond April 4, 2018).

PDV is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,

A handwritten signature in blue ink that reads "John Pescatore". The signature is fluid and cursive, with the first name "John" being larger and more prominent than the last name "Pescatore".

John C. Pescatore  
CEO  
PDV Spectrum Holding Company, LLC



October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology  
Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms PREPA Networks LLC’s (“PREPA Networks”) consent to Loon, Inc. and its affiliates (“Loon”) to use certain of its frequencies, licensed by the FCC, within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are:

Call Sign	Frequencies (MHz)
WQVE415	896.1375; 896.2375; 896.65; 896.6875; 896.7; 896.7125; 896.925; 896.95; 897.1375; 897.15; 897.2; 897.4125; 897.4375; and 897.45
WQVC606	896.1625; 896.225; 896.25; 896.6375; 896.6625; 896.9125; 897.1625; 897.1875; 897.225; 897.25; 897.3875; 897.4875; 897.6875; 897.9625; and 897.975
WQVC607	896.675; 896.7375; 896.75; 897; 897.2125; 897.65; 897.75; and 897.9125

PREPA Networks provides this consent solely for disaster relief and restoration purposes given the current limited communications capability of areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon, not to exceed 180 days from October 6, 2017 (i.e. not to extend beyond April 4, 2018).

PREPA Networks is aware Loon has provided the following contact for immediate suspension of service in case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,

José Casillas  
General Manager



October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology


Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that Sensus Spectrum LLC ("Sensus") consents to the use by Loon Inc. and its affiliates ("Loon"), within the geographic region of Puerto Rico and the United States Virgin Islands, of the following frequencies licensed to Sensus by the FCC: Call Sign KNKV201 (901.00-901.05 MHz and 940.00-940.05 MHz); Call Sign KNKV202 (901.05-901.10 MHz and 940.05-940.10 MHz); Call Sign KNKV203 (901.10-901.15 MHz and 940.10-940.15 MHz); Call Sign KNKV204 (901.15-901.20 MHz and 940.15-940.20 MHz); and Call Sign WQZE443 (901.2-901.25 MHz and 940.2-940.25 MHz). Sensus is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e. not to extend beyond April 4, 2018). Note that Sensus does not currently have authorization to use the 940.45-940.55 portion of Call Signs WQEM410 and WQKM410.

Sensus is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, 650-966-7655.

Sincerely,

[NAME]   
[TITLE] DALE HARBACE  
Sensus Spectrum LLC  
Tel: VP MARKETING  
919.845.4012



October 5, 2017

Donald Stockdale  
Chief, Wireless Telecommunications Bureau

Julius Knapp  
Chief, Office of Engineering & Technology

Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Dear Mr. Stockdale and Mr. Knapp:

This letter confirms that Spok, Inc. ("Spok") consents to the use of all frequencies licensed to it by the FCC within the frequency ranges of 895-901.3 MHz and/or 937.0-942.0 MHz by Loon Inc. and its affiliates ("Loon"), within the geographic region of Puerto Rico and the United States Virgin Islands. Specifically, these frequencies are Call Sign KNKV218 (901.25-901.3 MHz and 940.25-940.3 MHz). Spok is providing this consent solely for purposes of disaster relief and the restoration of limited communications capability in areas affected by Hurricanes Irma and Maria, and for a period of time as agreed with Loon but not to exceed 180 days from October 6, 2017 (i.e. not to extend beyond April 4, 2018).

Spok is aware that Loon has provided the following contact for immediate suspension of service in the case of harmful interference to a protected user: Leonard Bouygues, LoonMC@google.com, (650) 966-7655.

Sincerely,

A handwritten signature in black ink that reads "T. G. Saine".

Thomas G. Saine  
Chief Information Officer  
Spok, Inc.  
(972) 801-0490



Austin Schlick &lt;schlick@google.com&gt;

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## Support for LOON in Puerto Rico

1 message

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**MARX, JOSEPH P** <jm7322@att.com> Fri, Oct 6, 2017 at 3:40 PM  
To: Austin Schlick <schlick@google.com>  
Cc: "GOGGIN, MICHAEL P (Legal)" <mg7268@att.com>, "VITANZA, ROBERT (Legal)" <RV4902@att.com>, "VERSTEGEN, MICHAEL D" <mv3185@att.com>

Austin,

AT&T supports Loon Inc.'s use of LTE Band 8 frequencies to support restoration of limited services on the AT&T network in Puerto Rico and the US Virgin Islands.

Thanks,

*Joe Marx*

AVP - Federal Regulatory

1120 20th St NW, Suite 1005

Washington, DC 20036

(office) 202-457-2107

(cell) 206-419-6504