

**EXHIBIT 1**

Applicant seeks a three (3) year experimental license to conduct fixed and mobile testing in the 3400-3600 MHz, 3700-4200 MHz, 14500-15350 MHz, and 27500-28500 MHz frequency bands with various types of experimental wireless equipment. Applicant's testing and the expected experimental equipment would support potential fifth generation (5G) multi-gigabyte per second (Gbps) applications for fixed and mobile wireless communication networks at higher transmission rates and lower latency than is currently available. The experimental system would support voice, video, and data transmissions and lead to innovation, as 5G radio technology has not been used to provide commercial service, in the 3400-3600 MHz, 3700-4200 MHz, 14500-15350 MHz, and 27500-28500 MHz frequency bands, or any other spectrum band. Applicant seeks authority to begin conducting these experiments now to allow for trials before the 3<sup>rd</sup> Generation Partnership Project (3GPP) 5G standards are finalized in the 2018-2019 time period.

Applicant seeks a three (3) year term for this license because it expects multiple iterations of 5G equipment to be developed and delivered for testing under this proposed license over at least that period of time, as initial specifications for 5G networks and equipment, i.e., base station and mobile station for the test bed, are not targeted for release until 5G standards are released in 2018 and 2019.

Applicant's proposed experiments would involve base stations that would transmit signals to and receive signals from experimental equipment located on-board mobile vehicles and on fixed stations in and within five (5) kilometers of the Austin area. Applicant's technical request for each frequency band is summarized as follows:

	3400-3600 MHz	3700-4200 MHz	14500-15350 MHz	27500-28500 MHz
<b>Base Station Location</b>	9505 Arboretum Blvd Austin, Texas 78759 30-23-28N, 97-45-05W	9505 Arboretum Blvd Austin, Texas 78759 30-23-28N, 97-45-05W	9505 Arboretum Blvd Austin, Texas 78759 30-23-28N, 97-45-05W	9505 Arboretum Blvd Austin, Texas 78759 30-23-28N, 97-45-05W
<b>Cell Radius</b>	5 km	5 km	5 km	5 km
<b>Station Class</b>	MO and FX	MO and FX	MO and FX	MO and FX
<b>Rad. Center Line</b>	Approx. 31 meters AGL	Approx. 31 meters AGL	Approx. 31 meters AGL	Approx. 31 meters AGL
<b>Emission Designator</b>	See next page at *	400M7W	800M7W	800M7W
<b>Modulation</b>	Amplitude, phase, and quadrature	See next page at **	See next page at **	See next page at **
<b>Mean Peak</b>	REDACTED	REDACTED	REDACTED	REDACTED
<b>Frequency Tolerance</b>	REDACTED	REDACTED	REDACTED	REDACTED
<b>Base Station TX Output Power</b>	18 dBm	30 dBm	27 dBm	27 dBm
<b>Mobile TX Output Power</b>	11.14 dBm	30 dBm	23 dBm	23 dBm
<b>ERP- Base Station</b>	53 dBm	43 dBm	50 dBm	56 dBm
<b>ERP-Mobile</b>	16 dBm	43 dBm	28 dBm	34 dBm
<b>Orientation in Horizontal Plane</b>	REDACTED	REDACTED	REDACTED	REDACTED
<b>Orientation in Vertical Plane</b>	REDACTED	REDACTED	REDACTED	REDACTED
<b>Max. Beamwidth at 1/2 Power Point (horizontal)</b>	REDACTED	REDACTED	REDACTED	REDACTED
<b>Max. Beamwidth at 1/2 Power Point (vertical)</b>	REDACTED	REDACTED	REDACTED	REDACTED

**REDACTED PUBLIC VERSION.**

- \* 100MK1W for 100MHz BW amplitude modulation
- 100MG7W for 100MHz BW QPSK
- 100W7W for 100MHz BW 16QAM/64QAM/high order QAM

\*\*Emission consists of the main carrier modulated, either simultaneously or in pre-established sequence, in a combination of two or more of the following modes: amplitude, angle, pulse