

Amendment to Special Temporary Authority

xG Technology, LLC (xG Technology) respectfully requests an amendment to its Special Temporary Authority (STA) granted under call sign WC9XDU (FCC File Number 0476-EX-ST-2005) because the operation as described in the original STA request does not adequately describe the system operation nor the bandwidth within which the system will operate.

As explained in the original filing, xG Technology is testing a new modulation and encoding technology. Most of the power in the system is confined within the carrier, which is centered on the frequency 930.2 MHz and within 6 kHz of that frequency. However, the information that is transmitted falls within the sideband 909-919 MHz, at very low power levels compared to the carrier. The technical details are more accurately described in the following table:

	Base Station	CPE
Carrier Frequency	930.2 MHz	930.2 MHz
Carrier Bandwidth	6 KHz	6 KHz
Sideband Bandwidth	909-919 MHz	909-919 MHz
Carrier Power (Peak)	25-35 W (43.98-45.44 dBm)	5-7 W (36.99-38.45 dBm)
Average Sideband Power for $N=16$ and $X=512$	0.631-1 W (28-30 dBm)	0.079-0.111 W (19.0-20.4 dBm)
Maximum Data Rate ($N=16$, $X=48$)	14.53 Mbps	14.53 Mbps
Minimum Data Rate ($N=16$, $X=1024$)	894 kbps	894 kbps
Minimum Frequency Deviation	0.1	0.1
Maximum Frequency Deviation	1.0	1.0
Modulation Rate	Half of Data Rate except unit in bauds	Half of Data Rate except unit in bauds
Pulse Duration	18 ns	18 ns
Pulse Repetition Rate	Same as Modulation Rate except unit in pulses per second	Same as Modulation Rate except unit in pulses per second
Tower Height	850 ft.	7 ft.
Antenna Type	Omni-Directional	Omni-Directional

We note that Section 2.1 of the FCC rules defines necessary bandwidth as follows: "For a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions."

Since 6 kHz bandwidth requested and authorized under WC9XDU only includes the carrier, and does not include the information carrying sideband, the necessary bandwidth listed in the STA is not sufficient to describe system operation. Thus, we are requesting an amendment to the STA to show operation in the band 909-933.2 MHz, and a necessary bandwidth of 24.2 MHz. Please note that all of the information carrying sideband falls within the ISM band.