

**XGEN NETWORK LLC APPLICATION FOR EXPERIMENTAL STA OPERATION EXTENSION
UTILIZING CH 30 5 WATT ERP MAXIMUM OMNI PORTABLE FACILITY
FACILITY ID 778993
AND 5G BROADCAST TECHNOLOGY
STAMFORD, CONNECTICUT
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
APRIL 23, 2024**

XGEN Network LLC (XGN) herein submits an LPTV Experimental STA Operation Extension Application for purposes of demonstrating 5G transmission on CH 30. The proposed facilities are identical to those authorized in FCC file number 0000222773 with the exception of an increase in power level as explained herein:

Frequency: Standard 6 MHz channel 554 – 560 MHz.

ERP: 5 watt maximum.

Transmitter: Nuand packaged Analog Devices RF Agile Transceiver model AD9361 8 dBm RF output.

RF amplifier: Nuand BT-100, MiniCircuits PHA-1H+ amplifier, 15 dB gain amplifier to achieve 23 dBm RF level is employed in an effort to overcome light interference when necessary.

Antenna: ¼ wave vertical whip unity gain. Equivalent to PulseLarsen model NMOWBQFT.

Support: 1.5 meter portable support, see Photo [Figure 1](#), with antenna at top.

Location: Application coordinates are U.S. Census for Stamford, Connecticut.

Operation: Intermittent, only for demonstrations within 10 km radius of coordinates.

RF Safety: Operation in full compliance with OET-65 Guidelines.

A tunable vertical whip has been proposed for this portable use. Horizontal polarization is checked on the application as a single polarization is the closest choice. This is intended to be used inside a room or hall for demonstrations and Experimental STA for other geographic regions is anticipated.

To confirm lack of interference to other facilities TVStudy has been employed using an ERP of 10 watts. This approach is extremely conservative by virtue of an ERP greater than that to be used as well as the program's insertion of actual terrain AMSL. The TVStudy Report is pasted in below and shows no impermissible interference.

Study created: 2024.04.23 16:04:17

Study build station data: LMS TV 2024-04-19

Proposal: W30ST D30 LD EXP STAMFORD, CT
File number: BLANK0000222773
Facility ID: 778993
Station data: User record
Record ID: 1504
Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	DW26CE	N26-	TX	APP	NEW YORK, NY	BLTTL20080306ABU	68.3 km
No	WNYJ-LD	N26-	TX	LIC	Newburgh, NY	BLTTL20070223AHI	101.3
No	WETN-LD	N28z	TX	LIC	ALLINGTOWN, CT	BLTTL20010608AAO	54.6
No	WTXX-LD	D29	LD	LIC	SPRINGFIELD, MA	BLANK0000184610	78.7
No	WNEU	D29	DT	LIC	MERRIMACK, NH	BLANK0000116628	236.8
No	W29FF-D	D29	LD	LIC	ATLANTIC CITY, NJ	BLANK0000226586	131.8
No	W29FF-D	D29	LD	APP	ATLANTIC CITY, NJ	BLANK0000240860	131.8
No	W29EV-D	D29z	LD	LIC	HACKETTSTOWN, NJ	BLANK0000074735	114.2
No	WPXU-LD	D29+	LD	LIC	AMITYVILLE, NY	BLANK0000203099	49.1
No	WNYD-LD	D29+	LD	LIC	NEW YORK, NY	BLANK0000203192	49.1
Yes	WLNy-TV	D29	DT	LIC	RIVERHEAD, NY	BLANK0000080208	55.1
No	WRGB	D29	LD	LIC	SCHENECTADY, NY	BLANK0000129770	108.7
No	WKTV	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	255.5
No	WELL-LD	D29	LD	LIC	PHILADELPHIA, PA	BLANK0000150430	182.1
Yes	WEDH	D30	DT	LIC	HARTFORD, CT	BLANK0000080371	93.3
No	WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000133452	382.2
No	WCRN-LD	D30+	LD	LIC	Boston, MA	BLANK0000225987	245.8
No	WYDC	D30	DT	LIC	CORNING, NY	BLANK0000086927	318.0
No	WYNB-LD	D30	LD	LIC	ELLENVILLE, NY	BLANK0000116043	97.9
No	WNJJ-LD	D30	LD	LIC	NEW YORK, NY	BLANK0000194202	66.9
No	WNJJ-LD	D30	LD	CP	NEW YORK, NY	BLANK0000218568	62.6
No	WNYN-LD	D30	LD	CP	NEW YORK, NY	BLANK0000232290	62.6
No	WAWW-LD	D30-	LD	LIC	Rochester, NY	BLANK0000176717	406.1
No	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	268.9
No	WCZS-LD	D30	LD	LIC	CHAMBERSBURG, PA	BLANK0000141136	373.1
No	WRLD-LD	D30	LD	LIC	KINGSTON, PA	BLANK0000150592	198.7
No	KYW-TV	D30	DT	LIC	PHILADELPHIA, PA	BLANK0000218168	182.5
No	W30DM-D	D30	LD	LIC	MANCHESTER, ETC., VT	BLDTT20111118ARB	237.5
Yes	WVIT	D31	DT	LIC	NEW BRITAIN, CT	BLANK0000184710	93.1
No	WSKG-TV	D31	DT	LIC	BINGHAMTON, NY	BLANK0000116396	229.4
No	WZPK-LD	D31	LD	CP	MONTICELLO, NY	BLANK0000242490	83.3
No	WZPK-LD	D31	LD	LIC	MONTICELLO, NY	BLANK0000240769	83.3
No	WHTV-LD	D31+	LD	LIC	New York, NY	BLANK0000153808	49.1
No	WTFX-TV	D31	DT	LIC	PHILADELPHIA, PA	BLANK0000218009	182.4
No	WYCN-LD	D31	LD	LIC	PROVIDENCE, RI	BLANK0000224675	224.5
No	W32EI-D	N32-	TX	LIC	PORT JERVIS, NY	BLTTL20121024AAB	101.3
No	WHTV-LD	N34+	TX	LIC	New York, NY	BLTTL20070223AHK	101.3

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30
Mask: Simple
Latitude: 41 3 10.00 N (NAD83)
Longitude: 73 32 20.00 W
Height AMSL: 14.2 m (Adjusted based on actual ground elevation calculation)
HAAT: 0.0 m
Peak ERP: 0.010 kW
Antenna: Omnidirectional
Elev Patrn: Generic

50.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.010 kW	-66.8 m	5.6 km
45.0	0.010	-28.7	5.6
90.0	0.010	13.3	5.6
135.0	0.010	14.2	5.6
180.0	0.010	14.1	5.6
225.0	0.010	12.8	5.6
270.0	0.010	-50.4	5.6
315.0	0.010	-94.5	5.6

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: -23 m

Distance to Canadian border: 392.1 km

Distance to Mexican border: 2724.3 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 234.1 degrees Distance: 349.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 278.4 degrees Distance: 2661.1 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

---- Below is IX received by proposal BLANK0000222773 ----

Proposal receives 16.18% interference from scenario 1
Proposal receives 16.18% interference from scenario 2
No IX check failures found.

It is noted that there is incoming interference. XGN respectfully requests the ability to conduct random tests with an ERP of up to 5 watts for purposes of understanding how greater 5G power level could ameliorate incoming interference.

This application is believed to be compliant with the purpose of Part 5 – Experimental Radio Service requirements. Section 5.3 permitted operations include experiments in the broadcast services, technical radio research, technical demonstrations, and field strength surveys. The applicant will comply with FCC rule section 5.84 by not causing harmful interference and will cease transmission or reduce power as necessary to remove interference.

Based on the information supplied herein, and accompanying application form, it is believed that the proposed facilities meet all applicable FCC requirements. The foregoing has been prepared on behalf of XGEN Network, LLC by Clarence M. Beverage of Communications Technologies, Medford, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that the statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



Clarence M. Beverage
for Communications Technologies
Medford, New Jersey
April 23, 2024