

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE**

EXPERIMENTAL

(Nature of Service)

XD MO

(Class of Station)

WL2XDJ

(Call Sign)

0496-EX-CN-2020

(File Number)

NAME Microsoft Corporation

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(j & d) of the Commission's Rules

Station Locations

- (1) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-41
- (2) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-29; WL 122-07-31
- (3) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-25; WL 122-07-27
- (4) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-32; WL 122-07-35
- (5) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-15; WL 122-07-57
- (6) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-34
- (7) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-21; WL 122-07-39
- (8) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-20; WL 122-07-44
- (9) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-50
- (10) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-39
- (11) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-37
- (12) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-39; WL 122-07-43
- (13) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-16; WL 122-07-47
- (14) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-10; WL 122-07-46
- (15) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-39; WL 122-07-30
- (16) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-34; WL 122-07-16
- (17) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-37; WL 122-07-19
- (18) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-43; WL 122-07-50
- (19) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-49
- (20) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-44; WL 122-07-38
- (21) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-11; WL 122-07-40
- (22) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-14; WL 122-08-08
- (23) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-29; WL 122-07-50
- (24) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-35; WL 122-07-50
- (25) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-32; WL 122-07-32

This authorization effective September 16, 2020 and
will expire 3:00 A.M. EST October 01, 2022

**FEDERAL
COMMUNICATIONS
COMMISSION**



Station Locations

- (26) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-12; WL 122-07-58
 (27) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-18; WL 122-07-31
 (28) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-42; WL 122-07-18
 (29) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-35; WL 122-07-30
 (30) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-28; WL 122-07-25
 (31) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-42; WL 122-07-32
 (32) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-21; WL 122-07-27
 (33) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-20; WL 122-07-58
 (34) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-08-02
 (35) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-27; WL 122-07-58
 (36) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-49; WL 122-07-57
 (37) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-57; WL 122-07-58
 (38) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-00; WL 122-08-02
 (39) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-05; WL 122-07-59
 (40) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-11; WL 122-07-57
 (41) MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-06; WL 122-08-07

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-41

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-29; WL 122-07-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-25; WL 122-07-27

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-32; WL 122-07-35

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-15; WL 122-07-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-34

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-21; WL 122-07-39

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-20; WL 122-07-44

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-07-50

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-39

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-37

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-39; WL 122-07-43

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-16; WL 122-07-47

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-10; WL 122-07-46

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-39; WL 122-07-30

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-34; WL 122-07-16

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-37; WL 122-07-19

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-43; WL 122-07-50

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-38; WL 122-07-49

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-44; WL 122-07-38

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-11; WL 122-07-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-14; WL 122-08-08

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-29; WL 122-07-50

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-35; WL 122-07-50

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-32; WL 122-07-32

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-12; WL 122-07-58

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-18; WL 122-07-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-42; WL 122-07-18

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-35; WL 122-07-30

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-28; WL 122-07-25

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-42; WL 122-07-32

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-21; WL 122-07-27

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-20; WL 122-07-58

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-22; WL 122-08-02

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-27; WL 122-07-58

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-49; WL 122-07-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-38-57; WL 122-07-58

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-00; WL 122-08-02

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Frequency Information

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-05; WL 122-07-59

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-11; WL 122-07-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

MOBILE: Redmond, WA, within 0.05 km, centered around NL 47-39-06; WL 122-08-07

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
24.25-29.5 GHz	MO	800MF9W	200 mW (ERP)	
37-40 GHz	MO	800MF9W	200 mW (ERP)	

Special Conditions:

- (1) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

Special Conditions:

- (3) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (4) The designated point-of-contact to terminate transmissions if interference occurs is wdgcell@microsoft.com
- (5) All of the experimental devices will be under control of Microsoft Corp. and they will be retrieved by Microsoft Corporation from the participants upon completion of the experiment.
- (6) This authorization is issued for the express purpose of conducting experimental operations described in the related application. The use of this radio station in any other manner or for any other purpose will constitute a violation of the privileges herein authorized. Except as subsequently authorized by the Commission, this radio station shall not be operated after the expiration date of the contract designated in the related application and enumerated above.
- (7) Microsoft will be responsible for ensuring that the devices are used in authorized locations and in a manner authorized.
- (8) Under this authorization, the total number of experimental devices shall not exceed 546.
- (9) Secure consents from the Upper Microwave Flexible Use Service licensees in each proposed area prior to operation in 24.25-29.5 GHz and 37-40 GHz bands.
- (10) Coordinate with the Fixed Microwave Service licensees in each the proposed area in accordance with 47 C.F.R, Part 101.103(d) prior to operation in the proposed bands.