

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

EXPERIMENTAL

(Nature of Service)

XD MO

(Class of Station)

WM2XCM

(Call Sign)

0731-EX-CN-2021

(File Number)

NAME Rockwell Collins, Inc.

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) of the Commission's Rules

Station Locations

- (1) MOBILE: Centered around Collins Cedar Rapids, IA, within 80 km, centered around NL 42-01-55; WL 91-38-53
- (2) MOBILE: Centered around Collins Melbourne, FL, within 80 km, centered around NL 28-05-31; WL 80-38-05
- (3) MOBILE: Clarksville, MD, within 20 km, centered around NL 39-11-30; WL 77-00-01

Frequency Information

MOBILE: Centered around Collins Cedar Rapids, IA, within 80 km, centered around NL 42-01-55; WL 91-38-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
10-10.5 GHz	MO	NON	6 W (ERP)	0.0001 %
10.7-15 GHz	MO	250MD1D	6 W (ERP)	0.0001 %
14-14.5 GHz	MO	0H00NON	3.6 kW (ERP)	0.0001 %

This authorization effective November 02, 2021 and
will expire 3:00 A.M. EST November 01, 2023

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

MOBILE: Centered around Collins Cedar Rapids, IA, within 80 km, centered around NL 42-01-55; WL 91-38-53

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14-14.5 GHz	MO	20M0D1D	2.2 kW (ERP)	0.0001 %

MOBILE: Centered around Collins Melbourne, FL, within 80 km, centered around NL 28-05-31; WL 80-38-05

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
10-10.5 GHz	MO	N0N	6 W (ERP)	0.0001 %
10.7-15 GHz	MO	250MD1D	6 W (ERP)	0.0001 %
14-14.5 GHz	MO	20M0D1D	2.2 kW (ERP)	0.0001 %
14-14.5 GHz	MO	0H00N0N	3.6 kW (ERP)	0.0001 %

MOBILE: Clarksville, MD, within 20 km, centered around NL 39-11-30; WL 77-00-01

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
10-10.5 GHz	MO	N0N	6 W (ERP)	0.0001 %
10.7-15 GHz	MO	250MD1D	6 W (ERP)	0.0001 %

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.
- (3) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (4) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at <http://sbe.org/wp-content/uploads/freqcoor.pdf> to find the appropriate coordinator.
- (5) Operation is not permitted on 14-14.5 GHz band (2.2 kW and 3.6 kW) in Clarksville, MD.
- (6) Coordinate with the Fixed Microwave Service licensees in each proposed venue in accordance with 47 C.F.R, Part 101.103(d) prior to commencing the experiments.
- (7) Licensee is authorized to conduct on ground tests on 5 units of 20" x 18" x 4" OneWeb Compact Array antenna, 2 units of 8" x 2.98" x 3.88" Penn Horn 9040-1B20 antenna, and 1 unit of 12" x 3" x 4" NSI Horn ANT-SGA-10-15 antenna that will be mounted on fixed tripod and on top of the Van. Licensee is authorized to conduct ground-to-ground tests between these fixed tripod-mounted antennas and van-mounted antennas in the 10-10.6 GHz, 10.7-12.7 GHz, 10.7-15 GHz, and 14-14.5 GHz frequency bands.
- (8) Prior to commencing any operations in the 10.7 -12.7 GHz band, experimental licensee must notify licensees of SpaceX Services, Inc. (Attention: Ms Patricia Cooper Phone Number: 202-649-2700 E-Mail: patricia.cooper@spacex.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna pattern, antenna height(s), antenna orientation, eirp density) and day and times of each test.

Special Conditions:

- (9) Prior to commencing any operations in the 10-10.6 GHz, 10.7-12.7 GHz, 10.7-15 GHz, and 14-14.5 GHz frequency bands, experimental licensee must notify licensees of earth stations. The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test. Please notify the following licensees:

MES/MSS Call Sign: E060390
Frequency bands: 11700-12200 MHz, 14-14.5 GHz
Licensee: L-3 Communications Corporation Linkabit Division
Phone Number: 858-552-9944
E-Mail: Mark.Monte@L-3com.com
Name: Mark S. Lawless Phone Number: 801-594-2808
Company: L3 Technologies, Inc.
E-Mail: mark.s.lawless@L3T.com

MES/MSS Call Sign: E060449, E060450, E060451, E060101, E060447, E060448
Frequency bands: 11700-12200 MHz, 14-14.5 GHz
Licensee: Gilat North America, L.L.C. Phone Number: 703-848-1000
E-Mail: lesley.cooper@spacenet.com
Attention: Lesley Cooper

MES/MSS Call Sign: E960474
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: Omnitrac, LLC. Phone Number: 469-801-6180
Fax Number: 469-801-6431
E-Mail: darnold@omnitrac.com
Attention: David Arnold
Name: Paul C. Besozzi Phone Number: 202-457-5292
Company: Squire Patton Boggs (US) LLP Fax Number: 202-457-6315
E-Mail: paul.besozzi@squirepb.com

MES/MSS Call Sign: E880423, E040139
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: Omnitrac, Inc. Phone Number: 858-651-8838
Fax Number: 858-658-1576
E-Mail: ruelv@omnitrac.com
Attention: Mr. Ruel Valenzuela
Name: Daniel H. Kahn Phone Number: 202-662-5539
Company: Covington & Burling LLP Fax Number: 202-778-5539
E-Mail: dkahn@cov.com

Receive-Only Blanket Earth Station Call Sign: E040344
Direct to Home Fixed Satellite
Frequency band(s): 11700-12200 MHz
Licensee: DISH Operating L.L.C.
Name: EchoStar Satellite L.L.C.
Phone Number: 303-723-1000
Attention: David K Moskowitz
Name: Pantelis Michalopoulos

Special Phone Number: 202-429-6494
Company: Steptoe & Johnson LLP
E-Mail: pmichalo@steptoe.com
Relationship: Legal Counsel

MES/MSS Call Sign: E060449, E060450, E060451, E060101, E060447, E060448
Frequency bands: 11700-12200 MHz, 14-14.5 GHz
Licensee: Gilat North America, L.L.C. Phone Number: 703-848-1000
E-Mail: lesley.cooper@spacenet.com
Attention: Lesley Cooper

VMES Call Sign: E170121
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: Intelsat License LLC Phone Number: 703-559-7848
Fax Number: 703-559-8539
E-Mail: Cynthia.Grady@intelsat.com
Attention: Cynthia Grady
Name: Richard Cameron Phone Number: 202-230-4962
Company: LMI Advisors
E-Mail: rcameron@lmiadvisors.com

VMES Call Sign: E140087
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: Astronics AeroSat Corporation Phone Number: 603-879-0205
E-Mail: jonathan.epstein@astronics.com
Attention: Mr. Jonathan Epstein
Name: Carlos Nalda Phone Number: 5713325626
Company: LMI Advisors
E-Mail: cnalda@lmiadvisors.com

VMES Call Sign: E170070
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: Kymeta Corporation Phone Number: 425-896-3700
E-Mail: ryans@kymetacorp.com
Attention: Mr Ryan Stevenson
Name: Robert Koppel Phone Number: 703-584-8669
Company: Lukas, LaFuria, Gutierrez & Sachs, LLP
E-Mail: bkoppel@fcclaw.com

VMES Call Sign: E100099
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: L3harris Technologies
Phone Number: 805-584-1717 x3179
E-Mail: peter.richardson@l3harris.com
Attention: Mr Peter A Richardson

VMES Call Sign: E110078
Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz
Licensee: KVH Industries, Inc. Phone Number: 401-845-8148
Fax Number: 401-845-8116
E-Mail: ffeingold@kvh.com
Attention: Ms. Felise Feingold
Name: Carlos Nalda Phone Number: 571-332-5626

Specific: Company: LMI Advisors
E-Mail: cnalda@lmiadvisors.com
Attention: Mr. Carlos Nalda

NGSO BES (Blanket earth station) Call Sign: E190066
Frequency bands: 10700- 12700 MHz
Licensee: SpaceX Services, Inc. Phone Number: 202-649-2700
E-Mail: David.Goldman@spacex.com
Attention: David Goldman

- (10) Prior to commencing any in the 12.2 -12.7 GHz band, experimental licensee must notify licensees of DISH Operating L.L.C. (Blanket Earth Stations call sign: E090020), DISH Broadcasting Corporation (Blanket Earth Stations call sign: E080107) and EchoStar 77 Corp. (Blanket Earth Stations call sign: E050196). Phone Number: 202-463-3709 or 202-293-0981, E-Mail: Alison.Minea@dish.com Attention: Alison Minea). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna pattern, antenna height(s), antenna orientation, EIRP, EIRP density) and day and times of each test.
- (11) Prior to commencing any in the 12.2 -12.7 GHz band, experimental licensee must notify licensees of Dish Network (Mr. Mariam Sorond, Email: Mariam.sorond@dish.com Charles Ergen, Email: charlie.ergen@dish.com) EchoStar (Mr. Jaime Londono Email: Jaime.londono@echostar.com), and DirecTV/AT&T (Mr. Raquel Noriega Email: raquel.noriega@att.com). The notice must include the name and contact information of the stop buzzer personnel that will be available to cease operations in the event of reported interference. The notification should include the testing parameters (specific location(s), antenna gain(s), antenna pattern, antenna height(s), antenna orientation, eirp density) and day and times of each test.

Special Conditions:

(12) For Melbourne, FL, within 80.00 km , centered around NL 28-05-31; WL 80-38-05:

Call Sign: E100057

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: L3HARRIS TECHNOLOGIES, INC.

ATTN: HOWARD C. ATHERTON

Phone: 321-674-4750 Fax: 321-674-4751 E-Mail: hatherto@harris.com

Site Contact: HOWARD C. ATHERTON 321-674-4750

Call Sign: E000163

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Northrop Grumman Systems Corporation

ATTN: David R. Siddall

Phone: 202-408-6429 Fax: 202-408-6399 E-Mail: dsiddall@sonnenschein.com

Site Contact: HENRY GENEZKO (407) 726-7890

Call Sign: E900040

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: L3HARRIS TECHNOLOGIES, INC.

ATTN: Scott T Mikuen Esq

Phone: 321-727-9234 Fax: 321-727-9125 E-Mail: smikuen@harris.com

Site Contact: Scott Stengel 321-984-6327

Call Sign: E890920, E861070

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: United Service Source, Inc

ATTN: Ms Melanie D Adams

Phone: 321-723-5395 Fax: 321-727-3107 E-Mail: melanie.adams@ussi.org

Site Contact: PAUL WEINFURTNER 321-795-2546

Call Sign: E100117

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Communications Laboratories, Inc.

ATTN: Roland Lussier

Phone: 321-409-9898 Fax: E-Mail: r.lussier@comlabs.com

Site Contact: ROLAND LUSSIER 321-409-9898

Call Sign: E160174

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Interactivation Health Networks LLC

ATTN: Jim Lyons

Phone: 321-373-3399 Fax: E-Mail: jlyons@thewellnessnetwork.net

Site Contact: Jim Lyons 321-373-3400

Call Sign: E170092

Frequency bands: 10.95-11.2 GHz, 11.45-12.2 GHz, 12.25-12.7 GHz, and 14-14.5 GHz

Licensee: Kratos RT Logic

ATTN: Mr Tom J Zehringer 2866

Phone: 719-598-2801 Fax: 719-598-2655 E-Mail: tom.zehringer@kratoscomms.com

Site Contact: Greg Palm 321-723-5395

Special Call Sign: E120017

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Globe Wireless LLC

ATTN: Tom Black

Phone: 321-309-1370 Fax: 321-727-9497 E-Mail: cfo@globewireless.com

Site Contact: Brad Rogers 321-309-1300

Call Sign: E190169, E060131

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: L3 IEC

ATTN: Mr William J Brundage

Phone: 714-758-4112 Fax: 714-758-4111 E-Mail: bill.brundage@L3Harris

Site Contact: Paul Watts 714-758-4147

Call Sign: E080231, E020160

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: L3 IEC

ATTN: PAUL WATTS

Phone: 714-758-0500 Fax: 714-758-4111 E-Mail: paul.watts@L3Harris.com

Site Contact: Paul Watts 714-758-4147

Call Sign: E865128

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: CBS Broadcasting Inc.

ATTN: Edwin L. Nass

Phone: 202-457-4505 Fax: 202-457-4615 E-Mail: elnass@cbs.com

Call Sign: E160064

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: The Boeing Company

ATTN: Mr. Ronald Center

Phone: 206-544-6044 Fax: 206-662-0701 E-Mail: ronald.e.center@boeing.com

Site Contact: Derek Otermat 321-360-3614

Call Sign: E060151

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Carol L Ives

ATTN: Mrs Carol L Ives

Phone: 5038873277 Fax: 971-281-8917 E-Mail: iveco@teleport.com

Site Contact: ED SHIFLETT 321-383-1000

Special Conditions:

(13) For Clarksville, MD, within 20.00 km, centered around NL 39-11-30; WL 77-00-01

Call Sign: E202138

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Johns Hopkins University, Applied Physics Laboratory

ATTN: Mr Frank P Mackowick

Phone: 443-994-1095 Fax: E-Mail: frank.mackowick@jhuapl.edu

Site Contact: Frank Mackowick 443.994.1095

Call Sign: E940451

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: The Ahmadiyya Movement in Islam, Inc. USA

ATTN: Mr Munir Ahmad

Phone: 301-332-3287 Fax: 301-879-0222 E-Mail: cmunir@muslimtv.tv

Site Contact: MUNIR AHMAD 301-332-3287

Call Sign: E020288

Frequency bands: 10.95-11.2 GHz, 11.45-12.75 GHz, 11.7-12.2 GHz, 13.75-14.5 GHz

Licensee: Globecomm License Sub LLC

ATTN: John Flynn

Phone: 6314571347 Fax: E-Mail: fcclicense@globecomm.com

Site Contact: SHAWN SMITH 240-553-9427

Call Sign: E120200

Frequency bands: 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, 14-14.5 GHz

Licensee: Globecomm License Sub LLC

ATTN: Julia Hanft

Phone: 631-457-1144 Fax: 6312311557 E-Mail: jhanft@globecomm.com

Site Contact: James Emerick 240-553-9401

VSAT Call Sign: E000166

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: HNS License Sub, LLC

ATTN: Jodi Goldberg

Phone: 301-428-7140 Fax: 301-428-2818 E-Mail: jodi.goldberg@echostar.com

Site Contact: BILL MCHARGUE 301-428-7205

Call Sign: E860317, E140059

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Daniel C.H. Mah

Phone: 202-478-7137 Fax: 202-478-7101 E-Mail: daniel.mah@ses.com

Site Contact: SCOTT BOWEN 410-907-7513

Call Sign: E900448

Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Daniel C.H. Mah

Phone: 202-478-7137 Fax: 202-478-7101 E-Mail: daniel.mah@ses.com

Site Contact: MARK RATHERT 410-549-4301

Call Sign: E120202

Special Frequency bands: 11.7-12.2 GHz, 14-14.5 GHz

Licensee: IP Access International

ATTN: Alan Rich

Phone: 949-655-1028 Fax: 949-240-8072 E-Mail: Alan.Rich@ipinternational.net

Site Contact: SES AMERICOM INC 410-549-4310

Call Sign: E920698,

Frequency bands: 11.45-11.7 GHz, 11.7-12.2 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Petra A Vorwig

Phone: 202-478-7143 Fax: 202-478-7111 E-Mail: petra.vorwig@ses.com

Site Contact: SES AMERICOM INC 410-549-4310

Call Sign: E170138

Frequency bands: 10.7-11.7 GHz, 11.7-12.2 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Petra A Vorwig

Phone: 202-478-7143 Fax: 202-478-7111 E-Mail: petra.vorwig@ses.com

Site Contact: Mark Rathert 410 870 7501

Call Sign: E170197

Frequency bands: 10.95-11.2 GHz, 11.45-11.95 GHz, 12.2-12.45 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Petra A Vorwig

Phone: 202-478-7143 Fax: 202-478-7111 E-Mail: petra.vorwig@ses.com

Site Contact: Mark Rathert 410 870 7501

Call Sign: E170197, E050287,

Frequency bands: 10.95-11.2 GHz, 11.45-11.95 GHz, 12.2-12.45 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Petra A Vorwig

Phone: 202-478-7143 Fax: 202-478-7111 E-Mail: petra.vorwig@ses.com

Site Contact: Mark Rathert 410 870 7501

Call Sign: E990016

Site Contact: BILL BRIDGEFORTH 410-549-4300

Call Sign: E170137

Site Contact: Mark Rathert 410 870 7501

Frequency bands: 11.45-12.2 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Joslyn Read

Phone: 202-478-7183 Fax: 202-478-7183 E-Mail: joslyn.read@ses-newskies.com

Call Sign: E170089

Frequency bands: 10.95-11.2 GHz, 11.45-12.2 GHz, 13.75-14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Petra A Vorwig

Phone: 202-478-7143 Fax: 202-478-7111 E-Mail: petra.vorwig@ses.com

Site Contact: Mark Rathert 410 870 7501

Call Sign: E140054

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Frequency bands: 11.7-12.7 GHz, 14 -14.5 GHz

Licensee: SES Americom, Inc.

ATTN: Ms Nancy J Eskenazi

Phone: 2024787144 x Fax: 2024787111 E-Mail: nancy.eskenazi@ses.com

Site Contact: MARK RATHERT 410-970-7513

Call Sign: E010089

Frequency bands: 10.95-11.2 GHz, 11.45-12.2 GHz, 14 -14.5 GHz

Licensee: Viasat, Inc.

ATTN: Mr Daryl T Hunter

Phone: 760-476-2583 Fax: 760-929-3941 E-Mail: daryl.hunter@viasat.com

Site Contact: DARYL T. HUNTER, P. 760-476-2583

Call Sign: E010089

Frequency bands: 10.95-11.2 GHz, 11.45-12.2 GHz, 14 -14.5 GHz

Licensee: Viasat, Inc.

ATTN: Mr Daryl T Hunter

Phone: 760-476-2583 Fax: 760-929-3941 E-Mail: daryl.hunter@viasat.com

Site Contact: DARYL T. HUNTER, P. 760-476-2583

Call Sign: E120058

Frequency bands: 11.7-12.2 GHz, 14 -14.5 GHz

Licensee: Comtech EF Data Corp.

ATTN: ROBERT L. MCCOLLUM

Phone: 480-333-2204 Fax: 480-333-2100 E-Mail: rmccollum@comtechefdata.com

Site Contact: MIKE BEELER 240-243-1838

VSAT Call Sign: E060317

Frequency bands: 11.7-12.2 GHz, 14 -14.5 GHz

Licensee: RigNet SatCom, Inc. Phone Number: 281-674-0150

Fax Number: 281-674-0101

ATTN: Mr. Raul Magallane

Phone: 480-333-2204 Fax: 480-333-2100 E-Mail: raul.magallanes@rig.net

Special Conditions:

- (14) For Cedar Rapids, IA, within 80.00 km, centered around NL 42-01-55; WL 91-38-53

Call Sign: E970014

Frequency bands: 11.7-12.2 GHz, 14 -14.5 GHz

Licensee: KGAN Licensee, LLC

ATTN: Kathryn R Schmeltzer Esq

Phone: 202-663-8000 x8217 Fax: 202-663-8007 E-Mail:

Kathryn.Schmeltzer@Pillsburylaw.com

Call Sign: E950239

Frequency bands: 11.7-12.2 GHz, 14 -14.5 GHz

Licensee: Cedar-Rapids TV License Company, LLC

ATTN: Mr Jeffrey W Mayes

Phone: 310-277-3500 Fax: E-Mail: JeffreyM@es.tv

Call Sign: E7700

Frequency bands: 11.7-12.2 GHz, 14 -14.5 GHz

Licensee: NBC Telemundo License LLC

ATTN: Margaret L Tobey

Phone: 202-524-6401 Fax: 202-524-6411 E-Mail: margaret.tobey@nbcuni.com

Site Contact: MICHELE TULLY 321-721-5395

- (15) The designated point-of-contact to terminate transmissions if interference occurs is Jiwon Moran at (319) 558-6082.