


APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Request for Extension of Special Temporary Authority To Provide Performance Testing and TT&C Services for the FM-6 Satellite
Using Vernon, NJ Earth Station E080185

I. Applicant

Name: Sirius XM Radio Inc. Phone Number: 202-380-1383
DBA Name: Fax Number: 202-380-4981
Street: 1221 Avenue of the Americas E-Mail: james.blitz@siriusxm.com
36th Floor
City: New York State: NY
Country: USA Zipcode: 10020
Attention: James S. Blitz


File # SES-STA-20140331-00202
E080185
Call Sign Grant Date S-27-14
(or other identifier)
Term Dates
From S-27-14 To 11-23-14
Approved: James S. Blitz



Applicant: Sirius XM Radio Inc.
File No.: SES-STA-20140331-00202
Call Sign: E080185
Special Temporary Authority (STA)

Sirius XM Radio Inc. is granted extension of STA that was previously granted under IBFS File No. SES-STA-20130701-00561 for a period of 180 days to use its earth station in Vernon, New Jersey to conduct in-orbit testing (IOT) services to FM-6 satellite (Call Sign S2812) at orbit location 120.50° W.L.

1. Uplink to FM-6 on: 7051.5 – 7052.5 MHz and 7055.5 – 7056.5 MHz (command), 7060.0 – 7072.5 MHz.
2. Downlink from: 2320.0 – 2332.5 MHz (service transmissions and telemetry).
3. Sirius XM Radio Inc. will not exceed the previously-coordinated parameters during the proposed testing and will not cause harmful interference to the operations of any other spacecraft and authorized terrestrial operations. Sirius XM Radio will cease transmissions promptly in the event any harmful interference is caused by such operations. Sirius XM Radio must immediately terminate transmissions and notify the FCC in writing.
4. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Sirius XM Radio Inc.'s own risk.
5. Operations during the period April 9, 2014 to the date of this grant were authorized pursuant to Section 1.62 of the commission's rules 47 C.F.R. § 1.62.
6. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.

 GRANTED International Bureau	File # <u>SES-STA-20140331-00202</u>
	Call Sign _____ Grant Date <u>5-27-14</u>
	(or other identifier) _____ Term Dates
	From <u>S-27-14</u> To <u>11-23-14</u>
	Approved: <u>Paul E. Hayes</u>

2. Contact	
Name: Jennifer D. Hindin	Phone Number: 202-719-4975
Company: Wiley Rein LLP	Fax Number: 202-719-7049
Street: 1776 K Street, NW	E-Mail: jhindin@wileyrein.com
City: Washington	State: DC
Country: USA	Zipcode: 20006 -
Attention:	Relationship: Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	
7. City/Vernon	
8. Latitude (dd mm ss.s h) 41 12 45.0 N	

9. State NJ	10. Longitude (dd mm ss.s h) 74 29 39.0 W
11. Please supply any need attachments. Attachment 1: STA Request Attachment 2: Freq. Coordination Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">Sirius XM Radio Inc. requests special temporary authority for an additional 180 days, commencing April 8, 2014, for its Vernon, New Jersey earth station (call sign E080185) to conduct performance testing and TT&C of the FM-6 satellite at 120.5 W.L.</div>	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing James S. Blitz	15. Title of Person Signing V.P., Regulatory Counsel
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

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DBA Name:		Fax Number:	202-380-4981
Street:	1221 Avenue of the Americas 36th Floor	E-Mail:	james.blitz@siriusxm.com
City:	New York	State:	NY
Country:	USA	Zipcode:	10020 -
Attention:	James S. Blitz		

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Name: Jennifer D. Hindin	Phone Number: 202-719-4975
Company: Wiley Rein LLP	Fax Number: 202-719-7049
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(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
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**Sirius XM Radio Inc. Request for Extension of Special Temporary Authority
to Provide Performance Testing Services and TT&C for the FM-6 Satellite
Using Vernon, New Jersey Earth Station, Call Sign E080185**

Sirius XM Radio Inc. (“Sirius XM”) herein requests an additional 180 days, commencing April 8, 2014, of the Special Temporary Authority (“STA”) previously granted to Sirius XM¹ to use the S- and X-band antennas on its Vernon, New Jersey earth station (call sign E080185) to conduct performance testing of the FM-6 satellite at the 120.5° W.L. orbital location and to perform TT&C of the satellite at this orbital location.

The Vernon, New Jersey earth station will use the following frequencies to conduct performance testing and TT&C:

7051.5 – 7052.5 MHz and 7055.5 – 7056.5 MHz (command)
2320.0 – 2332.5 MHz (service transmissions and telemetry)
7060.0 – 7072.5 MHz (uplink)

Grant of this STA will serve the public interest by ensuring the provision of continued quality satellite radio services to customers. As the Commission is aware, the FM-6 satellite, a geostationary orbit (“GSO”) satellite, will be used in conjunction with Sirius XM’s FM-5 satellite (call sign S2710) to eventually replace Sirius XM’s current non-geostationary satellite orbit (“NGSO”) constellation (call sign S2105) launched in 2000.² The performance testing of FM-6 at 120.5° W.L. includes a series of tests to confirm the signal quality and service availability of this GSO satellite. Also, Sirius XM is testing current and future subscriber receivers.

Moreover, grant of this request will not cause harmful interference to other satellite operators. Sirius XM won exclusive satellite rights to the 2320.0 – 2332.5 MHz S-band spectrum at auction and will coordinate internally its performance testing and TT&C operations with its other in-orbit satellites. No other satellite operators will be affected by Sirius XM’s use of these frequencies.

Similarly, grant of this request will not cause harmful interference to existing or proposed terrestrial facilities operating in the 7 GHz X-band. As shown in the attached Frequency Coordination and Interference Analysis Reports prepared by Comsearch, Sirius XM has coordinated its proposed use of its Vernon, New Jersey earth stations with all existing or proposed terrestrial facilities operating in the shared 7 GHz frequency band, including national licensees. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth stations, Sirius XM will take all reasonable steps to eliminate the interference.

¹ *Satellite Communications Services Information; Actions Taken*, Public Notice, Report No. SES-01591, File No. SES-STA-20130701-00561 (Oct. 23, 2013).

² *Policy Branch Information; Actions Taken*, Public Notice, Report No. SAT-00805, DA 11-1498, File No. SAT-MOD-20110525-00099 (Sept. 2, 2011).

In light of the above, Sirius XM respectfully requests Commission approval of this STA extension request.

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Sirius XM Radio Inc.
VERNON VLY, NJ
(7.2 Meter)
E080185
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
January 04, 2012

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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-only earth station.

Company

FOX TELEVISION STATIONS, INC.
NEXSTAR BROADCASTING, INC.

No other carriers reported potential interference cases.

3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 11/30/2011.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
ALASCOM, INC.
AT&T California
American Broadcasting Companies, Inc.
Ascent Media Network Services, LLC
BFI Licenses, LLC
BROADCAST COMMUNICATIONS INC
Bellsouth Telecommunications, Inc.
Borgeson, Tom R.
Broadcast Sports Inc.
CBS Broadcasting Inc
CNG Communications, Inc.
CNN America, Inc.
Carolina Telephone and Telegraph Co
Casper, John
CenturyTel of the Southwest, Inc.
Chicago Comnet Corp
Cincinnati Bell Wireless LLC
Citywide News Network, Inc.
Cohen, Elana
Cowboys Stadium LP
DCI II, INC.
Direct Broadcast Services, Inc.
FOX TELEVISION STATIONS, INC.
FOX TELEVISION STATIONS, INC.
Fox Television Stations Inc
GOODYEAR TIRE AND RUBBER COMPANY
GSN New, Inc
HF Enterprises, Inc
Hallco Unlimited, Inc.
Hawaiian Telcom, Inc.
Heiden Mr., William
INDIANA BELL TELEPHONE COMPANY INC
Illinois Bell Telephone Company
Information & Display Systems, Inc.
Information Super Station, LLC
International Communications Group, Inc.
Kentucky RSA #3 Cellular General Partner
Kentucky RSA #4 Cellular General Partner

Local TV Pennsylvania License, LLC
MARANATHA BROADCASTING COMPANY
MERCURY COMMUNICATIONS
Metro Networks Communications, Inc.
Michigan Bell Telephone Company
Moreen, Steven K
NBC TELEMUNDO LICENSE LLC
NEW ENGLAND DIGITAL DISTRIBUTION, INC.
NEW ENGLAND SATELLITE SYSTEMS INC
NEW JERSEY PUBLIC BROADCASTING AUTHORITY
NEXSTAR BROADCASTING, INC.
NSM Surveillance
Navajo Communications Company
NorthWest Suburbs Community Access Corp
Ohio Bell Telephone Company
On Scene Video Production
Onboard Images
Penn Service Microwave Co., Inc.
Plateau Telecommunications, Inc.
Plum TV, LLC
Production & Satellite Services, Inc.
Public Television Communications Center
QUICK LINK CONNECTIONS INC
QWEST CORPORATION
RCC Minnesota Inc. - MN NE ND SD
REMOTE FACILITIES CONSULTING SERVICES
RF Central, LLC
RF Film, Inc
Radiofone, Inc.
Rainbow News 12 Company
Randy Hermes Production
Regulus Media Services, Inc.
Remote Broadcasts, Inc.
Southwestern Bell Telephone L.P.
Speedshotz, Inc
Time Warner Entertainment Company L.P.
Total RF Marketing Inc
Trinity Broadcasting of New York
Unisat, Inc.
United Telephone - Southeast
Univision of New York
VERIZON SOUTH INC.
Verizon California Inc.
Verizon Maryland, Inc.
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon New York, Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania, Inc.
Verizon Virginia, Inc.
Verizon Washington DC, Inc.
Village Video Productions Inc
Vyvx, LLC
WNET
WPIX, INC.

WRNN License Company, LLC
WTVE License Company, LLC
WXTV License Partnership, G.P.
Westar Satellite Services LP
Western Technical Services
Wexler Video, Inc.
Winged Vision
Wisconsin Bell, Inc.
Wolfe Air Aviation

4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Date: 01/03/2012
Job Number: 111130COMSGE05

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E080185
Licensee Code SIRSAT
Licensee Name Sirius XM Radio Inc.

Site Information

VERNON VLY, NJ
Venue Name
Latitude (NAD 83) 41° 12' 45.0" N
Longitude (NAD 83) 74° 29' 39.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 128.63 m / 422.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 80° W to 120° West Longitude
Azimuth Range 188.3° to 237.1°
Corresponding Elevation Angles 42.0° / 23.9°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	General Dynamics	General Dynamics
Model	7.2 Meter	7.2 Meter
Gain / Diameter	42.2 dBi / 7.2 m	50.5 dBi / 7.2 m
3-dB / 15-dB Beamwidth	1.30° / 2.60°	0.40° / 0.84°
Max Available RF Power (dBW/4 kHz) (dBW/MHz)		5.5 29.5
Maximum EIRP (dBW/4 kHz) (dBW/MHz)		56.0 80.0
Interference Objectives:	Long Term -156.0 dBW/MHz 20% Short Term -146.0 dBW/MHz 0.01%	-154.0 dBW/4 kHz 20% -131.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 2.0 GHz	Transmit 7.0 GHz
Emission / Frequency Range (MHz)	1M00F1D - 4M00G7E / 2320.0 – 2332.5 2320.0 – 2345.0	1M00F1D - 4M00G7E / 7040.0 - 7075.0
Max Great Circle Coordination Distance	273.0 km / 169.6 mi	186.0 km / 115.6 mi
Precipitation Scatter Contour Radius	497.1 km / 308.9 mi	316.4 km / 196.6 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

VERNON VLY, NJ

Licensee Name	Sirius XM Radio Inc.		
Latitude (NAD 83)	41° 12' 45.0" N		
Longitude (NAD 83)	74° 29' 39.0" W		
Ground Elevation (AMSL)	128.63 m / 422.0 ft		
Antenna Centerline (AGL)	3.66 m / 12.0 ft		
Antenna Model	General Dynamics 7.2 Meter		
Antenna Mode	Receive 2.0 GHz		
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	Transmit 7.0 GHz -154.0 dBW/4 kHz 20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	5.5 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 2.0 GHz		Transmit 7.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	1.96	120.28	-10.00	195.56	-10.00	120.03
5	2.32	124.86	-10.00	187.29	-10.00	112.84
10	2.34	129.31	-10.00	186.66	-10.00	112.30
15	1.32	133.27	-10.00	210.52	-10.00	134.43
20	1.17	137.39	-10.00	215.17	-10.00	138.60
25	1.68	136.88	-10.00	203.22	-10.00	126.90
30	1.17	134.65	-10.00	214.93	-10.00	138.38
35	1.19	132.52	-10.00	214.47	-10.00	137.97
40	1.77	130.49	-10.00	200.71	-10.00	124.62
45	2.07	127.93	-10.00	192.95	-10.00	117.73
50	2.30	125.05	-10.00	187.71	-10.00	113.20
55	2.84	122.12	-10.00	175.23	-10.00	102.78
60	3.36	118.95	-10.00	161.29	-10.00	100.00
65	3.98	115.63	-10.00	148.24	-10.00	100.00
70	4.08	111.96	-10.00	146.70	-10.00	100.00
75	2.89	107.88	-10.00	173.97	-10.00	101.76
80	2.27	103.98	-10.00	188.32	-10.00	113.72
85	3.29	100.35	-10.00	163.03	-10.00	100.00
90	3.73	96.52	-10.00	153.29	-10.00	100.00
95	4.14	92.62	-10.00	145.70	-10.00	100.00
100	4.21	88.67	-10.00	144.61	-10.00	100.00
105	4.34	84.72	-10.00	142.70	-10.00	100.00
110	4.71	80.74	-10.00	137.44	-10.00	100.00
115	5.30	76.70	-10.00	131.90	-10.00	100.00
120	5.50	72.73	-10.00	130.00	-10.00	100.00
125	4.97	69.01	-10.00	134.01	-10.00	100.00
130	4.91	65.25	-10.00	134.84	-10.00	100.00
135	5.42	61.35	-10.00	130.76	-10.00	100.00
140	5.34	57.78	-10.00	131.51	-10.00	100.00
145	4.88	54.56	-10.00	135.15	-10.00	100.00
150	4.44	51.56	-10.00	141.20	-10.00	100.00
155	4.62	48.42	-10.00	138.69	-10.00	100.00
160	4.46	45.76	-9.51	143.03	-9.51	100.00
165	3.81	43.83	-9.04	156.31	-9.04	100.00
170	3.91	41.69	-8.50	156.92	-8.50	100.00
175	3.34	40.58	-8.21	172.75	-8.21	100.01
180	3.84	38.96	-7.76	162.05	-7.76	100.00
185	4.30	37.86	-7.45	155.12	-7.45	100.00

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

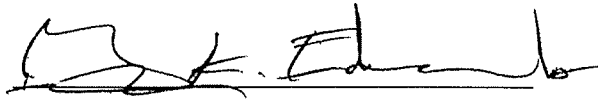
VERNON VLY, NJ

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	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power			5.5 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 2.0 GHz		Transmit 7.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	4.38	37.15	-7.25	154.83	-7.25	100.00
195	4.32	36.16	-6.96	157.36	-6.96	100.00
200	4.09	34.93	-6.58	163.14	-6.58	100.00
205	2.98	34.10	-6.32	190.56	-6.32	113.94
210	2.22	32.56	-5.82	206.91	-5.82	130.21
215	1.74	30.45	-5.09	223.06	-5.09	142.51
220	0.70	28.50	-4.37	271.63	-4.37	186.04
225	0.79	25.90	-3.33	272.80	-3.33	186.00
230	0.87	24.01	-2.51	272.99	-2.51	185.31
235	1.25	22.71	-1.91	259.12	-1.91	173.15
240	1.70	22.35	-1.73	244.22	-1.73	158.30
245	1.83	23.35	-2.21	236.87	-2.21	152.31
250	2.29	24.99	-2.94	220.02	-2.94	138.46
255	3.15	27.13	-3.84	199.17	-3.84	120.34
260	3.12	30.53	-5.12	193.42	-5.12	115.90
265	3.97	33.81	-6.23	169.03	-6.23	100.00
270	4.30	37.73	-7.42	155.43	-7.42	100.00
275	4.17	42.04	-8.59	151.74	-8.59	100.00
280	3.63	46.60	-9.71	156.98	-9.71	100.00
285	5.61	50.47	-10.00	128.97	-10.00	100.00
290	5.50	55.09	-10.00	129.98	-10.00	100.00
295	5.79	59.67	-10.00	127.23	-10.00	100.00
300	5.81	64.35	-10.00	126.99	-10.00	100.00
305	5.35	69.12	-10.00	131.45	-10.00	100.00
310	5.37	73.83	-10.00	131.30	-10.00	100.00
315	5.83	78.52	-10.00	126.85	-10.00	100.00
320	5.65	83.28	-10.00	128.59	-10.00	100.00
325	4.91	88.03	-10.00	134.82	-10.00	100.00
330	4.86	92.76	-10.00	135.47	-10.00	100.00
335	5.11	97.50	-10.00	133.79	-10.00	100.00
340	4.53	102.18	-10.00	140.03	-10.00	100.00
345	4.41	106.86	-10.00	141.73	-10.00	100.00
350	3.22	111.37	-10.00	164.46	-10.00	100.00
355	2.83	115.91	-10.00	175.37	-10.00	102.89

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: January 04, 2012