


**Exhibit B – Technical Supplement**  
**FCC Form 312 – Modification Application**  
**Applicant: Kongsberg Satellite Services AS**  
**Call Sign: E160028**

**1. ITU Notification Information for the exactView-7 Satellite**

The exactView-7 satellite (“EV7”) is undergoing international coordination<sup>1</sup> and has been notified to the ITU under the name M3MSat, as shown:

		UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS BUREAU DES RADIOCOMMUNICATIONS		INTERNATIONAL TELECOMMUNICATION UNION RADIOCOMMUNICATION BUREAU		UNIÓN INTERNACIONAL DE TELECOMUNICACIONES OFICINA DE RADIOCOMUNICACIONES		© I.T.U.	
RÉSEAU À SATELLITE SATELLITE NETWORK RED DE SATELITE		<b>M3MSAT</b>		SECTION SPÉCIALE N° SPECIAL SECTION No. SECCIÓN ESPECIAL N.º		<b>CR/C/3268 MOD-1</b>			
STATION TERRIENNE EARTH STATION ESTACIÓN TERRENA		---		BR IFIC / DATE BR IFIC / DATE BR IFIC / FECHA		<b>2747 / 25.06.2013</b>			
ADM. RESPONSABLE RESPONSIBLE ADM. ADM. RESPONSABLE		<b>CAN</b>		LONGITUDE NOMINALE NOMINAL LONGITUDE LONGITUD NOMINAL		<b>NGSO</b>		NUMÉRO D'IDENTIFICATION IDENTIFICATION NUMBER NÚMERO DE IDENTIFICACIÓN	<b>113520056 / 112520404</b>
RENSEIGNEMENTS REÇUS PAR LE BUREAU LE / INFORMATION RECEIVED BY THE BUREAU ON / INFORMACIÓN RECIBIDA POR LA OFICINA EL								<b>14.03.2013</b>	
Cette demande de coordination, reçue par le Bureau des radiocommunications en vertu du numéro 9.30 du Règlement des radiocommunications, a été examinée au titre des numéros 9.35 et 9.36 et est publiée conformément au numéro 9.38. Elle est subordonnée au type de coordination indiqué dans la colonne de gauche par un X dans la case pertinente.				This request for coordination, received by the Radiocommunication Bureau pursuant to No. 9.30 of the Radio Regulations, has been examined under Nos. 9.35 and 9.36 and is published in accordance with No. 9.38. It is subject to the form of coordination indicated in the left-hand column by an X in the relevant box.				Esta solicitud de coordinación, recibida por la Oficina de Radiocomunicaciones de conformidad con el punto N° 9.30 del Reglamento de Radiocomunicaciones, se ha examinado de conformidad con los N° 9.35 y 9.36 y se publica de conformidad con el N° 9.38. Está sujeta al formulario de coordinación indicado en la columna de la izquierda con una X en la casilla correspondiente.	
Type de coordination mentionné dans le Tableau I / Form of coordination referred to in Table I / Forma de coordinación mencionada en el cuadro I									
<input type="checkbox"/> 9.7 <input type="checkbox"/> 9.7A <input type="checkbox"/> 9.7B <input type="checkbox"/> AP30#7.1 <input type="checkbox"/> AP30A#7.1 <input type="checkbox"/> RS539 <input type="checkbox"/> RS33#3		Conformément aux numéros 9.50 à 9.52 du Règlement des radiocommunications, les Administrations identifiées dans le Tableau I ci-après sont priées de communiquer leur décision à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous.				In accordance with Nos. 9.50-9.52 of the Radio Regulations, the Administrations identified in Table I below are requested to communicate their decision to the Responsible administration and the Bureau by the deadline indicated below.		De conformidad con los N° 9.50-9.52 del Reglamento de Radiocomunicaciones, se solicita a las administraciones señaladas en el cuadro I a continuación que comuniquen su decisión a la administración responsable y a la Oficina antes del plazo indicado más abajo.	
Type de coordination mentionné dans le Tableau II / Form of coordination referred to in Table II / Formulario de coordinación remitido al cuadro II									
<input checked="" type="checkbox"/> 9.11 <input checked="" type="checkbox"/> 9.11A <input checked="" type="checkbox"/> 9.12 <input checked="" type="checkbox"/> 9.12A <input type="checkbox"/> 9.13 <input type="checkbox"/> 9.14 <input type="checkbox"/> 9.21/A <input type="checkbox"/> 9.21/B <input type="checkbox"/> 9.21/C <input type="checkbox"/> RS33#2.1		Les Administrations, énumérées ou non-énumérées dans le Tableau II ci-après, qui n'acceptent pas la demande de coordination au titre des numéros 9.11 à 9.14, 9.21 et RS33#2.1, sont priées de communiquer leurs observations à l'Administration responsable et au Bureau avant la date limite indiquée ci-dessous. Toute Administration qui ne réagira pas au titre du numéro 9.52 avant cette date limite sera considérée comme n'étant pas défavorablement influencée et, dans les cas couverts par les numéros 9.11 à 9.14 et RS33#2.1, les dispositions des numéros 9.48 et 9.49 s'appliqueront.				Administrations listed or not listed in Table II below, which do not agree to the request for coordination under Nos. 9.11 to 9.14, 9.21 and RS33#2.1 are requested to communicate their comments to the responsible administration and the Bureau by the deadline indicated below. Any administration not responding under No. 9.52 within this deadline shall be regarded as unaffected and, in the cases of Nos. 9.11 to 9.14 and RS33#2.1, the provisions of Nos. 9.48 and 9.49 shall apply.		Se invita a las administraciones, enumeradas o no en el cuadro II, que no estén de acuerdo con la solicitud de coordinación de conformidad con los N° 9.11 a 9.14, 9.21 y RS33#2.1 que comuniquen sus observaciones a la administración responsable y a la Oficina dentro del plazo indicado más abajo. Se considerará que toda administración que no responda de conformidad con el N° 9.52 dentro del plazo señalado, no está afectada y, en el caso de los N° 9.11 a 9.14 y RS33#2.1, se aplicarán las disposiciones de los N° 9.48 y 9.49.	
DATE LIMITE POUR LA DÉCISION / EXPIRY DATE FOR DECISION / FECHA LÍMITE PARA LA DECISIÓN								<b>25.10.2013</b>	

<sup>1</sup> Although the DATAD beam (5183 MHz center frequency) for the downlink to the Station was published in Part III of BR IFIC 2840 (Mar. 7, 2017), the satellite operator continues to pursue ITU coordination and believes the problem has been resolved.

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## 2. FCC Licensee Database: Search Results for 5150–5250 MHz in Alaska

An August 17, 2017 search of the FCC's General Menu Reports system for currently licensed and pending facilities in the state of Alaska in the 5150–5250 MHz band reveals only 4 operations, all by GUSA Licensee, LLC (affiliate of Globalstar Licensee, LLC) or by Kongsberg Satellite Services AS (the applicant):



### Site / Frequency / Market Search Results

**Search Criteria:** State = AK, Frequency Range = 5150 MHz through 5250 MHz, Currently Licensed and Pending Facilities

International Bureau Filing System Database						
Callsign: <a href="#">E050345</a>	File Number: <a href="#">SESMFS2010110801413</a>	Applicant: GUSA Licensee LLC	FRN: 0015272669	Grant Date: 06/07/2011	Expiration: 01/04/2022	Status: ATPN Sub-System: SES
Site: WSLA-3	Description: WASILLA	City: Wasilla	State: AK	Coordinates: 61° 35' 24.9" N, 149° 29' 9.6" W		
Frequency: 00005096.00000000-00005250.00000000						
Callsign: <a href="#">E050346</a>	File Number: <a href="#">SESMFS2010110801414</a>	Applicant: GUSA Licensee LLC	FRN: 0015272669	Grant Date: 06/07/2011	Expiration: 01/04/2022	Status: ATPN Sub-System: SES
Site: 1	Description: WASILLA	City: Wasilla	State: AK	Coordinates: 61° 35' 24.1" N, 149° 29' 6" W		
Frequency: 00005096.00000000-00005250.00000000						
Callsign: <a href="#">E050347</a>	File Number: <a href="#">SESMFS2010110801415</a>	Applicant: GUSA Licensee LLC	FRN: 0015272669	Grant Date: 06/07/2011	Expiration: 01/04/2022	Status: ATPN Sub-System: SES
Site: 1	Description: WASILLA	City: Wasilla	State: AK	Coordinates: 61° 35' 24.6" N, 149° 29' 2.4" W		
Frequency: 00005096.00000000-00005250.00000000						
Callsign: <a href="#">E160028</a>	File Number: <a href="#">SESLIC2016021800154</a>	Applicant: Kongsberg Satellite Services AS	FRN: 0025140831	Grant Date: 02/14/2017	Expiration: 02/14/2022	Status: ATPN Sub-System: SES
Site: 5M-CBnd-A1	Description: Fairbanks, AK	City: Fairbanks	State: AK	Coordinates: 64° 49' 4" N, 147° 43' 9" W		
Frequency: 00005167.50000000-00005198.50000000						

**International Bureau Filing System Files: 4**

### **3. Coordination with Globalstar**

exactEarth, the satellite operator, previously coordinated operations for the ADS satellite network, of which exactView-1 is a part, with Globalstar Licensee, LLC, as confirmed by the email below. exactView-7's ("EV7") downlink to Fairbanks, AK uses the same properties as the downlink for exactView-1<sup>2</sup> does, except EV7 uses slightly less bandwidth.

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**From:** David Weinreich [mailto:David.Weinreich@globalstar.com]  
**Sent:** Friday, August 20, 2010 10:55 PM  
**To:** Angela Kulig  
**Cc:** Binda.shah@globalstar.com; Bob Vaddiparty; Paul Monte; Bob Bowen; stevek@telecommstrategies.com  
**Subject:** RE: FW: ADS Coordination with Globalstar

Angela,

Based on then information contained in the ITU filing for ADS and the further information that you provided to us, Globalstar sees no problem with interference from the downlinks of ADS, in the 5.1 GHz frequency range, to the feeder uplinks of the Globalstar system, in the same frequency range.

Globalstar would appreciate being kept apprized of activities with the ADS spacecraft in order to monitor our feeder uplinks for possible interference.

If you have any questions or need further information, please do not hesitate to contact me.

Best regards,

David Weinreich  
Manager,  
Spectrum and Regulatory Engineering

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<sup>2</sup> exactView-1 is operating with KSAT's satellite earth station in Fairbanks, AK, pursuant to authority granted by the Commission. Kongsberg Satellite Services AS Application to Operate a New Receive-Only Earth Station in Fairbanks, AK, FCC IBFS No. SES-LIC-20160218-00154 (granted Feb. 14, 2017).

**4. Additional Information Concerning Data/Errata in the Associated Schedule S for the exactView-7 Satellite**

The Schedule S for this application was prepared using the FCC's new Schedule S online software<sup>3</sup> and in accordance with the Schedule S instructions.<sup>4</sup>

The following are notes and clarifications with respect to KSAT's entries into the Schedule S form for the exactView-7 satellite (ITU name: M3MSat):

- (1) The Schedule S online form requires at least one receive frequency band/beam to be added in order to complete the form. KSAT is not seeking authorization for the Satellite's reception of AIS signals, but rather for the reception by the earth station of AIS data transmitted from the satellite. Accordingly, KSAT has filled in dummy information wherever information related to receive frequencies was required to proceed with the form, which occurred in the following Schedule S sections:
  - a. Operating Frequency Bands
  - b. Receiving Beams
  - c. Receiving Channels
- (2) In the section, "Non-Geostationary Satellite Orbital Information," when adding Orbital Plane Information, the form asks for the "Active Service Arc Begin Angle with respect to Ascending Node" and corresponding "End Angle." Although the Satellite is in a polar orbit and the payload could be acquiring anywhere in the orbit, the Satellite's downlink to the Station will not be active during the entire orbit. KSAT has input "0 degrees" for both the Begin and End Angles.
- (3) On the page titled, "Max. Power Flux Density for DATD"<sup>5</sup> (part of the Transmitting Beam section), we have input dummy values of "-200.0" for the fields "20° - 25° (dbW/m2/BW)" and "25° - 90° (dbW/m2/BW)." Please refer instead to the table below:

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<sup>3</sup> The FCC's new Schedule S software is available at <https://enterpriseefiling.fcc.gov/schedules/>.

<sup>4</sup> Specific Instructions For Schedule S (April 2016), available at <https://enterpriseefiling.fcc.gov/schedules/resources/Instructions%20for%20Schedule%20S%20vApr2016.pdf>.

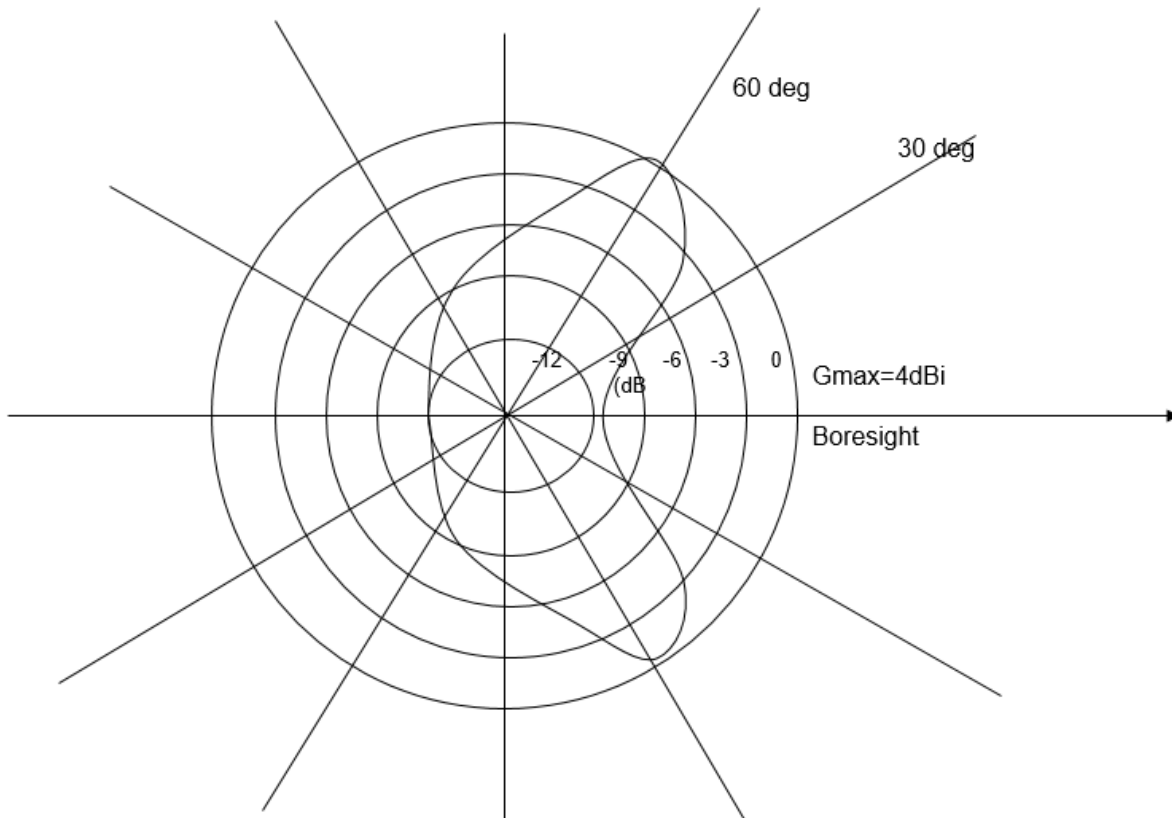
<sup>5</sup> The beam, DATD, in Schedule S corresponds to the DATAD beam in the ITU filings.

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Elevation Angle	degrees	3	5	10	15	20	30	40	50	60	70	80	90
Off Nadir Angle	degrees	65.0	64.7	63.3	61.2	58.5	51.8	44	35.7	27	18.1	9.1	0
PFD in 4 kHz	dBW/m2 /4kHz	-170.8	-170.3	-169.4	-169.4	-169.5	-169.9	-170.2	-170.3	-170.4	-170.3	-170.3	-170.3
PFD limit per ITU 5.447B	dBW/m2 /4kHz	-164	-164	-164	-164	-164	-164	-164	-164	-164	-164	-164	-164
Margin	dB	5.8	6.3	5.4	5.4	5.5	5.9	6.2	6.3	6.4	6.3	6.3	6.3

**5. Satellite Transmit Antenna Gain Pattern**

Below is the antenna gain pattern for the EV7 antenna downlinking to the Station. Note that the design for EV7's downlink antenna is identical to the antenna on EV1.<sup>6</sup>



Satellite C-Band Isoflux Antenna, Transmit and Receive Beam,  
Symmetrical Pattern, All C-band Frequencies

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<sup>6</sup> See *supra* note 2 (referencing license grant for E160028 to operate with exactEarth's EV1).