Description of Application, Services to Be Provided, Frequencies Requested, and Public Interest Showing – Items 24 and 43

Description of Application

By this Application, Comtech Mobile Datacom Corporation ("CMDC") requests a modification to its existing blanket license, E090027 (the "ROUS" license) to extend the license term, which currently expires on November 2, 2017. CMDC asks that the license be extended for two (2) years.

Per Special Provision 90011 in the existing ROUS license, the ROUS license is limited to a two-year term ending November 2, 2017. If CMDC wishes to continue to operate beyond November 2, 2017, Special Provision 90011 requires that CMDC file a modification application, and in that application CMDC must (A) justify its need to continue to operate under a waiver of Footnotes US308 and US315 of the United States Table of Frequency Allocations, 47 CFR § 2.106, Footnotes US308, US315, and Section 25.136(d) of the FCC Rules, 47 CFR § 25.136(d), and (B) submit an analysis of its mobile earth terminal ("MET") operations in the U.S. showing the number of packets each month having a transmission duration of three (3) seconds or longer since November 2015 (*i.e.*, since the release of the Commission's authorization in File No. SES-MOD-20150702-00444, which last extended the license term).

CMDC's waiver request is provided in Exhibit D. As discussed in Exhibit D, today only one (1) of CMDC's MET models, the MTM202, requires a waiver, and only when this terminal is operated outside of the continental U.S. ("CONUS"). There are only about 900 MTM202 METs in existence today, and no additional MTM202s are being built. Worst case, the MTM202 requires only 3.6 seconds to shut down. All CMDC METs other than the MTM202 comply with NTIA's requirements and thus do not require a waiver of the real-time preemption and priority access requirements. The MTM202 complies with NTIA's requirements, and thus does not require a waiver, *when operated in CONUS*.

CMDC's analysis of its MET operations in the U.S. since May 2015 showing the average number of packets per month and per day having a transmission duration in excess of three (3) seconds is also provided in Exhibit D.

Services to be Provided

CMDC will use E090027 as modified to provide the same types of services that CMDC is currently providing under E090027. At present, CMDC provides mobile packet data communications services to government and commercial customers throughout the United States and overseas.

CMDC terminals typically are placed on land vehicles or at remote, fixed site locations. The terminals transmit and receive data packets via dedicated channels in the L-band. The packets can be routed over any of several terrestrial data networks, or to other mobile transceivers in the CMDC network. Use of the satellite relay is as a "bent pipe," meaning that only bandwidth and power are purchased from the satellite relay operator. Network management is provided by CMDC's 24/7 Network Operations Center in Germantown, MD.

CMDC's system employs a version of CDMA that relies on code phase as opposed to multiple codes to differentiate between overlapping signals. In February 2013, the maximum number of simultaneous transmissions processed was four (4). CMDC developed and has deployed state-of-the-art, next generation, earth station equipment that processes 34 simultaneous transmissions.

At present, CMDC has over 100,000 activated terminals in service, of which only a small percentage operate in the U.S. during any given month. The vast majority of CMDC's terminals have been deployed in support of three (3) applications for the U.S. military and operate outside of the U.S.

Frequencies Requested

All MESs authorized under this license operate in portions of the L-band (1525-1544/1545-1559 MHz and 1626.5-1645.5/1646.5-1660.5 MHz). Per Special Provision 502 in CMDC's current ROUS license, E090027, CMDC's total number of MESs authorized under E090027, E090029 and E990143 will not exceed the 25,000 unless an increase in CMDC's total number of authorized MESs has been otherwise authorized by the Commission. (The license with call sign E990143 has expired and those operations were folded into call sign E090027 in 2013.)

Public Interest Showing

Grant of this Application will serve the public interest, as it will enable CMDC's customers, including but not limited to the U.S. military, to continue to use the services that CMDC provides with the subject METs on SkyTerra 1, the ISAT satellites, MSAT-1, and MSAT-2.

Comtech Mobile Datacom Corp.
All Site IDs for ROUS (E090027) Post-Grant of September 2017 Mod/Extension

	Last Issued:															
	9/8/2017												Satellites and Coverage Areas			
Site ID	MET	Antenna #	Model Number *E31*	Manuf *E30*	Dia *E32*	Max EIRP/ Carrier (dBW) (1.6 freq) *E48*	Max EIRP Density/ Carrier (dBW/4kHz) (1.6 freq) *E49*	Mod/ Services *E50* *(see end)*	Max Gains @1.5450, @1.6450 *E41 E42*	Total Input Power @ Antenna Flange (watts) *E38*	Total EIRP for All Carriers (dBW) *E40*	Max EIRP Density Towards the Horizon (dBW/4kHz) (1.6 freq) *E60*	Emission Designator	ISAT	SkyTerra	MSAT 1/2	License
R-Sky	MTM202	9	S65-8282-301	Sensor Systems	0.27 quad helix	11.2	5.4	Basic1 +AERO	3.5, 3.9	5.3	11.2	1.9	270KG7W		ALL		ROUS
R-Inmar	MTM202	10	S65-8282-301	Sensor Systems	0.27 quad helix	11.2	5.4	Basic1 +AERO	3.5, 3.9	5.3	11.2	1.9	200KG7W	ALL			ROUS
R-CMT MSAT	CMT-500	11	CMT-500	PCTel	0.1524 circ patch	10	4.2	Basic1 +M, LMo	4.5,4.5	5.3	10	-3.5	168KG1D			AK, HI & USTP	ROUS
R-Old MSAT	MT2010	1	MT-2010 internal	SCI Systems	0.15 quad helix	10.2	4.4	Basic1 +M, LMo	2.9, 2.9	5.3	10.2	-1	168KG1D			USTP	ROUS
R-Old MSAT	MT2010	2	S65-8582-101	Sensor Systems	0.15 quad helix	12.1	6.3	Basic1 +AERO	4.3, 4.8	5.3	12.1	1.5	168KG1D			USTP	ROUS
R-Old MSAT	MT2010	3	MT-2010 external	SCI Systems	0.06 patch	11.3	5.5	Basic1 +M, LMo	4.0,4.0	5.3	11.3	-1	168KG1D			USTP	ROUS
R-Old MSAT	MT2010	4	MT-2010 r1 Internal	SCI Systems	0.15 quad helix	12.3	6.5	Basic1 +M, LMo	5.0, 5.0	5.3	12.3	-1	168KG1D			USTP	ROUS
R-Old MSAT	MT2011	5	S65-8282-301	Sensor Systems	0.27 quad helix	11.2	5.4	Basic1 +AERO	3.5, 3.9	5.3	11.2	1.9	168KG1D			USTP	ROUS
R-Old MSAT	MT2011	6	3481IZ-3	PCTel	0.18 patch	11	5.2	Basic1 +M, LMo	3.7,3.7	5.3	11	-1	168KG1D			USTP	ROUS
R-Old MSAT	MT2011	7	3491IZ-3	PCTel	0.18 patch	13.3	7.5	Basic1 +M, LMo	6.0,6.0	5.3	13.3	-3.5	168KG1D			USTP	ROUS
R-Old MSAT	MTM203	8	3561AW-1/A	PCTel	0.19 patch	11	5.2	Basic1 +M, LMo	3.7,3.7	5.3	11	-1	168KG1D			USTP	ROUS

USTP = US territories and possessions within footprint of satellite
ALL = CONUS, AK, HI, and USTP

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	Last Issued:																
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Site ID	MET	Antenna #	Model Number *E31*	Manuf *E30*	Dia *E32*	Max EIRP/ Carrier (dBW) (1.6 freq) *E48*	Max EIRP Density/ Carrier (dBW/4kHz) (1.6 freq) *E49*	Mod/ Services *E50* *(see end)*	Max Gains @1.5450, @1.6450 *E41 E42*	Total Input Power @ Antenna Flange (watts) *E38*	Total EIRP for All Carriers (dBW) *E40*	Max EIRP Density Towards the Horizon (dBW/4kHz) (1.6 freq) *E60*	Emission Designator	ISAT	SkyTerra	MSAT 1/2	License
R-OldM-AKHI	MT2010	12	MT-2010 internal	SCI Systems	0.15 quad helix	10.2	4.4	Basic1 +M, LMo	2.9, 2.9	5.3	10.2	-1	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2010	13	S65-8582-101	Sensor Systems	0.15 quad helix	12.1	6.3	Basic1 +AERO	4.3, 4.8	5.3	12.1	1.5	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2010	14	MT-2010 external	SCI Systems	0.06 patch	11.3	5.5	Basic1 +M, LMo	4.0,4.0	5.3	11.3	-1	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2010	15	MT-2010 r1 Internal	SCI Systems	0.15 quad helix	12.3	6.5	Basic1 +M, LMo	5.0, 5.0	5.3	12.3	-1	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2011	16	S65-8282-301	Sensor Systems	0.27 quad helix	11.2	5.4	Basic1 +AERO	3.5, 3.9	5.3	11.2	1.9	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2011	17	3481IZ-3	PCTel	0.18 patch	11	5.2	Basic1 +M, LMo	3.7,3.7	5.3	11	-1	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MT2011	18	3491IZ-3	PCTel	0.18 patch	13.3	7.5	Basic1 +M, LMo	6.0,6.0	5.3	13.3	-3.5	168KG1D			AK & HI	ROUS
R-OldM-AKHI	MTM203	19	3561AW-1/A	PCTel	0.19 patch	11	5.2	Basic1 +M, LMo	3.7,3.7	5.3	11	-1	168KG1D			AK & HI	ROUS
	"Basic1" = DSSS, BPSK, 21,094 to 84,375 CPS and Data												ROUS license -- waiver required for some operations				
	+AERO (Aeronautical), +M (Marine), + LMo (Land Mobile)																

USTP = US territories and possessions within footprint of satellite
ALL = CONUS, AK, HI, and USTP