Suite 12 Hubs into Iridium

mid swath elevation angle (°)	0.5	1.5	2.6	3.7	4.9	6.1	7.4	8.8	10.2	11.8	13.4
nadir angle (°)	63.0	63.0	62.9	62.8	62.6	62.4	62.1	61.7	61.3	60.7	60.1
interior angle (°)	26.5	25.5	24.5	23.5	22.5	21.5	20.5	19.5	18.5	17.5	16.5
latitude angle (°)	63.5	64.5	65.5	66.5	67.5	68.5	69.5	70.5	71.5	72.5	73.5
slant range (km)	3193.7	3082.4	2971.1	2860.0	2749.0	2638.2	2527.6	2417.4	2307.7	2198.4	2089.8
hub xmit power(dBW/Hz)	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9	-71.9
hub xmit gain (dBi)	10.0	8.1	6.0	2.0	-1.0	-7.0	-10.0	-10.0	-10.0	-10.0	-10.0
path loss (dB)	-191.8	-191.5	-191.2	-190.8	-190.5	-190.1	-189.8	-189.4	-189.0	-188.5	-188.1
atmosph loss (dB) Zones 3-5	-5.2	-3.4	-2.4	-1.9	-1.5	-1.2	-1.1	-0.9	-0.8	-0.7	-0.6
antenna polarization loss(dB)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
satellite receive gain (dBi)	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
no. of hubs in each swath (dB)	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
received power density (dBW/Hz)	-216.4	-216.2	-217.0	-220.1	-222.4	-227.7	-230.3	-229.7	-229.2	-228.7	-228.1
received power density (W/Hz)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
percent total interference/swath	25.4	26.6	22.2	10.7	6.4	1.9	1.0	1.2	1.3	1.5	1.7
total power received (W/Hz)	0.0										
total power received (dBW/Hz)	-210.4										
satellite noise floor (dBW/Hz)	-197.5										

NRMC Members Supporting
Suite 12 - Motorola 28 GHz Sharing Rule
September 20, 1994

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Texas Instruments Organization	Public Interest Parties *SEE ATTACHMENT Organization
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The "Public Interest Parties" are a group comprised of the following entities: Association of America's Public Television Stations; Public Broadcasting Service; Organization of State Broadcasting Executives; American Council on Education; Commission on Information Technologies of the National Association of State Universities and Land Grant Colleges; Instructional Telecommunications Consortium of the American Association of Community Colleges; Arizona Board of Regents for Benefit of the University of Arizona; Alliance for Higher Education; Iowa Public Broadcasting Board; University of Maine of Augusta; University of Wisconsin System; Washington State University; South Carolina Educational Television Commission; Ana G. Mendez Educational Foundation; Western Cooperative for Educational Telecommunications; California State Polytechnic University, Pomona; California State University, Sacramento; University of Arizona; Northern Arizona University; University of Washington; University of Hawaii System; University of California System; Alliance for Distance Education in California; Troy State University in Montgomery.

Suite 12 Hubs into Iridium

6378.0	earth radius (km)				
7158.0	earth radius & sat. altitude (km)		PARAMETERS FOR A 0°		0.0
			ELEV. ANGLE TO SATELLITE:		63.0
1221.0	footprint length @ 10° elevation (km)				27.0
200.0	footprint width @ 10° elevation (km)				63.0
					3249.3
111.3	1° of circumference (km)				
15.0	hub spacing (km) zones 3-5	9.3	Hub spacing miles		
225.0	hub area (km^2)				
22263.4	"swath" area (km^2)				
98.9	no. of hubs in one "swath"				
49.5	no. of hubs co-frequency/swath				
type	Hub Transmitting station				
29.0	frequency of operation (GHz)				
20.0	TWTA Saturated Output (dBW)				
-7.0	TWTA Backoff (dBW)				
-16.9	Band split 49 channels (dB)				
-3.9	Hub Xmtr Power/Channel (dBW)				
-1.0	Ant Feed Losses (dB)				
-4.9	Channel power to Antenna (dBW)				
-72.6	18 MHz Power Bandwidth (dBW-Hz)				
5.6	Peaking Factor (dB)				
-71.9	Xmtr spectral density/Hub (dBW/Hz)				
\					
-26.4	Peak Spectral Area Density (dBWi/MHz-km^2)		Io/No (dB)	-13.0	
	"-71.9+60+12+10log(#co-frequency hubs/22263)"		Interference Margin	0.0	

Suite 12 Hubs into Iridium

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