

Digital Modulation ID	1	4	7	10
Emission Designator	36M0G7W	18M0G7W	9M00G7W	18M0G7W
Emission BW [kHz]	36000	18000	9000	18000
Modulation type	QPSK	QPSK	8PSK	8PSK
Information (bit) rate [kbps]	38080.9	21419.6	14260.6	28521.2
FEC Rate	0.667	0.750	0.667	0.667
Uplink Frequency [GHz]	14	14	14	14
Uplink ES antenna diameter [m]	6	6	9.1	4.5
Uplink ES antenna gain [dBi]	57.0	57.0	60.6	54.5
Uplink Antenna feed flange power [dBW]	14.6	11.6	8.5	13.6
Uplink ES to Satellite Distance [km]	38000	38000	38000	38000
Uplink Free-Space Loss [dB]	207.0	207.0	207.0	207.0
Satellite RX antenna gain [dBi]	31.9	31.9	31.9	31.9
Satellite Rx system noise temperature [K]	400	400	400	400
Uplink Rain Atten. [dB]	3.3	3.3	3.3	3.3
Uplink Cloud Atten. [dB]	0.7	0.7	0.7	0.7
Uplink Noise temp. increase due to rain and cloud [K]	174.5	174.5	174.5	174.5
Uplink Thermal C/N [dB]	18.0	18.0	21.6	17.5
Uplink C/I (ASI) [dB]	14.2	15.2	18.3	18.3
Uplink C/I (Xpol) [dB]	30.0	30.0	30.0	30.0
Uplink C/I (IM) [dB]	27.0	27.0	27.0	27.0
Uplink C/(N+I) [dB]	12.5	13.1	16.0	14.5
Downlink Frequency (GHz)	11.7	11.7	11.7	11.7
Downlink EIRP [dBW]	46.0	43.0	42.0	46.0
Downlink ES to Satellite Distance [km]	38000	38000	38000	38000
Downlink Free-Space Loss [dB]	205.4	205.4	205.4	205.4
RX ES antenna diameter [m]	1.2	1.2	1.5	1.2
RX ES antenna gain [dBi]	41.5	41.5	43.4	41.5
RX ES system noise temperature [K]	200	200	200	200
Downlink Rain Atten. [dB]	2.3	2.3	2.3	2.3
Downlink Cloud Atten. [dB]	0.5	0.5	0.5	0.5
Downlink Noise temp. increase due to rain and cloud [deg K]	137.8	137.8	137.8	137.8
Downlink Thermal C/N [dB]	7.0	7.0	10.9	10.0
Downlink C/I (ASI) [dB]	14.2	15.2	18.3	18.3
Downlink C/I (Xpol) [dB]	30.0	30.0	30.0	30.0
Downlink C/I (IM) [dB]	27.0	27.0	27.0	27.0
Downlink C/(N+I) [dB]	6.2	6.3	10.1	9.3
Total C/(N+I) [dB]	5.28	5.50	9.09	8.14
Required C/(N+I) [dB]	3.90	4.83	7.92	7.92
Margin [dB]	1.38	0.67	1.17	0.22