

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]	11.6	11.6	7.5	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]	32.9	32.9	32.9	32.9
Satellite Rx system noise temperature [K]	400	400	400	400
Uplink Rain Atten. [dB]	5.0	5.0	5.0	5.0
Uplink Cloud Atten. [dB]	0.5	0.5	0.5	0.5
Uplink Noise temp. increase due to rain and cloud [K]	208.3	208.3	208.3	208.3
Uplink Thermal C/N [dB]	14.2	17.2	19.8	16.7
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]	11.0	12.8	15.5	14.1
Downlink Frequency (GHz)	11.7	11.7	11.7	11.7
Downlink EIRP [dBW]	47.0	44.0	41.0	47.0
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	1.8	1.5
RX ES antenna gain [dBi]	41.5	41.5	45.0	43.4
RX ES system noise temperature [K]	200	200	200	200
Downlink Rain Atten. [dB]	3.6	3.6	3.6	3.6
Downlink Cloud Atten. [dB]	0.4	0.4	0.4	0.4
Downlink Noise temp. increase due to rain and cloud [deg K]	174.5	174.5	174.5	174.5
Downlink Thermal C/N [dB]	6.4	6.4	9.9	11.3
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]	5.7	5.8	9.2	10.4
Total C/(N+I) [dB]	4.55	4.99	8.27	8.82
Required C/(N+I) [dB]	3.90	4.83	7.92	7.92
Margin [dB]	0.65	0.16	0.35	0.90