

Digital Modulation ID	1	2	3	4	5	6
Emission Designator	36M0G7W	2M00G7W	500KG7W	18M0G7W	1M00G7W	200KG7W
Emission BW [kHz]	36000	2000	500	18000	1000	200
Modulation type	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK
Information (bit) rate [kbps]	38080.9	2115.6	528.9	21419.6	1190.0	282.6
FEC Rate	0.667	0.667	0.667	0.750	0.750	0.889
Uplink Frequency [GHz]	14	14	14	14	14	14
Uplink ES antenna diameter [m]	6	1.2	1.2	6	9.1	2.4
Uplink ES antenna gain [dBi]	57.0	43.0	43.0	57.0	60.6	49.1
Uplink Antenna feed flange power [dBW]	10.6	5.0	-1.0	17.6	-5.0	-8.0
Uplink ES to Satellite Distance [km]	38000	38000	38000	38000	38000	38000
Uplink Free-Space Loss [dB]	207.0	207.0	207.0	207.0	207.0	207.0
Satellite RX antenna gain [dBi]	32.9	32.9	32.9	32.9	32.9	32.9
Satellite Rx system noise temperature [K]	400	400	400	400	400	400
Uplink Rain Atten. [dB]	5.0	5.0	5.0	5.0	5.0	5.0
Uplink Cloud Atten. [dB]	0.5	0.5	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	208.3	208.3
Uplink Thermal C/N [dB]	13.2	6.2	6.2	23.2	16.8	9.3
Uplink C/I (ASI) [dB]	14.2	14.2	14.2	15.2	15.2	17.3
Uplink C/I (Xpol) [dB]	30.0	30.0	30.0	30.0	30.0	30.0
Uplink C/I (IM) [dB]	27.0	27.0	27.0	27.0	27.0	27.0
Uplink C/(N+I) [dB]	10.5	5.6	5.6	14.2	12.7	8.5
Downlink Frequency (GHz)	11.7	11.7	11.7	11.7	11.7	11.7
Downlink EIRP [dBW]	47.0	29.1	23.1	44.0	31.5	22.1
Downlink ES to Satellite Distance [km]	38000	38000	38000	38000	38000	38000
Downlink Free-Space Loss [dB]	205.4	205.4	205.4	205.4	205.4	205.4
RX ES antenna diameter [m]	1.2	6.0	6.0	1.2	1.2	9.1
RX ES antenna gain [dBi]	41.5	55.5	55.5	41.5	41.5	59.1
RX ES system noise temperature [K]	200	200	200	200	200	200
Downlink Rain Atten. [dB]	3.6	3.6	3.6	3.6	3.6	3.6
Downlink Cloud Atten. [dB]	0.4	0.4	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	174.5	174.5
Downlink Thermal C/N [dB]	6.4	15.0	15.0	6.4	6.4	21.6
Downlink C/I (ASI) [dB]	14.2	14.2	14.2	15.2	15.2	17.3
Downlink C/I (Xpol) [dB]	30.0	30.0	30.0	30.0	30.0	30.0
Downlink C/I (IM) [dB]	27.0	27.0	27.0	27.0	27.0	27.0
Downlink C/(N+I) [dB]	5.7	11.4	11.4	5.8	5.8	15.5
Total C/(N+I) [dB]	4.43	4.54	4.54	5.19	4.96	7.73
Required C/(N+I) [dB]	3.90	3.90	3.90	4.83	4.83	7.00
Margin [dB]	0.53	0.64	0.64	0.36	0.13	0.73

7

9M00G7W

9000

8PSK

14260.6

0.667

14

9.1

60.6

4.5

38000

207.0

32.9

400

5.0

0.5

208.3

16.8

18.3

30.0

27.0

14.1

11.7

41.0

38000

205.4

1.8

45.0

200

3.6

0.4

174.5

9.9

18.3

30.0

27.0

9.2

7.98

7.92

0.06