S13.c.	K_A	K_B	K_C	K_D	K_E	K_F	K_G
Parameter	Digital TV MCPC 40 Mbps QPSK ¾ RS	Digital TV MCPC 32 Mbps QPSK ¾ RS	Digital TV SCPC QPSK ¾ RS	Digital TV SCPC QPSK ¾ RS	56 Kbps QPSK ¾ RS	1.544 Mbps QPSK ¾ RS	Digital TV MCPC 50 Mbps 8PSK ⅔ RS
Carrier designation	36M0G7W	27M0G7W	6M95G1W	5M00G1W	100KG1W	1M60G1W	36M0G7W
Data Rate (dB-Hz)	76	75	69	67.6	47.5	61.9	77
Throughput rate (Mbps)	40	32	8	6	0.056	1.544	50
Symbol rate (Msps)	28.8	22.9	5.7	4.2	0.041	1.117	27.2
Uplinks:							
Transmit Power (dBW)	20	20	8.9	8.9	-2	8	20
Transmit Loss (dB)	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
Antenna diameter (m)	6.1	6.1	3.7	3.7	1.8	1.8	6.1
Antenna Gain (dBi)	57.3	57.3	53.0	53.0	46.7	46.7	57.3
Ground Station EIRP (dBW)	74.8	74.8	59.4	59.4	42.2	52.2	74.8
Uplink Rain Loss (dB)	-2	-2	-2	-2	-2	-2	-2
Free Space Loss (dB)	-207	-207	-207	-207	-207	-207	-207
Satellite G/T (dB/K)	3	3	3	3	3	3	3
Boltzmann's Constant (dBW/K-Hz)	-228.6	-228.6	-228.6	-228.6	-228.6	-228.6	-228.6
Eb/N0 (dB)	21.4	22.4	13.0	14.4	17.3	12.9	20.4
Eb/I0 (dB)	18	18	16	16	16	16	18
Total Eb/(N0 + I0) (dB)	16.4	16.7	11.2	12.1	13.6	11.2	16.0
Downlinks:							
Satellite Carrier EIRP (dBW)	52.5	51.3	42.4	40.9	23.9	36.0	52.5
Interference bandwidth (MHz)	36	27	6.95	5	0.1	1.6	36
Satellite EIRP density (dBW/4KHz)	12.96	12.96	9.96	9.96	9.96	9.96	12.96
Downlink Rain Loss (dB)	-3	-3	-3	-3	-3	-3	-3
Free Space Loss (dB)	-205.4	-205.4	-205.4	-205.4	-205.4	-205.4	-205.4
Ground station antenna dia (m)	1.2	1.2	2.4	2.4	1.2	2.4	2.4
Ground Station G/T (dB/K)	20.9	20.9	26.9	26.9	20.9	26.9	26.9
Eb/N0 (dB)	17.6	17.4	20.5	20.5	17.5	21.2	22.6
C/IM (dB)			18	18	18	18	
Eb/Imo (dB)			16.6	16.6	16.6	16.6	
C/I (dB)	15	15	15	15	15	15	15
Eb/I0 (ASI) (dB)	13.6	13.6	13.6	13.6	13.6	13.6	12.3
Eb/I0 (dB)	13.6	13.6	13.6	13.6	13.6	13.6	12.3
Eb/(N0 + I0) (dB)	12.1	12.1	11.3	11.3	10.8	11.4	12.0
Total Up/Down Eb/(N0+Io)(dB)	10.8	10.8	8.2	8.7	9.0	8.3	10.5
Required Eb/N0 (dB)	5.4	5.4	5.4	5.4	5.4	5.4	7.2
Margin (dB)	5.4	5.4	2.8	3.3	3.6	2.9	3.3

S13.d.	**K_H**
	Ku-band
Parameter	Typical TV/FM link
Carrier designation	36M0F3F
Uplinks:	
Transmit Power (dBW)	22
Transmit Loss (dB)	-1
Antenna diameter (m)	6.1
Antenna Gain (dBi)	57.3
Ground Station EIRP (dBW)	78.3
Uplink Rain Loss (dB)	-2
Free Space Loss (dB)	-207
Satellite G/T (dB/K)	3
Bandwidth (dB-Hz)	75.6
Boltzmann's Constant (dBW/K-Hz)	-228.6
C/N, uplink (dB)	25.4
Downlinks:	
Satellite Carrier EIRP (dBW)	52.5
Downlink Rain Loss (dB)	-3
Free Space Loss (dB)	-205.4
Ground station antenna dia (m)	1.2
Ground Station G/T (dB/K)	20.9
C/N, DL (dB)	18.0
C/I ASI (dB)	18
C/Ntot, dB	15.0
Required (dB)	11
Margin (dB)	4.0

CMD

S13.d.	**K_TC**
Tx ES dia (typical), m	8.4
Tx ES gain, dBi	60.2
Tx ES antenna input power, dBW	10
Tx ES EIRP, dBW	70.2
Link loss, dB	207.5
Satellite G/T, dB/K	3
Command carrier bandwidth, MHz	0.8
Tx ES antenna input power density, dBW/Hz	-50
Carrier-to-Noise Ratio, dB	35.3
Required CNR, dB	10
Margin	25.3

TLM

S13.d.	**K_TM**
EIRP, dBW	19
Carrier bandwidth, MHz	0.4
EIRP density, dBW/4kHz	-1.00
Tx ES dia (typical), m	5.7
Rx ES antenna gain, dB	55.0
Rx ES G/T, dB/K	34.6
Rain fade, dB	8
CNR, dB	11.18
CNR (required), dB	9
Margin, dB	2.2