

BAB V

KESIMPULAN

1. Pada Lintasan satelit, unjuk kerja dipengaruhi oleh kemampuan, transmisi daya satelit (lintasan ke bawah), pengaruh propagasi atmosfer, temperatur derau satelit dan stasiun bumi.
2. Dalam memenuhi nilai spesifikasi hubungan nilai BER terhadap E_b/N_0 dengan FEC $\frac{3}{4}$ adalah 10^{-7} atau nilai E_b/N_0 adalah 8,3 dBHz (tabel 4-1). Sedangkan dari hasil analisis link budget nilai E_b/N_0 di Semarang adalah 5,67 dBHz sehingga diperoleh BER 5×10^{-3} dan nilai E_b/N_0 di Jatiluhur adalah 7,26 dBHz diperoleh BER $2,5 \times 10^{-5}$, maka lintasan transmisi disetiap stasiun bumi sudah memenuhi spesifikasi, oleh sebab itu nilai EIRP disetiap stasiun harus dinaikkan. Nilai EIRP di stasiun semarang dinaikkan sebesar : $38,87 + (8,3 - 5,67) = 41,5$ dBW dan di stasiun bumi Jatiluhur dinaikkan menjadi sebesar $46,59 + (8,3 - 7,26) = 47,63$ dBW.

DAFTAR PUSTAKA

1. Feher, Kamilo,DR, Digital Communication Satellite and Earth Station Engineering, Prentice Hall,1983.
2. Ha, Tri,T,Digital Satellite ,Mc Graw Hill, 1990.
3. Intelsat, SSOG-309 : QPSK/FDMA, IBS Line Up Procedure, Washington DC, 1994.
4. Intelsat, Earth Station Technology, Washington DC, 1995.
5. Jaringan Komputer, ANDREW S. TANENBAUW.
6. Tomasi, Wayne, Advanced Electronics Communication System, Prentice Hall, 1987.



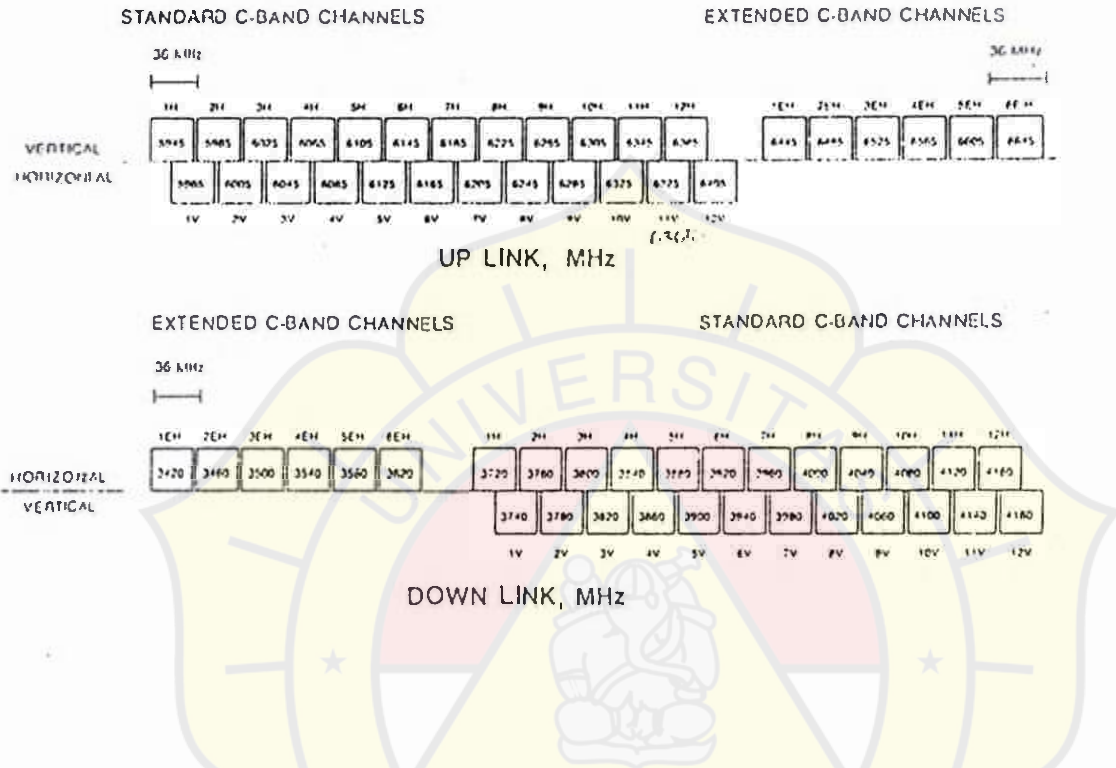
LAMPIRAN

PALAPA-C SPESIFICATION

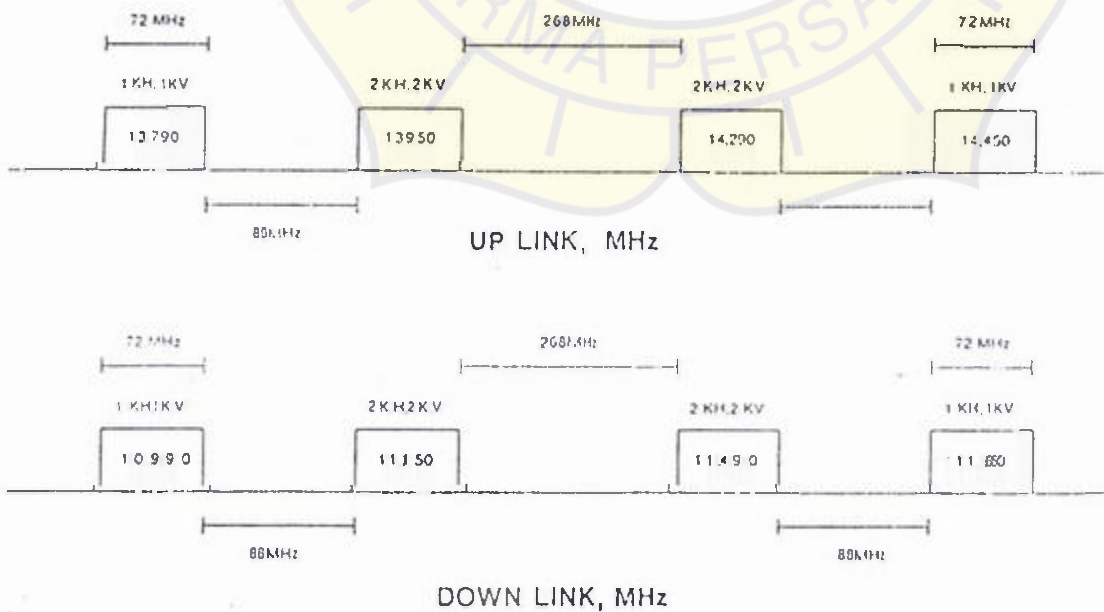
PARAMETER	PALAPA-C	UNIT
Frequency	Standard C-Band Extended C-Band Ku-Band	
Polarization	Linier	
Total Transponder	34	Transponder
Total Ku-Band TWTA (Include redundancy unit)	6 (Linearized)	Pcs
Total C-Band SSPA (Include redundancy unit)	38	Pcs
TWTA Output Power	130 (Ku-Band)	Watts
SSPA Output Power	21.75 (Standard C-Band) 26.75 (Extended C-Band)	Watts Watts
EIRP	39 (Beam C1) 39 (Beam C2) 51 (Beam K1) 51 (Beam K2)	dBW dBW dBW dBW
G/T	-2.5 (Beam C1) -2.5 (Beam C2) +3 (Beam K1) +3 (Beam K2)	dB/K dB/K dB/K dB/K
Weight At Separation	3000	Kg
Weight At Beginning of Life	1740	Kg
Life Time	14 (in normal operation) +2 (inclined orbit)	Years Years
Power At EOL	3400	Watt

C-BAND FREQUENCY & POLARIZATION PLAN

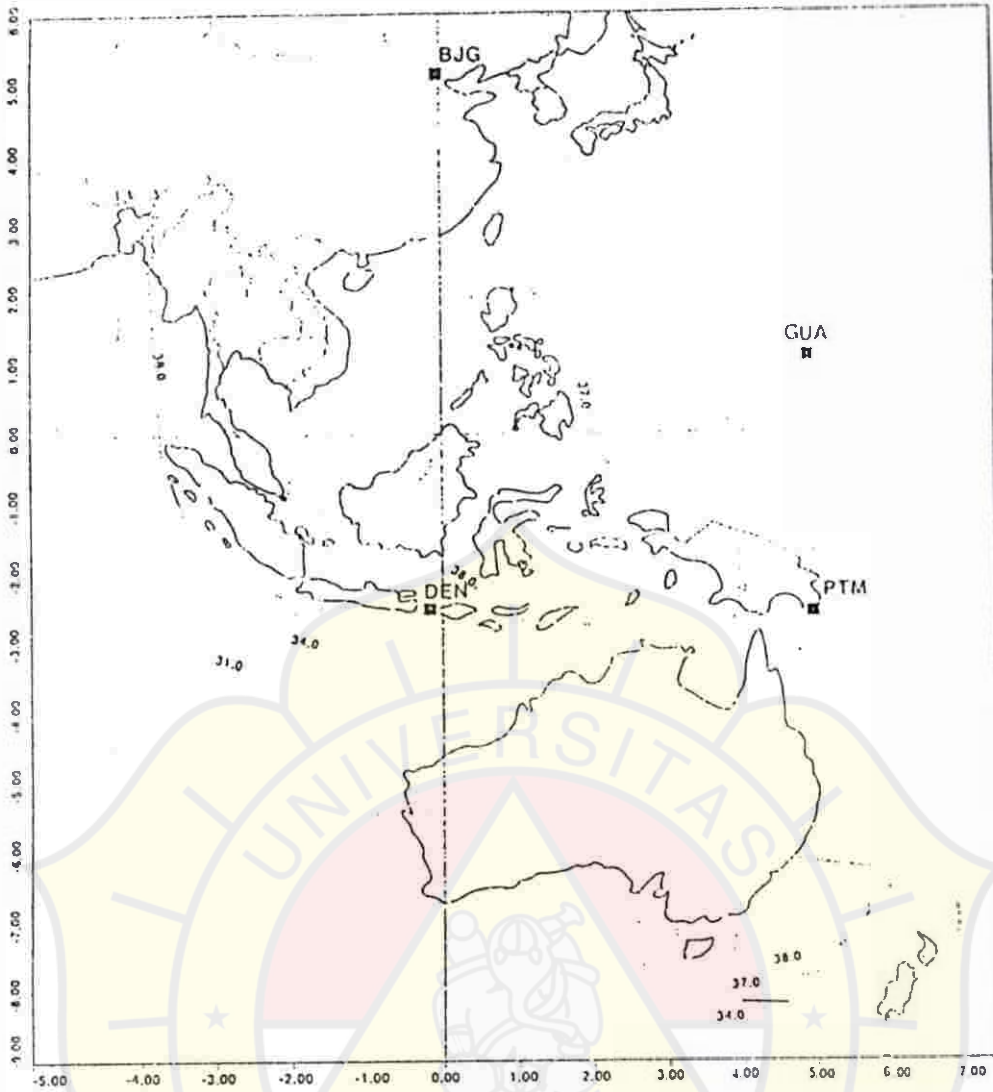
C-Band Frequency



Ku-Band Frequency



C-Band ASEAN BEAM



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C-Band ASIA BEAM



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LAPA C1 - SATELINDO

Owner/Operator

SATELIT PALAPA INDONESIA
See previous listing for contact information.

Orbit

Longitude East: 113.0 Longitude West: 247.0
Geographic Coverage: Asia, Asean & New Zealand

Background

Launch Date: January, 1996
Launch Vehicle: Atlas II AS
Present Status: Awaiting Launch
Typical Uses: TV Broadcast and Communication
Type of Organization: Private telecom company

Spacecraft

Type of Satellite: HS-601
Stabilization: 3 Axis
Prime Contractors: Hughes Aircraft Company
Launch Weight: 2790 kg
Mass in Orbit: 1800 kg
Design Lifetime: 14 Years
Electric Power: 3700 Watts EOL
TWTA Power: 6 @ 130 Watts (4 + 2 redundant Ku-Band transponders)
SSPA Power: 24 @ 21.5 Watts; 6 @ 26 Watts (24 active & 6 extended C-Band transponders)
Telemetry & Command Beacons: C-Band

Transponder & Performance Specifications

Frequency Band(s): C-Band: (3.400-4.200) (5.925-6.665) GHz; Ku-Band: (10.950-11.690) (13.750-14.490) GHz
Number of C-Band: 30 (24 standard C-Band & 6 extended C-Band)
Number of Ku-Band: 4
Channel Bandwidth: C-Band: 36 MHz; Ku- 72 MHz
Channel Polarization: Dual linear
EIRP-Main Beam: C-Band: 32 dBw; Ku-Band: 45 dBw
EIRP-Spot Beams: C-Band: 38 dBw; Ku-Band: 51 dBw
G/T: C-Band: 0—6.5 dB/K; Ku-Band: 6.5—2.5 dB/K
Saturation Flux Density: C-Band: -85—100 dBW/m²

Additional Information: USS128 contract with Hughes has been signed for two satellites. This one is a replacement for Palapa B2P. For Ku-Band, both beams can be combined in downlink direction to provide wider coverage with 3 db less EIRP.

PALAPA C2 - SATELINDO

Owner/Operator

PT SATELIT PALAPA INDONESIA
See previous listing for contact information.

Location

Longitude East: 150.5 Longitude West: 209.5
Geographic Coverage: Asia, Asean & New Zealand

Background

Launch Date: April 1996
Launch Vehicle: Ariane-4
Present Status: Under Construction
Typical Uses: TV Broadcast and Communication
Type of Organization: Private telecom company

Spacecraft

Type of Satellite: HS-601
Stabilization: 3 Axis
Prime Contractors: Hughes Aircraft Company
Launch Weight: 2790kg
Mass in Orbit: 1800 kg
Design Lifetime: 14 Years
Electric Power: 3700 Watts EOL
TWTA Power: 6 @ 130 Watts (4 + 2 redundant Ku-Band transponders)
SSPA Power: 24 @ 21.5 Watts; 6 @ 26 Watts (24 active & 6 extended C-Band transponders)
Telemetry & Command Beacons: C-Band

Transponder & Performance Specifications

Frequency Band(s): C-Band: (3.400-4.200) (5.925-6.665) GHz; Ku-Band: (10.950-11.690) (13.750-14.490) GHz
Number of C-Band: 30 (24 standard C-Band & 6 extended C-Band)
Number of Ku-Band: 4
Channel Bandwidth: C-Band: 36 MHz; Ku-Band: 72 MHz
Channel Polarization: Dual linear
EIRP-Main Beam: C-Band: 32 dBw; Ku-Band: 45 dBw
EIRP-Spot Beams: C-Band: 38 dBw; Ku 51 dBw
G/T: C-Band: 0—6.5 dB/K; Ku-Band: 6.5—2.5 dB/K
Saturation Flux Density: C-Band: -85—100 dBW/m²

Additional Information: USS128 contract with Hughes was initially signed for two satellites. This one is a replacement for Palapa C1 or as a new commercial satellite. For Ku-Band, both beams can be combined in downlink direction to provide wider coverage with 3 db less EIRP.



SSOG 309

QPSK/FDMA: IBS

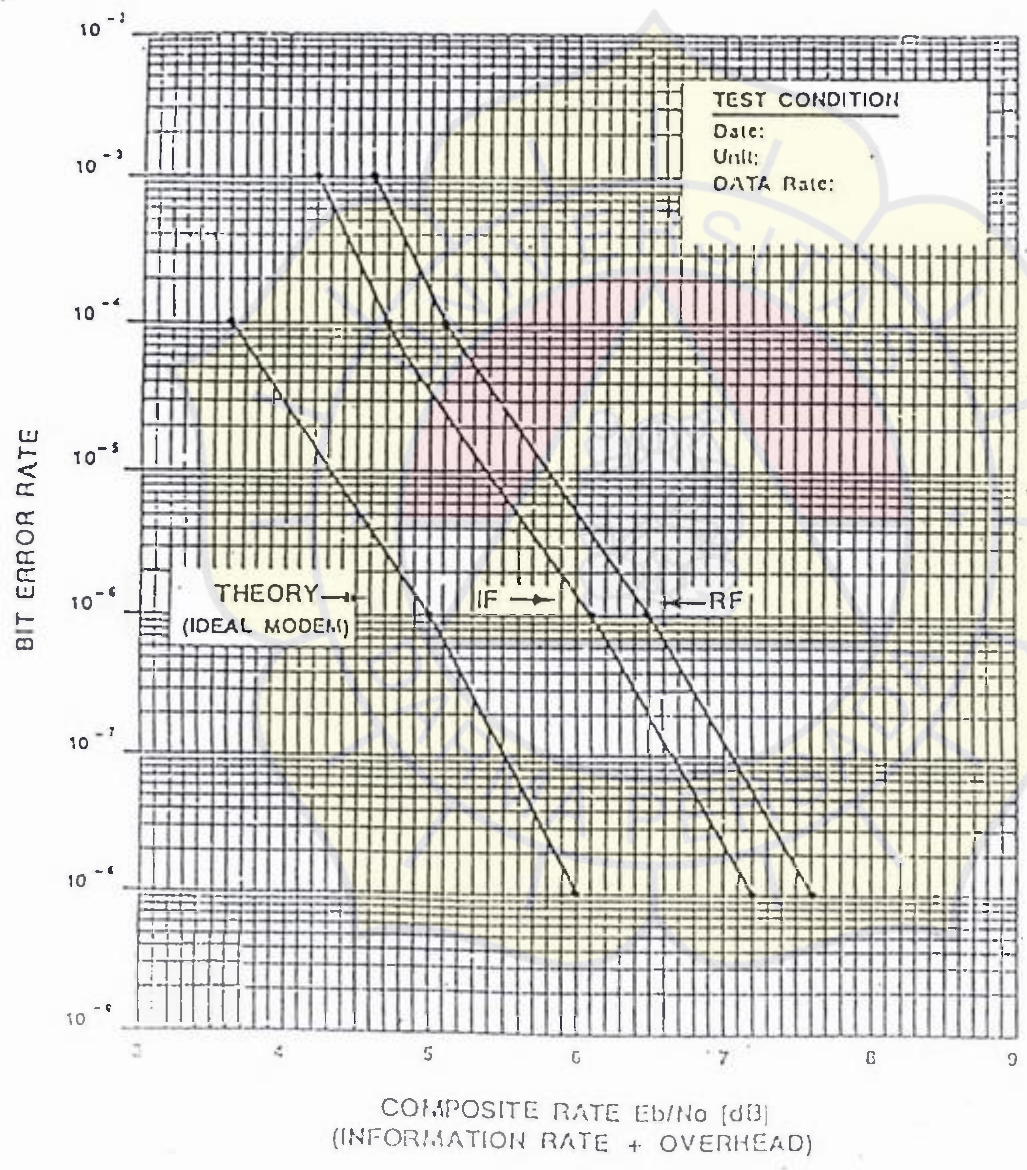
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Figure 7

Line-Up Procedures

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FIGURE 7: MANDATORY PERFORMANCE RATE 1/2 QPSK IBS



NOTE: 1) The "theory" curve is applicable to Viterbi decoding. Better performance may be obtained when using sequential decoding with the lower data rates (< 1Mbit/s).

31 July 1990

(V00/4127)