



312 File Number: **SATLOA2017012400009**

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## Filing Description

Question	Response
Description	Telkom 2 Reflagging Jan 2017

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**Satellite  
Information**

Question	Response
Select Orbit Type	GSO
Space Station or Satellite Network Name	Telkom 2
Estimated Lifetime of Satellite(s) From Date of Launch	16 Years
Will the space station(s) operate on a Common Carrier basis?	No

## Operating Frequency Bands (2)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		3700.0 MHz -4200.0 MHz	Transmit
Fixed-Satellite Service		5925.0 MHz -6425.0 MHz	Receive

## Orbital Information For Geostationary Satellites

Section	Question	Response
<b>Orbital Longitude Information</b>	Orbital Longitude	157.0 degrees
	Hemisphere of Orbital Longitude	E
<b>Longitudinal Tolerance or East /West Station-Keeping</b>	Toward West	0.05 degrees
	Toward East	0.05 degrees
<b>Inclination Excursion or North /South Station-Keeping Tolerance</b>	Inclination Excursion or North /South Station-Keeping Tolerance	0.1 degrees
<b>Antenna Axis Attitude Accuracy</b>	Roll	0.1 degrees
	Pitch	0.1 degrees
	Yaw	0.1 degrees

## Receiving Beams 1:

Question	Response
Beam ID	AIVU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	3.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-87.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	ASEAN Countries and India

## Receiving Beams 2:

Question	Response
Beam ID	ASVU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees

Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	3.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-87.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	ASEAN countries

### Receiving Beams 3:

Question	Response
Beam ID	ASHU
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	3.0 dB/K
Min. Saturation Flux Density	-102.0 dBW/m2
Max. Saturation Flux Density	-87.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	ASEAN Countries

### Receiving

## Beams 4:

Question	Response
Beam ID	CMD
Receive Beam Frequency	5925.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-111.9 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-111.8 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## Receiving Beams 5:

Question	Response
Beam ID	CMPV
Receive Beam Frequency	6423.325 MHz -6423.675 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees

Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-110.9 dBW/m2
Max. Saturation Flux Density	-110.8 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

**Receiving Beams 6:**

Question	Response
Beam ID	CMDB
Receive Beam Frequency	5945.0 MHz -6425.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-98.7 dBW/m2



Max. Saturation Flux Density	-98.6 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## Receiving Beams 7:

Question	Response
Beam ID	CMPH
Receive Beam Frequency	5926.325 MHz -5926.675 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-99.0 dB/K
Min. Saturation Flux Density	-111.7 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-111.6 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

## Receiving Channels (30)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CU06	36.0	6145.0	Service Link
CU05	36.0	6105.0	Service Link
CMB2	0.35	5926.5	TT&C
CMP2	0.35	5926.5	TT&C
CU12	36.0	6385.0	Service Link
CU11	36.0	6345.0	Service Link
CMD1	0.35	6423.5	TT&C
CU20	36.0	6245.0	Service Link
CU19	36.0	6205.0	Service Link
CU18	36.0	6165.0	Service Link
CU10	36.0	6305.0	Service Link
CU02	36.0	5985.0	Service Link
CU01	36.0	5945.0	Service Link
CU09	36.0	6265.0	Service Link
CU08	36.0	6225.0	Service Link
CU04	36.0	6065.0	Service Link
CU16	36.0	6085.0	Service Link
CU15	36.0	6045.0	Service Link
CU14	36.0	6005.0	Service Link
CMD2	1.0	5926.5	TT&C
CMB1	1.0	6423.5	TT&C
CMP1	1.0	6423.5	TT&C
CU07	36.0	6185.0	Service Link
CU13	36.0	5965.0	Service Link

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<b>CU17</b>	36.0	6125.0	Service Link
<b>CU24</b>	36.0	6405.0	Service Link
<b>CU23</b>	36.0	6365.0	Service Link
<b>CU22</b>	36.0	6325.0	Service Link
<b>CU21</b>	36.0	6285.0	Service Link
<b>CU03</b>	36.0	6025.0	Service Link

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## Transmitting Beams 1:

Question	Response
Beam ID	AIHD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-32.1 dBW/Hz
Max. Transmit EIRP	43.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	ASEAN Countries and India

## Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>4.0 kHz</b>	-159.0	-159.2	-159.1	-159.0	-158.9	-158.1

## Transmitting Beams 2:

Question	Response
Beam ID	TLM
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz

Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.6 dBW/Hz
Max. Transmit EIRP	12.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> ) /BW:	* 5° - 10° (dBW/m <sup>2</sup> ) /BW:	* 10° - 15° (dBW/m <sup>2</sup> ) /BW:	* 15° - 20° (dBW/m <sup>2</sup> ) /BW:	* 20° - 25° (dBW/m <sup>2</sup> ) /BW:	* 25° - 90° (dBW/m <sup>2</sup> ) /BW:
<b>4.0 kHz</b>	-169.9	-169.7	-169.6	-169.5	-169.4	-168.6

### Transmitting Beams 3:

Question	Response
Beam ID	TLMP
Transmit Beam Frequency	3701.05 MHz -3701.45 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi

Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-37.7 dBW/Hz
Max. Transmit EIRP	17.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>4.0 kHz</b>	-163.3	-163.2	-163.0	-162.9	-162.8	-162.1

### Transmitting Beams 4:

Question	Response
Beam ID	TLMB
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.3 degrees
Polarization Switchable	No

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-41.8 dBW/Hz
Max. Transmit EIRP	13.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global - Gain contour attachment not provided pursuant to Section 25.114(c)(4)(vi)(A) of the FCC rules

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )
* BW:	/BW:	/BW:	/BW:	/BW:	/BW:	/BW:
<b>4.0 kHz</b>	-169.1	-168.9	-168.8	-168.7	-168.6	-167.8

### Transmitting Beams 5:

Question	Response
Beam ID	ASVD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-32.1 dBW/Hz

Max. Transmit EIRP	43.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	ASEAN countries

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> )	* 5° - 10° (dBW/m <sup>2</sup> )	* 10° - 15° (dBW/m <sup>2</sup> )	* 15° - 20° (dBW/m <sup>2</sup> )	* 20° - 25° (dBW/m <sup>2</sup> )	* 25° - 90° (dBW/m <sup>2</sup> )
<b>* BW:</b>	<b>/BW):</b>	<b>/BW):</b>	<b>/BW):</b>	<b>/BW):</b>	<b>/BW):</b>	<b>/BW):</b>
<b>4.0 kHz</b>	-159.4	-159.2	-159.1	-159.0	-158.9	-158.1

### Transmitting Beams 6:

Question	Response
Beam ID	ASHD
Transmit Beam Frequency	3700.0 MHz -4200.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	dBi
Antenna Pointing Error	0.19 degrees
Antenna Rotational Error	0.34 degrees
Polarization Switchable	No
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-32.1 dBW/Hz
Max. Transmit EIRP	43.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	ASEAN Countries

### Max. Power Flux Density





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<b>4.0</b>	-164.5	-164.4	-164.2	-164.1	-164.0	-163.3
<b>kHz</b>						

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## Transmitting Channels (30)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
CD12	36.0	4160.0	Service Link
CD11	36.0	4120.0	Service Link
CD10	36.0	4080.0	Service Link
CD09	36.0	4040.0	Service Link
CD08	36.0	4000.0	Service Link
CD07	36.0	3960.0	Service Link
CD06	36.0	3920.0	Service Link
CD05	36.0	3880.0	Service Link
CD04	36.0	3840.0	Service Link
CD01	36.0	3720.0	Service Link
TMB2	0.4	4199.61	TT&C
TMP1	0.4	3701.25	TT&C
TMB1	0.4	3701.25	TT&C
TLM1	0.4	3701.25	TT&C
TMP2	0.4	4199.61	TT&C
TLM2	0.4	4199.61	TT&C
CD21	36.0	4060.0	Service Link
CD20	36.0	4020.0	Service Link
CD19	36.0	3980.0	Service Link
CD18	36.0	3940.0	Service Link
CD17	36.0	3900.0	Service Link
CD16	36.0	3860.0	Service Link
CD15	36.0	3820.0	Service Link
CD14	36.0	3780.0	Service Link

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<b>CD13</b>	36.0	3740.0	Service Link
<b>CD03</b>	36.0	3800.0	Service Link
<b>CD02</b>	36.0	3760.0	Service Link
<b>CD24</b>	36.0	4180.0	Service Link
<b>CD23</b>	36.0	4140.0	Service Link
<b>CD22</b>	36.0	4100.0	Service Link

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## Certification Questions

Question	Response
<p>Are the applicable service area coverage requirements of 25.143(b)(2) (ii) and (iii), or 25.144(a)(3)(i), or 25.145 (c)(1) and (2), or 25.146(i)(1) and (2), or 25.148(c), or 25.225 met?</p>	<p>N/A</p>
<p>Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?</p>	<p>Yes</p>
<p>Are the cessation of emissions requirements of 25.207 met?</p>	<p>Yes</p>
<p>Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	<p>Yes</p>
<p>For NGSO applications, are the applicable equivalent-power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	<p>N/A</p>
<p>Are the applicable full-frequency-reuse requirements of 25.210 met?</p>	<p>Yes</p>
<p>If the application is for a 17/24 GHz BSS space station, will it be operated at an offset location with full power and interference protection in accordance with 25.262(b)?</p>	

# Attachments

File Name	Beam	Field	Attachment Type	Description
<a href="#"><u>Telcom-2 157EL Beams.mdb</u></a>		GSO Antenna Gain Contour Data	GIMS file (*. mdb)	The attached file contains the beam contour data in gxt format

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