

# Spacepath STA3408 85W DBS Band TWTA Data Sheet





#### STA3485 Series, StellarMini™ 80 W, DBS-Band, Antenna Mount TWTA

The STA3485 range of DBS amplifiers from Spacepath Communications provide over 75W of output power in compact, lightweight rugged weatherproof enclosure. The advance cooling techniques enable the unit to operate in extreme environmental conditions.

The units can be deployed globally, are easy to integrate and user friendly. A serial RS422/485 interface is included as standard with comprehensive monitoring and control.

## **OPTIONS**

- Integral BUC that can be supplied as a Dual Band version with selectable LO allowing the entire DBS frequency range to be covered by one unit
- Lineariser enabling the unit to provide over 42W Linear power

## **FEATURES**

- Lightweight and compact
- Wide Operating temperature range –40°C to +60°C
- Intuitive Monitoring & Control through RS422/RS485
- Weatherproof antenna mount construction allows exposed mounting
- Redundant control contains control and drive circuits for
   1:1 redundancy
- Wide input supply 99V to 265V AC
- Wide range of accessories including: controllers, waveguide
- networks, cable assemblies, ducting adaptor and cowl

#### **TECHNICAL SPECIFICATION**



PREFORMANCE							
Sandard	PERFORMANCE				Mechanical		
Sub-Band	Frequency Range			Dimensions LxWxH	348x183x132.5 mm		
Sub-Band				Weight			
DB2	Frequency Range - BUC Option (See Note 1)			Cooling	Integral Forced-Air		
DB2				) LO (GHz)	Connectors		
D83	DB2					N-Type (Female)	
Security	DB3	18.1 - 18.4   1150 - 1450   16.95			i '		
Frequency							
Level   -3 to 7 dBm   mpedance   50 Ω   Monitor   Scant   S	T				1		
Impedance	Level				Control Interface	62GB-12E-18-32-PN	
Interface					-		
Sub-Band	Output Power						
The Flange (min)	Sub-Band	DB2		DB3		•	Output Power Monitor
Figure   F	TWT Flange (min)	85 W (49.3d B	m) 67 \	<i>N</i> (49.3 dBm)			
Sub-Band   DB2   DB3   Sub-Band   DB2   DB3							
Sub-Band DB2 DB3 Gain at Rated Power Collector Voltage Gain cat Rated Power Collector Voltage Gain Cathoria Cash Cash Cash Cash Cash Cash Cash Cas						'	
Gain at Rated Power		DR2 DR3			· ·		
Small Signal Gain   7.5 dB min.   3 dB p-p   4 months of the position of the pos						i	
Gain Flatness - Full Band 4 dB p-p 1 dB p-p 3 dB p-p 6 Gain Flatness - 36 MHz 0.5 dB Cain Stability - 24 Hrs (Const. drive) 0.5 dB Cain Stability - 24 Hrs (Const. drive) 0.5 dB Cain Stability - 24 Hrs (Const. drive) 0.5 dB Cain Stability - 24 Hrs (Const. drive) 0.5 dB Cain Stability - Over Temp range 2 dB p-p Cain Control 25 dB min LLinearity Inter modulation 0 PB0							
Sain Flatness - 36 MHz							
Control   Cont						Liapseu Hours	
Control   Cont		tability - 24Hrs (Const. 0.5 dB					
Gain Stability - Over Temp range Gain Control Linearity Inter modulation  -25dBc, 2 equal carriers, 10MHz apart, Total OPBO  -25dBc, 2 equal carriers, 10mHz apart, Total OPBO -25dBc, 2 equal carriers, 10mHz apart, Total OPBO -25dBc, 2 equal carriers, 10mHz apart, Total OPBO -25dBc, 2 equal carriers, 10mHz apart, Total OPBO -25dBc, 2 equal carriers, 10mHz apart, Total OPBO -25dBc, 2 equal carriers, 10mHz apart,				Control	- J	High Dawer Alarm Cat	
Gain Control  Linearity Inter modulation  -25dBc, 2 equal carriers, 10MHz apart, Total OPBO  No Linearizer With Linearizer Prated-8dB Prated-3dB  Spectral Regrowth  -30dBc, 1 symbol rate from carrier (QPSK) No Linearizer With Linearizer Prated-6dB Prated-2dB  Phase Noise  Continuous - Standard  Continuous - With Internal BUC  AC Fundamental  -50 dBc Sum of all spurs  Action RF inhibit  RF Switch Control  Environmental  Temperature - Operating 40°C - +55°C (derate 2°C/300m above sea level)  Temperature - Storage 40°C - +85°C (Hemidty Up to 100%.  Altitude - Operating 4.5 km (15,000 ft) max.  Hemidty Altitude - Operating 12 km (40,000 ft) max.  Vibration-Shock BS EN 60721-3-2 Level 2M3  Compliance Standard  EMC Directive 2014/108/EU Low voltage directive 2011/65/EU  EMC - Emissions  EMC - Emissions  EMC - Immunity EN61000-6-2  Safety JEC 62368-1  Refinibibit RF Switch Control  Refinibibit RF Switch Control  Refinibibit RF Switch Control  Environmental  Lo Select (Optional Note 1) Gain Control  Environmental  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Storage 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Operating 40°C - +85°C (derate 2°C/300m above sea level)  Temperature - Oper				Control			
Transmit   Trol   RF Switch Control	, ' · · ·				Standby		
The modulation			25 dB min			Transmit	
LO Select (Optional Note 1)   Gain Control		l				RF Inhibit	RF Switch Control
No Linearizer   With Linearizer   Prated-8dB   Prated-3dB	inter modulation				LO Select (Optional Note 1)	Gain Control	
Prated-8dB Prated-3dB Spectral Regrowth  Prated-8dB Prated-3dB Spectral Regrowth  -30dBc, 1 symbol rate from carrier (QPSK) No Linearizer Prated-6dB Prated-2dB Phase Noise Continuous - Standard 10dB below IESS phase noise profile Continuous - With Internal BUC Meets IESS phase noise profile Low voltage Internal BUC Meets IESS phase noise profile Low voltage Internal BUC Meets IESS phase noise profile Low voltage Internal BUC Meets IESS phase noise profile Low voltage Internal BUC Meets IESS phase Noise Internal BUC Meets IESS phase Noise Internal BUC M				Environmental			
Spectral Regrowth  -30dBc, 1 symbol rate from carrier (QPSK) No Linearizer With Linearizer Prated-6dB Prated-2dB  Phase Noise  Continuous - Standard 10dB below IESS phase noise profile Continuous - With Internal BUC Meets IESS phase noise profile AC Fundamental -50 dBc Sum of all spurs -47 dBc Noise & Spurious Harmonic -60 dBc Spurious -65 dBc Noise Power Density Tx Band 70 dBW/4kHz Rx Band 130 dBW/4kHz Rx Band 130 dBW/4kHz Rx Band 133 dBW/4kHz Rx Band 133 dBW/4kHz Rx Band 133 t1 (1.6:1 With Internal BUC) Output VSWR 1.3:1 (1.6:1 With Internal BUC) Output VSWR 5 1.3:1 (1.6:1 With Internal BUC) Frime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V Power Requirement 660 VA typical at Prated							
-30dBc, 1 symbol rate from carrier (QPSK) No Linearizer With Linearizer Prated-6dB Prated-2dB  Phase Noise Continuous - Standard 10dB below IESS phase noise profile Continuous - With Internal BUC Meets IESS phase noise profile AC Fundamental -50 dBc Sum of all spurs -47 dBc Noise & Spurious Harmonic -60 dBc Spurious -65 dBc Noise Power Density Tx Band 70 dBW/4kHz Rx Band 130 dBW/4kHz VSWR Input VSWR 1.3:1 (1.6:1 With Internal BUC) Drime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V Power Requirement 660 VA typical at Prated  Temperature - Storage 4-40°C -+485°C Humidty Up to 100%. Altitude - Non-Operating 12 km (40,000 ft) max.  Vibration/Shock BS EN 60721-3-2 Level 2M3  Compliance Standard  ELD Directives EMC Directive 2014/108/EU Low voltage directive 2014/34/EU.  EMC - Emissions EN6000-6-3 FCC Part 15B EMC - Immunity EN61000-6-2 Safety IEC 62368-1  The Internal BUC Option The Internal BUC Option The Internal BUC is available as single LO versions covering the bands DB2 & DB3  The Internal BUC is available as single LO versions covering the bands DB2 & DB3	Spectral Regrowth	Prateu-oub	<u>)   P</u>	тагей-эйр			00m above sea level)
No Linearizer   With Linearizer   Prated-6dB   Prated-2dB		-30dBc. 1 symbol rate from carrier (OPSK)					
Prated-6dB		,				•	
Phase Noise  Continuous - Standard 10dB below IESS phase noise profile Continuous - With Internal BUC Meets IESS phase noise profile AC Fundamental -50 dBc Sum of all spurs -47 dBc Noise & Spurious Harmonic -60 dBc Spurious -65 dBc Noise Power Density Tx Band 70 dBW/4kHz Rx Band 130 dBW/4kHz VSWR Input VSWR 1.3:1 (1.6:1 With Internal BUC) Output VSWR 1.3:1 Electrical Prime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V Power Requirement 660 VA typical at Prated  Altitude - Non-Operating 12 km (40,000 ft) max. Vibration/Shock BS EN 60721-3-2 Level 2M3 Compliance Standard  EMC Directive 2014/108/EU Low voltage directive 2014/34/EU. RR (BMC - Emissions EN6000-6-3 FCC Part 15B EMC - Immunity EN61000-6-2 Safety IEC 62368-1  Notes  1) Internal BUC Option The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO		Prated-6dB Pra			Altitude - Operating	4.5 km (15,000 ft) max.	
Continuous - With Internal BUC  AC Fundamental  AC Fundamental  -50 dBc  Sum of all spurs  -47 dBc  Noise & Spurious  Harmonic  -60 dBc  Spurious  -65 dBc  Noise Power Density  Tx Band  Rx Band  70 dBW/4kHz  VSWR  Input VSWR  Input VSWR  Input VSWR  Prime Power  Single Phase, Line-Neutral or Line-Line Voltage  Prower Requirement  660 VA typical at Prated  Compliance Standard  EU Directive 2014/108/EU  EMC - Emissions  EMC - Emissions  EMC - Emissions  EMC - Immunity  EN61000-6-2  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC Oversions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	•			Altitude - Non-Operating	12 km (40,000 ft) max.		
AC Fundamental Sum of all spurs Noise & Spurious Harmonic Spurious Hoise Power Density Tx Band Ty dBW/4kHz Now WR Input VSWR Input VSWR Input VSWR Input VSWR Ingur V	Continuous - Standard	10dB below IESS phase noise profile		Vibration/Shock	BS EN 60721-3-2 Level 2M3		
Sum of all spurs  Noise & Spurious  Harmonic  Sum of all spurs  Harmonic  -60 dBc  Spurious  Noise Power Density  Tx Band  Rx Band  T0 dBW/4kHz  Rx Band  130 dBW/4kHz  VSWR  Input VSWR  Input VSWR  Input VSWR  1.3:1 (1.6:1 With Internal BUC) Output VSWR  Prime Power  Single Phase, Line-Neutral or Line-Line Voltage  99 to 265 V  Power Requirement  Sum of all spurs  -47 dBc  Low voltage directive 2014/34/EU.  ROHS Directive 2011/65/EU  EMC - Emissions  EN6000-6-3  FCC Part 15B  EMC - Immunity  EN61000-6-2  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC Option  The Internal BUC oversions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Continuous - With Internal BUC	Meets IESS phase noise profile			Compliance Standard		
Noise & Spurious  Harmonic  Spurious  -60 dBc  Spurious  Noise Power Density  Tx Band  RX Band  T30 dBW/4kHz  Rx Band  130 dBW/4kHz  VSWR  Input VSWR  Input VSWR  Output VSWR  1.3:1 (1.6:1 With Internal BUC)  Output VSWR  Flectrical  Prime Power  Voltage  99 to 265 V  Power Requirement  ROHS Directive 2011/65/EU  EMC - Emissions  EN6000-6-3  FCC Part 15B  EMC - Immunity  EN61000-6-2  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	AC Fundamental	-50 dBc		EU Directives	EMC Directive 2014/108/EU		
Harmonic -60 dBc  Spurious -65 dBc  Noise Power Density  Tx Band 70 dBW/4kHz Rx Band 130 dBW/4kHz  VSWR  Input VSWR 1.3:1 (1.6:1 With Internal BUC)  Output VSWR 1.3:1  Prime Power Single Phase, Line-Neutral or Line-Line  Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated  EMC - Emissions EN6000-6-3  FCC Part 15B  EMC - Immunity EN61000-6-2  Safety IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Sum of all spurs				Low voltage directive 2014/34/EU.		
Spurious  -65 dBc  Noise Power Density  Tx Band  70 dBW/4kHz  Rx Band  130 dBW/4kHz  VSWR  Input VSWR  Input VSWR  1.3:1 (1.6:1 With Internal BUC) Output VSWR  1.3:1  Electrical  Prime Power  Single Phase, Line-Neutral or Line-Line Voltage  99 to 265 V  Power Requirement  660 VA typical at Prated  FCC Part 15B  EMC - Immunity  EN61000-6-2  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Noise & Spurious						
Spurious -65 dBc  Noise Power Density  Tx Band 70 dBW/4kHz  Rx Band 130 dBW/4kHz  VSWR  Input VSWR 1.3:1 (1.6:1 With Internal BUC) Output VSWR 1.3:1  Electrical  Prime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated  FCC Part 15B  EMC - Immunity EN61000-6-2  Safety IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Harmonic	-60 dBc		EMC - Emissions	EN6000-6-3		
Tx Band  Rx Band  T30 dBW/4kHz  Notes  Input VSWR  Input VSWR  1.3:1 (1.6:1 With Internal BUC)  Output VSWR  1.3:1  Electrical  Prime Power  Single Phase, Line-Neutral or Line-Line  Voltage  Power Requirement  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Spurious	-65 dBc					
Tx Band  Rx Band  To dBW/4kHz  Rx Band  To dBW/4kHz  Safety  IEC 62368-1  Notes  Input VSWR  Input VSWR  Input VSWR  Insurable As single Post of a Dual Band version with selectable LO  Prime Power  Voltage  Power Requirement  Safety  IEC 62368-1  Notes  1) Internal BUC Option  The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Noise Power Density	oise Power Density		EMC - Immunity			
VSWR Input VSWR 1.3:1 (1.6:1 With Internal BUC) Output VSWR 1.3:1  Electrical Prime Power Voltage 99 to 265 V Power Requirement Single Phase, Line-Neutral or Line-Line Voltage Prower Requirement Single Phase, Line-Neutral or Line-Line Voltage Single Phase, Line-Neutral or Line-Line Voltage Single Phase, Line-Neutral or Line-Line Voltage Prower Requirement Single Phase, Line-Neutral or Line-Line Voltage Single Phase, Line-Neutral or Line-Line	Tx Band	70 dBW/4kHz		Safety			
Input VSWR  1.3:1 (1.6:1 With Internal BUC) Output VSWR  1.3:1  Electrical  Prime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V  Power Requirement  1.3:1 (1.6:1 With Internal BUC Option The Internal BUC is available as single LO versions covering the bands DB2 & DB3 or a Dual Band version with selectable LO	Rx Band	130 dBW/4kHz					
Input VSWR 1.3:1 (1.6:1 With Internal BUC) Output VSWR 1.3:1  Electrical  Prime Power Single Phase, Line-Neutral or Line-Line Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated	VSWR				Notes		
Output VSWR 1.3:1  Electrical  Prime Power Single Phase, Line-Neutral or Line-Line  Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated	Input VSWR	1.3:1 (1.6:1 With Internal BUC)			1) Internal BUC Option		
Electrical or a Dual Band version with selectable LO  Prime Power Single Phase, Line-Neutral or Line-Line  Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated	Output VSWR						
Prime Power Single Phase, Line-Neutral or Line-Line  Voltage 99 to 265 V  Power Requirement 660 VA typical at Prated		<u> </u>					ming the ballus DDZ & DB3
Voltage 99 to 265 V Power Requirement 660 VA typical at Prated		Single Phase, Lir	ne-Neutral o	r Line-Line			
Power Requirement 660 VA typical at Prated							
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