

Satellite Communications/ VSAT Applications Products

-High Power BUC,
SSPAs, LNBS,
Up/Down Converters, BPF

RF Front-End Products for Ka/Ku-band

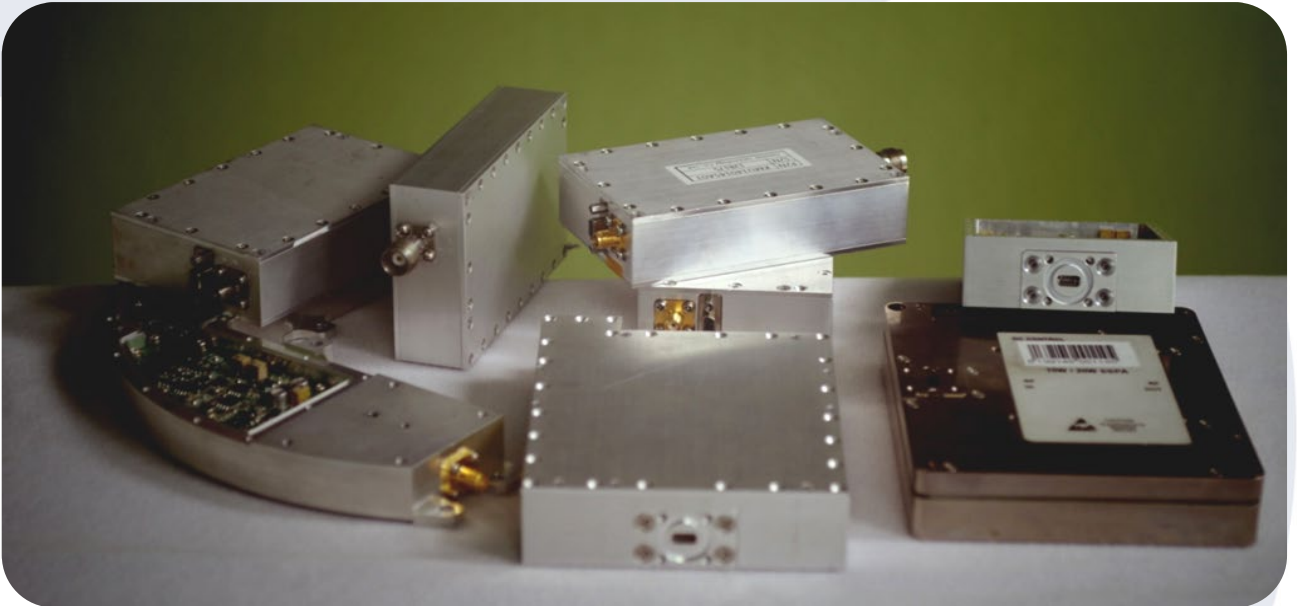
Applications

- Satellite Communications / VSAT
- In-flight Internet Broadband Access
- OTM(On-The-Move) terminals
- Man-Pack Terminals / Suitcase Terminals
- Drive-away / Fly-away / SNG

Features

- SSPAs / Block Up Converters / Block Down Converters / LNAs / LNBs / Filters
- Suitable for standard Ku-band / Ka-band Satellite
- Wideband performance by switchable LOs (2.0GHz bandwidth for Ka-band)
- High Power (up to 16Watt)
- Low Power Consumption
- High Reliability
- Aircraft / Military / Defense applicable

Genmix's state-of-the-art RF front-end products for Ka/Ku-band satellite provides the solution to the customers to find high performance with compact size and light weight especially in In-flight Broadband Access and OTM applications.



The specification subject to change without notice.

For the customized specification, price, and delivery ; Contact us

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[Http://www.genmixtech.com](http://www.genmixtech.com)

RF Front-End Products for Ka/Ku-band

SSPA Key Specification

Frequency Band	Ku-band	Ka-band
Frequency Band	14 to 14.5 GHz	29.5 to 31 GHz (Opt. 29-31GHz)
Output Power (P1dB)	40dBm min.	40dBm typ. / 42dBm typ.
Gain	35dB min.	35dB min.
In/Output connector	SMA / SMA	K / WR28
In/Out VSWR	1.5:1 / 1.5:1	1.5:1 / 1.8:1
Power Supply(V)	11.5 V DC	5V DC / higher voltage available
Power Consumption(W)	70W max	98W max.(40dBm model)

Block Up Converter Key Specification

Frequency Band	Ku-band	Ka-band
IF Input Frequency	950 to 1450MHz	950 to 1450MHz
RF Output Frequency	14.0 to 14.5GHz	29.5 to 31GHz (Opt. 29-31GHz)
Gain	18 to 23dB	24 to 29dB
Output Power	OP1dB: +18dBm Min	OP1dB: +18dBm Min.
Power Supply	+11.5V, 800mA max.	+18V, 1000mA max.
Phase Noise	-56dBc/Hz @ 100Hz	-57dBc/Hz @ 100Hz
	-72dBc/Hz @ 1KHz	-72dBc/Hz @ 1KHz
	-83dBc/Hz @ 10KHz	-75dBc/Hz @ 10KHz
	-90dBc/Hz @ 100KHz	-92dBc/Hz @ 100KHz
	-100dBc/Hz @ 1MHz	-102dBc/Hz @ 1MHz
Dimension	102(L)x64(W)x25.4(H)mm	102(L)x64(W)x25.4(H)mm

Block Down Converter Key Specification

Frequency Band	Ku-band/Extended	Ka-band/Extended
RF Input Frequency	11.55 to 12.75GHz/10.95 to 11.7GHz	19.7 to 21.2GHz/19.2 to 21.2GHz
IF Output Frequency	950 to 2150MHz	950 to 1950MHz
Gain	30 to 35dB	23 to 27dB
Power Supply	+11.5V, 800mA max.	+18V, 500mA max.
Phase Noise	-56dBc/Hz @ 100Hz	-57dBc/Hz @ 100Hz
	-72dBc/Hz @ 1KHz	-72dBc/Hz @ 1KHz
	-83dBc/Hz @ 10KHz	-75dBc/Hz @ 10KHz
	-90dBc/Hz @ 100KHz	-92dBc/Hz @ 100KHz
	-100dBc/Hz @ 1MHz	-102dBc/Hz @ 1MHz
Dimension	102(L)x64(W)x25.4(H)mm	102(L)x64(W)x25.4(H)mm

LNA Key Specification

Frequency Band	Ku-band	Ka-band
Frequency	11.55 to 12.75GHz	19.7 to 21.2GHz
Gain	30 to 35dB	40 to 45dB
Noise Figure	1.2dB max. @25°C	2.0dB max. @25°C
Output Power (OP1dB)	+5dBm min.	+5dBm min.
Max Input Power	+10dBm with no damage	+10dBm with no damage
Power Supply	+12V, 150mA max.	+12V, 150mA max.
Dimension	70(L)x38(W)x38(H)mm	66(L)x36(W)x28(H)mm

The specification subject to change without notice.

Ku-Band 40W Block Up Converter



Applications

- High power BUCs for VSAT
- Airborne(Military & Commercial) Applications

Features

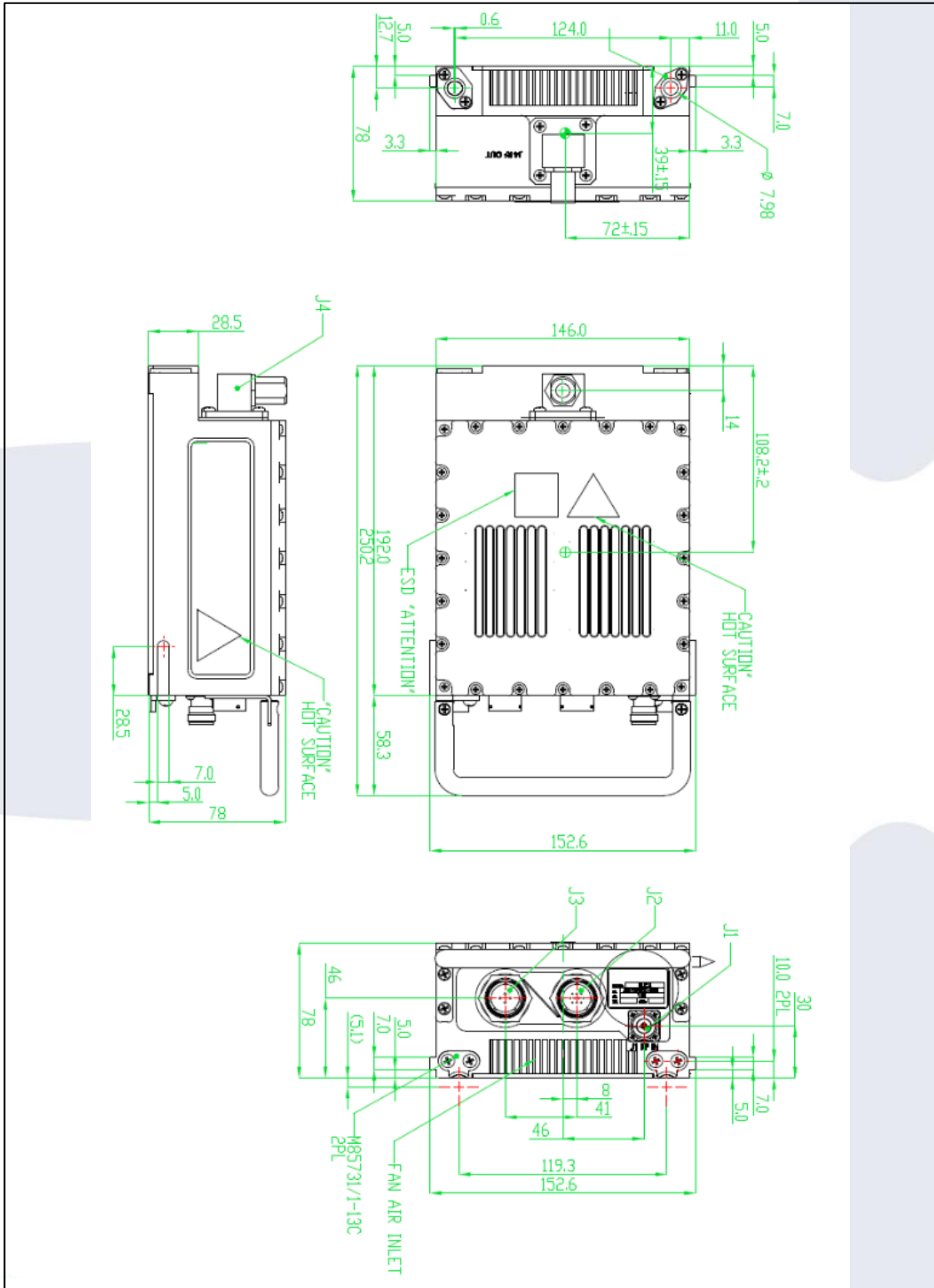
- 46dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range +18~40VDC (+28VDC typical)
- M&C Function (Optional)
- High Reliability Unit

Model	GMU137145Bxx-40W	
RF Frequency	13.75~14.5GHz (14.0~14.5GHz Optional)	
IF Frequency	950~1700MHz (950~1450MHz Optional)	
LO Frequency	13.05GHz 12.80GHz	
Output Power (min)	46dBm	
Gain (min)	55dB	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
Spectral Regrowth (@ 1.0x Symbol rate for QPSK/OQPSK/ 8PSK modulation)	-24dBc max. @45dBm total power	
Spurious	In Band	-60 dBc (max)
	Out of Band	-60 dBc (max)
Input VSWR	1.5:1 max.	
Output Load VSWR	2 :1 max.	
Phase Noise	-65 dBc/Hz @ 100Hz	
	-75 dBc/Hz @ 1KHz	
	-85 dBc/Hz @ 10KHz	
	-95 dBc/Hz @ 100KHz	
	-105 dBc/Hz @ 1MHz	
DC Power	+18~+40VDC(28VDC Typical)	
Power Consumption(max)	300W	
M&C (Optional)	BIT : In/Output power, Lock Status, Temperature Output VSWR, Reverse Power Protection	
	Interface : RS-232/RS-422	
Dimension (DC model)	250 x 151 x 78 mm (without cooling fan)	
Weight	3.0kg max.	
Temperature Range	Operation : -54 to +71°C	
	Storage : -57°C to +85°C	

The specification subject to change without notice.

Ku-Band 40W Block Up Converter

Mechanical Outline (GMU137145Bxx-40W)



The specification subject to change without notice.

Ku-Band 6/8/10W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

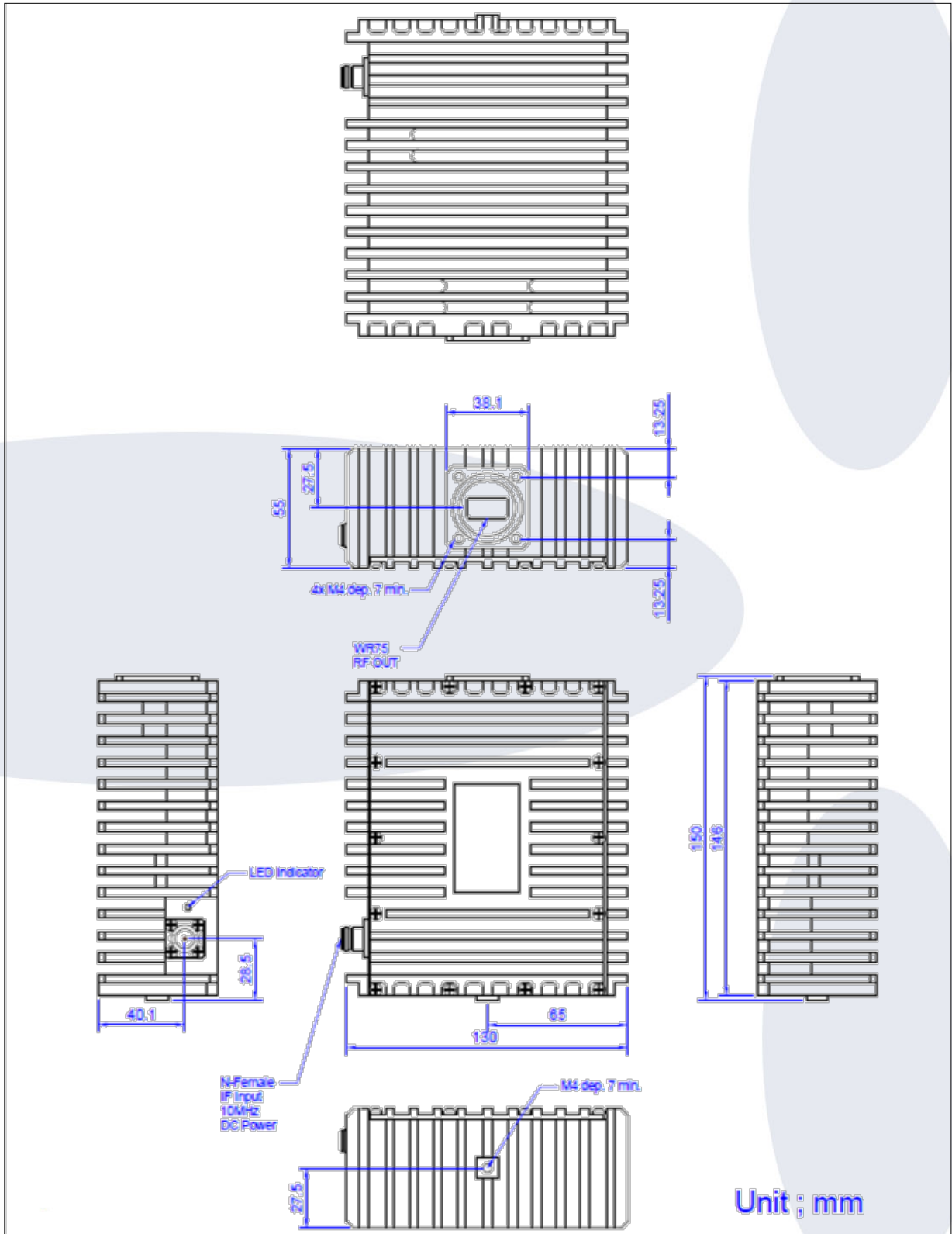
- 38/39/40dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (45W max.)
- Small Size & Light Weight
- Wide DC Input Range 15~60VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU140145B05	GMU137145B07
RF Frequency	14.0~14.5GHz	13.75~14.5GHz
IF Frequency	950~1450MHz	950~1700MHz
LO Frequency	13.05GHz	12.80GHz
Output Power	38 / 39 / 40dBm min.	
Gain	60dB min.	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @total power ≤ 35 / 36 / 37dBm	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input VSWR	2 : 1 max.	
Output Load VSWR	2 : 1 max.	
Phase Noise	-63 dBc/Hz @ 100Hz	
	-73 dBc/Hz @ 1KHz	
	-83 dBc/Hz @ 10KHz	
	-93 dBc/Hz @ 100KHz	
	-103 dBc/Hz @ 1MHz	
DC Power	15~24VDC, 38W typ. / 45W max.	
Functions	Shut off Output Power in case of LO unlocked	
LED Indicator	Green : LO Locked	
	Red : LO Unlocked	
Dimension (DC model)	150x130x55 mm max.	
Weight	1.5kg max.	
Temperature Range	Operation : -40°C to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

Ku-Band 6/8/10W Block Up Converters

Mechanical Outline



The specification subject to change without notice.

Ku-Band 8W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

- 39dBm min. Output Power
- DC Power 95W max.
- Optional Internal Reference
- RoHS compliant

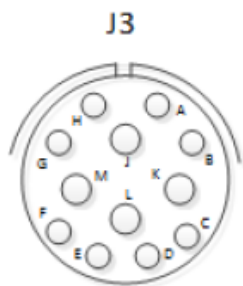
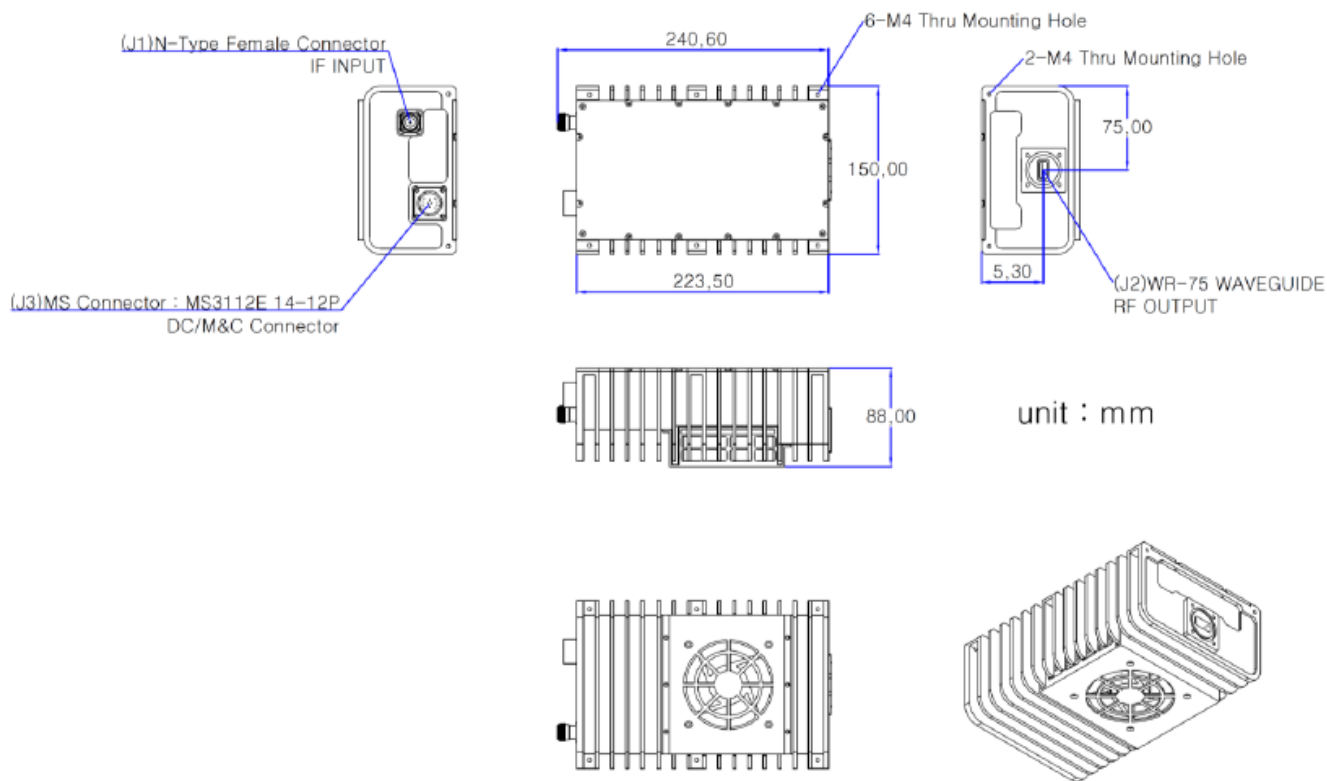
Specification

Frequency Band	GMU127132BXX
IF Frequency	950~1450MHz
LO Frequency	11.80GHz
Output P1dB	39dBm min.
Gain & Gain Variation	62dB typ.
Gain Flatness	± 1.1 0dB in any 36 MHz ± 2.0 dB over full bandwidth
Gain Stability	± 2.5 dB at any const. frequency over temperature
Spurious & Harmonics In-band Out-of-band	-60 dBc -50 dBc
VSWR (In/Out)	2:1 max. / 2:1 max.
External Ref.	10MHz, -5~+5 dBm
External Ref. Phase Noise	-140dBc/Hz max @ 1kHz
Phase Noise (SSB)	-60 dBc/Hz @ 100Hz -73 dBc/Hz @ 1KHz -83 dBc/Hz @ 10KHz -93 dBc/Hz @ 100KHz
DC Power	+22~ +27 VDC via IFL +22~ +56 VDC via MS Connector 95W max.
Physical Interface RF DC, M&C interface	WR-75G (RF Output) / N-type or F-type (RF Input) Ethernet or RS232 through MS3112E14-12P Connector
Dimension (DC model)	223.5(L) x 150(W) x 88(H) mm
Weight	3.5Kg
Temperature Range	Operation : -40°C to +55°C
	Storage : -40°C to +75°C

The specification subject to change without notice.

Ku-Band 8W Block Up Converters

Mechanical Outline



Connector	Parameter	Description
J1	IF input connector	N-female, panel-mounted
	Impedance	50 ohm
	10MHz reference input	
	DC (Option-A ~ C)	+22 to +27VDC
J2	RF output connector	WR-75
J3 (Opt)	DC / M&C(Ethernet or RS232)	Panel-mount (MS3112E14-12P)
	J3-A	Ethernet Tx+
	J3-B	Ethernet Tx-
	J3-C	Ethernet Rx+
	J3-D	Ethernet Rx-
	J3-E	
	J3-F	RS-232 GND
	J3-G	RS-232 Tx D
	J3-H	RS-232 Rx D
	J3-J (Option-D ~ W)	DC Power (+22 to +56V)
	J3-K (Option-D ~ W)	DC Power Return
	J3-L	Mute @High
	J3-M	Mute Return (=RS-232 GND)

The specification subject to change without notice.

Ku-Band 16W/20W/25W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

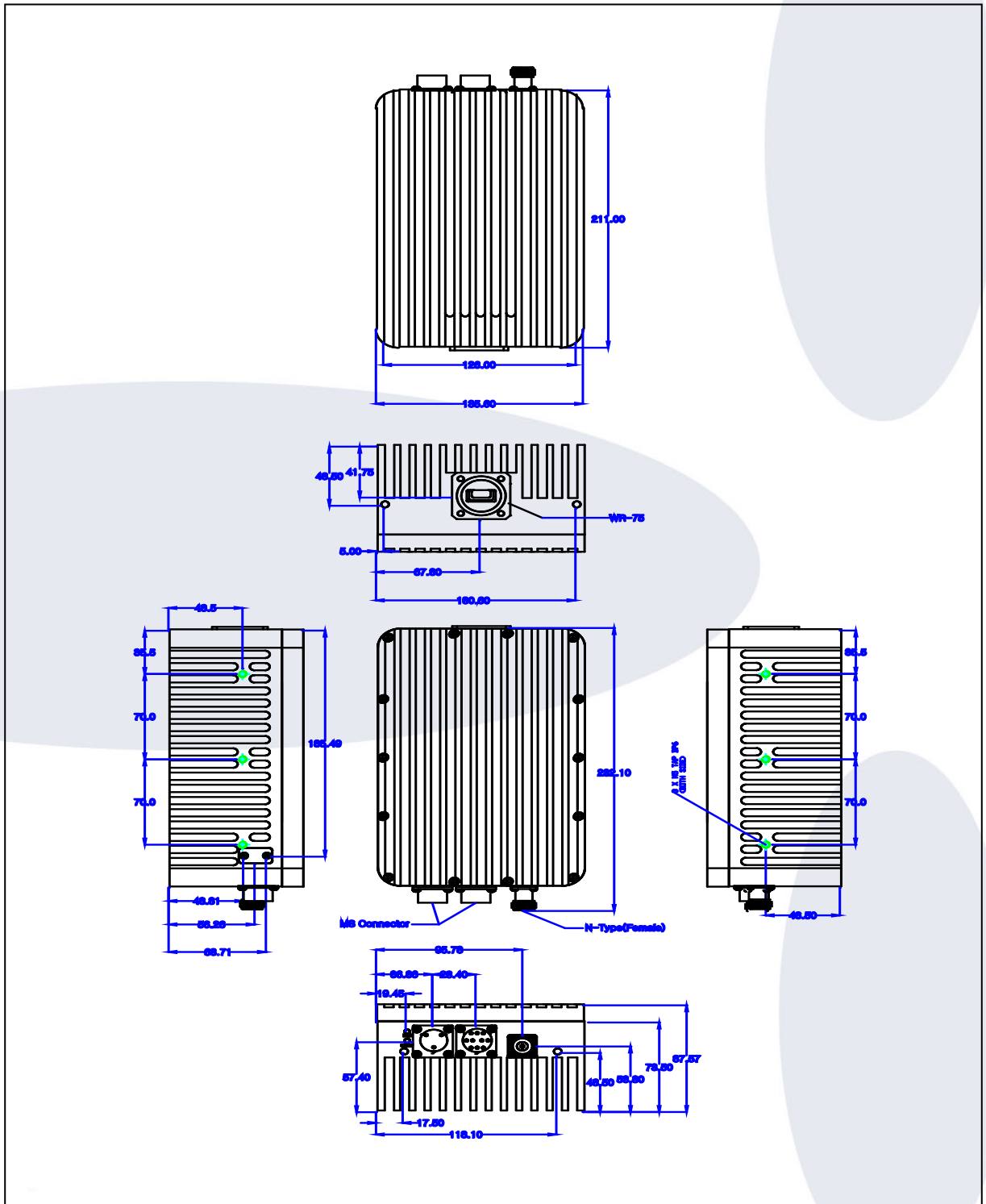
- 42/43/44dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU137145B01-16W	GMU137145B01-20W	GMU137145B01-25W
RF Frequency	14.0~14.5GHz 13.75~14.5GHz		
IF Frequency	950~1450MHz 950~1700MHz		
LO Frequency	13.05GHz 12.80GHz		
Output Power (min)	42dBm	43dBm	44dBm
Gain (min)	65dB		
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth		
Gain Variation over Temperature	4 dBp-p max.		
IMD3	-26dBc max. @3dB total power back off from rated output power		
Spurious	In Band Out of Band	-60 dBc -50 dBc	
Input VSWR	2:1 max.		
Output Load VSWR	2 :1 max.		
Phase Noise	-63 dBc/Hz @ 100Hz		
	-73 dBc/Hz @ 1KHz		
	-83 dBc/Hz @ 10KHz		
	-93 dBc/Hz @ 100KHz		
	-103 dBc/Hz @ 1MHz		
DC Power	+36~+70VDC		
Power Consumption(max)	120W	150W	190W
M&C (Optional)	Monitor : Output power, Lock Status, Temperature		
	Control : Attenuator, Mute, LO selection		
	Interface : RS-232/RS-485		
Dimension (DC model)	233 x 140 x 88 mm		
Weight	3.5kg max.		
Temperature Range	Operation : -40 to +55°C		
	Storage : -40°C to +75°C		

The specification subject to change without notice.

Ku-Band 16W/20W/25W Block Up Converters

Mechanical Outline (GMU137145Bxx)



The specification subject to change without notice.

Ku-Band 40W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

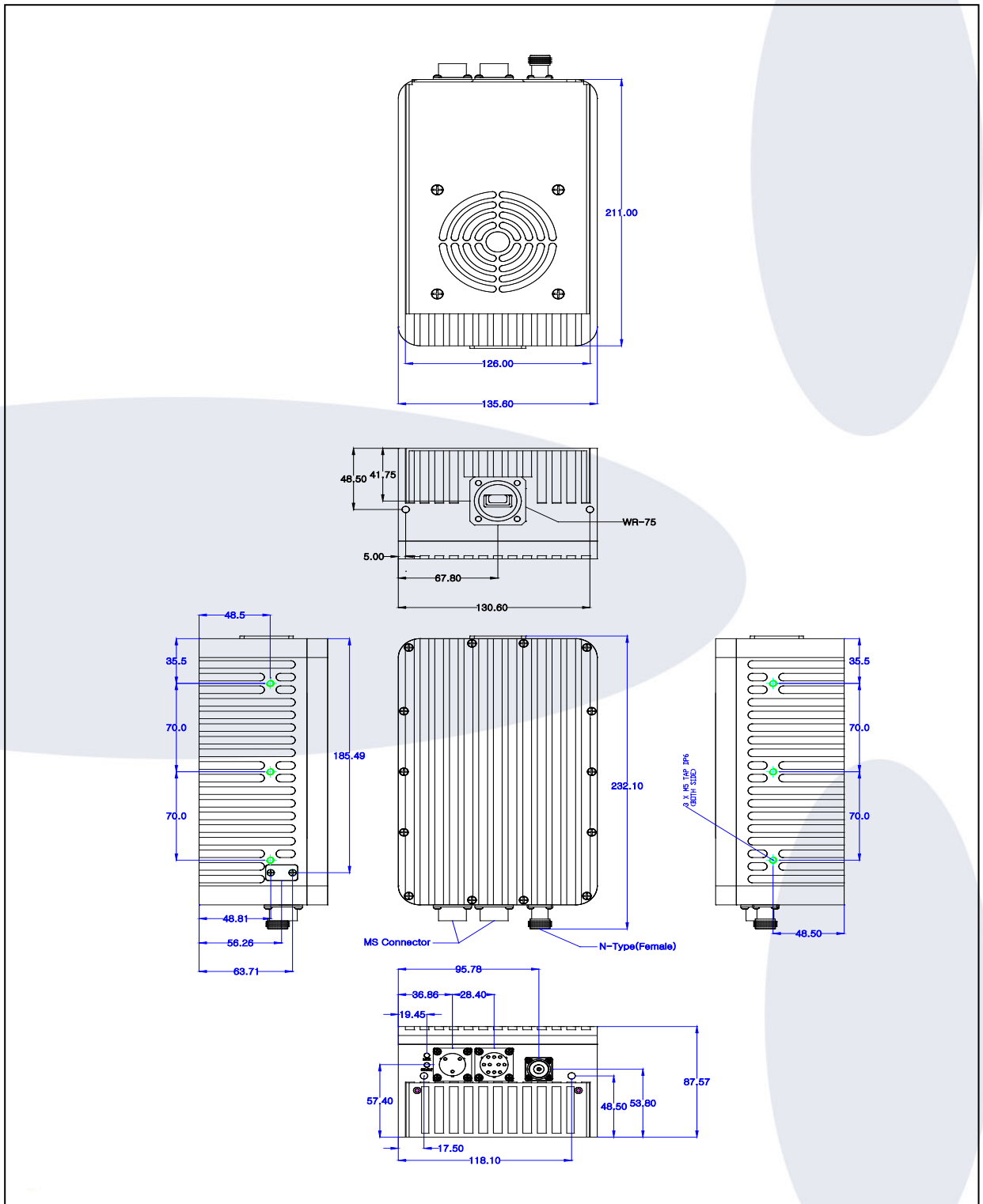
- 46dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU137145B01-40W	
RF Frequency	14.0~14.5GHz 13.75~14.5GHz	
IF Frequency	950~1450MHz 950~1700MHz	
LO Frequency	13.05GHz 12.80GHz	
Output Power (min)	46dBm	
Gain (min)	66dB	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @3dB total power back off from rated output power	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input VSWR	2:1 max.	
Output Load VSWR	2 :1 max.	
Phase Noise	-63 dBc/Hz @ 100Hz	
	-73 dBc/Hz @ 1KHz	
	-83 dBc/Hz @ 10KHz	
	-93 dBc/Hz @ 100KHz	
	-103 dBc/Hz @ 1MHz	
DC Power	+36~+70VDC	
Power Consumption(max)	280W	
M&C (Optional)	Monitor : Output power, Lock Status, Temperature	
	Control : Attenuator, Mute, LO selection	
	Interface : RS-232/RS-485	
Dimension (DC model)	233 x 140 x 88 mm	
Weight	3.5kg max.	
Temperature Range	Operation : -40 to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

Ku-Band 40W Block Up Converters

Mechanical Outline (GMU137145B01-40W)



The specification subject to change without notice.

Ku-Band 4W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

- 4W (36dBm min.) Output Power
- 15~24VDC
- DC Power 35W max.
- RoHS compliant
- 2 Years Warranty

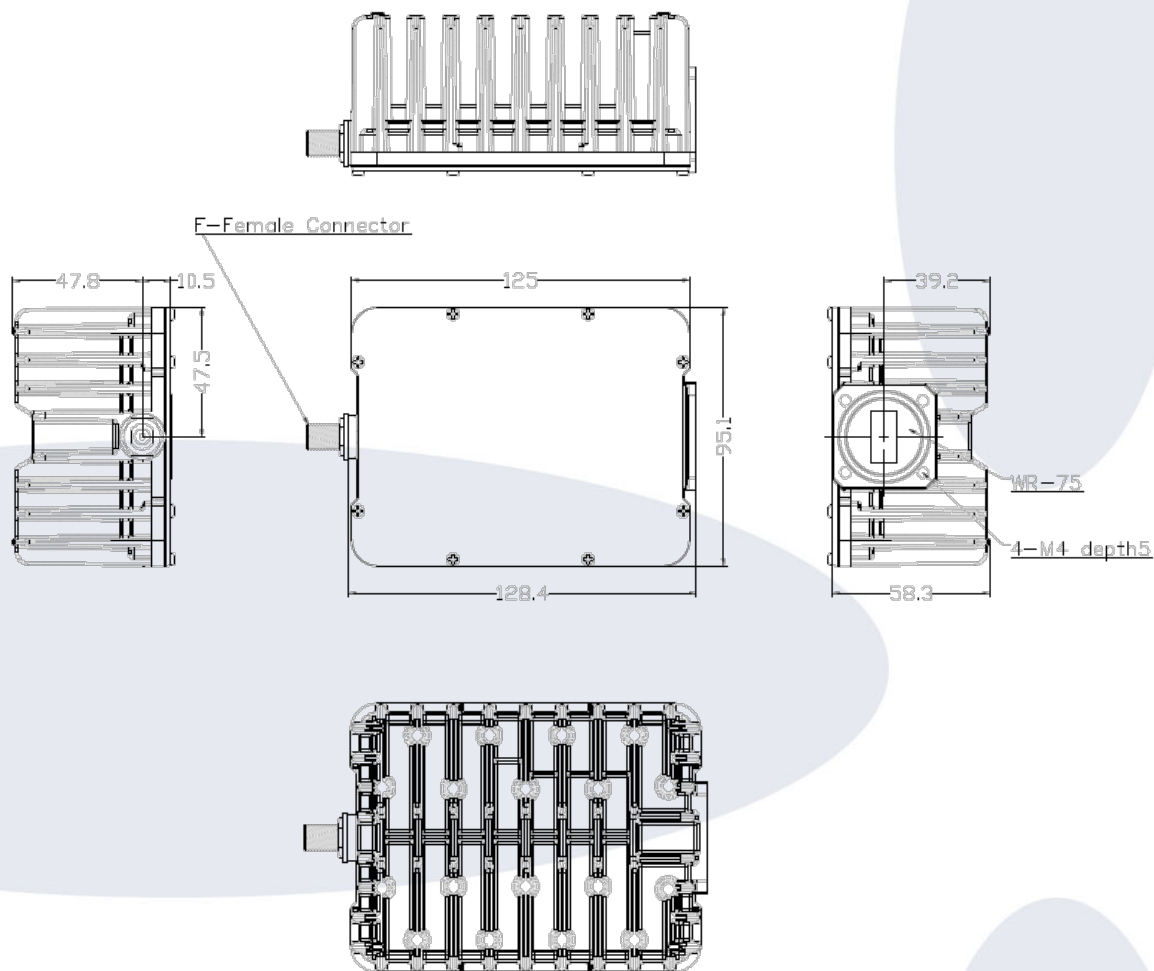
Specification

Model Number	GMU140145B06	GMU137145B06
RF Frequency	14.00~14.50GHz	13.75~14.50GHz
IF Frequency	950~1450MHz	950~1700MHz
LO Frequency	13.05GHz	12.80GHz
Output P1dB	4W min. (36dBm)	
IMD with 2-tones	-25dBc at 3dB back-off from P-1dB	
Linear Gain	58dB typ.	
Gain Flatness	± 0.75 dB max. @ any 54 MHz, ± 2.0 dB max. @ over 500MHz	
Gain Variation	Over Whole Frequency : 4dB Over Operation Temperature : 4dB	
Spurious		
In-band	-60 dBc	
Out-of-band	-50 dBc	
VSWR	2:1	
External Ref.	Input Frequency: 10MHz Input Power: -5~+5 dBm @ Input Power	
Phase Noise (SSB)	-65dBc/Hz typ. @ 100Hz offset -75 dBc/Hz typ. @ 1KHz offset -85 dBc/Hz max. @ 10KHz offset -95 dBc/Hz max. @ 100KHz offset	
DC Power	15~24 VDC, 35W max.	
Physical Interface		
RF	WR-75G (RF Output) / F-type or N-type (IF Input)	
DC	Via IF Cable	
Dimension	128.4 x 95.1 x 58.3 mm	
Weight	0.7 kg	
Temperature Range	Operation : -40°C to +55°C	
Humidity	Up to 100%	

The specification subject to change without notice.

Ku-Band 4W Block Up Converters

Mechanical Outline



The specification subject to change without notice.

Ka-Band 4/5W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

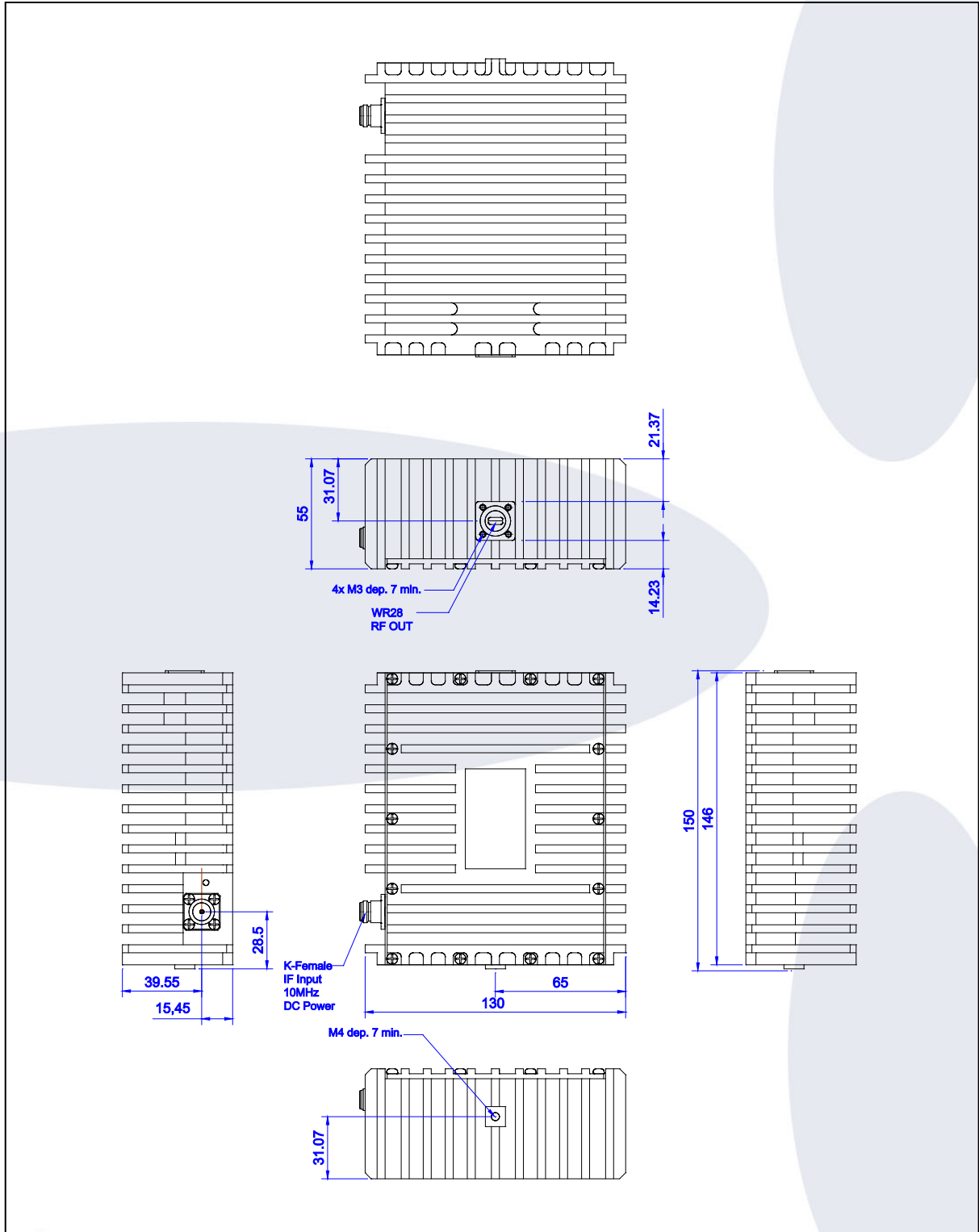
- 36/37dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (40W max.)
- Small Size & Light Weight
- Wide DC Input Range 18~60VDC (Optional)
- Internal Reference (Optional)

Model	GMU290310B04	GMU288291B05
RF Frequency	29.0~31.0GHz	28.85~29.15GHz
IF Frequency Bandwidth	950~1450MHz / 950~1950MHz 500MHz / 1GHz (Option)	950~1250MHz
LO Frequency	28.05/28.55/29.05/29.55GHz	27.9GHz
Output Power	36 / 37dBm min.	
Gain	60dB min.	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over 500MHz bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @ $P_{linear} \leq 33 / 34\text{dBm}$	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input/Output VSWR	2 : 1 max.	
Phase Noise	-60 dBc/Hz @ 100Hz	
	-70 dBc/Hz @ 1KHz	
	-80 dBc/Hz @ 10KHz	
	-90 dBc/Hz @ 100KHz	
	-100 dBc/Hz @ 1MHz	
DC Power	18~36VDC, 40W max.	
Functions	Shut off Output Power in case of LO unlocked	
LED Indicator	Green : LO Locked	
	Red : LO Unlocked	
Dimension (DC model)	150x130x55 mm max.	
Weight	1.5kg max.	
Temperature Range	Operation : -40°C to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

Ka-Band 4/5W Block Up Converters

Mechanical Outline



The specification subject to change without notice.

Ka-Band 10W/20W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

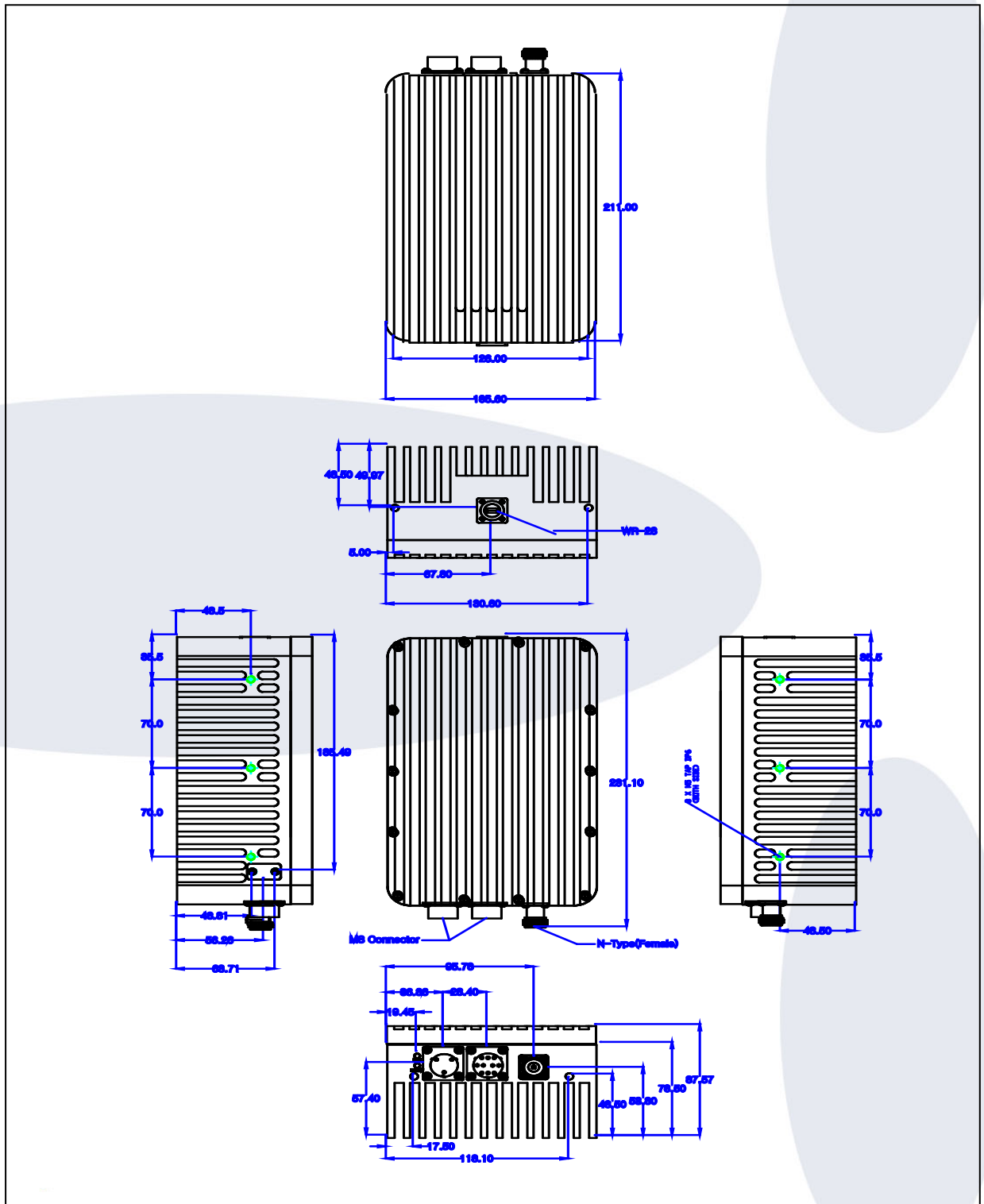
- 40/43dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU290310B01-10W	GMU288291B01-20W
RF Frequency	29.0~29.5/29.5~30.0/30.0~30.5/30.5~31.0GHz 29.0~30.0 / 30.0~31.0GHz	
IF Frequency	950~1450MHz (500MHz BW) 950~1950MHz (1GHz BW)	
LO Frequency	28.05/28.55/29.05/29.55GHz 28.05/29.05GHz	
Output Power (min)	40dBm	43dBm
Gain (min)	62dB	65dB
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over 500MHz bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @ Plinear (37dBm / 40dBm)	
Spurious		
In Band	-60 dBc	
Out of Band	-50 dBc	
Input VSWR	2:1 max.	
Output Load VSWR	2 :1 max.	
Phase Noise	-63 dBc/Hz @ 100Hz	
	-73 dBc/Hz @ 1KHz	
	-83 dBc/Hz @ 10KHz	
	-93 dBc/Hz @ 100KHz	
	-103 dBc/Hz @ 1MHz	
DC Power	+36~+70VDC	
Power Consumption(max)	100W	180W
M&C (Optional)	Monitor : Output power, Lock Status, Temperature	
	Control : Attenuator, Mute, LO selection	
	Interface : RS-232/RS-485	
Dimension (DC model)	233 x 140 x 88 mm	233 x 140 x 88 mm with fan cooling
Weight	3.5kg max.	
Temperature Range	Operation : -40 to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

Ka-Band 10W/20W Block Up Converters

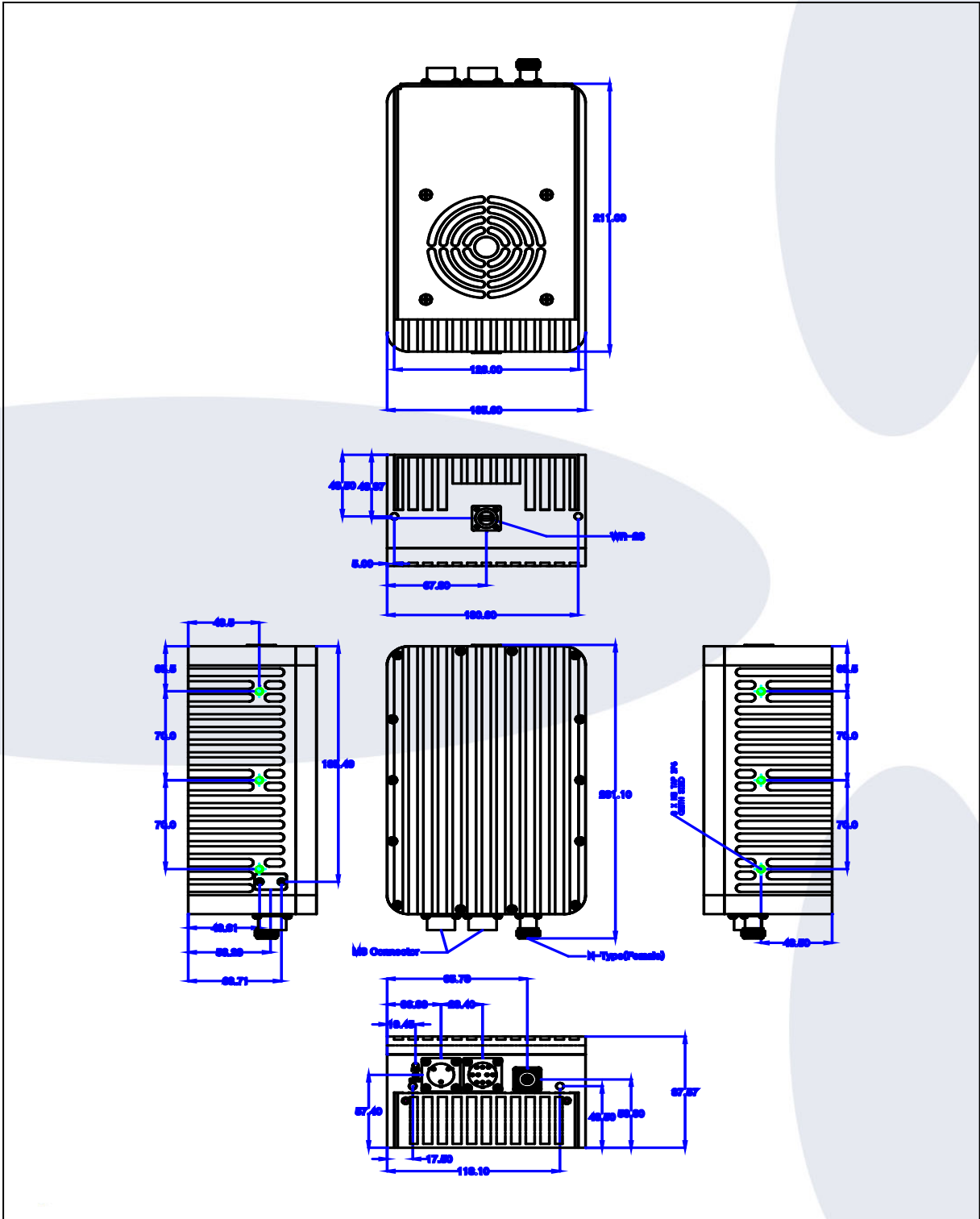
Mechanical Outline (GMU290310B01-10W)



The specification subject to change without notice.

Ka-Band 10W/20W Block Up Converters

Mechanical Outline (GMU290310B01-20W)



The specification subject to change without notice.

X-Band 6W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

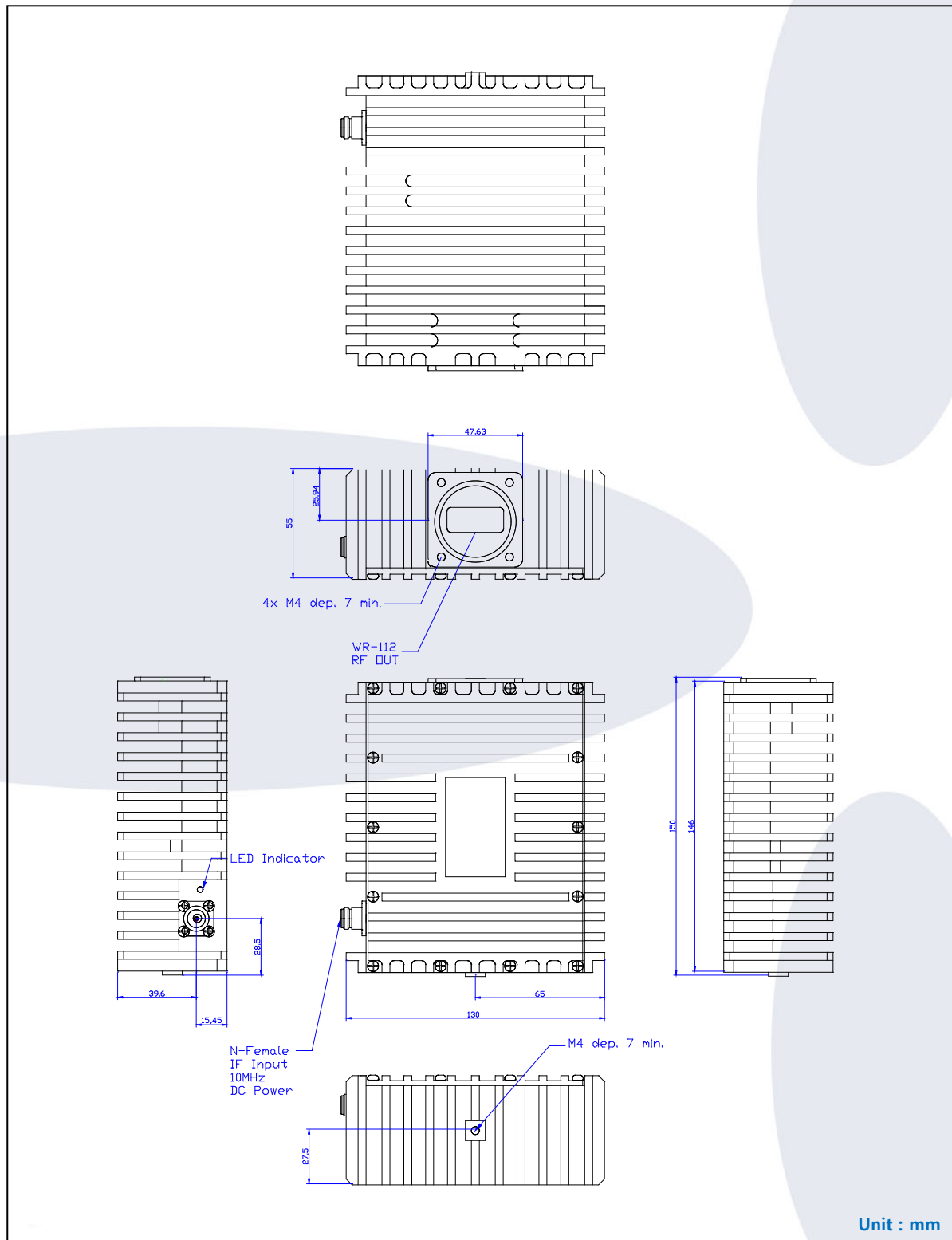
- 37.8dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (45W max.)
- Small Size & Light Weight
- Wide DC Input Range 18~60VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU079084B01
RF Frequency	7.9~8.4GHz
IF Frequency	950~1450MHz
LO Frequency	6.95GHz
Saturated Output Power	37.8dBm min.
Gain	60dB min.
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth
Gain Variation over Temperature	4 dBp-p max.
IMD3	-26dBc max. @total power $\leq$ 34.8dBm
Spurious	
In Band	-60 dBc
Out of Band	-50 dBc
Input VSWR	2 : 1 max.
Output Load VSWR	2 : 1 max.
Phase Noise	-66 dBc/Hz @ 100Hz -76 dBc/Hz @ 1KHz -86 dBc/Hz @ 10KHz -96 dBc/Hz @ 100KHz -106 dBc/Hz @ 1MHz
DC Power	18~36VDC, 40W typ. / 45W max.
Functions	Shut off Output Power in case of LO unlocked
LED Indicator	Green : LO Locked Red : LO Unlocked
Dimension (DC model)	150x130x55 mm max.
Weight	1.5kg max.
Temperature Range	Operation : -40°C to +55°C Storage : -40°C to +75°C

The specification subject to change without notice.

X-Band 6W Block Up Converters

Mechanical Outline



The specification subject to change without notice.

X-Band 15W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

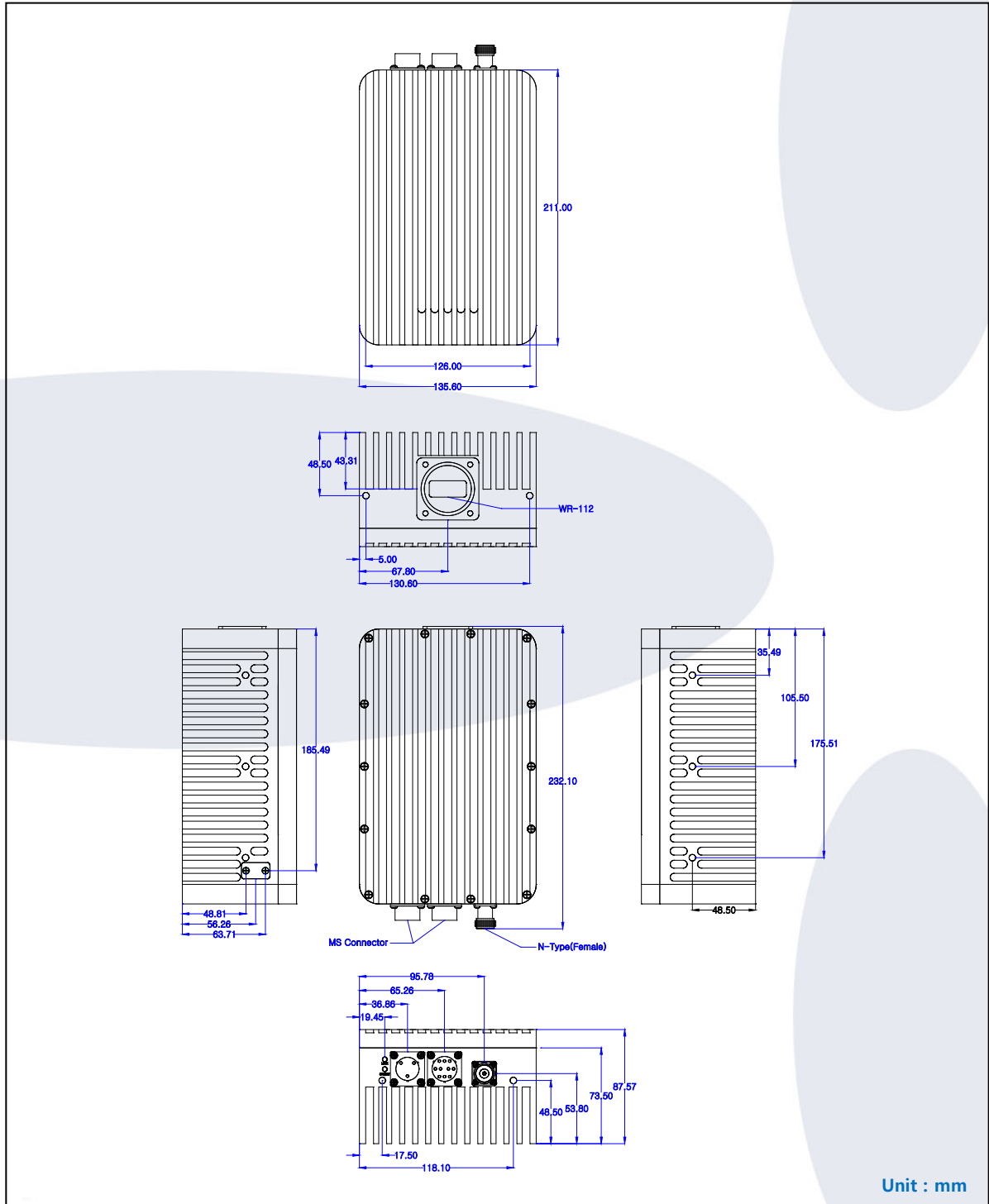
- 41.8dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU079084B01-15W	
RF Frequency	7.9 ~ 8.4GHz	
IF Frequency	950~1450MHz	
LO Frequency	6.95GHz	
Saturated Output Power (min)	41.8dBm	
Gain (min)	65dB	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @3dB total power back off from rated output power	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input VSWR	2:1 max.	
Output Load VSWR	2 : 1 max.	
Phase Noise	-66 dBc/Hz @ 100Hz	
	-76 dBc/Hz @ 1KHz	
	-86 dBc/Hz @ 10KHz	
	-96 dBc/Hz @ 100KHz	
	-106 dBc/Hz @ 1MHz	
DC Power	+36~+70VDC	
Power Consumption(max)	120W	
M&C (Optional)	Monitor : Output power, Lock Status, Temperature	
	Control : Attenuator, Mute, LO selection	
	Interface : RS-232/RS-422	
Dimension (DC model)	233 x 140 x 88 mm	
Weight	3.5kg max.	
Temperature Range	Operation : -40 to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

X-Band 15W Block Up Converters

Mechanical Outline (GMU137145Bxx)



The specification subject to change without notice.

C-Band 5W/2W BUC (Block Up Converter)



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

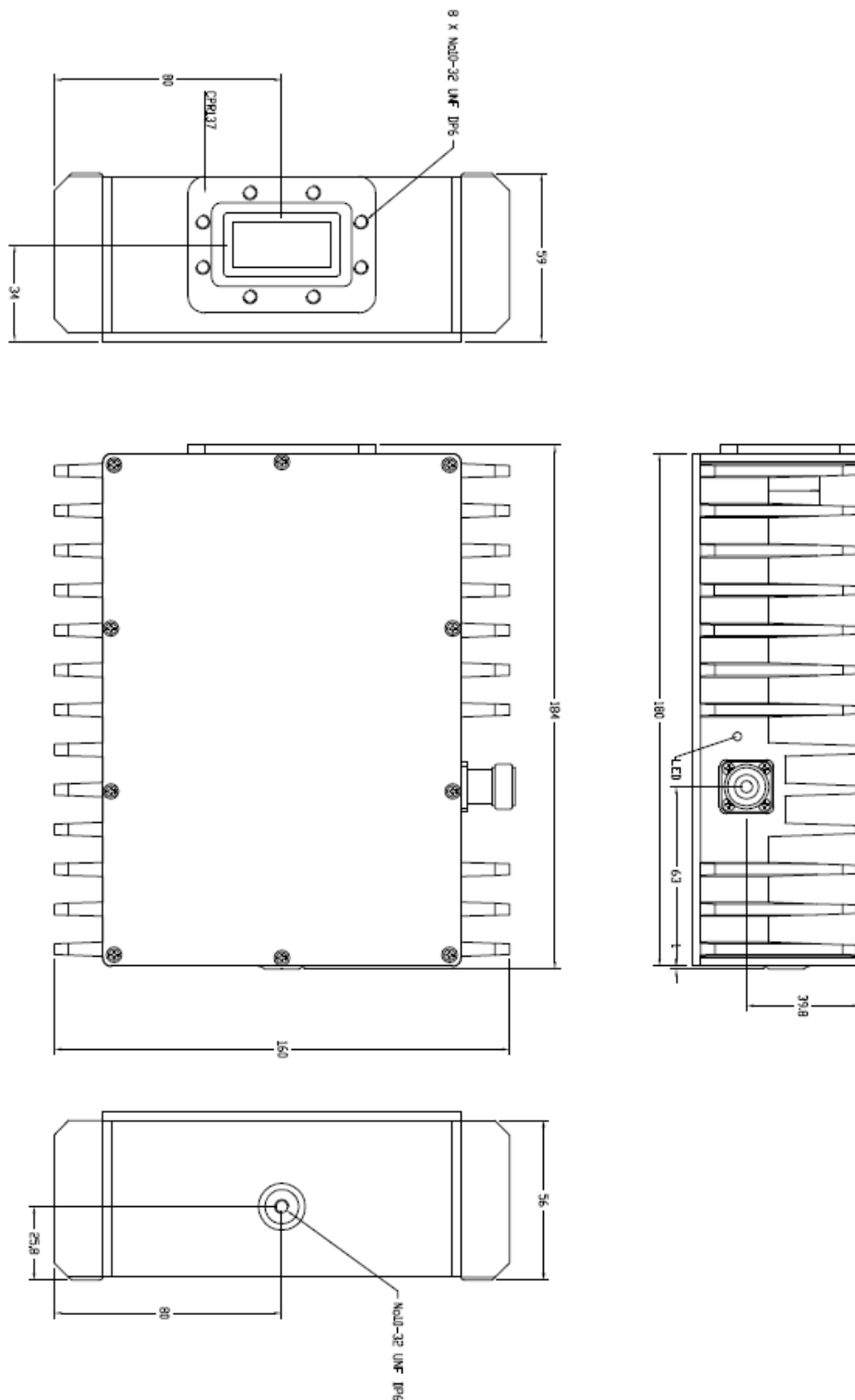
- Compact Size and Light Weight
- Non-Inverter Type
- Various Options for Interface
- LED Indicator

Specification

Model Number	GMU058066B01 / GMU058066B02 C-Band 5W / C-band 2W
RF Frequency	5.85 to 6.65 GHz
IF Frequency	950 to 1750 MHz
LO	4.9 GHz
Tx rated power (P1dB)	5W (37dBm) / 2W (33dBm)
Gain & Gain Variation	57dB typ. $\pm$ 2 dB / 53dB typ. $\pm$ 2 dB
Gain Flatness	$\pm$ 1.0 dB max. @ any 40 MHz
	$\pm$ 2.0 dB max. @ over full band
Input / Output VSWR	2:1
External Ref. (10MHz)	-5 to +5 dBm -120 dBc/Hz max. @ 100 Hz -130 dBc/Hz max. @ 1kHz -140 dBc/Hz max. @ 10kHz -150 dBc/Hz max. @100kHz
Phase Noise (SSB)	-60 dBc/Hz @ 100Hz -70 dBc/Hz @ 1KHz -80dBc/Hz @ 10KHz -90 dBc/Hz @ 100KHz
Receive Band Noise Density	-87dBm/4kHz max.
In-band Spurious	-50dBc min.
TX Shutdown	When PLL unlocked and/or Over Temperature (>+85°C)
LED Indicator	GREEN: LO locked, RED: LO unlocked and/or Over temperature (>+85°C)
DC Power	15 to 24V, 48W max. / 15 to 24V, 32W max
Physical Interface	CPR-137G(RF Output), N-female(RF Input)/F-female(option)
Dimension	184(L) X 160(W) X 59(H) mm
Weight	1.94 Kg max.
Temperature Range	Operation : -40°C to +55°C
	Storage : -45°C to +80°C

The specification subject to change without notice.

C-Band 5W/2W BUC (Block Up Converter)



The specification subject to change without notice.

C-Band 10W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

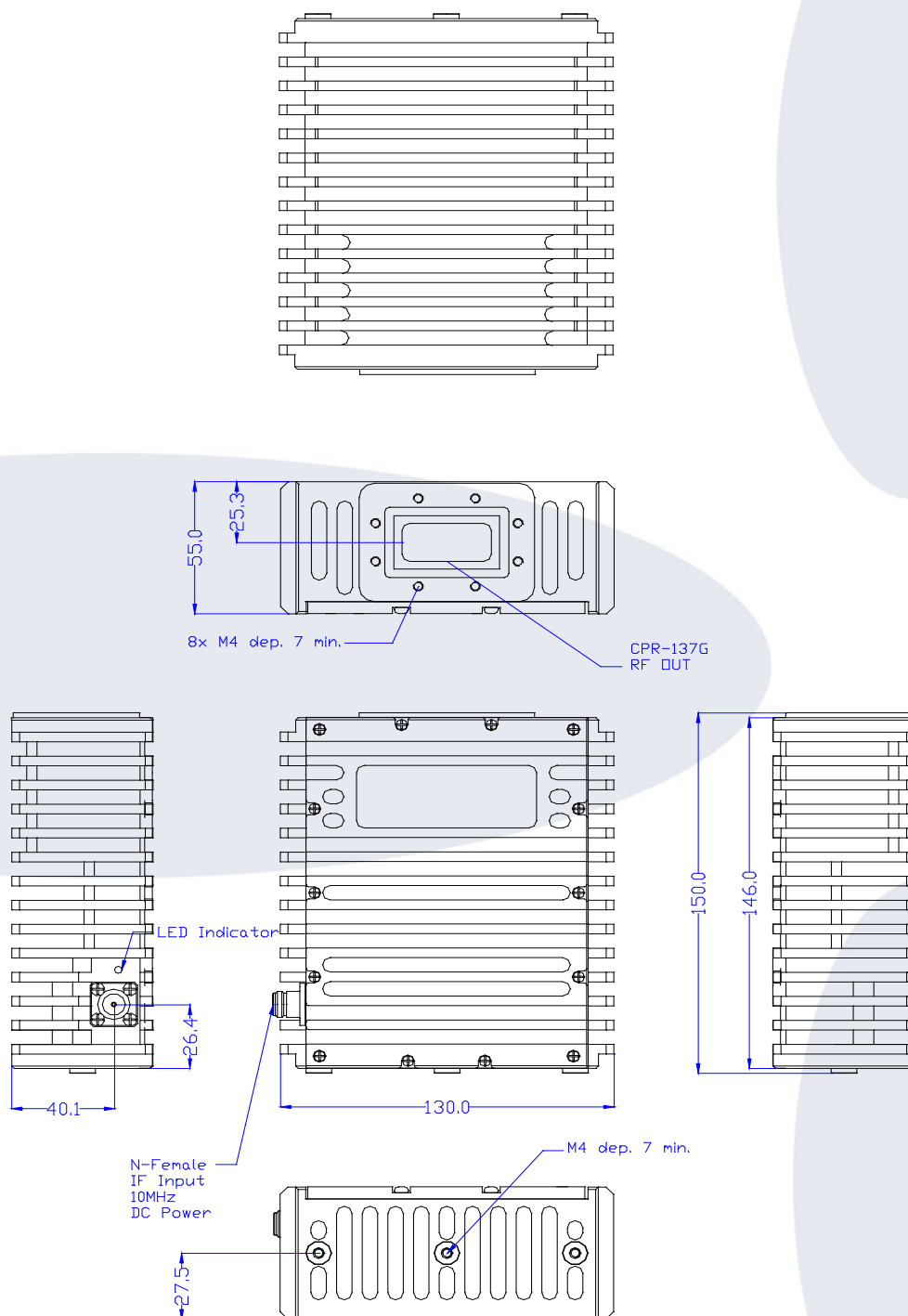
- 40dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (70W max.)
- Small Size & Light Weight
- Wide DC Input Range 18~60VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU058064B01	GMU064067B01	GMU067070B01
RF Frequency	5.85~6.425GHz	6.425-6.725GHz	6.725~7.025GHz
IF Frequency	950~1525MHz	1150-1450MHz	965~1265MHz
LO Frequency	4.9GHz	5.275GHz	5.76GHz
Output Power	40dBm min.		
Gain	60dB min.		
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth		
Gain Variation over Temperature	4 dBp-p max.		
IMD3	-26dBc max. @3dB total power back off from rated output power		
Spurious			
In Band	-60 dBc		
Out of Band	-50 dBc		
Input VSWR	2 : 1 max.		
Output Load VSWR	2 : 1 max.		
Phase Noise	-66 dBc/Hz @ 100Hz		
	-76 dBc/Hz @ 1KHz		
	-86 dBc/Hz @ 10KHz		
	-96 dBc/Hz @ 100KHz		
	-106 dBc/Hz @ 1MHz		
DC Power	18~36VDC, 75W typ. / 80W max.		
Functions	Shut off Output Power in case of LO unlocked		
LED Indicator	Green : LO Locked		
	Red : LO Unlocked		
Dimension (DC model)	150x130x55 mm max.		
Weight	1.5kg max.		
Temperature Range	Operation : -40°C to +55°C		
	Storage : -40°C to +75°C		

The specification subject to change without notice.

C-Band 10W Block Up Converters

Mechanical Outline



Unit : mm

The specification subject to change without notice.

C-Band 20W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

Features

- 43dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (180W max.)
- Small Size & Light Weight
- Wide DC Input Range +36~70VDC (Optional)
- Internal Reference / M&C Function (Optional)

Model	GMU058064B02	GMU064067B02	GMU067070B02
RF Frequency	5.850- 6.425 GHz	6.425-6.725GHz	6.725-7.025GHz
IF Frequency	950-1525MHz	1150-1450MHz	965-1265MHz
LO Frequency	4.9GHz	5.275GHz	5.76GHz
Output Power (min)	43dBm		
Gain (min)	65dB		
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth		
Gain Variation over Temperature	4 dBp-p max.		
IMD3	-26dBc max. @3dB total power back off from rated output power		
Spurious	In Band	-60 dBc	
	Out of Band	-50 dBc	
Input VSWR	2 :1 max.		
Output Load VSWR	2 :1 max.		
Phase Noise	-66 dBc/Hz @ 100Hz		
	-76 dBc/Hz @ 1KHz		
	-86 dBc/Hz @ 10KHz		
	-96 dBc/Hz @ 100KHz		
	-106 dBc/Hz @ 1MHz		
DC Power	+36~+70VDC		
Power Consumption(max)	180W		
M&C (Optional)	Monitor : Output power, Lock Status, Temperature		
	Control : Attenuator, Mute, LO selection		
	Interface : RS-232/RS-485		
Dimension (DC model)	233 x 140 x 88 mm		
Weight	3.5kg max.		
Temperature Range	Operation : -40°C to +55°C		
	Storage : -40°C to +75°C		

The specification subject to change without notice.

C-Band 40W Block Up Converters



Applications

- High power BUCs for VSAT
- SatCom Applications

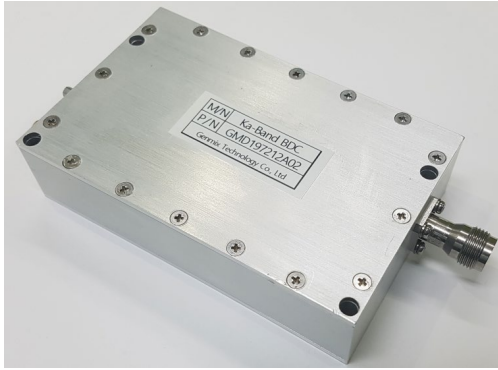
Features

- 46dBm min. Output Power
- Very Low Power Consumption
- Small Size & Light Weight
- M&C Function (Optional)
- External Ref. 10MHz over IFL
- RoHS compliant

Model	GMU058067B03-40WD2EN1	
RF Frequency	5.85~6.725GHz	
IF Frequency	950~1825MHz	
LO Frequency	4.9GHz	
Output Power (min)	46dBm	
Gain (min)	66dB	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @3dB total power back off from rated output power	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input VSWR (In/Out)	2:1 max. / 2:1 max.	
Phase Noise	-63 dBc/Hz @ 100Hz	
	-73 dBc/Hz @ 1KHz	
	-83 dBc/Hz @ 10KHz	
	-93 dBc/Hz @ 100KHz	
	-103 dBc/Hz @ 1MHz	
DC Power	+36~+70VDC (AC Optional)	
Power Consumption(max)	220W	
M&C (Optional)	Monitor : Output power, Lock Status, Temperature	
	Control : Attenuator, Mute, LO selection	
	Interface : RS-232/RS-485	
Physical Interface		
RF	CPR137G	
DC	N-type (female)	
Dimension (DC model) / Weight	233 x 140 x 88 mm / 3.5kg max.	
Temperature Range	Operation : -40 to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

Ka-Band Block Down Converter



Applications

- High power BDC for VSAT
- SatCom Applications

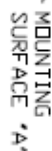
Features

- 19.7~21.1GHz RF Frequency
- Based on GaN Technology
- Low Phase Noise
- Compact Size & Light Weight
- High Reliability & Stability

Model	GMD197212A02
RF Frequency	19.7~21.1GHz
IF Frequency	950~1950MHz
LO Frequency	18.75GHz (19.7~20.2GHz) 19.25GHz (20.2~21.2GHz)
Noise Figure	4.0dB max. @ 25°C 4.5dB max. @ 70°C
RF-to-IF Gain	23dB min. 27dB max.
Gain Variation over Frequency	0.4 dB p-p over @ any 10MHz 1.4 dB p-p over @ any 120MHz 1.9 dB p-p over @ any 1GHz
Gain Variation over Temperature	2.5 dB p-p max.
IMD3	-45 dBc min. (two in-band carriers at -50 dBm input power each)
Spurious	Less than -88 dBm (950~2150MHz @ IF output when the RF input is terminated with 50 ohms) Less than -30 dBc (950~2150MHz with a <-25dBm CW signal applied at the RF input)
Input/Output VSWR	1.5 : 1 max.
Phase Noise (Input/Output)	-100/-32 dBc/Hz @ 10Hz
	-130/-62 dBc/Hz @ 100Hz
	-150/-72 dBc/Hz @ 1KHz
	-155/-82 dBc/Hz @ >10KHz
LO Leakage	-60dBm max. @ IF Output
Input Reference Power	-2dBm ~ +5dBm
Supply Voltage / Current	+11.5 VDC $\pm$ 1VDC / 550mA max. (Steady-state), 800mA max. (Surge)
Weight	1lb max.
Temperature Range	Operation : -45°C to +70°C
	Storage : -55°C to +85°C

The specification subject to change without notice.

Mechanical Outline



Ku-Band 200W SSPA



Applications

- SatCom On-the-Move, Micro Flyaway Systems, VSATs, SNG and antenna-mount applications

Features

- Full range of output Power of 200W
- Weatherproof construction
- Based on GaN Technology for Compact & Light Weight

Options

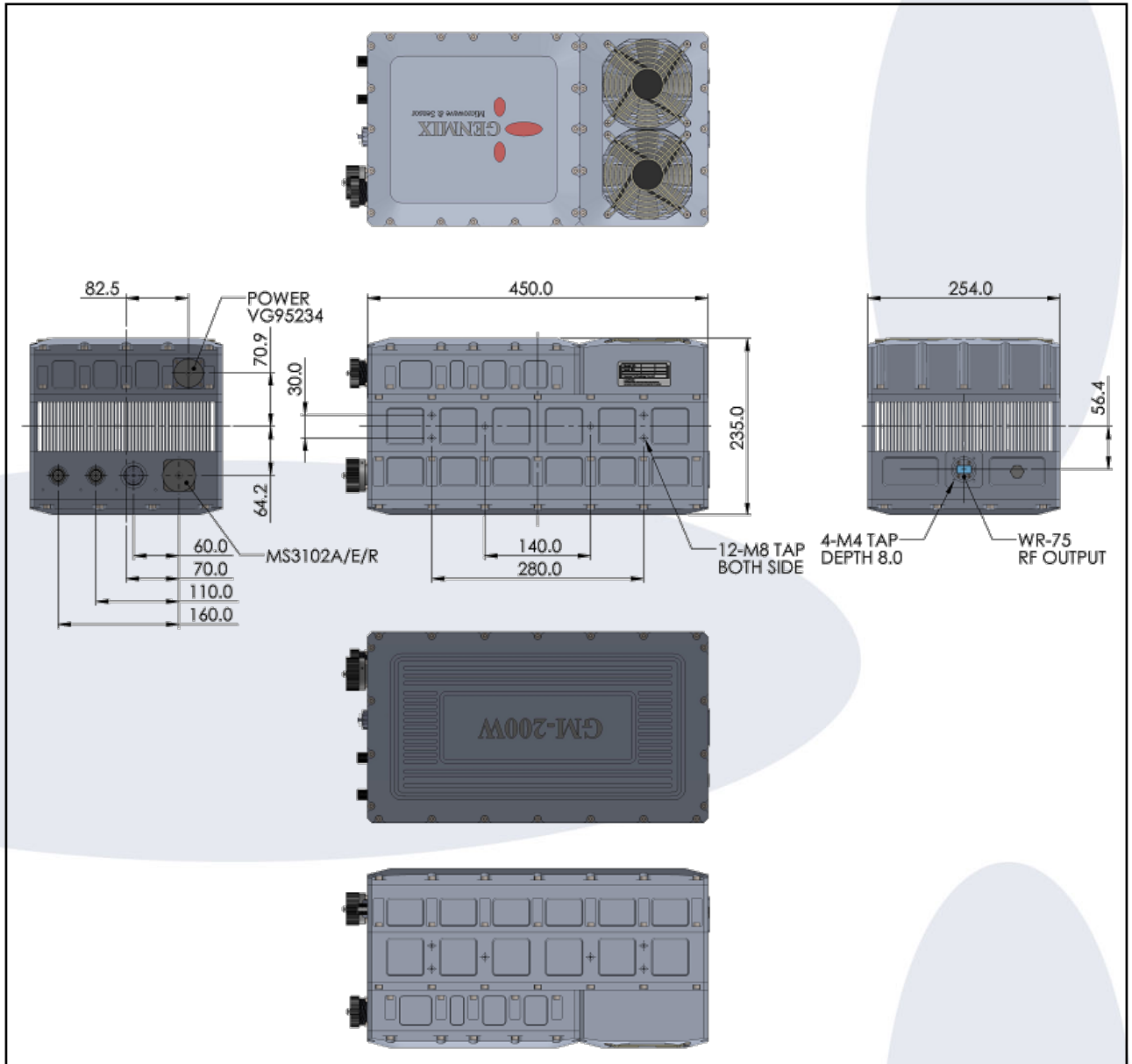
- L-band to Ku-band BUC
- 1:1 redundant switching

Parameter	Model GMA1401450B31 SSPA	Model GMA137145B32 SSPA
Output Frequency	14.0 to 14.5 GHz (Standard)	13.75 to 14.5 GHz (Extended)
Output Power (min.) (PSAT, CW) (Plin, CW)	200 watts (53.0 dBm) typical 100 watts (50.0 dBm) min.	
L-Band Input (BUC option only)	L-band to Ku-band block upconverter, with multiplexed 10 MHz reference Multi-band BUC: 500MHz or 1GHz within Ku-band	
Gain	60 dB min. at small signal	
Gain Stability Over temp, constant drive Over 24 hours, fixed temp Over 40 MHz Over 500 MHz	±1.5 dB max. ±0.25 dB max. ±0.5 dB max. ±2.0 dB max.	
Gain Adjustment Range	20 dB min.	
Gain Variation over Temperature	±2.0 dB max.	
Input VSWR	1.5:1 max.	
Output VSWR	1.5:1 max.	
AM/PM Conversion	< 2.5°/dB max. @ 3dB Back-off at rated Psat power	
Harmonic	-60 dBc max. @ Plin power	
Spurious	-60 dBc max. @ Plin power	
Noise Power Density	<-70 dBW/4 kHz @ TX Band	
AC Input Voltage	90-265 VAC (47-63 Hz)	
Power Consumption	1400 W max. @ Psat	
Operating Temperature	-40°C to +55°C	
Storage Temperature	-55°C to +85°C	
Relative Humidity	100% condensing	
RF Output Connector	WR-75 cover with groove	
Input Connector	N-type female	
M&C Connector	MS-type	
M&C Interface	RS-485 (optional Ethernet interface)	
Dimensions, L x W x H	17.7" x 10.0" x 9.25" (450x254x235mm)	

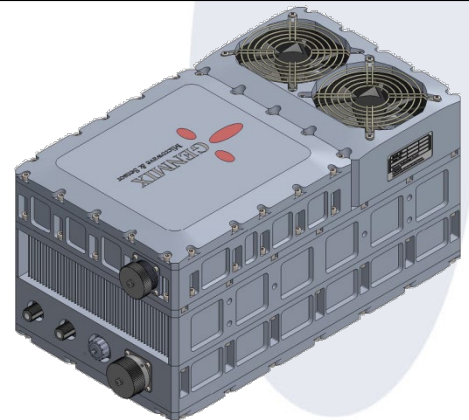
Weight 46.9 lbs (21 kg) typ.

Ku-Band 200W SSPA

Mechanical Outline (AC input model)



The specification subject to change without notice.



Ku-Band 40W SSPA



Applications

- SSPA for VSAT
- SatCom Applications

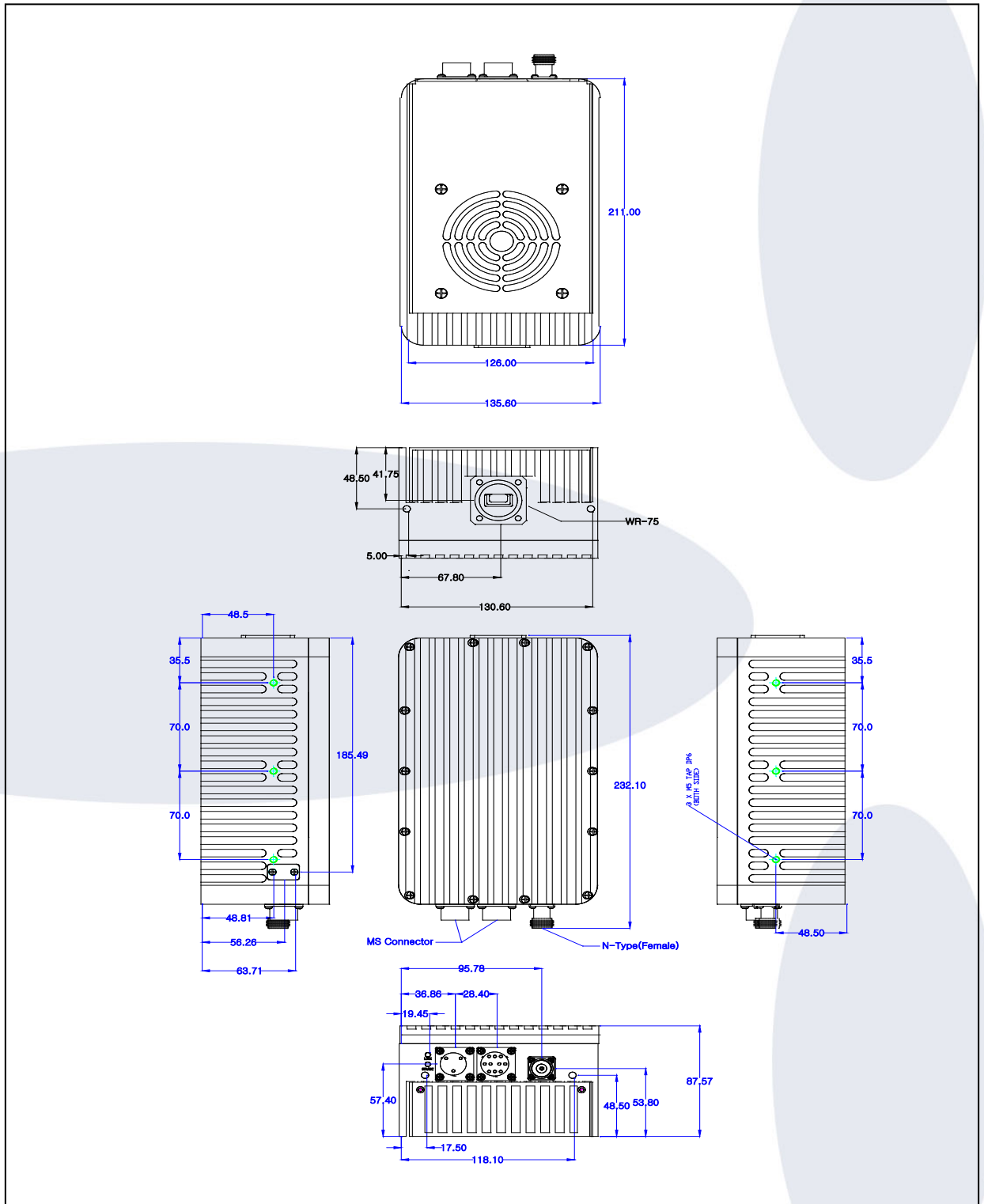
Features

- 46dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- Fan Cooling for 40W model

Model	GMA140145B11	GMA137145B11
Output Frequency	14.0~14.5GHz 13.75~14.5GHz	
Input Frequency	14.0~14.5GHz 13.75~14.5GHz	
Output Power (min)	46dBm	
Gain (min)	45dB	
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth	
Gain Variation over Temperature	4 dBp-p max.	
IMD3	-26dBc max. @3dB total power back off from rated output power	
Spurious	In Band	-60 dBc
	Out of Band	-50 dBc
Input / Output VSWR	2:1 max.	
Attenuation (Option with M&C)	15dB range, 0.5dB step	
DC Input (Via MS 3pins connector)	+36~+70VDC	
Power Consumption(max)	240W	
M&C (Optional, Via MS 10pins connector)	Monitor : Output power, Temperature	
	Control : Attenuator, Mute	
	Protocol : RS-232/RS-485	
Dimension (DC model)	233 x 140 x 88 mm	
Weight	3.2kg max.	
Temperature Range	Operation : -40 to +55°C	
	Storage : -40°C to +75°C	

The specification subject to change without notice.

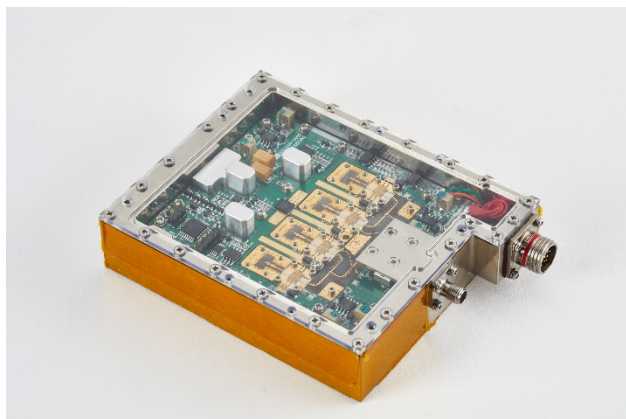
Ku-Band 40W SSPA



Unit : mm

The specification subject to change without notice.

Ka-Band 20W SSPA



Applications

- High power SSPAs for VSAT
- SatCom Applications

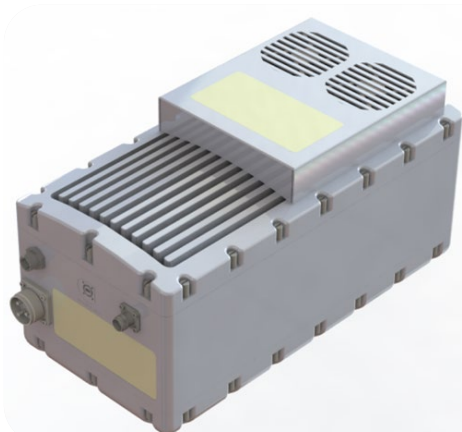
Features

- 43dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption (220W max.)
- Small Size & Light Weight
- DC Input Range 20~24VDC

Model	GMA290310B05
Output Frequency (Via WR-28)	29.0 ~ 31.0GHz
Input Frequency (Via WR-28)	29.0 ~ 31.0GHz
Output Power	43dBm min.
Small Signal Gain	55dB min.
Gain Variation over Frequency	2 dBp-p max. @ any 54 MHz 4 dBp-p max. @ over full bandwidth
Gain Variation over Temperature	4 dBp-p max.
IMD3	-26dBc max. @3dB total power back off from rated output power
Spurious	
In Band	-60 dBc
Out of Band	-50 dBc
Input / Output VSWR	2 : 1 max.
DC Power (Via EMI Feed Thru)	+20VDC, 220W max. +5.5V, 0.1A
Output Mute Function	Open or +5V : Enable Short or 0V : Disable
Dimension	100x130x45 mm max. (Heat sink not included)
Weight	1.4kg max.
Temperature Range	Operation : -40°C to +55°C
	Storage : -40°C to +75°C

The specification subject to change without notice.

Ka-Band 60W/100W SSPA with BUC option



Applications

- Satcom on the Move, Micro Flyaway Systems, VSATs, SNG and antenna-mount applications

Features

- 60/100W min. Output Power
- 3.5GHz bandwidth to support full Ka-band applications
- Based on GaN Technology for Small Size & Light Weight

Options

- L-band to Ka-band BUC
- 1:1 redundant switching

Parameter	Model GMA275310B01 SSPA	Model GMA275310B02 SSPA
Output Frequency	27.5 to 31.0 GHz	
Output Power (min.) (P _{SAT} , CW) (P _{lin} , CW)	100 watts (50.0 dBm) typical 50 watts (47.0 dBm) min.	60 watts (48.0 dBm) typical 30 watts (45.0 dBm) min.
L-Band Input (BUC option only)	L-band to Ka-band block upconverter, with multiplexed 10 MHz reference Multi-band BUC: 500MHz or 1GHz within Ka-band	
Gain	60 dB min. at small signal	
Gain Stability Over temp, constant drive Over 24 hours, fixed temp. Over 40 MHz Over 500 MHz	±1.5 dB max. ±0.25 dB max. ±0.5 dB max. ±2.0 dB max.	
Small Signal Gain Slope	±0.04 dB/MHz max.	
Gain Adjustment Range	20 dB min. (1 dB steps)	
Input VSWR	1.5:1 max.	
Output VSWR	1.5:1 max.	
AM/PM Conversion	< 2.0°/dB max. @ 3dB Back-off at rated Psat power	
Harmonic	-60 dBc max. @ rated power	
Spurious	-60 dBc max. @ rated power	
Noise Power Density	<-70 dBW/4 kHz @ TX Band	
AC Input Voltage	100-264 VAC (47-63 Hz)	
Power Consumption	2000 W max. @ Psat	1400 W max. @ Psat
Ambient Temperature	-40°C to +55°C @ operating	
Relative Humidity	100% condensing	
Altitude	10,000 ft with standard adiabatic derating of 2°C/1000 ft	
Cooling	forced air	
Shock	20 g p-p, 11 msec pulses	
Vibration	3 g rms 30 min, 5-500 Hz	
RF Output Connector	WR28 Waveguide, grooved flange	
Input Connector	2.9 mm female	
M&C Interface	32 pin MS-type (optional Ethernet interface)	
Dimensions, L x W x H	19.7" x 10.0" x 9.0" (500x254x230mm)	17.7" x 8.7" x 9.0" (450x220x230mm)
Weight	50.8 lbs (23 kg) typ.	44 lbs (20 kg) typ.

The specification subject to change without notice.

X-Band 50W SSPA



Applications

- High power SSPA for VSAT
- SatCom Applications

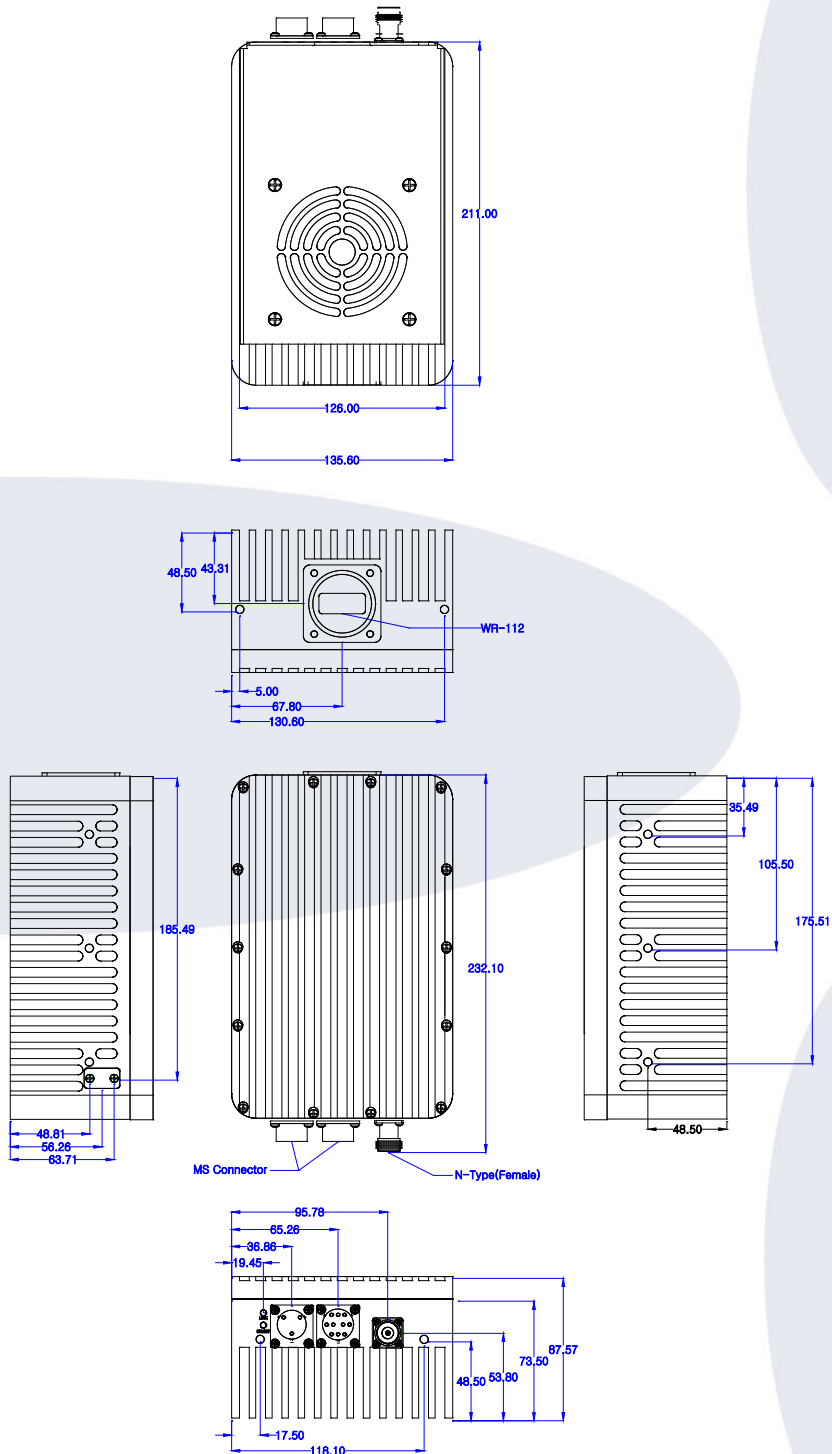
Features

- 47dBm min. Output Power
- Based on GaN Technology
- Very Low Power Consumption
- Small Size & Light Weight
- DC Input Range 36~70VDC (Optional)
- M&C Function (Optional)

Model	GMA070075B01-50W
Output Frequency(Via WR-75)	7.0 ~ 7.5GHz
Input Frequency(Via N-Female)	7.0 ~7.5GHz
Output Power (min)	47dBm
Gain (min)	60dB
Gain Variation over Frequency	1 dBp-p max. @ any 54 MHz 2 dBp-p max. @ over full bandwidth
Gain Variation over Temperature	4 dBp-p max.
IMD3	-26dBc max. @3dB total power back off from rated output power
Spurious	
In Band	-60 dBc
Out of Band	-50 dBc
Input / Output VSWR	2:1 max.
DC Power	+36~+70VDC
Power Consumption(max)	400W
M&C (Optional)	Monitor : Output power, Temperature
	Control : Mute
	Interface : RS-232/RS-422
Dimension (DC model)	233 x 140 x 88 mm (with cooling fan)
Weight	3.5kg max.
Temperature Range	Operation : -40 to +55°C
	Storage : -40°C to +75°C

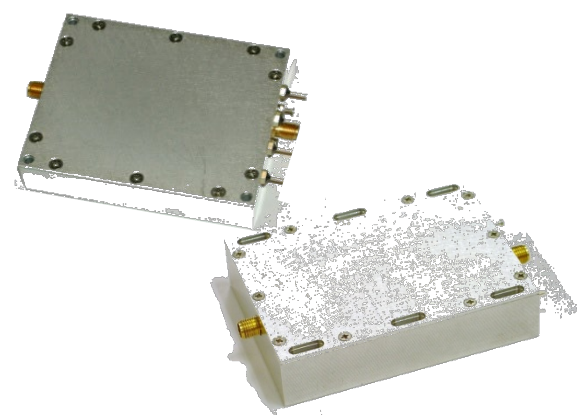
The specification subject to change without notice.

Mechanical Outline (GMA070075B01-50W)



The specification subject to change without notice.

X-Band 8W BUC with SSPA



Applications

- High Power BUC plus SSPA for VSAT
- SatCom Applications

Features

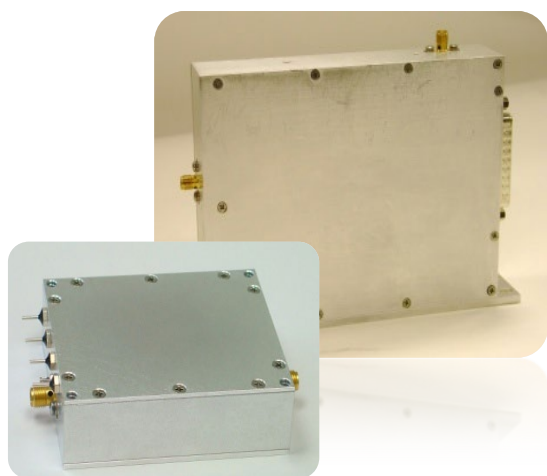
- Compact Size and Light Weight
- Non-Inverter Type
- Various Options for Interface and Control

Specification

RF Frequency	7.9 ~ 8.4 GHz
IF Frequency	950 ~ 1450 MHz
Output P1dB	39 dBm
Gain & Gain Variation	50dB $\pm$ 2 dB (over temp)
Gain Flatness	$\pm$ 1.0 dB max. @ any 40 MHz
	$\pm$ 2.0 dB max. @ over full band
External Ref. (10MHz)	-10~+5 dBm
	-125 dBc/Hz max. @ 100 Hz
	-135 dBc/Hz max. @ 1kHz
	-140 dBc/Hz max. @ 10kHz
Phase Noise (SSB)	-66 dBc/Hz @ 100Hz
	-76 dBc/Hz @ 1KHz
	-86 dBc/Hz @ 10KHz
	-96 dBc/Hz @ 100KHz
DC Power	5A , 12V
M&C (Optional)	30dB Gain Control, Power Detection, Mute, Temperature monitor
Dimension (BUC + SSPA)	185(L) X 63.5(W) X 30.5(H) mm
	7.3(L) X 2.5(W) X 1.2(H) Inch
Weight	1 Kg
Temperature Range	Operation : -30°C to +55°C
	Storage : -40°C to +80°C

The specification subject to change without notice.

Block Up Converters for Driving TWTA



Applications

- VSAT / SatCom Applications
- TWTA Driving
- Test / Simulator

Features

- High Performance with Compact Size
- Low Phase Noise
- Low Power Consumption
- Internal / External 10MHz Reference
- 9-bit Attenuation (Option)
- Operating Temperature -30 ~ +70C
- Optional Temperature Range for Avionics -54 ~ +80C

Specification

Frequency Band	C Band	X Band	Ku Band	K Band	Ka Band
Output Frequency (GHz)	5.75 ~ 6.65 5.8 ~ 6.725	7.900~8.400	12.75 ~ 13.25 13.00 ~ 13.80 13.75 ~ 14.50 14.90 ~ 15.40 13.70 ~ 14.55	17.3~18.1	30.0~31.00
Input Frequency (MHz)	950 to 1850 950 to 1825	950 to 1450	950 to 1700 1000 to 1450 950 to 1750	950 to 1750	1000 to 2000
Output Power (1dB)	0 dBm min	0 dBm min	0 dBm min	0 dBm min	0 dBm min
Gain (dB)	15 dB min	15 dB min	15 dB min	15 dB min	15 dB min
Gain Control (Option)	30dB range 0.125dB step 9-bit				
LO Frequency (GHz)	4.8 4.9	6.95	11.80 12.05 13.05 12.80 13.90	16.35	29
Phase Noise					
@ 1KHz	-82dBc/Hz	-80dBc/Hz	-76dBc/Hz	-75dBc/Hz	-75dBc/Hz
@ 10 KHz	-92dBc/Hz	-90dBc/Hz	-86dBc/Hz	-85dBc/Hz	-85dBc/Hz
@ 100 KHz	-102dBc/Hz	-100dBc/Hz	-96dBc/Hz	-95dBc/Hz	-95dBc/Hz
External Reference	10 MHz	10 MHz	10 MHz	10 MHz	10 MHz
Internal Reference					
Supply Voltage (max)	15 ~24V @500mA	15 ~24V @500mA	15~24V @500mA	15~24V @500mA	15 ~24V @750mA

The specification subject to change without notice.



For the customized specification, price, and delivery ; Contact us

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[Http://www.genmixtech.com](http://www.genmixtech.com)

Ku-Band LNBs (Low Noise Blockconverters)

Applications

- LNBs for Ku-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- External PLL LNB (Option : Internal Reference)
- Compact Size and Light Weight
- Various Options for Interface

Specification

Model No	GMD117125A01	GMD109117A01	GMD117122A01	GMD122127A01	GMD123128A01
Input Frequency	11.7 – 12.5 GHz	10.95 – 11.7 GHz	11.7 – 12.2 GHz	12.2 – 12.7 GHz	12.25 – 12.75 GHz
Output Frequency	950 – 1700 MHz	950 – 1700 MHz	950 – 1450 MHz	950 – 1450 MHz	950 – 1450 MHz
L.O Frequency	10.75 GHz	10.0 GHz	10.75 GHz	11.25 GHz	11.3 GHz
Output P1dB	+3dBm min.				
Conversion Gain	60dB typ.				
Gain Flatness	4dB p-p max.				
Gain Ripple(40MHz)	+/- 0.75dB max.				
Image Rejection	45dBc min.				
Input VSWR	2.5 : 1 max.				
Output VSWR	2.5 : 1 max.				
Output Impedance	50 Ohm (N-type) or 75 Ohm (F-type)				
Noise Figure@+25°C	1.0dB max.				
Phase Noise	-70dBc/Hz @ 1kHz / -80dBc/Hz @ 10kHz / -100dBc/Hz @ 100kHz / -110dBc/Hz @ 1MHz				
L.O Leakage at Input Port	-45dBm max.				
L.O Stability (over temp.)	Same as Ext. Ref. (External Reference) Or +/-300kHz ~ +/-25kHz (Internal Reference : Option)				
Ext . Ref . Input	Through IF output connector				
Power Supply	+12 to +24V DC				
Required Current	300mA max.				
Operating Temp.	-33°C to +60°C				
Storage Temp.	-40°C to +80°C				
Relative Humidity	0% to 95% RH				
Input Interface	WR-75				
Output connector	N or F (Female)				
Size / Weight	111.5 (L) x 60.0 (W) x 40.0 (H) mm / 400g				

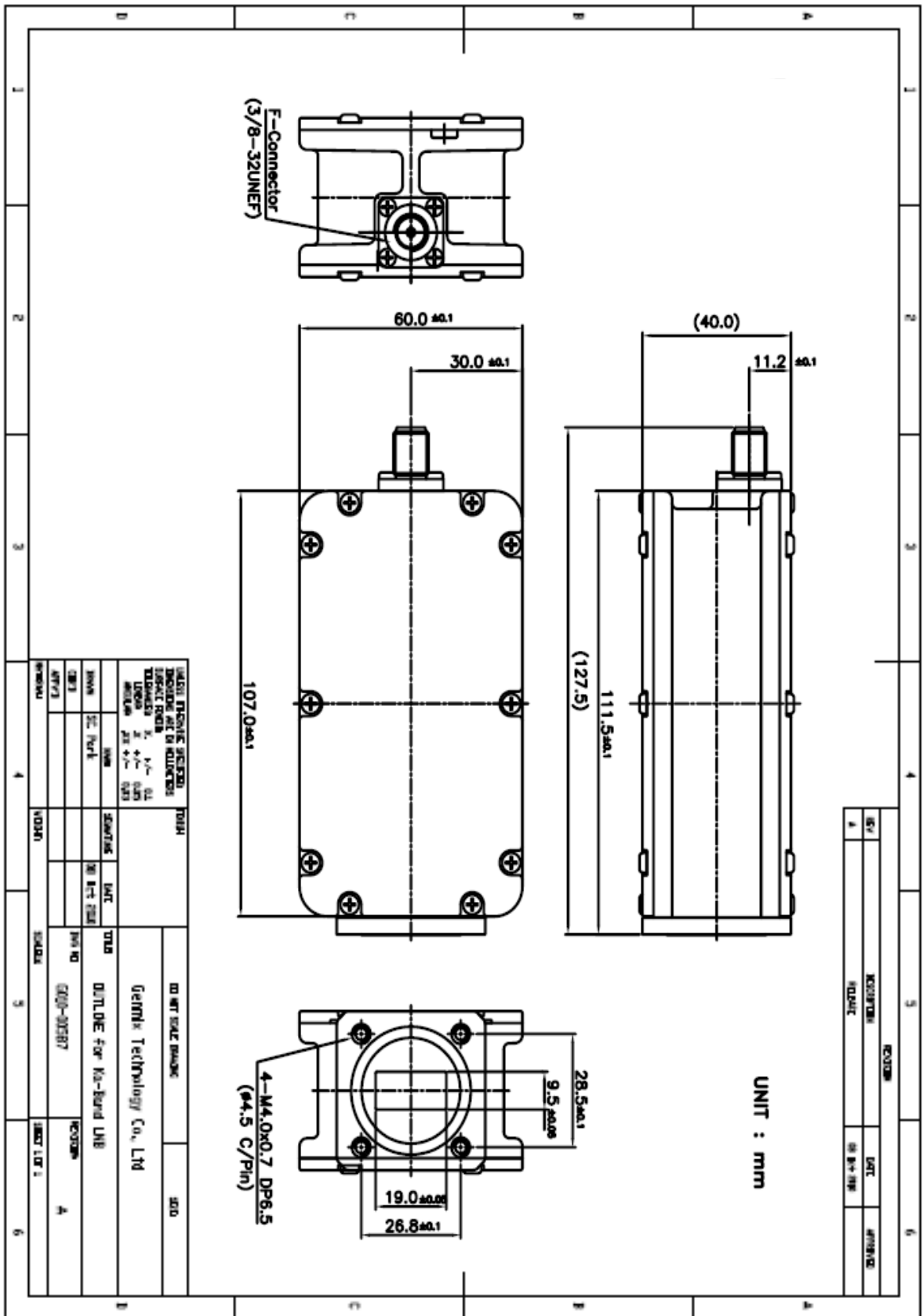
The specification subject to change without notice.

For the customized specification, price, and delivery ; Contact us

#1207, 24, DunChon-Daero, 388Beon-Gil, JungWon-Gu, SeongNam-Si, GyeongGi-Do 13403 Korea
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Ku-Band LNBS (Low Noise Block converters)



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Ku-Band mini PLL LNBS



Applications

- LNBS for Ku-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- External PLL LNB (Option : Internal Reference)
- Very Small Size and Light Weight
- Various Options for Interface
- Multi-band Options

Specification

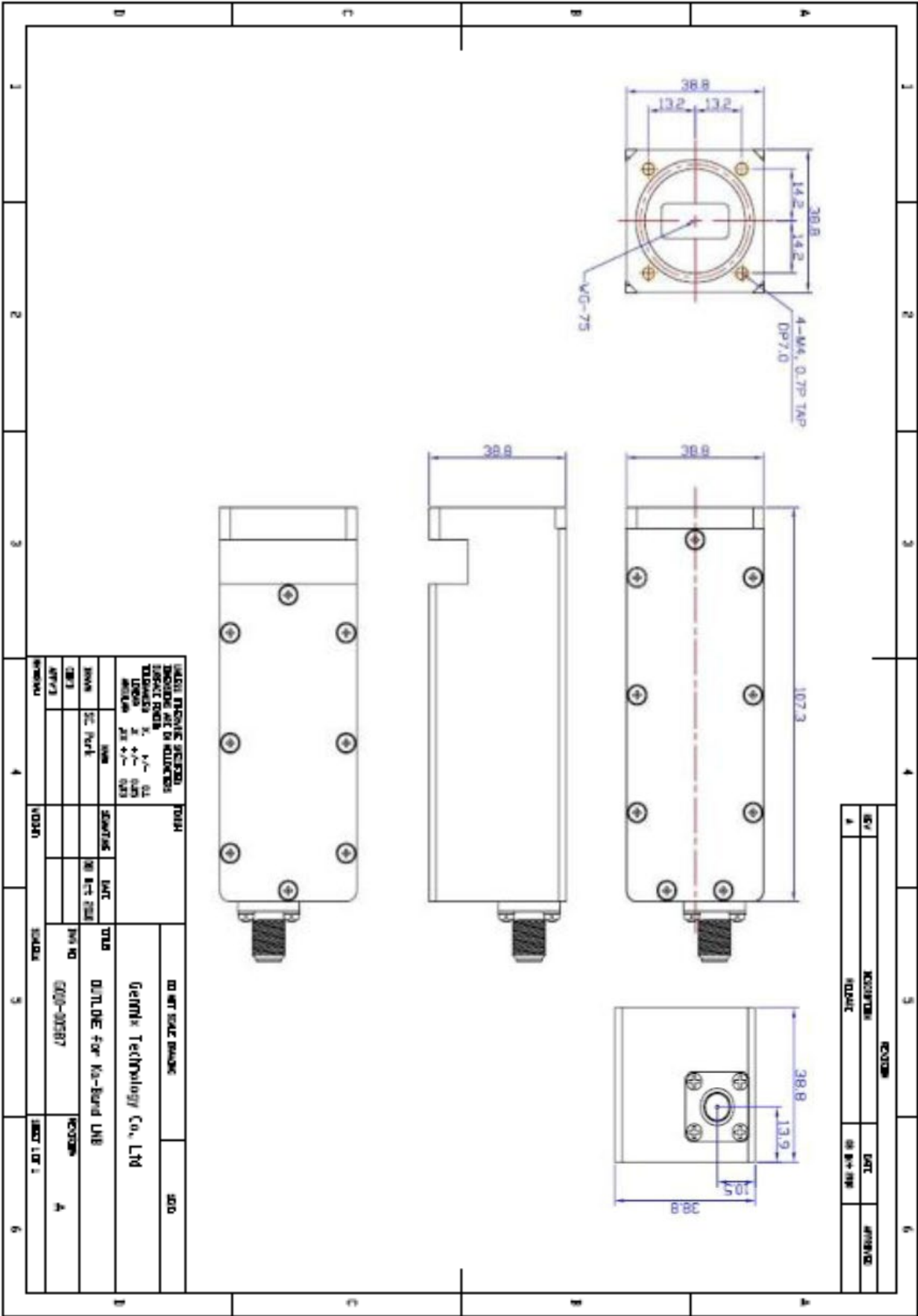
Model No	GMD109117A02	GMD112117A02	GMD117122A02	GMD123128A02
Input Frequency	10.95 – 11.7 GHz	11.2 – 11.7 GHz	11.7 – 12.2 GHz	12.25 – 12.75 GHz
Output Frequency	950 – 1700 MHz	950 – 1450 MHz	950 – 1450 MHz	950 – 1450 MHz
L.O Frequency	10.0 GHz	10.25 GHz	10.75 GHz	11.30 GHz
Output P1dB	+3dBm min.			
Conversion Gain	60dB typ.			
Gain Flatness	5dB p-p max.			
Gain Ripple(30MHz)	+/- 0.5dB max.			
Image Rejection	40dBc min.			
Input VSWR	2.0 : 1 max.			
Output VSWR	2.0 : 1 max.			
Output Impedance	50 Ohm (N-type) or 75 Ohm (F-type)			
Noise Figure@+25°C	0.7dB typ. / 1.0dB max.			
Phase Noise	-75dBc/Hz @ 1kHz / -85dBc/Hz @ 10kHz / -100dBc/Hz @ 100kHz / -120dBc/Hz @ 1MHz			
L.O Leakage at Input Port	-45dBm max.			
L.O Stability (over temp.)	Same as Ext. Ref. (External Reference) Or +/-300kHz ~ +/-25kHz (Internal Reference : Option)			
Ext . Ref . Input	Through IF output connector			
Power Supply	+13 to +24V DC			
Required Current	300mA max.			
Operating Temp.	-30°C to +60°C			
Storage Temp.	-40°C to +80°C			
Relative Humidity	0% to 95% RH			
Input Interface	WR-75			
Output connector	N or F (Female)			
Size / Weight	147.4 (L) x 43.8 (W) x 46.6 (H) mm / 310g			

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For the customized specification, price, and delivery ; Contact us

#1005, Woolim Lions Valley 3rd, 5445 Sangdaewon-dong, Jungwon-gu, Seoungnam-si, Gyeonggi-do 462-819, Korea
TEL : +82-31-713-6105 FAX : +82-31-720-5011 [Http://www.genmixtech.com](http://www.genmixtech.com)

Ku-Band mini PLL LNBS



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Ka-Band LNBs (Low Noise Blockconverters)



Applications

- LNBs for Ka-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- External PLDRO LNB (Option : Internal Reference)
- Compact Size and Light Weight
- Various Options for Interface

Specification

Model No	GMD182188A01	GMD190193A01	GMD192198A01	GMD198202A01	GMD202212A01	GMD214216A01
Input Frequency	18.2 – 18.85 GHz	19.0 – 19.3 GHz	19.2 – 19.85 GHz	19.8 – 20.2 GHz	20.2 – 21.2 GHz	21.4 – 21.621 GHz
Output Frequency	950 – 1600 MHz	950 – 1250 MHz	950 – 1600 MHz	950 – 1350 MHz	950 – 1950 MHz	1150 – 1371 MHz
L.O Frequency	17.25 GHz	18.05 GHz	18.25 GHz	18.85 GHz	19.25 GHz	20.25 GHz
Output P1dB	+5dBm typ.					
Conversion Gain	58dB typ. / 55dB min. / 62dB max.					
Gain Flatness	4dB p-p max.					
Gain Ripple(40MHz)	± 0.75dB max.					
Image Rejection	40dBc min.					
Input VSWR	2.0 : 1 typ. / 2.2 : 1 max.					
Output VSWR	2.0 : 1 typ. / 2.2 : 1 max.					
Output Impedance	50 Ohm (N-type) or 75 Ohm (F-type)					
Noise Figure@+23°C	1.6dB max.					
Phase Noise	-70dBc/Hz @ 1kHz / -80dBc/Hz @ 10kHz / -100dBc/Hz @ 100kHz / -110dBc/Hz @ 1MHz					
L.O Leakage at Input Port	-50dBm max.					
L.O Stability (over temp.)	Same as Ext. Ref. (External Reference) Or ±300kHz ~ ±25kHz (Internal Reference : Option)					
Ext . Ref . Input	Through IF output connector					
Power Supply	+12 to +24V DC					
Required Current	300mA max.					
Operating Temp.	-30°C to +60°C					
Storage Temp.	-40°C to +80°C					
Relative Humidity	0% to 95% RH					
Input Interface	WR-42					
Output connector	N or F (Female)					
Weight	400g					

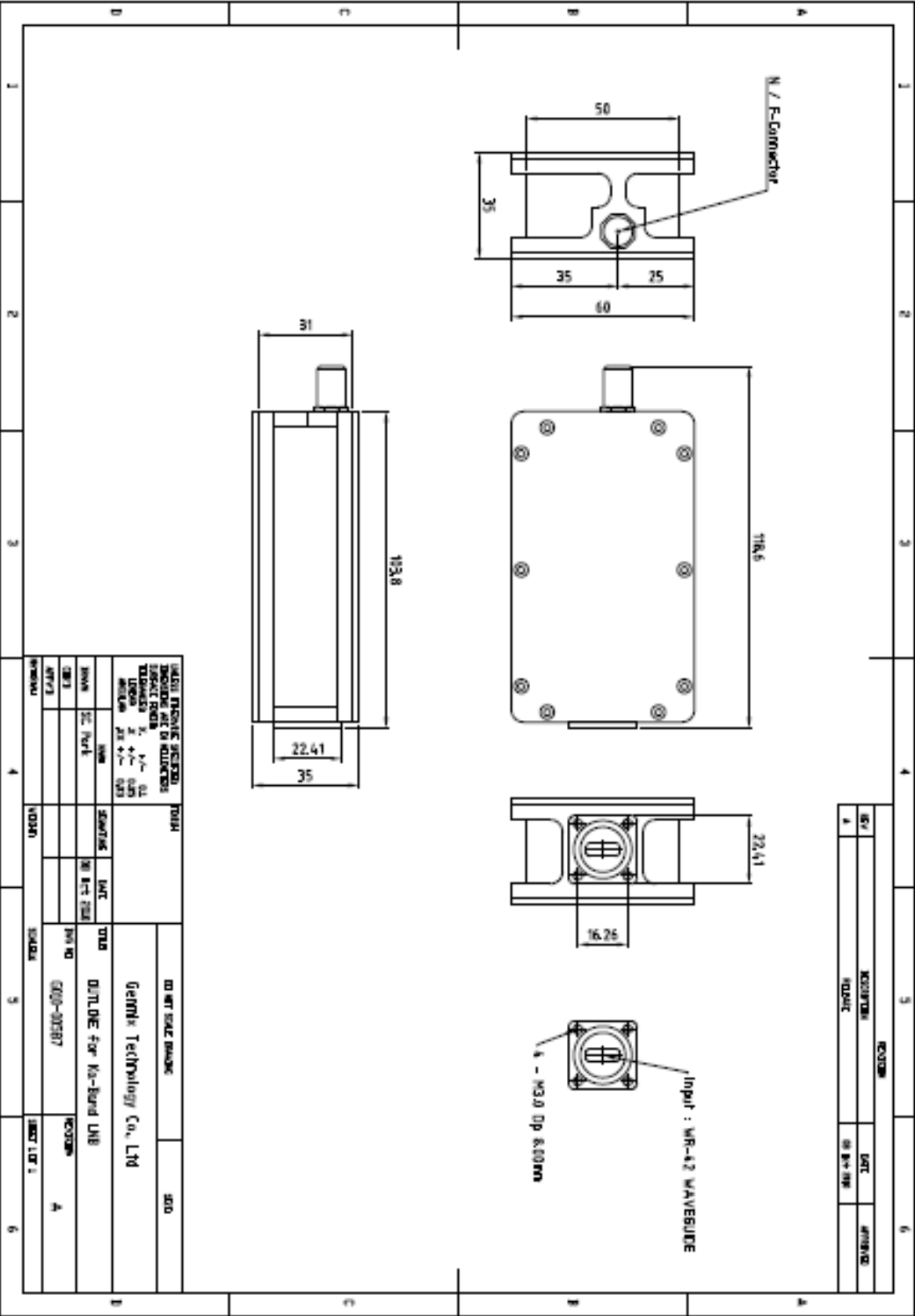
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Ka-Band LNBs (Low Noise Block converters)



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Ka-Band Dual Band LNBs



Applications

- LNBs for Ka-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- Dual Band Operation (2GHz total bandwidth)
- External PLDRO LNB (Option : Internal Reference)
- Compact Size and Light Weight
- Various Options for Interface

Input Frequency		Standard Frequencies or Others available. 19.2 to 20.2GHz and 20.2 to 21.2GHz	
Output Frequency		950 to 1950 MHz Standard or 1000 to 2000 MHz Option	
LO Frequency		Standard Frequencies or Others available.	
Switching Voltage		13V/18V (other voltages optional)	
		Mechanical switch optional	
LO Stability(Internal Ref)		$\pm 10\text{KHz}$, $\pm 25\text{KHz}$, $\pm 50\text{KHz}$	
10 MHz input level(External Ref)		-5 to +5 dBm, multiplexed on to IF output	
Phase Noise		-62 dBc/Hz @ 100 Hz	
		-72 dBc/Hz @ 1 KHz	
		-82 dBc/Hz @ 10 KHz	
		-92 dBc/Hz @ 100 KHz	
LO Leakage (not including isolator)		-60dBm max at waveguide flange.	
Noise Figure (not including isolator)		1.5 dB max @ + 23°C	
Gain		58 dB(typ)	
Gain flatness		4 dB max p-p	
Gain stability		4 dB max p-p	
VSWR	Input	2.2 : 1 max	
	Output	2.0 : 1 max	
Image rejection		40 dB min	
OP1dB		+10 dBm	
IP3		+20 dBm	
Spurious	Signal related	-60 dBc (Pout=0 dBm)	
	Harmonics	-50 dBc (Pout=0 dBm)	
DC current		350 mA (11~26V)	
Input waveuide		WR-42(isolator optional)	
connector	IF Output/DC In/Ref. In or	50 Ω N-female or 75 Ω F-female	
	IF Output/Ref. In	SMA-Female, MS3112E84P (Band Switch/DC In)	
	Band Selection (0V/5V)	0V<Logic 0<2V	3V<Logic 1<5V
Weight(not including isolator)		500g	
Dimensions		114(L)mm x 70(W)mm x 39(H)mm	
Operating Temp.		-40°C ~ +60°C	
Relative Humidity		100%, condensing	

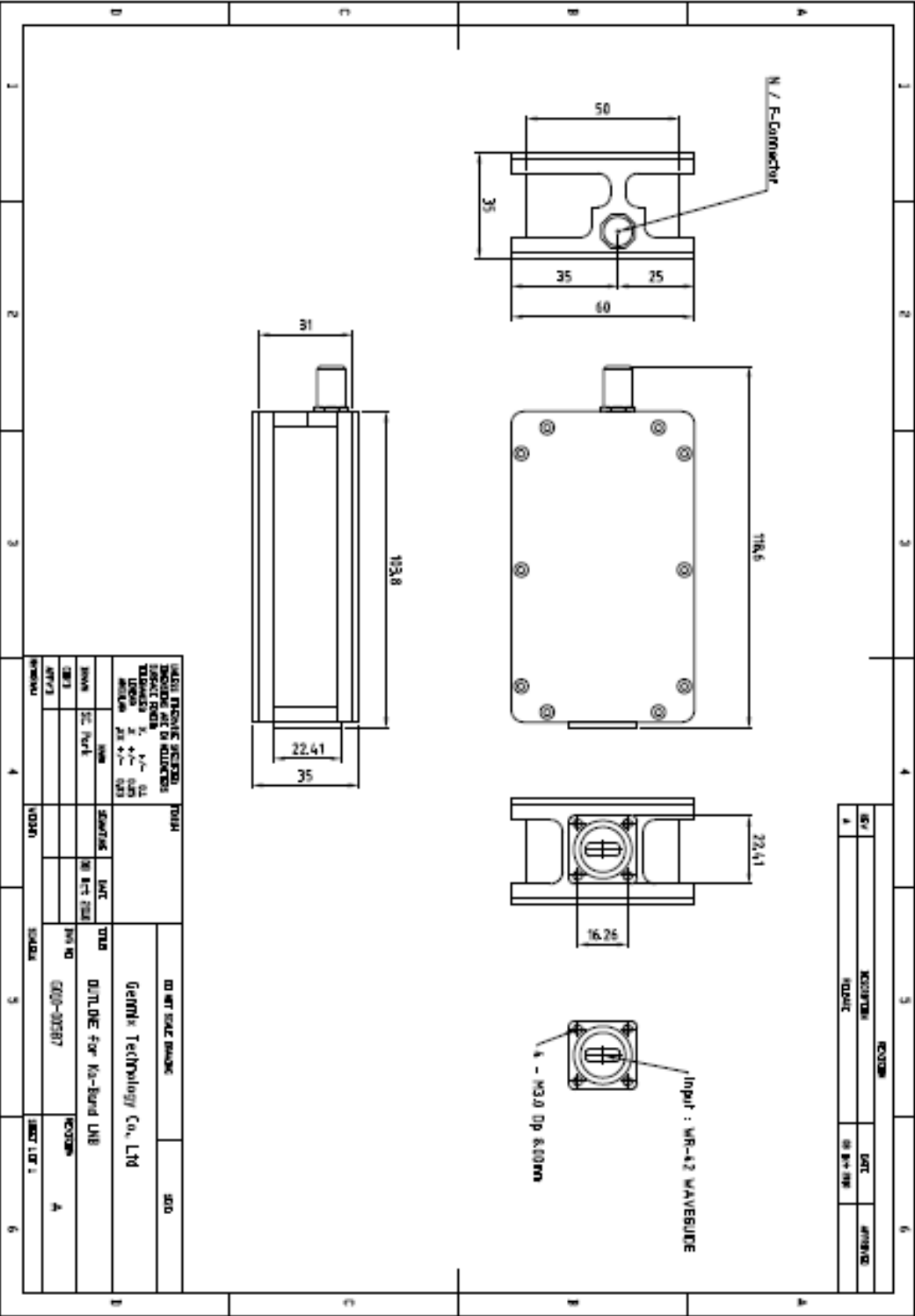
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Ka-Band LNBs (Low Noise Block converters)



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Ka-Band LNB (Low Noise Blockconverter)



Applications

- LNBs for Ka-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- PLDRO LNB (Option : Internal Reference)
- Compact Size and Light Weight
- Various Options for Interface

Specification

Model No	GMD212222A01
Input Frequency	21.2 – 22.2 GHz
Output Frequency	950 – 1950 MHz
L.O Frequency	20.25 GHz
Output P1dB	+5dBm typ.
Conversion Gain	60dB typ. / 55dB min. / 65dB max.
Gain Flatness	45dB p-p max.
Gain Ripple(27MHz)	+/- 0. 5dB max.
Input VSWR	2.0 : 1 typ. / 2.5 : 1 max.
Output VSWR	2.0 : 1 typ. / 2.5 : 1 max.
Output Impedance	50 Ohm (N-type) or 75 Ohm (F-type)
Noise Figure@+23°C	1.6dB typ. / 1.8dB max.
Phase Noise	-70dBc/Hz @ 1kHz / -80dBc/Hz @ 10kHz / -95dBc/Hz @ 100kHz
L.O Leakage at Input Port	-45dBm max.
L.O Stability (over temp.)	Same as Ext. Ref. (External Reference) +/-25kHz (Internal Reference : Option)
Ext . Ref . Input	Through IF output connector (Option)
Power Supply	+12 to +24V DC
Required Current	400mA max.
Operating Temp.	-40°C to +60°C
Storage Temp.	-40°C to +80°C
Relative Humidity	100% Condensing
Input Interface	WR-42
Output connector	N(f) or SMA (F) or F(f) / 50ohm or 75ohm
Size	110.0 x 47.0 x 32.0 mm max.
Weight	300g max.

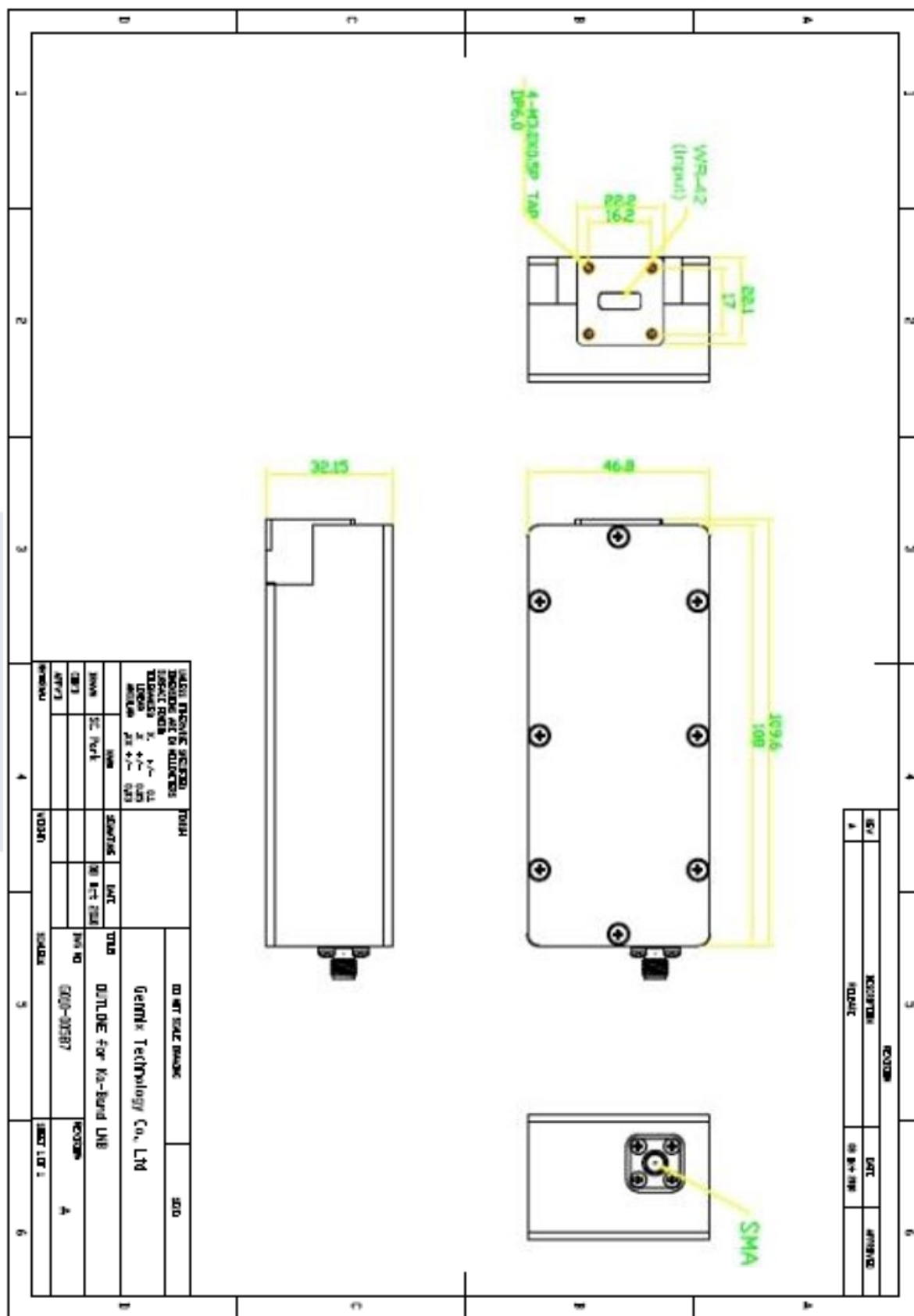
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Ka-Band LNB (Low Noise Block converter)



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C-Band Ext Ref PLL LNB



Applications

- LNBs for C-band VSAT / INSAT band
- SatCom Applications
- Digital Satellite Broadcasting

Features

- External PLL LNB (Option : Internal Reference)
- Compact Size and Light Weight
- Various Options for Interface

Specification

Model No	GMD045048A01
Input Frequency	4.5 – 4.8 GHz
Output Frequency	965 – 1265 MHz
LO Frequency	5.76 GHz
Noise Temperature @+25°C	35°K max.
Conversion Gain	65dB typ. 55dB min. 70dB max
Gain Flatness	4dB p-p max.
Gain Ripple (@ 27MHz bandwidth)	+/- 0.5dB max.
Output P1dB	+3dBm min.
Input VSWR	2.5 : 1 max.
Output VSWR	2.5 : 1 max.
Output Impedance	Standard :75 ohm (F-type) / Option : 50 ohm (N-type)
Image Rejection	45dBc min.
Phase Noise	External reference dependent
LO Leakage at Input Port	-45dBm max.
LO Stability (over temp.)	Phase locked external reference
Ext . Ref . Input	Through IF output connector
Power Supply	+12 to +24V DC
Required Current	250 mA max.
Operating Temp.	-40°C to +60°C
Storage Temp.	-40°C to +80°C
Relative Humidity	0% to 95% RH
Input waveguide flange	WR-229
Output connector	Standard : F-Type female / Option : N-Type female
Size / Weight	See outline drawing / 575g

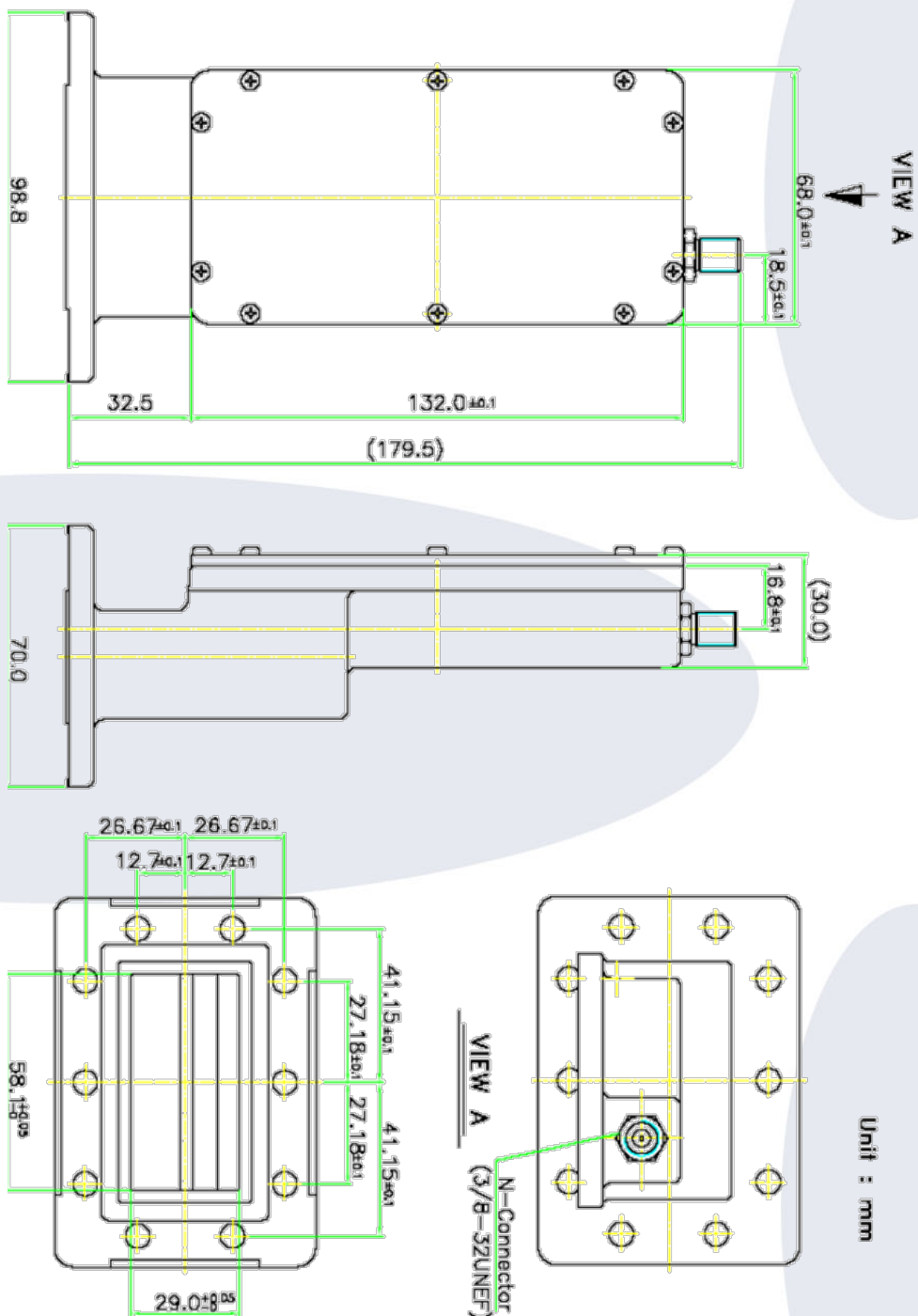
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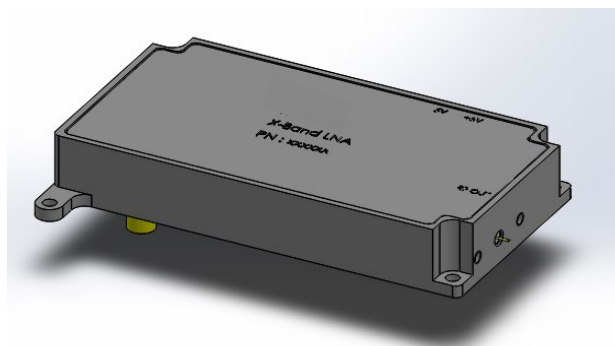
C-Band Ext Ref PLL LNB



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C/X-Band Low Noise Amplifier



Applications

- C-band & X-band SatCom
- Defense / Military Application
- Compact & Light OTM Terminal

Features

- Ultra Low Noise Figure
- Ultra Small Size
- Drop-in Package
- Input Waveguide Probe

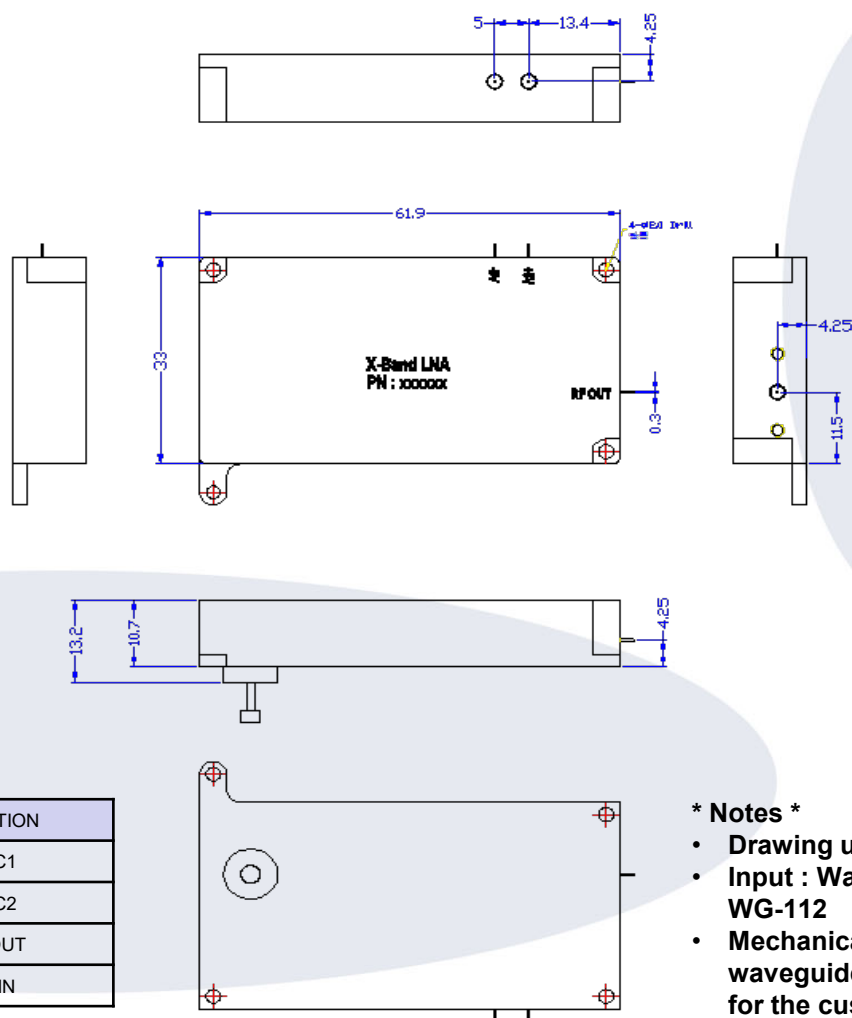
Specification

Parameter	GMA072077A01	Remark
Frequency	7.25 to 7.75GHz	
Noise Figure	0.7dB typ.	
Gain	34dB typ.	
Gain Flatness	+/- 1.0dB	
Gain Variation over Temp.	+/- 1.0dB	
Output P-1dB	10dBm min.	
Input VSWR	2.0:1 max.	
Output VSWR	2.0:1 max.	
Operating Temperature	-35 to +70°C	
Interface : RF DC	Input : Waveguide Probe Output : SMA female Solderable EMI Filter	Mechanical drawing for waveguide can be supported. Optional interfaces available
Size / Weight	66.8 x 47.7 x 30.0 mm	
DC consumption	Vcc1 : +5Vdc @ 60mA Vcc2 : -5Vdc @ 5mA	

The specification subject to change without notice.

C/X-Band Low Noise Amplifier

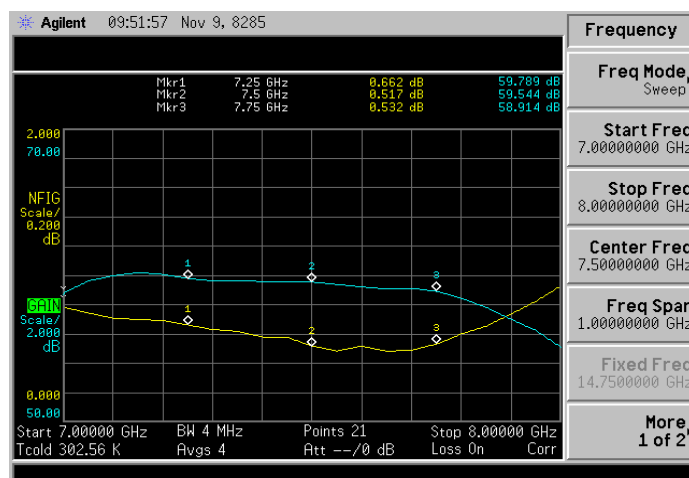
LNA Outline



NO	FUNCTION
1	VCC1
2	VCC2
3	RF OUT
4	RF IN

* Notes *

- Drawing unit : mm
- Input : Waveguide Probe for WG-112
- Mechanical design of input waveguide section is provided for the customers.



The specification subject to change without notice.

S-Band/C-Band Low Noise Amplifiers



Applications

- S-band Radar / Surveillance
- Defense / Military Application
- Test / Simulator

Features

- High Power Handling & Survival
- High Linearity & Fast Recovery
- 0.5dB Step Attenuator

Specification

Parameter	GMA027029A01	GMA044050A01 / GMA034042A01	Remark
Frequency	2.7 to 2.9GHz	4.4 to 5.0GHz / 3.4 to 4.2GHz	
Noise Figure	0.7dB max.	1.0dB max. / 0.8dB max.	Over temperature
Gain	30dB typ.	45dB min.	
Gain Flatness	+/- 1.0dB	+/- 2.0dB	
Gain Variation over Temp.	+/- 1.0dB	+/- 2.0dB	
Output P-1dB	10dBm min.	12dBm min.	
IP3	20dBm min.		
Input VSWR	1.5:1 max.	2.2:1 max.	
Output VSWR	1.5:1 max.	2.2:1 max.	
Operating Temperature	0 to +50°C	-30 to +60°C	
Interface : RF DC	Output : SMA female Output : SMA female Solderable EMI Filter	Input : W/G WR-187 / W/G WR-229 Output : SMA female DC over output connector	Optional interfaces available
Size / Weight	66.8 x 47.7 x 30.0 mm	See page 2 500g max.	
DC consumption	+15Vdc @ 170mA	+12 to 24Vdc @ 150mA	

The specification subject to change without notice.

X-Band LNBS (Low Noise Blockconverters)



Applications

- LNBS for X-band VSAT
- SatCom Applications
- Digital Satellite Broadcasting

Features

- External PLL LNB (Option : Internal Reference)
- Isolator Option for High Stability
- Compact Size and Light Weight
- Various Options for Interface

Specification

Model No	GMD079084A01	GMD079084A02 (Isolator Option)
Input Frequency	7.9 – 8.4 GHz	7.9 – 8.4 GHz
Output Frequency	950 – 1450 MHz	950 – 1450 MHz
L.O Frequency	6.3 GHz	6.3 GHz
Output P1dB	+5dBm min.	+5dBm min.
Output IP3	+15dBm min.	+15dBm min.
Conversion Gain	65dB typ.	65dB typ.
Gain Flatness	4dB p-p max.	4dB p-p max.
Gain Ripple(40MHz)	+/- 0.75dB max.	+/- 0.75dB max.
Image Rejection	60dBc min.	60dBc min.
Input VSWR	2.2 : 1 max.	1.3 : 1 max.
Output VSWR	2.0 : 1 max.	2.0 : 1 max.
Output Impedance	50 Ohm (N-type) or 75 Ohm (F-type)	50 Ohm (N-type) or 75 Ohm (F-type)
Noise Figure@+25°C	0.7dB max.	0.8dB max.
Phase Noise	-75dBc/Hz @ 1kHz / -85dBc/Hz @ 10kHz / -95dBc/Hz @ 100kHz / -105dBc/Hz @ 1MHz	-75dBc/Hz @ 1kHz / -85dBc/Hz @ 10kHz / -95dBc/Hz @ 100kHz / -105dBc/Hz @ 1MHz
L.O Leakage at Input Port	-60dBm max.	-80dBm max.
Ext . Ref . Input	Through IF output connector	Through IF output connector
Power Supply	+12 to +30V DC	+12 to +30V DC
Required Current	280mA typ.	280mA typ.
Operating Temp.	-33°C to +60°C	-33°C to +60°C
Storage Temp.	-40°C to +80°C	-40°C to +80°C
Relative Humidity	0% to 95% RH	0% to 95% RH
Input Interface	WR-112 with groove	WR-112 with groove
Output connector	N or F (Female)	N or F (Female)
Size / Weight	111.5 (L) x 86.5 (W) x 50.4 (H) mm / 500g	151.5 (L) x 86.5 (W) x 50.4 (H) mm / 670g

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Bias-Tee/Multiplexers (VSAT)



Applications

- Satellite IF Band
- DC Power Supply for high power BUC/LNB
- Test Accessory

Features

- 50VDC/6A
- SMA Connector (DC IN, MUX OUT) / N Connector (Option)
- Low Insertion Loss
- Good Isolation
- Compact size

Model. GMV009014A01(Standard: SMA) / GMV009014A02(N option) / GMV009014A03(customized)

Specification

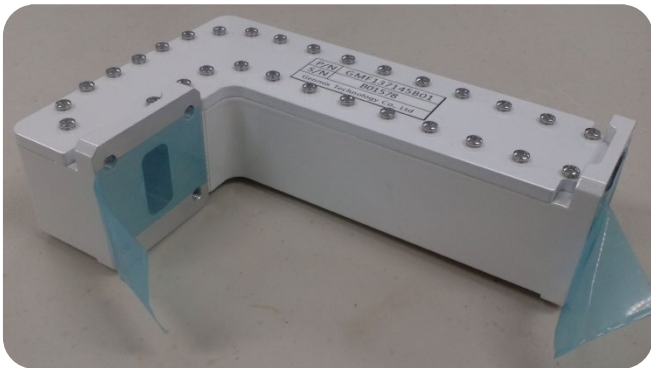
Parameters	Specifications		Condition
DC Input Voltage	Max 50V		
DC Input Current	Max 6A		
RF Input Power	Max 30dBm		
Insertion Loss	RF → MUX Out	Max 0.5dB	950~2150 MHz
	Ref In → MUX Out	Typ 1dB	10 MHz
Isolation	Ref In ↔ MUX Out	Max -30dB	950~2150 MHz
	Ref In ↔ RF In	Max -30dB	
VSWR	RF In	Max 1.5:1	950~2150 MHz
	MUX Out	Max 1.5:1	
Interface (RF In, MUX Out, Ref In)	SMA(F)		Standard : SMA(F) Option : N(F)
Interface (DC)	EMI Feed-thru		
Dimension	45 X 45 X 19 mm		Connectors excluded
Weight	85g typ.		
Operation Temperature	-45°C ~ +85°C		
Storage Temperature	-55°C ~ +100°C		

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Band Pass Filter for Ku band SatCom



Applications

- High Power VSAT/SatCom Applications
- SatCom Drive-away/Fly-away/SNG
- SatCom Portable/OTM Terminal

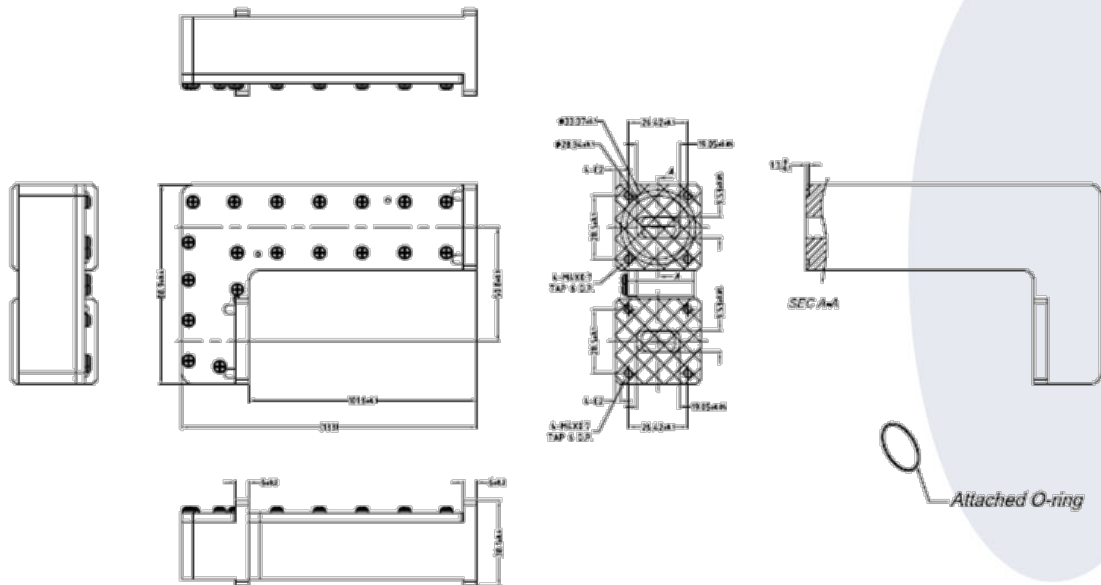
Features

- Robust Design
- Excellent Insertion Loss and Rejection
- High Power Handling

Specification

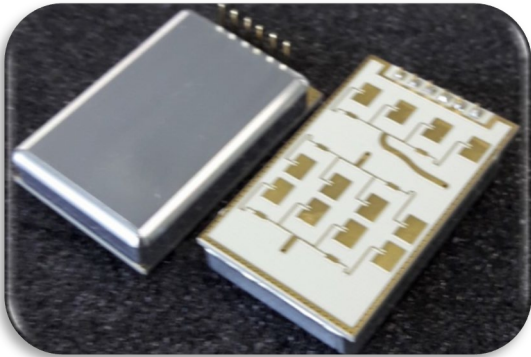
Parameter	Specification
Pass Band	13.75 – 14.5GHz
Insertion Loss	0.25dB
VSWR	1.20:1 max
Rejection Band	10.7 – 12.75GHz
Rejection	65dB min @ 12.75GHz
Handling Power	250W
Material Finish	ASTM B 921 Class 4
Finish	Powder coating, color according with white RAL9003
Sealing	3.5 psi
Weight	500 g

The specification subject to change without notice.



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24GHz Motion Sensor



Applications

- Motion Sensor
- Security / Wireless Fence
- Industry / Automatic Door / Smart Light

Features

- 24GHz 1T2R
- Cost Effective Hybrid Design
- Low Power Consumption

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Specifications	Units
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Oscillator

transmit frequency		f _t	24 - 24.25	GHz
freq@Vtune 0.0V	@25°C	f _{0V}	24.021	GHz
freq@Vtune 5.0V	@25°C	f _{5V}	24.042	GHz
freq@Vtune 10V	@25°C	f _{10V}	24.059	GHz
varactor tuning voltage			0.5 - 10	V
varactor input impedance			10	kΩ
output power (EIRP)	@25°C		12	dBm

Mixer

type			Mono-Mixer	
principle			homodyne	
conversion loss			8	dB

power supply

supply voltage			+5, -3.3	V
supply current			35	mA

Environment

operating temperature			-20 ~ +60	°C
storage temperature			-20 ~ +70	°C

Mechanical Outlines

Outline dimensions	Height	7.7	mm
	Length	40	
	Width	25	

For the customized specification, price, and delivery ; Contact us



#1207, 24, DunChon-Daero, 388Beon-Gil, JungWon-Gu, SeongNam-Si, GyeongGi-Do 13403 Korea
Tel: +82 31 713 6105 Fax: +82 31 720 5011
[Http://www.genmixtech.com](http://www.genmixtech.com)

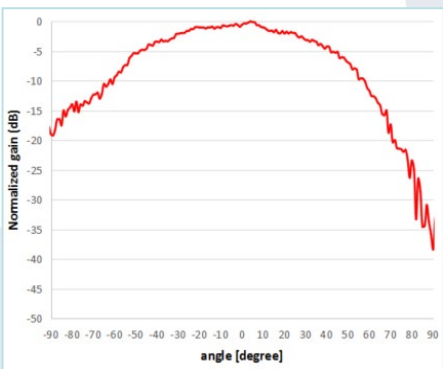
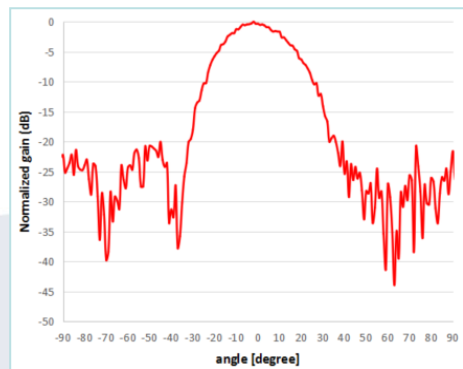
24GHz Motion Sensor

Antenna Performance

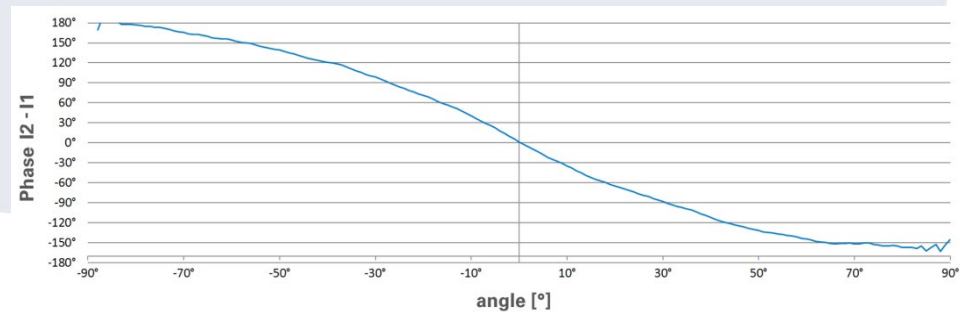
Freq. (GHz)	RL (dB)	Gain (dBi)	BW(E)	BW(A)	SLL (dB)
24.000	21	9.9	27.5	63.3	~ 20
24.125	19.6	8.9	28.3	64.5	~ 20
24.250	18.4	10.3	25.8	62.9	~ 20

Antenna Pattern

Elevation & Azimuth



Azimuth Phase (Reference)



Interface

The sensor provides a 2.54mm grid, single row pin header (square pin 0.635mm)

Pin #	Description	IN / OUT	Comment
1	V_{tune}	Input	Tuning voltage : 0-10V
2	GND	Input	
3	GND	Input	
4	V_{cc} oscillator	Input	Power supply oscillator (positive), 2V
5	Signal I1	Output	Signal In-phase
6	Signal I2	Output	Signal In-phase