



UDC2-3740

mmWave Solution



***DATA
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1. UDC Overview

Aethertek's up down converter "UDC2-3740" is designed for testing mmWave devices, including CPE, FWA, and Radio Unit, offering a cost-effective solution by integrating with mass production testers. It supports internal and external LO modes, along with an external instrument sync-up feature.

2. Key Features

- Supports 5G NR FR2 bands n260
- Compliant with 3GPP Rel 16 5G-NR standards
- 256QAM DL / UL modulation
- Maximum carrier bandwidth 1GHz
- Synchronization modes : Internal REF, External REF IN
- Includes a 10MHz output
- Features a USB Type-C control interface



3. RF Specifications

Parameters	Conditions	Min	Typ.	Max	Unit
RF frequency range		37		40	GHz
IF frequency range		3.3		6.7	GHz
Internal LO Frequency	Controlable	8		9	GHz
Internal LO Frequency Resolution			100		MHz
External LO Frequency Range		8		9	GHz
Conversion Gain	UP-conversion (TX)		15		dB
	Down-conversion (RX)		0		dB
Output P1dB			7		dBm
Duplex Mode	TDD	Note : TDD mode for single channel usage. May combine two ports for FDD mode.			

4. DC and Clock Specifications

Parameters	Conditions	Min	Typ.	Max	Unit
DC Supply Voltage		-	12	-	V
DC Supply Current		-	-	3	A
Reference Clock	IN / OUT	-	10	-	MHz



5. Connector Specifications

Parameters	Location	Type and Function
RF	Front Panel	Two 2.92 mm connectors
IF	Rear Panel	Four SMA female, 50 Ohm
Trigger	Front Panel	Two SMA female, 50 Ohm
LO	Front Panel	One SMA female, 50 Ohm
	Rear Panel	One SMA female, 50 Ohm
Reference Clock	Front Panel	One SMA female, 50 Ohm
	Rear Panel	One SMA female, 50 Ohm
COM	Rear Panel	One USB-C connector for software control
DC Power Port	Rear Panel	Input DC power



6. Power Rating

Parameters	Location	Name	Type (I/O)	Type and Function
RF	Front Panel	RF-1	I/O	Max. output : 10 dBm Max. input : 0 dBm
		RF-2		
IF	Rear Panel	IF-1A	I/O	Max. input : -20 dBm
		IF-2A	I/O	
		IF-1B	I	Max. input : -20 dBm
		IF-2B	I	
Trigger	Front Panel	Trigger-1	I	Max. input DC voltage : 3.3V Min. input DC voltage : 0V
		Trigger-2	I	
LO	Front Panel	LO IN	I	Max. input : 4 dBm Min. input : -4 dBm
	Rear Panel	LO OUT	O	Max. output : 11 dBm
Reference Clock (10 MHz)	Front Panel	CLK OUT	O	Max. output : 5 dBm
	Rear Panel	CLK IN	I	Max. output : 8 dBm
DC Power Port	Rear Panel	DC12V	I	Operating voltage : 12V



7. General Specifications

Parameters	Conditions	Min	Typ.	Max	Unit
Operating Temperature		0		40	°C
Dimension	Length		160		mm
	Width		80		mm
	Height		30		mm

8. Functional Block Diagram

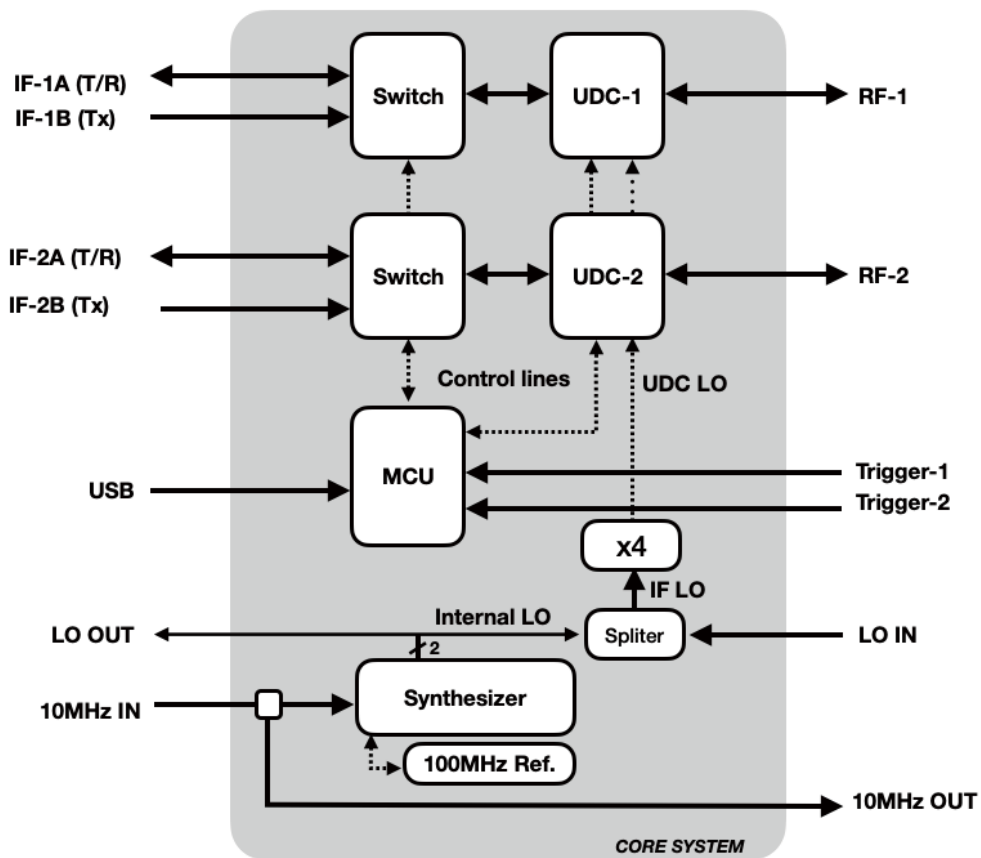


Figure 1. Functional block diagram



9. Device Panel Introduction

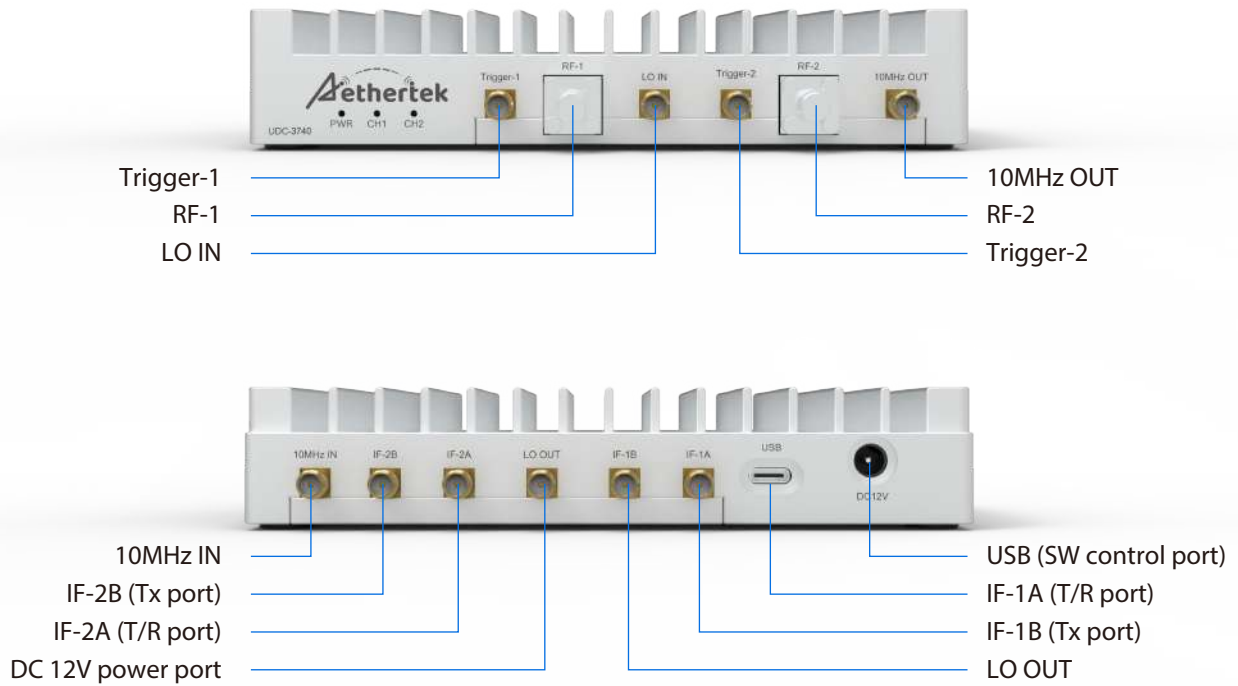


Figure 2. Front / Rear panel interface

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Contact us to experience our 5G innovative solutions!



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