Product Overview

The MPDSPxxnCmX is a multi outputs driver based on DDS (Direct Digital Synthesizers) *which offer high frequency accuracy and stability. Each DDS are locked in phase when driven at same frequency and can be phase controlled over 14bits. The frequency and power is driven through USB/RS232 communication. External control signals allow user for fast AM control of the channels/outputs. Embedded power amplifiers up to 4 watts per output. For higher power, AA will provide external power amplifiers.*

Features
- Phase Locked Outputs, Phase controllable (14bits)
- Multi Outputs, Multi channels
- Analog AM controls + USB/RS232 (FM+PM+AM)
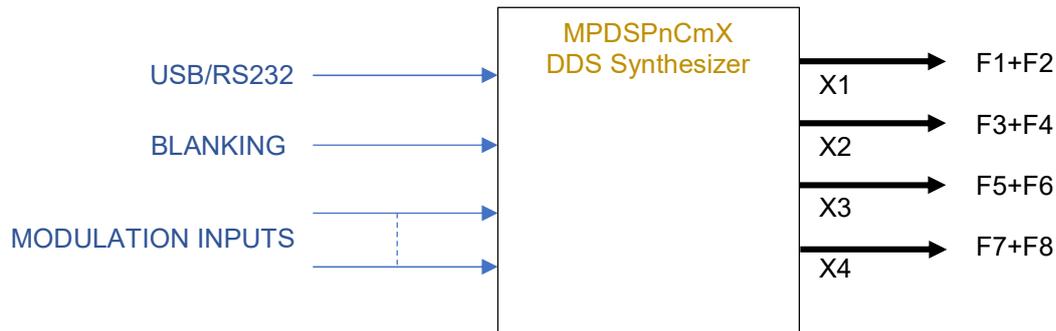- RoHS

Technical Specifications

Parameter	Units	
Number of outputs		1 to 4
Number of channels per output		Up to 2 per output
Reference clock		Internal Clock Reference / (external on request)
Frequency range	MHz	In 20-200* (External clock frequency dependent)
Frequency Stability	ppm/°C	Nom +/- 1
Frequency Accuracy / frequency step	KHz	nom 1
Phase range	°	360 (2π)
Phase accuracy	bits	14 (2π/16383)
Frequency/Phase control		USB/RS232
Output RF Power (@1dB compression)	W	Up to 4 watts/output with embedded amplifier (more power with external amp) Max RF power level adjustable through USB/RS232
Power Supply OEM version	VDC	24 – nom 1A / 4W / output
Power Supply Laboratory version	VAC	110 – 230
External Modulation Input Controls (AM)	V	Analog 0-5 / 50Ω (1 control per channel)
External Blanking input Control (AM)	V	TTL / 1 KΩ common to all outputs
Rise Time/Fall time (10-90%) < 4 watts	Ns	Nom 10
Input / Output Impedance	Ω	50
VSWR		< 1.5/1
Extinction Ratio	dB	Nom 50
Input / Output Connectors		DB25 / SMA
Size / Weight	mm^3	138 x 129 x 27.7
Heat Exchange		Conduction through baseplate for OEM versions Stand alone (fan integrated) for laboratory versions
Operating Temperature	°C	10 to 40 (max Tcase 50°C)
Storage Temperature	°C	-40 to +70 Non condensing

Option: External frequency reference MPDSPEnCmX

MPDSPnCmX

Phase Locked, Phase controllable
Multi outputs, Multi channels DDS Synthesizer

Available Versions

(m) Number of outputs → (n) Number of channels ↓	1	2	3	4
1	1C1X	1C2X	1C3X	1C4X
2	2C1X	2C2X	2C3X	2C4X

Synoptic

USB/RS232 →

BLANKING →

MODULATION INPUTS →

MPDSPnCmX DDS Synthesizer

X1 → F1+F2
X2 → F3+F4
X3 → F5+F6
X4 → F7+F8

Mechanical drawing – MPDSPnCmX