

Nucleo-F446RE - Module Datasheet

Module Pins

| Module | GPIO Pins |
|--------------------|----------------------------------------|
| Oscilloscope | PB0, PC0, PC1 |
| Counter | PA0, PA1, PD2 |
| Voltmeter | PB0, PC0, PC1 |
| Signal Generator | PA4, PA5 |
| Mod. PWM Generator | PA7, PB4 |
| Pattern Generator | PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9 |
| Sync PWM Generator | PB6, PB8, PC6, PC9 |
| Voltage Source | PA4, PA5 |

Compatibility Matrix

Green = compatible | Red = conflict | Grey = self

| | Scope | Counter | Voltm. | Sig.Gen | PWM Gen | Pattern | SyncPWM | Vout |
|---------|-------|---------|--------|---------|---------|---------|---------|------|
| Scope | - | | X | | | | | |
| Counter | | - | | X | X | | X | |
| Voltm. | X | | - | | | | | |
| Sig.Gen | | X | | - | X | X | X | X |
| PWM Gen | | X | | X | - | | X | |
| Pattern | | | | X | | - | X | |
| SyncPWM | | X | | X | X | X | - | |
| Vout | | | | X | | | | - |

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Module Characteristics

| Oscilloscope | |
|-----------------------|-------------|
| Channels | 3 |
| Max Sampling (12-bit) | 2.32 MSps |
| Max Sampling (8-bit) | 3.13 MSps |
| Interleaved (12-bit) | 3.35 MSps |
| Interleaved (8-bit) | 4.36 MSps |
| Interleaved Ch. | 0 |
| Buffer Size | 40k samples |
| Resolution | 12 / 8 bit |

| Counter | |
|----------------|---------|
| HF Range Max | 300 MHz |
| LF Range Max | 1 MHz |
| Ref. Input Max | 36 MHz |
| Counter Clock | 72 MHz |
| Gate Clock | 72 MHz |

| Voltmeter | |
|-------------|-------------|
| Channels | 3 |
| Resolution | 12 bit |
| Buffer Size | 40k samples |

| Signal Generator | |
|------------------|-------------|
| Channels | 2 |
| Max Speed | 2 MSps |
| Resolution | 12 bit |
| Buffer Size | 10k samples |
| Timer Clock | 72 MHz |

| Mod. PWM Generator | |
|--------------------|---------|
| Channels | 2 |
| Max Frequency | 4.8 MHz |
| Timer Clock | 84 MHz |

| Pattern Generator | |
|-------------------|---|
| Channels | 8 |
| Data Shift | 2 |

| Sync PWM Generator | |
|--------------------|-------------|
| Channels | 4 |
| Max Frequency | 36 MHz |
| Ch. Independence | Independent |

| Voltage Source | |
|----------------|--------|
| Channels | 2 |
| Resolution | 12 bit |