Specifications of LO/Clock box Prototype for BPM 14-October-2016

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| --- | --- | --- | --- |
| **Parameter** | **704 MHz systems** | **352 MHz systems** | **Notes** |
| **LO OUTPUT** | | |  |
| No. Outputs | 6 | |  |
| Power Level | 10 dBm +/- 1 dB (sine) | |  |
| Return Loss | > 14 dB (50 ohm) | |  |
| LO frequency range | 330.196875 MHz (352.21x15÷16)  374.223125 MHz?? (352.21x17÷16) | 682.406875 MHz  (704.42\*31÷32)  726.433125 MHz  (704.42\*33÷32) | Other frequencies are possible, depending on reference and VCO divide ratios |
| SSB Phase Noise, L(f) (dBc/Hz) | -94 @ 10 Hz  -106 @ 100 Hz  -116 @ 1 kHz  -123 @ 10 kHz  -141 @ 100 kHz  -163 @ 1 MHz  -170 @ 10 MHz | -88 @ 10 Hz  -100 @ 100 Hz  -110 @ 1 kHz  -117 @ 10 kHz  -135 @ 100 kHz  -160 @ 1 MHz  -170 @ 10 MHz | Tentative values |
| Jitter/Integrated phase noise, additive | 200 fsec rms (10 Hz to 1 MHz) | | Guaranteed |
| Harmonics | < -50 dBc (<= 3xLO)  < -60 dBc for (> 3xLO) | |  |
| Spurious | < -80 dBc (> 1 MHz)  < 10 dB above PN limits (10 kHz-1 MHz)  < 5 dB above PN limits (<=10 kHz) | |  |
| **REFERENCE INPUT** | | |  |
| Frequency | 352.210 MHz  (or 704.420 MHz) | 704.420 MHz (or 352.21 MHz) |  |
| Power Level | 10 dBm +/- 2 dB (sine) | |  |
| Return Loss | 14 dB (50 ohm) | |  |
| SSB Phase Noise L(f)  (dBc/Hz) | -96 @ 10 Hz  -111 @ 100 Hz  -131 @ 1 kHz  -165 @ 10 kHz  -167 @ 100 kHz  -168 @ 1 MHz | -90 @ 10 Hz  -105 @ 100 Hz  -125 @ 1 kHz  -160 @ 10 kHz  -165 @ 100 kHz  -170 @ 1 MHz |  |
| Harmonics | < -60 dBm | |  |
| Spurious | < -90 dBm | |  |
| **CLOCK OUTPUT** | | |  |
| Clock frequency range | 88.0525 MHz (352.21÷4, 704.42÷8) | | Other clock frequencies are possible (by changing divide ratio) |
| No. Outputs | 6 | |  |
| Power Level / Signal Type | LVPECL | |  |
| Jitter | 200 fsec rms (10 Hz to 1 MHz) | |  |
| **ELECTRICAL** | | |  |
| Supply Voltage | 220 Vac, 50 Hz | |  |
| Power Consumption | < 15 W | |  |
| **MECHANICAL** | | |  |
| RF connectors | SMA(f) | |  |
| Power Supply Connector | IEC | |  |
| Remote Interface Connector | USB (Mini-B) | | USB2ANY module |
| **MONITORING AND CONTROL** | | |  |
| Indicators | AC OK, DC OK, PLL Lock Detect | | LEDs on front panel |
| LO Frequency | Remote configuration via serial port (USB) | | TICS Pro software |
| CLK Frequency | By hand (jumpers) | | Jumpers on Clock Distribution IC board |
| LO/REF switch | By hand (jumpers) | | Jumper on DC board |

