Exhibit 9 – Measured Data Index

Motorola Head-end Transceiver (HUB)

FCC ID: MIJMILHUB-USA-01

Millitech Part No. 9031291001

9.0 Measured Data Index

9.1 RF Output Measured Data

9.1.1 Transmitter Output Power

The Hub Data transmitter output power is +24dBm typical at room temperature. The Hub Pilot transmitter output power is also +24dBm typical at room temperature. The specified minimum output power is +22dBm minimum from -30^{o} to $+50^{o}$ C. The HUB Data transmitter is operated at a nominal output power of +18dBm. The HUB Pilot transmitter is operated at it's saturated power output (nominal +28dBm).

9.1.2 Effective Isotropic Radiated Power

The calculated EIRP based on the saturated output power of the HUB Data is:

Power (nominal) = +18dBm = -12 dBw
Antenna Gain = 15 dBi
EIRP = -12 + 15 = 3 dBw

The calculated EIRP based on the saturated output power of the HUB Pilot is:

Power (sat.) = +28dBm = -2 dBw
Antenna Gain = 15 dBi
EIRP = -2 + 15 = 13 dBw

9.2 Occupied Bandwidth Graphs

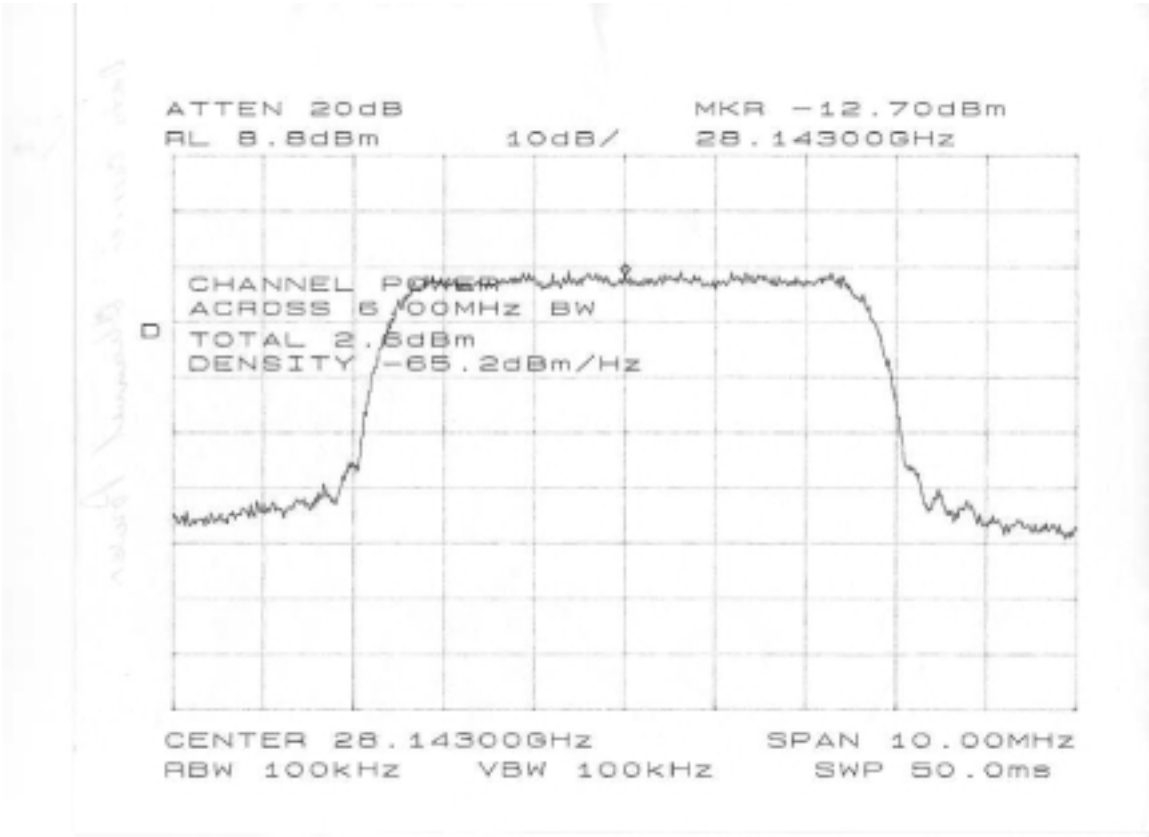


Figure 9.2-1 HUB Data Occupied Bandwidth Graph

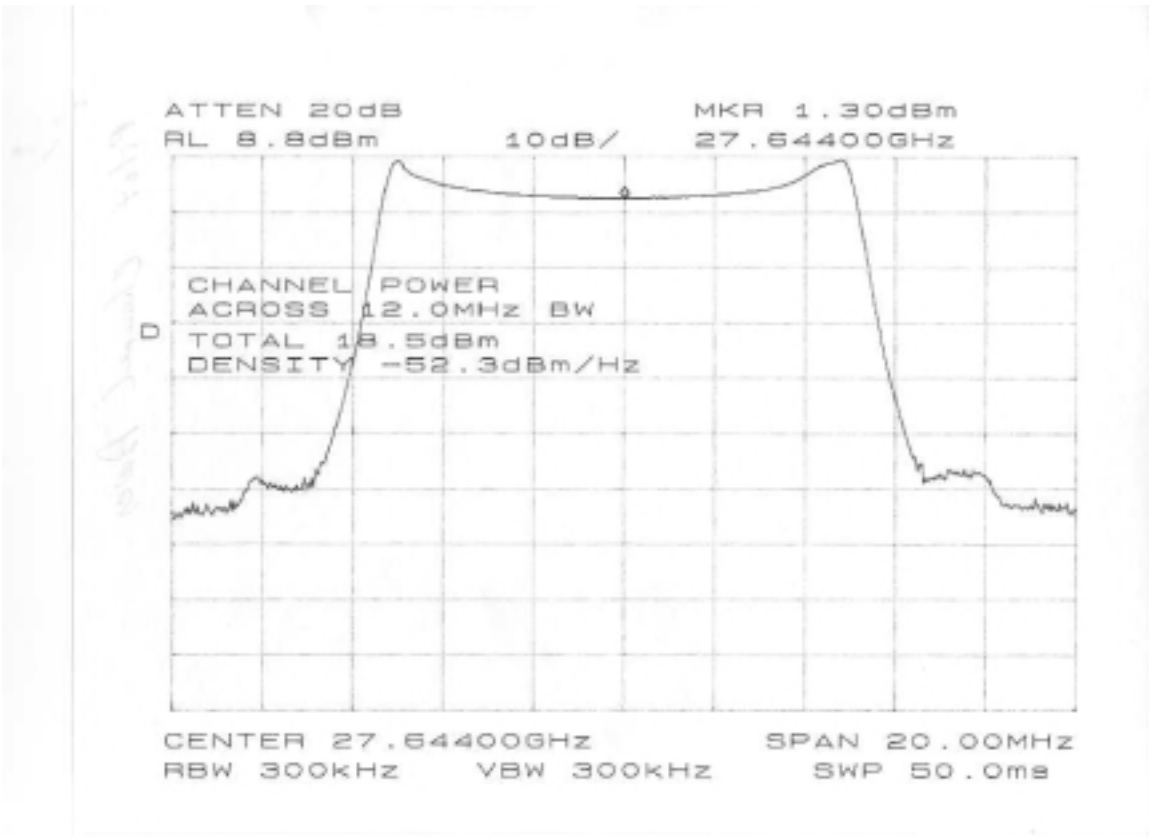


Figure 9.2-2 HUB Pilot Occupied Bandwidth Graph

9.3 FCC Radiated Spurious Emissions Graphs

Emission Frequency (GHz)	Received Power Level (dBm)	Measure-ment Bandwidth	Cable Loss * (dB)	Antenna Factor (dB)	Radiated Emission Level (dBµV/m)	Limit Level (dBµV/m)	Comments
28.143	94.3	1 MHz	6	35.6	135.9	n/a	**HUB Data Carrier**
56.286	40.6	4 kHz	1	41.3	82.9	104.9	2nd Harmonic

* Cable loss above 40 GHz is for external mixer IF (221MHz) cable loss.
** All other emissions greater than 20 dB below the specification were not reported
*** Spectrum search performed from 30 MHz to 100GHz

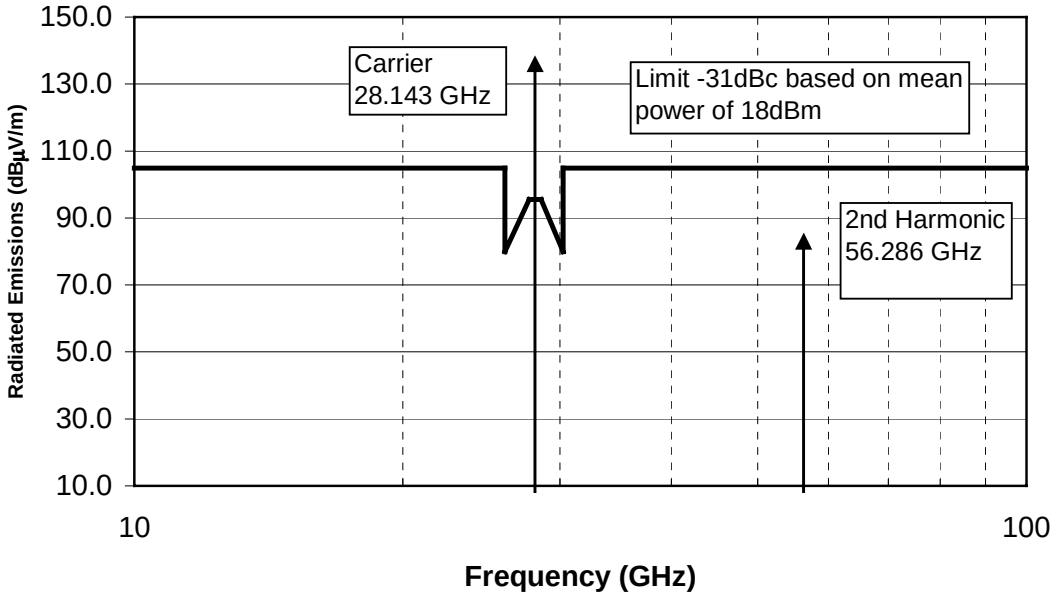


Figure 9.3-1 HUB Data radiated harmonic emissions

Emission Frequency (GHz)	Received Power Level (dBm)	Measure-ment Bandwidth	Cable Loss * (dB)	Antenna Factor (dB)	Radiated Emission Level (dBµV/m)	Limit Level (dBµV/m)	Comments
27.644	115.8	1 MHz	5	35.5	156.3	n/a	**HUB Pilot Carrier**
55.288	52.3	4 kHz	4	41.2	97.5	115.3	2nd Harmonic
82.932	40.5	4 kHz	1	46.3	87.8	115.3	3rd Harmonic

* Cable loss above 40 GHz is for external mixer IF (221MHz) cable loss.
** All other emissions greater than 20 dB below the specification were not reported
*** Spectrum search performed from 30 MHz to 100 GHz

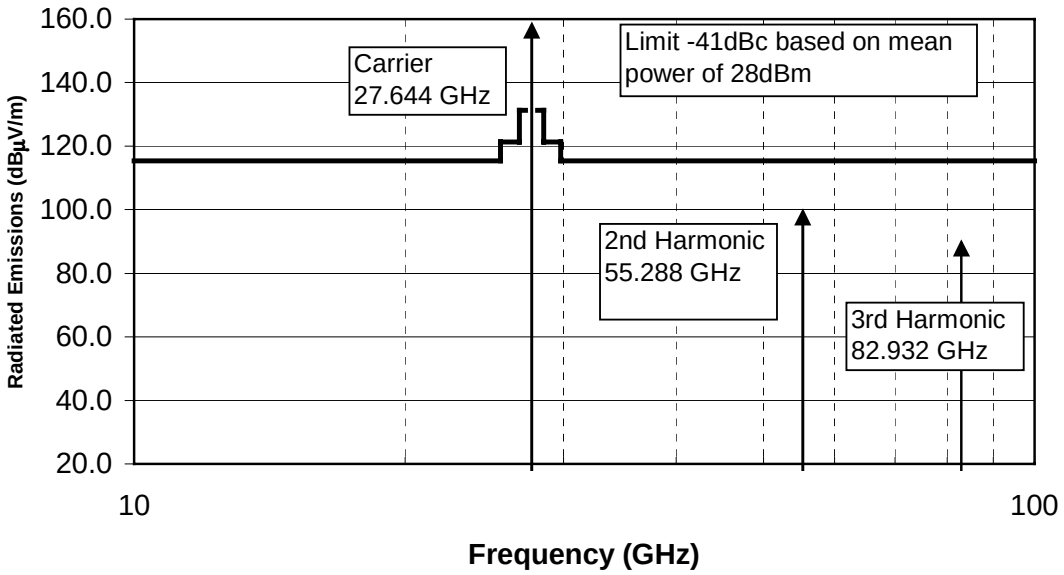
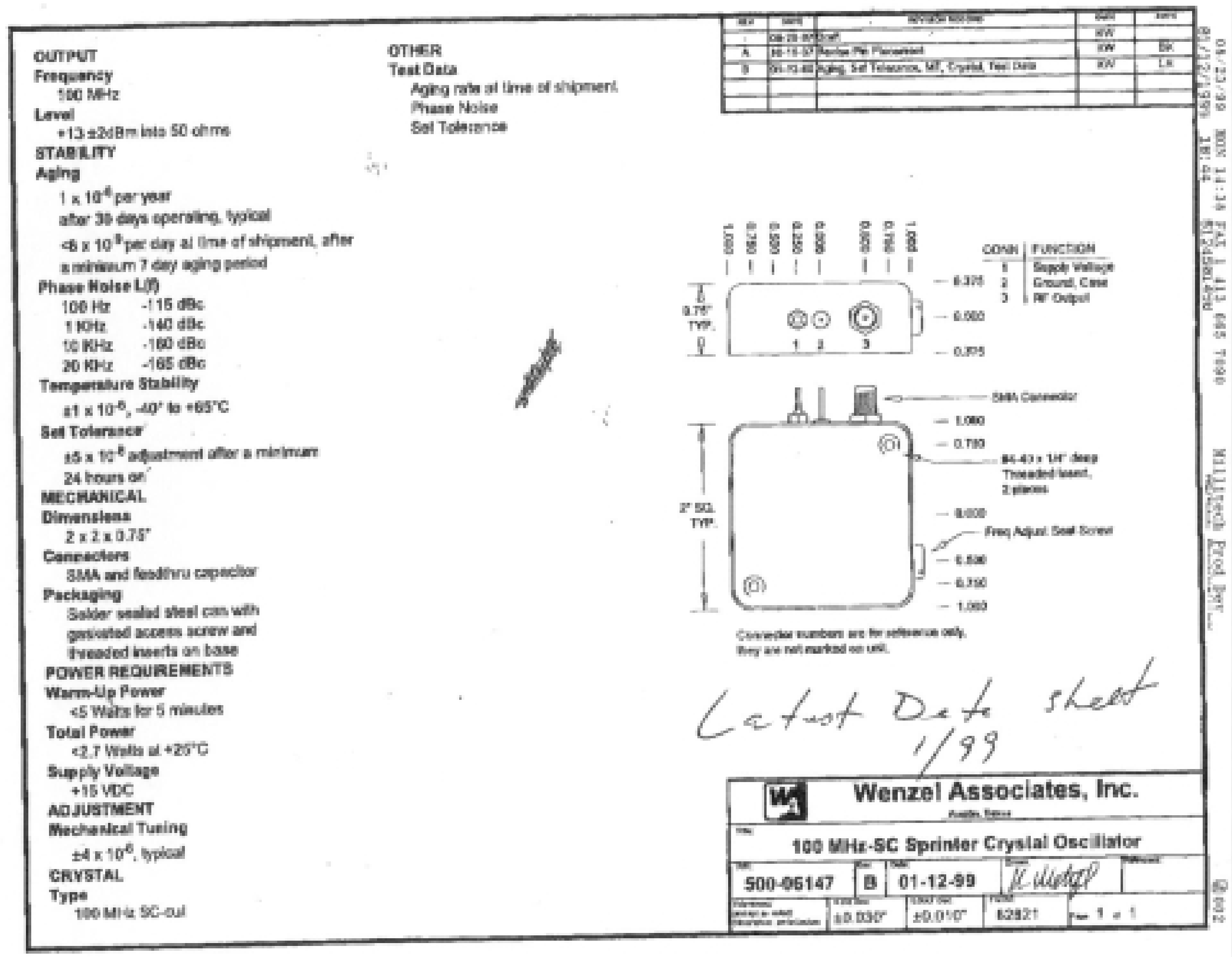


Figure 9.3-2 HUB Pilot radiated harmonic emissions

9.4 Frequency Stability vs Temperature

The crystal oscillator manufacturer (Wenzel) did supply frequency error data for 20 sample oscillators tested at -40C and +65C. Their test spec is +/-1ppm (See Figure 9.4-1). The worst unit had an error of only .218ppm at -40C. The frequency error allowed is .001%, or 275kHz for a carrier at 27.5GHz and 313kHz for a carrier at 31.3GHz. The frequency error from the Hub will be proportional to the reference oscillator error and the total frequency conversion from IF to RF. Worst case conversion would be 31.065 GHz (11MHz to 31076MHz). At that point if there was a total error of 2ppm, we would see a carrier frequency error of only 62kHz



OUTPUT
Frequency
100 MHz
Level
+13 ±2dBm into 50 ohms
STABILITY
Aging
1 x 10^{-8} per year
after 30 days operating, typical
<5 x 10^{-9} per day at time of shipment, after
a minimum 7 day aging period
Phase Noise L(f)
100 Hz -115 dBc
1 KHz -140 dBc
10 KHz -160 dBc
20 KHz -165 dBc
Temperature Stability
±1 x 10^{-8}, -40° to +65°C
Set Tolerance
±5 x 10^{-8} adjustment after a minimum
24 hours on
MECHANICAL
Dimensions
2 x 2 x 0.75"
Connectors
SMA and feedthru capacitor
Packaging
Solder sealed steel can with
gasketed access screw and
threaded inserts on base
POWER REQUIREMENTS
Warm-Up Power
<5 Watts for 5 minutes
Total Power
<2.7 Watts at +25°C
Supply Voltage
+15 VDC
ADJUSTMENT
Mechanical Tuning
±4 x 10^{-6}, typical
CRYSTAL
Type
100 MHz SC-cut

OTHER
Test Data
Aging rate at time of shipment
Phase Noise
Set Tolerance

Figure 9.4-1 Crystal Oscillator Data Sheet

9.5 Frequency Stability vs Voltage

The DC/DC Regulators (JW series) within the Hub are guaranteed from 36 to 75 Vdc input. This is well within the +/-20% spec on the Hub input power . The output regulation on these power supplies is guaranteed to be better than 0.4% as load varies from min to max, and an additional 1% over the operating temperature range of -40C to +100C. So the worst case variation on the voltage to the 100MHz oscillator is about 1.4%. This compares to the voltage input required for the 100MHz oscillator which is specified as +/-10% (According to Wenzel, the oscillator manufacturer). From this information it appears there will be very little frequency error due to voltage variation.