

6.8. 99% OCCUPIED BANDWIDTH & EMISSION MASK @ FCC 2.1049, 90.209 & 90.210

6.8.1. Limits @ FCC 90.209 & 90.210

Emissions shall be attenuated below the mean output power of the transmitter as follows:

FREQUENCY RANGE (MHz)	Maximum Authorized BW (KHz)	CHANNEL SPACING (KHz)	Recommended Max. FREQ. DEVIATION (KHz)	FCC APPLICABLE MASK @ FCC 90.210
896-901	13.6	12.5	2.5	MASK J (Data)

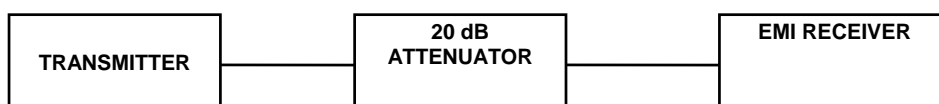
6.8.2. Method of Measurements

Refer to Exhibit 8, § 8.4 of this report for measurement details

6.8.3. Test Equipment List

Test Instruments	Manufacturer	Model No.	Serial No.	Frequency Range
EMI Receiver/ EMI Receiver	Hewlett Packard	HP 8593EM	3412A00103	9 kHz – 26.5 GHz
Attenuator(s)	Bird	DC – 22 GHz
Audio Oscillator	Hewlett Packard	HP 204C	0989A08798	DC to 1.2 MHz

6.8.4. Test Arrangement



6.8.5. Test Data

6.8.5.1. 99% Occupied Bandwidth

Frequency (MHz)	Channel Spacing (kHz)	Measured 99% OBW (kHz)	Recommended 99% OBW (kHz)
896.0	12.5	7.88	13.6
898.5	12.5	7.90	13.6
901.0	12.5	7.97	13.6

Please refer plot # 2 to 4 for details of measurement.

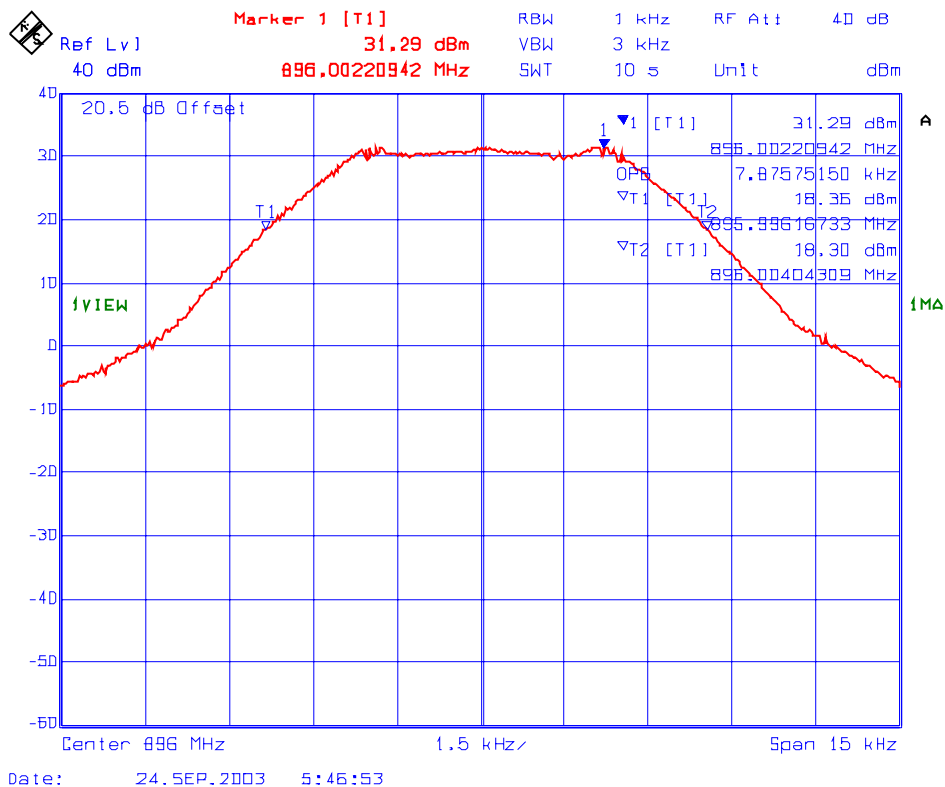
6.8.5.2. Emission Masks

Conform.

- Please refer to Plots # 5 to 7 for Emission Mask J with GMSK Modulation in High Transmitter O/p Power.
- Please refer to Plots # 8 to 10 for Emission Mask J with GMSK Modulation in Low Transmitter O/p Power.

Note : The significant difference between the measured 99% Bandwidth and calculated emission designation is due to the GMSK modulation signal having a $BT=0.3$ which means there is a reasonable amount of filtering of the 8kHz data signal which limits the bandwidth it would otherwise occupy and which the FCC formula does not take into account.

Plot # 2 : 99% OBW, RF Output
Frequency: 896 MHz, Modulation: 2-Level 8kbps GMSK



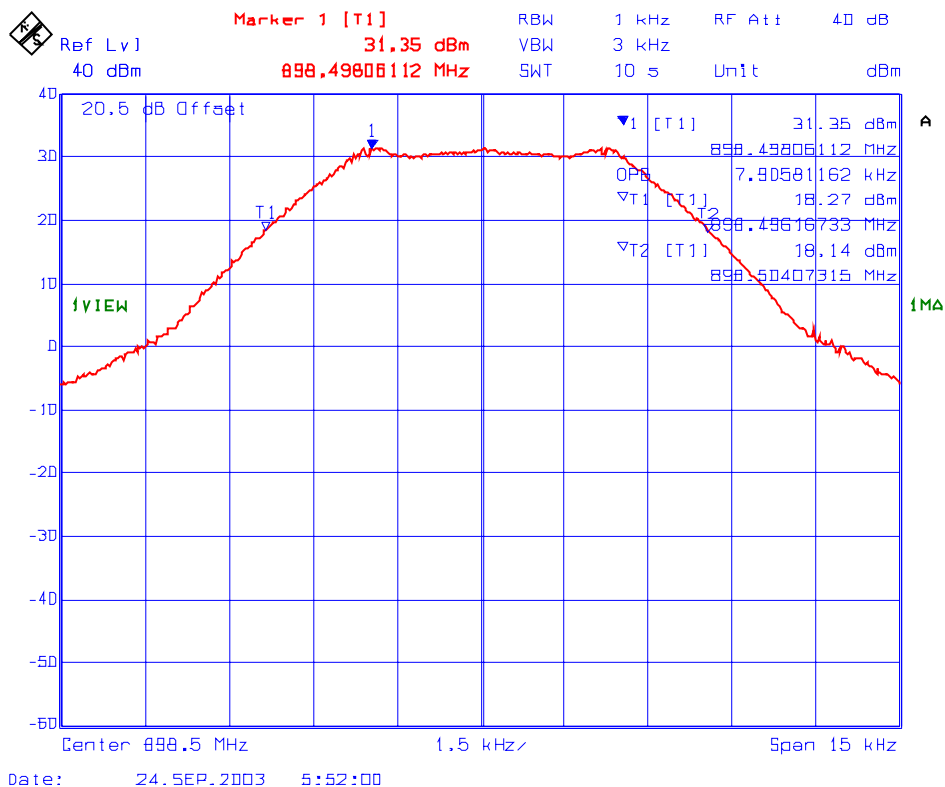
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- All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

Plot # 3 : **99% OBW, RF Output**
 Frequency: 898.5 MHz, Modulation: 2-Level 8kpbs GMSK



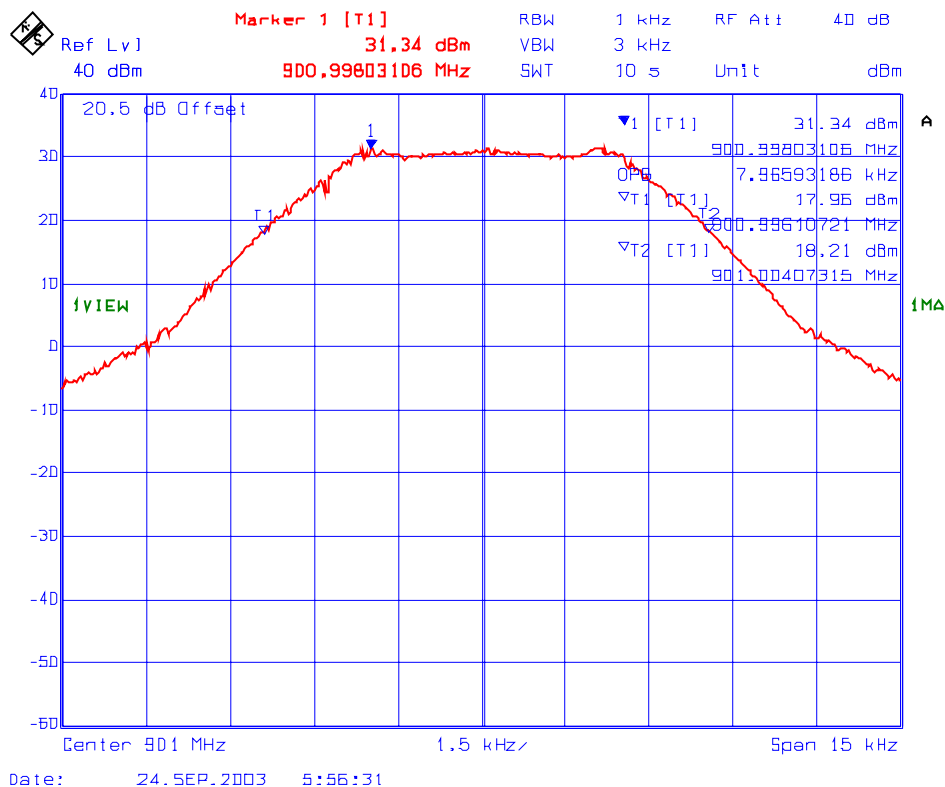
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Plot # 4 : **99% OBW, RF Output**
 Frequency: 901 MHz, Modulation: 2-Level 8kbps GMSK



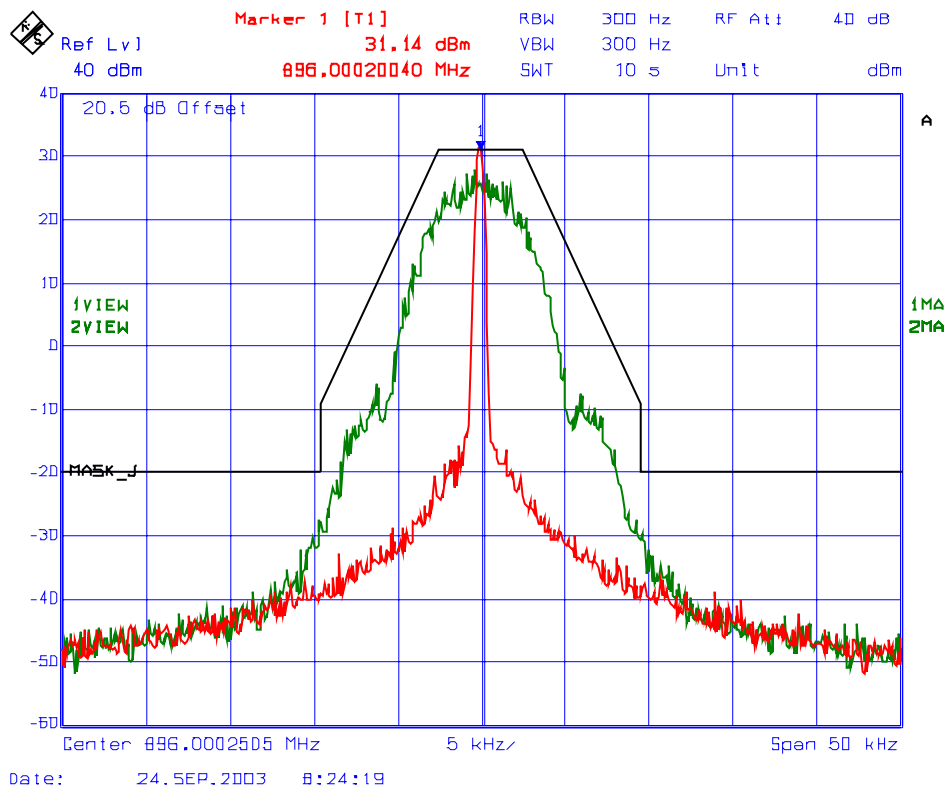
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Plot # 5 : Emission Mask J , RF Output, High Power Setting
Frequency: 896 MHz, Modulation: 2-Level 8kbps GMSK



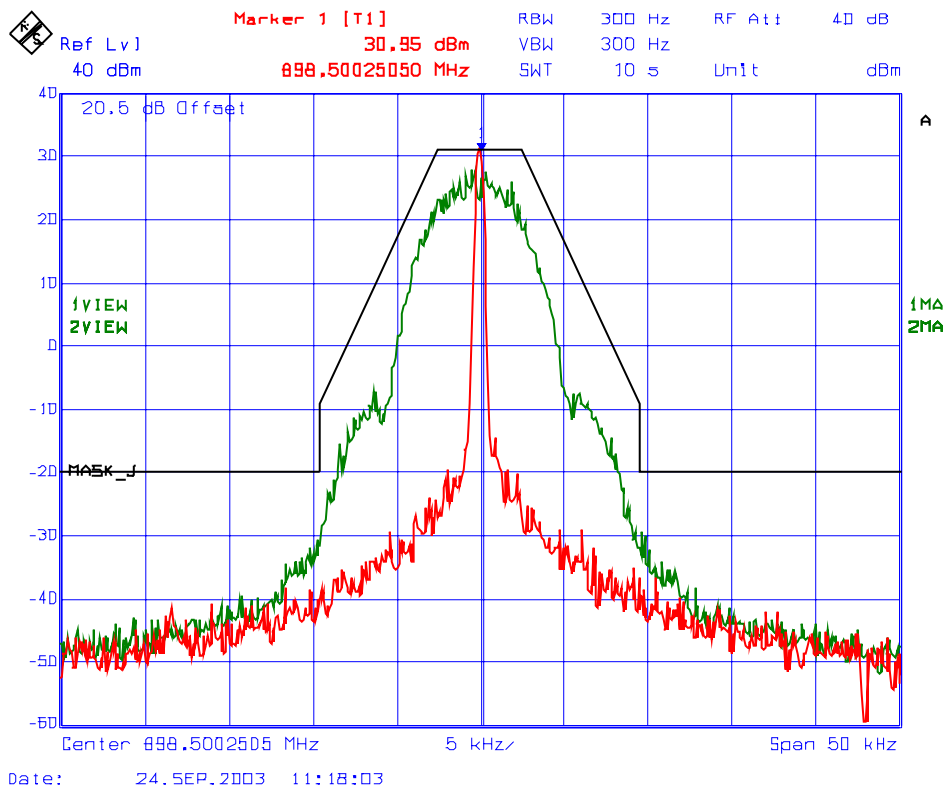
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Plot # 6 : Emission Mask J , , RF Output, High Power Setting
Frequency: 898.5 MHz, Modulation: 2-Level 8kbps GMSK



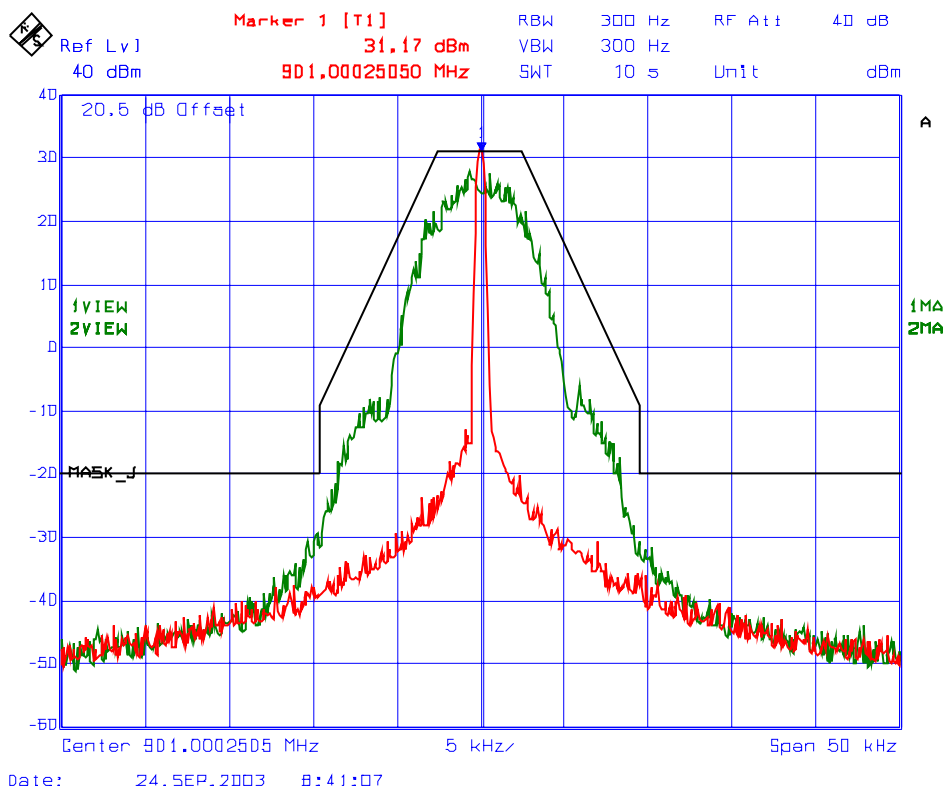
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Plot # 7 : Emission Mask J , , RF Output, High Power Setting
Frequency: 901 MHz, Modulation: 2-Level 8kbps GMSK



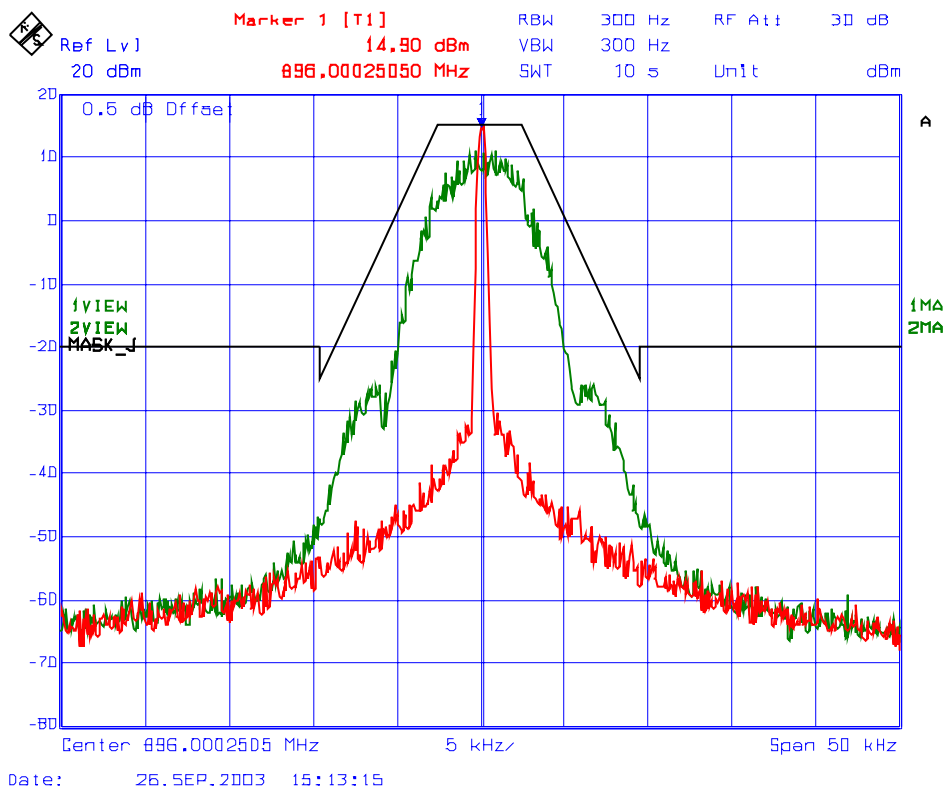
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Plot # 8 : Emission Mask J , , RF Output, Low Power Setting
Frequency: 896 MHz, Modulation: 2-Level 8kbps GMSK



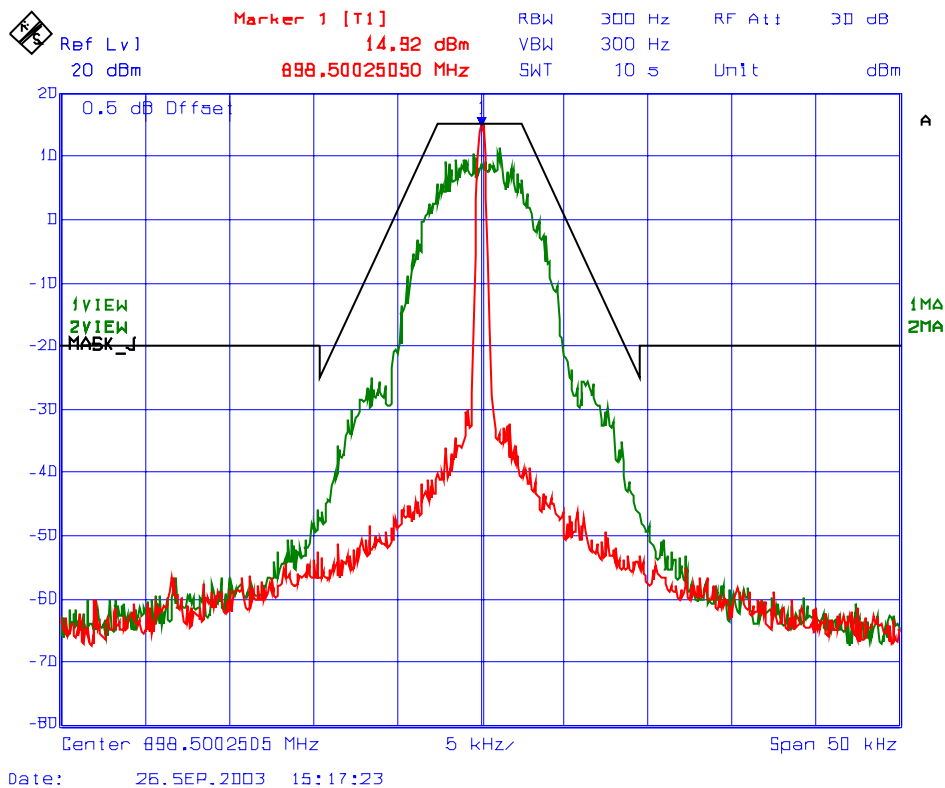
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Plot # 9 : Emission Mask J , , RF Output, Low Power Setting
Frequency: 898.5 MHz, Modulation: 2-Level 8kbps GMSK



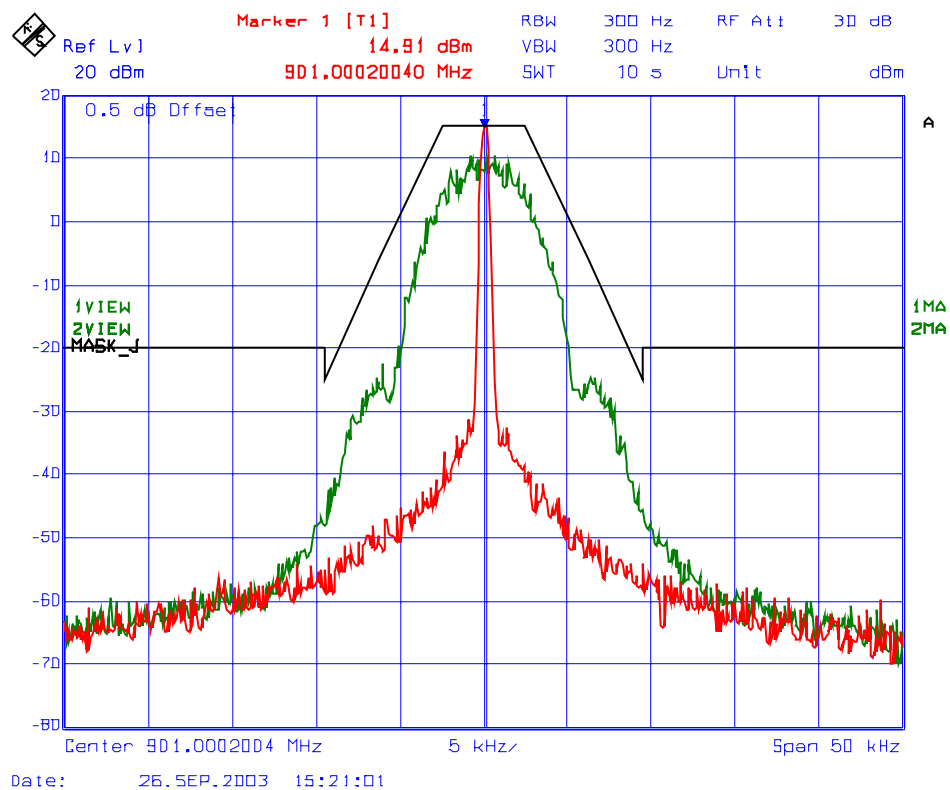
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Plot # 10 : Emission Mask J , , RF Output, Low Power Setting
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