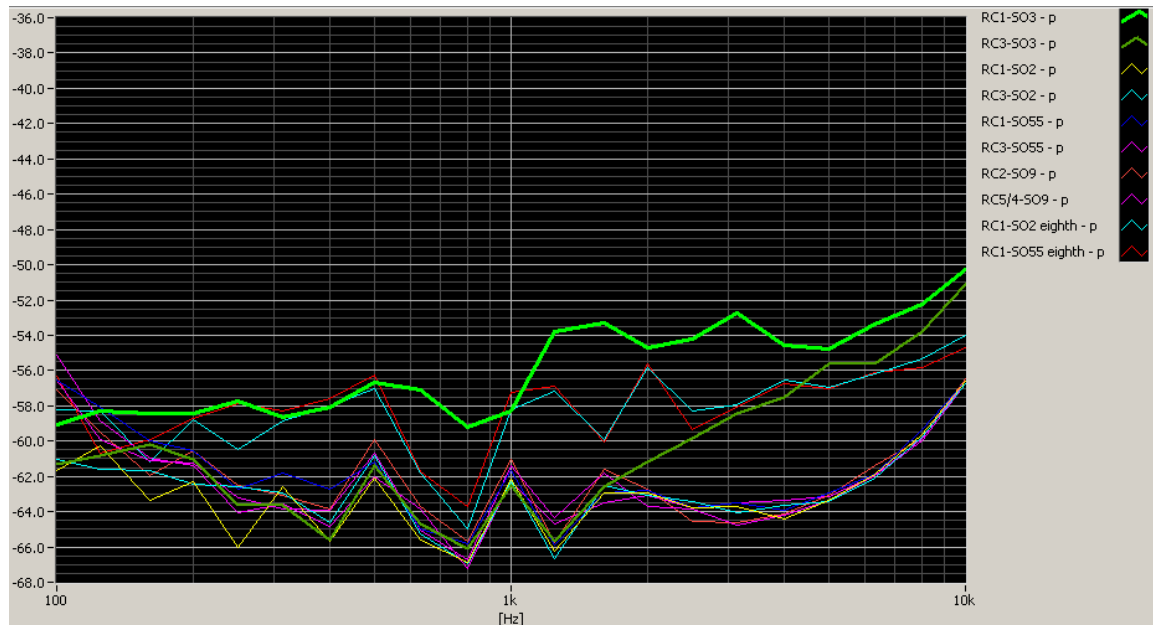


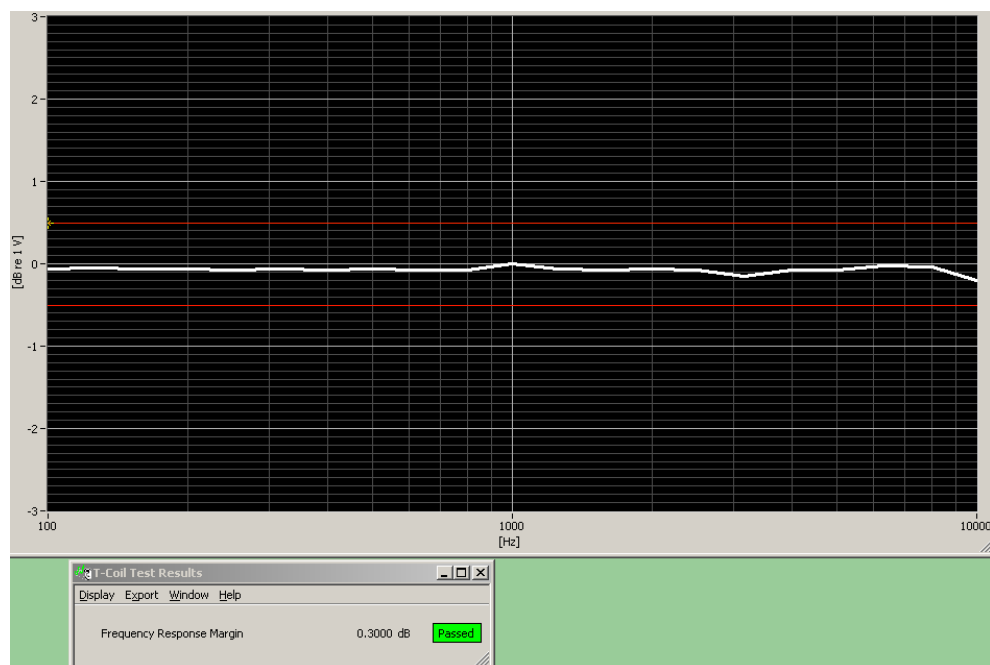
Regarding your answer to question 1. Please include in your answer all capabilities of the device. Please include vocoder details as well as radio configurations/service options and similar.

Please find below plot showing available field service options/radio configurations for the device.



Regarding your answer to question 6. Please provide details of the setup for this test. Was the LISTEN system used? Given the frequency response data listed please justify that the probe meets the .5 dB specification from C63.19 Annex C5

We also shared the concern regarding the values that were provided on the calibration certificate and have included the frequency response investigated per Annex C5. The results were shown to be compliant. See below:



Regarding your answer to question 7 please include details of the P50 source and measurement system for this procedure.

Please see below for specification for the P.50 source used in the LISTEN system.

Manufacturer: ITU-T
Active Frequency Range: 100 Hz – 8 kHz
Stimulus Type: Male and Female, no spaces
Single Sample Duration: 20.96 seconds

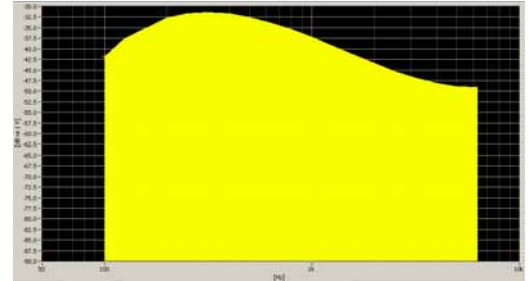


Figure A
P.50 Artificial Voice Signal

Regarding your answer to question 8, please reconfirm calculation. Connector level voltage of approximately 100 mV was expected. Also, please address how the 20 second file length and time variations was handled for measurement of both input voltage and ABM1 (frequency response). We understand that CW was used for the 1 KHz ABM1 measurement. Please confirm.

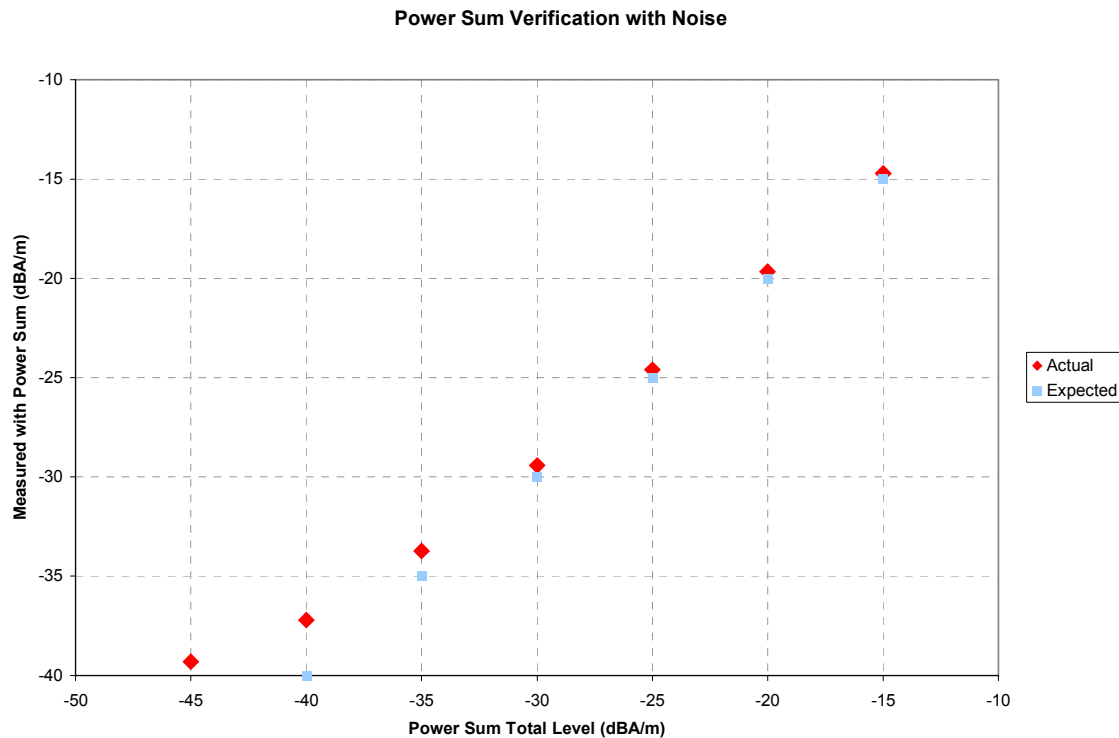
Please see below table for exact voltages used:

dBm0 Ref.	Output Voltage	eq. Input Voltage (mV)	Notes
3.14 dBm0	751.8 mV	1052 mV	From "DECODER CAL". (What is needed through Encoder for FS)
-18 dBm0	65.933 mV	92.26 mV	For 8k Enhanced (Low)

Linear averaging was applied to the measurement over three cycles of the male+female P.50 measurement. The input voltage of P.50 was determined over the full band since P.50 is a broadband stimulus by definition, in contrast to a pure sine tone. We confirm a CW tone was used for the 1kHz ABM1 measurement.

Regarding your answer to question 9 please demonstrate that the frequency response for the ABM2 system is as recommended in C63. Please demonstrate the overall resulting sum works as expected. One option for the later might be to compare expected result progression as each curve is added for a white Gaussian noise input.

Please see below Gaussian white noise level vs. measured (with sum) actual measurements:



Regarding your answer to question 14 We understand that once the TEM system has located the probe at the maximum location than the probe output is manually switched over to the Listen input. Please confirm. Please clarify that the LISTEN connection was used for all key calibration/verification procedures.

We confirm the LISTEN connect was used for all key verification procedures.

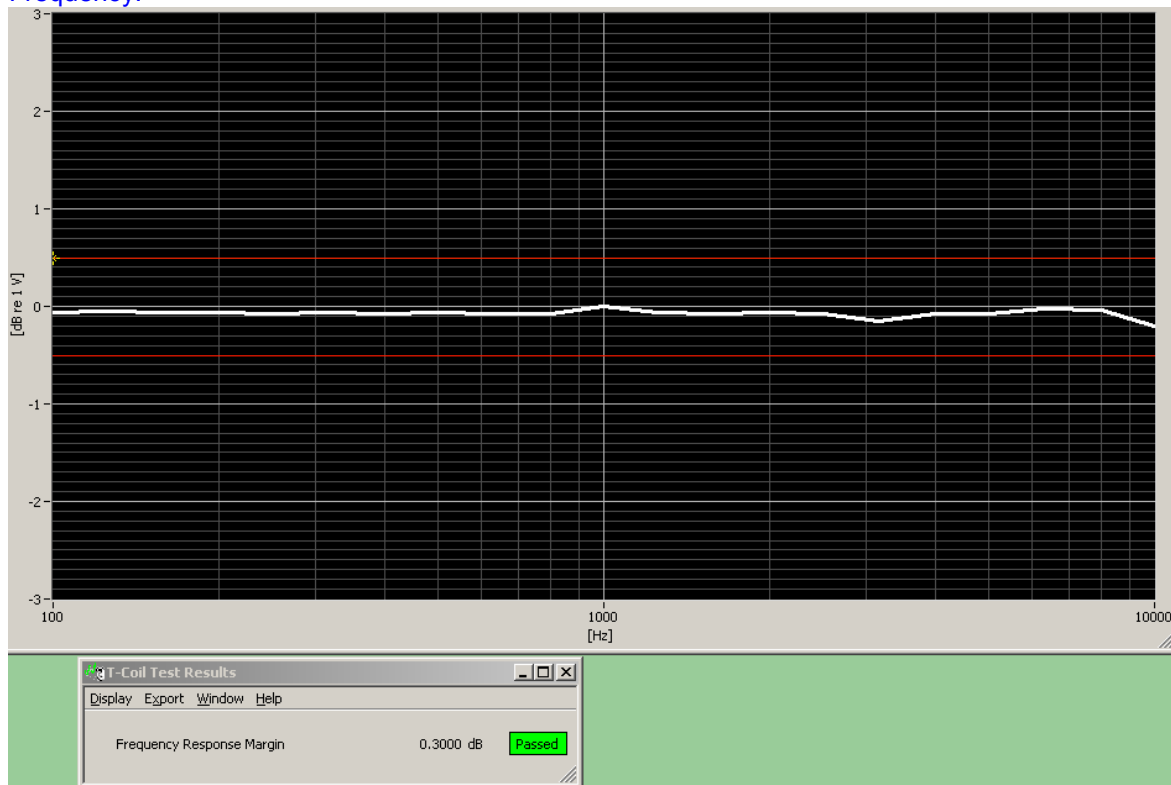
Regarding your answer to question11 We do not understand your answer. According to C63.19 draft 3.6 the T-coil rating cannot be higher than the RF emission rating taken when centered on the T-coil source. Please provide more RF details to include locations of the RF rating and a copy of the key RF plots.

We confirm the T-coil rating is “T3” due to the RF Emission Rating measuring “M3” at the T-coil region per C63.19 draft 3.6. “T4” shown indicates for the T-coil test alone.

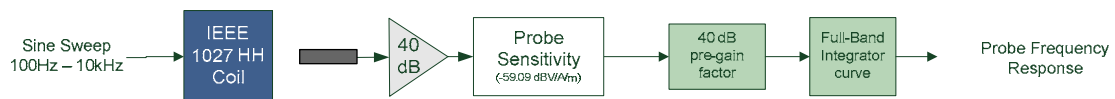
Regarding your answer to question 16 please detail the conditions of the test for probe calibration certificates. It appears to be probe only. Please discuss how the result with probe/system combination will be. The FCC has seen composite effects from both amplifier impedance and cable capacitance. It may be preferable to perform these calibration steps as a system including cable.

The calibration steps were performed using the LISTEN probe/system with all equipment/cables used during testing, as shown below.

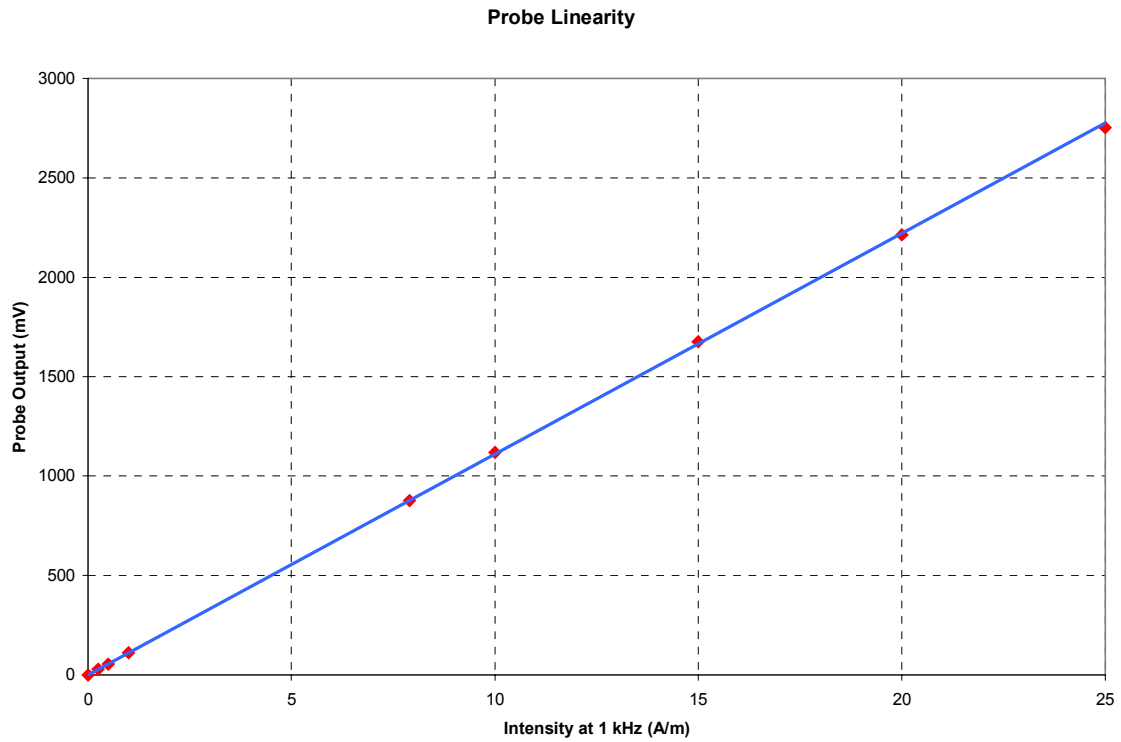
Frequency:



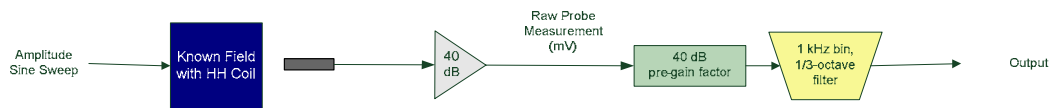
Measurement Processing Chain for Frequency:



Linearity:



Measurement Processing Chain for Linearity:



F/S (A/m)	Output (mV)	Linearity Variation (dB)
25	2718	-0.09
20	2212	-0.02
15	1676	0.03
10	1118	0.03
7.9	876	-0.01
1	111.076	0.00
0.5	55.500	0.00
0.25	27.670	-0.02
0	0	0.00

FYI Regarding your answer to question 10 Please consider using a dipole source (no base band noise) driven by a high powered RF source for this demonstration. One time measurement at both frequencies is sufficient but should be checked occasionally to assure that cables and shielding remains in tact.

Please see below plot showing RF emissions will not affect T-coil measurements for various technologies (Conditions: 1cm from T-coil probe to dipole surface, 20 dBm peak input) for cellular and PCS bands. We will take into consideration in the future such a check upon a change in hardware/cables.

