

PHOTOGRAPHS OF TEST SET UP

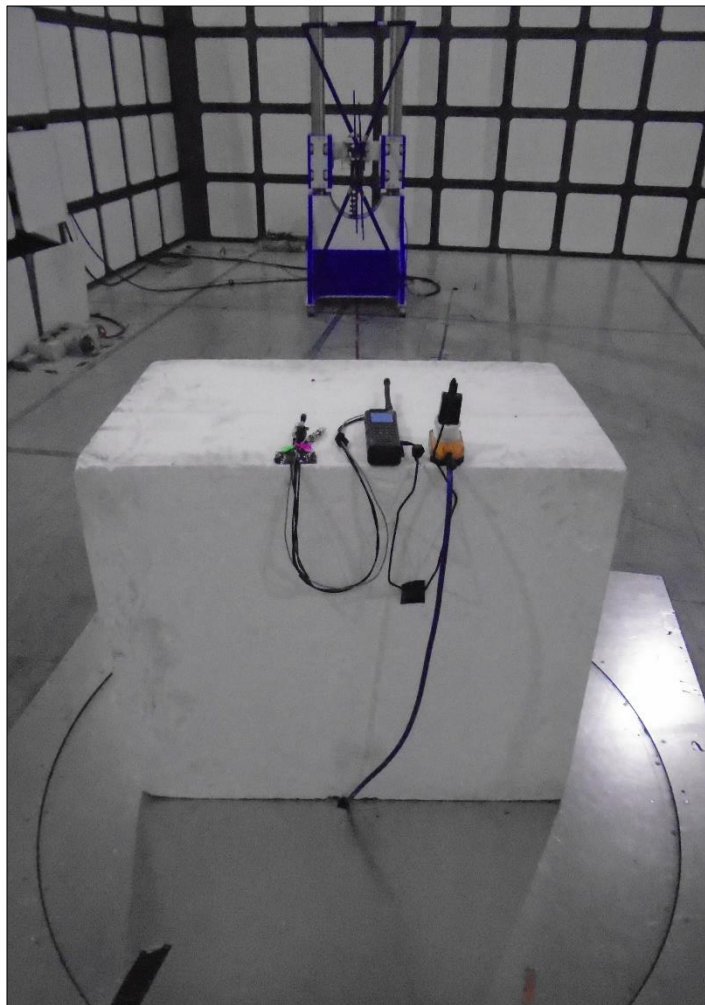


Figure 1 - 30 MHz to 1 GHz - X Orientation

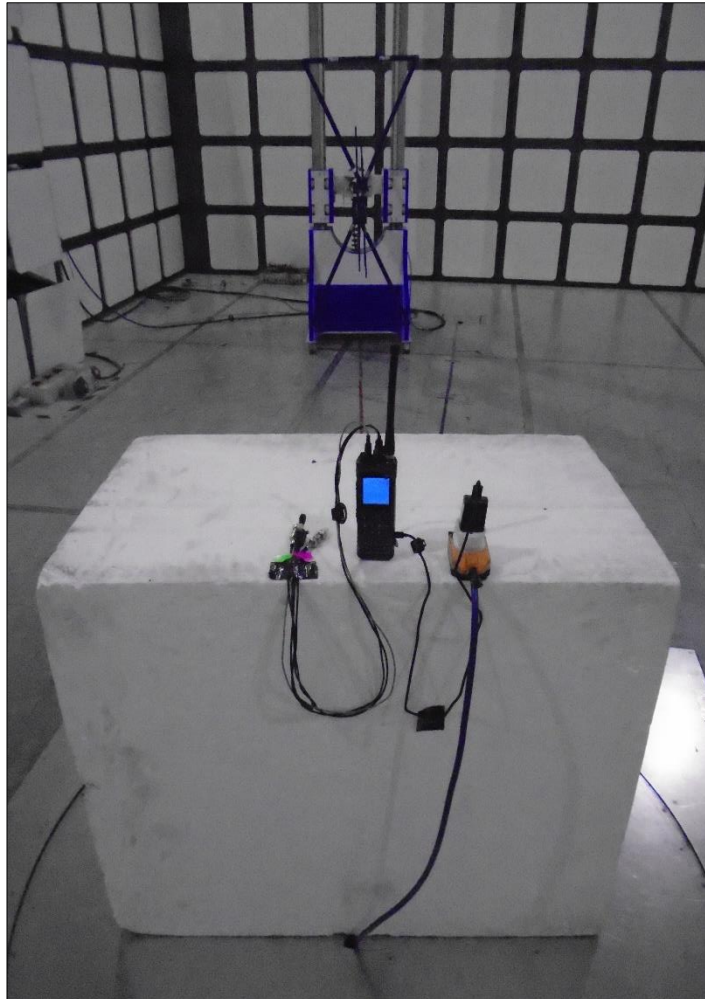


Figure 2 - 30 MHz to 1 GHz - Y Orientation

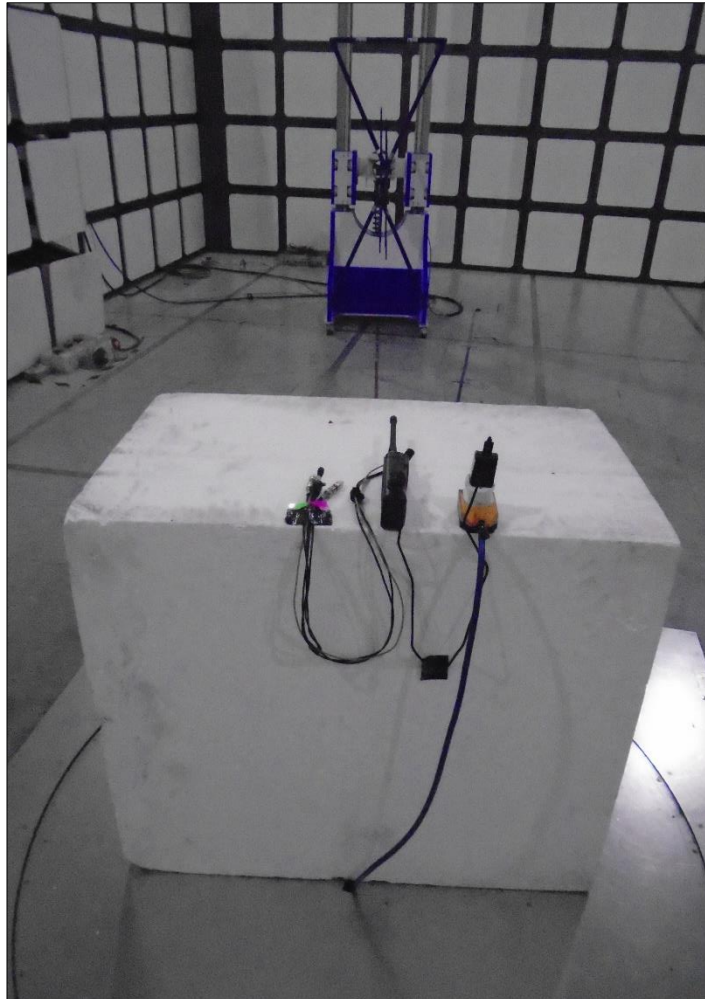


Figure 3 - 30 MHz to 1 GHz - Z Orientation

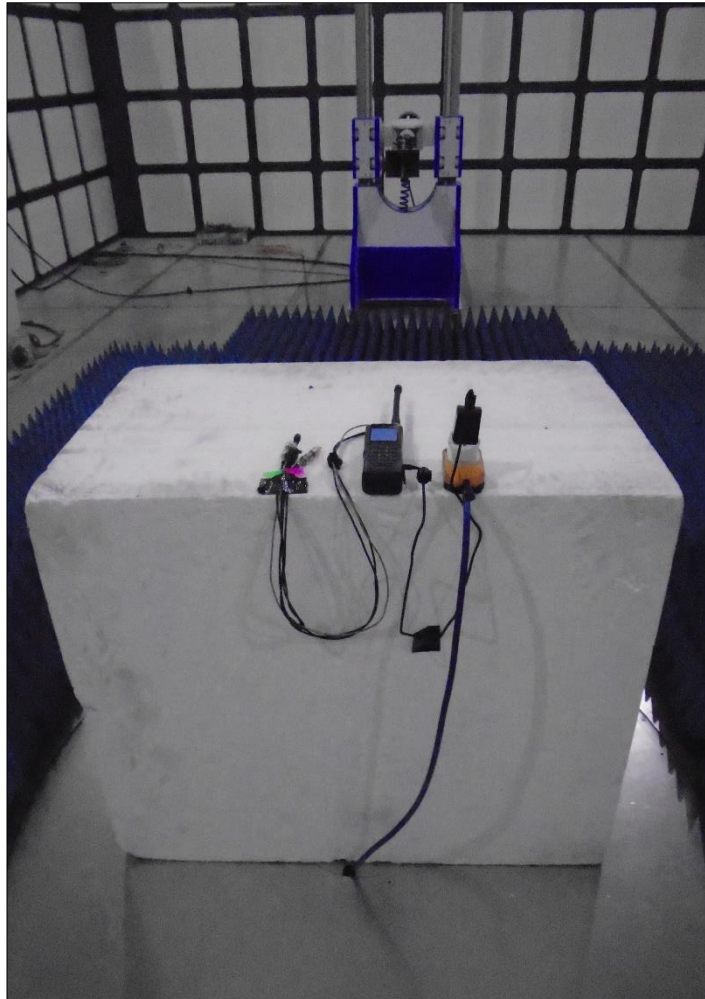


Figure 4 - 1 GHz to 2 GHz - X Orientation

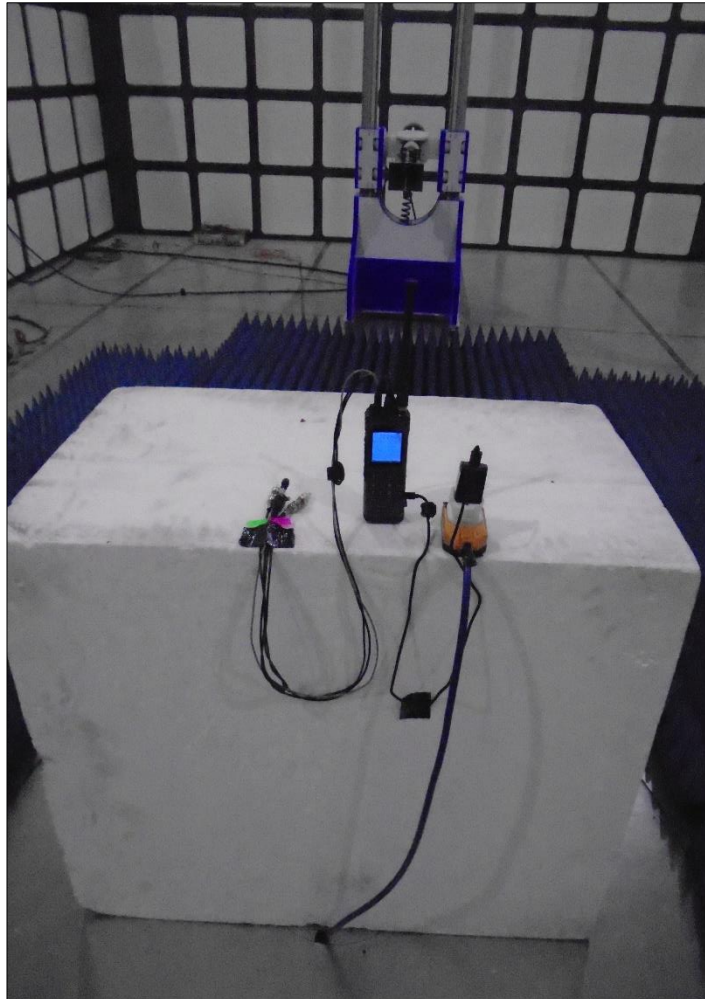


Figure 5 - 1 GHz to 2 GHz - Y Orientation

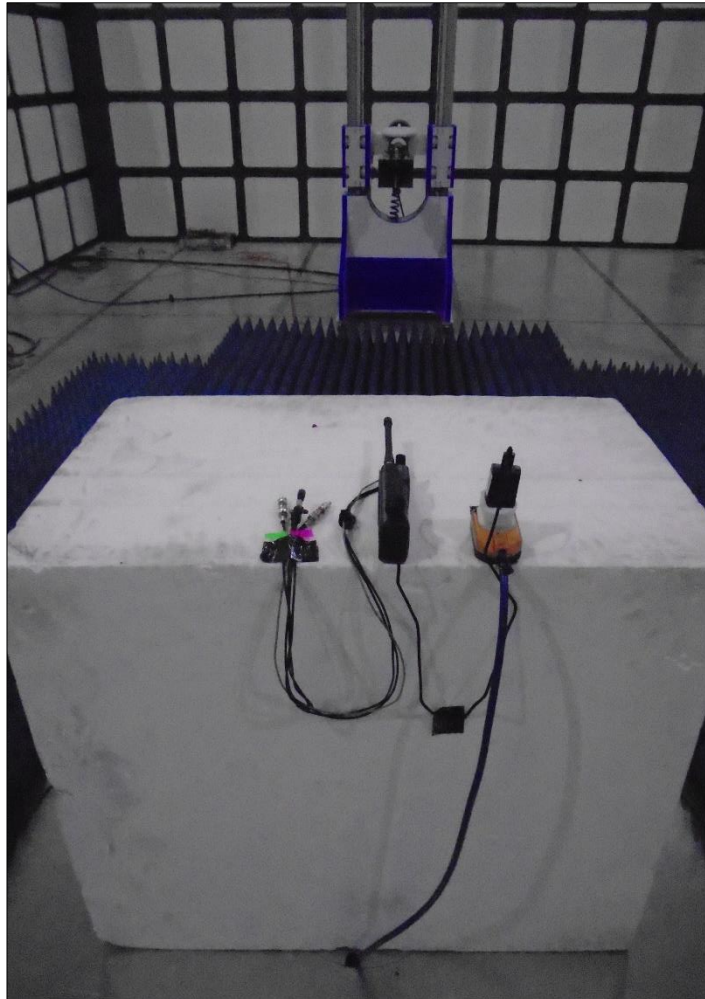


Figure 6 - 1 GHz to 2 GHz - Z Orientation

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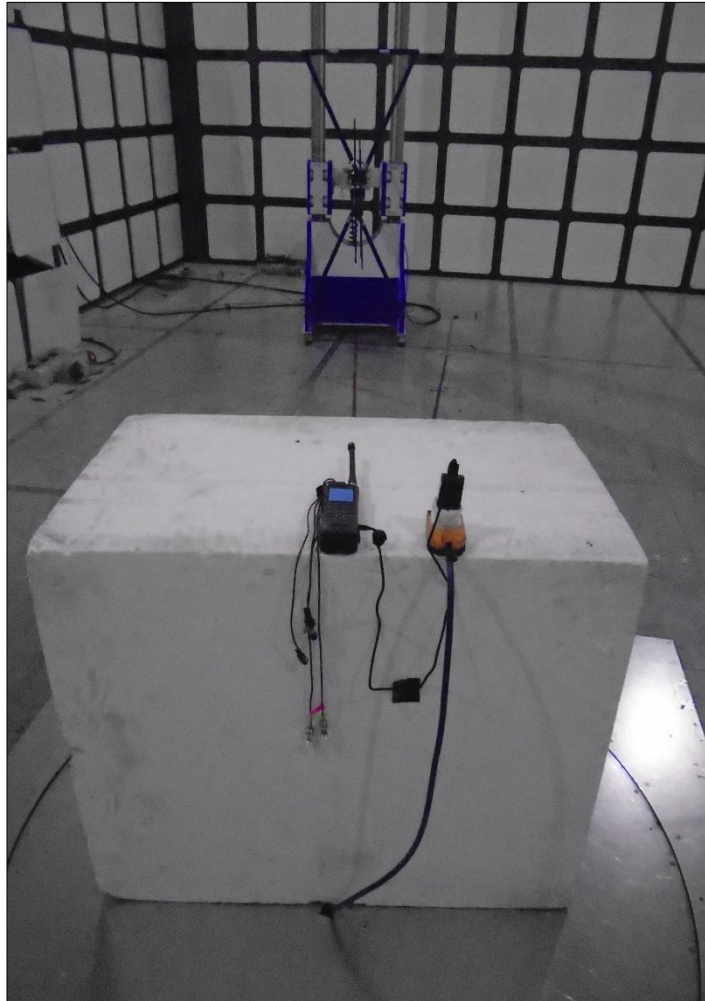


Figure 1 - 30 MHz to 1 GHz - X Orientation

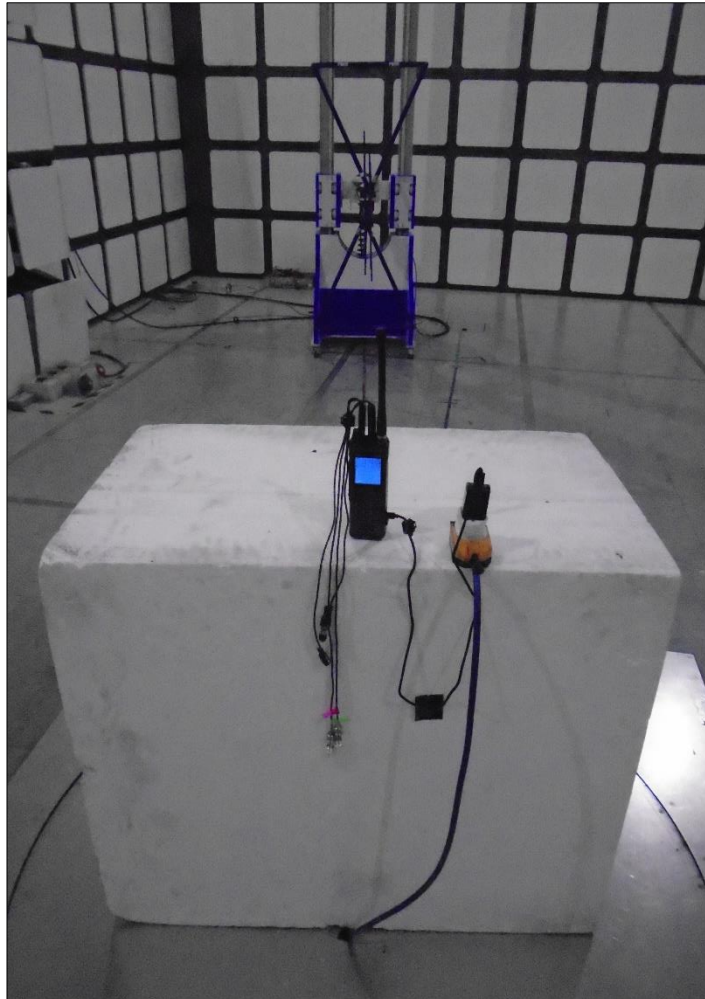


Figure 2 - 30 MHz to 1 GHz - Y Orientation

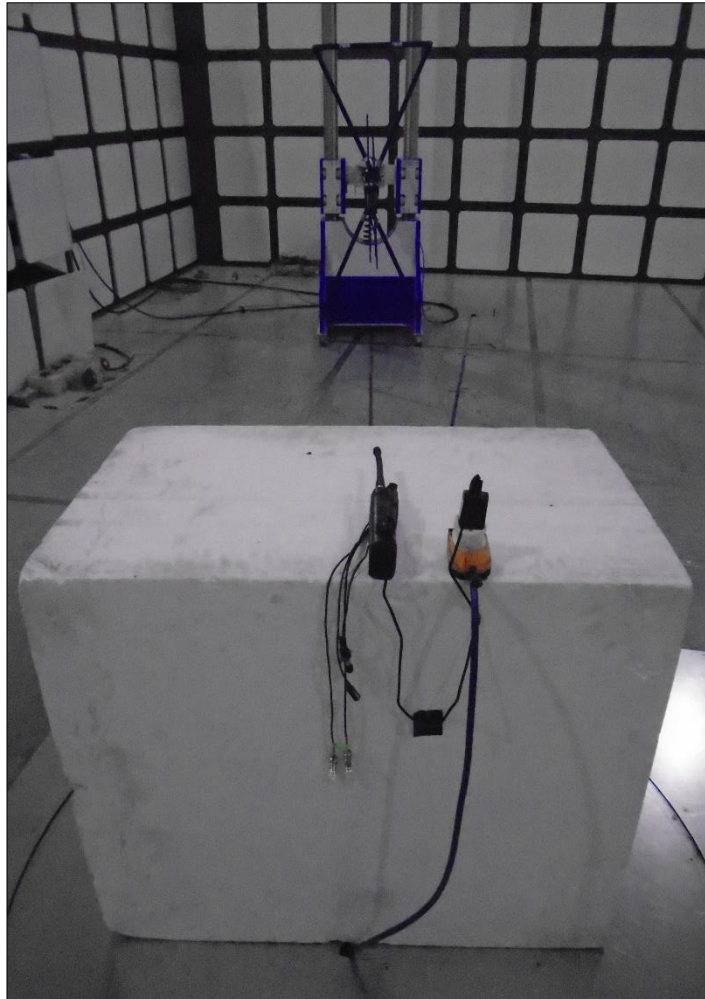


Figure 3 - 30 MHz to 1 GHz - Z Orientation



Figure 4 - 1 GHz to 2 GHz - X Orientation

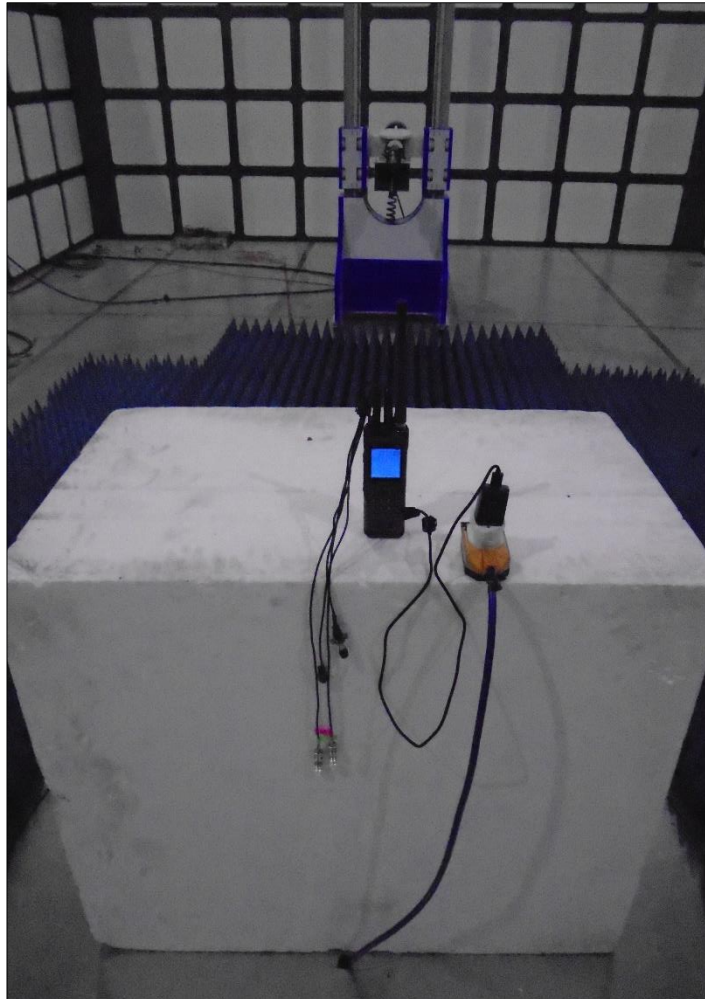


Figure 5 - 1 GHz to 2 GHz - Y Orientation

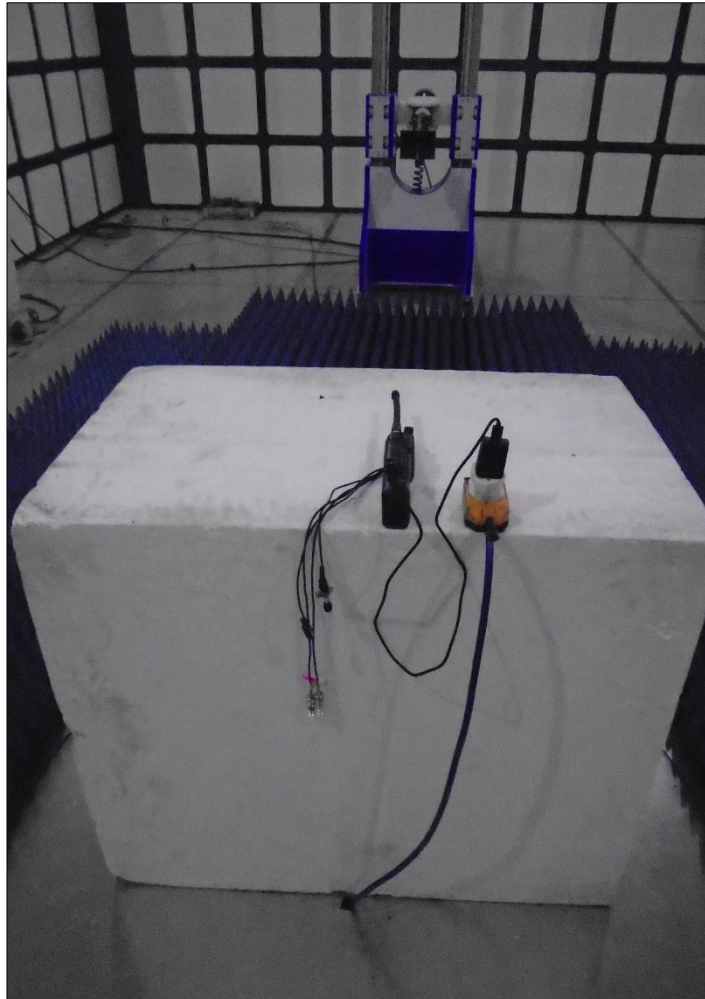


Figure 6 - 1 GHz to 2 GHz - Z Orientation

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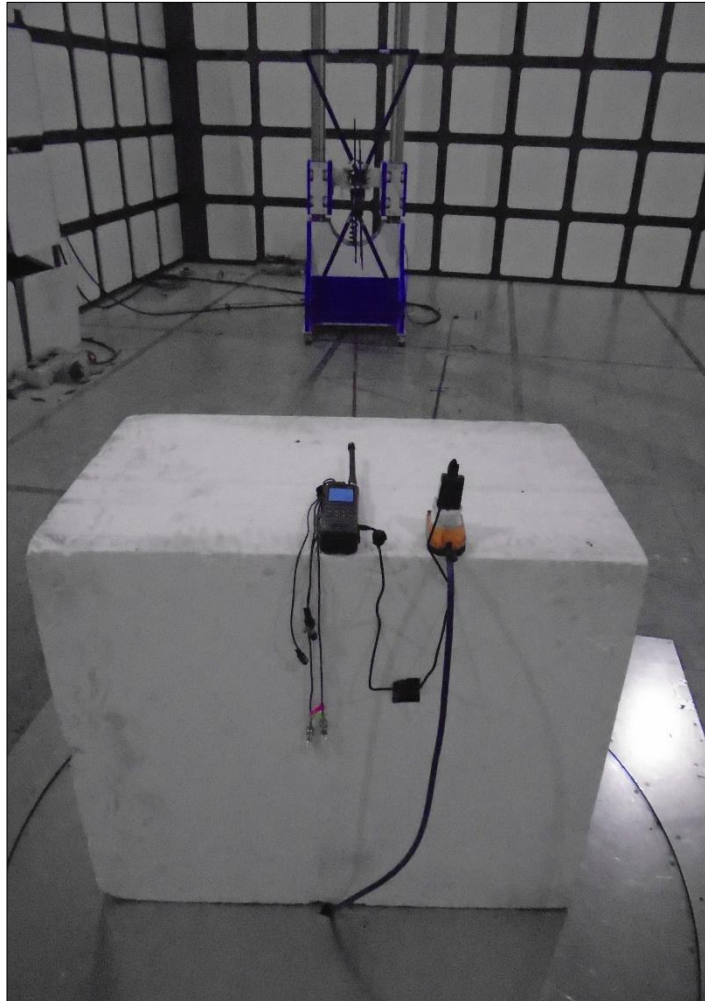


Figure 1 - 30 MHz to 1 GHz - X Orientation

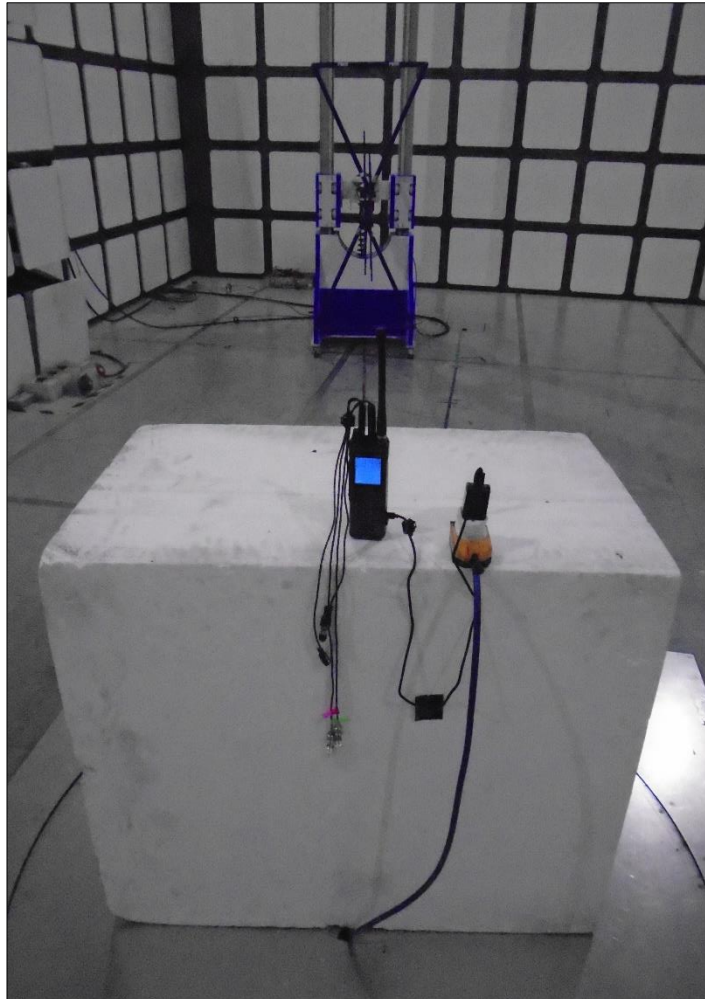


Figure 2 - 30 MHz to 1 GHz - Y Orientation

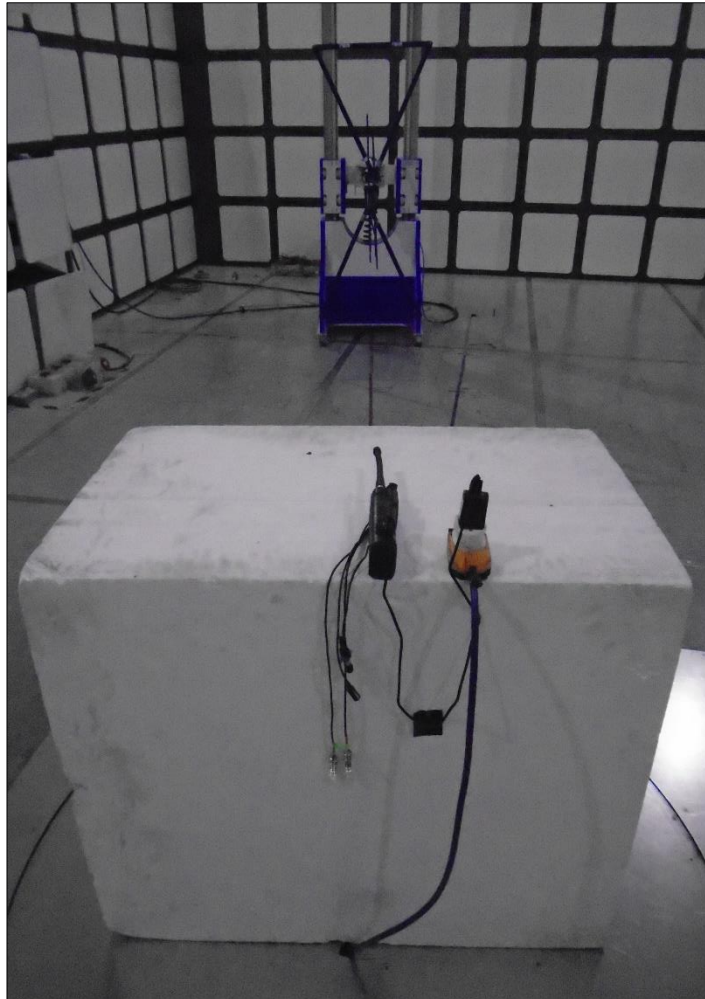


Figure 3 - 30 MHz to 1 GHz - Z Orientation



Figure 4 - 1 GHz to 2 GHz - X Orientation

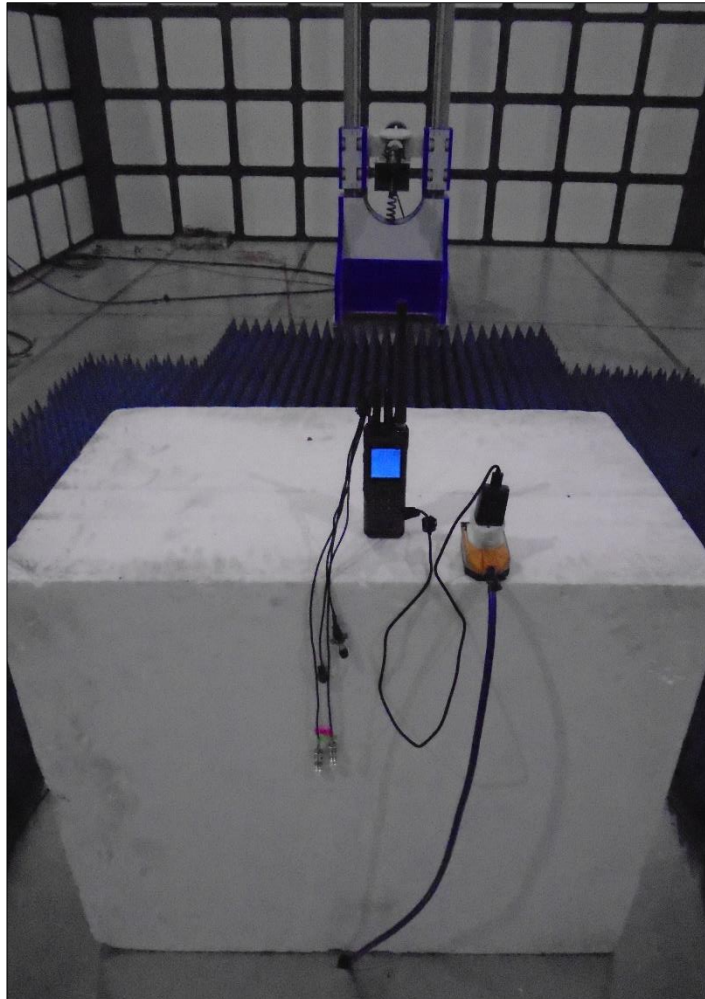


Figure 5 - 1 GHz to 2 GHz - Y Orientation

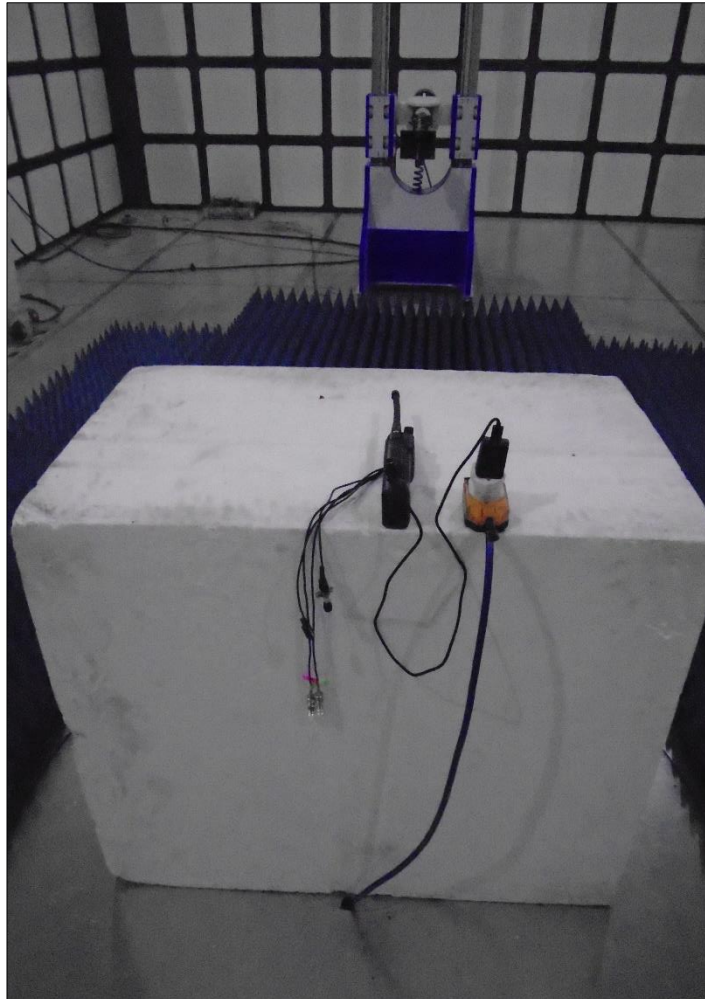
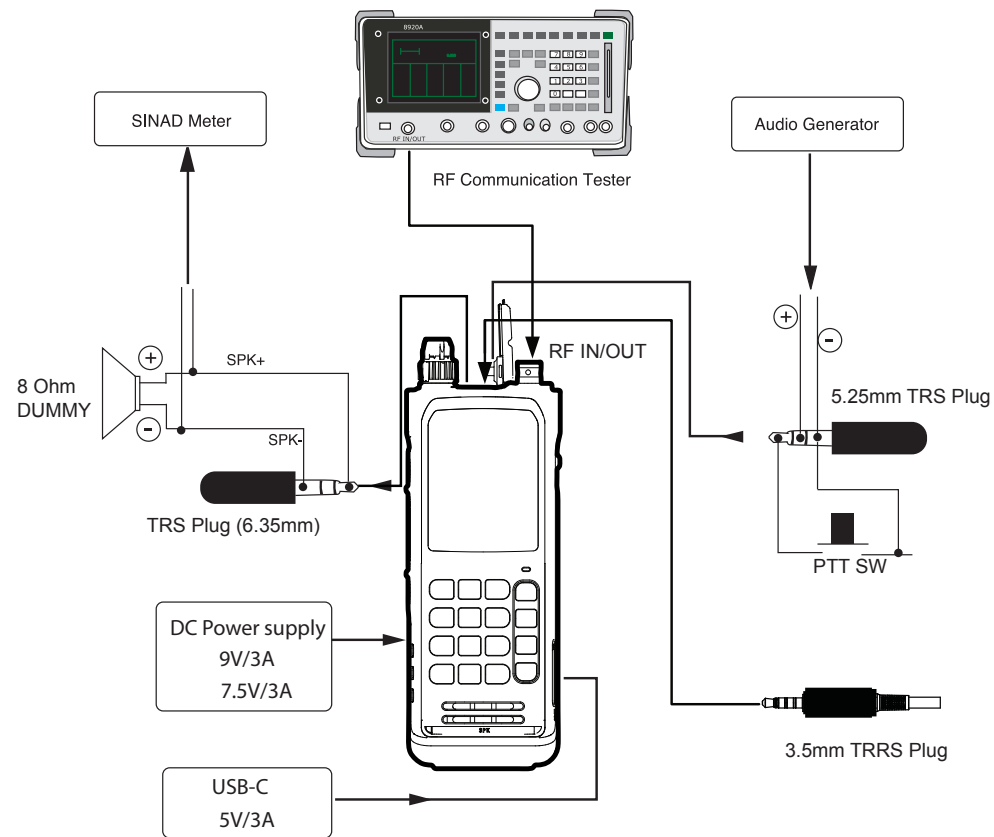


Figure 6 - 1 GHz to 2 GHz - Z Orientation

3. Alignment



3.1. Getting Started

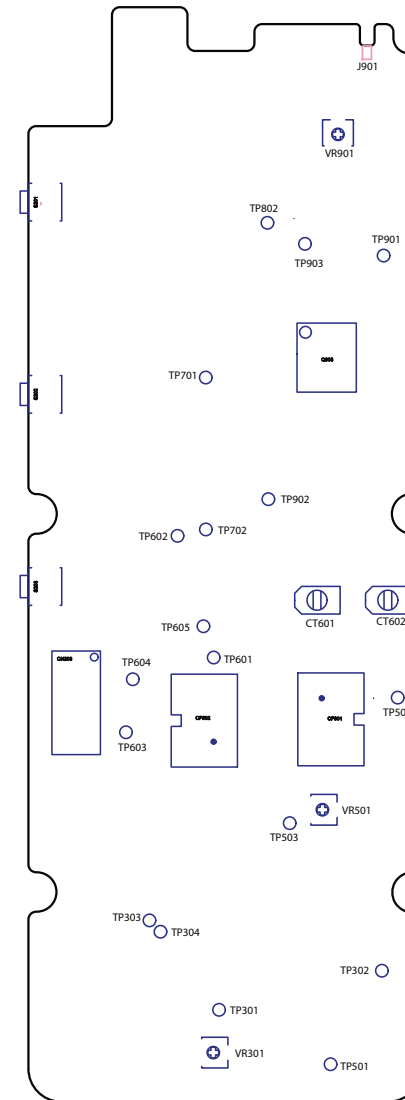
Connects the antenna connector (BNC type) to RF communication tester

Connect audio generator as illustrated.

Connects SINAD meter as illustrated.

To follow above installation setup carefully.

3.2. Test and Adjust Location on RF Board



Item	Alignment	Procedure	Value
1	Rx VCO	(1) Connect the digital –multimeter (DMM) to TP501 test point.	
		(2) Set the frequency to WX ch 10 (163.2750 MHz). Adjust CT601 to obtain 8.2V±0.2V on DMM.	8.2V±0.2V
		(3) Set the frequency to 118.000 MHz, re-check the RX VCO is above 2.8V.	>=2.8V
2	Tx VCO	(1) Connect the DMM to TP501 test point.	
		(2) Set the frequency to 136.975 MHz, Pressing PTT SW then adjust The CT602 to obtain 4.0V±0.2V on DMM.	4.0±0.2V
		(3) Set the frequency to 118.000 MHz, checks that the VCO voltage is above 1.8V.	>=1.8V
3	Tx Carrier Power	(1) Set the frequency to 127.500 MHz, pressing PTT SW, Adjust VR901 to obtain 1.8W±0.1W .  WITHOUT MODULATION	1.8W±0.1W
4	Modulation Gain	(1) Connect the external Microphone and Speaker plug to J201 J202 SPK/ MIC earphone jack, then Input AF modulation signal from communication AF generator, The AF generator setup : Frequency : 1KHz Level:100mV.	AM 85%
		(2) Adjust VR401 so that the percentage amplitude modulation is 85% distortion ≤10%.	Distortion ≤10 %
		(3) Set the AF generator output level to -7dBm, Check that the percentage amplitude modulation is ≤ 95 % ≥85 % and distortion ratio is 10% or less.	85% to 95%
		(4) Set the AF generator output level to 28mV, Check that the percentage amplitude modulation is 30 % and	AM 30% Distortion ≤5 % ±3dB

Item	Alignment	Procedure	Value
5	Rx Sensitivity Check	(1) Set the output of the communication RF signal generator to -107dBm 30% modulation with 1KHz modulating frequency, and 118MHz input the RF signal to the ANT terminal. AF analyzer without 0.3~3KHz filter.	≤-107dBm @12dB SINAD
		(2) Radio set the frequency to 118MHz and volume set to maximum 1/2 AF output power.	
		(3) Check that SINAD is 12dB or greater.	
		(4) Set the frequency to 108.000 MHz and 136.975 MHz, check that the 12dB SINAD is also greater.	
6	Rx Dynamic Range	(1) Set the frequency to 127.500 MHz. Input the following signal from the antenna setup : Frequency :127.500 MHz Level : Max sensitivity @12dB SINAD Modulation frequency :1KHz Percentage modulation : 30%	0dB±3dB 0dB±3dB
		(2) Radio set the frequency to 127.500 MHz and volume control set to AF output power @0 dB.	
		(3) Change the signal generator output level from max sensitivity up to -7dBm, and then check AF output level, recording the maximum dynamic range within 0dB±3dB.	
		(4) Set the frequency to 118.000 MHz and 136.975 MHz, test methods and procedures same item 2	