SFRA Test Report

1. Transformer Test Details

Sr. No.	Item		*Details*
1	Customer	XXXX	
	W.O. No.	Make	XXX
2		Sr. No	XXXXX
3	Rating	Type	Three Phase Auto-transformer
		MVA	315
4		HV	400 kV
		I.V	220 kV
		LV	33 kV
5	Vector Group	YNa0d11	
6	Year of Repair	2007	
7	Date of test		
8	Place of test	XXXX	
9	Test conducted by	Utility	

2. Transformer winding arrangement and test Connections

Terminal Markings

High Voltage Winding : 1u, 1v, 1w, N
Intermediate Voltage Winding: 2u, 2v, 2w, N
Low Voltage Winding : 3u, 3v, 3w

Test Connections

Type	Red Lead	Black Lead	Connection Shorted
Open (Tap.1)	H1	X1	None
Open (Tap.1)	H2	X2	None
Open (Tap.1)	H3	X3	None
Open (Tap.1)	X1	X0H0	None
Open (Tap.1)	X2	X0H0	None
Open (Tap.1)	X3	X0H0	None
Open (Tap.1)	Y3	Y2	None
Open (Tap.1)	Y2	Y1	None
Open (Tap.1)	Y1	Y3	None
Short (Tap.1)	H1	X0H0	IV
Short (Tap.1)	H2	X0H0	IV
Short (Tap.1)	H3	X0H0	IV
Short (Tap.1)	H1	X0H0	LV
Short (Tap.1)	H2	X0H0	LV
Short (Tap.1)	H3	X0H0	LV
Short (Tap.1)	X1	X0H0	LV
Short (Tap.1)	X2	X0H0	LV
Short (Tap.1)	X3	X0H0	LV

3. Test Procedure

i. The transformer tested was completely isolated from the power supply.
ii. In order to maintain consistency and repeatability of measurements, all terminals that are not under test were isolated and floating.
iii. Self-test was conducted on test setup after layout of test leads.
iv. Connections of the Cables and Ground wire are followed as per the SFRA Manual.

4. Interpretation:

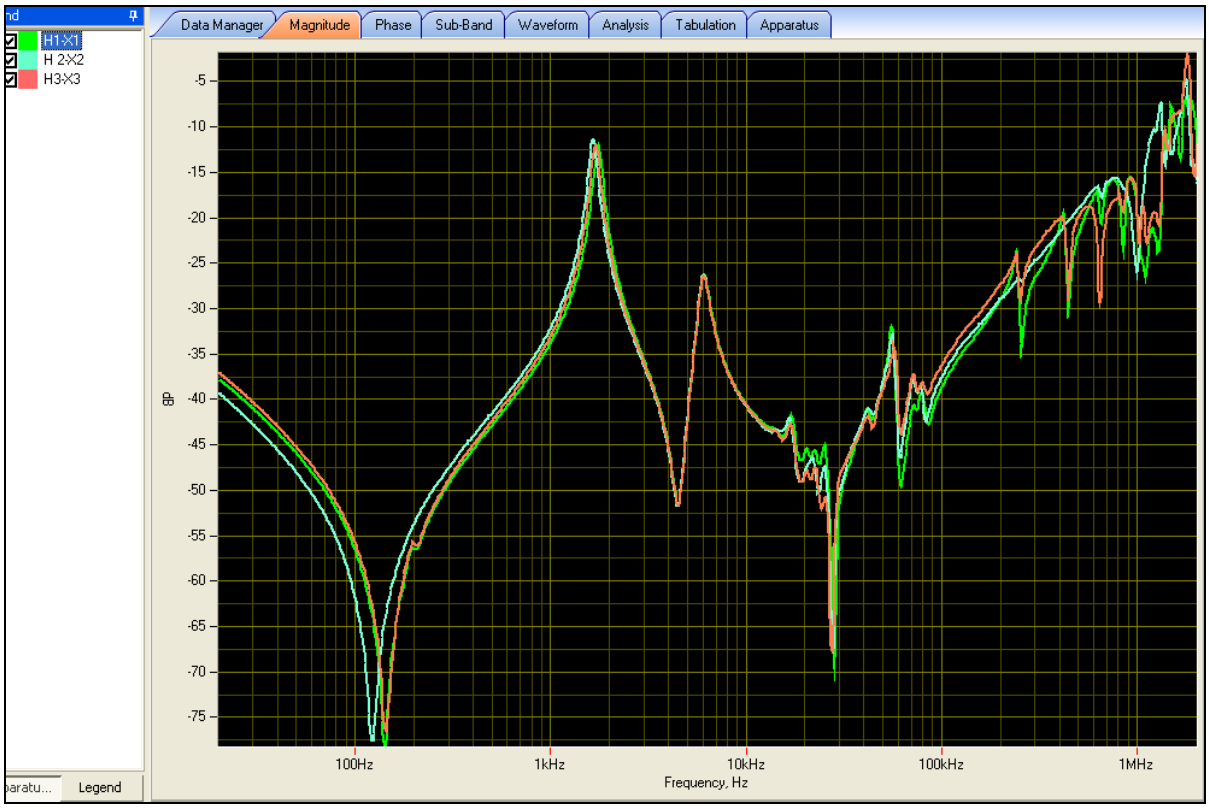
The phase to phase comparison of signatures indicates that the structural health of core and windings is good and there is no indication of any deformation or displacement of winding and core.

The difference in pattern observed at high frequency region (above 1 MHz) for Y1Y3 graph w. r. t the adjacent phases, is due to poor contacts, as this matches well with adjacent phases until 1 MHz.

Since the site measurements have been taken at tap No. 1, and the factory measurements have been taken at tap No. 9b respectively, comparison of reference signature is not possible.

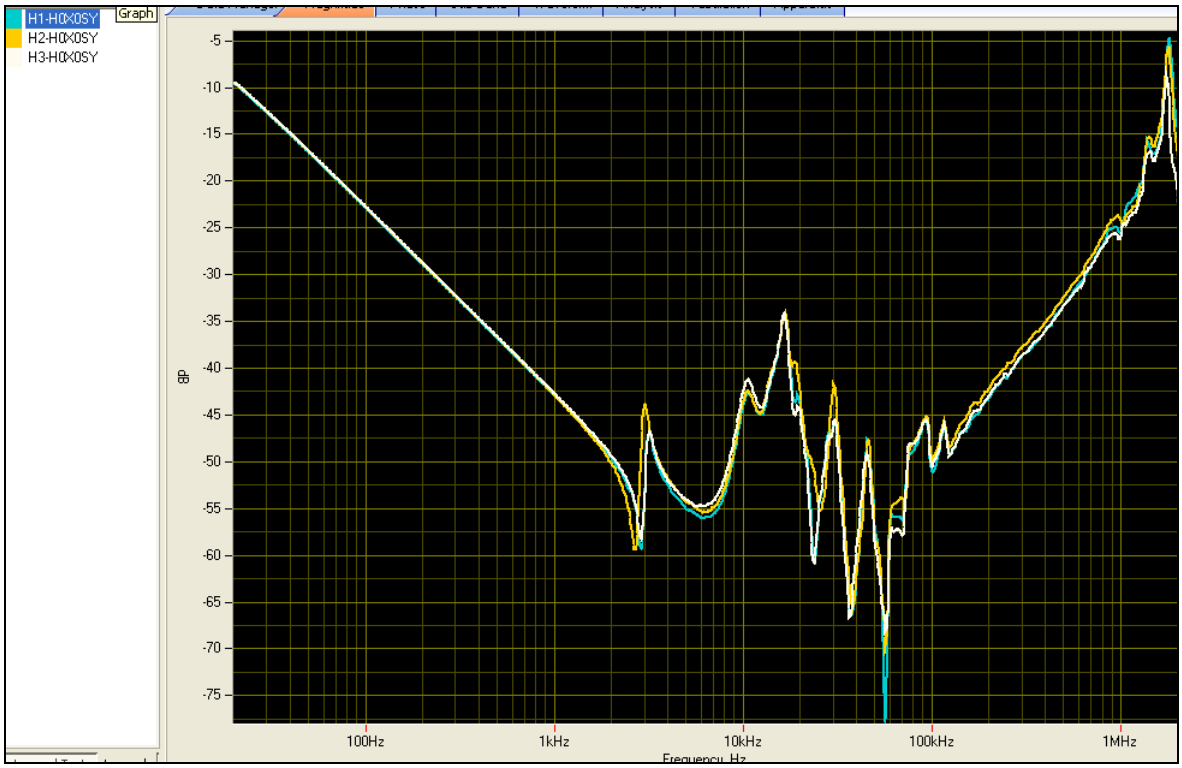
5.0 Test results:

Phase to phase comparison of Series windings at tap position 1.

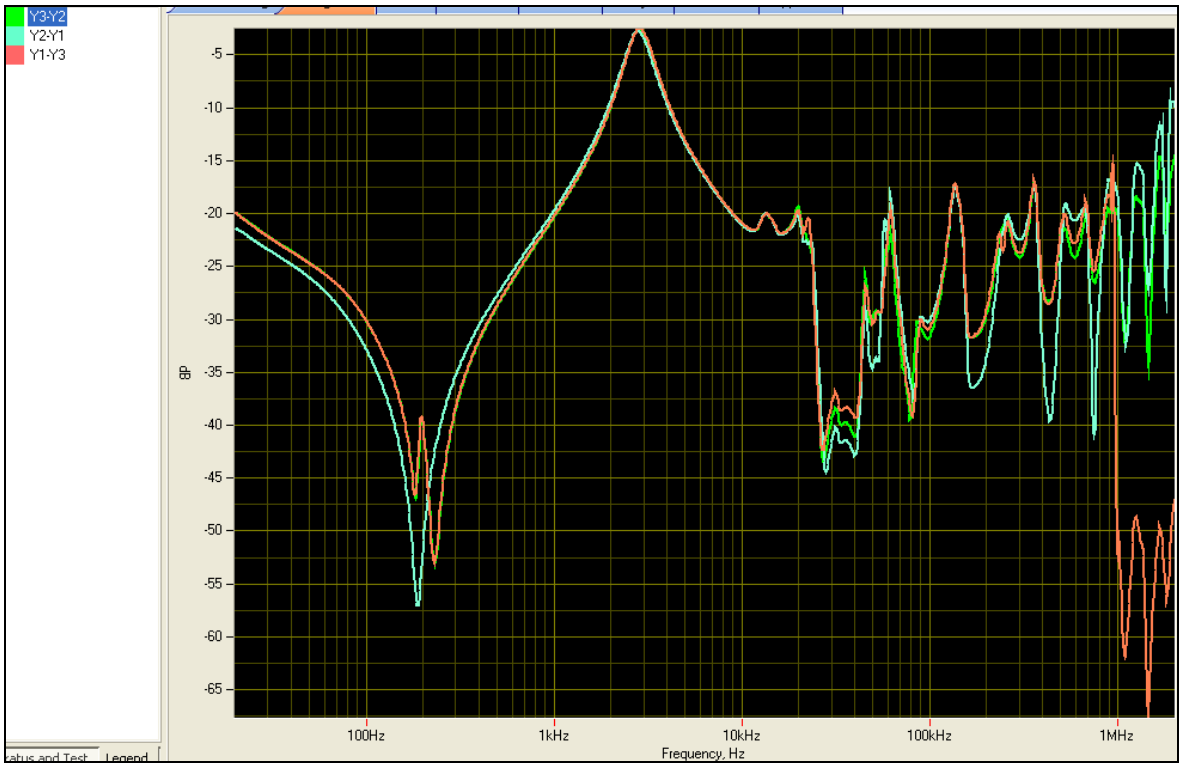


Phase to phase comparison of complete HV windings at tap position 1 with IV (common) winding shorted.

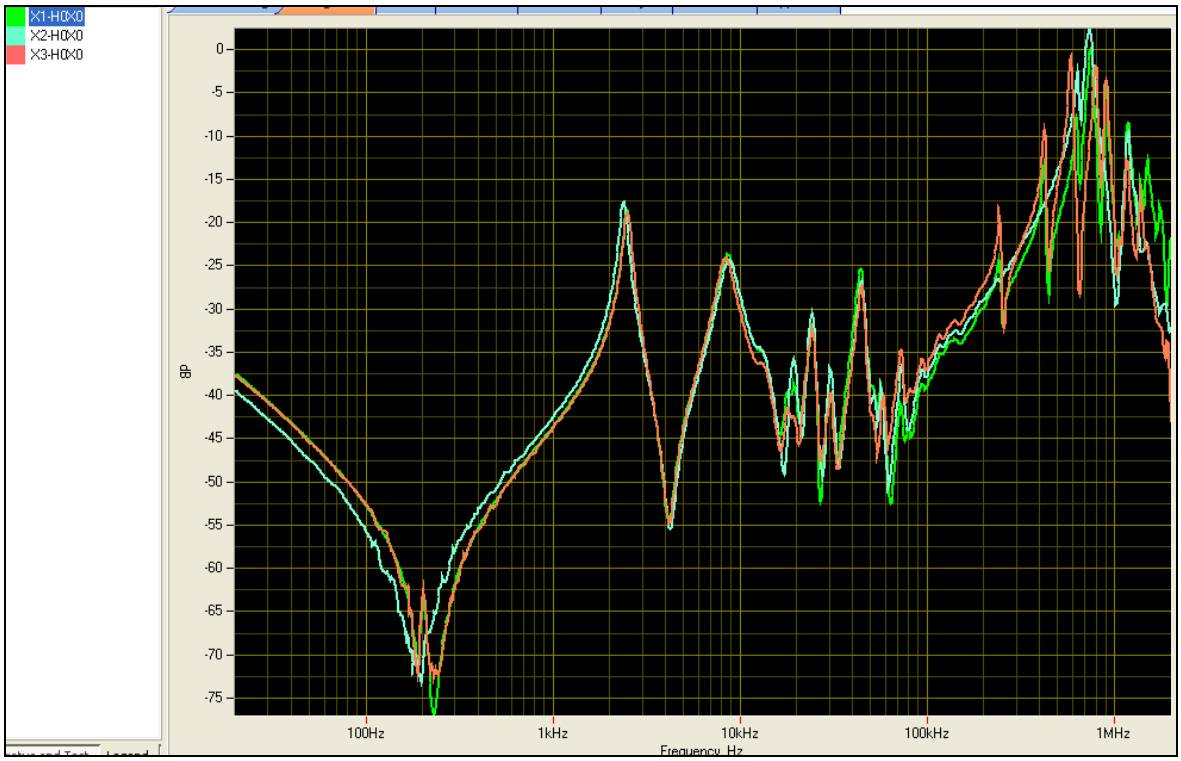
Phase to phase comparison of complete HV windings at tap position 1 with LV shorted.



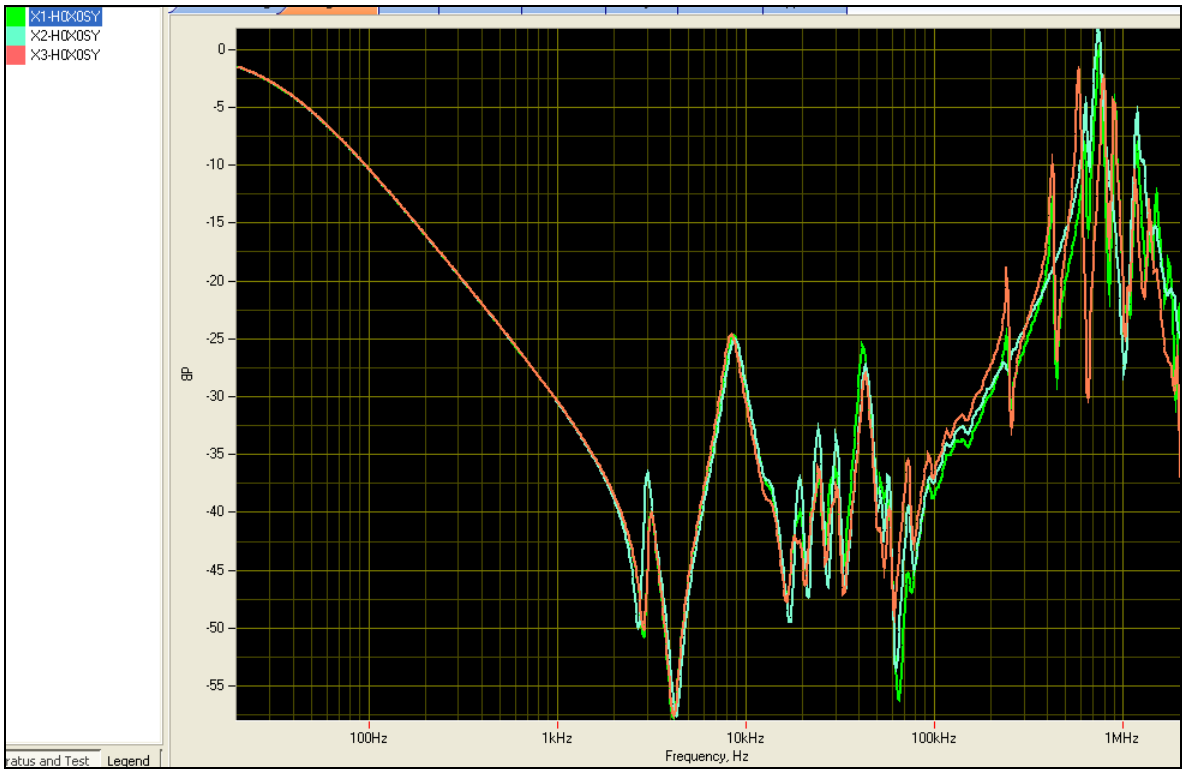
Phase to phase comparison of LV windings at tap position 1.



Phase to phase comparison of Common windings at tap position 1.



Phase to phase comparison of Common windings at tap position 1 with LV shorted.



In case you need any clarification, please feel free to contact: - XXXX@gmail.com