

Case History - 20: Using Online Ultrasonic Method

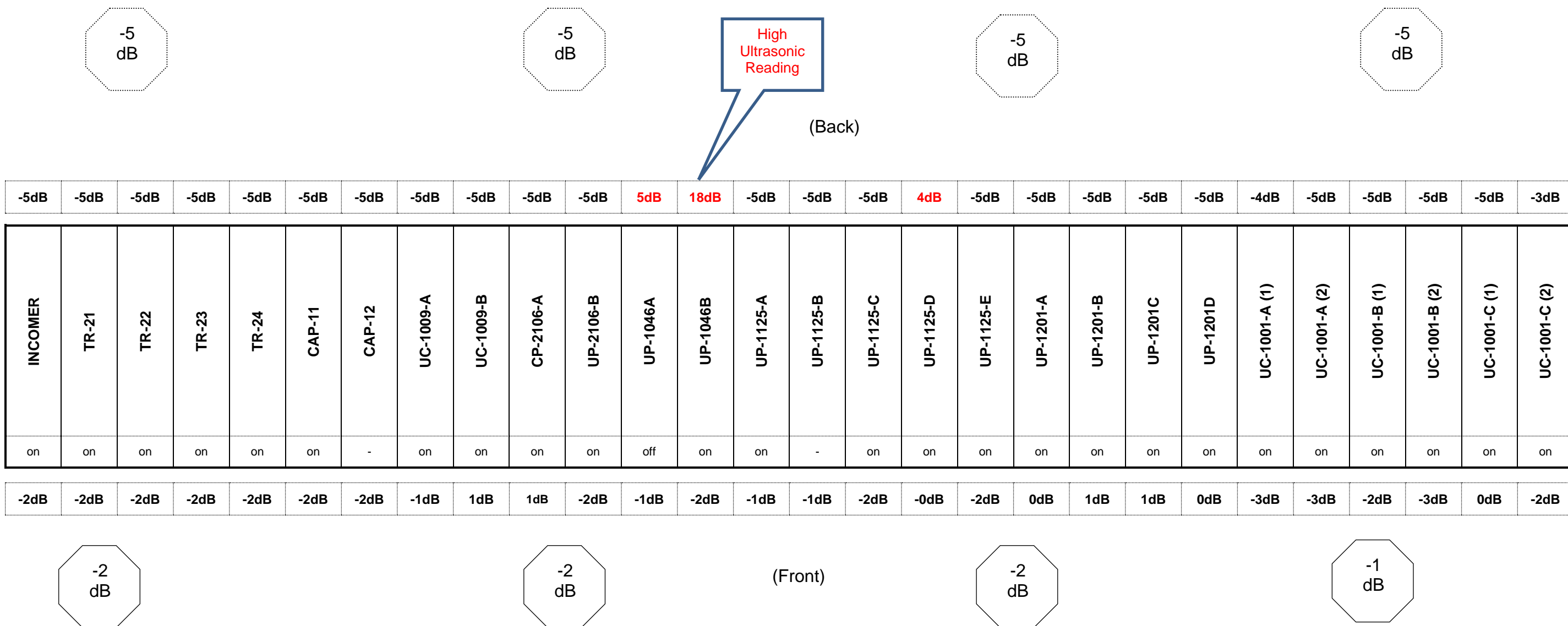
Equipment under Measurement: **6.6kV AIS, Toshiba**

Date of Measurement: **04th September 2015**

Type of Partial Discharge Measurement: **Snapshot mode Ultrasonic measurement**

ONLINE PD MEASUREMENT USING SNAPSHOT ULTRASONIC READINGS FOR 6.6kV AIS @ 22kV/6.6kV SWITCH ROOM

Client : A	Identification : -	Type : AIS	Substation location: 22kV/6.6kV Switch Room
Measurement Date : 04th September 2015	Sensor Used: Airborne Ultrasonic sensor	Serial No: -	Rated (kV): 7.2 kV
Measured By : Lee Ah Khaw	Measurement type: Snapshot	Manufacturer /Year: Toshiba	Operating Voltage (kV) : 6.6 kV
			Air-con : Yes



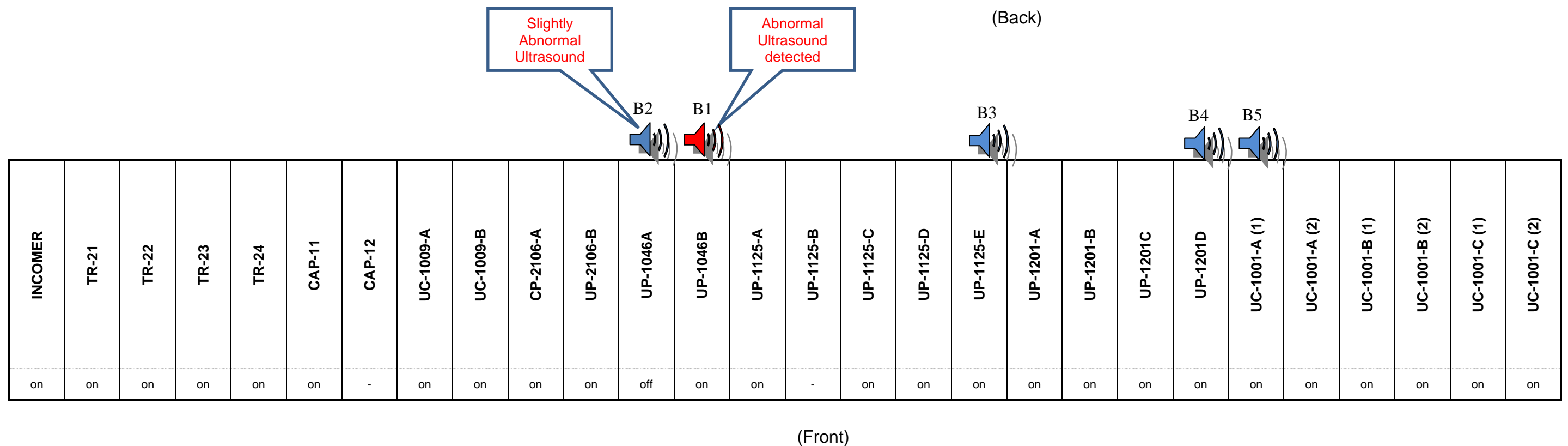
Conclusion : PD detected at the back panel of circuit "UP-1046B" by airborne Ultrasonic sensor

LEGEND :			
	Measurement at the front side of the Panel		Measurement at the back side of the Panel
	Background measurement at the front side of the Panel		Background measurement at the back side of the Panel

* SDM was done on 11th March 2016.

ONLINE PD MEASUREMENT USING SNAPSHOT ULTRASONIC SENSORS FOR 6.6kV AIS @ 22kV/6.6kV SWITCH ROOM

Client : A	Identification : -	Type : AIS	Substation location: 22kV/6.6kV Switch Room
Measurement Date : 04th September 2015	Sensor Used: Airborne Ultrasonic Sensor	Serial No: -	Rated (kV): 7.2 kV
Measured By : Lee Ah Khaw	Measurement type: Snapshot	Manufacturer /Year: Toshiba	Operating Voltage (kV) : 6.6 kV
			Substation type : Indoor
			Air-con : Yes



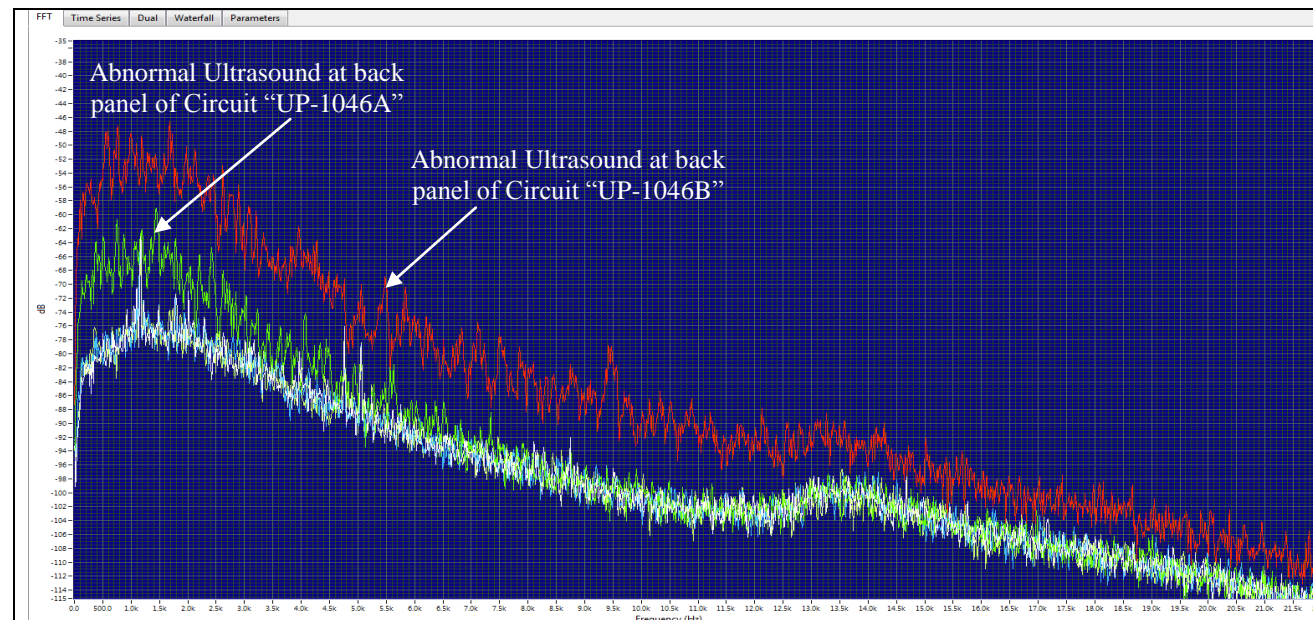
ULTRASONIC ACCESS POINT :	
Back side of Switchgear	<input type="checkbox"/> Louver <input type="checkbox"/> Screw Opening <input checked="" type="checkbox"/> Gap in between Panels <input type="checkbox"/> Others
Front side of Switchgear	<input type="checkbox"/> Louver <input type="checkbox"/> Screw Opening <input checked="" type="checkbox"/> Gap in between Panels <input type="checkbox"/> Others
ON-SITE AUDIO MEASUREMENT DETAILS :	
Background Ultrasonic Scan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Abnormal Source Detected (Background)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, _____
Component Ultrasonic Scan	<input checked="" type="checkbox"/> Cable termination <input type="checkbox"/> Circuit Breaker <input type="checkbox"/> VT <input type="checkbox"/> Bus Bar <input checked="" type="checkbox"/> Others
Abnormal Source Detected (Component)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, At the back panel of Circuit "UP-1046B"
LEGEND :	
	Ultrasonud at the back of Switchgear

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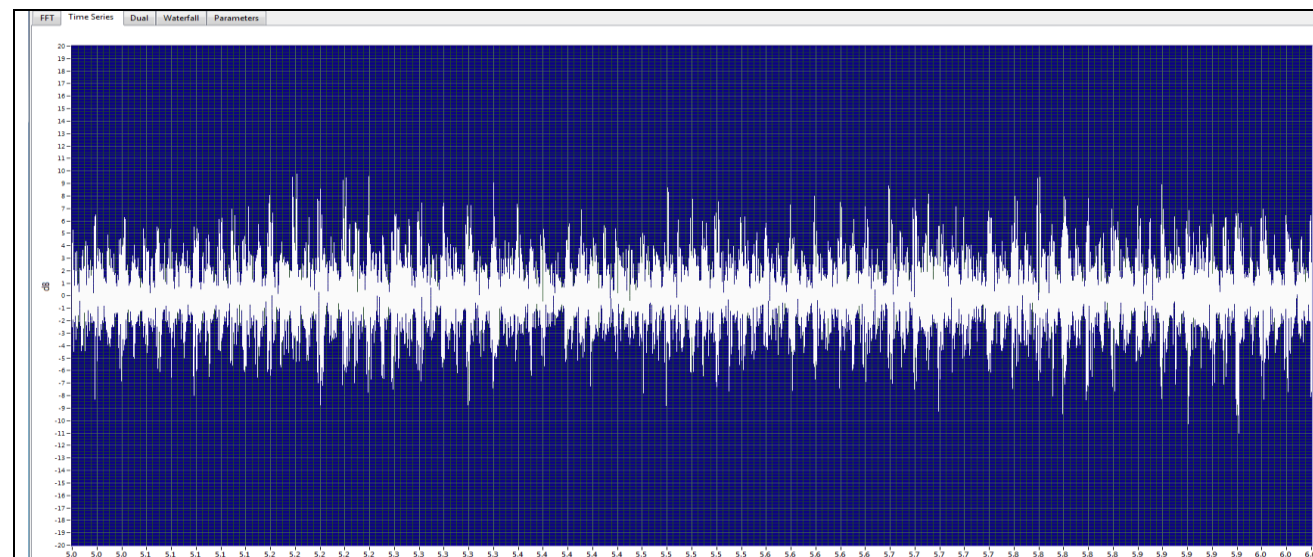
ONLINE PD MEASUREMENT USING SNAPSHOT ULTRASONIC SENSORS FOR 6.6kV AIS @ 22kV/6.6kV SWITCH ROOM

Client :	A	Identification :	-	Type :	AIS	Substation location:	22kV/6.6kV Switch Room
Measurement Date :	04 th September 2015	Sensor Used:	Airborne Ultrasonic sensor	Serial No:	-	Rated (kV):	7.2 kV
Measured By :	Lee Ah Khaw	Measurement type:	Snapshot	Manufacturer /Year:	Toshiba	Operating Voltage (kV) :	6.6 kV
						Air-con :	Yes

• Frequency Domain Analysis

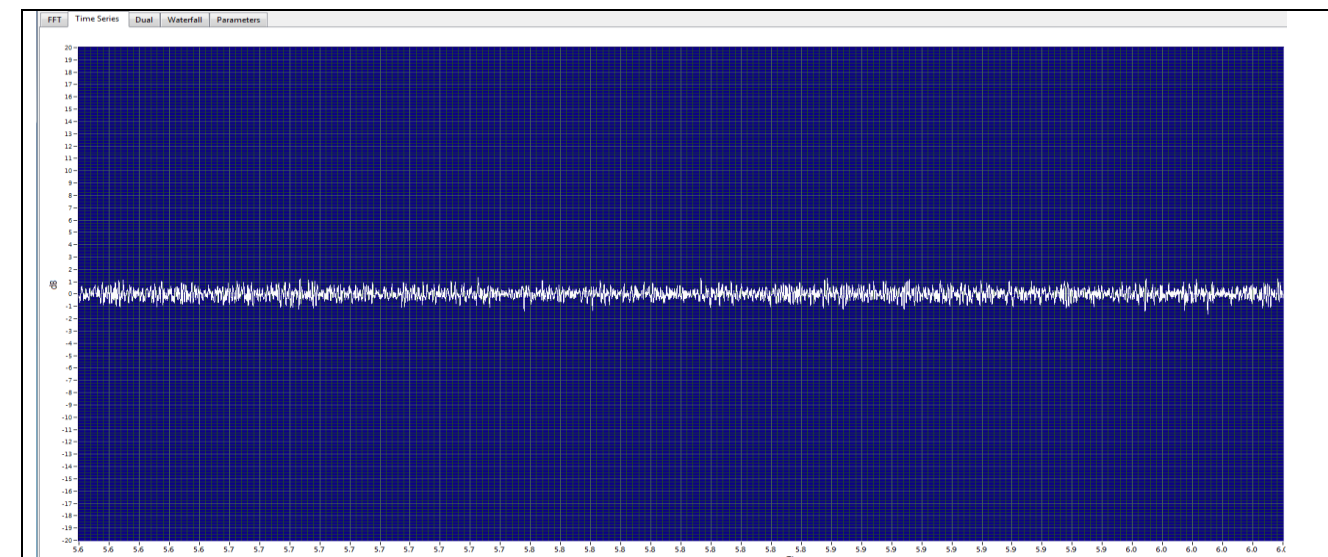


• Time Domain Analysis @ back panel of "UP-1046B"



Audio Analysis => **Abnormal ultrasound was detected at the back panel of circuit "UP-1046B"**

• Time Domain Analysis @ back panel of "UP-1046A"



• Audio Analysis => **No Abnormal ultrasound was detected.**

* SDM was done on 11th March 2016.

OBSERVATION DURING SHUTDOWN MAINTENANCE



** SDM was done on 11th March 2016.*