



Electromagnetic Compatibility (EMC) Requirements

EN61326-1/EN55011

Test Report for

Isolated Gate Driver w/ EVM

PN: UCC23513DWY

Prepared For: Texas Instruments

12500 TI Blvd.

Dallas, TX 75243

P.O. Number: 4513950453

Prepared By: National Technical Systems

1701 E. Plano Pkwy. Ste. 150

Plano, TX 75074

(972) 509-2566

www.nts.com

Issued: 05/04/2020

This report and the information contained herein represents the results of testing of only those articles/products identified in this document and selected by the client. The tests were performed to specifications and/or procedures approved by the client. National Technical Systems ("NTS") makes no representations expressed or implied that such testing fully demonstrates efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it present any statement whatsoever as to the merchantability or fitness of the test article or similar products for a particular purpose. This document shall not be reproduced except in full without written approval from NTS



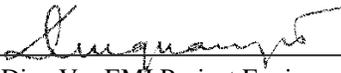
Revision Page

Rev	Date	Description
0	04/24/2020	Original
1	05/04/2020	Added client comments

Signatures

Prepared by 

BreAnna Cheatham, Technical Writer

Approved by 

Dieu Vo, EMI Project Engineer

Reviewed by 

Kimberly Zavala, Quality Assurance Manager

Table of Contents

Program Scope	5
Executive Summary	6
1.0 Administrative Data	7
1.1 References.....	7
1.2 Description of Test Item.....	7
1.3 Test Configuration	7
1.4 Test Locations and Dates	7
1.5 Calibration Details	8
1.6 Measurement Uncertainty	8
1.7 Test and Result Summary	8
1.8 Mode of Operation and Power	9
1.9 Performance Criteria	9
2.0 Test Descriptions and Results	10
2.1 Radiated Emissions	10
2.2 Radiated Immunity.....	14
2.3 Electrical Fast Transients	26
2.4 RF Common Mode Injection.....	28
2.5 Power Frequency Magnetic Field Immunity	37

Program Scope

NTS has reviewed the product class for the Texas Instruments Isolated Gate Driver w/ EVM and has identified the following list of topics, which in NTS's view is applicable for this product's requirements. Please note that this Test Report includes only the topics listed below.

Additional test programs covering other topics may have been performed on the Texas Instruments Isolated Gate Driver w/ EVM or may be performed in the future. If so, additional Test Reports would not have the same Test Report number, but would be identified with a separate number. Any such additional Test Reports should be obtained directly from Texas Instruments.

Criteria:

- Radiated Emissions
- Radiated Immunity
- Electrical Fast Transient
- RF Common Mode Injection
- Power Frequency Magnetic Field Immunity

Executive Summary

Introduction

The purpose of this test program is to determine if the specified Texas Instruments Isolated Gate Driver w/ EVM could withstand the electromagnetic compatibility specified herein and continue to perform the intended in-service functions.

Test Results Summary

All observations are entered on NTS Log Sheets. The test activities are summarized in this report which includes, but is not limited to, test details, NTS' observations, test results (including the following summarized table), test photographs, and test equipment lists. Refer to the appropriate section of the test report for specific test results.

	Conformance			
	Yes	No	N/A	Comments
Emissions				
EN 55011 Radiated Emissions	X			
Immunity				
EN 61000-4-3 Radiated Immunity	X			
EN 61000-4-4 EFT	X			
EN 61000-4-6 RF Common Mode Injection	X			
EN 61000-4-8 Power Frequency Magnetic Field Immunity	X			

1.0 Administrative Data

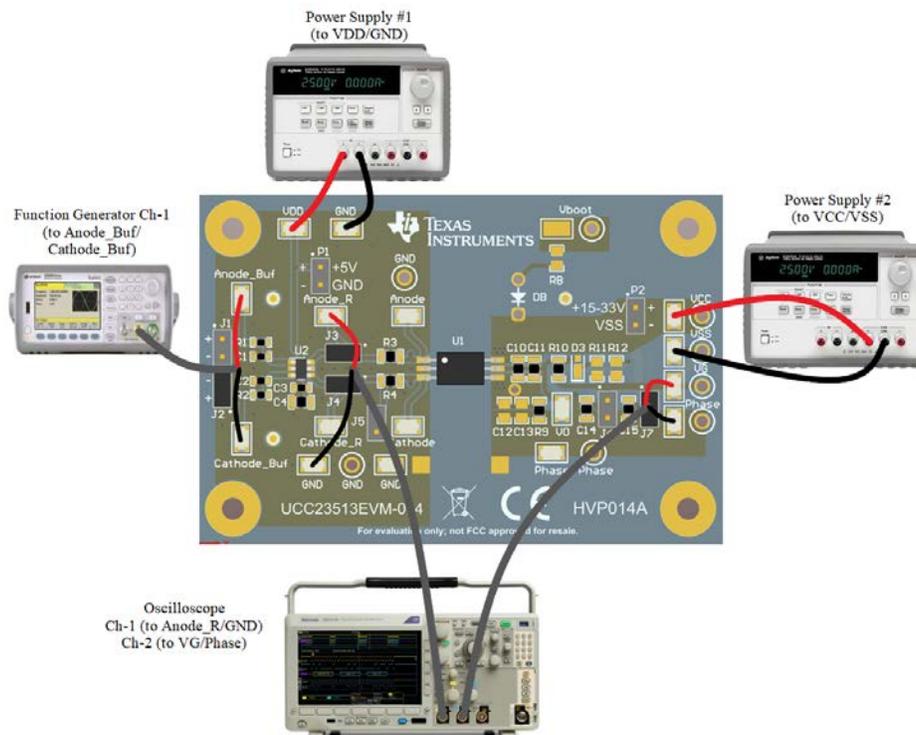
1.1 References

- Texas Instruments P.O. Number 4513950453 dated 03/17/2020
- NTS Quote Number OP0545692 dated 03/10/2020
- ISO/IEC 17025:2017(E), *General Requirements for the Competence of Testing & Calibration Laboratories*
- EN55011, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement, Ed 6.0 2015-06*
- EN 61000-4-3, *Testing and Measurement Techniques – Radiated, Radio-Frequency, Electromagnetic Field Immunity Test, Ed. 3.2 2010-04*
- EN 61000-4-6 *Testing and Measurement Techniques – Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields, Ed. 4.0 2013-10*
- EN 61000-4-8, *Testing and Measurement Techniques – Power Frequency Magnetic Field Immunity Test, Ed. 2.0 2009-09*

1.2 Description of Test Item

Qty	Item	P/N	S/N
1	Isolated Gate Driver w/ EVM	UCC23513DWY	N/A

1.3 Test Configuration



1.4 Test Locations and Dates

Test Category	Test Dates
Radiated Emissions	04/06/2020
Radiated Immunity	04/07/2020
Electrical Fast Transient	04/24/2020
RF Common Mode Injection	04/08/2020
Power Frequency Magnetic Field Immunity	04/08/2020
Note: All testing was performed at NTS in Plano, TX	

1.5 Calibration Details

Lists of the equipment used during testing are included in each test section. This equipment is calibrated according to ISO/IEC 17025:2017(E) and calibration is traceable to the National Institute of Standards and Technology (NIST). Calibration records are maintained on file at National Technical Systems.

1.6 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Radiated Emissions	30 MHz-200 MHz	±5.49
Radiated Emissions	200 MHz-1 GHz	±5.49

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Consistent with industry standard (e.g. CISPR 32, clause 11, Measurement Uncertainty determining compliance with the limits shall be based on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this shall be a compliant test or passing test.

The acceptable Measurement Uncertainty value without requiring revision of the compliance statement is based on conducted and radiated emissions being less than UCISPR which is 3.6dB and 5.2dB respectively. CCS values (called U_{Lab} in CISPR 16-4-2) is less than UCISPR as shown in the table above. Therefore, Measurement Uncertainty need not be considered for compliance.

1.7 Test and Result Summary

The Isolated Gate Driver w/ EVM was tested to the specified standards and to comply with all of the criteria to which it is tested:

Test	Section	Reference	Performance	Test Result
		Emissions		Class Limit
Radiated Emissions	2.1	EN61326-1 /EN55011	Class B	Compliant
		Immunity		Performance Criteria
Radiated Immunity	2.2	EN 61000-4-3:2010-04	A	Compliant
Electrical Fast Transient	2.3	EN 61000-4-4:2012-04	A	Compliant
RF Common Mode Injection	2.4	EN 61000-4-6:2013-10	A	Compliant
Power Frequency Magnetic Field Immunity	2.5	EN 61000-4-8:2009-09	A	Compliant

*The decision rule used to state compliance is in accordance with the test specification used for testing.

1.8 Mode of Operation and Power

The Isolated Gate Driver w/ EVM was operated via 5VDC and 15VDC.

1.9 Performance Criteria

Performance Criteria A: The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criteria B: After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criteria C: Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

2.0 Test Descriptions and Results

Note: The Anechoic Room was calibrated with all internal cabling. All losses were recorded and used as correction factors in the final data. All calibrations are periodically updated.

2.1 Radiated Emissions

The Isolated Gate Driver w/ EVM was measured for radiated emissions to be below a specified level throughout the frequency range. The antenna was positioned 3 meters from the unit under test from 30 MHz-1 GHz. The antenna height was varied from 1-4 meters off of the ground plane in both the horizontal and vertical positions, and positions of the Isolated Gate Driver w/ EVM from the antenna were varied from 0-360° to produce the maximum emissions. All exiting I/O cables were manipulated to a worst case user configuration with no cables closer than 40 cm to the ground plane.

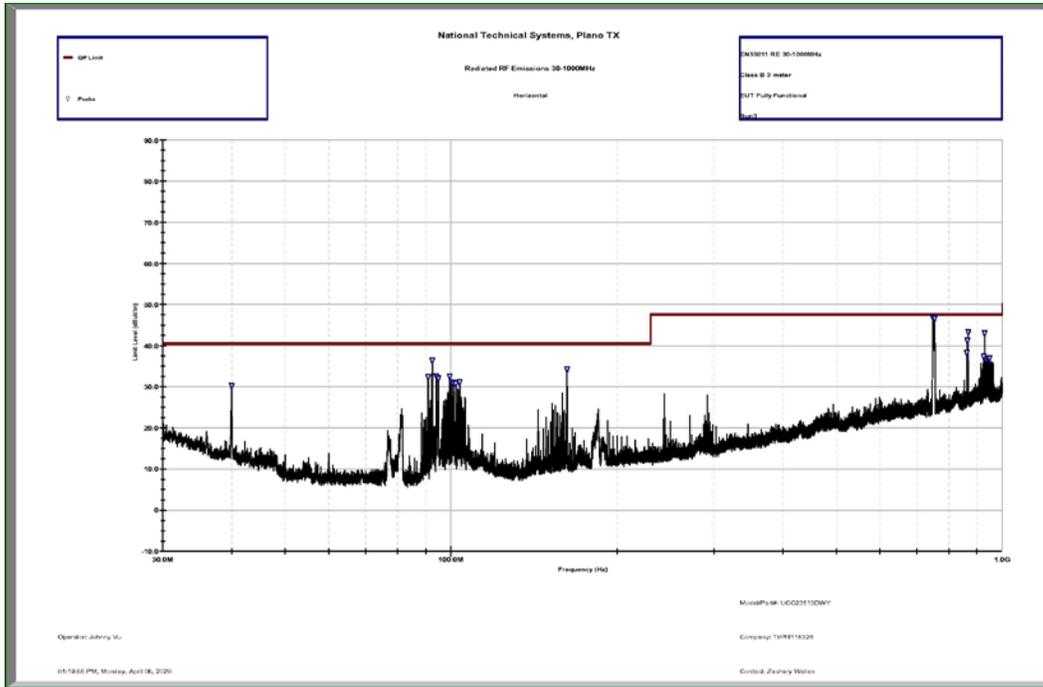
Class B Specification Limits

Frequency Band (MHz)	10 meters, dB (µV/m)	3 meters, dB (µV/m)
30-230	30	40
230-1000	37	47

Test Results

The Isolated Gate Driver w/ EVM, as configured and operated for testing, **conformed** to the EN 55011 Class B Radiated Emissions requirements. Emissions were below the limit over the entire frequency range.

EUT Power Input:	5V and 15VDC		
Temperature: 22 C	Humidity: 53%	Barometric Pressure: 987mbar	
Radiated Emissions			
Frequency (Hz)	Polarity		Comments
	Final Vertical Results	Final Horizontal Results	
30MHz - 1000MHz	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	



RE 30-1000MHz Horizontal Graph

National Technical Systems, Plano TX
Radiated RF Emissions 30-1000MHz
Horizontal Final

Operator: Johnny Vu
02:45:22 PM, Monday, April 06, 2020

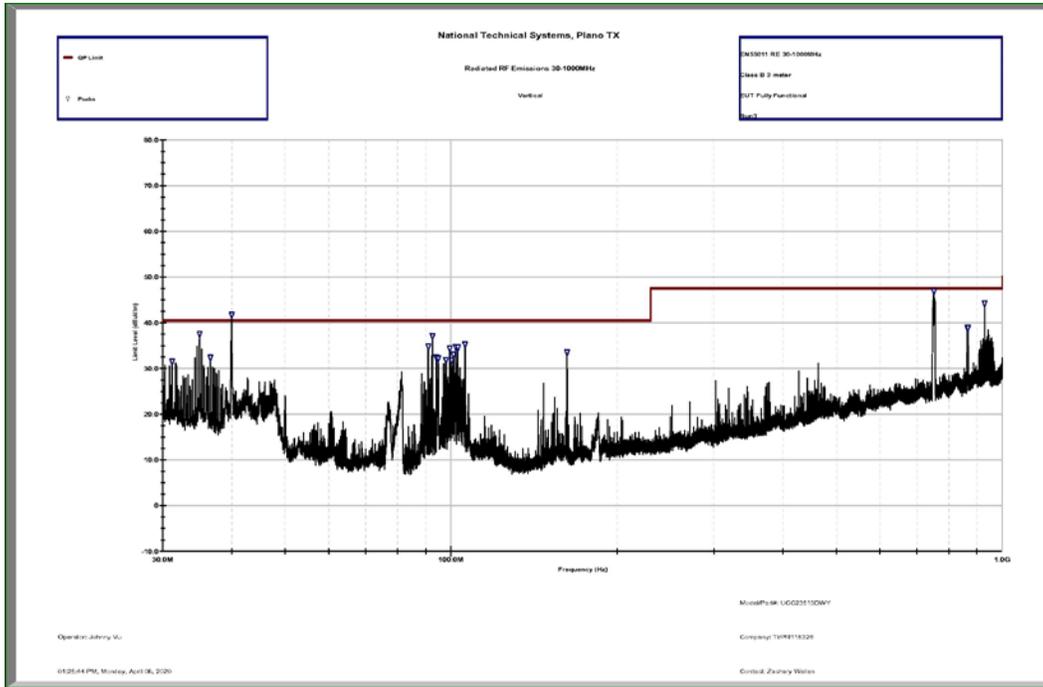
Model/Part#: UCC23513DWY
Company: TR-PR115328
Contact: Zachary Wellen

Frequency MHz	Limit dBuV/m	F2 dBuV/m	F3 dB	F4 OP Margin Tower	F5 Turntable Degrees
92.46 MHz	40.457	34.496	-5.961	187.000	252.000
748.80 MHz	47.457	41.946	-5.511	209.000	107.000
754.19 MHz	47.457	34.314	-13.143	100.000	281.000
864.43 MHz	47.457	35.479	-11.978	100.000	359.000
968.32 MHz	47.457	41.055	-6.402	100.000	291.000
929.60 MHz	47.457	27.157	-20.300	236.000	359.000

EN55011 RE 30-1000MHz
Class B 3 meter
EUT Fully Functional
Runs

Page 1

RE 30-1000MHz Horizontal Table



RE 30-1000MHz Vertical Graph

National Technical Systems, Plano TX
Radiated RF Emissions 30-1000MHz
Vertical Panel

Operator: Johnny Vu
02:01:14 PM, Monday, April 06, 2020

Model/Part#: UCC23513DWY
Company: TI/PR115328
Contact: Zachary Wollen

Frequency MHz	Limit dBm/m	2 dBmV/m	3 OP	4 OP Margin_Tower	5 Turntable
34.86 MHz	40.457	31.121	-19.336	100.000	1.000
39.99 MHz	40.457	37.787	-2.670	100.000	196.000
92.50 MHz	40.457	26.523	-13.934	100.000	359.000
106.09 MHz	40.457	34.759	-5.738	116.000	341.000
751.48 MHz	47.457	40.079	-7.378	203.000	226.000
929.61 MHz	47.457	25.105	-22.352	209.000	27.000

EN55011 RE 30-1000MHz
Class B 3 meter
EUT Fully Functional
Run3

Page 1

RE 30-1000MHz Vertical Table

Test Photographs



RE 30-1000Mhz Horizontal



RE 30-1000MHz Vertical

Test Equipment List

NTS ID#	NTS ID#	Duration	Calibration Due
WC021735	EMI Test Chamber #1	NCR	NCR
WC021617	Aligent E4440A Spectrum analyzer	12 months	6/4/2020
WC021471	Pre-amp AM1431-N-1197SC	12 months	3/11/2021
WC020908	EMCO Bicon Antenna 3142D	12 months	1/2/2021
WC038647	CGO-520 Comb Gen	NCR	NCR

Calibration Abbreviations

CAL: Calibrated
 NCR: No Calibration Required

2.2 Radiated Immunity

The Isolated Gate Driver w/ EVM was subjected to electric field strengths at a specified level throughout the frequency range. The antenna was positioned 3 meters from the Isolated Gate Driver w/ EVM, in both the horizontal and vertical positions, at a height of 1.5 meters off of the ground plane. An immunity test system in which the radiated field was calibrated by NTS prior to testing is used to generate the field strength throughout the specified frequency range.

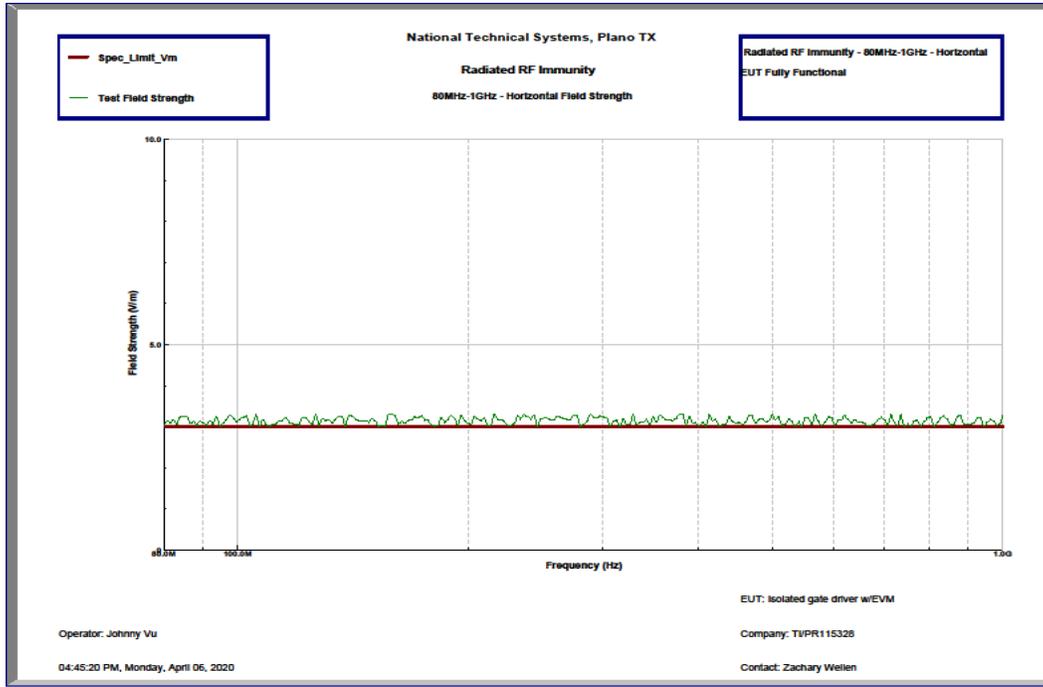
Specification Limits

Signal Applied	Test Specification
3 V/m, Modulated 1 kHz 80% AM, 80 MHz–2.7GHz	EN 61000-4-3

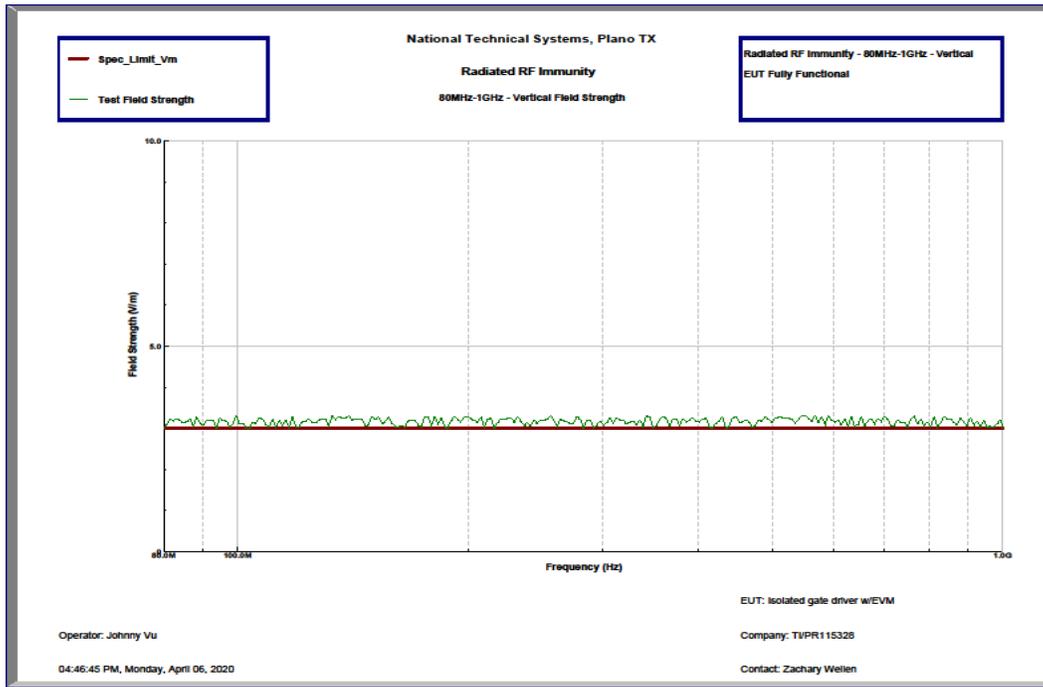
Test Results

The Isolated Gate Driver w/ EVM, as presented and configured for testing, **conformed** to the requirements of EN 61000-4-3 Radiated Immunity Performance Criteria A. The Isolated Gate Driver w/ EVM continued to perform as specified in Section 1.3 when subjected to the fields.

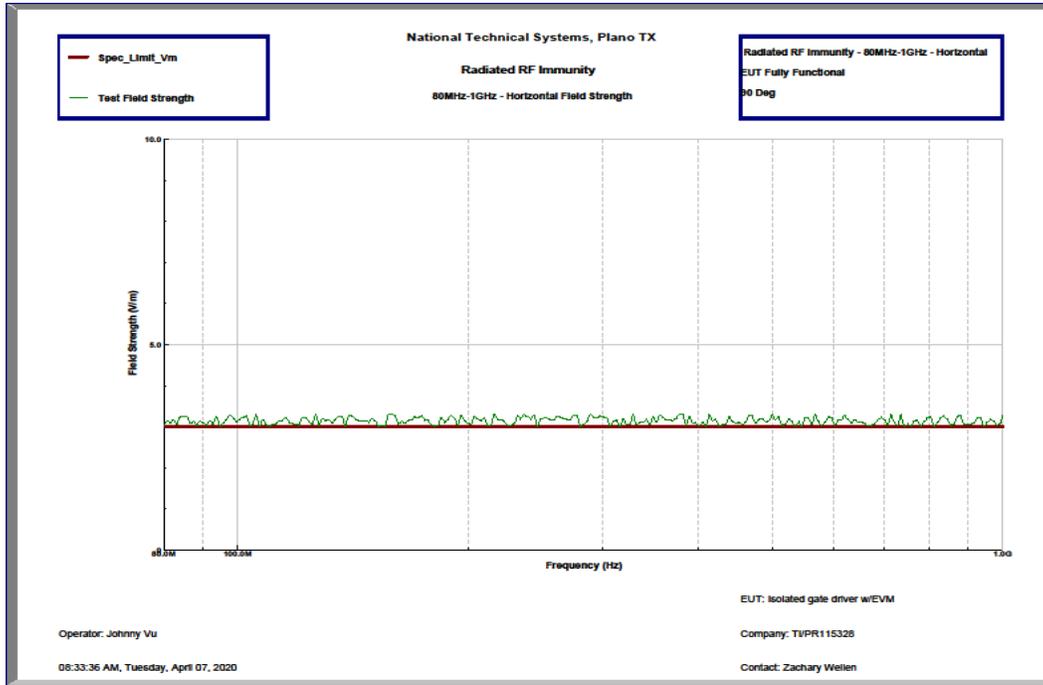
EUT Power Input:	5V and 15VDC					
EN61000-4-3 Radiated Immunity						
Temperature: 22 C		Humidity:53%		Barometric Pressure:987mbar		
Radiated Immunity Test Level: 3V/m						
Frequency (Hz)	Polarity				Angle (Degree)	Comments
	Vertical Results		Horizontal Results			
80MHz - 2.7GHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	0	
80MHz - 2.7GHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	90	
80MHz - 2.7GHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	180	
80MHz - 2.7GHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	270	



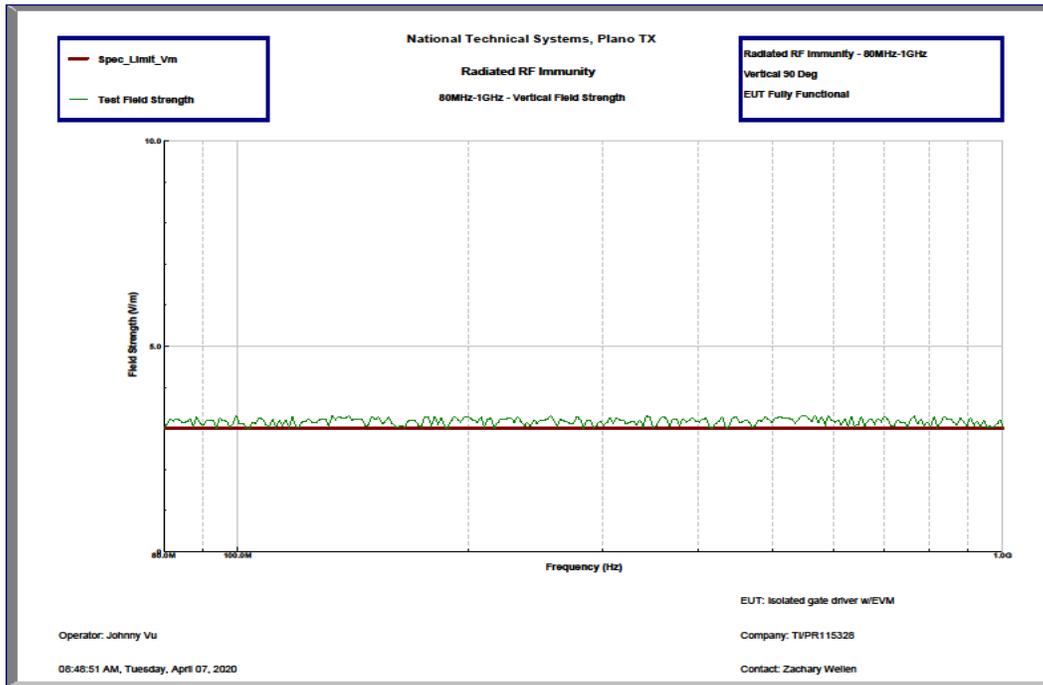
RI from 80-1000MHz Horizontal at 0° graph



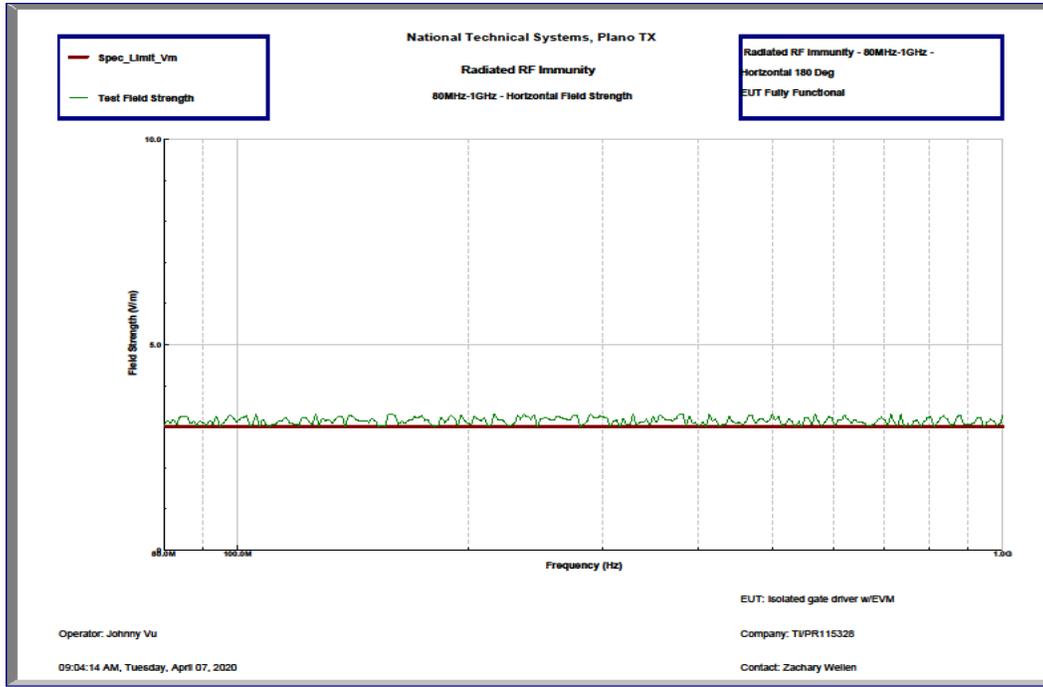
RI from 80-1000MHz Vertical at 0° graph



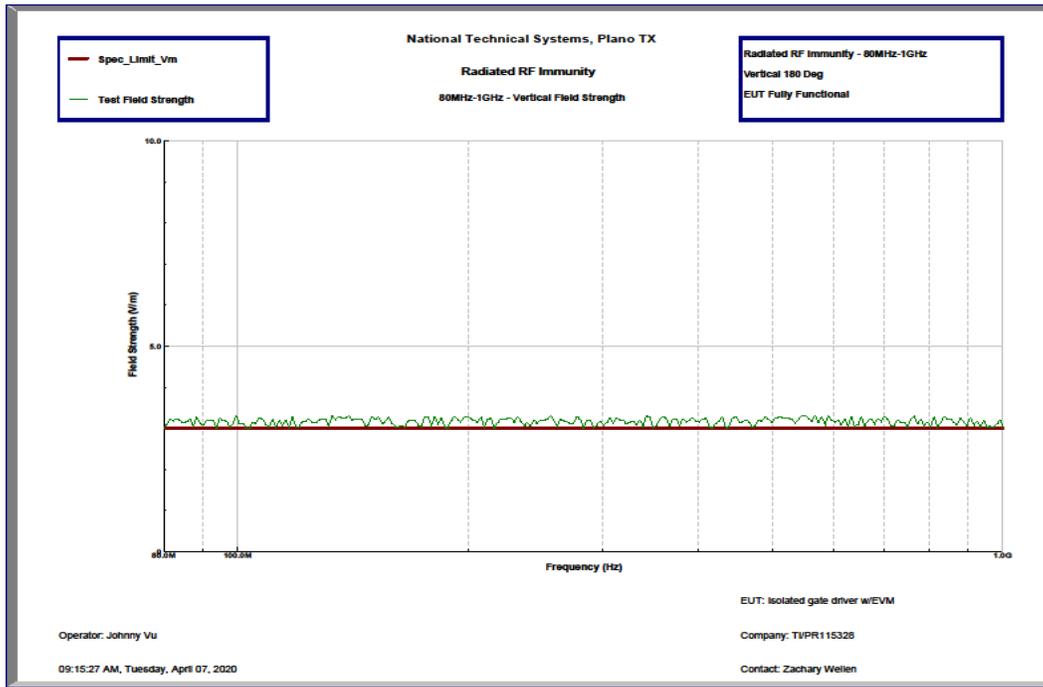
RI from 80-1000MHz Horizontal at 90° graph



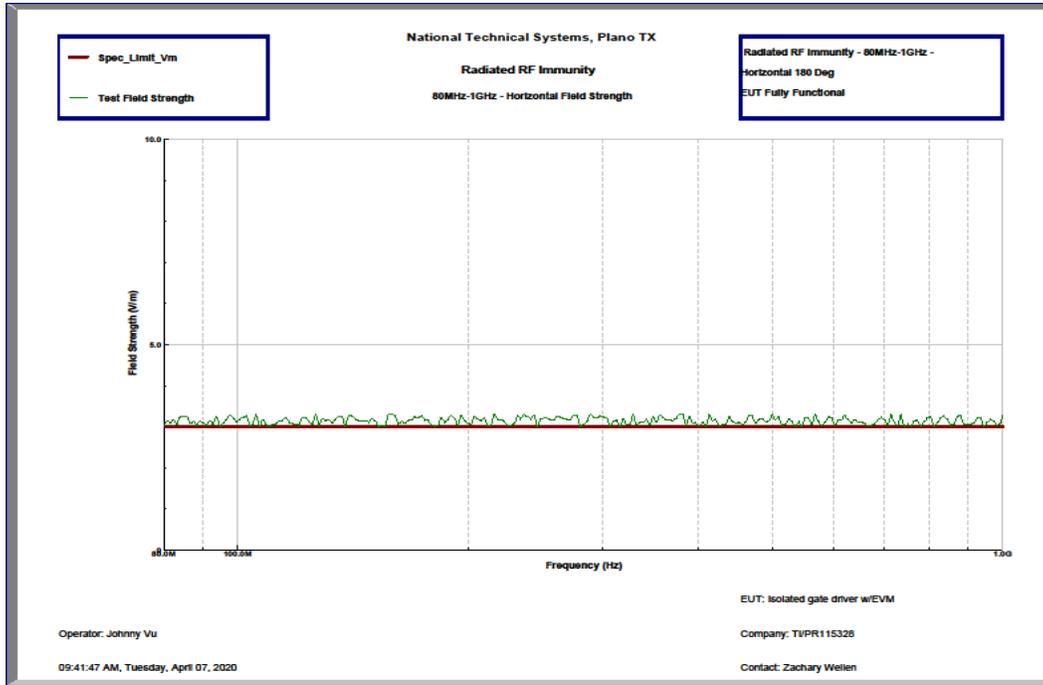
RI from 80-1000MHz Vertical at 90° graph



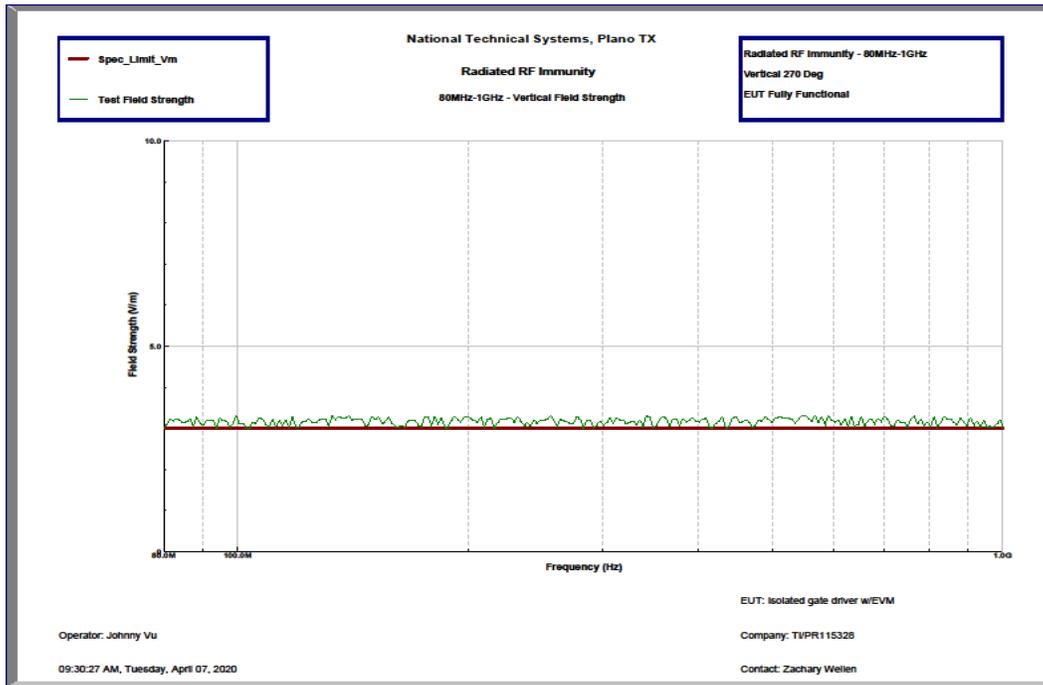
RI from 80-1000MHz Horizontal at 180° graph



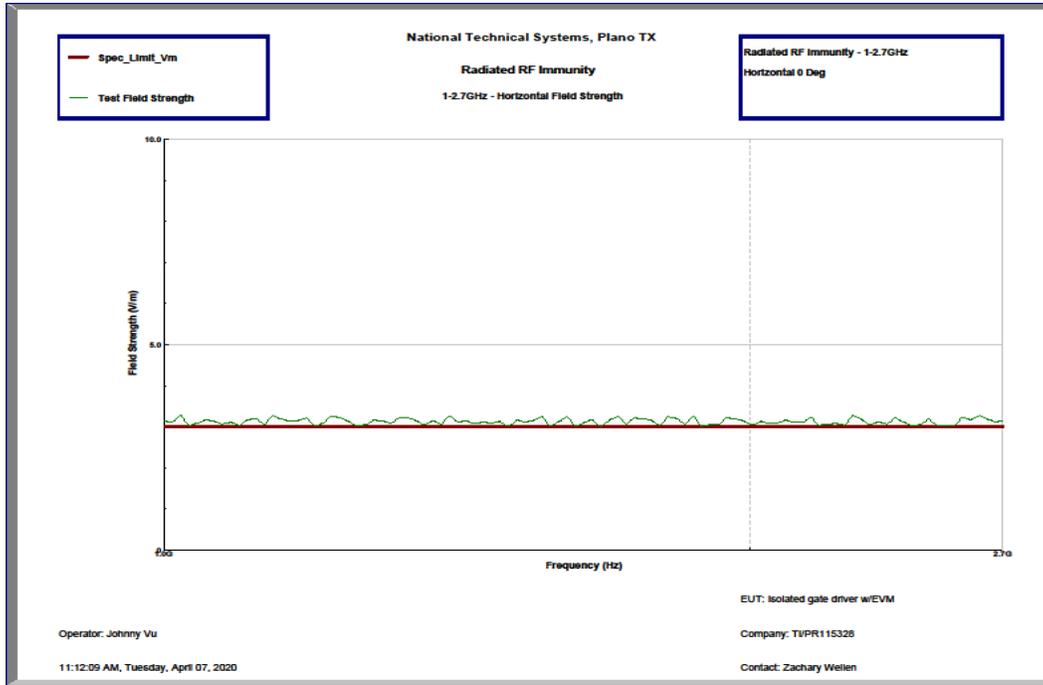
RI from 80-1000MHz Vertical at 180° graph



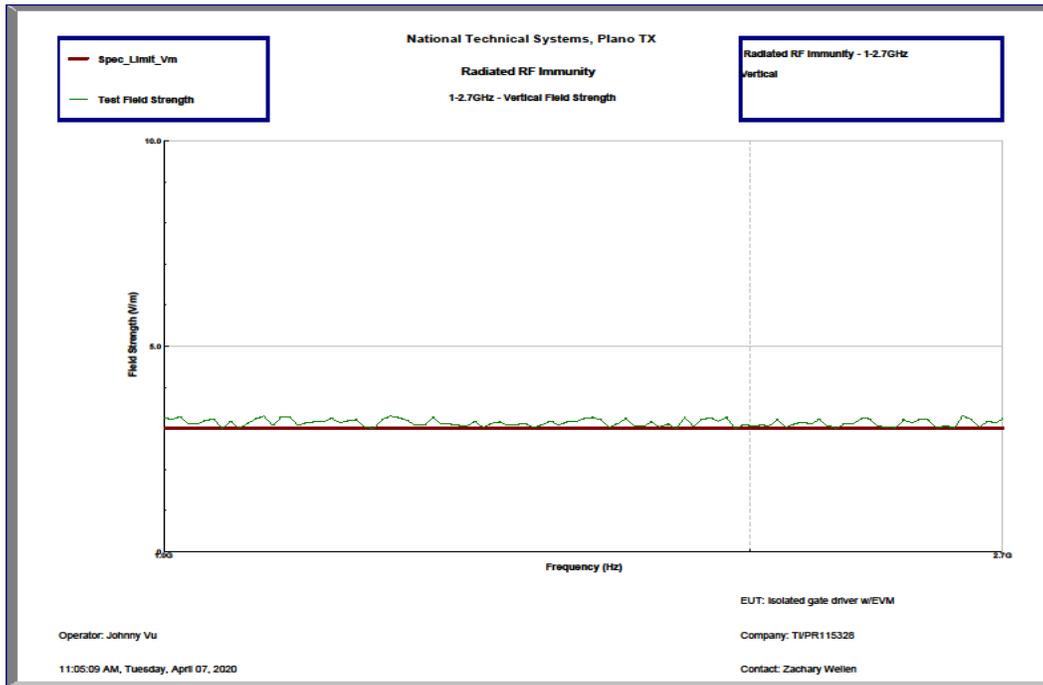
RI from 80-1000MHz Horizontal at 270° graph



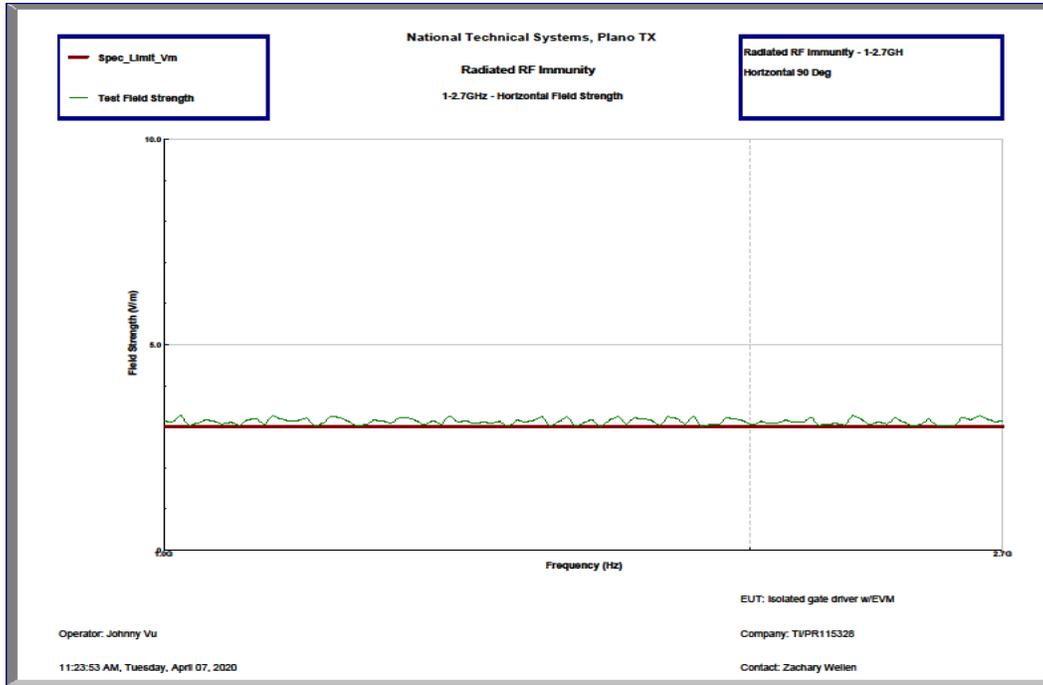
RI from 80-1000MHz Vertical at 270° graph



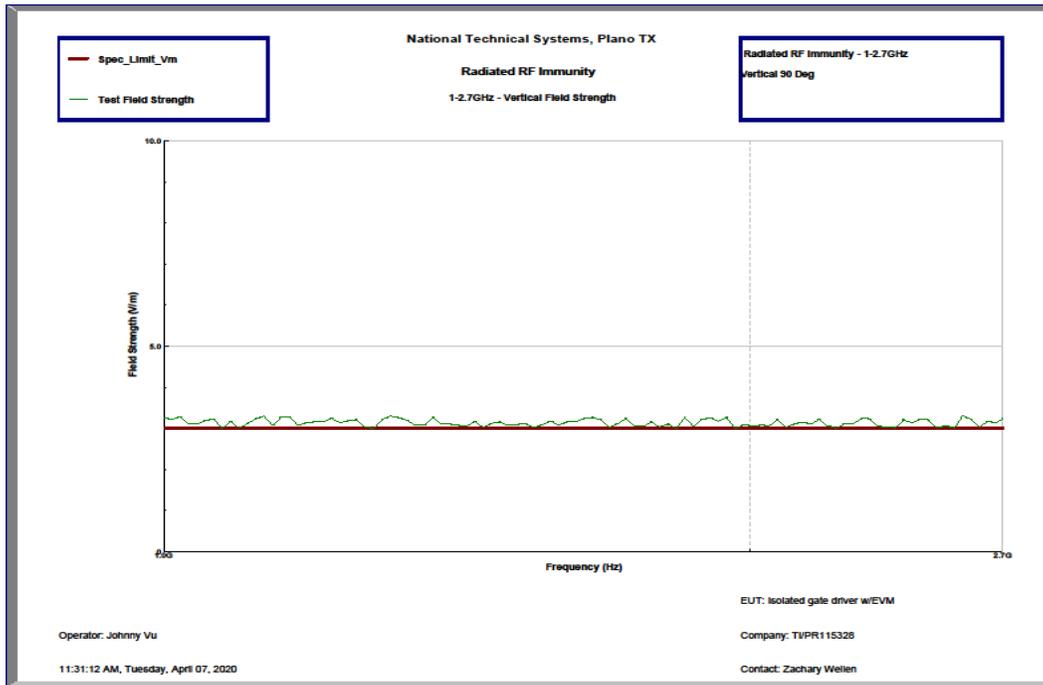
RI from 1-2.7GHz Horizontal at 0° graph



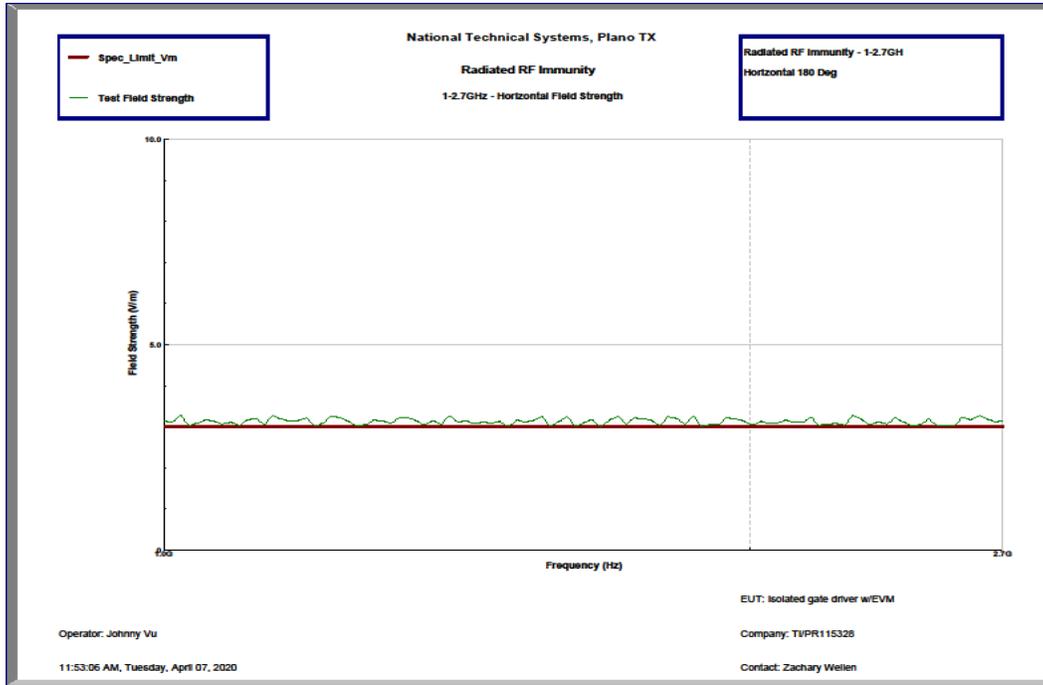
RI from 1-2.7GHz Vertical at 0° graph



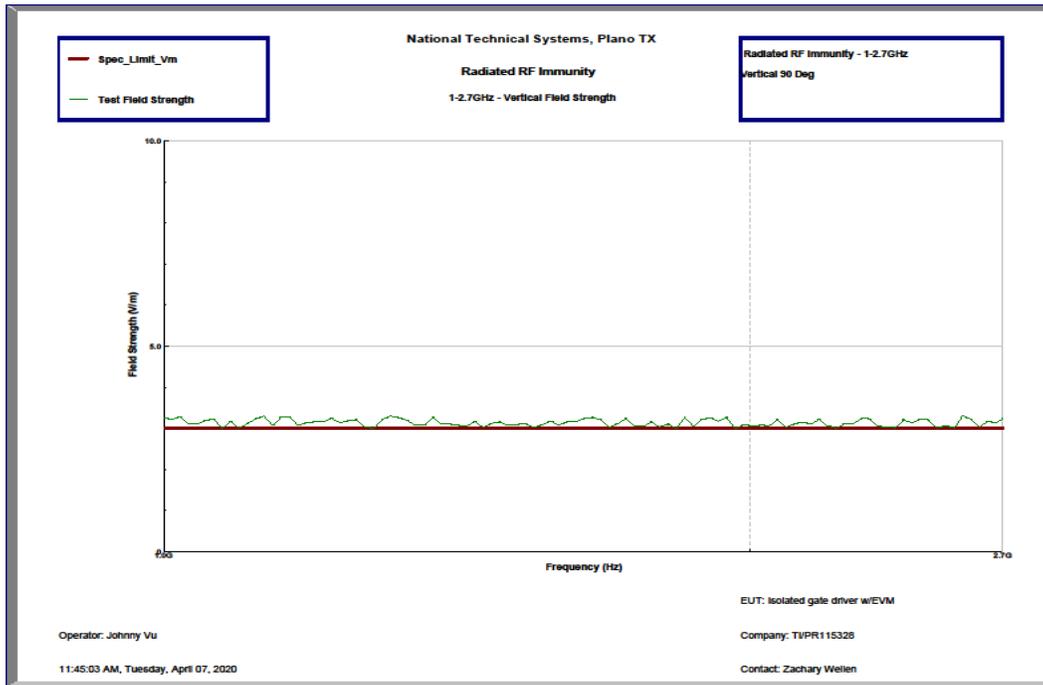
RI from 1-2.7GHz Horizontal at 90° graph



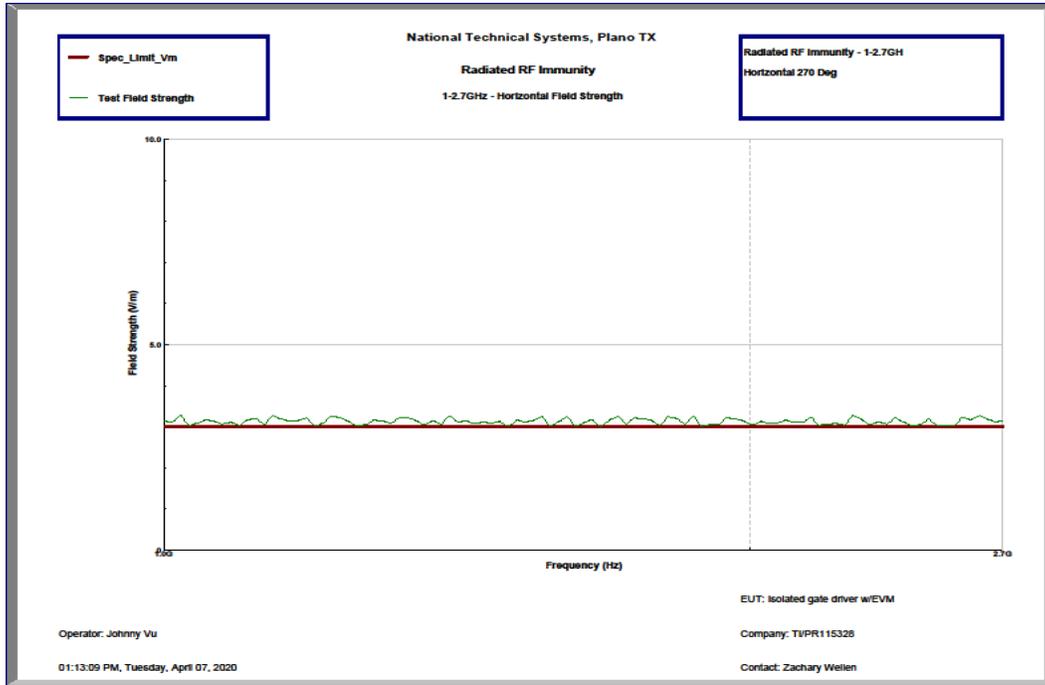
RI from 1-2.7GHz Vertical at 90° graph



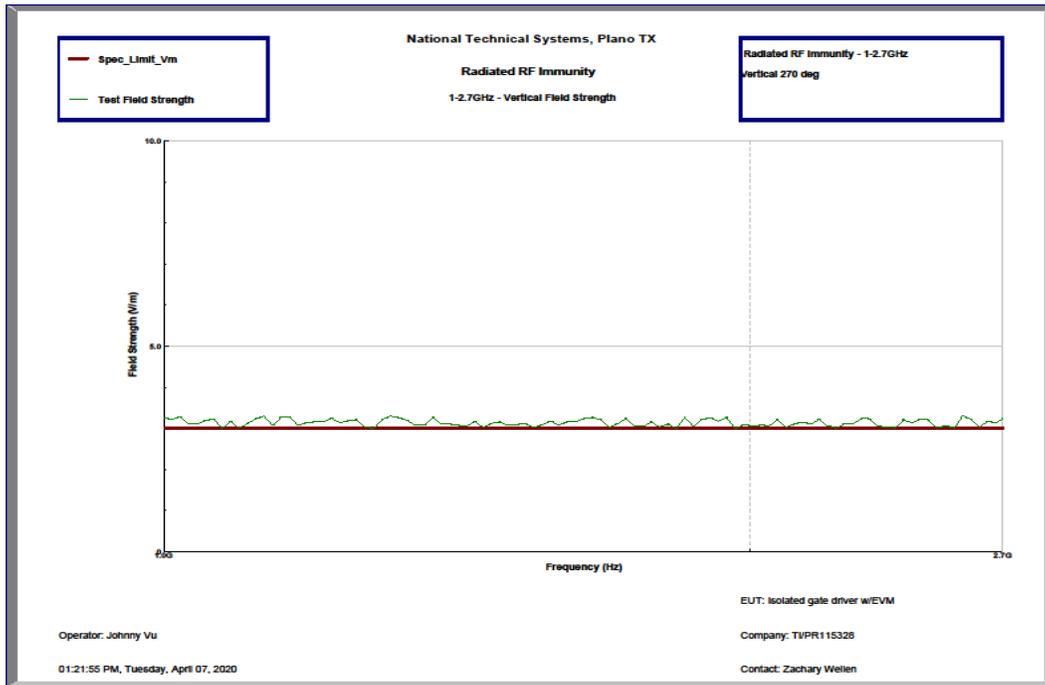
RI from 1-2.7GHz Horizontal at 180° graph



RI from 1-2.7GHz Vertical at 180° graph



RI from 1-2.7GHz Horizontal at 270° graph



RI from 1-2.7GHz Vertical at 270° graph

Test Photographs



RI 80-1000MHz 0 Degrees Horizontal



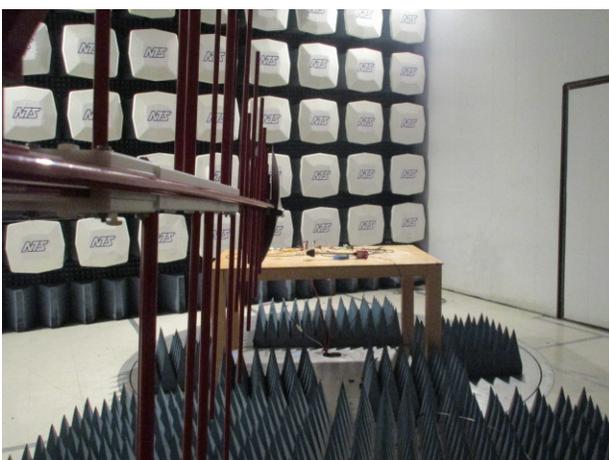
RI 80-1000MHz 90 Degrees Horizontal



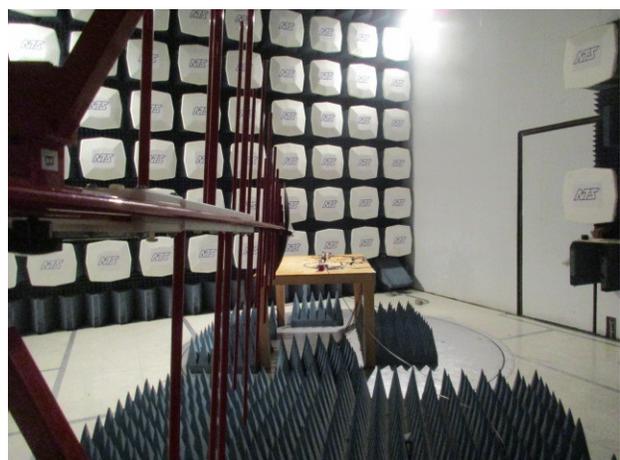
RI 80-1000MHz 180 Degrees Horizontal



RI 80-1000MHz 270 Degrees Horizontal



RI 80-1000MHz 0 Degrees Vertical



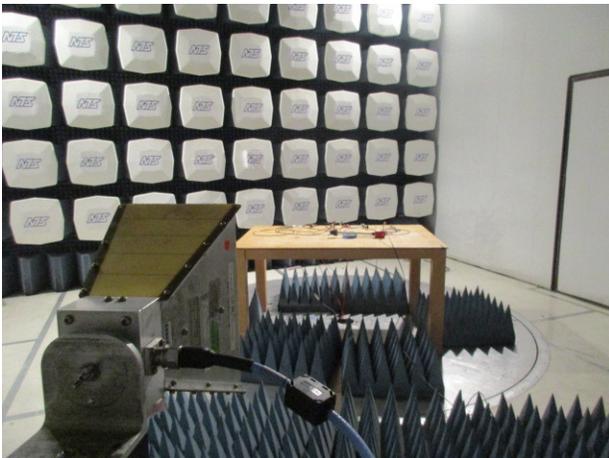
RI 80-1000MHz 90 Degrees Vertical



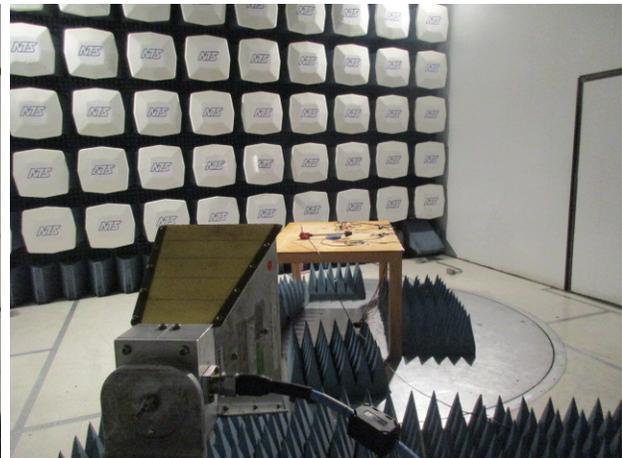
RI 80-1000MHz 180 Degrees Vertical



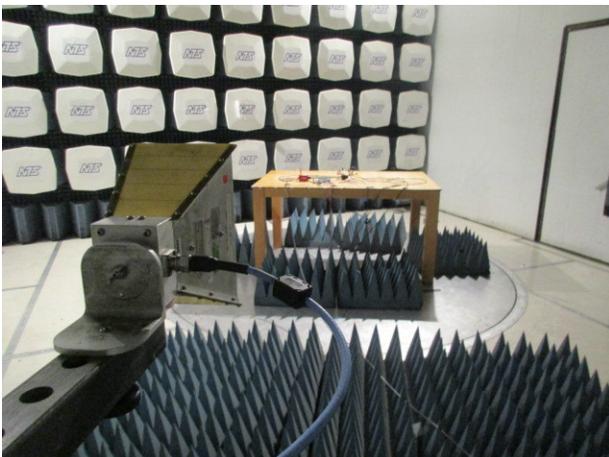
RI 80-1000MHz 270 Degrees Vertical



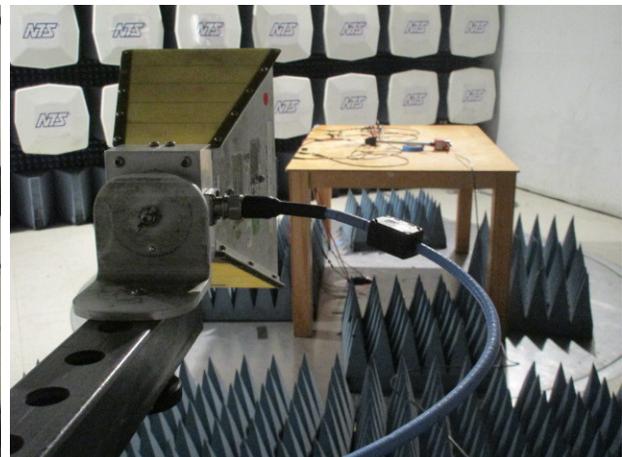
RI 1-2.7GHz 0 Degrees Horizontal



RI 1-2.7GHz 90 Degrees Horizontal



RI 1-2.7GHz 180 Degrees Horizontal



RI 1-2.7GHz 270 Degrees Horizontal



RI 1-2.7GHz 0 Degrees Vertical



RI 1-2.7GHz 90 Degrees Vertical



RI 1-2.7GHz 180 Degrees Vertical



RI 1-2.7GHz 270 Degrees Vertical

Test Equipment List

NTS ID#	Manufacturer/Model	Duration	Calibration Due
WC021735	EMI Test Chamber #1	NCR	NCR
WC025239	Aligent E8257D Signal Generator	12 months	11/6/2020
WC066357	Aligent E4418B Power Meter	12 months	7/29/2020
WC020871	AR Model 100W1000 1-1000MHz	NCR	NCR
WC021095	50dB directional coupler	NCR	NCR
WC038543	40db directonal coupler	NCR	NCR
WC020873	AR Model 25S1G4A	NCR	NCR
WC038533	Isotropic Electric Field Probe HI-6053 10MHz-40GHz	12 months	7/2/2020
WC066356	Aligent E4412A E-Series CW Power Sensor	12 months	6/28/2020

Calibration Abbreviations

CAL: Calibrated

NCR: No Calibration Required

2.3 Electrical Fast Transients

Repetitive electrical fast transients were applied directly onto the power lines and onto capacitive coupled I/O lines greater than 3 meters in length. This was meant to demonstrate the immunity of the Isolated Gate Driver w/ EVM when subjected to types of transient disturbances such as those originating from switching transients (interruption of inductive loads, relay contact bounce, etc.).

Specification Limits

Signal Applied	Test Specification
0.5 kV on Power and Signal Lines	EN 61000-4-4

Test Results

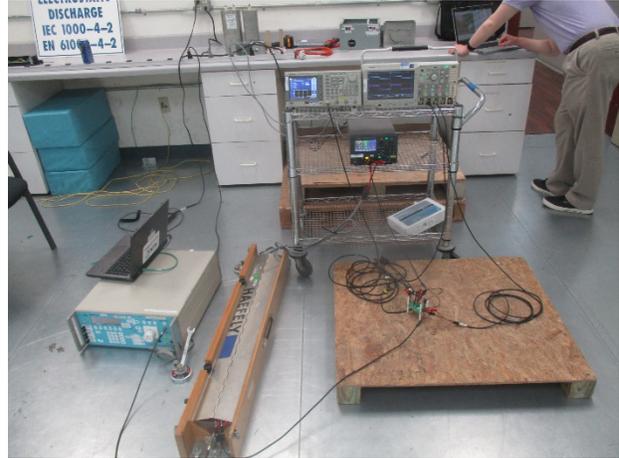
The Isolated Gate Driver w/ EVM, as presented and configured for testing, **conformed** to the requirements of EN 61000-4-4 Electrical Fast Transients.

CUSTOMER:	Texas Instrument		MJO:	PR115328	
TEST ITEM:	Isolated Gate Driver w/ EVM		DATE:	4/24/2020	
PART NUMBER:	UCC23513DWY		UNIT NO:	EMI-1	
SPECIFICATION:	EN61000-4-4		CHAMBER NO:	immunity room	
EUT Power Input: 5V and 15VDC					
EN61000-4-4 Electrical Fast Transients					
Temperature: 70°F		Humidity: 50%		Barometric Pressure: 985m/Bar	
Test Level (kV)	Repetition Rate	Results		Cable ID	Comments
± <u>.5</u> kV	5 kHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	5VDC Power	
± <u>.5</u> kV	5 kHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	12VDC Power	
± <u>.5</u> kV	5 kHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	Input Signal	
± <u>.5</u> kV	5 kHz	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	15VDC Output	

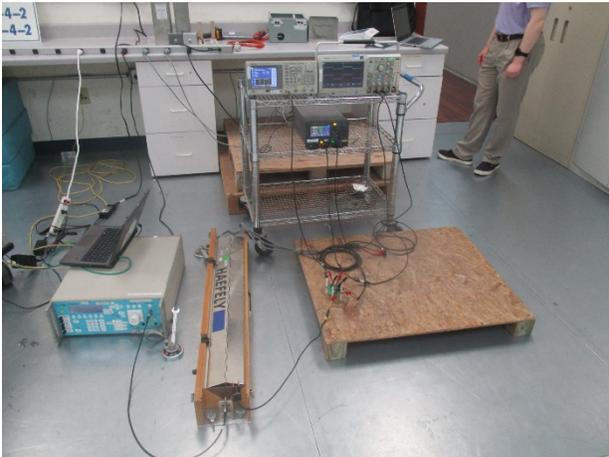
Test Photographs



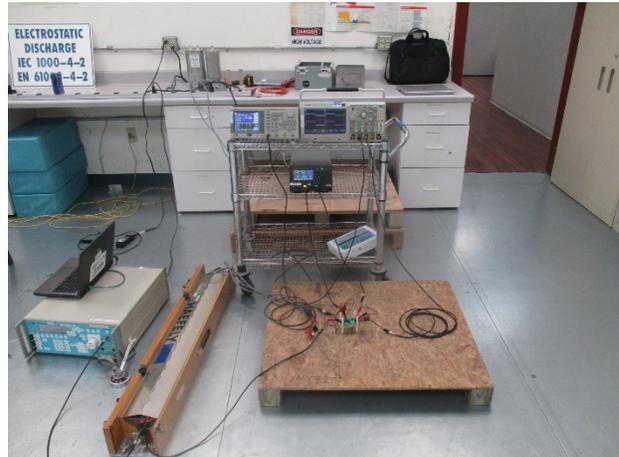
EFT Test Set up on 5VDC Power



EFT Test Set up on 12VDC Power



EFT Test Set up on 15VDC Power



EFT Test Set up on Input Signal

Test Equipment List

NTS ID#	Manufacturer/Model	Duration	Calibration Due
WC038577	Haefely Cable Trench	NCR	NCR
WC021710	EMC Partner Transient 3000	12 months	4/8/2021

Calibration Abbreviations

CAL: Calibrated

NCR: No Calibration Required

2.4 RF Common Mode Injection

Immunity to conducted disturbances induced by radio-frequency fields (CI) is specified by EN 61000-4-6. This standard relates to the conducted immunity to electromagnetic disturbances generated by intended radio-frequency transmitters in the frequency range between 150 kHz and 80 MHz, amplitude modulated at 80% by a 1 kHz sine wave. Only equipment that has at least 1 conducting cable (power or data) must be tested.

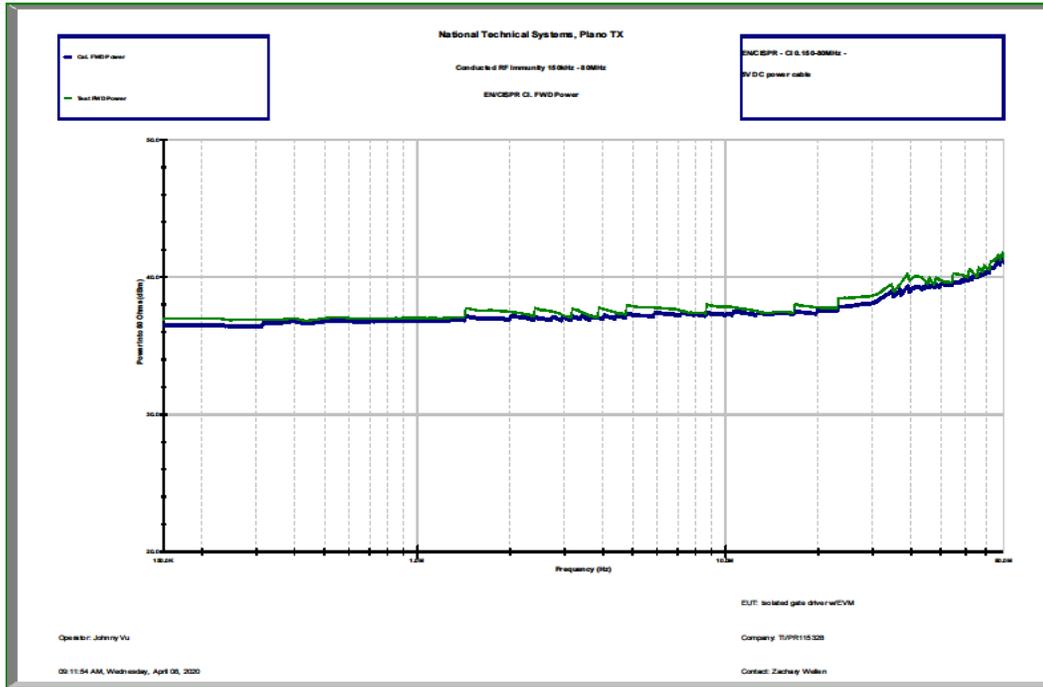
Specification Limits

Signal Applied	Test Specification
3 VRMS, 80% AM Modulated at 1 kHz	EN 61000-4-6

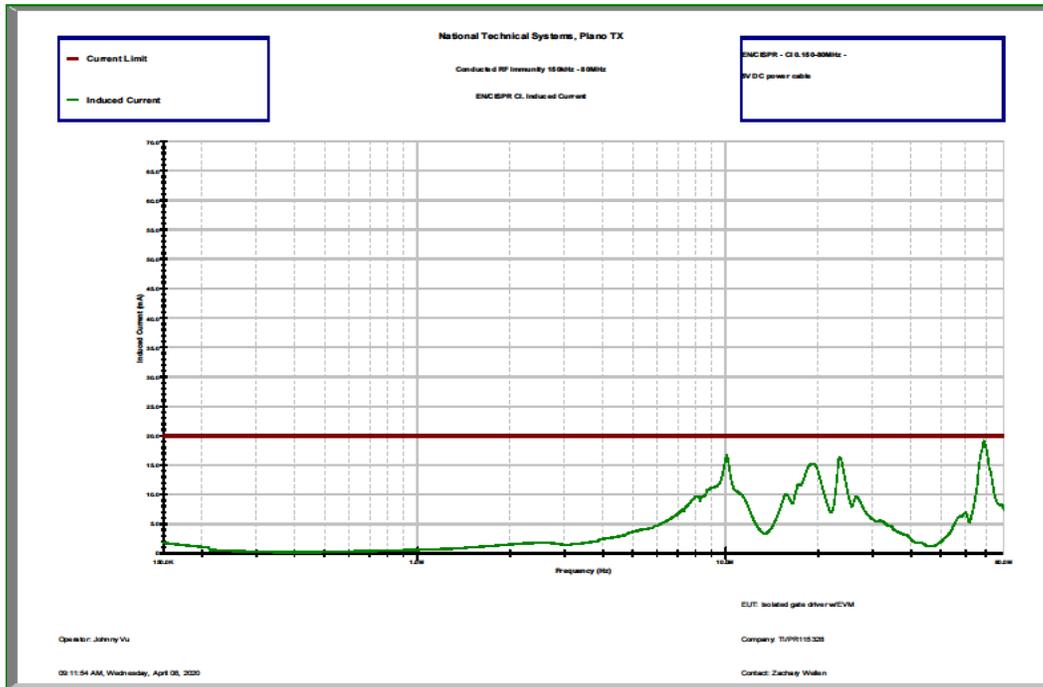
Test Results

The Isolated Gate Driver w/ EVM, as presented and configured for testing, **conformed** to the requirements of EN 61000-4-6 RF Common Mode Injection Performance Criteria A.

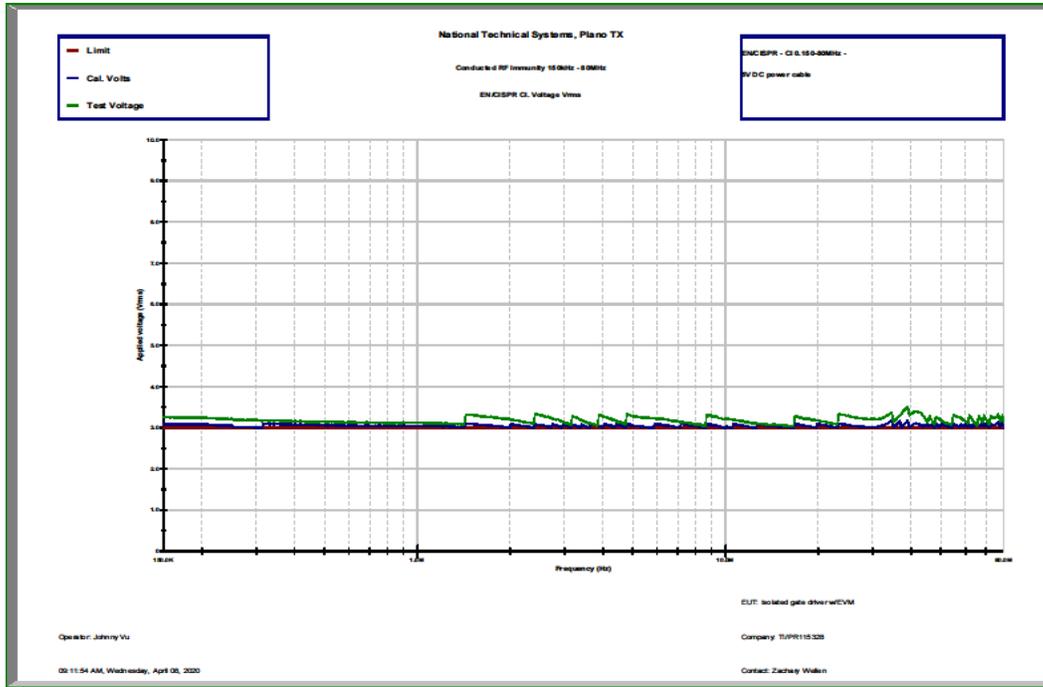
EUT Power Input:		5V and 15VDC				
EN61000-4-6 Conducted Immunity						
Temperature: 22 C			Humidity:53%		Barometric Pressure:987mbar	
Frequency	Level (V _{RMS})	Modulation	Testing on Cables	Pass / Fail		Comments
0.150MHz - 80MHz	3	80% AM, 1kHz	15VDC power cable	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	
0.150MHz - 80MHz	3	80% AM, 1kHz	5VDC power cable	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	
0.150MHz - 80MHz	3	80% AM, 1kHz	I/O cable	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	
0.150MHz - 80MHz	3	80% AM, 1kHz	15VDC I/O cable	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail	



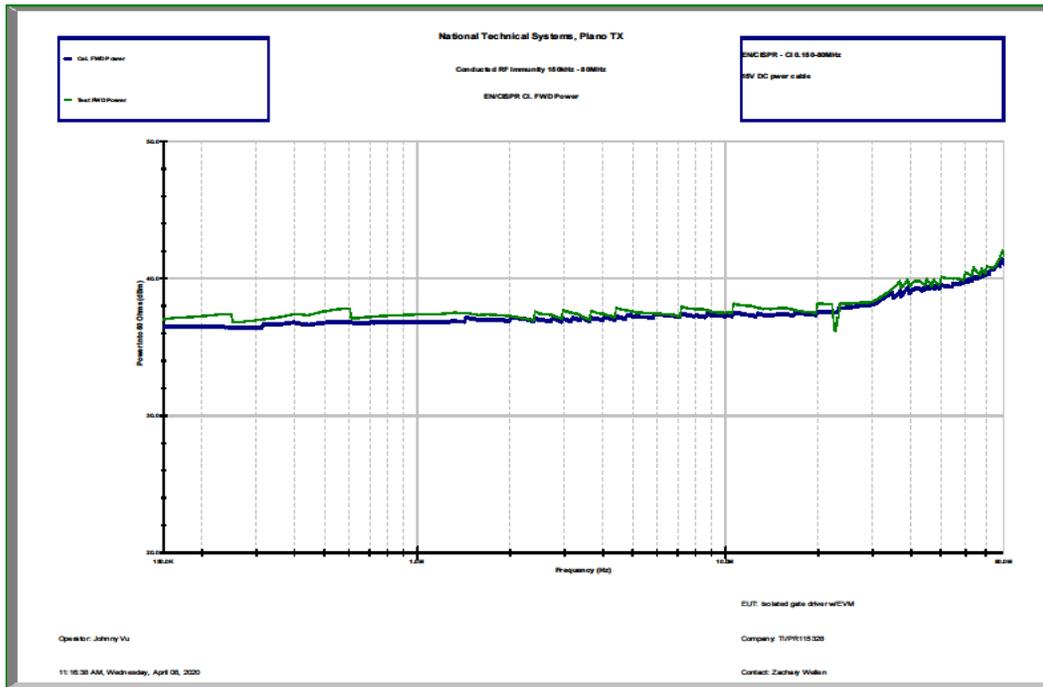
EN CISPR CI Test Graph on FWD Power, 5VDC power cable



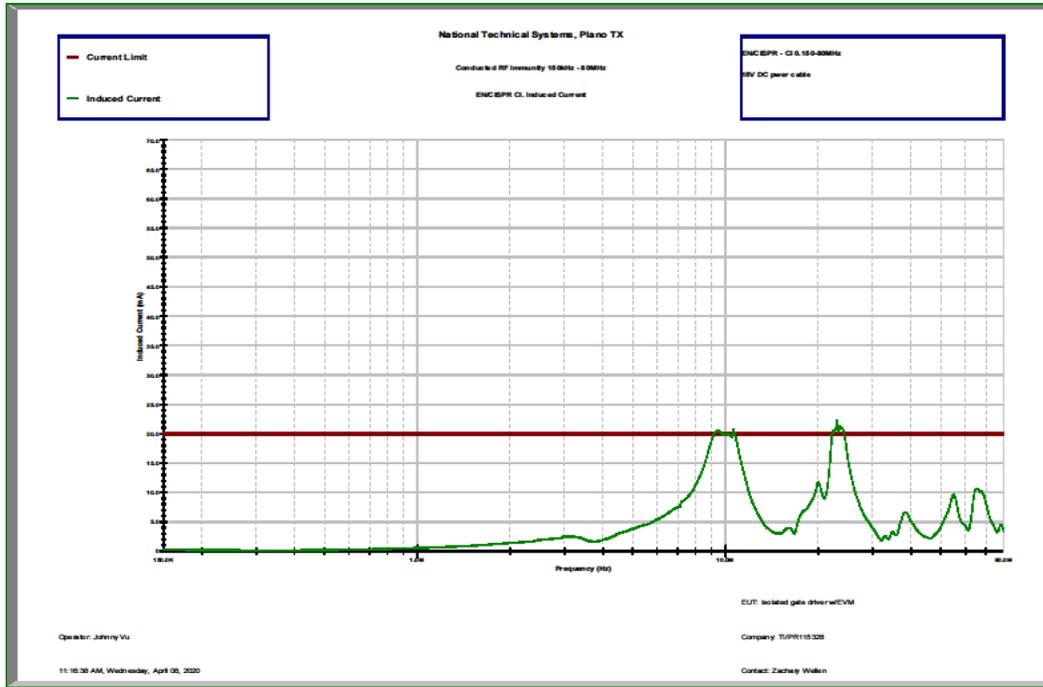
EN CISPR CI Test Graph on Induced Current, 5VDC power cable



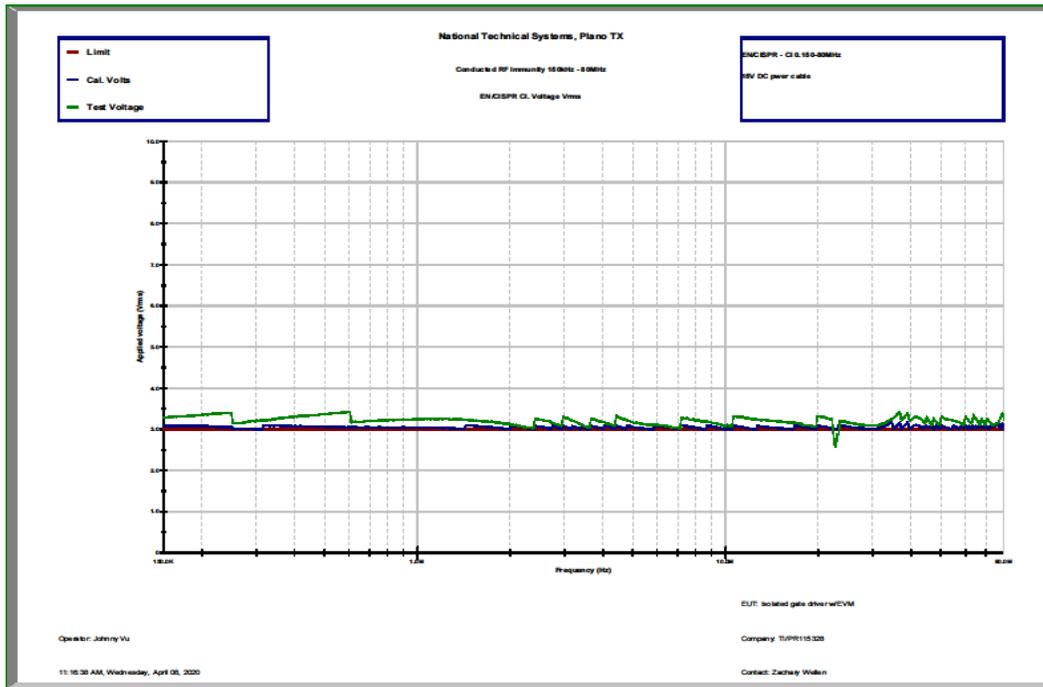
EN CISPR CI Test Graph on Voltage RMS, 5VDC power cable



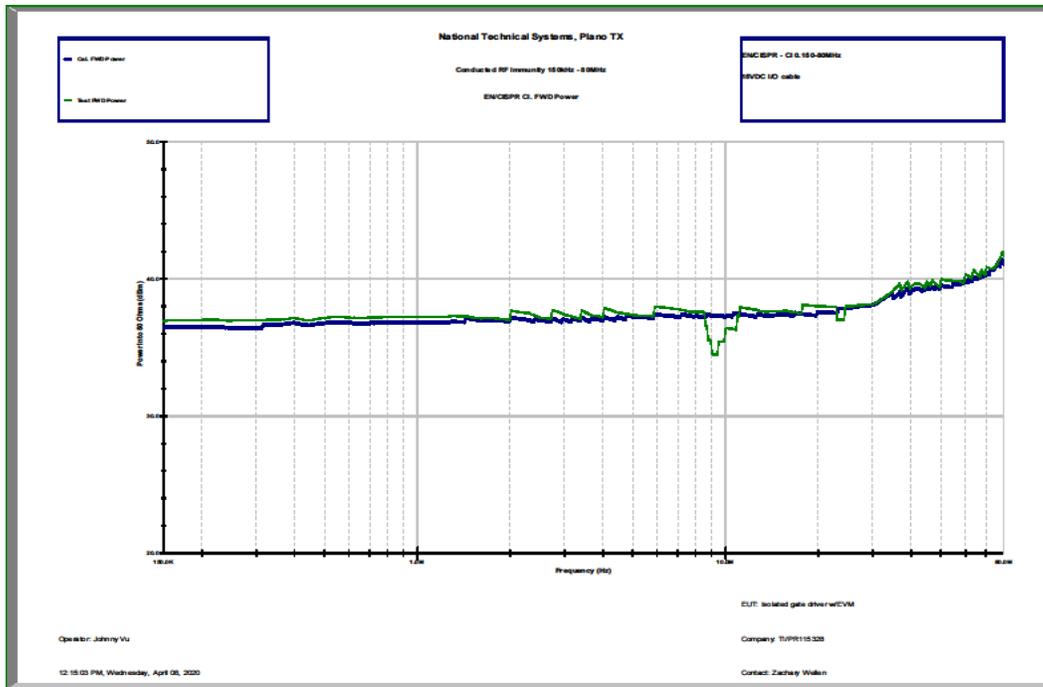
EN CISPR CI Test Graph on FWD Power, 15VDC power cable



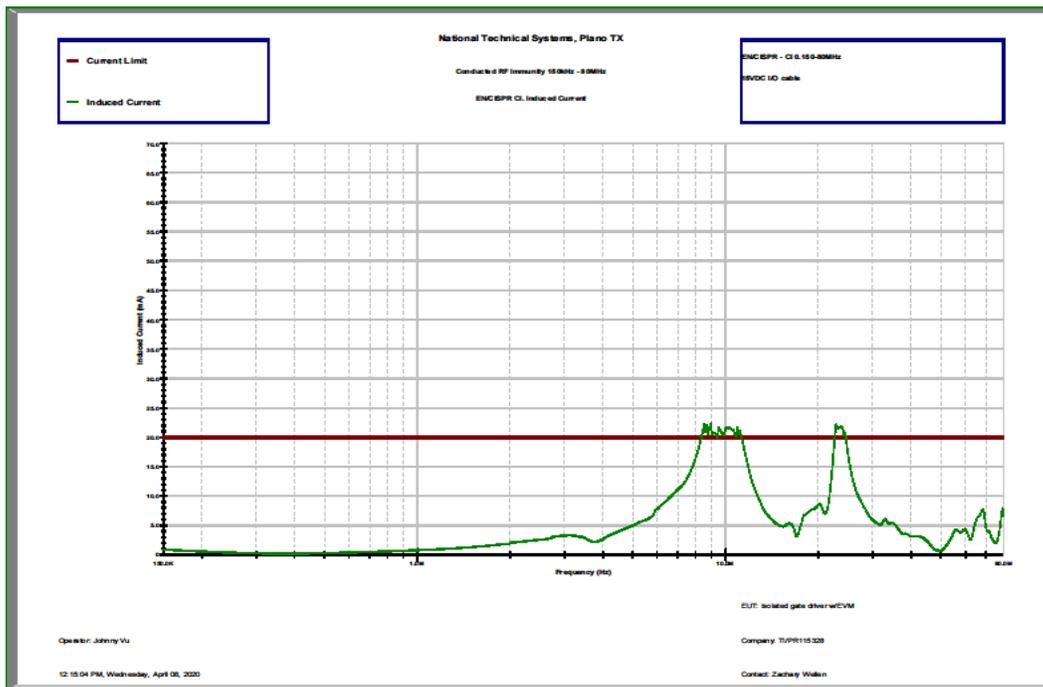
EN CISPR CI Test Graph on Induced Current, 15VDC power cable



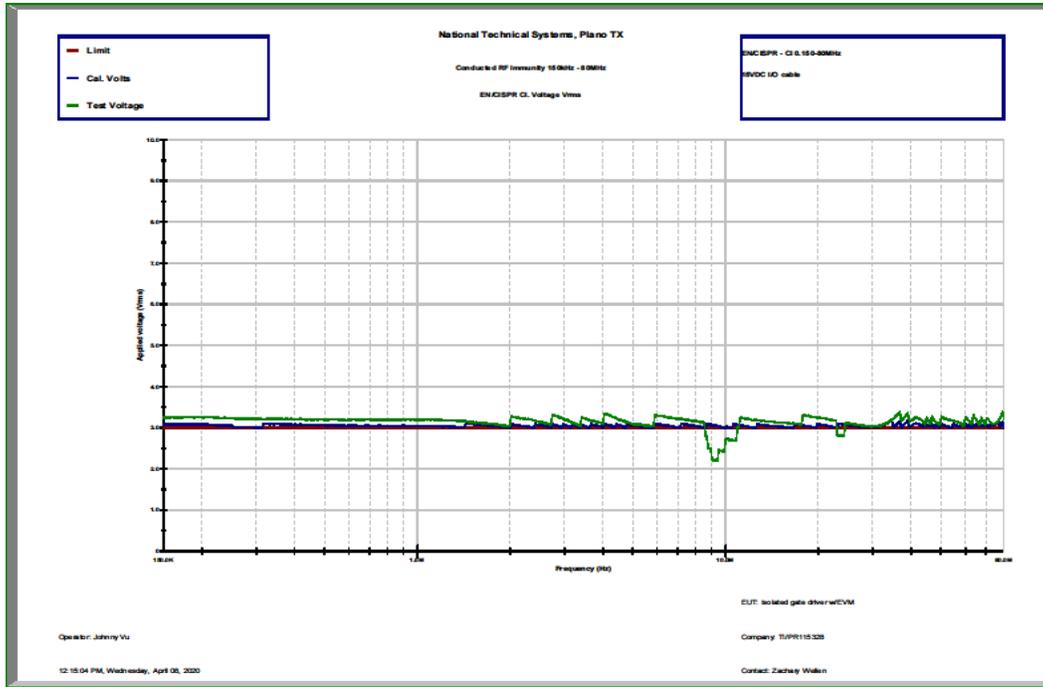
EN CISPR CI Test Graph on Voltage RMS, 15VDC power cable



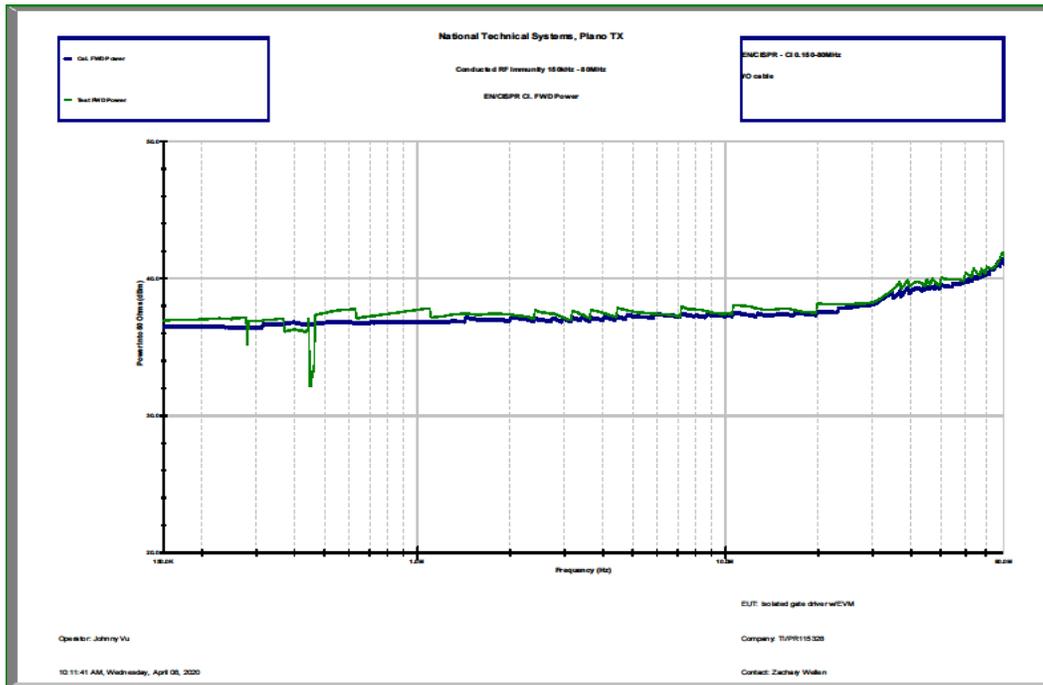
EN CISPR CI Test Graph on FWD Power, 15VDC power cable & IO Cable



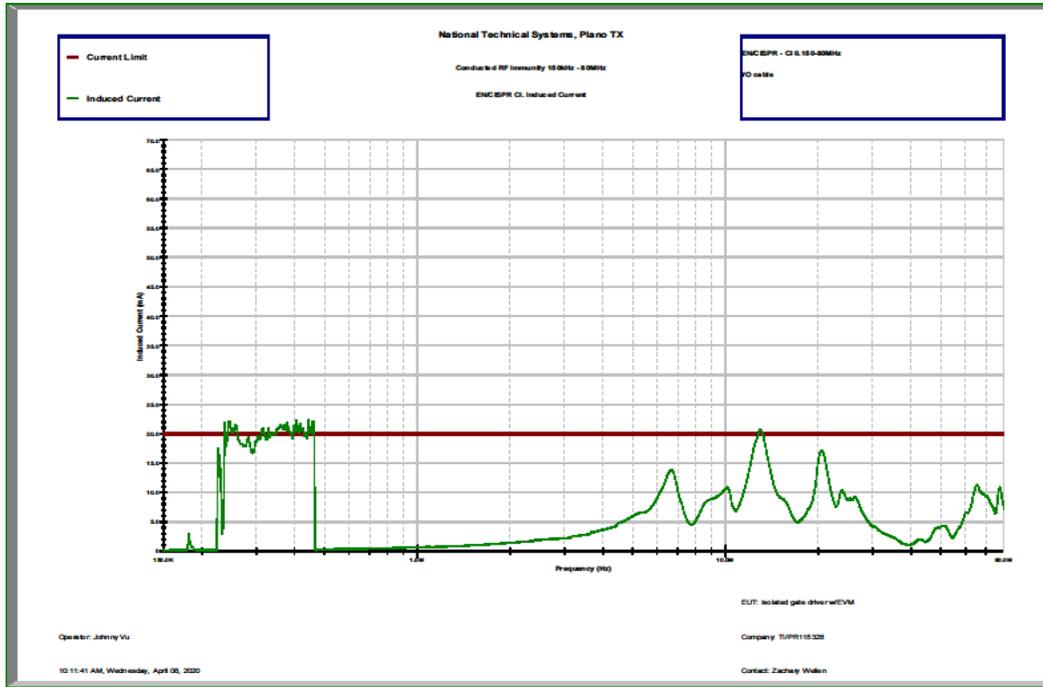
EN CISPR CI Test Graph on Induced Current, 15VDC power cable & IO Cable



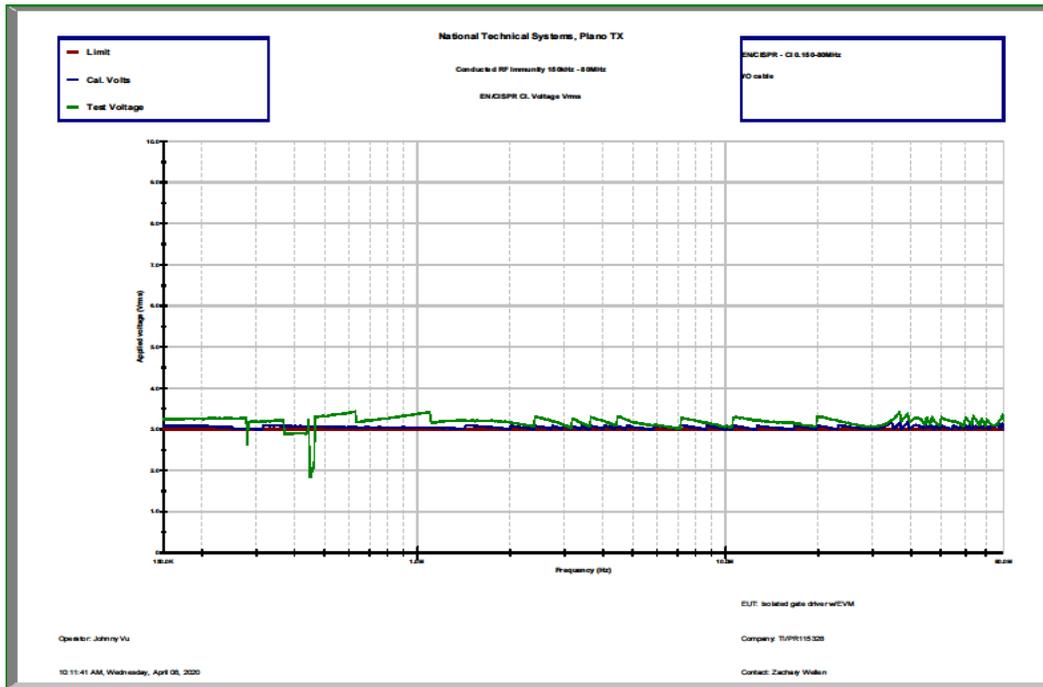
EN CISPR CI Test Graph on Voltage RMS, 15VDC power cable & IO Cable



EN CISPR CI Test Graph on FWD Power, & IO Cable

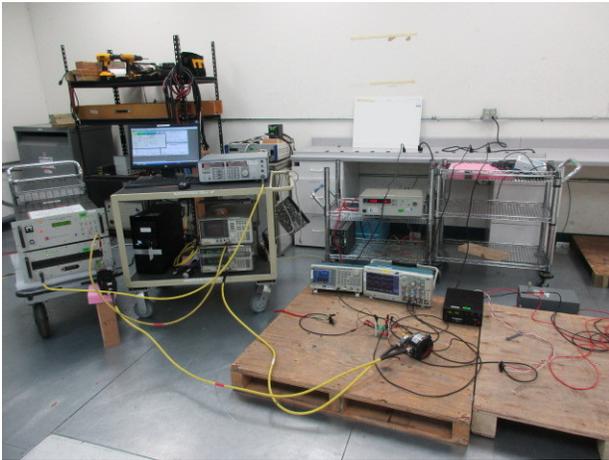


EN CISPR CI Test Graph on Induced Current, & IO Cable

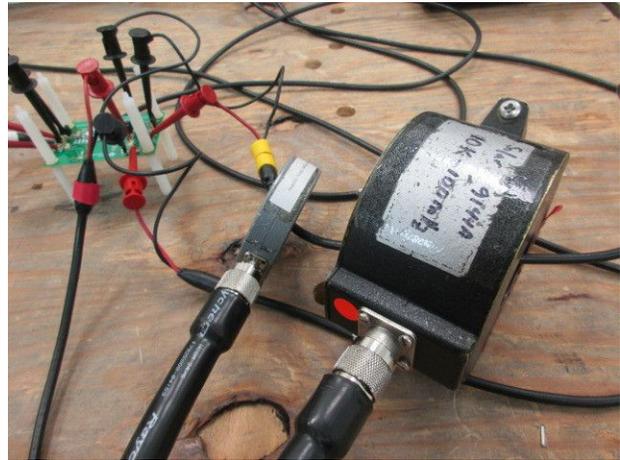


EN CISPR CI Test Graph on Voltage RMS, & IO Cable

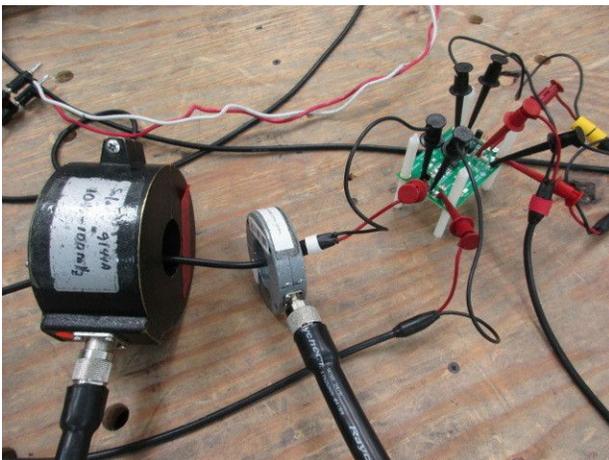
Test Photographs



CI Set up overview



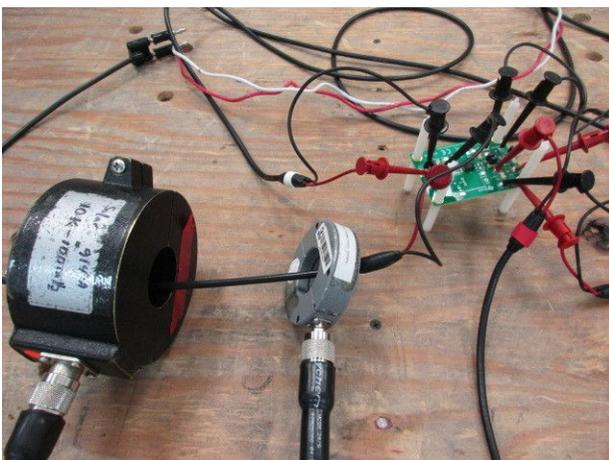
IO cable current probe overview



IO 15VDC cable current probe overview



5VDC power cable current probe overview



15VDC power cable current probe overview

**Test Equipment List**

NTS ID#	Manufacturer/Model	Duration	Calibration Due
WC021589	ROHDE&SCHWARZ SIGNAL GENERATOR	12 months	8/12/2020
WC021050	FCC Current Probe F-55	12 months	7/23/2020
WC021611	HP 8594E Spectrum Analyzer	12 months	2/11/2021
WC021780	HP8595E Spectrum Analyzer	12 months	1/3/2021
WC021428	IFI SMX 100	NCR	NCR
WC020888	Weinschel 6dB Attenuator model 45-6-43	NCR	NCR
WC035559	WERLATONE 50dB Directional Coupler Model C6145-10	NCR	NCR
WC021042	Solar 9144A Current Injection Probe	NCR	NCR
WC021449	HP6032A 15V Power Supply	NCR	NCR
WC038585	BK Precision 1902B Power Supply - 5V	NCR	NCR
WC021427	FCC CDN Model 801-M5-32A	12 months	4/10/2020

Calibration Abbreviations

CAL: Calibrated

NCR: No Calibration Required

2.5 Power Frequency Magnetic Field Immunity

The Isolated Gate Driver w/ EVM was subjected to Power Frequency Magnetic Fields in 3 axes at a specified field strength. The objective was to evaluate the performance of electrical and electronic equipment for households, commercial, and industrial applications when subjected to magnetic fields at power frequency (continuous and short duration field). The magnetic field test system in which the power frequency magnetic fields are generated was calibrated by NTS prior to testing.

Specification Limits

Signal Applied	Test Specification
Magnetic Field, 50Hz, 3 A/m	EN 61000-4-8

Test Results

The Isolated Gate Driver w/ EVM, as presented and configured for testing, **conformed** to the requirements of EN 61000-4-8 Power Frequency Magnetic Field Immunity Performance Criteria A.

EUT Power Input:		5V and 15VDC				
EN61000-4-8 Magnetic Immunity						
Temperature: 23 C			Humidity:52%		Barometric Pressure:986mbar	
Test Level		Polarity		EUT Performance	Pass / Fail	Comments
		Vertical	Horizontal			
3A/m	X-Aix	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No degradation in EUT	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Y-Axis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No degradation in EUT	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Z-Axis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No degradation in EUT	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

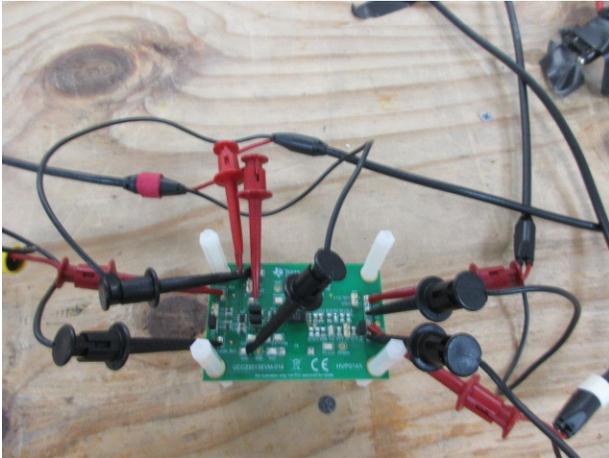
Test Photographs



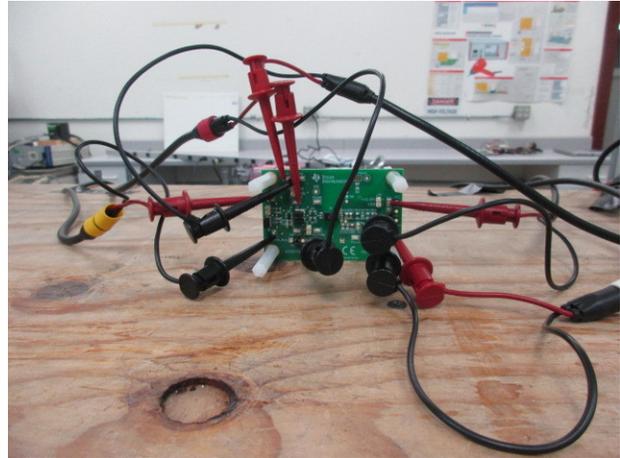
Test set up overview



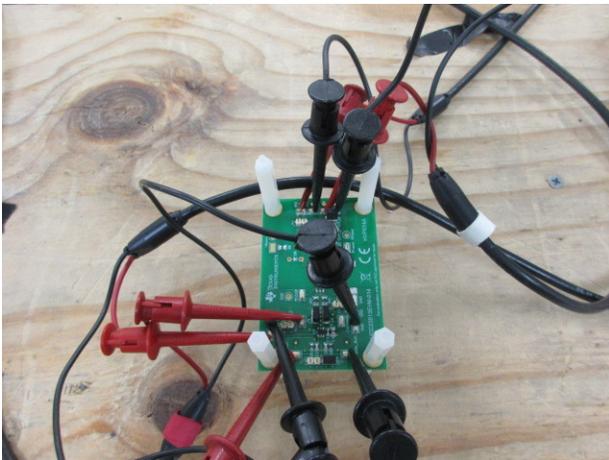
MG reading verification



X position test set up overview



Y position test set up overview



Z position test set up overview

Test Equipment List

NTS ID#	Manufacturer/Model	Duration	Calibration Due
WC066412	PCE-EMF823 Electromagnetic Field Radiation Tester	12 months	1/30/2021
WC021797	Clamp Meter model 503	12 months	9/27/2020
WC021518	ELGAR SW5205A	NCR	NCR
WC021356	magnetic Field table	NCR	NCR

Calibration Abbreviations

CAL: Calibrated

NCR: No Calibration Required



End of Report