Report No.: FR5D1601-14AB





FCC RADIO TEST REPORT

FCC ID

: TX2-RTL8723DE

Equipment

: 802.11 b/g/n RTL8723DE Combo module

Brand Name

: REALTEK

Model Name

: RTL8723DE

Applicant

: Realtek Semiconductor Corp.

No. 2, Innovation Road II, Hsinchu Science Park,

Hsinchu 300, Taiwan

Manufacturer

: Realtek Semiconductor Corp.

No. 2, Innovation Road II, Hsinchu Science Park,

Hsinchu 300, Taiwan

Standard

: 47 CFR FCC Part 15.247

The product was received on Jan. 12, 2018, and testing was started from Jan. 22, 2018 and completed on Apr. 21, 2018. We, SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory

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FAX: 886-3-656-9085

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: Jun. 26, 2018

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Appendix B. Test Results of Emissions in Restricted Frequency Bands

Appendix C. Test Results of Radiated Emission Co-location

Appendix D. Antenna list

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Photographs of EUT v01

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History of this test report

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Report No.	Version	Description	Issued Date
FR5D1601-14AB	01	Initial issue of report	Jun. 26, 2018

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Reviewed by: Sam Chen Report Producer: Vicky Huang

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1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Version	Ch. Frequency (MHz)	Channel Number
2400-2483.5	BR / EDR	2402-2480	0-78 [79]

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Band	Mode	BWch (MHz)	Nant
2.4G	BT-BR	1	1
2.4G	BT-EDR	1	1

Note:

- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- Bluetooth BR uses a GFSK (1Mbps).
- Bluetooth EDR uses a combination of π/4-DQPSK (2Mbps) and 8DPSK (3Mbps).
- Bluetooth BR/EDR uses as a system using FHSS modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	LYNwave	ALA110-222050-300011	PIFA Antenna	I-PEX MHF4	3.5
2	PSA	RFDPA171320EMLB301	Dipole Antenna	I-PEX MHF4	3.14

Note: The detail antenna information please refer to Antenna List.

Chain 1(Port 1) and Chain 2(Port 2) can connect to Ant. 1 or Ant. 2.

For EUT 1:

The EUT supports the antenna with TX/RX diversity function for WLAN and Bluetooth.

For WLAN 802.11b/g/n (1TX, 1RX) mode:

Both of Chain 1(Port 1) and Chain 2(Port 2) can be used as transmitting/receiving antennas,

but only one antenna can be used as transmitting/receiving antenna at the one time.

For Bluetooth mode:

Base on WLAN's operation mode to select the other antenna to work.

(Ex. Assume Main port was selected to conduct transmitting function in WLAN,

so AUX port was selected in Bluetooth Mode. Vice versa.)

For EUT 3:

The EUT supports the antenna with TX/RX diversity function for WLAN and Bluetooth.

For WLAN 802.11b/g/n (1TX, 1RX) mode:

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Both of Chain 1(Port 1) and Chain 2(Port 2) can be used as transmitting/receiving antennas,

but only one antenna can be used as transmitting/receiving antenna at the one time.

Chain 1(Port 1) generated the worst case than Chain 2(Port 2), so it is tested and recorded in the report.

For Bluetooth mode:

Base on WLAN's operation mode to select the other antenna to work.

(Ex. Assume Main port was selected to conduct transmitting function in WLAN,

so AUX port was selected in Bluetooth Mode. Vice versa.)

Chain 2(Port 2) generated the worst case than Chain 1(Port 1), so it is tested and recorded in the report.

For EUT 2, EUT 4 and EUT 5:

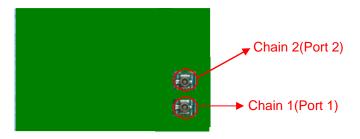
For WLAN 802.11b/g/n (1TX, 1RX) mode:

Chain 1(Port 1) can be used as transmitting/receiving antenna.

For Bluetooth mode:

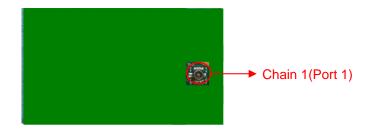
Chain 1(Port 1) can be used as transmitting/receiving antenna.

For EUT 1:



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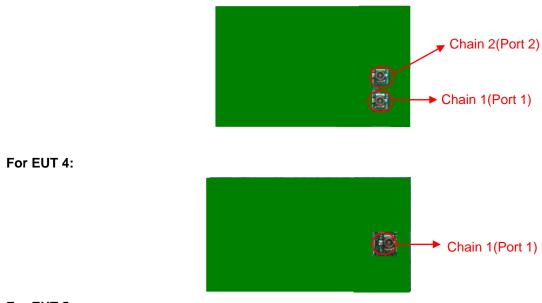
For EUT 2:



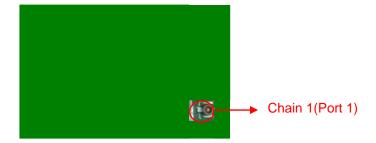
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For EUT 3:

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For EUT 5:



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1.1.3 Mode Test Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
BT-BR	5.600	100.000	5.60%	12.52	0.18
BT-EDR	5.600	100.000	5.60%	12.52	0.18

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1.1.4 EUT Operational Condition

EUT Power Type	From host system
Test Software Version	Bluetooth MP Tool

1.1.5 Table for Multiple Listing

The EUT has five types which are identical to each other in all aspects except for the following table:

Madal Nama	FUT	Inter	ace Function		nction
Model Name	EUT	E key	A+E key	Diversity	Fixed
	1	V	-	V	-
	2	V	-	-	V
RTL8723DE	3	-	V	V	-
	4	-	V	-	V (fixed to CON2)
	5	-	V	-	V (fixed to CON1)

Interface	Description
E key	There are two interface for different platform connector, all the RF circuit and electric
A+E key	identity are the same.

Note: According to above, there are only EUT 3 ~ EUT 5 were selected to test and record in the report as a result.

1.1.6 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR5D1601-20AB Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Updated for A + E Key board (EUT 3~5) (Modify the	1. AC Power-line Conducted Emissions
matching on RF antenna trace and modify power	2. Emissions in Restricted Frequency Bands
Capacitor to Improve platform interference).	3. Radiated Emission Co-location

Note: The above test items will be based on original output power to re-test.

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1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

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- 47 CFR FCC Part 15
- ◆ FCC Public Notice DA 00-705

1.3 Testing Location Information

	Testing Location					
	HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
		TEL	:	886-3-327-3456 FAX : 886-3-318-0055		
\boxtimes	JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.		
		TEL	:	886-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH01-CB	Lucke Hsieh & Justin Lin	22°C / 57%	Jan. 22, 2018 ~ Apr. 21, 2018
AC Conduction	CO01-CB	Max Lin	18°C / 50%	Feb. 05, 2018

Test site Designation No. TW0006 with FCC.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%

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Test site registered number IC 4086D with Industry Canada.

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range
2.4G	BT-BR	1	1	1	2402	L
2.4G	BT-BR	1	1	1	2441	М
2.4G	BT-BR	1	1	1	2480	Н
2.4G	BT-EDR	1	1	1	2402	L
2.4G	BT-EDR	1	1	1	2441	М
2.4G	BT-EDR	1	1	1	2480	Н

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2.2 The Worst Case Measurement Configuration

Th	The Worst Case Mode for Following Conformance Tests		
Tests Item	AC power-line conducted emissions		
Condition	AC power-line conducted measurement for line and neutral		
Operating Mode	Normal Link		
1	Place EUT 3-A+E key-Diversity in Z axis + Antenna 1		
2	Place EUT 5-A+E key-Fixed in Z axis + Antenna 1		
3	Place EUT 4-A+E key-Fixed in Z axis + Antenna 1		
4	Place EUT 3-A+E key-Diversity in Z axis + Antenna 2		
5	Place EUT 5-A+E key-Fixed in Z axis + Antenna 2		
6	Place EUT 4-A+E key-Fixed in Z axis + Antenna 2		
For operating mode 3 is the	For operating mode 3 is the worst case and it was record in this test report.		

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Th	The Worst Case Mode for Following Conformance Tests				
Tests Item	Emissions in Restricted Frequency Bands				
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.				
Operating Mode < 1GHz	Normal Link				
1	Place EUT 3-A+E key-Diversity in Z axis + Antenna 1				
2	Place EUT 5-A+E key-Fixed in Z axis + Antenna 1				
3	Place EUT 4-A+E key-Fixed in Z axis + Antenna 1				
4	Place EUT 3-A+E key-Diversity in Z axis + Antenna 2				
5	Place EUT 5-A+E key-Fixed in Z axis + Antenna 2				
6	Place EUT 4-A+E key-Fixed in Z axis + Antenna 2				
For operating mode 1 is th	e worst case and it was record in this test report.				
Operating Mode > 1GHz	СТХ				
The EUT can be placed in recorded in this report.	n X axis, Y axis and Z axis. After evaluating, Z axis was the worst case, so it's				
1	Place EUT 3-A+E key-Diversity in Z axis + Antenna 1				
2	Place EUT 5-A+E key-Fixed in Z axis + Antenna 1				
3	Place EUT 4-A+E key-Fixed in Z axis + Antenna 1				
4	Place EUT 3-A+E key-Diversity in Z axis + Antenna 2				
5	Place EUT 5-A+E key-Fixed in Z axis + Antenna 2				
6	Place EUT 4-A+E key-Fixed in Z axis + Antenna 2				

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Th	ne Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location	
Test Condition	Radiated measurement	
Operating Mode	Normal Link	
The EUT can be placed in recorded in this report.	n X axis, Y axis and Z axis. After evaluating, Z axis was the worst case, so it's	
1	Place EUT 3-A+E key-Diversity in Z axis + Antenna 1	
2	Place EUT 5-A+E key-Fixed in Z axis + Antenna 1	
3	Place EUT 4-A+E key-Fixed in Z axis + Antenna 1	
4	Place EUT 3-A+E key-Diversity in Z axis + Antenna 2	
5	Place EUT 5-A+E key-Fixed in Z axis + Antenna 2	
6	Place EUT 4-A+E key-Fixed in Z axis + Antenna 2	
Refer to Appendix C for Radiated Emission Co-location.		

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The Worst Case Mode for Following Conformance Tests			
Tests Item Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation			
Operating Mode			
1 Bluetooth+WLAN 2.4GHz			
Refer to Sporton Test Report No.: FA5D1601-14 for Co-location RF Exposure Evaluation.			

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

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2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO01-CB

		Support Equ	ipment	
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB*2	DELL	E6430	DoC
2	AP	ASUS	RP-N53	MSQ-RPN53
3	Test fixture*2	REALTEK	Ameba adapter	N/A
4	Device	REALTEK	RTL8723DE	TX2-RTL8723DE
5	Earphone	SHYARO CHI	MIC-04	N/A
6	Mouse	HP	FM100	N/A

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For Test Site No: 03CH01-CB (below 1GHz)

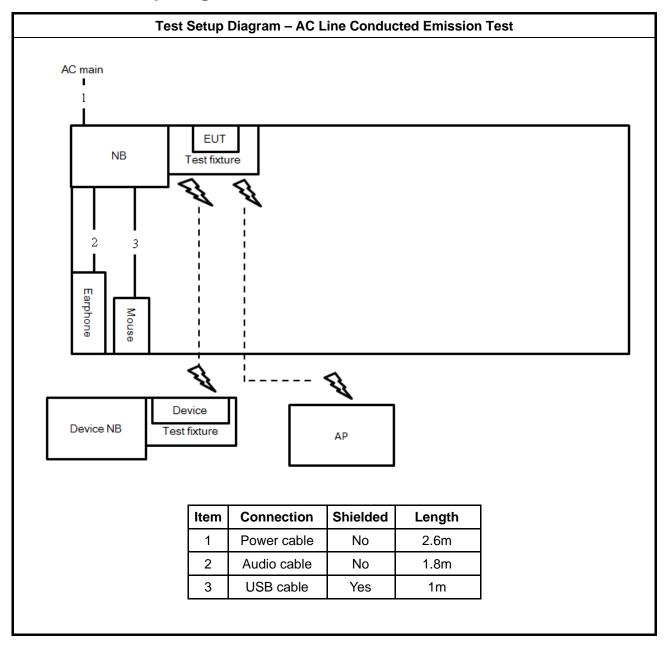
	Support Equipment			
No. Equipment Brand Name Model Name FCC ID		FCC ID		
1	NB*2	DELL	E4300	DoC
2	AP	Netgear	R6300V2	PY313200227
3	Test fixture*2	REALTEK	Ameba adapter	N/A
4	Device	REALTEK	RTL8723DE	TX2-RTL8723DE
5	Earphone	SHYARO CHI	MIC-04	N/A
6	Mouse	Logitech	M-U0026	N/A

For Test Site No: 03CH01-CB (above 1GHz)

	Support Equipment			
No.	b. Equipment Brand Name Model Name FCC ID			FCC ID
1	NB	DELL	E4300	DoC
2	Test fixture	REALTEK	Ameba adapter	N/A

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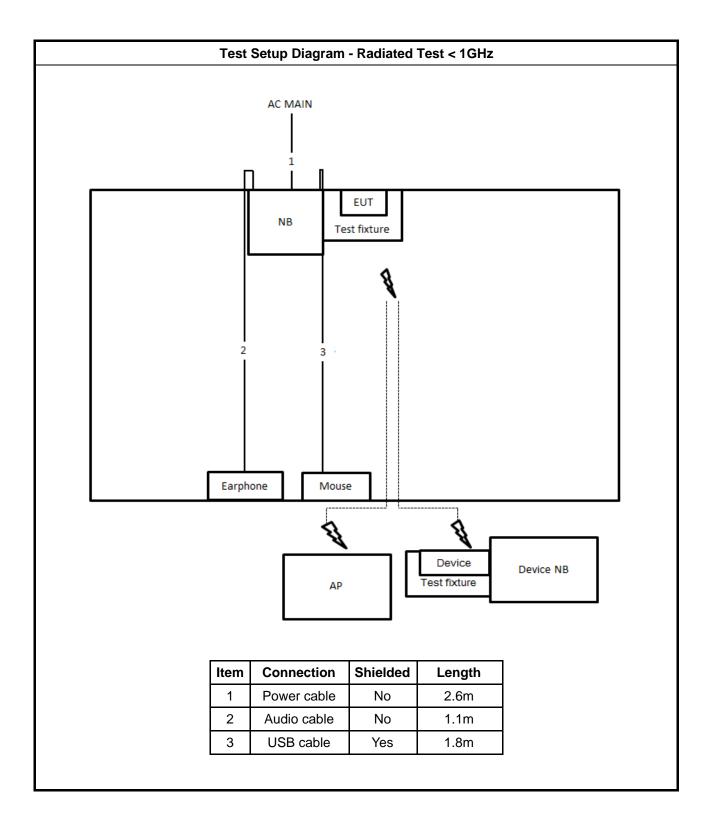
2.6 Test Setup Diagram



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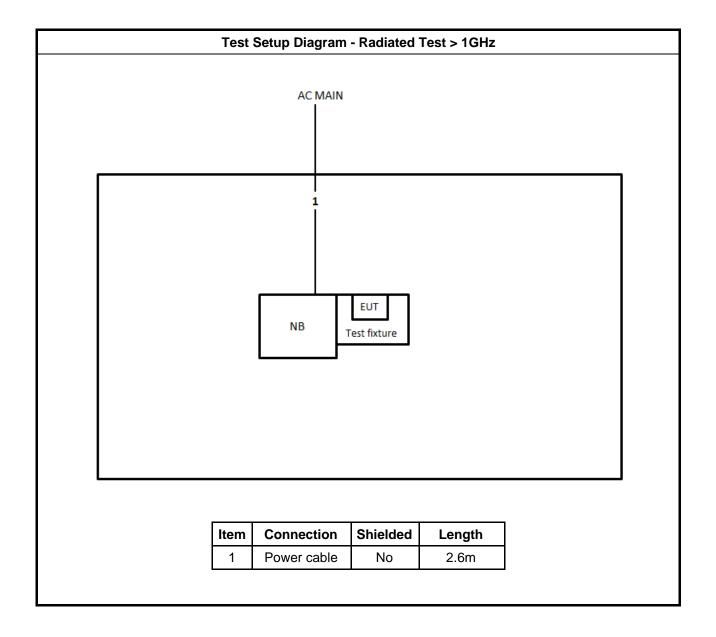
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3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Powe	er-line Conducted Emissions L	_imit
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of	of the frequency.	

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3.1.2 Measuring Instruments

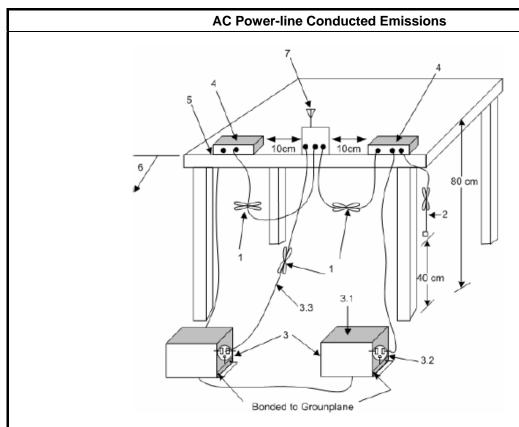
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

	Test Method
•	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

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3.1.4 Test Setup



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.

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- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
- 3.1—All other equipment powered from additional LISN(s).
- 3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
- 3.3—LISN at least 80 cm from nearest part of EUT chassis.
- 4—Non-EUT components of EUT system being tested.
- 5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
- 6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
- 7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

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3.2 Emissions in Restricted Frequency Bands

3.2.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit										
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)							
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300							
0.490~1.705	24000/F(kHz)	33.8 - 23	30							
1.705~30.0	30	29	30							
30~88	100	40	3							
88~216	150	43.5	3							
216~960 200		46	3							
Above 960	500	54	3							

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- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.
- Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

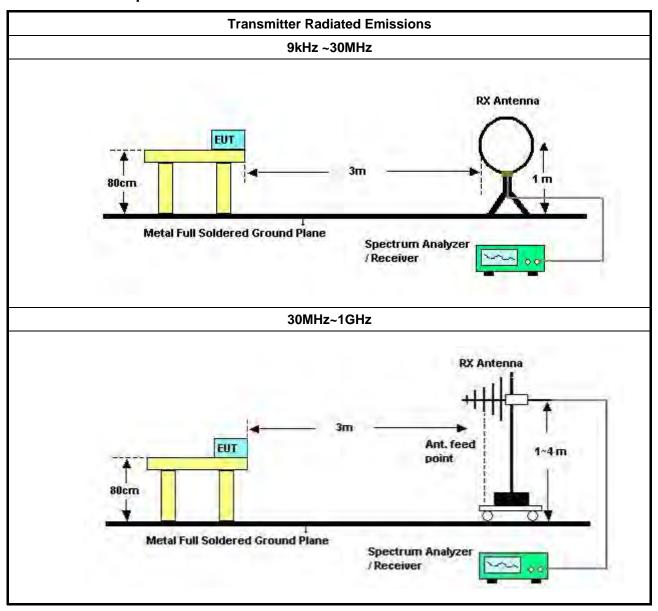
Test Method

- The average emission levels shall be measured in [hopping duty factor].
- Refer as ANSI C63.10; clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
- For the transmitter unwanted emissions shall be measured using following options below:
 - Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
 - Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
 - Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.

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3.2.4 Test Setup



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3.2.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.2.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix B

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4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 31, 2018	Jan. 30, 2019	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50- 16-2	04083	150kHz ~ 100MHz	Dec. 20, 2017	Dec. 19, 2018	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 29, 2017	Dec. 28, 2018	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017 May 22, 201		Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	1 20MHz ~ 2GHz Aug 30 2017 Aug 20 2018		Radiation (03CH01-CB)	
Loop Antenna	Teseq	HLA 6120	24155	155 9kHz - 30 MHz Mar. 16, 2016* Mar. 15, 2018*		Radiation (03CH01-CB)	
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100354	9kHz ~ 2.75GHz	Dec. 08, 2017	Dec. 07, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)

Report No.: FR5D1601-14AB

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FAX: 886-3-656-9085 Issued Date : Jun. 26, 2018

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)

Report No.: FR5D1601-14AB

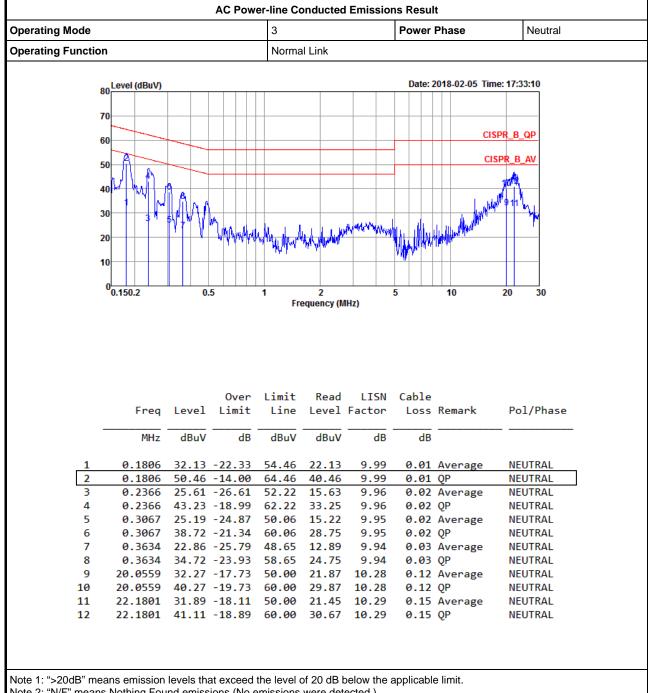
Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.

TEL: 886-3-656-9065 Page Number : 23 of 23
FAX: 886-3-656-9085 Issued Date : Jun. 26, 2018

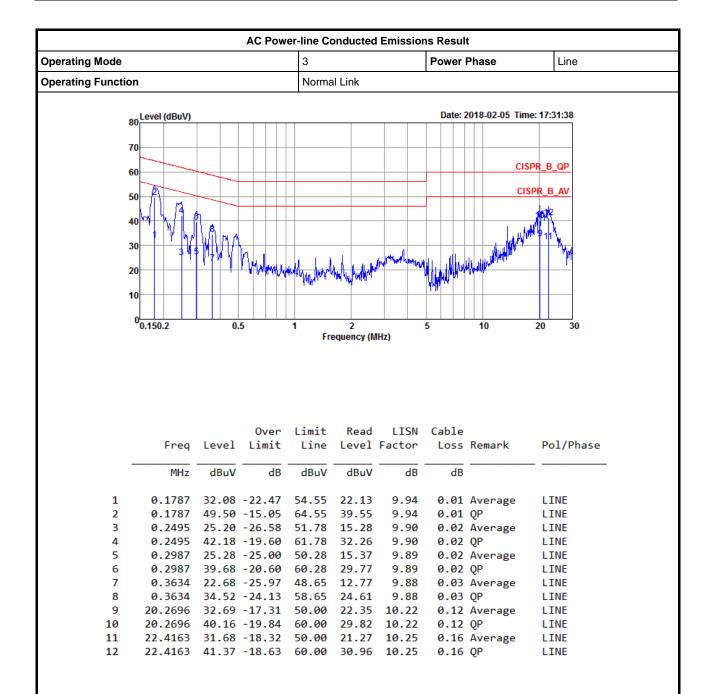
[&]quot;*" Calibration Interval of instruments listed above is two years.

AC Power-line Conducted Emissions Result



Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result

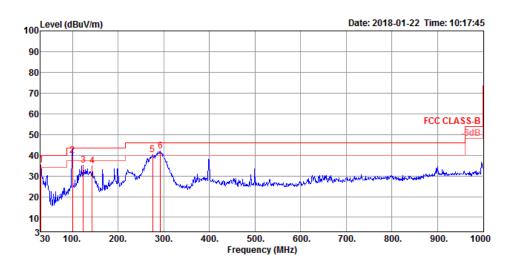


Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE below 1GHz Result								
Operating Mode	1	Polarization	Horizontal					
Operating Function	Normal Link							

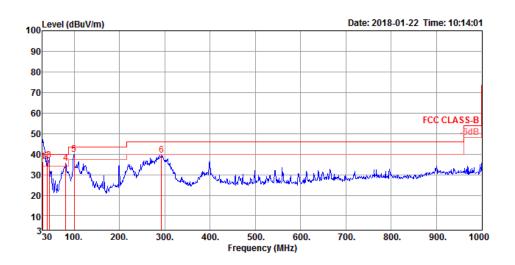


	Freq	Level	Limit					Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.97	35.21	40.00	-4.79	41.65	0.98	25.01	32.43	200	276	Peak	HORIZONTAL
2	99.84	39.75	43.50	-3.75	54.20	0.83	17.10	32.38	280	155	QP	HORIZONTAL
3	124.09	35.16	43.50	-8.34	47.76	1.15	18.61	32.36	300	110	Peak	HORIZONTAL
4	143.49	34.97	43.50	-8.53	48.75	1.14	17.42	32.34	200	131	Peak	HORIZONTAL
5	275.41	40.13	46.00	-5.87	50.60	2.51	19.30	32.28	125	214	Peak	HORIZONTAL
6	292.87	41.92	46.00	-4.08	52.03	2.60	19.56	32.27	100	311	Peak	HORIZONTAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE below 1GHz Result								
Operating Mode	1	Polarization	Vertical					
Operating Function	Normal Link							



	Freq	Level	Limit Line					Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.97	36.45	40.00	-3.55	42.89	0.98	25.01	32.43	100	245	QP	VERTICAL
2	39.70	36.68	40.00	-3.32	48.01	1.15	19.95	32.43	100	250	QP	VERTICAL
3	44.55	36.98	40.00	-3.02	50.79	1.36	17.25	32.42	100	247	QP	VERTICAL
4	81.41	35.56	40.00	-4.44	53.40	0.88	13.67	32.39	100	189	Peak	VERTICAL
5	99.84	39.91	43.50	-3.59	54.36	0.83	17.10	32.38	300	73	Peak	VERTICAL
6	292.87	39.55	46.00	-6.45	49.66	2.60	19.56	32.27	100	106	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



RSE TX above 1GHz Result

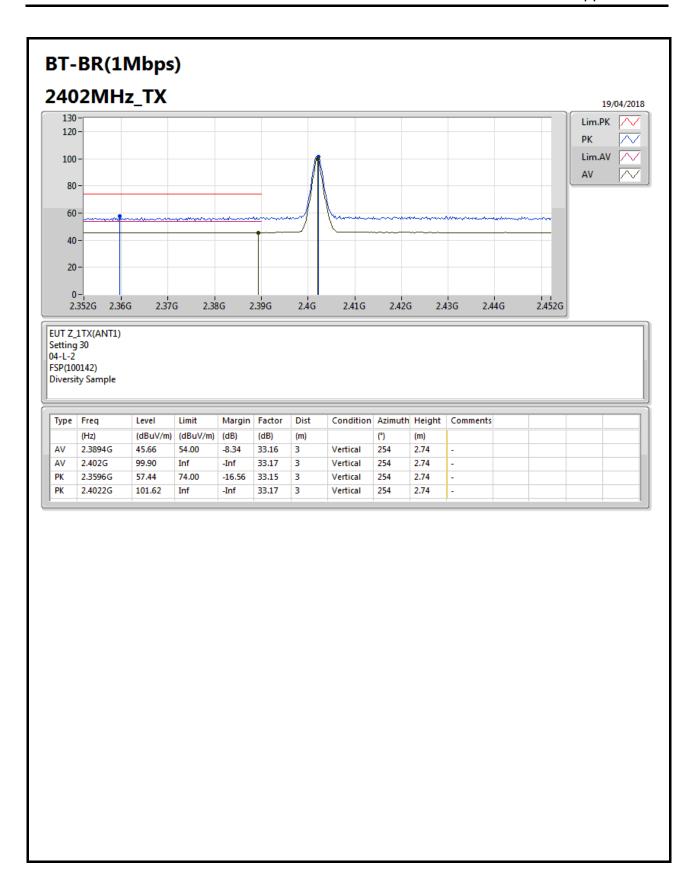
Appendix B.2

Test Mode: Mode 1

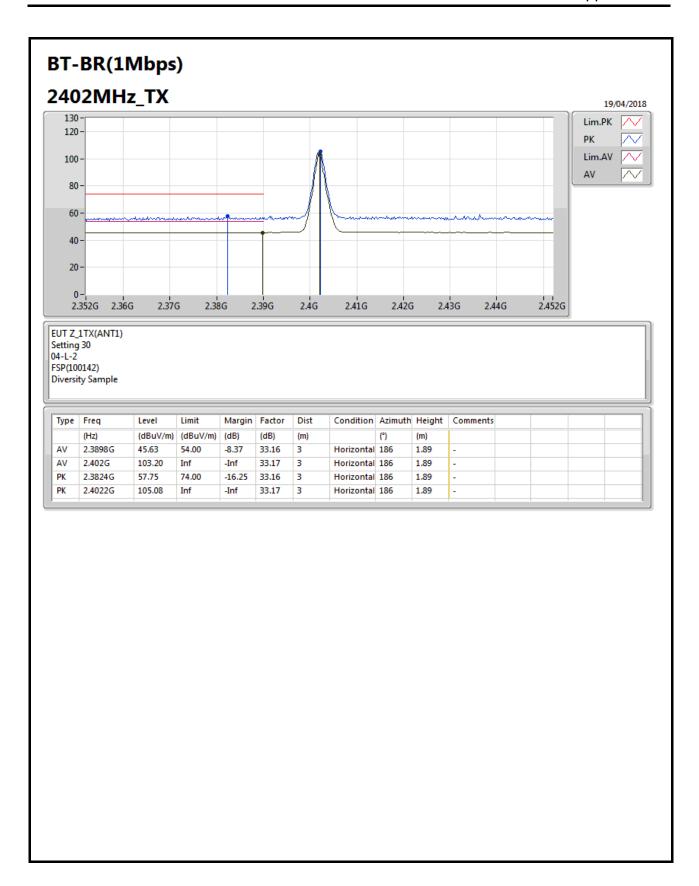
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	48.82	54.00	-5.18	33.19	3	Horizontal	359	2.74	-

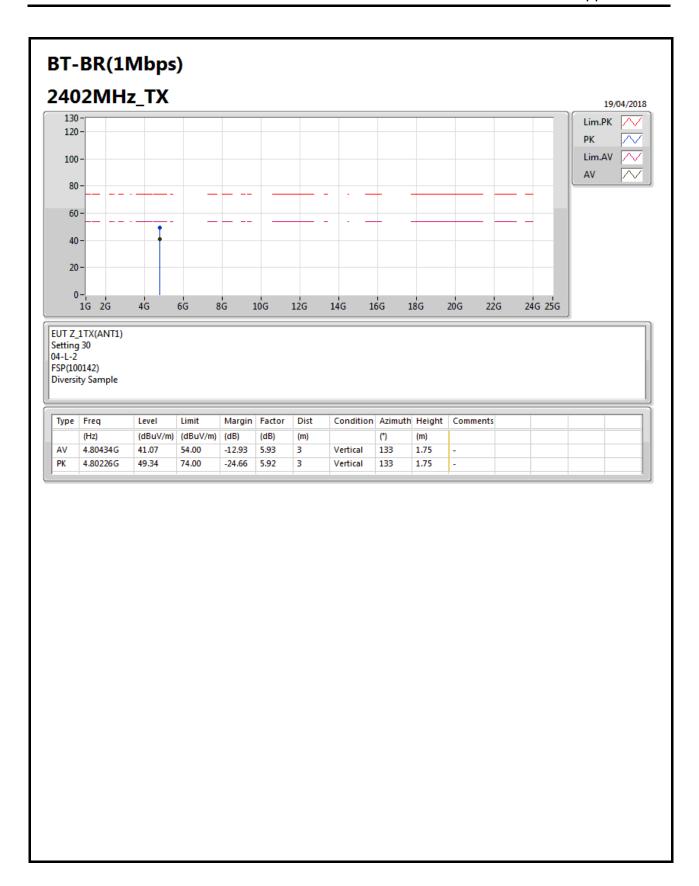




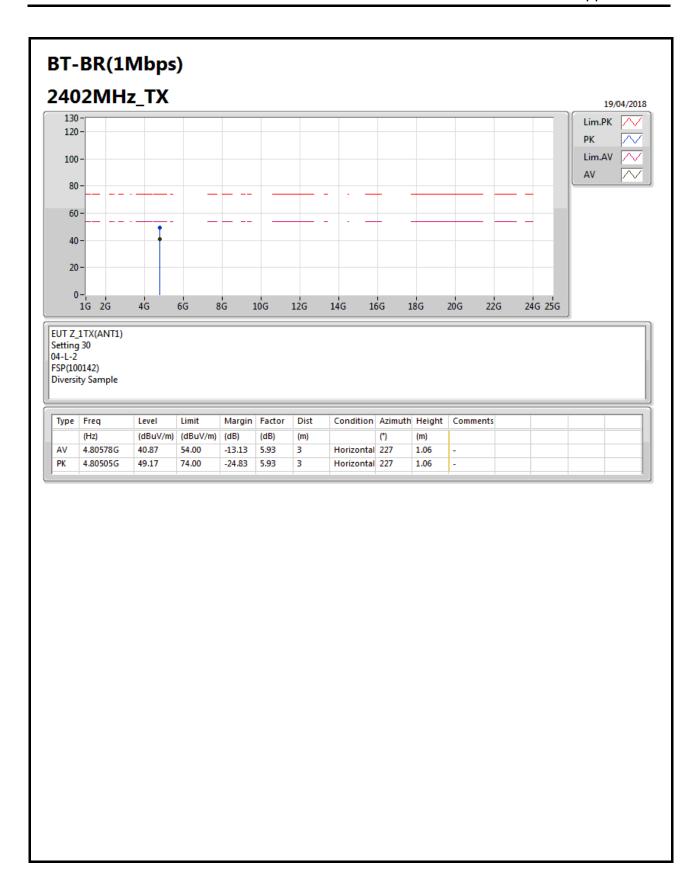






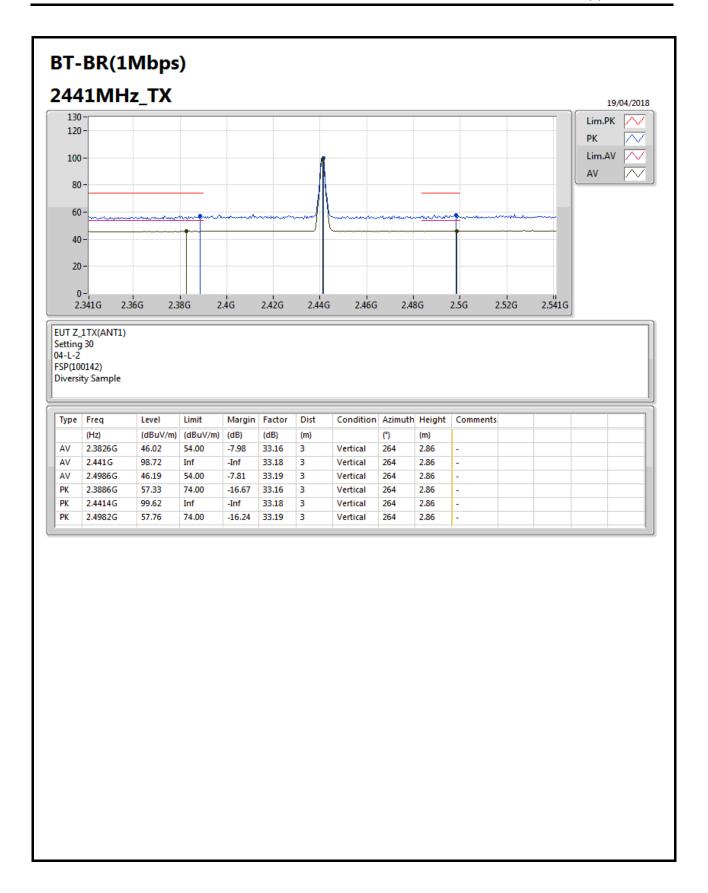




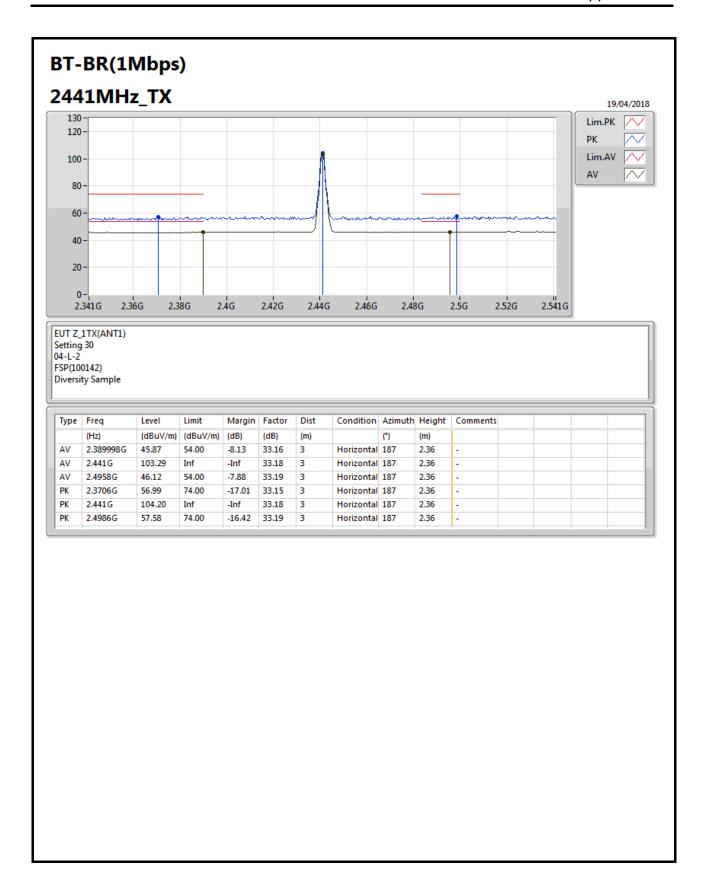




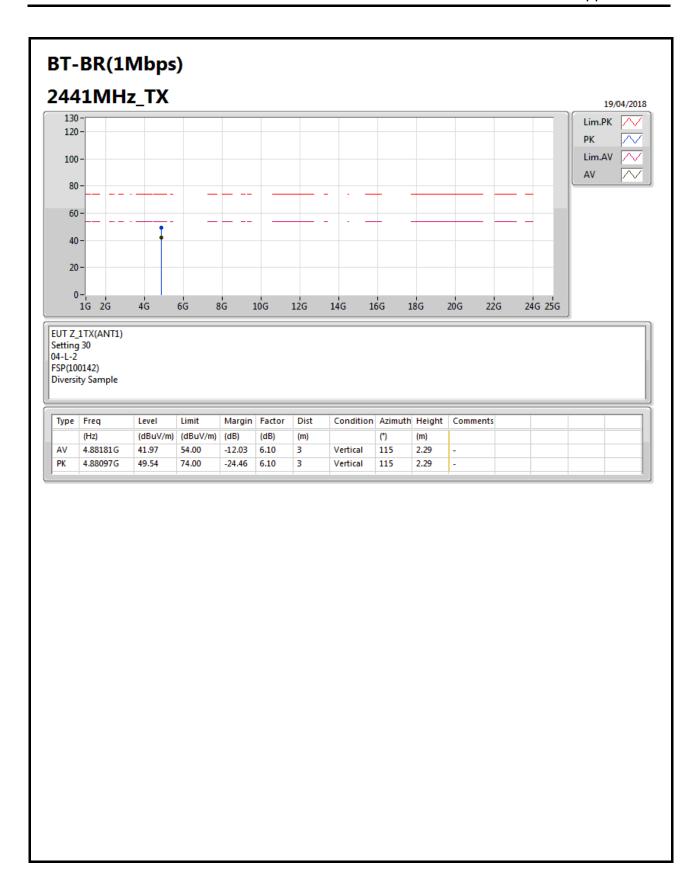
Appendix B.2



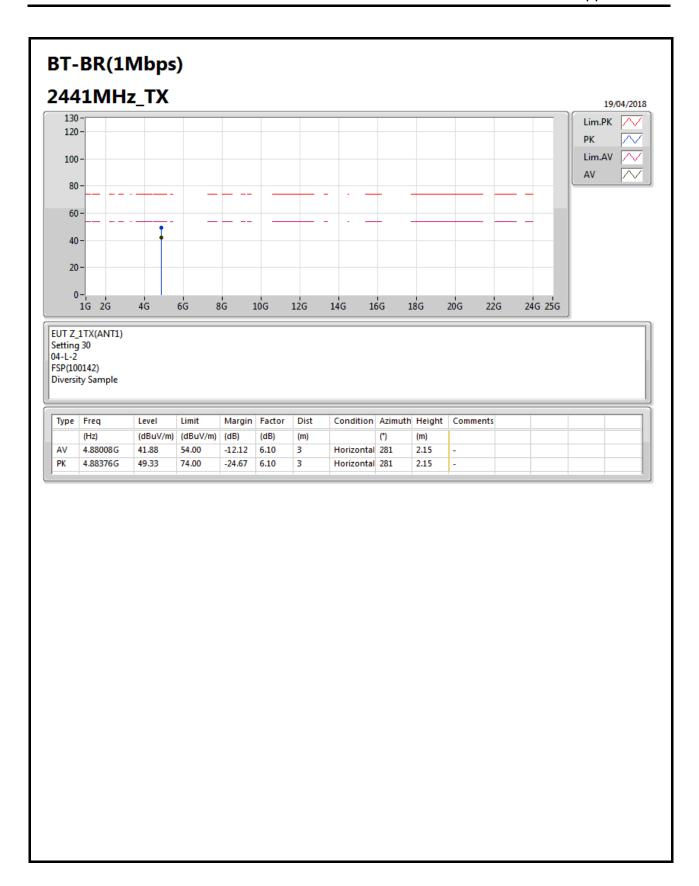




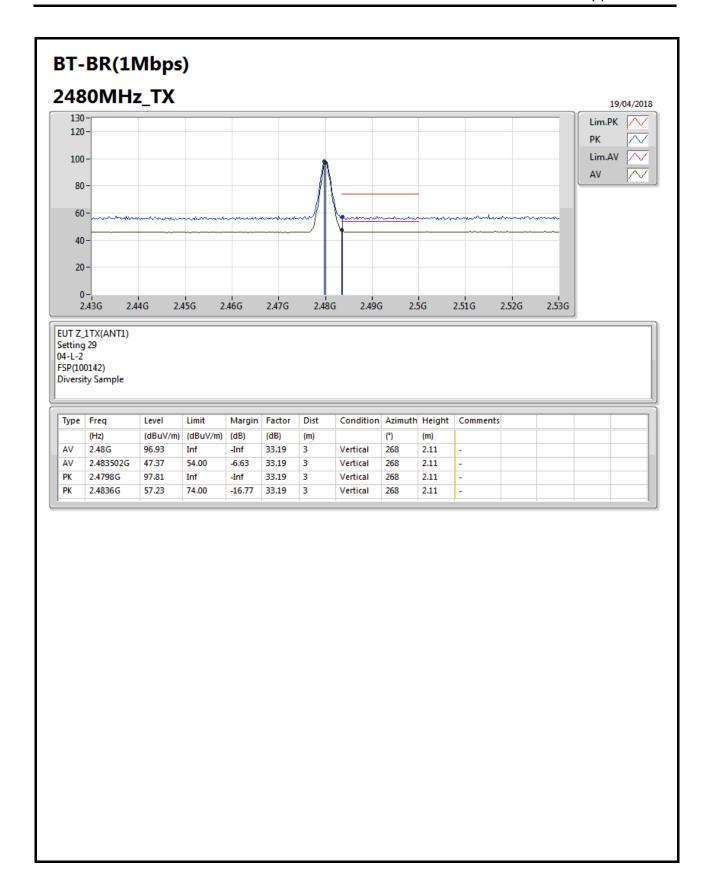




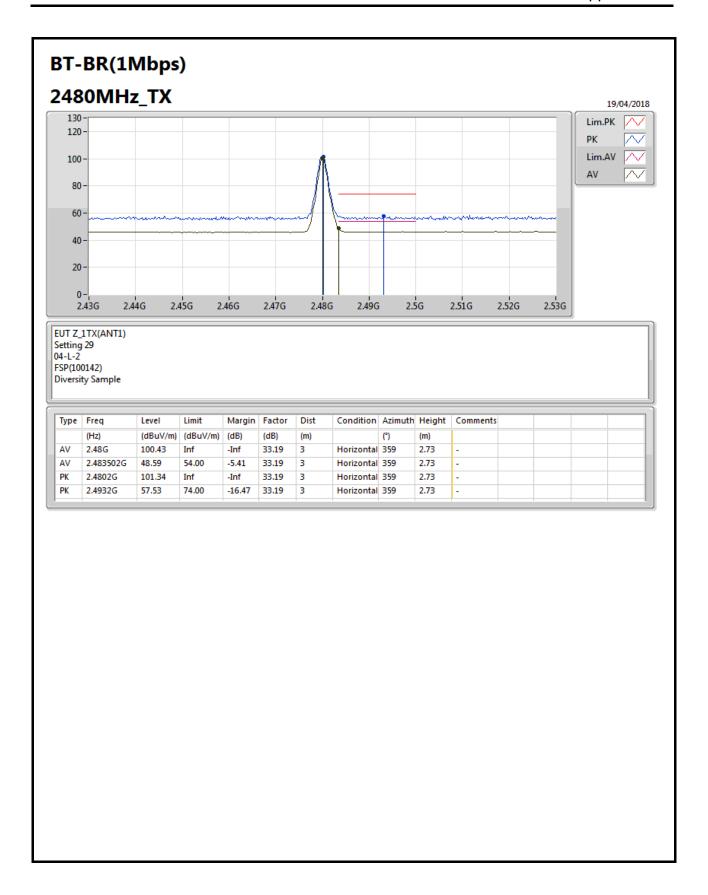




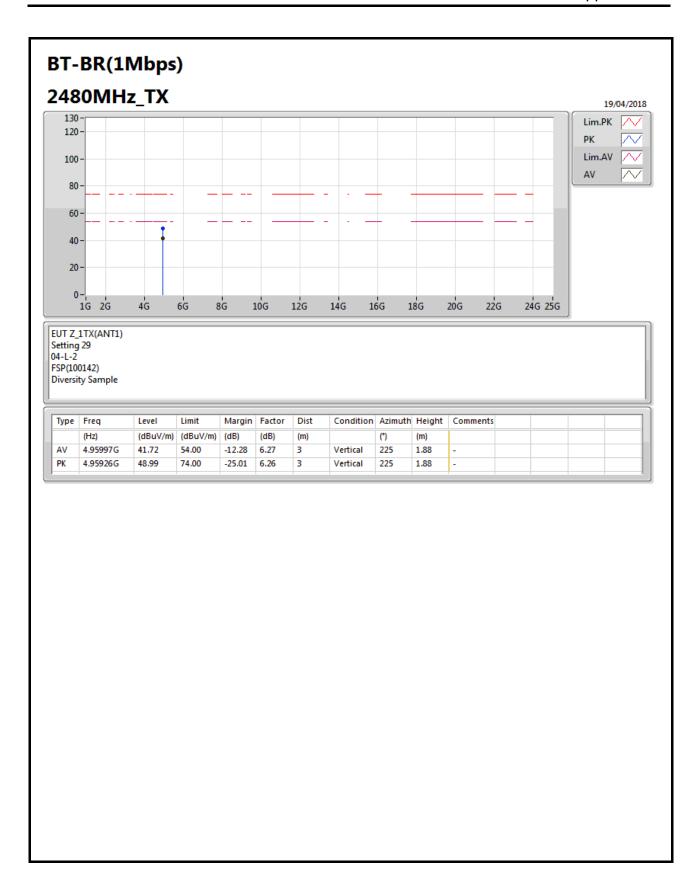




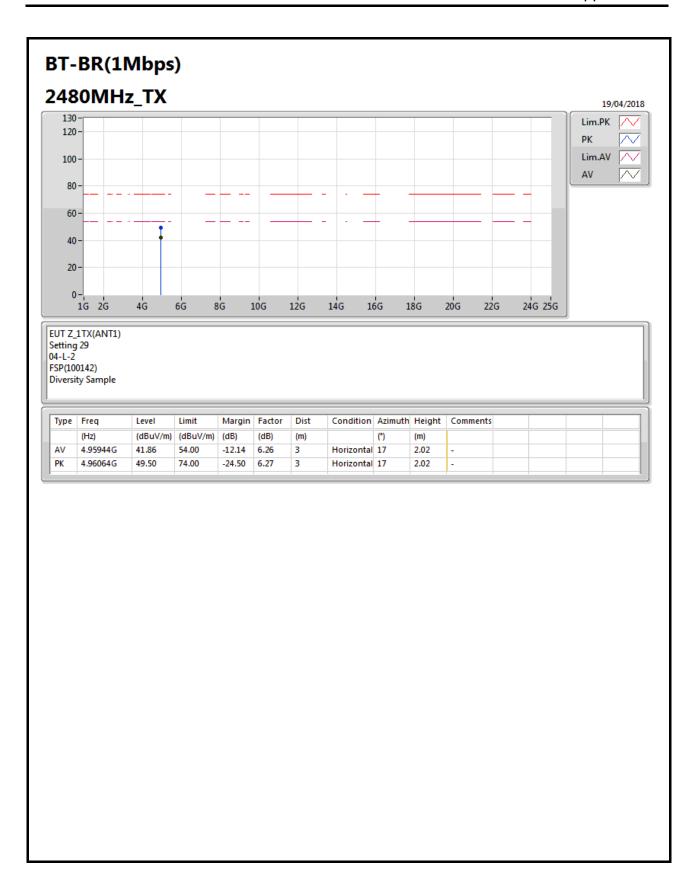




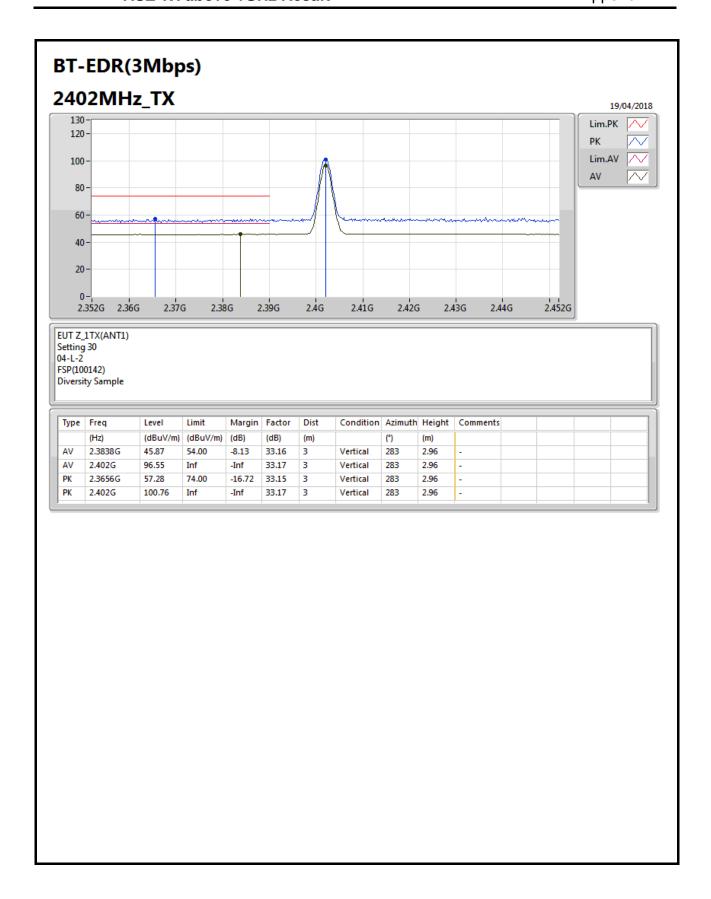




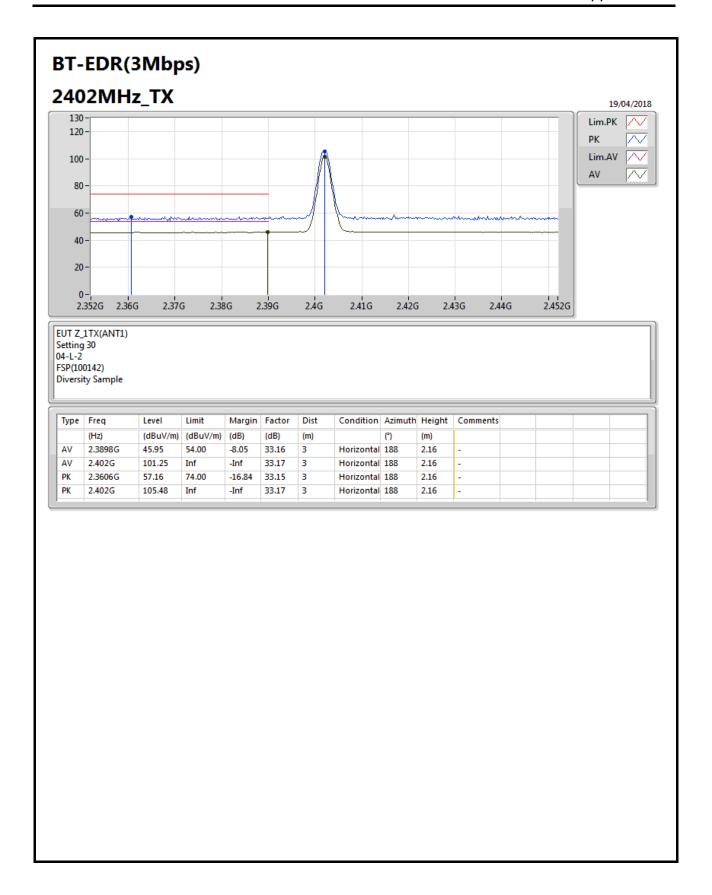




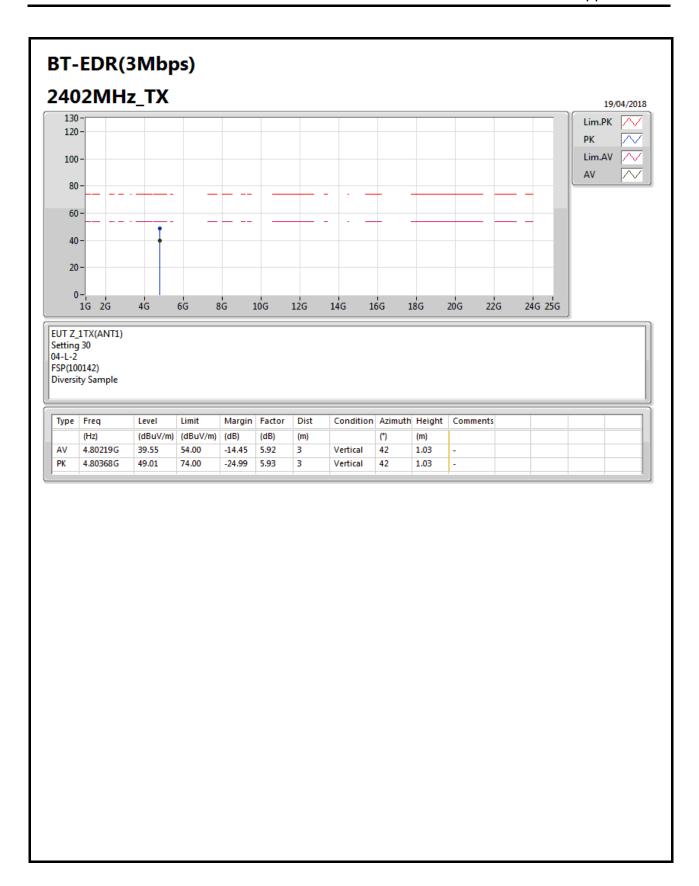




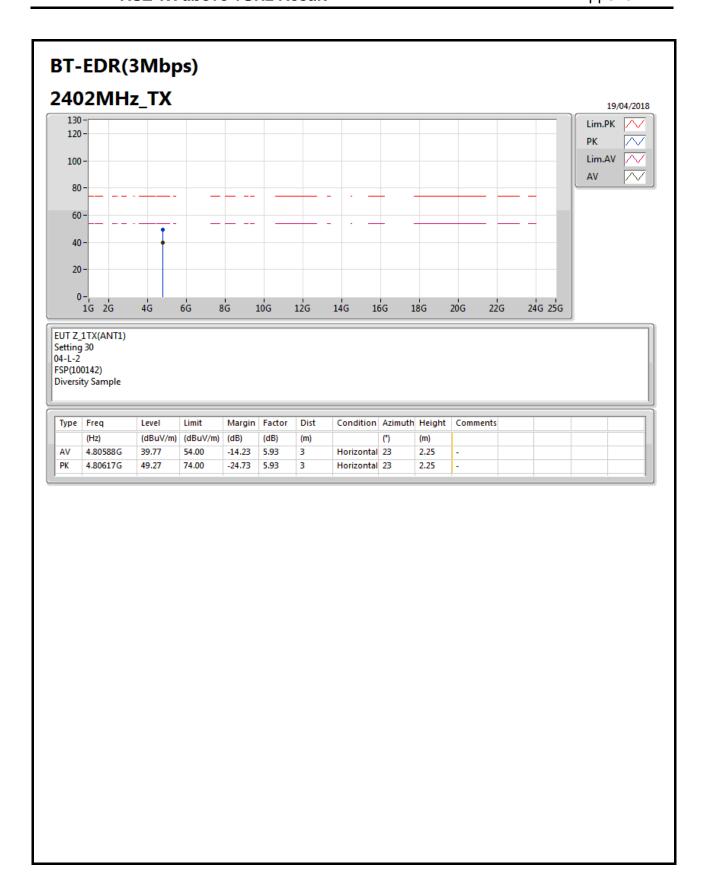




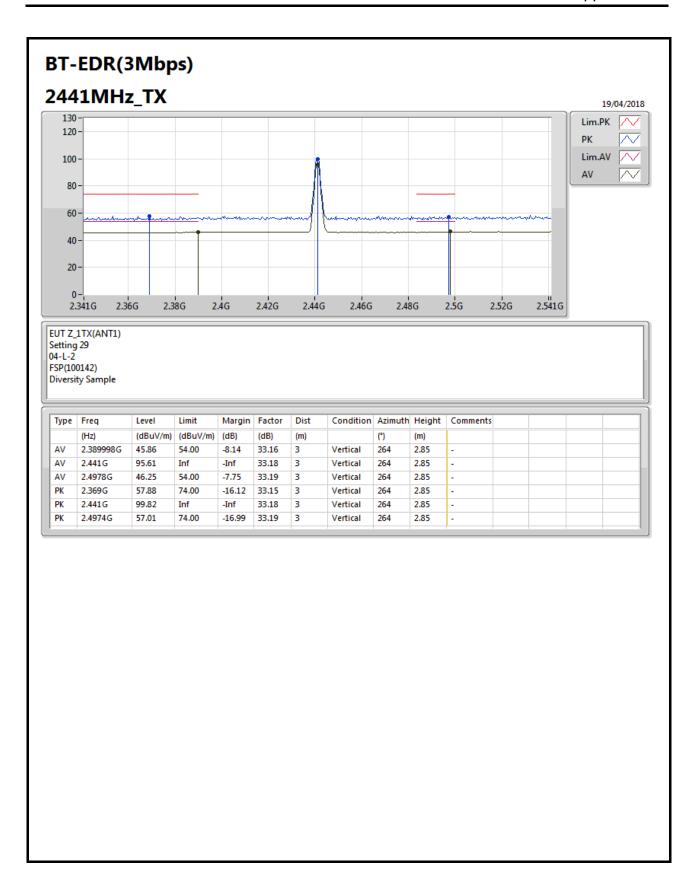




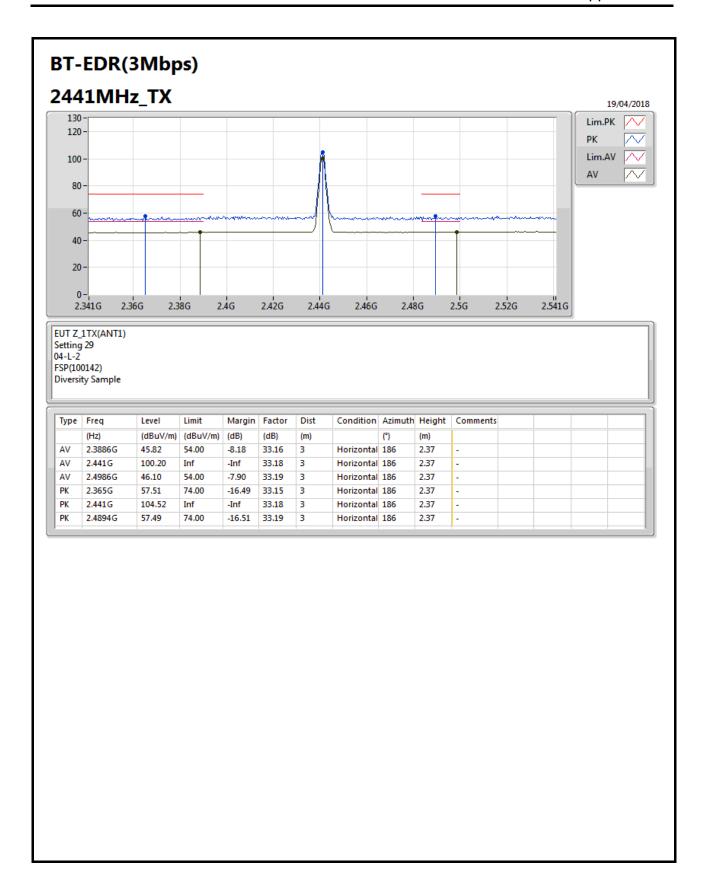




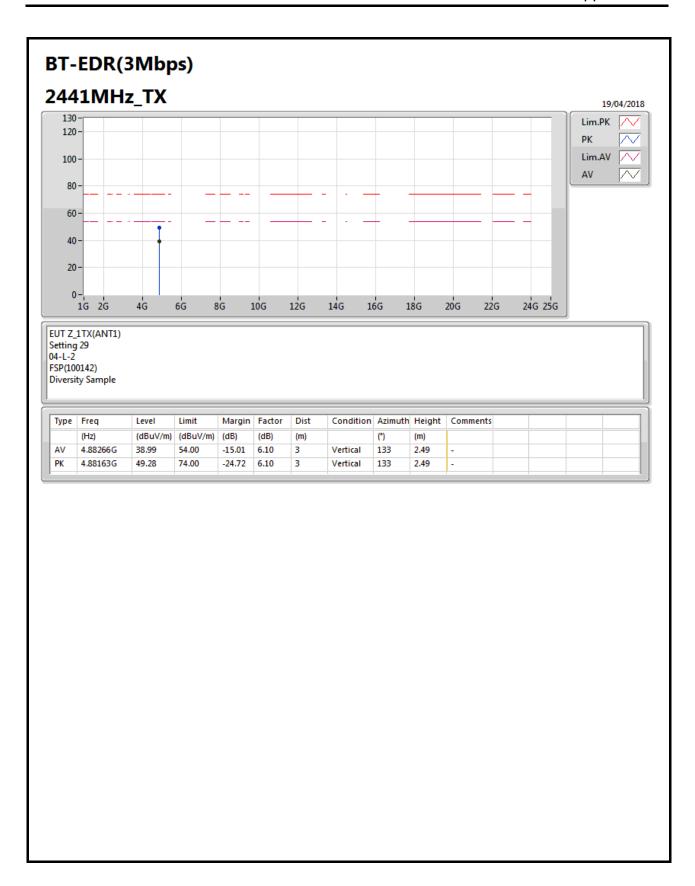




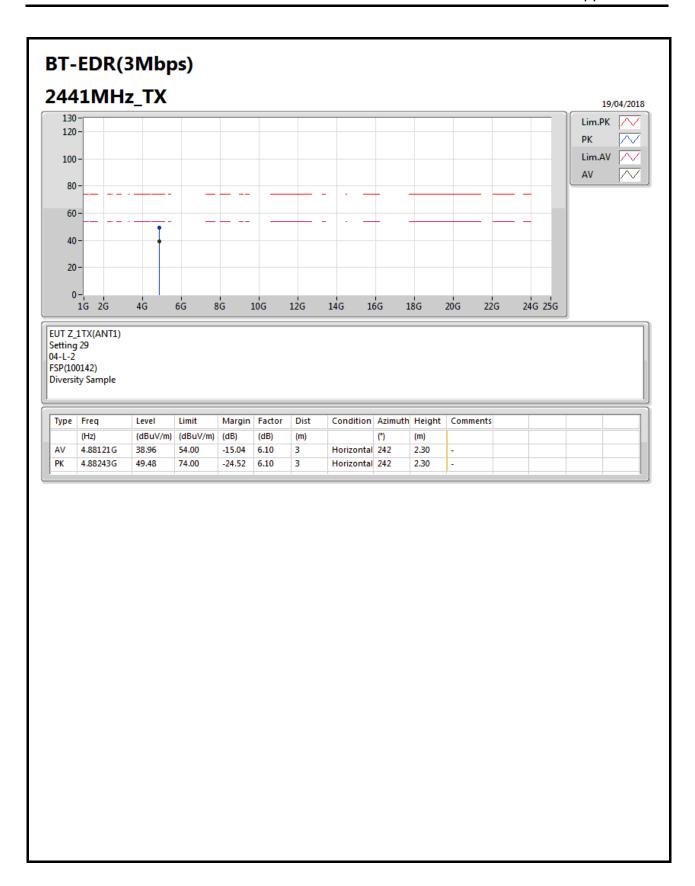




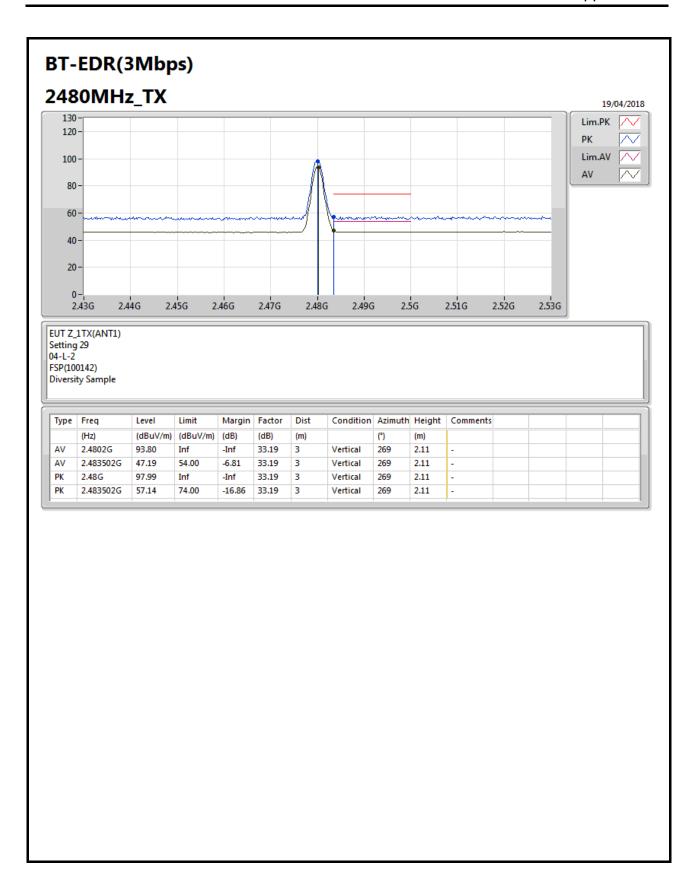








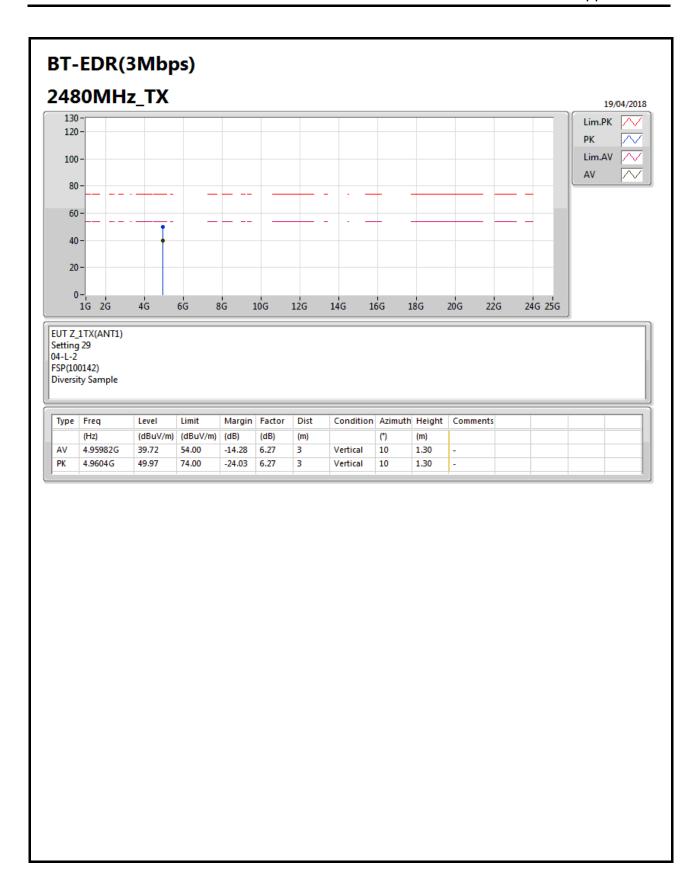




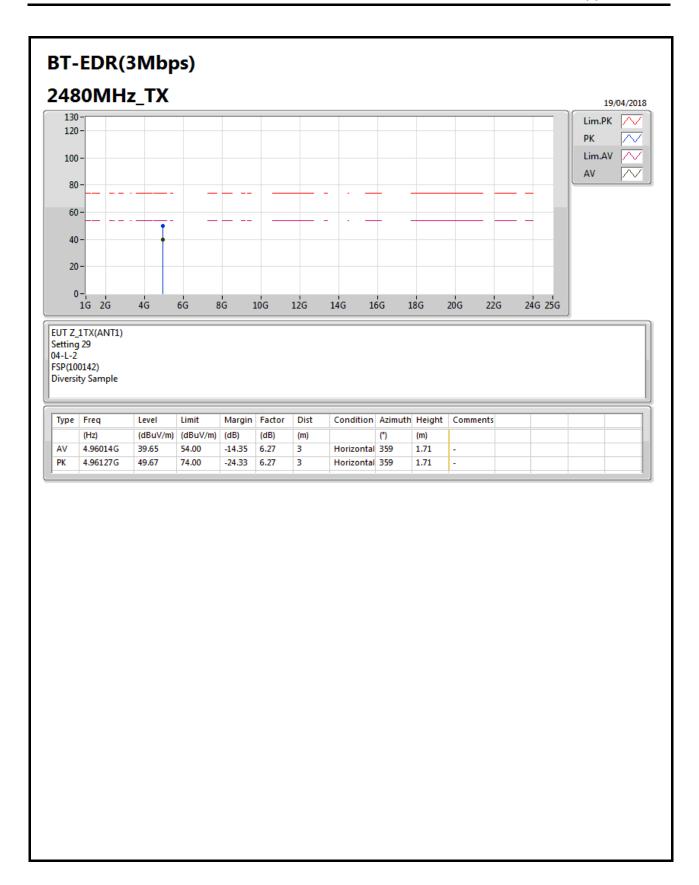














RSE TX above 1GHz Result

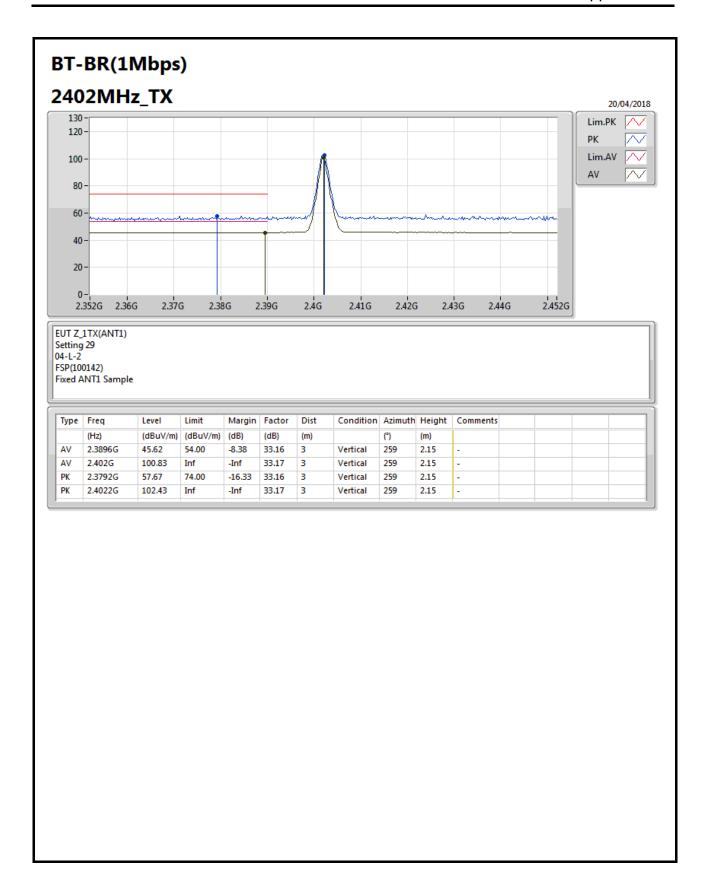
Appendix B.2

Test Mode: Mode 2

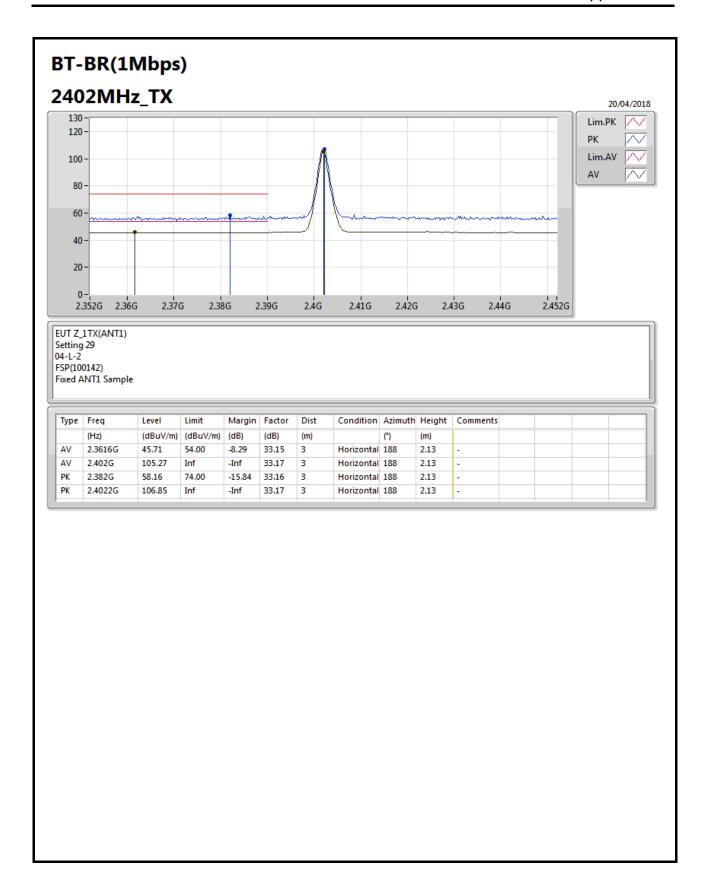
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	48.99	54.00	-5.01	33.19	3	Horizontal	0	2.74	-

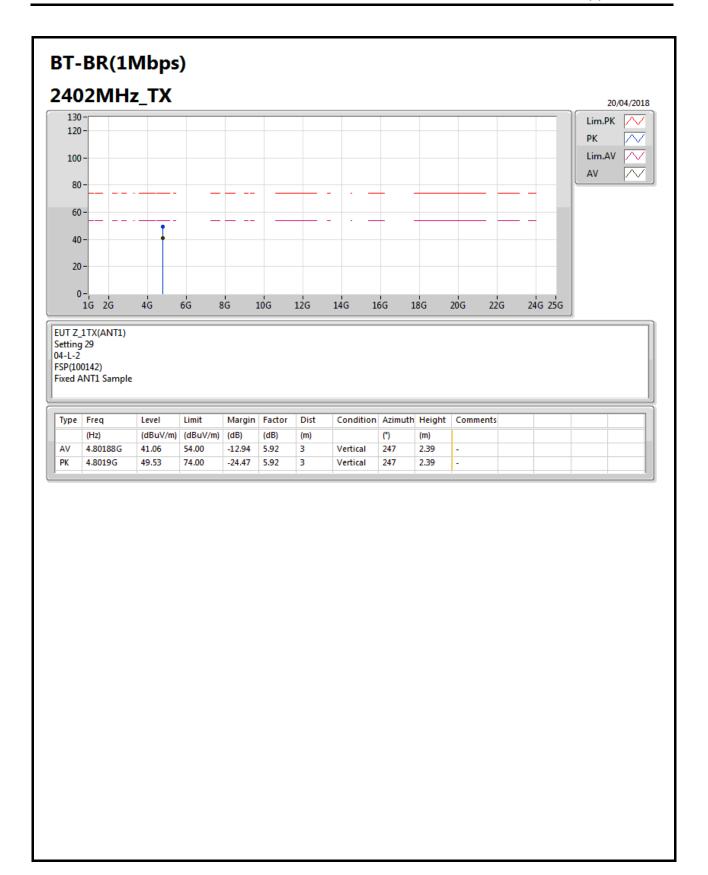




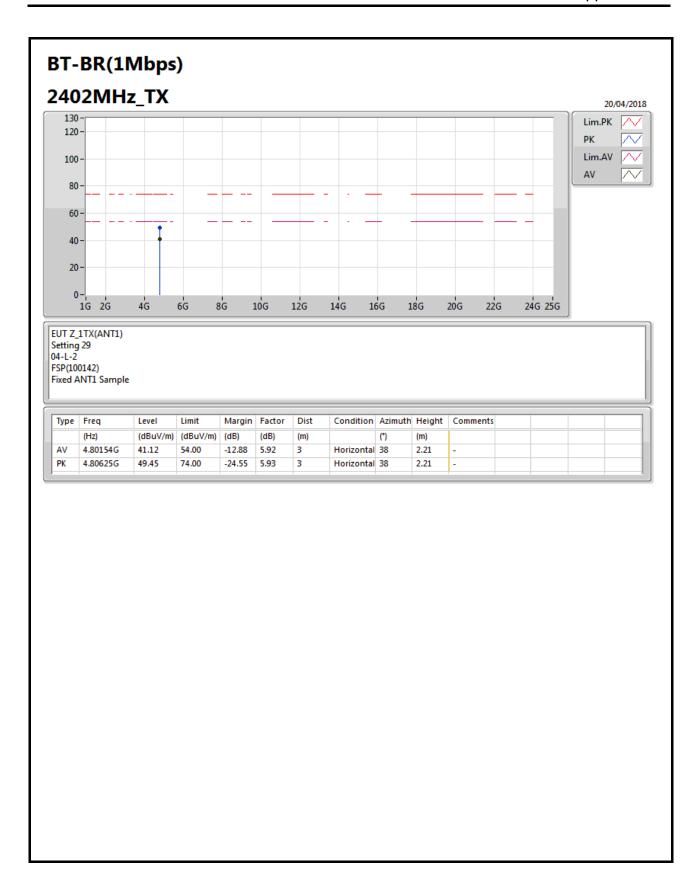




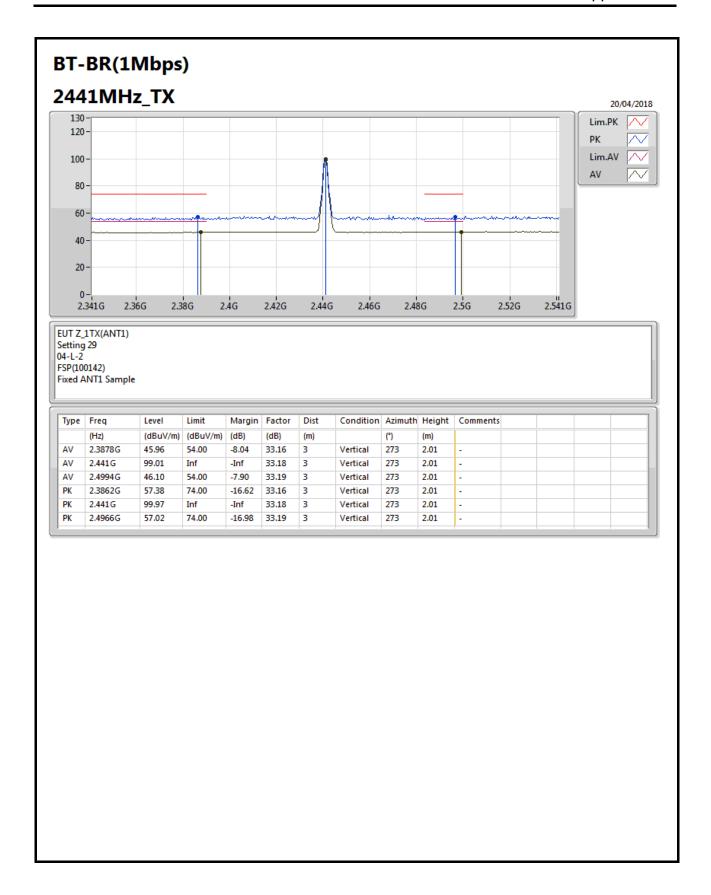
Appendix B.2



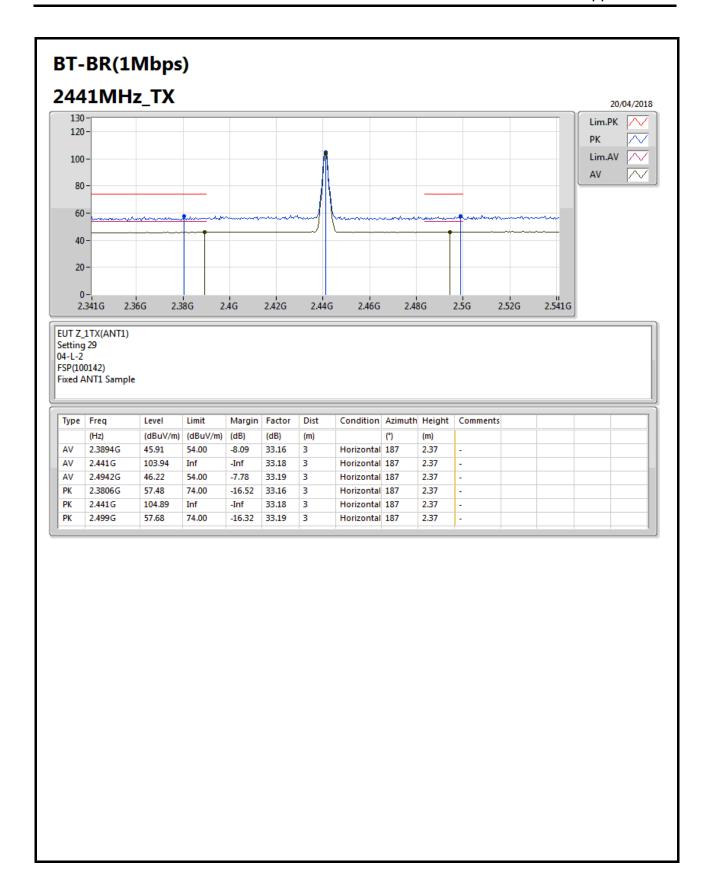




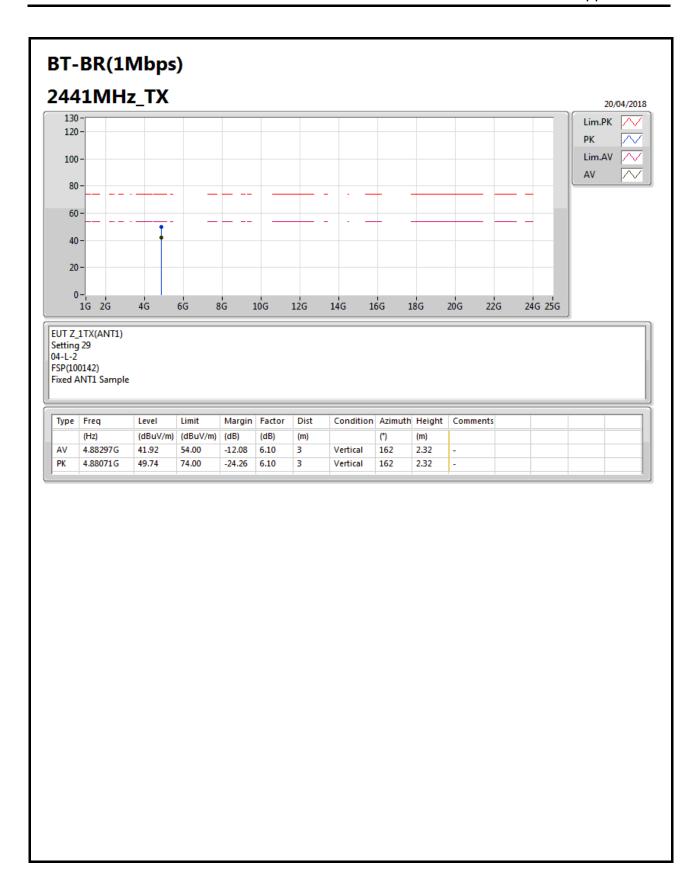




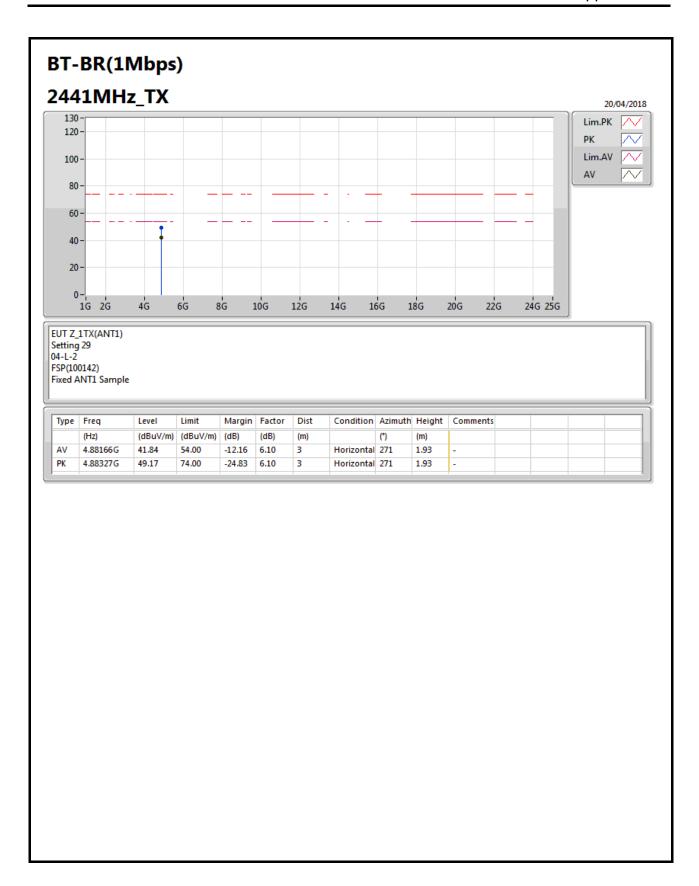








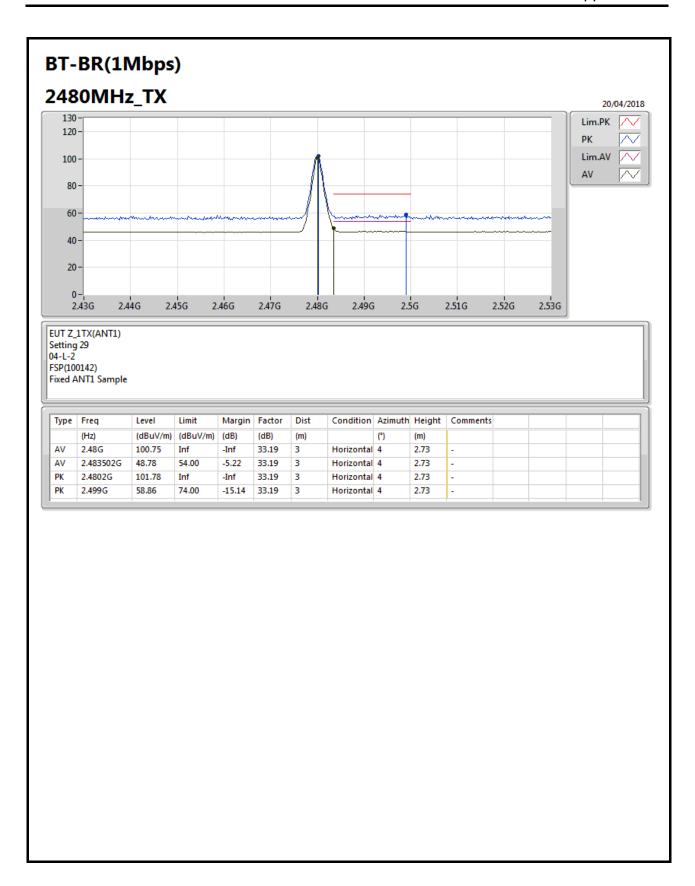




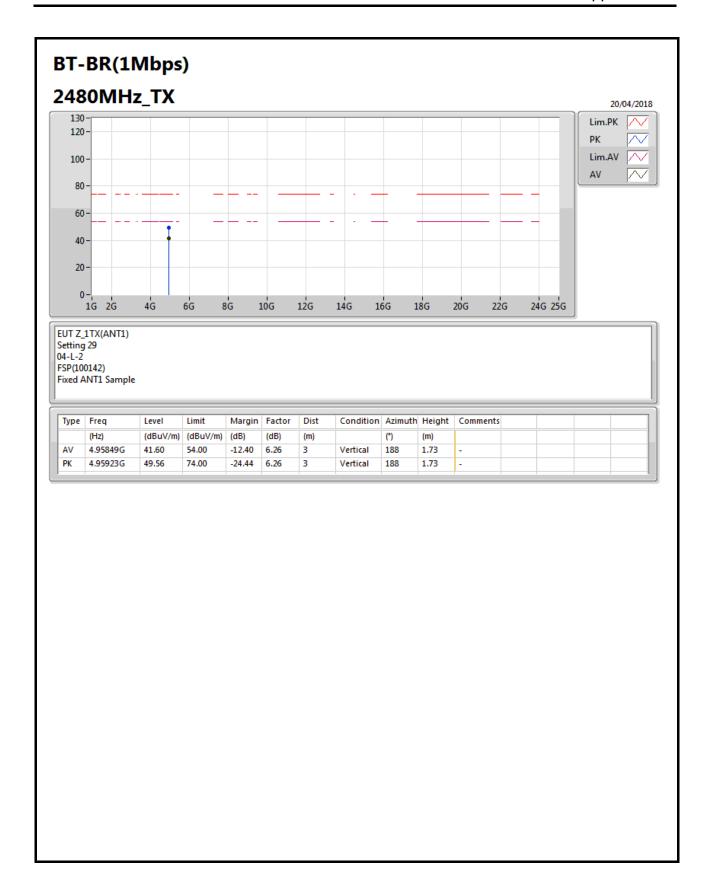




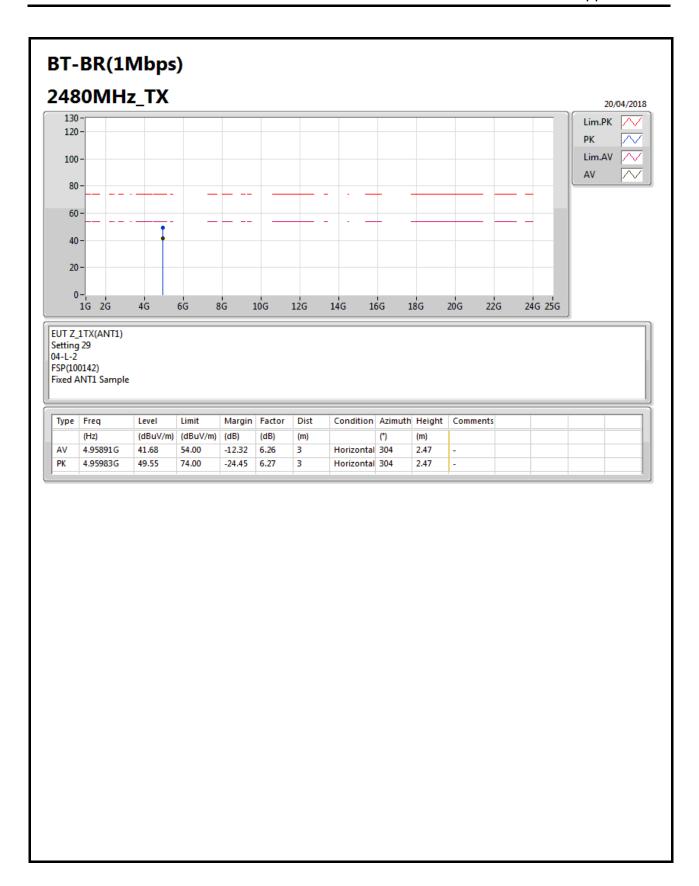




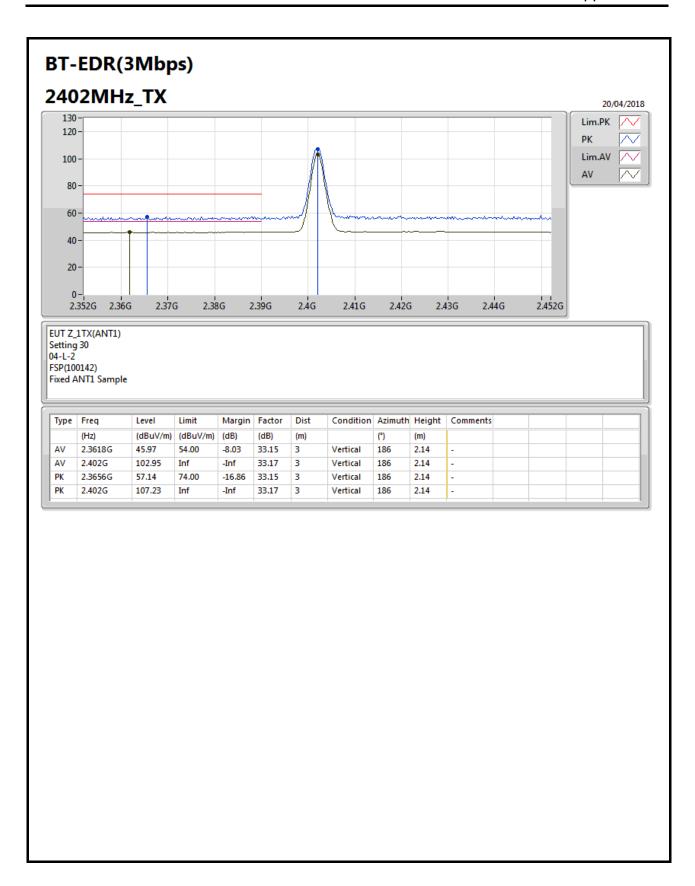




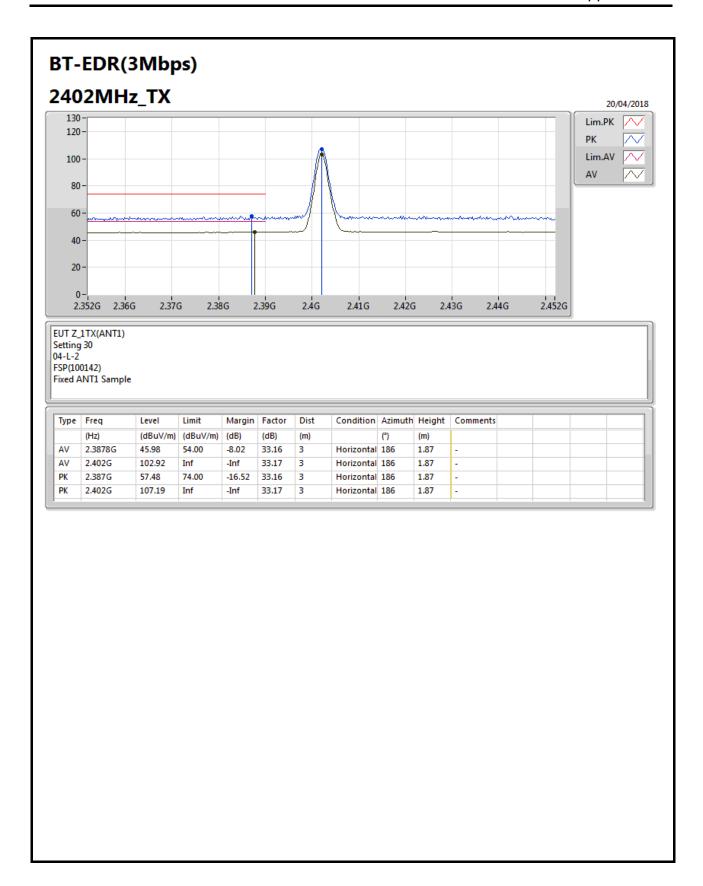




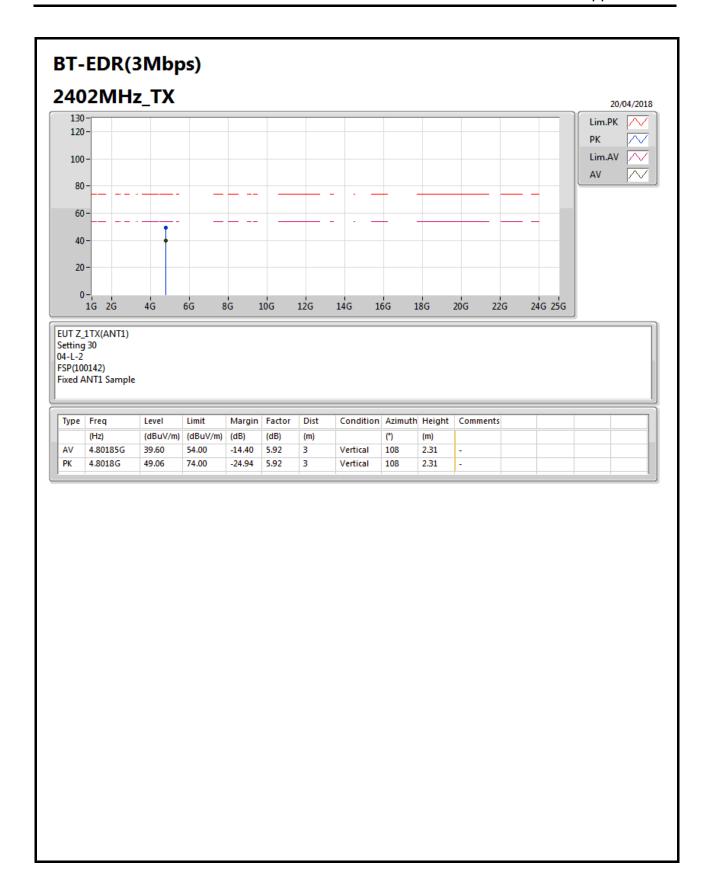




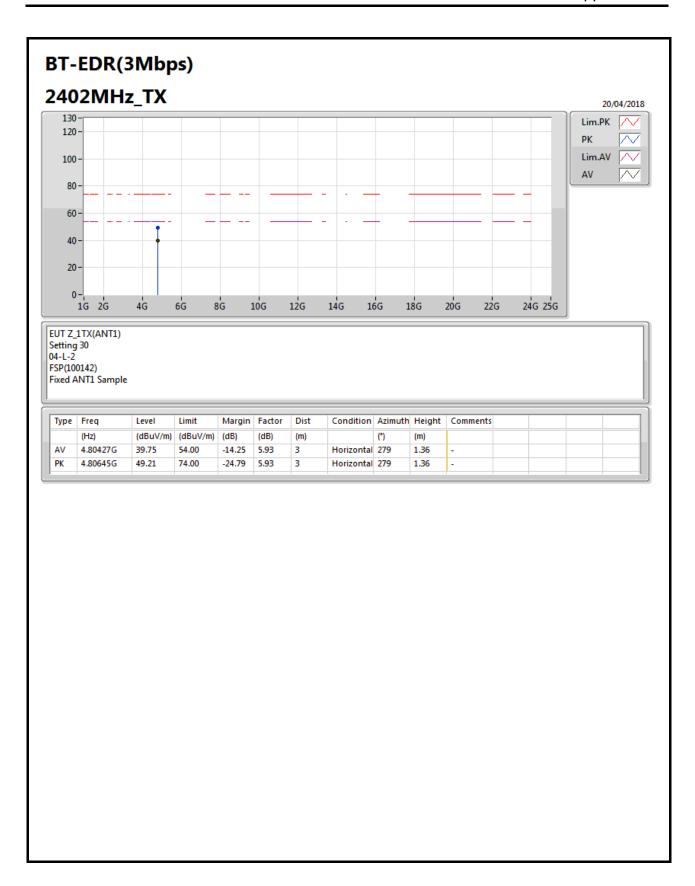




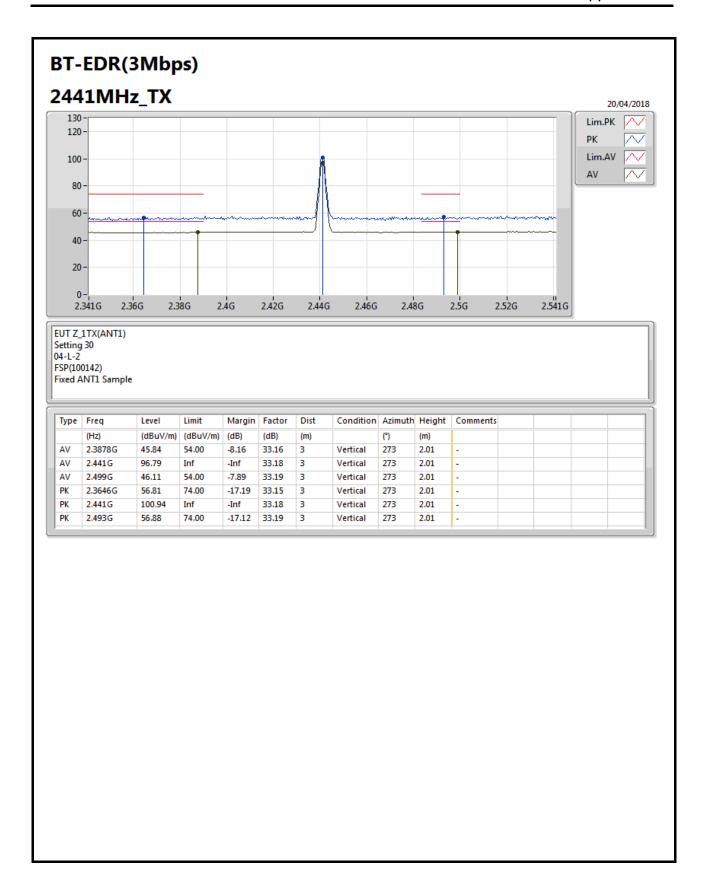




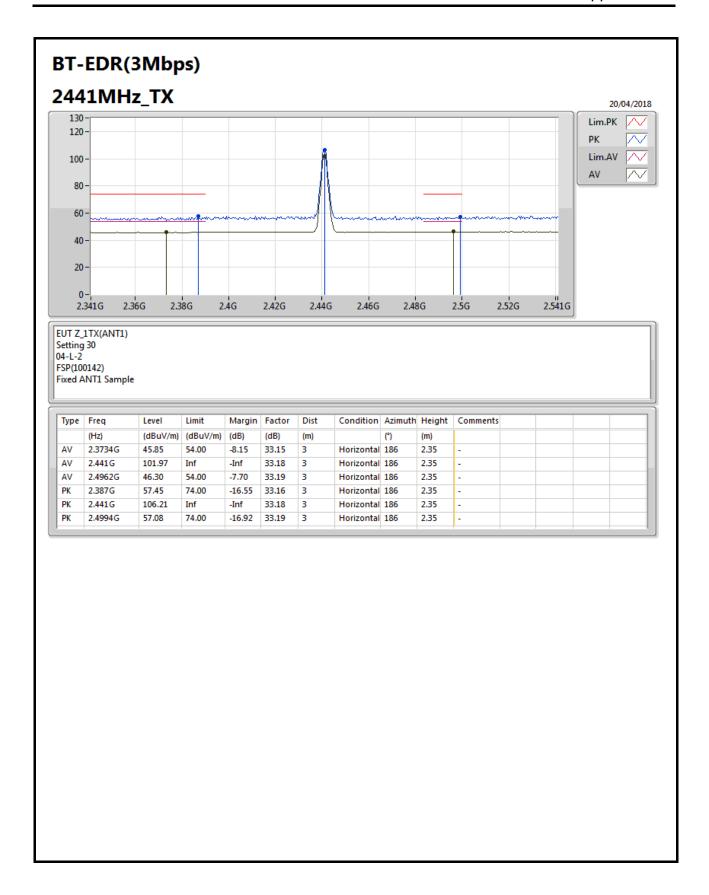




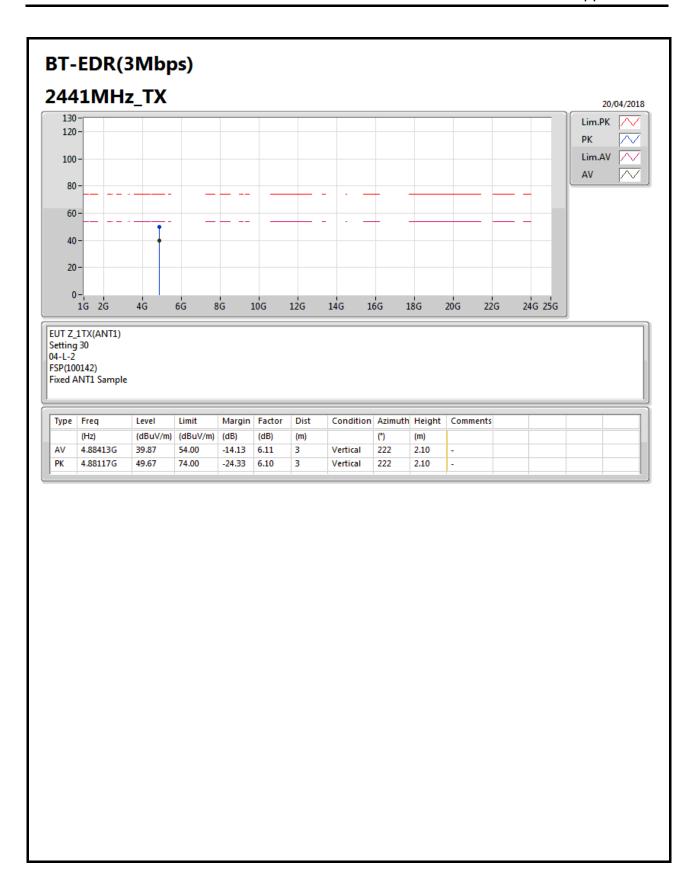




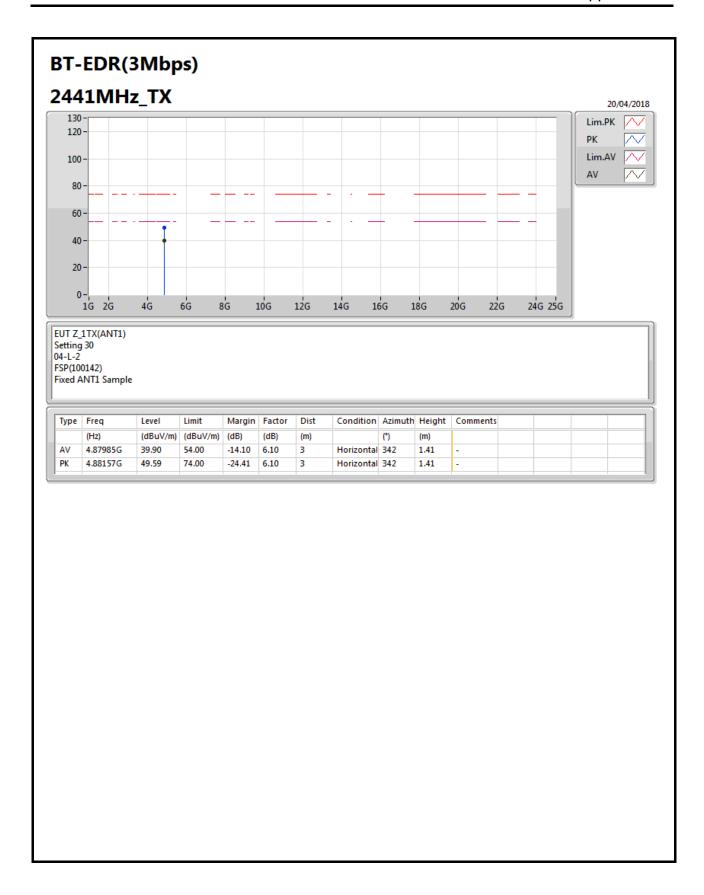




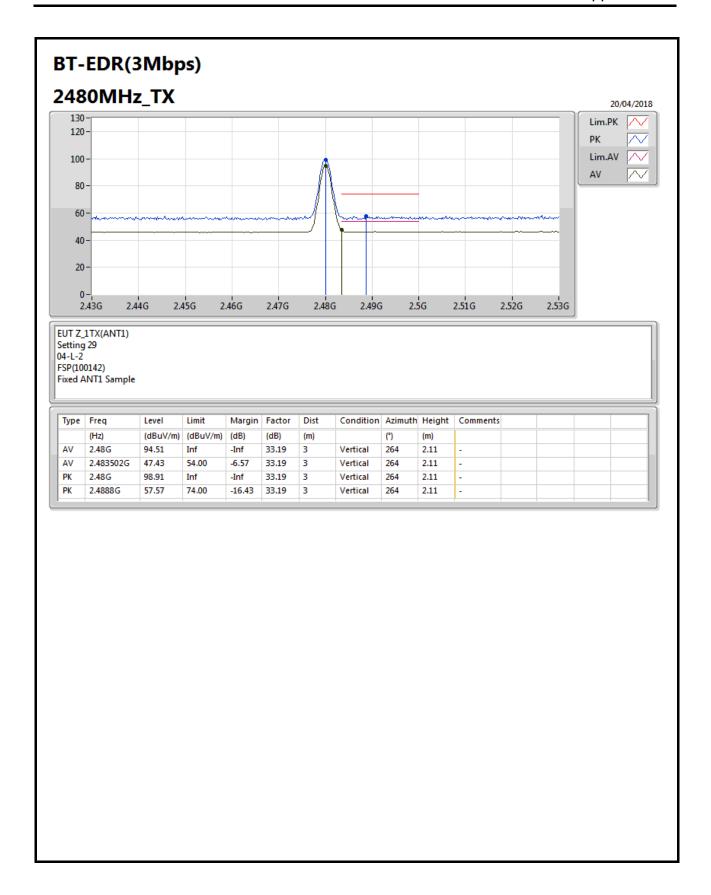








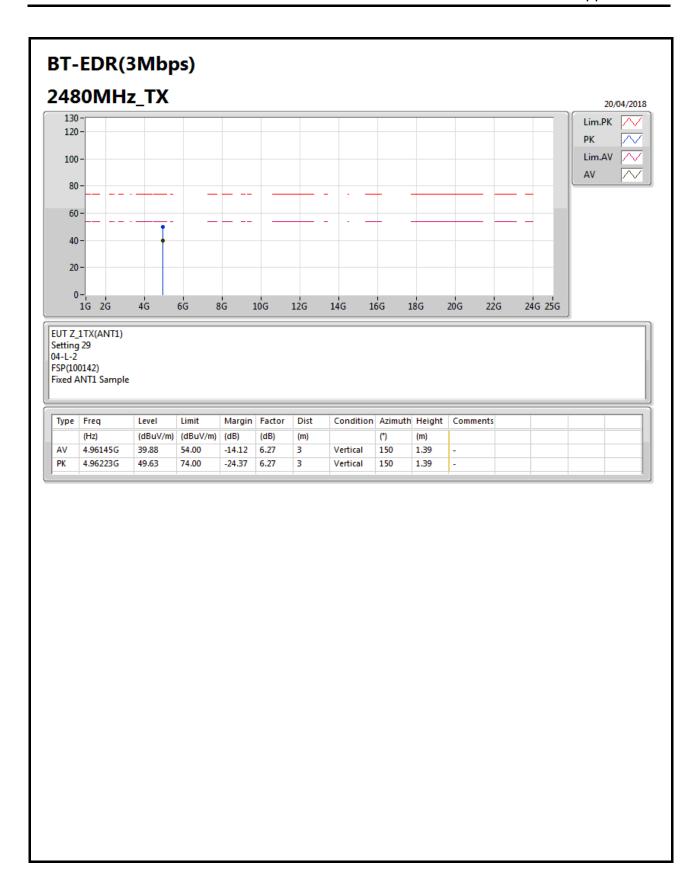




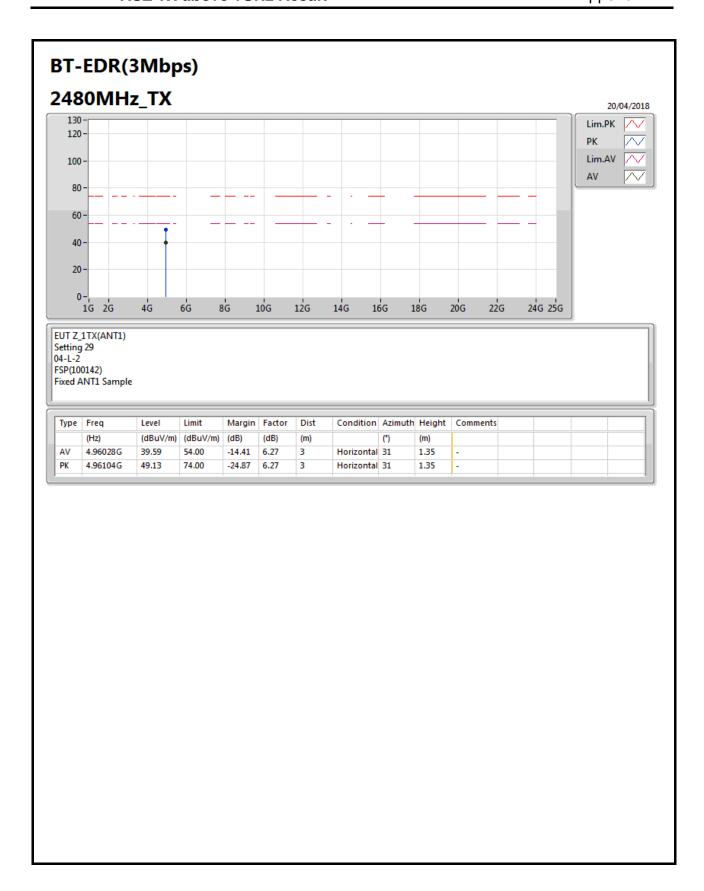














RSE TX above 1GHz Result

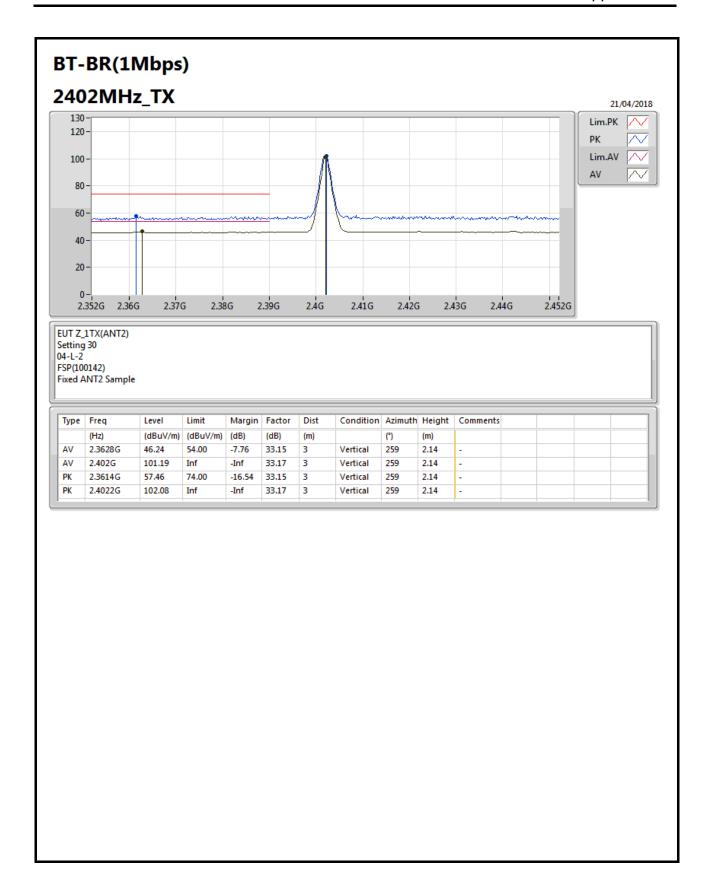
Appendix B.2

Test Mode: Mode 3

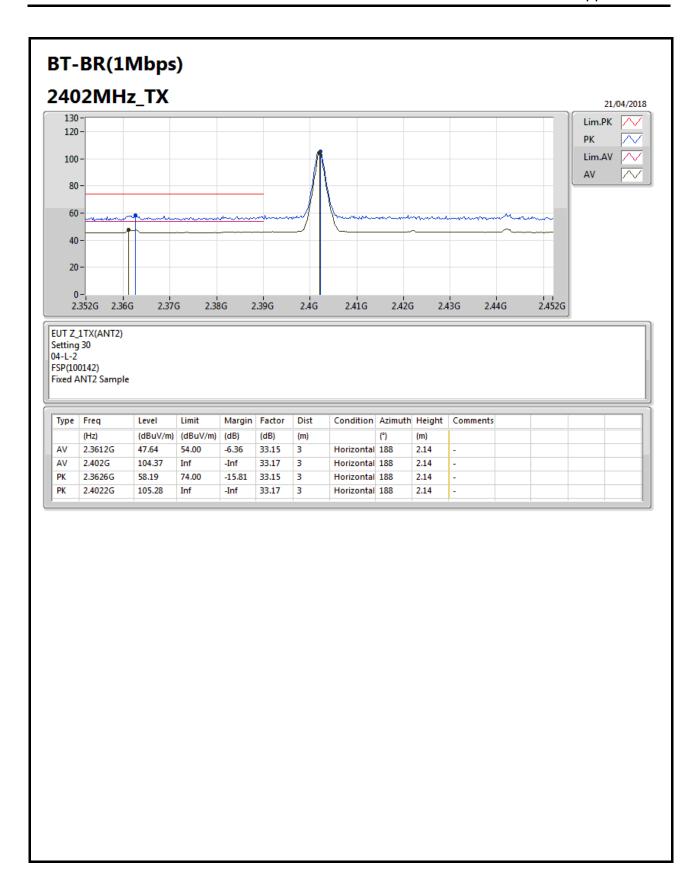
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-		-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	2.483502G	50.62	54.00	-3.38	33.19	3	Horizontal	189	2.50	-

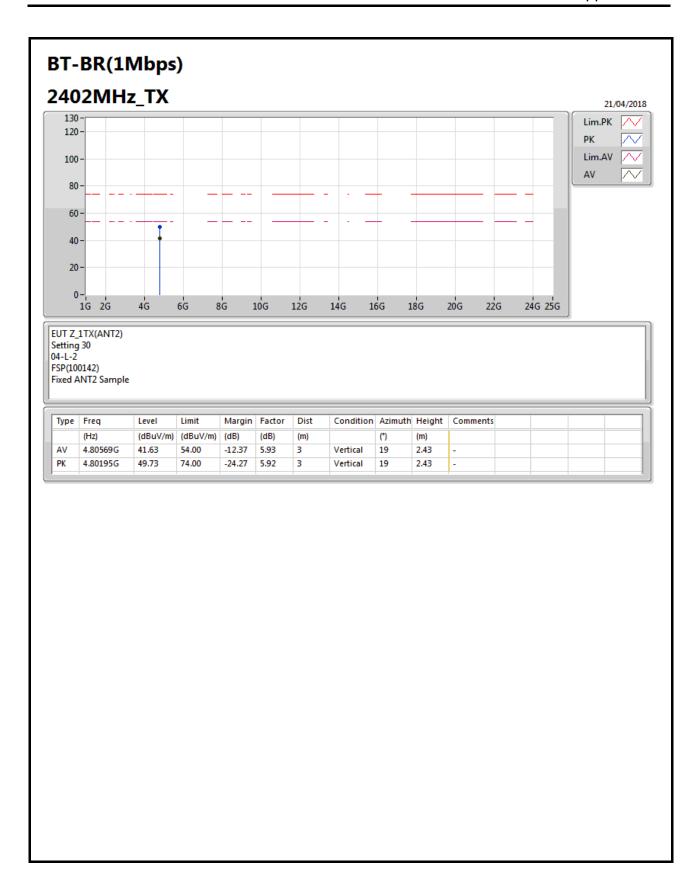




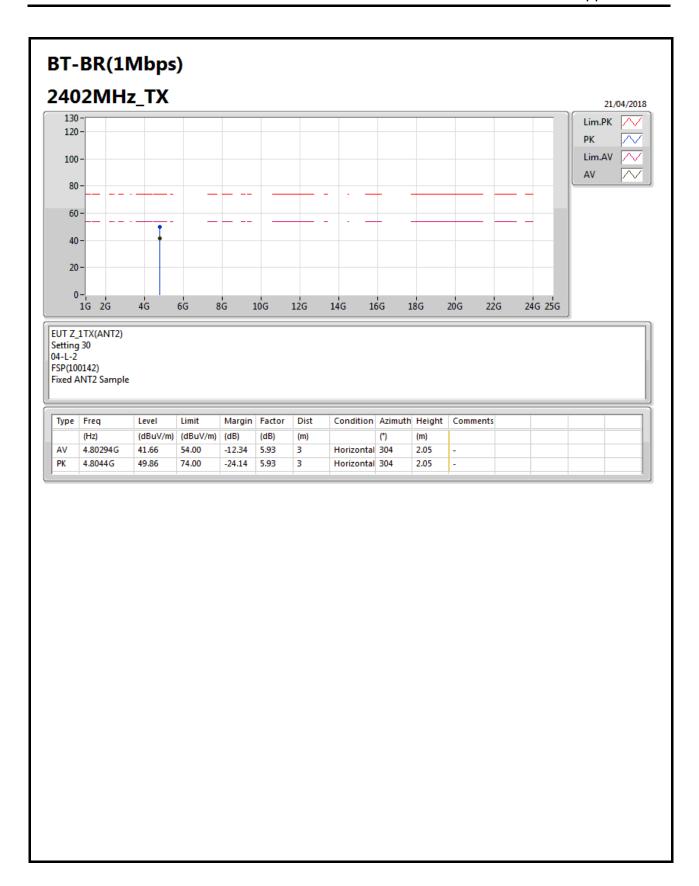




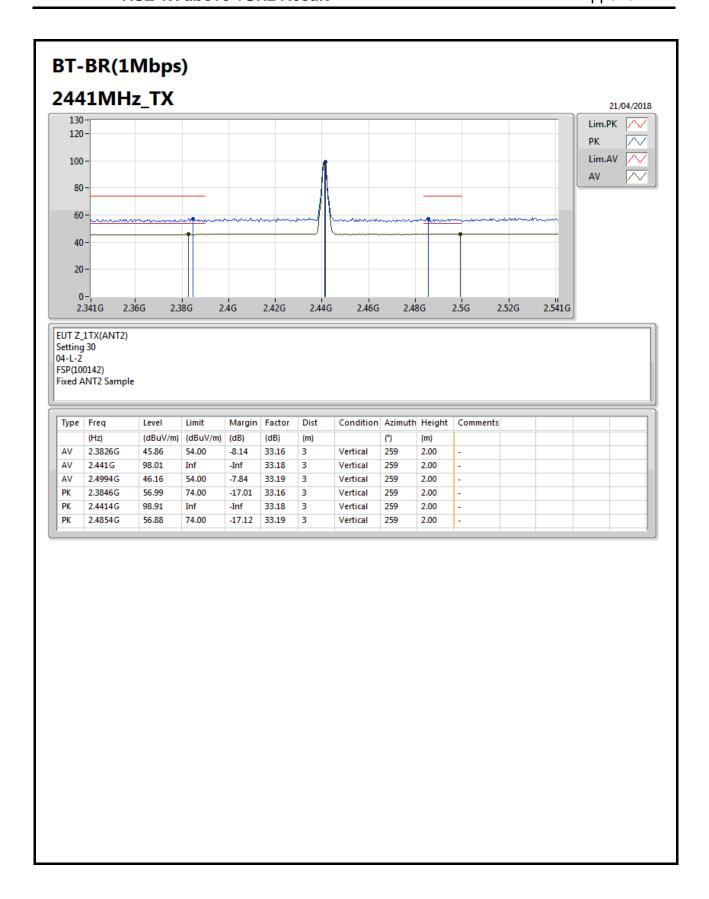




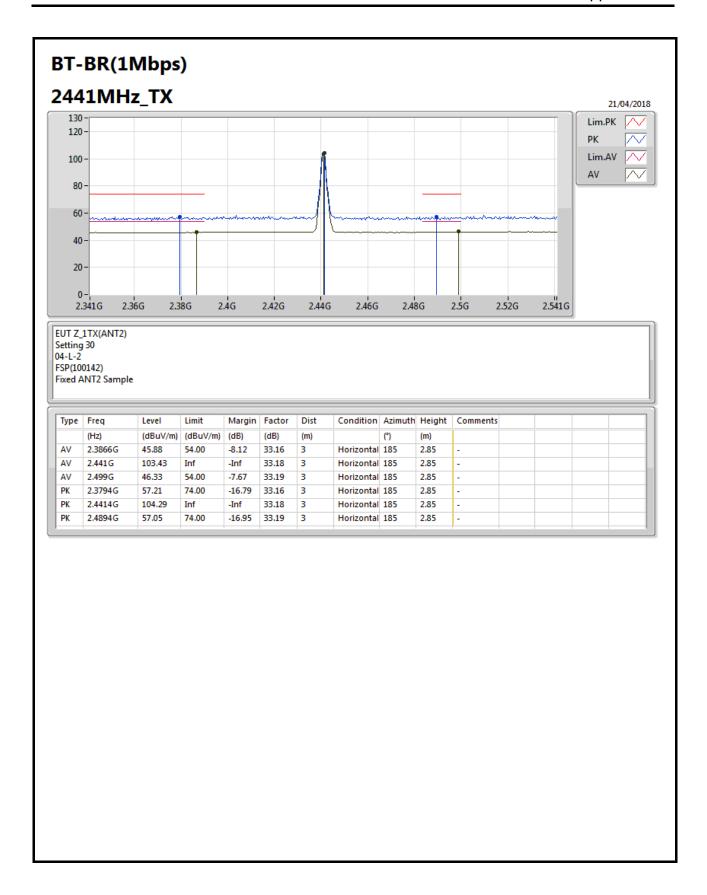




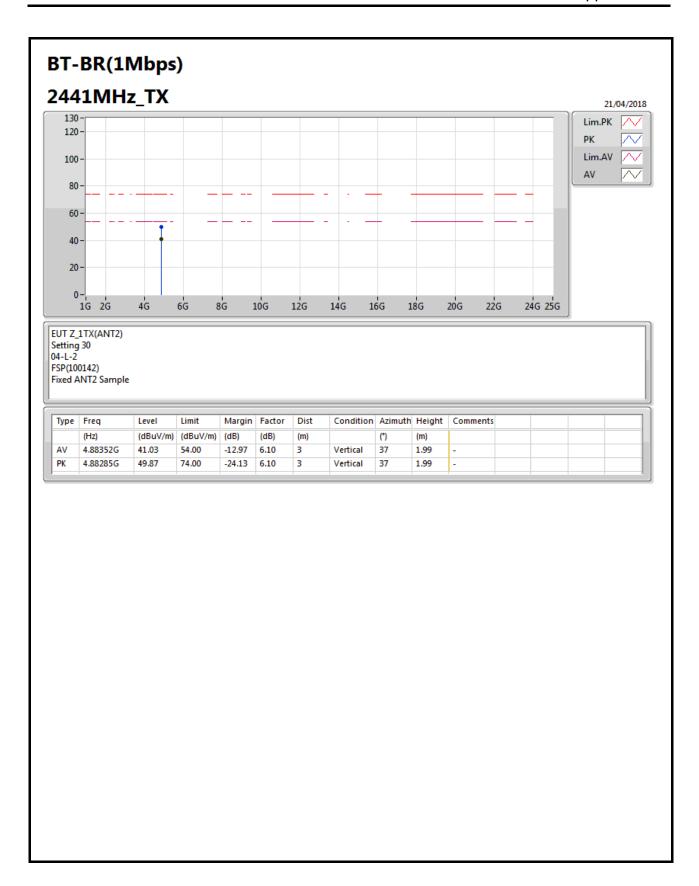




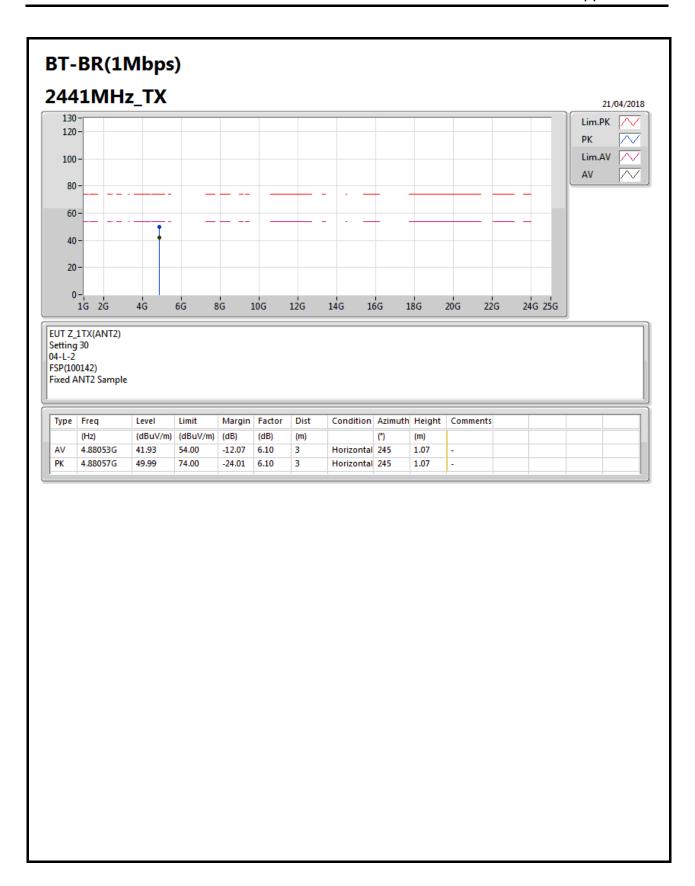




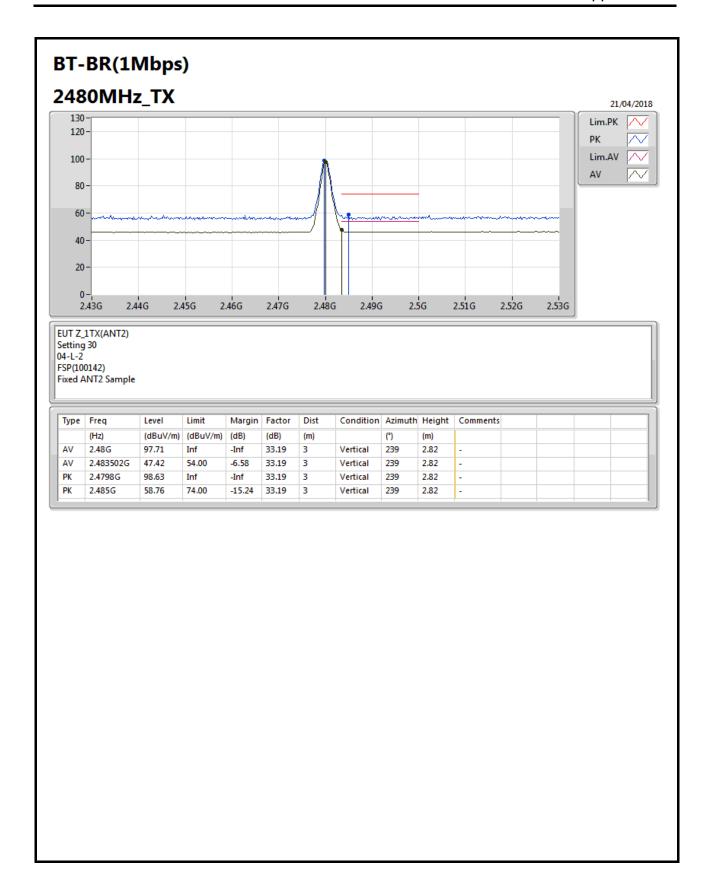




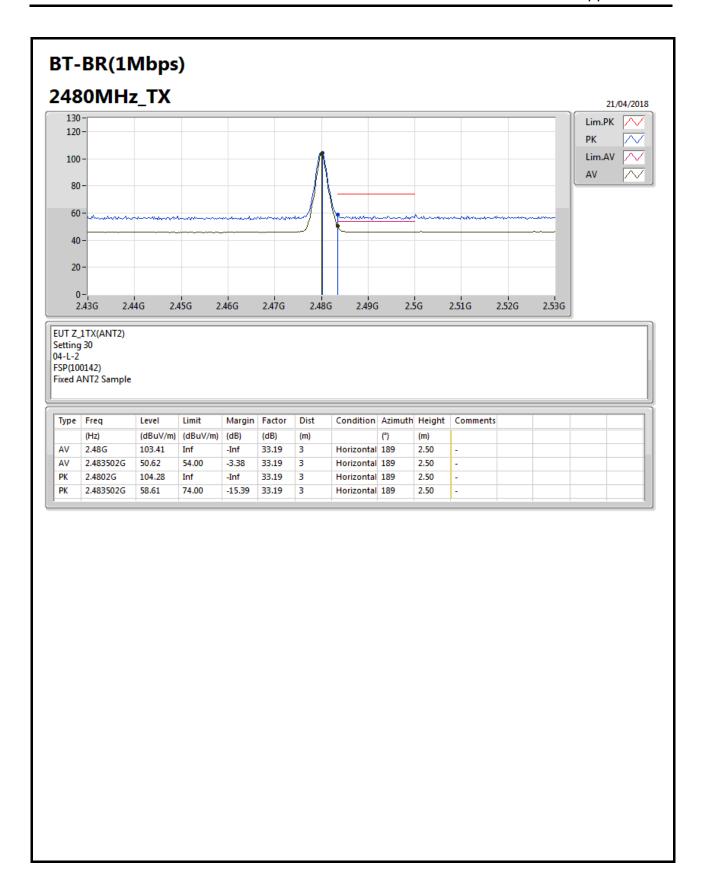




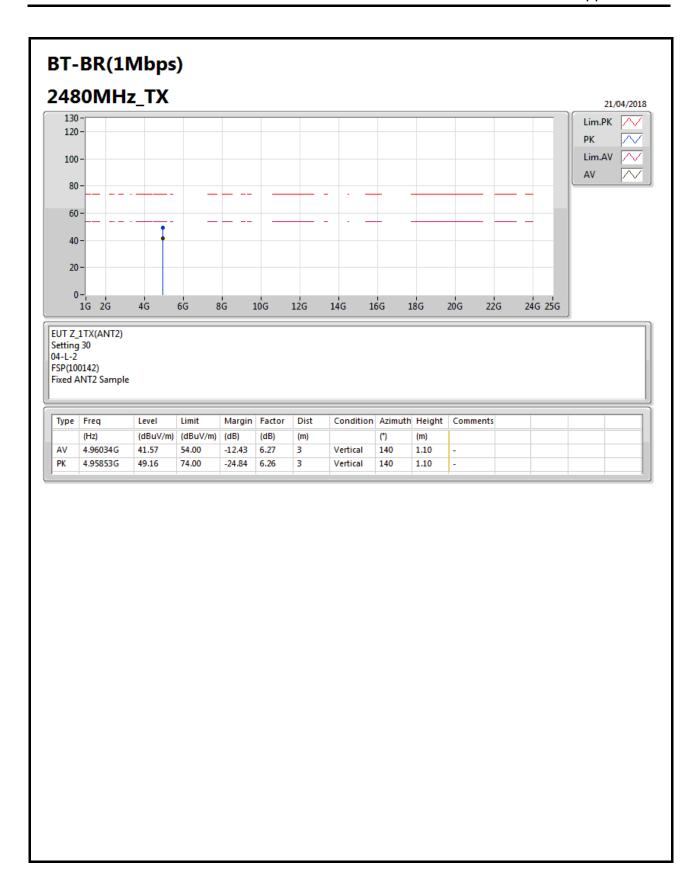




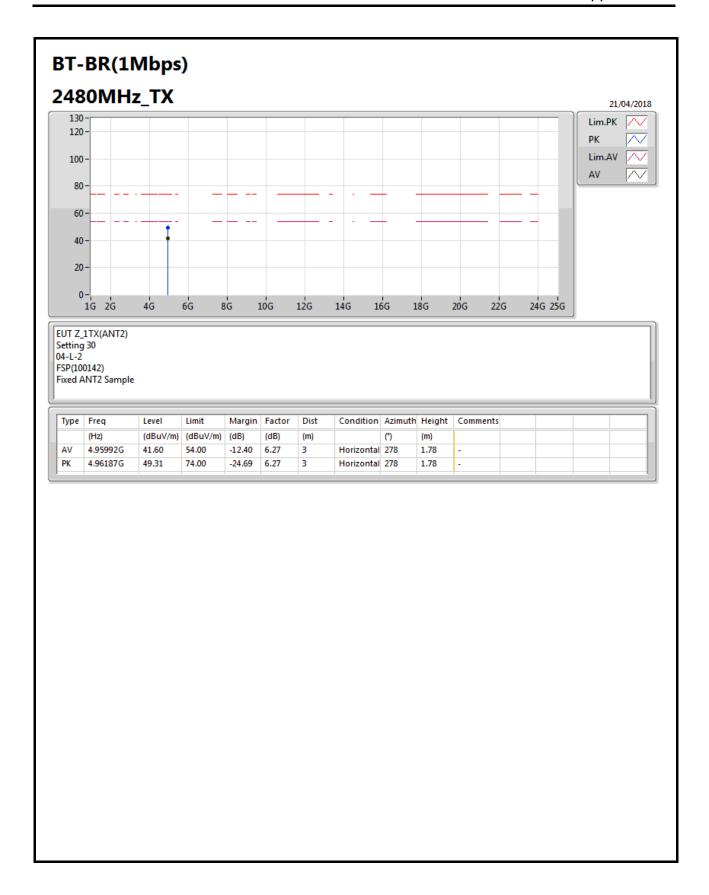




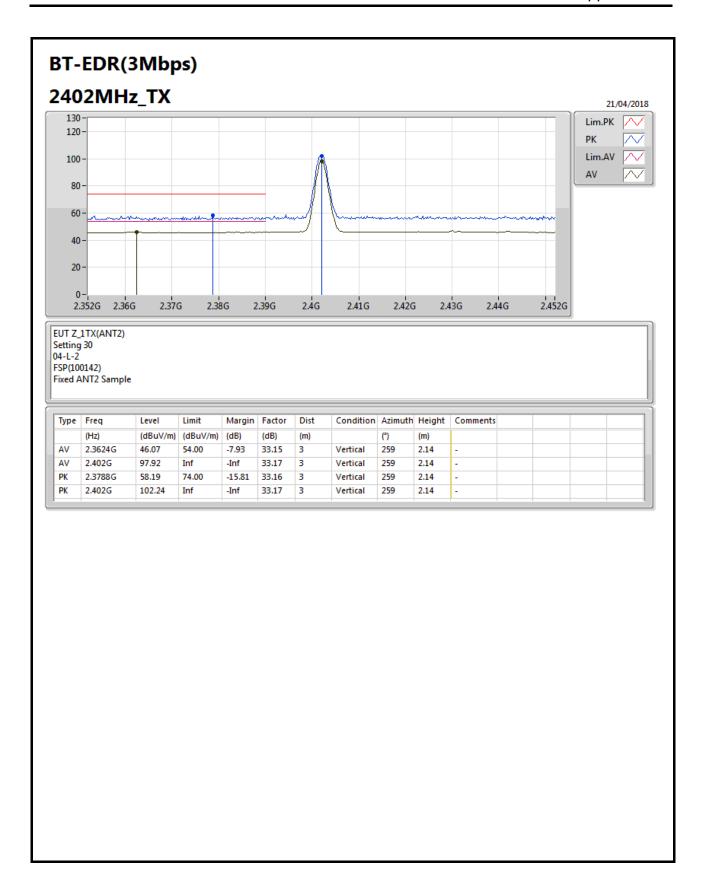




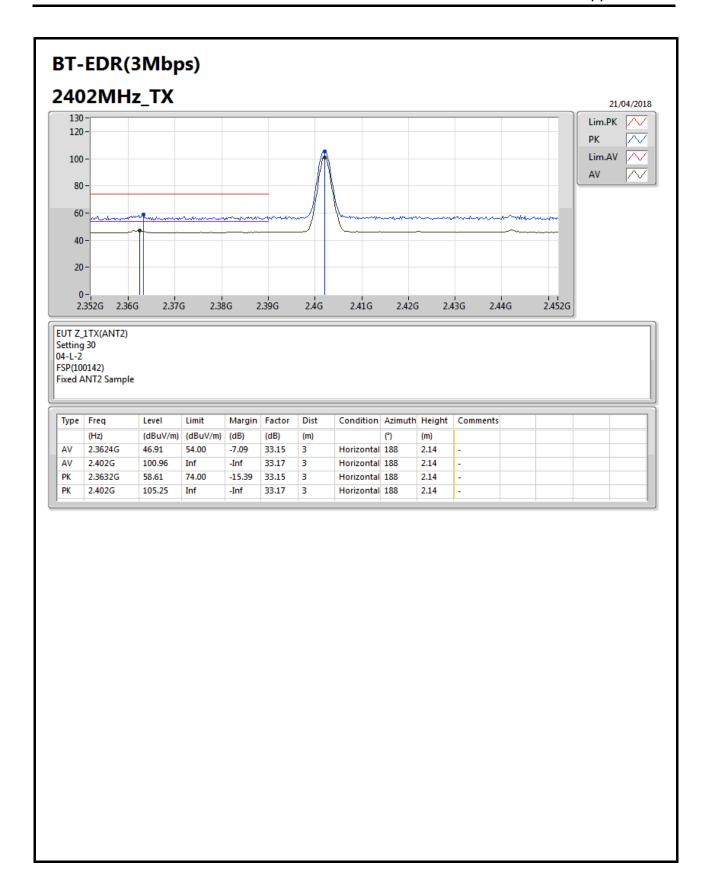




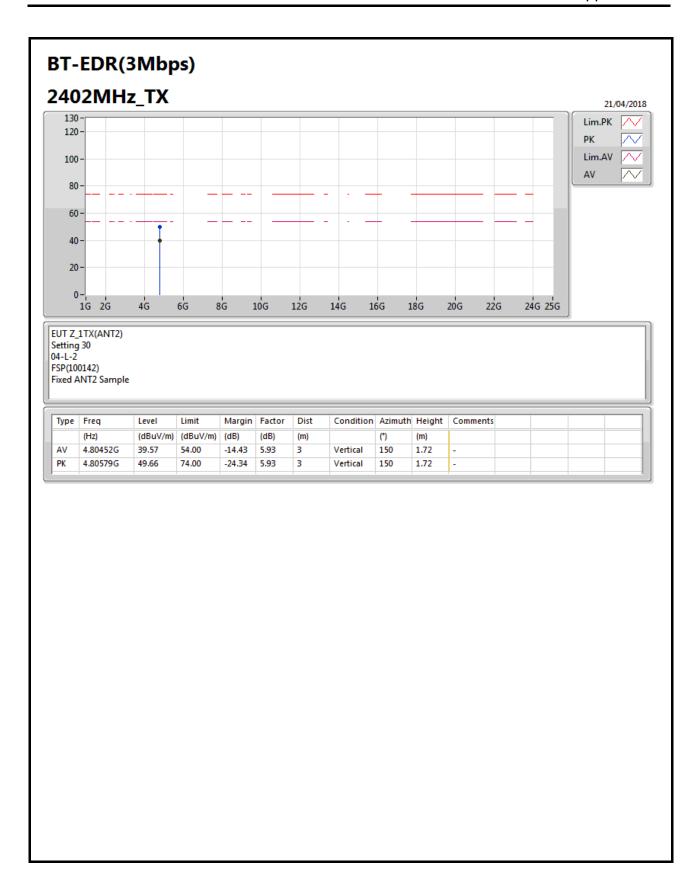




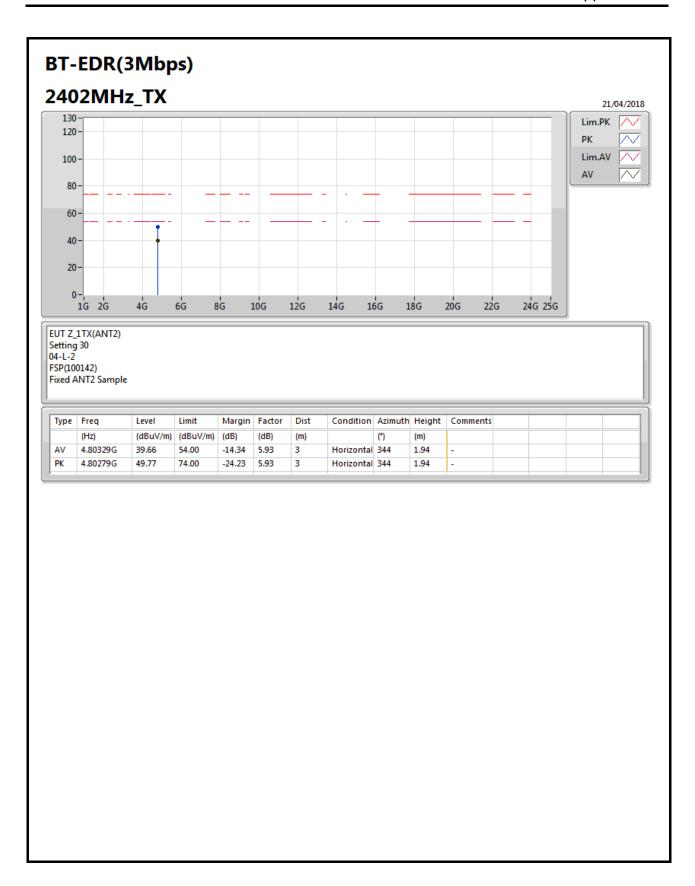




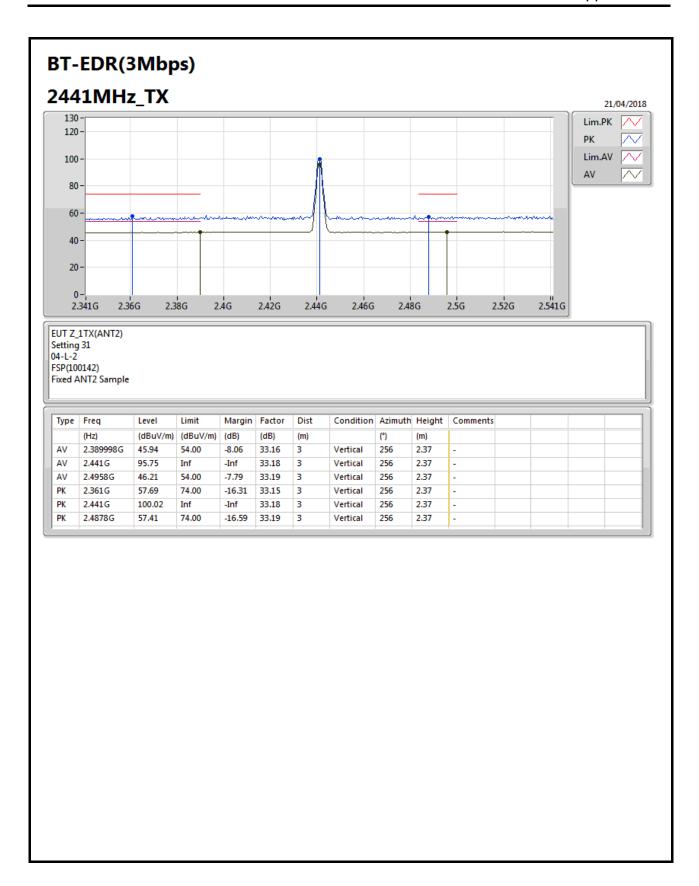




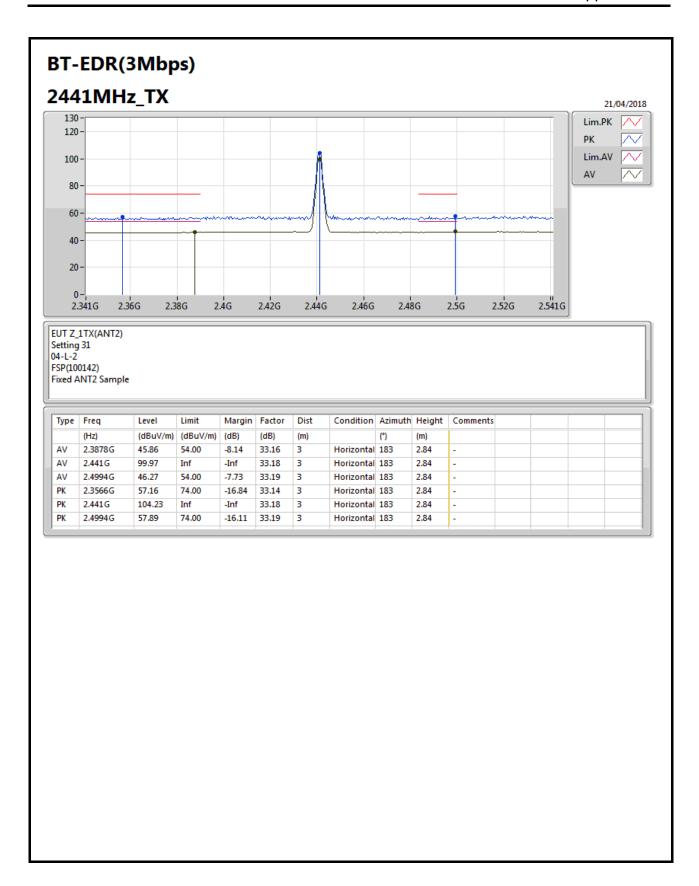




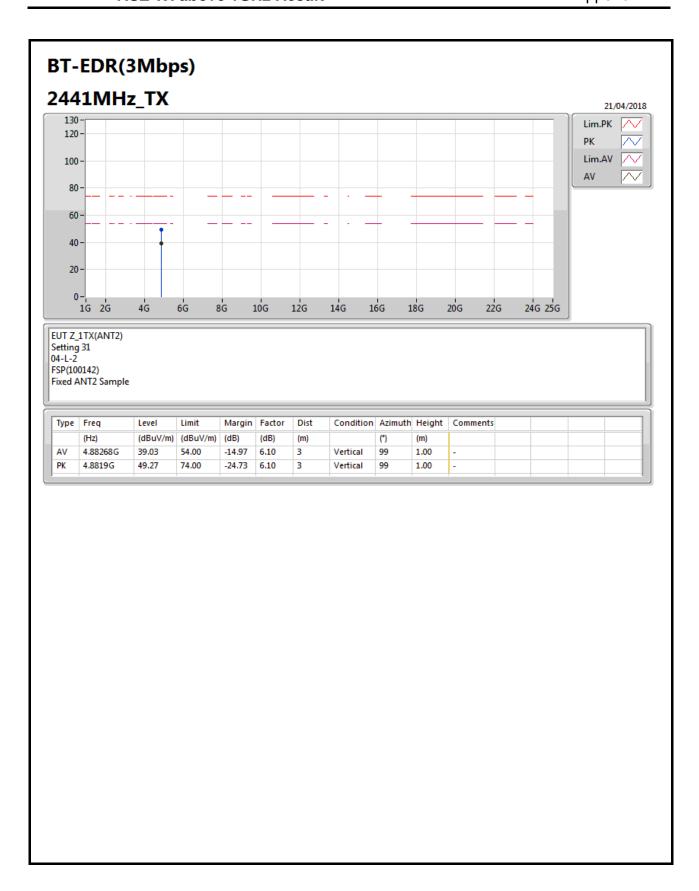




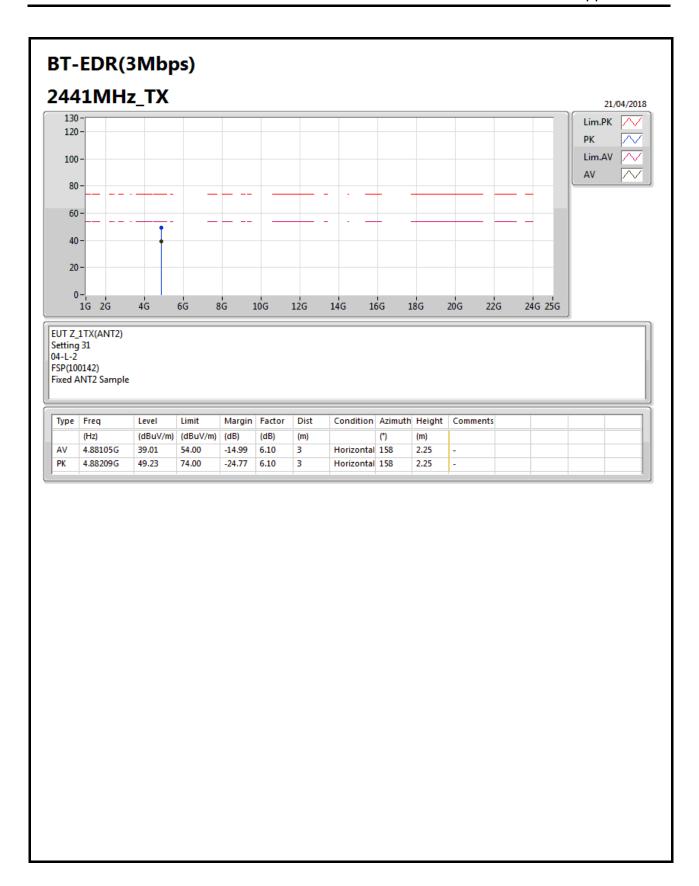








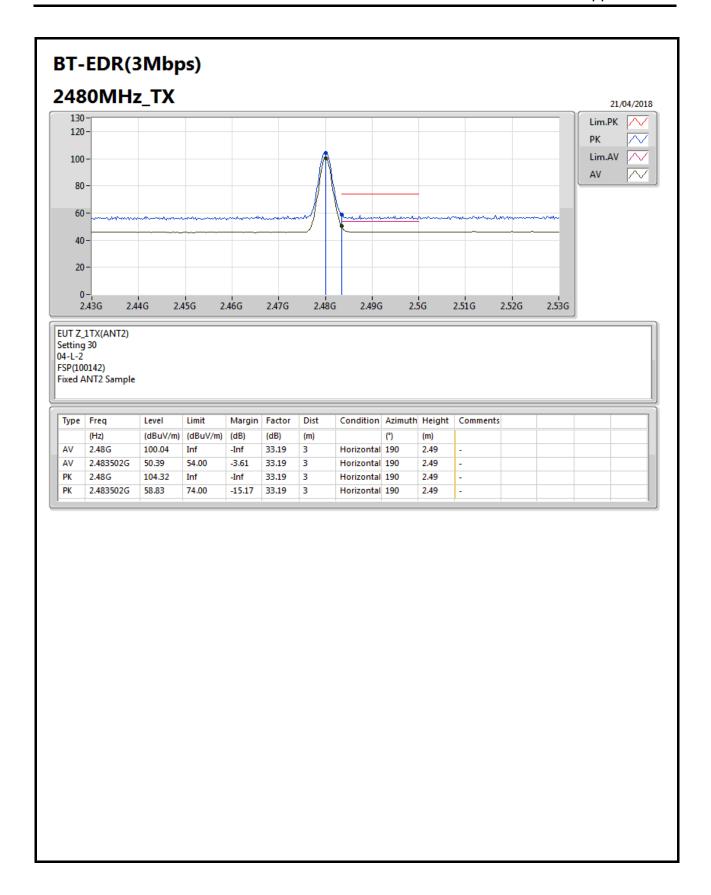




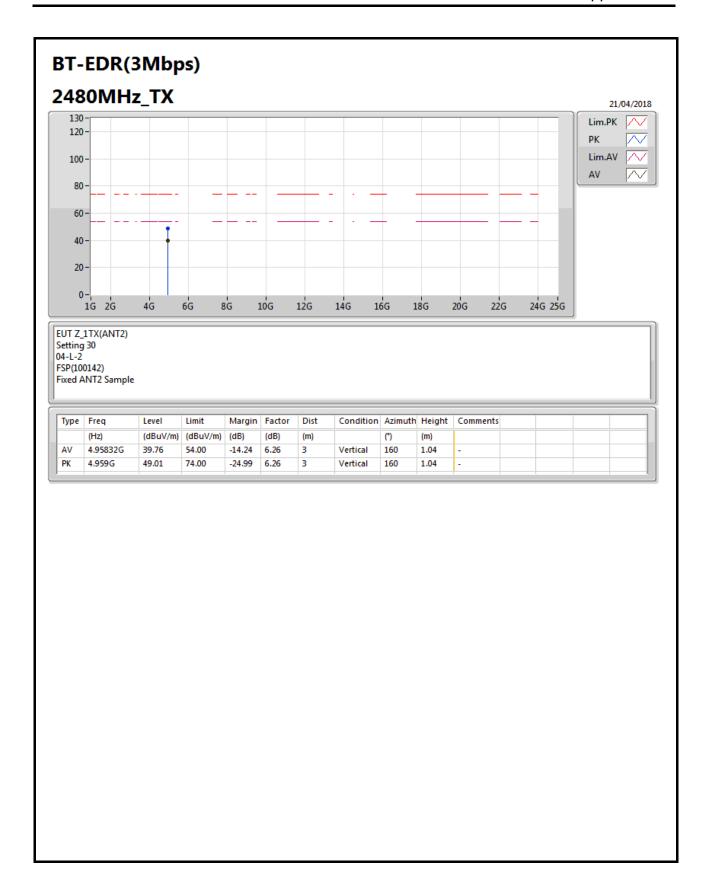




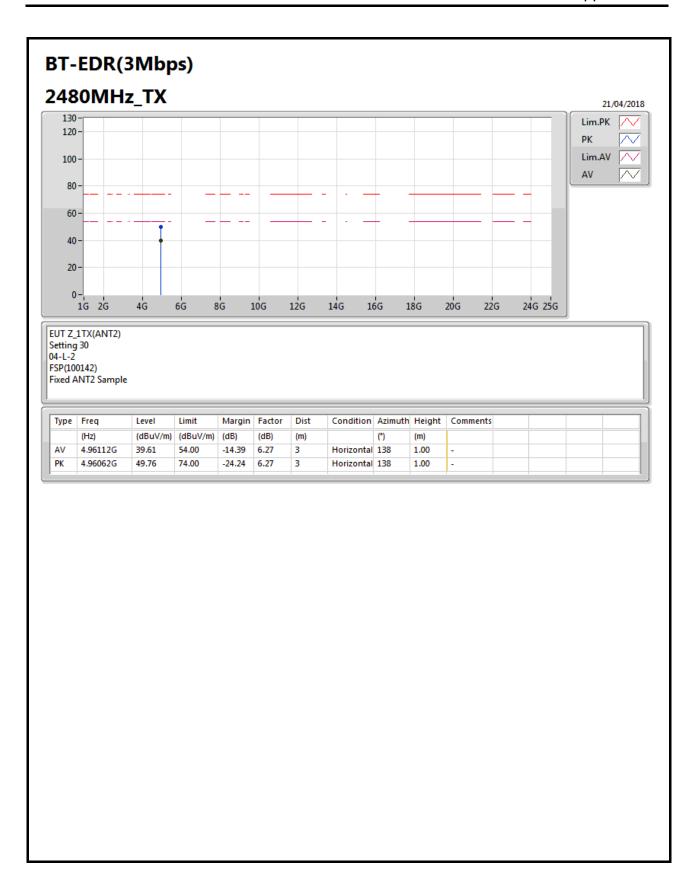














RSE TX above 1GHz Result

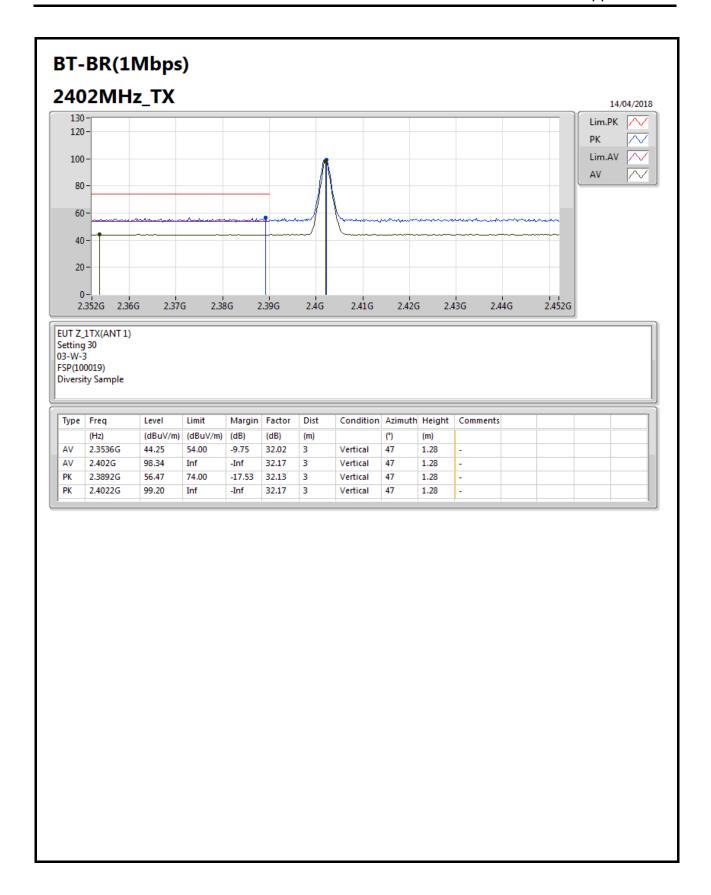
Appendix B.2

Test Mode: Mode 4

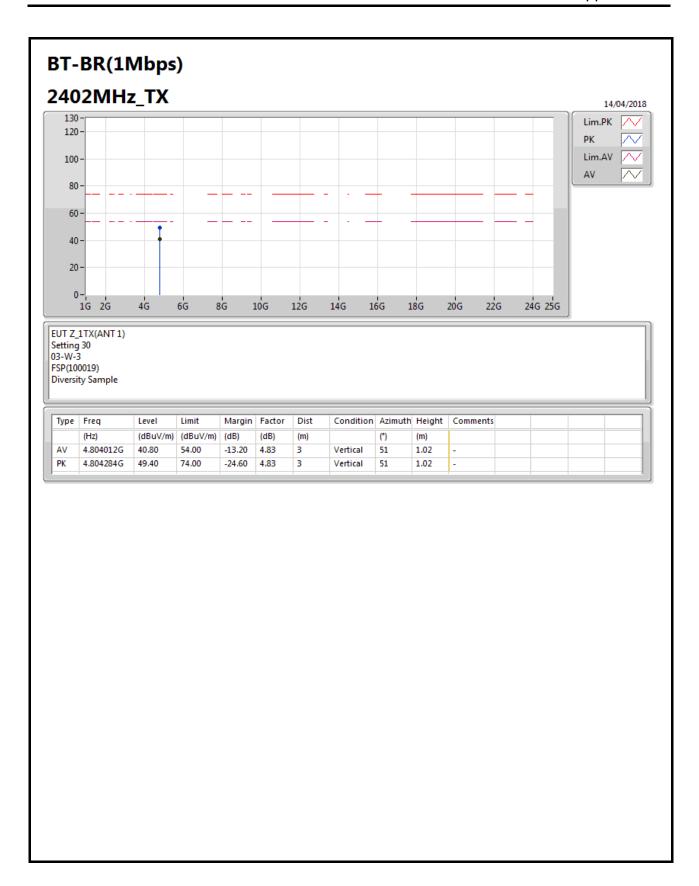
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-		-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	47.81	54.00	-6.19	32.42	3	Vertical	347	1.15	-

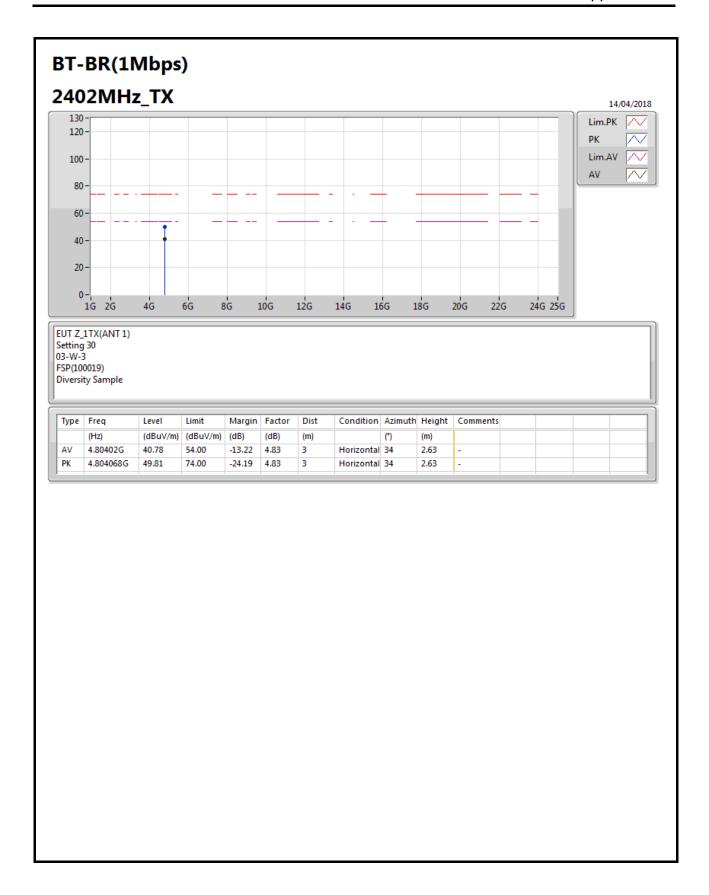




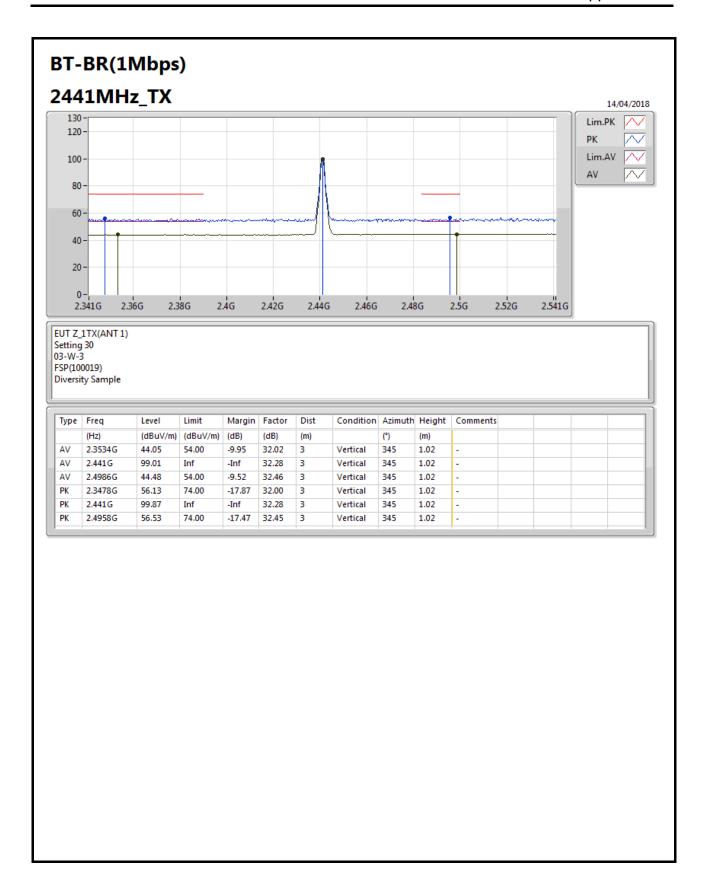




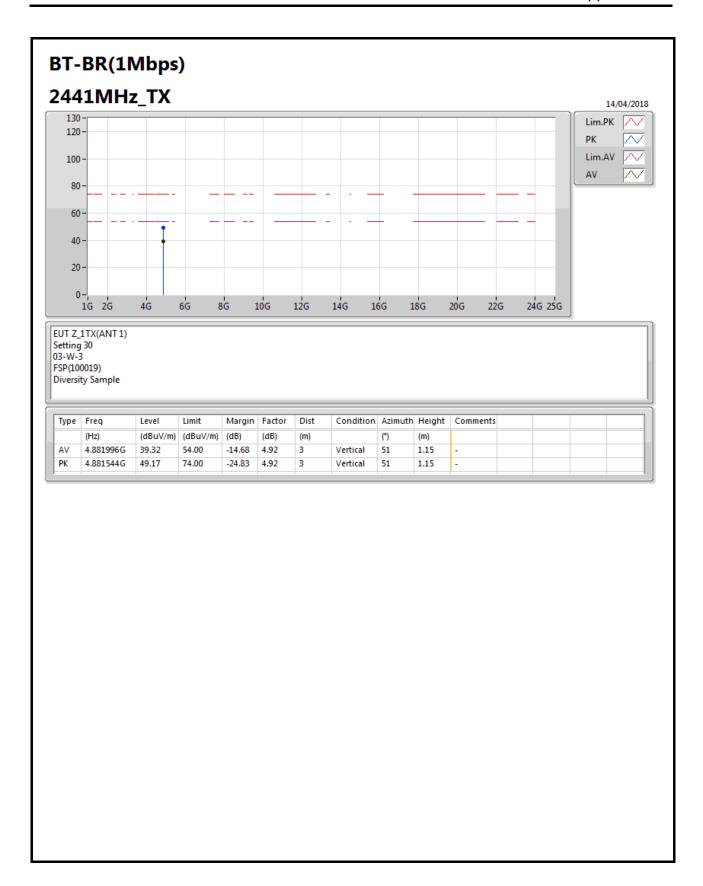




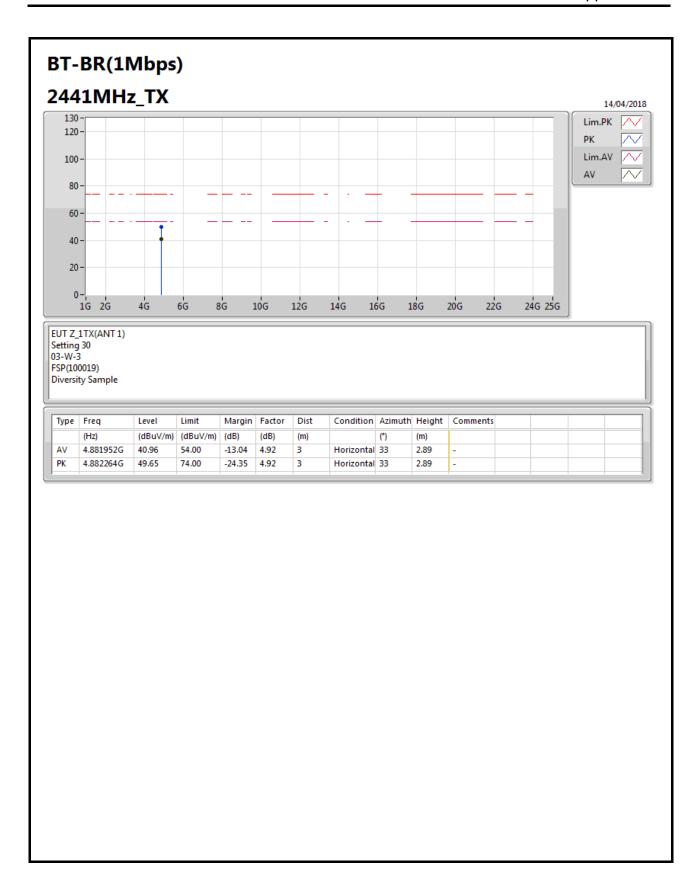




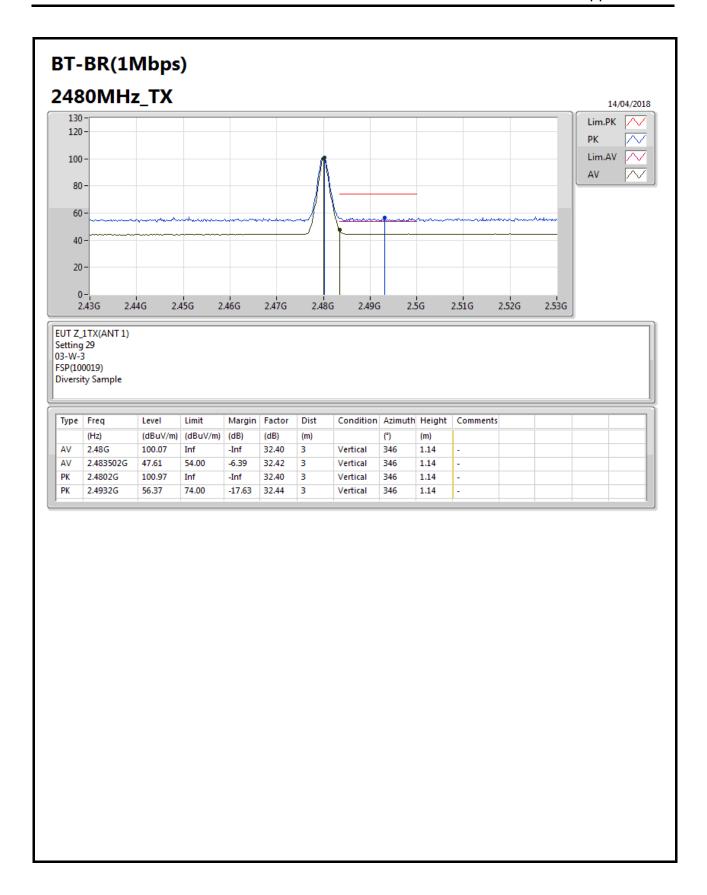




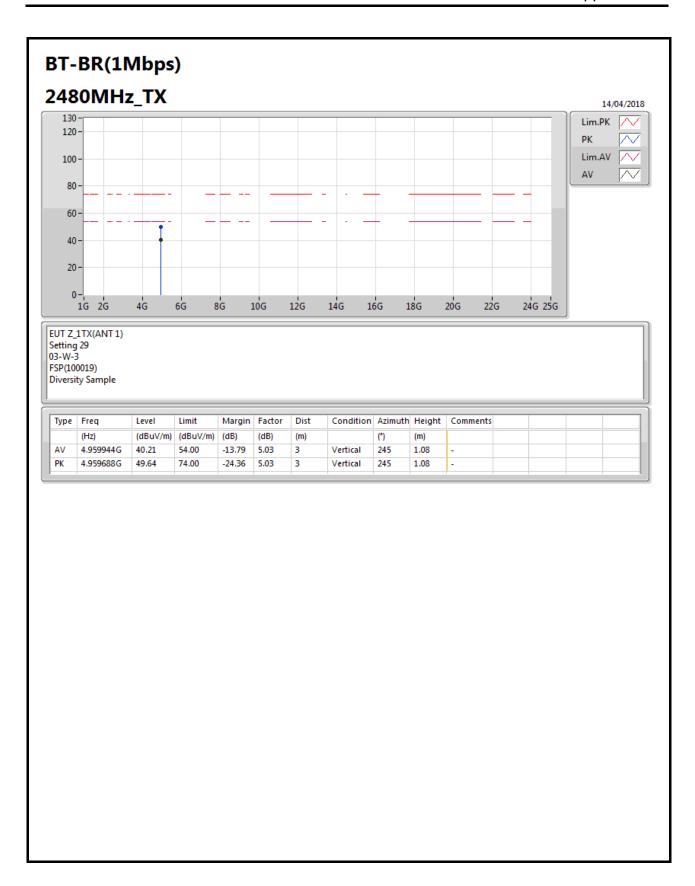




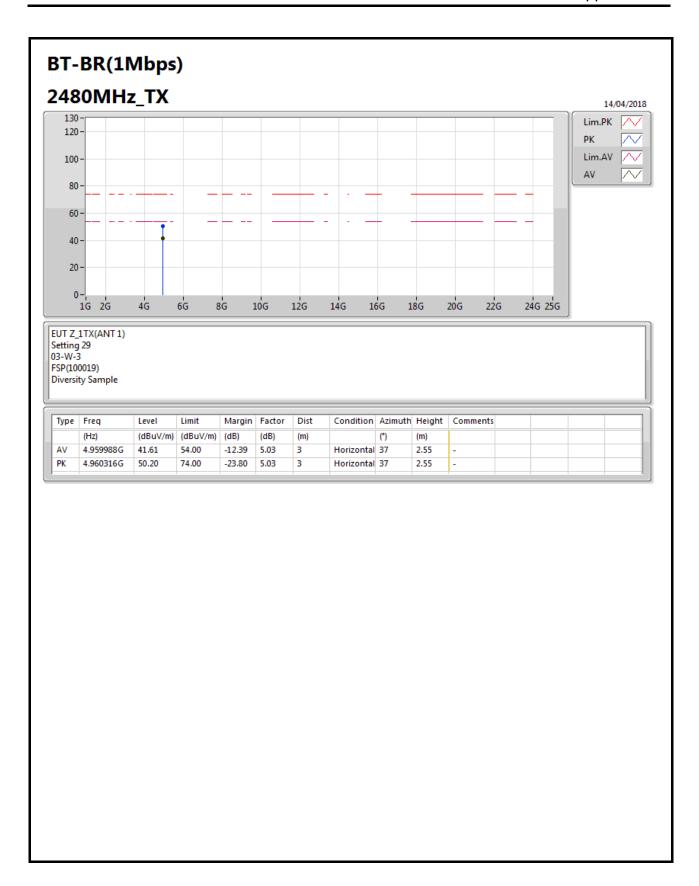








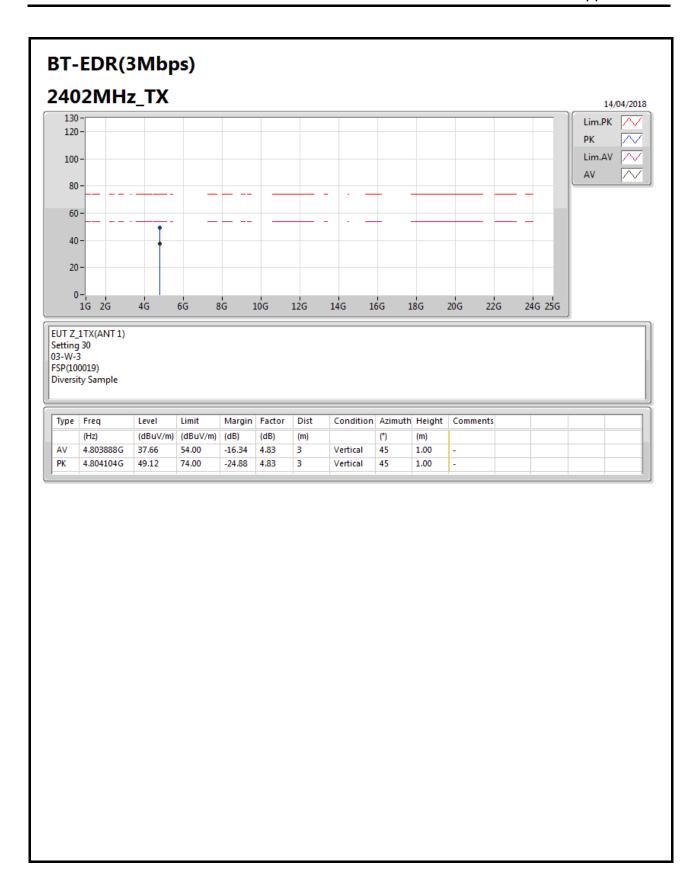




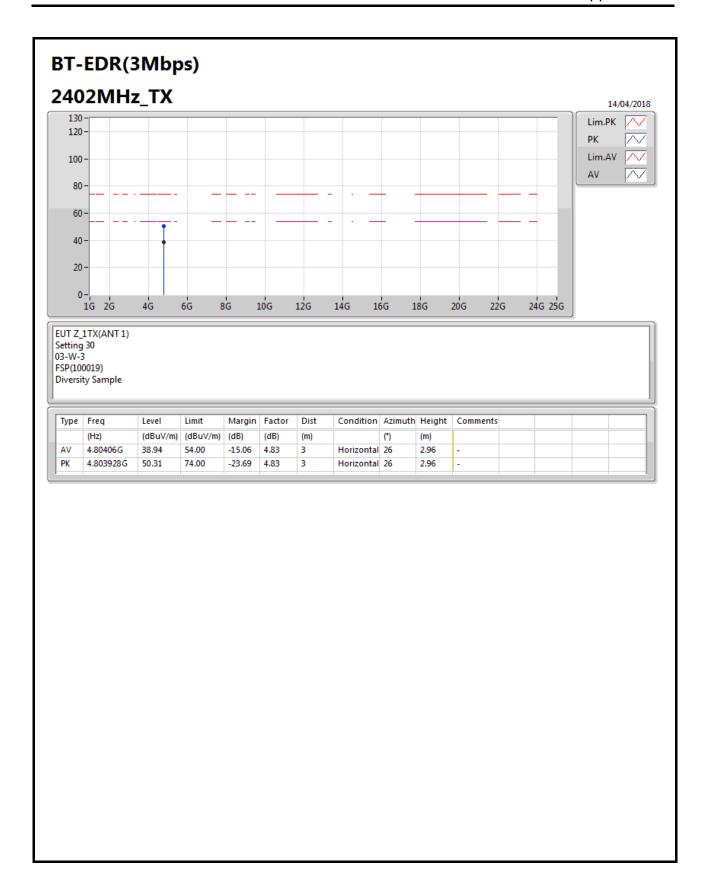




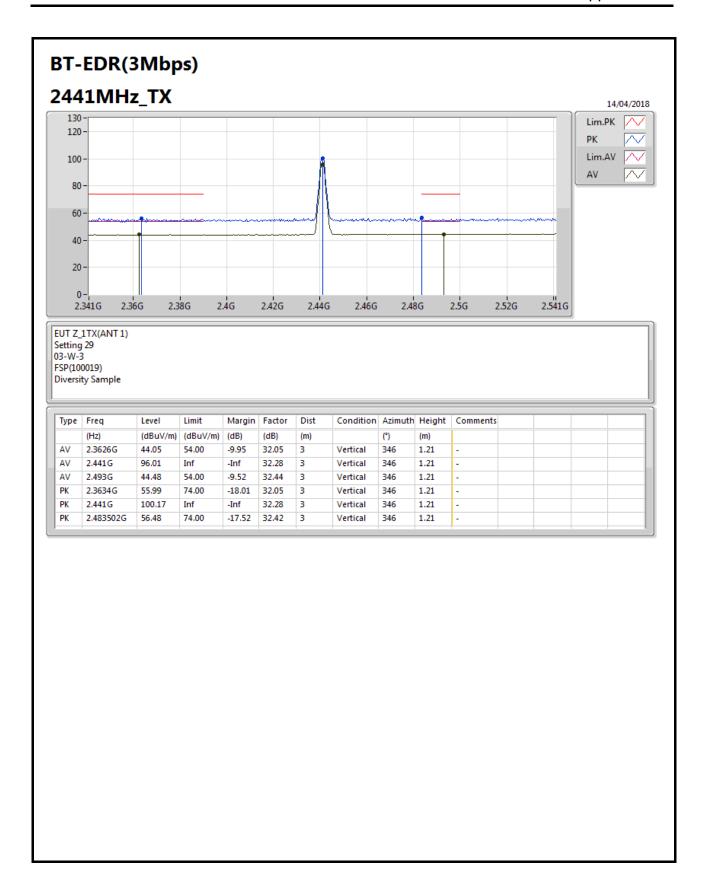




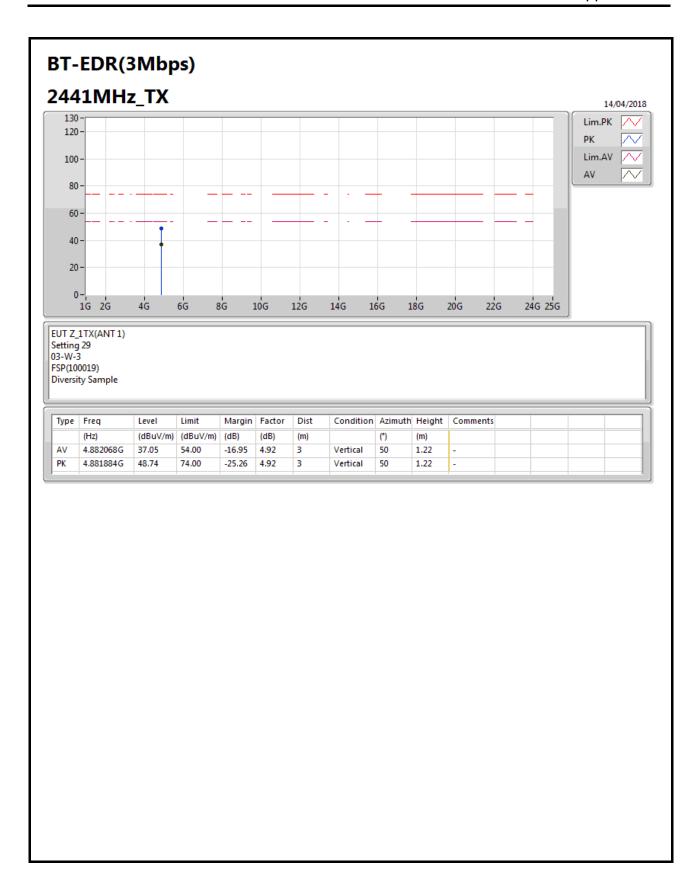




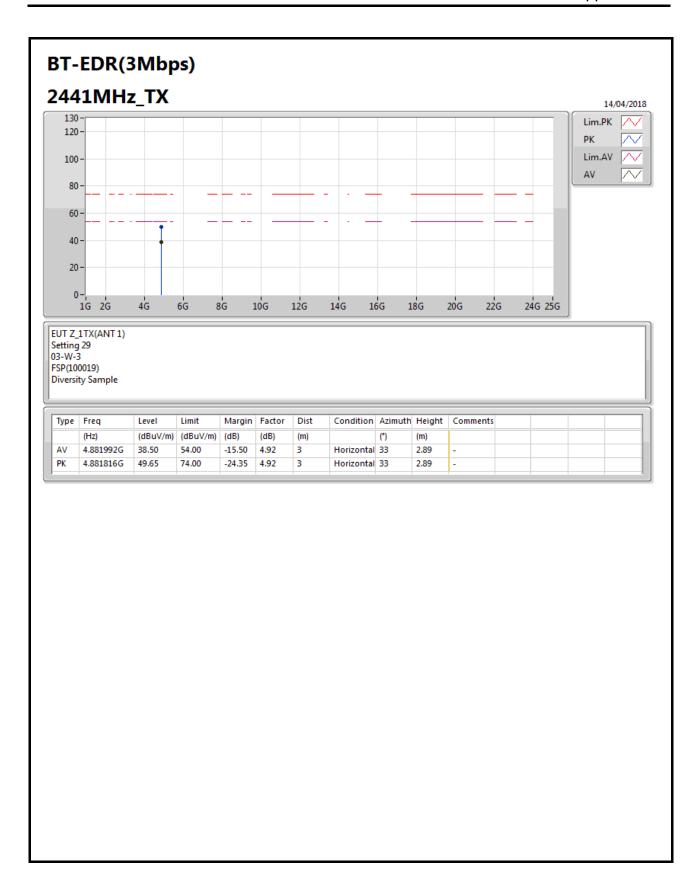




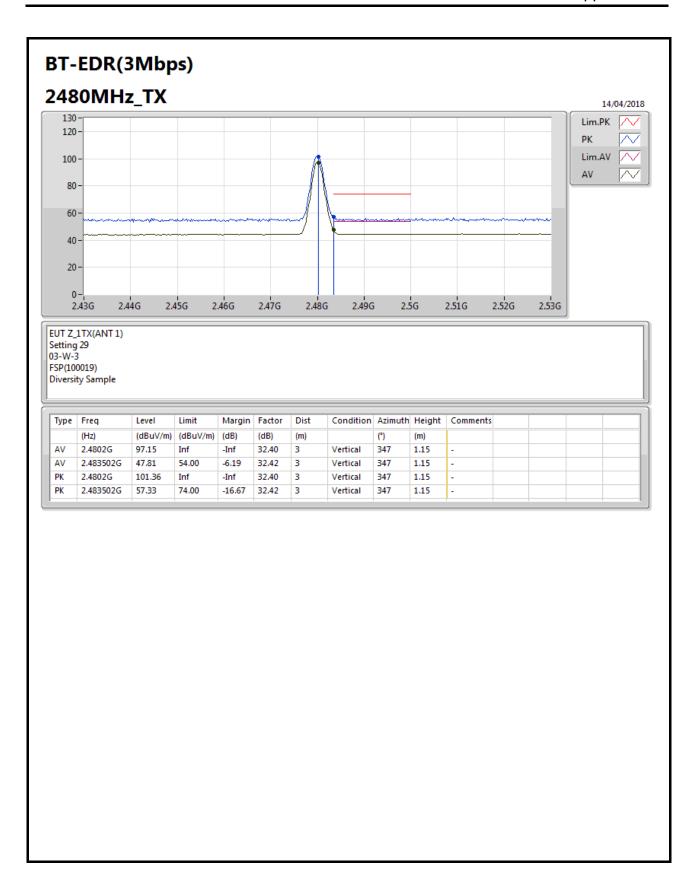




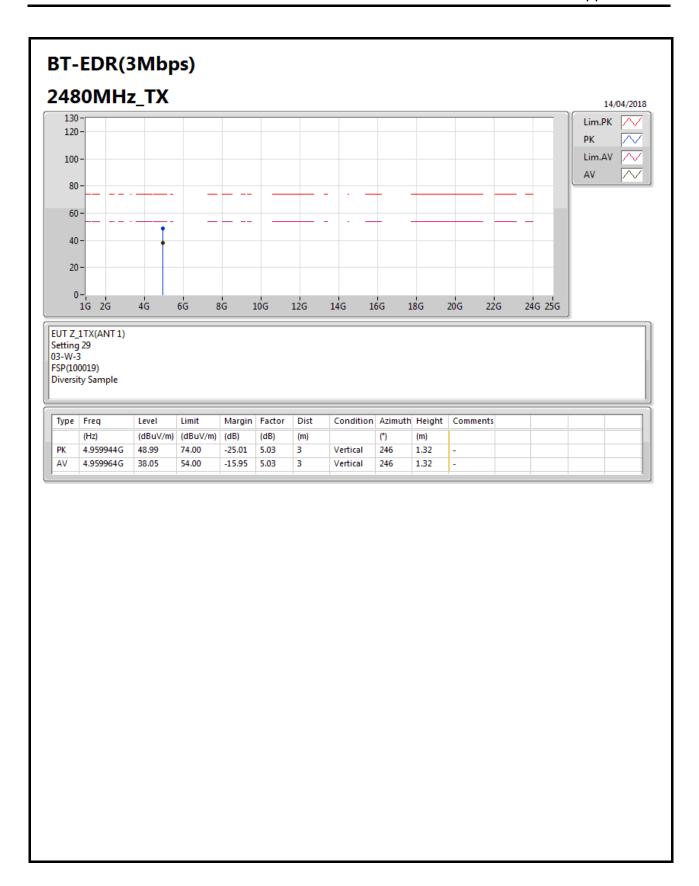




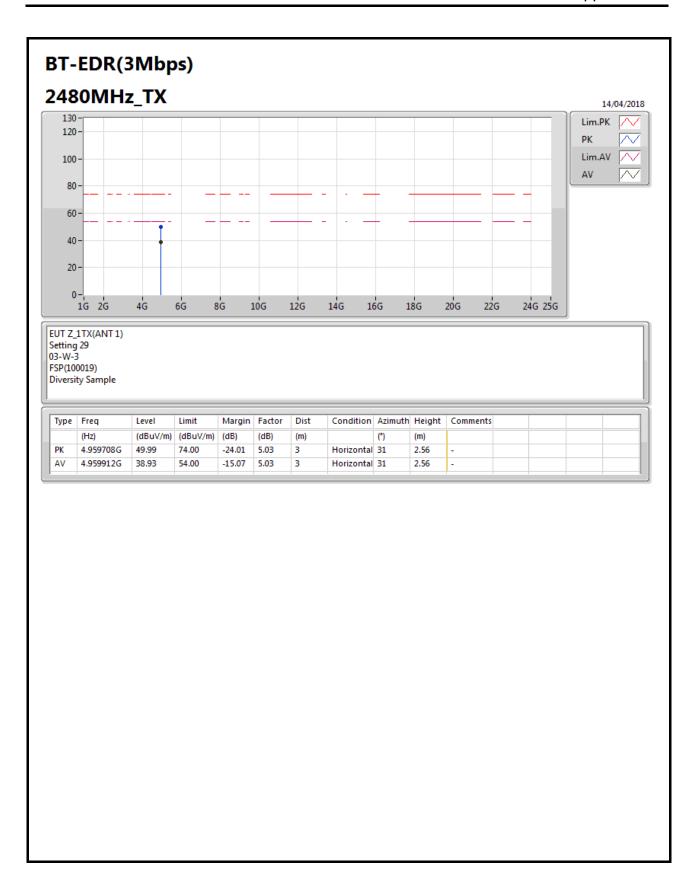














RSE TX above 1GHz Result

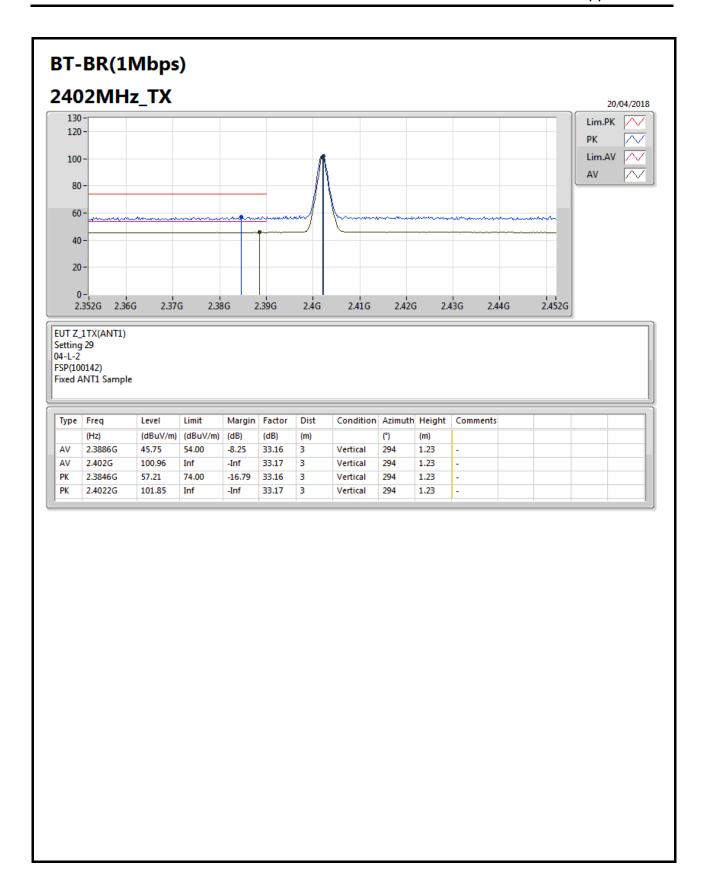
Appendix B.2

Test Mode: Mode 5

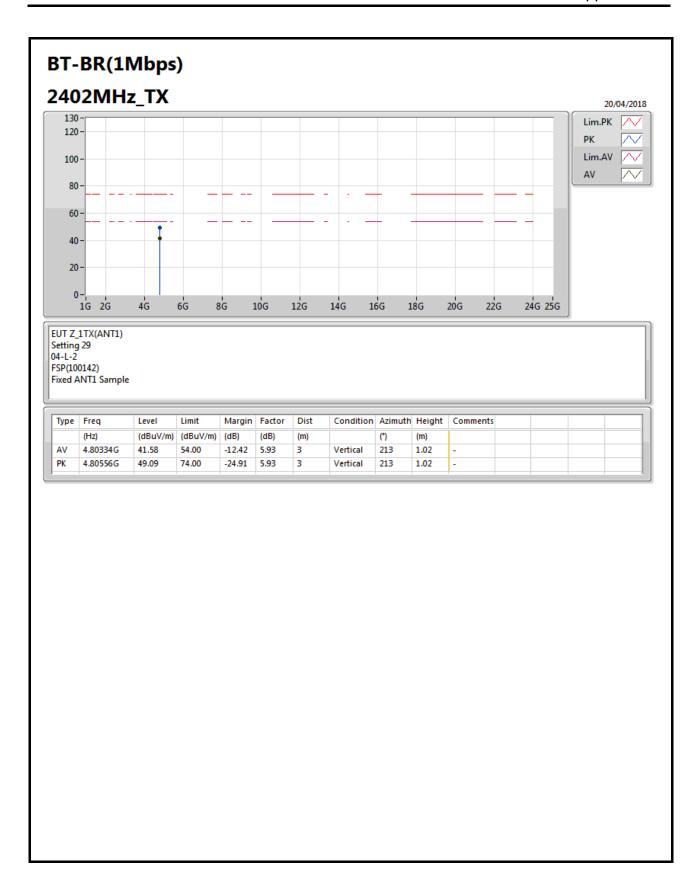
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	50.35	54.00	-3.65	33.19	3	Vertical	293	1.02	-

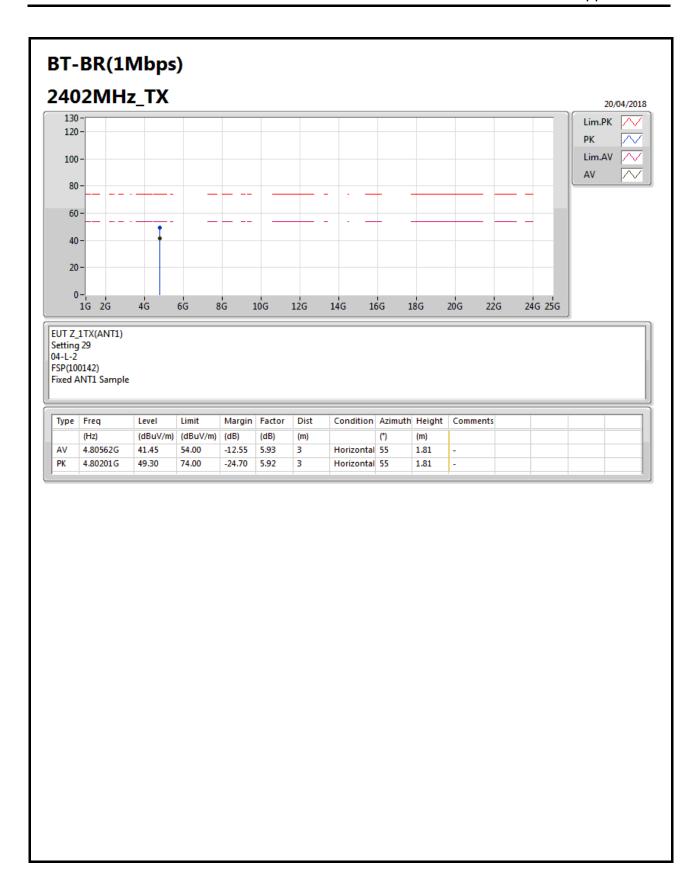




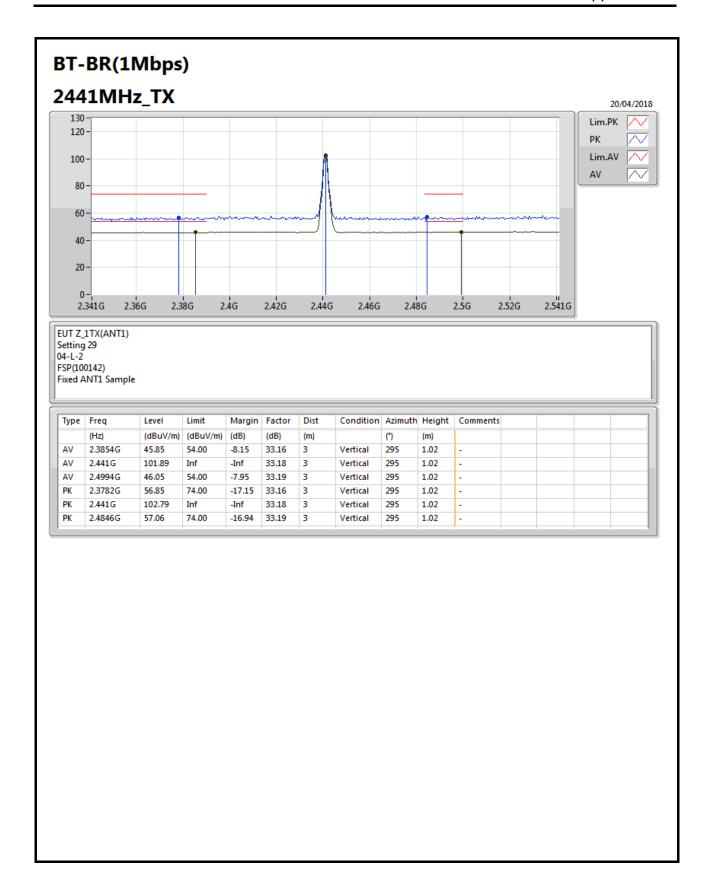




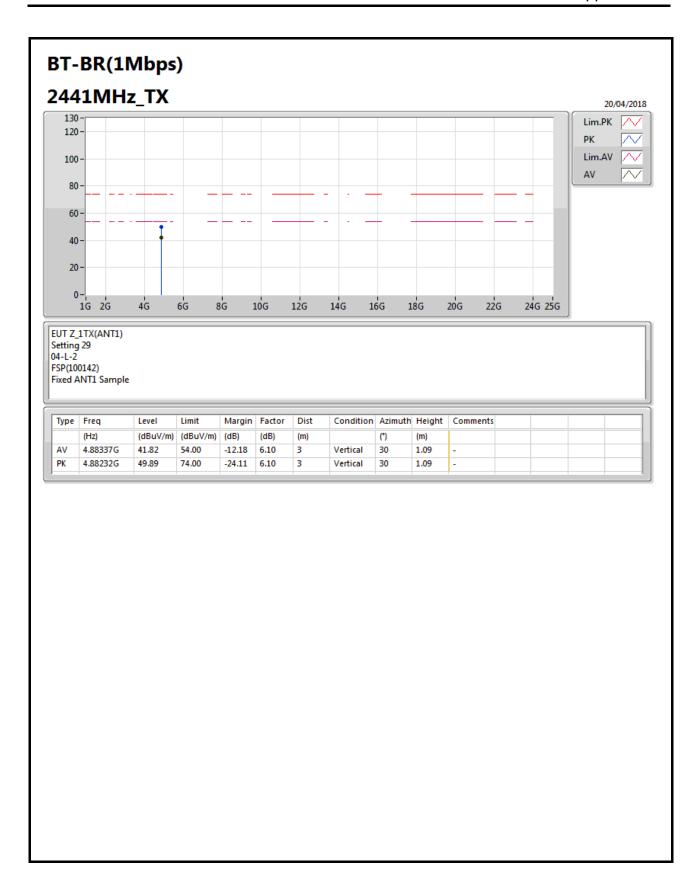




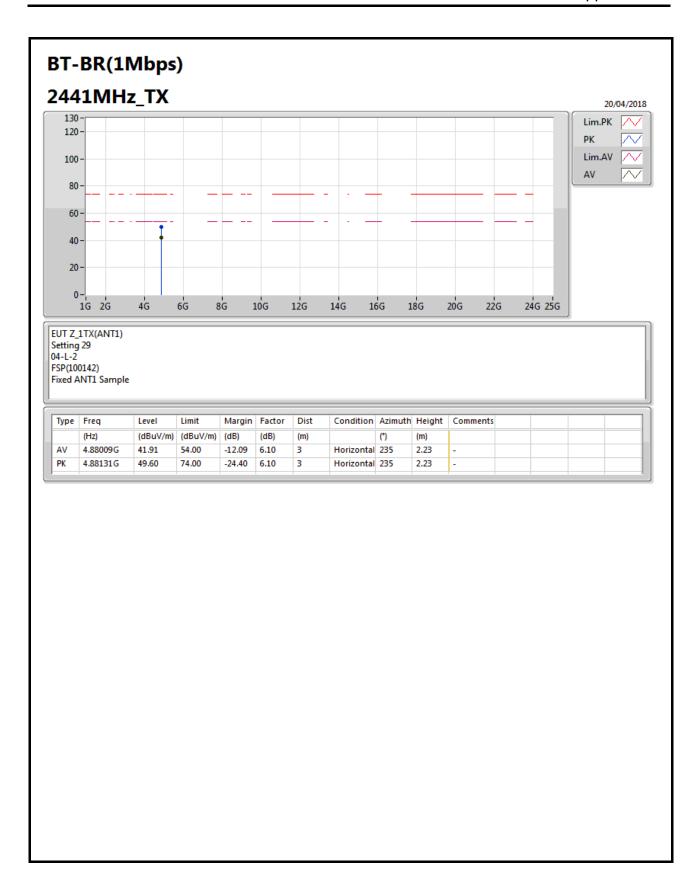




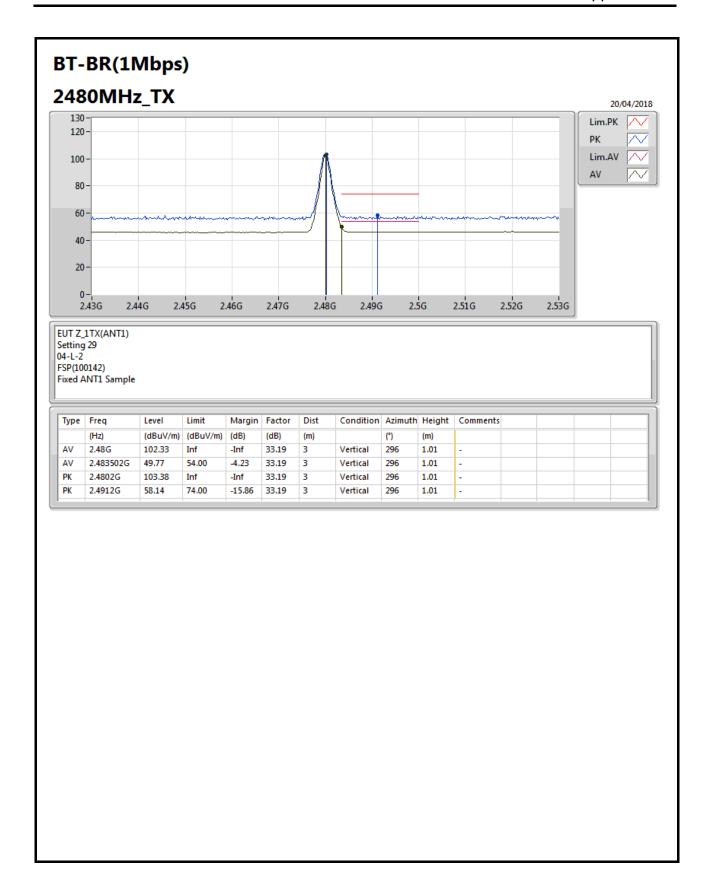




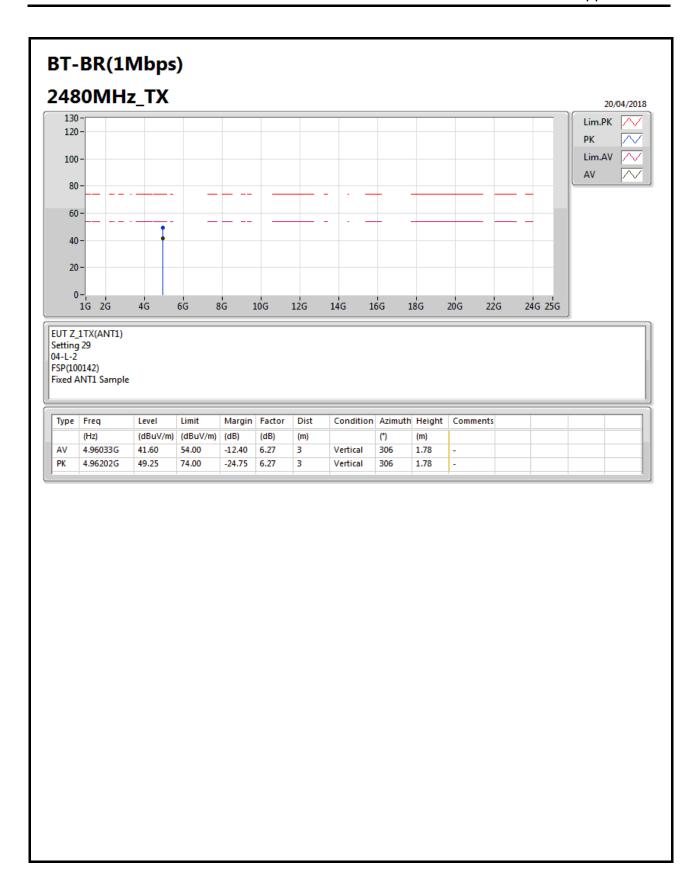




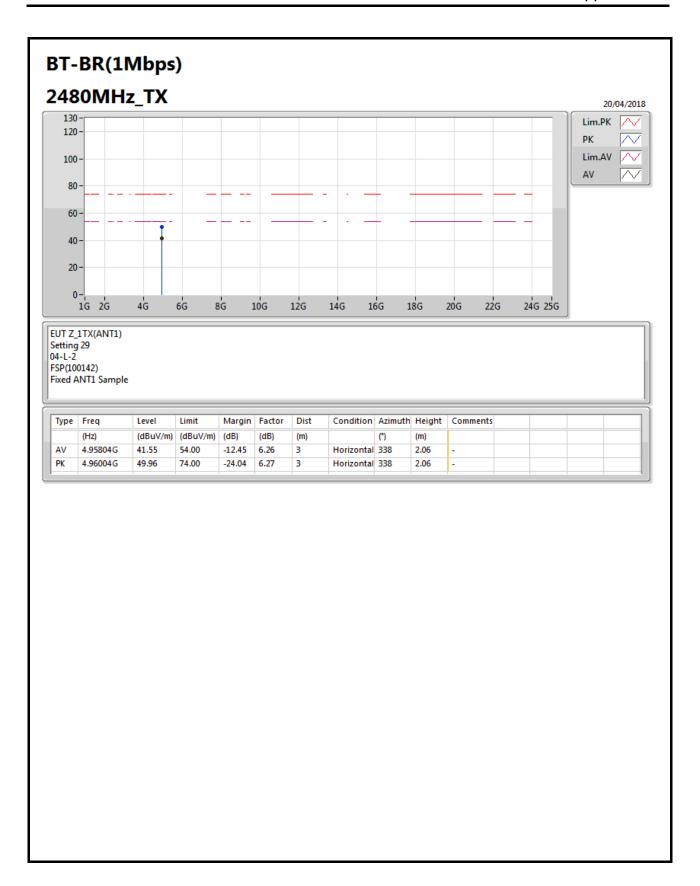




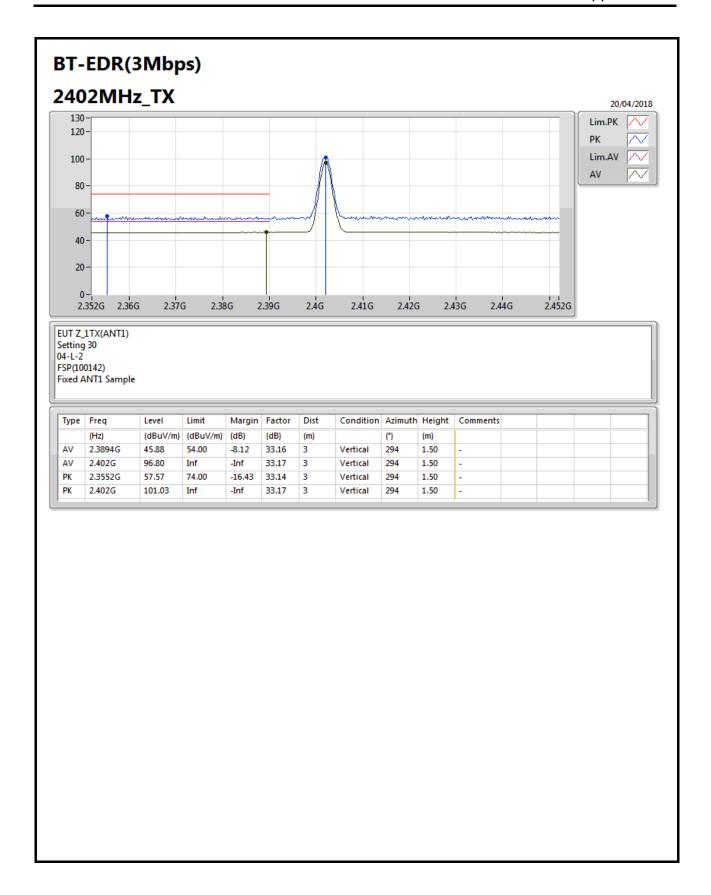




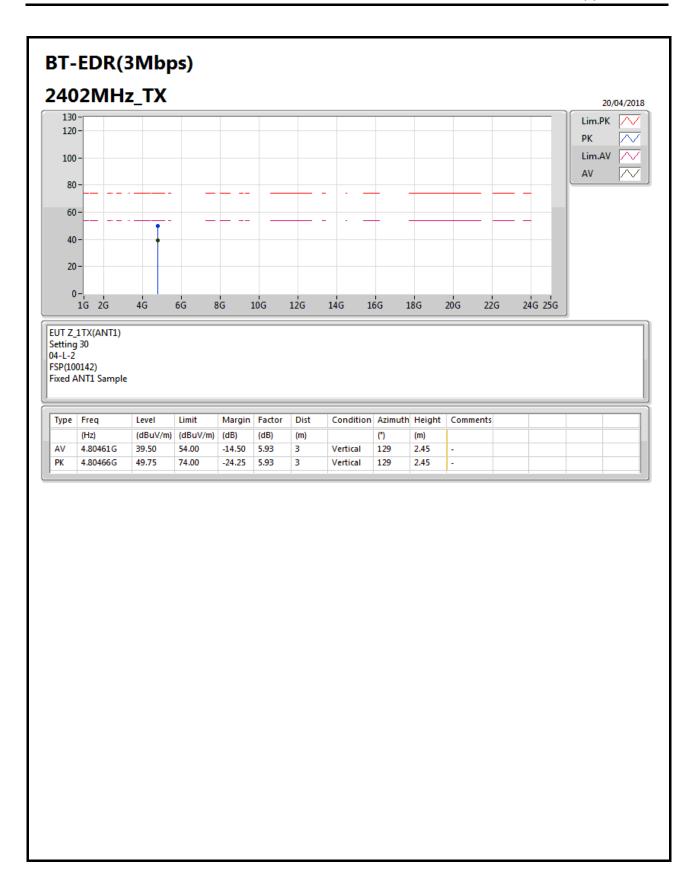




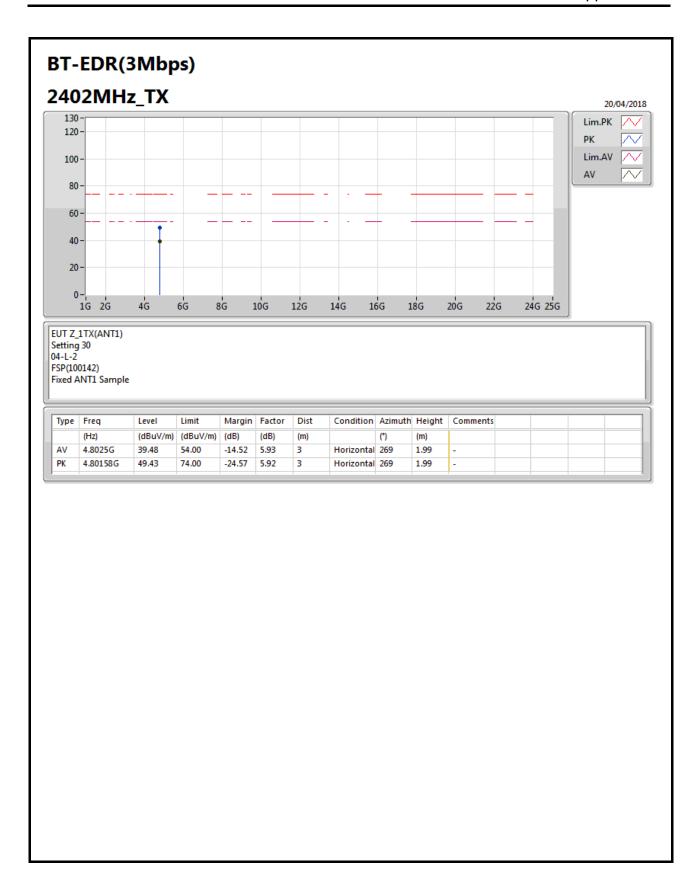




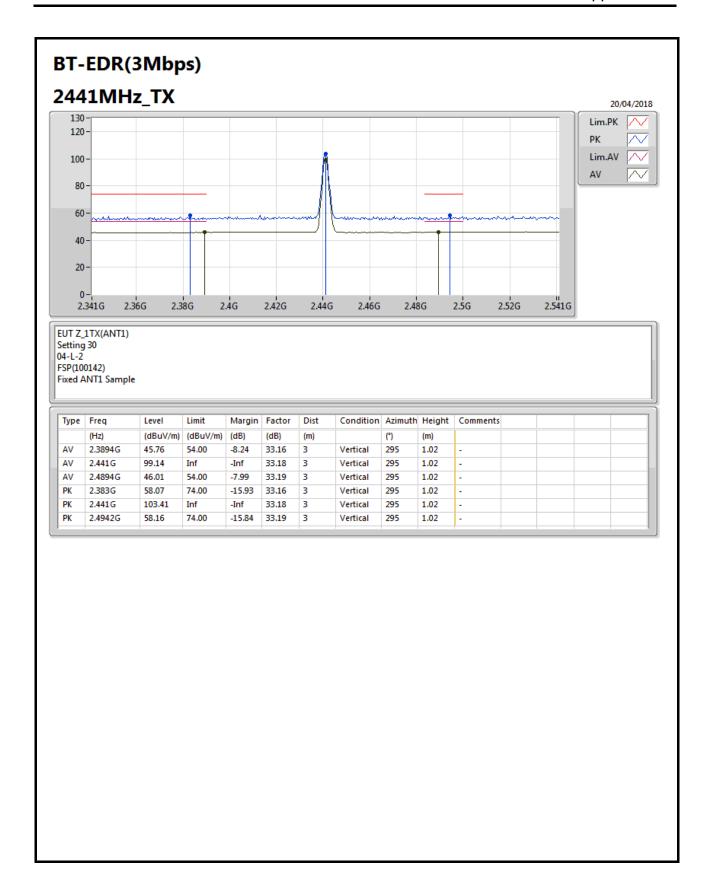




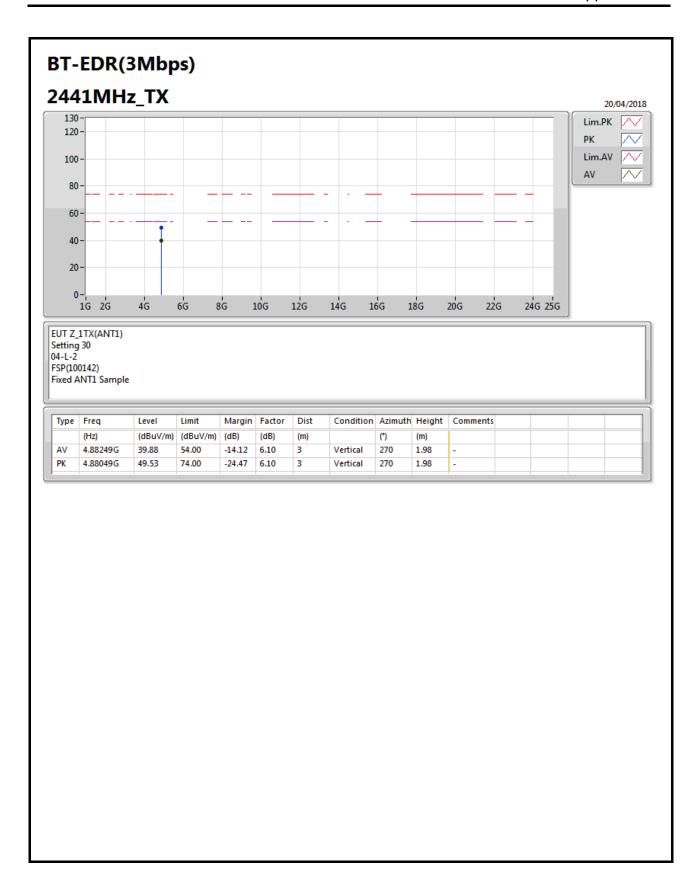




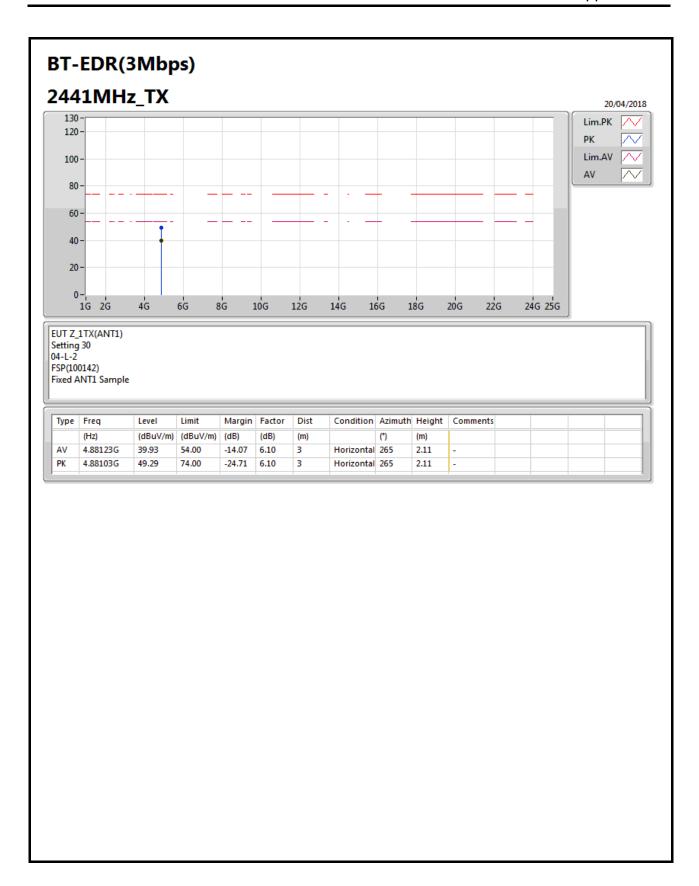




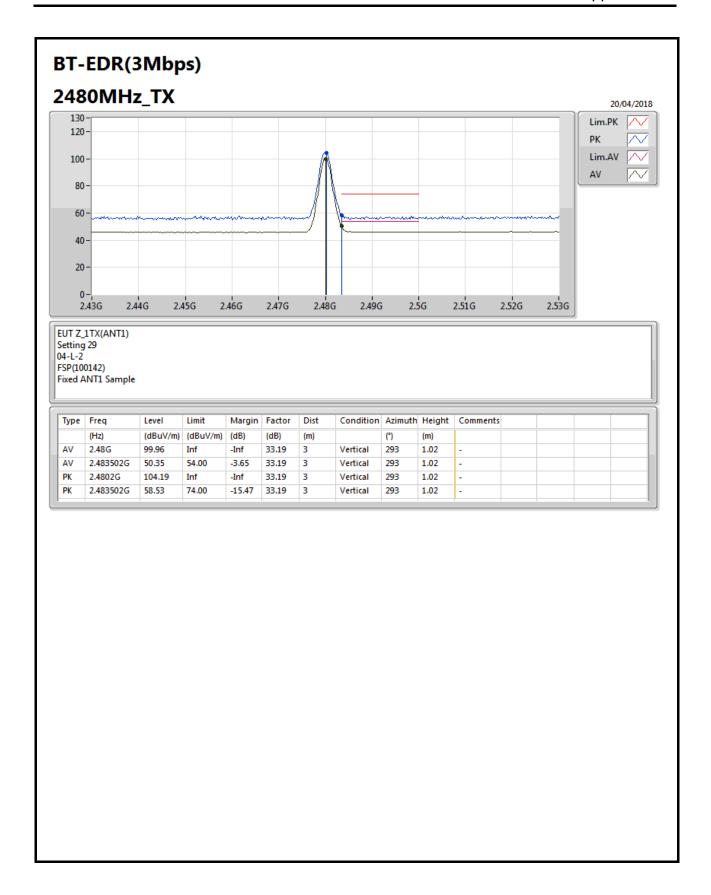




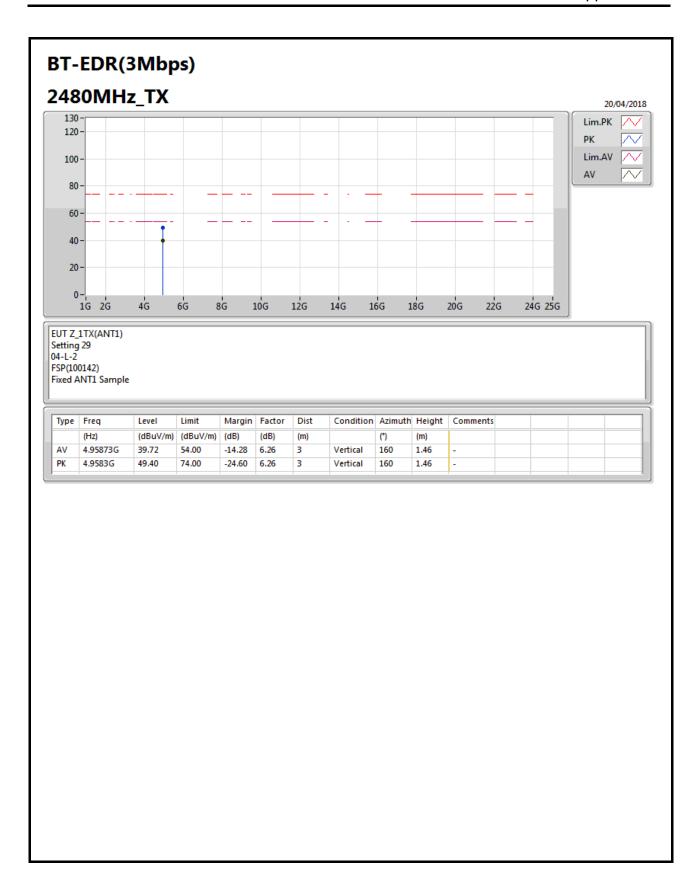




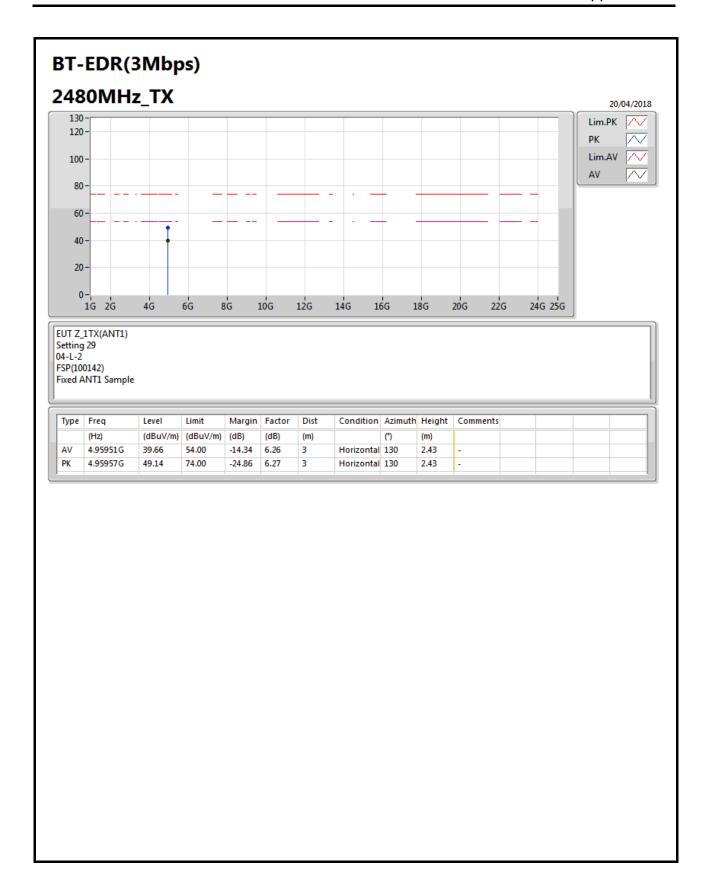














RSE TX above 1GHz Result

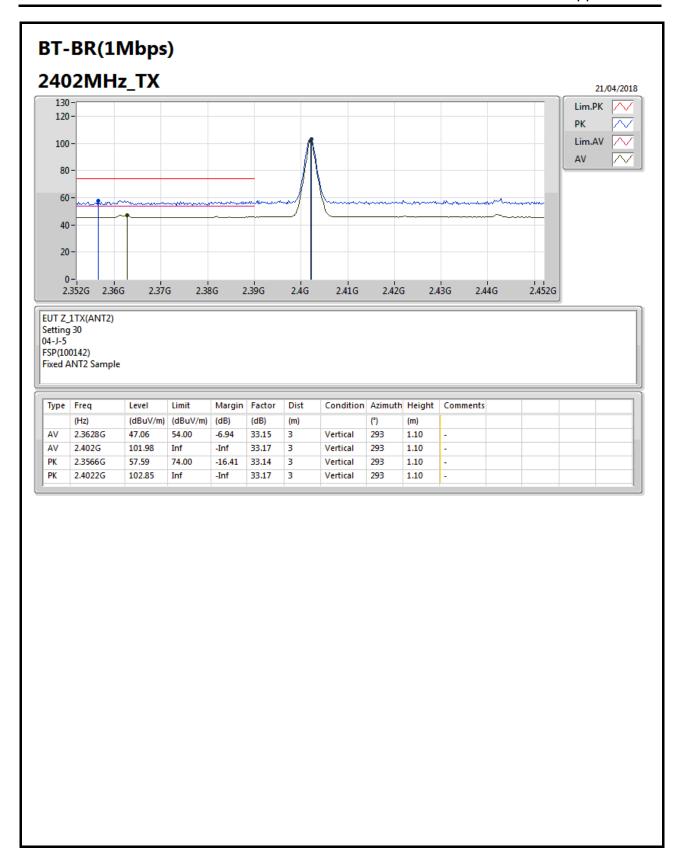
Appendix B.2

Test Mode: Mode 6

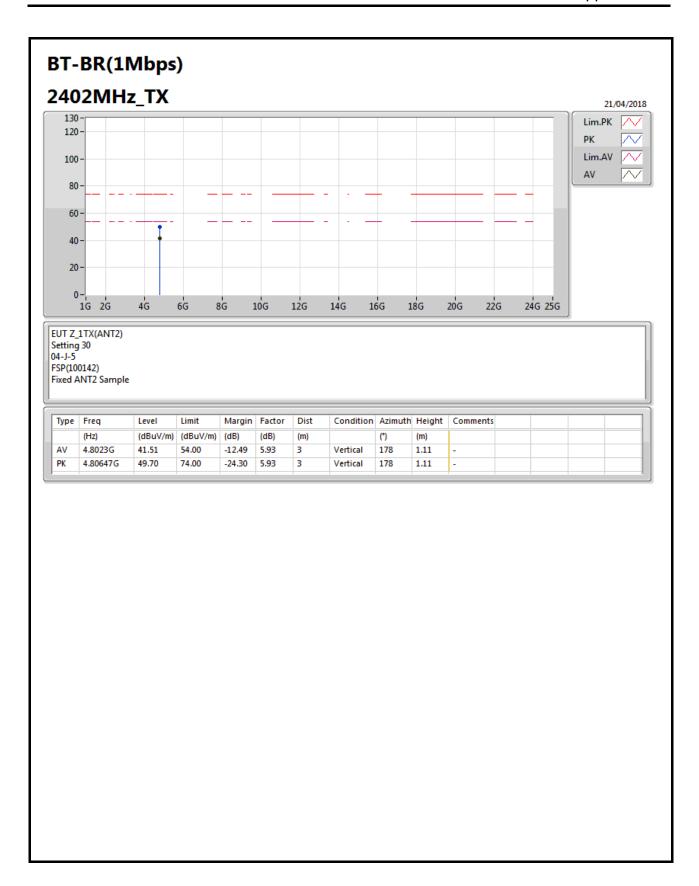
Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
2.4-2.4835GHz	-		-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	AV	2.483502G	49.06	54.00	-4.94	33.19	3	Vertical	339	1.01	-

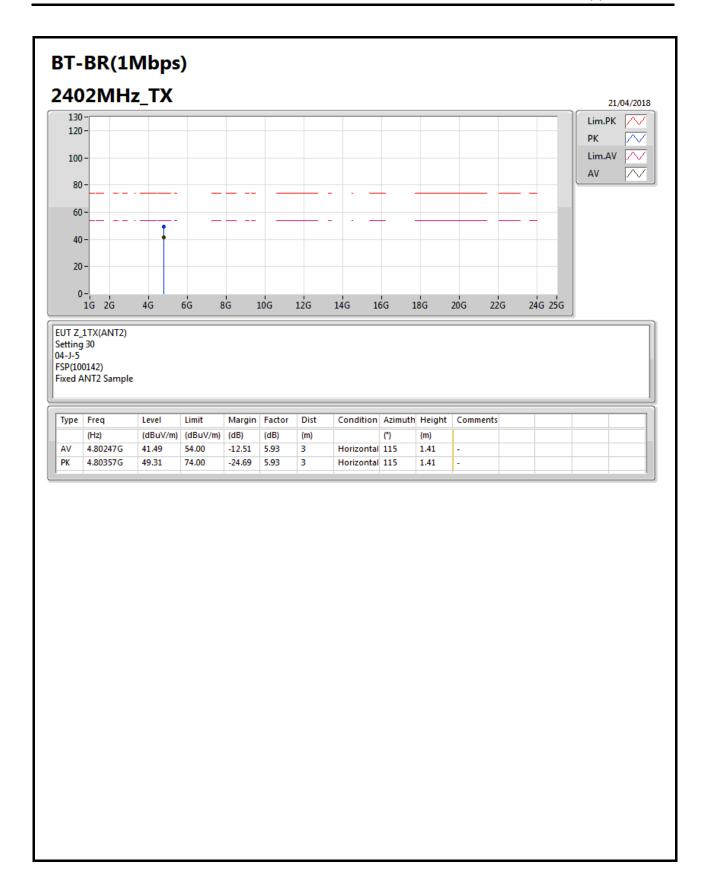




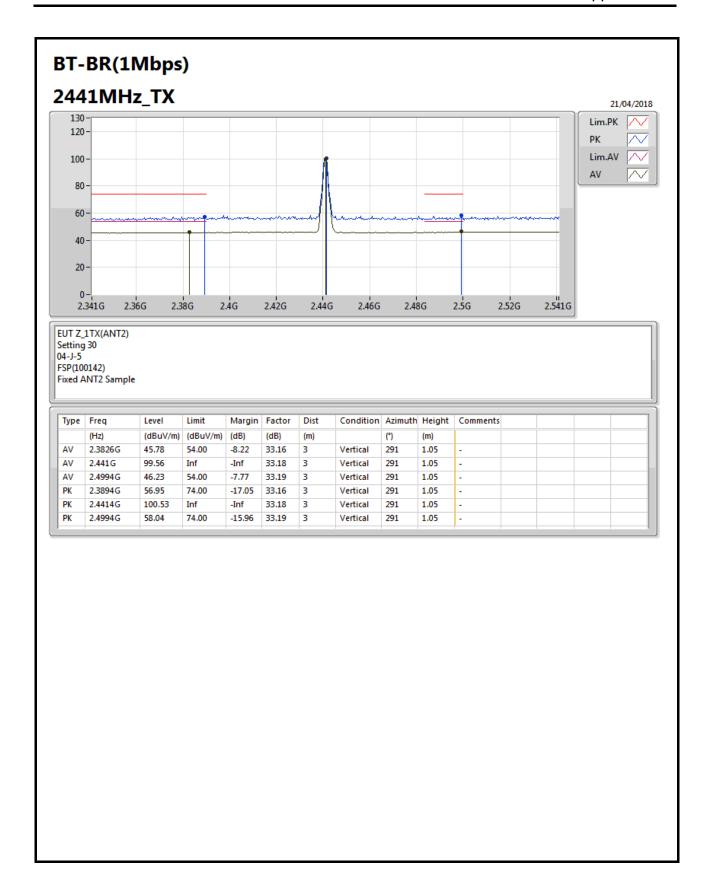




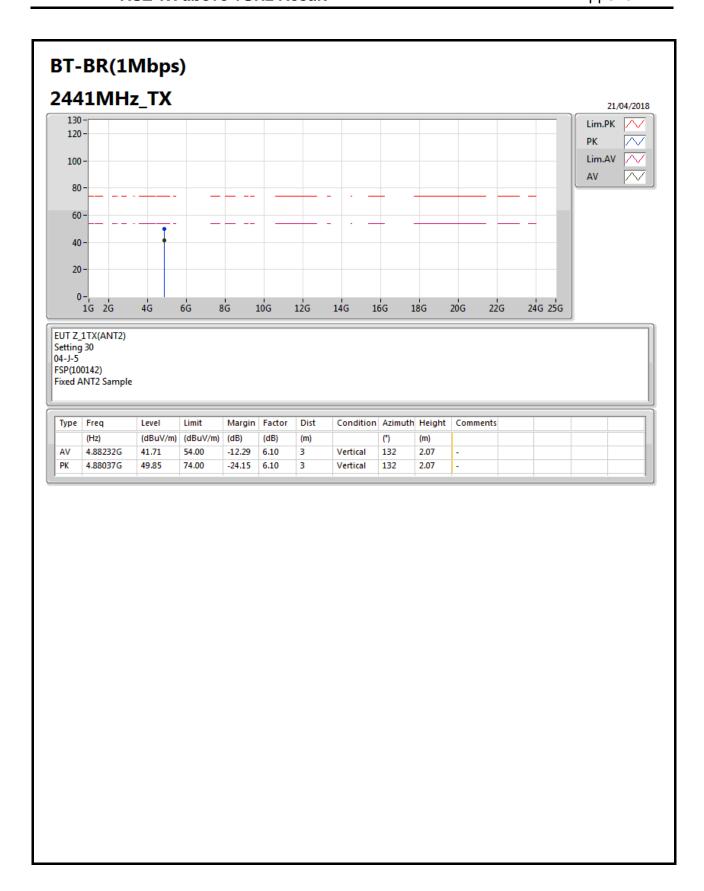




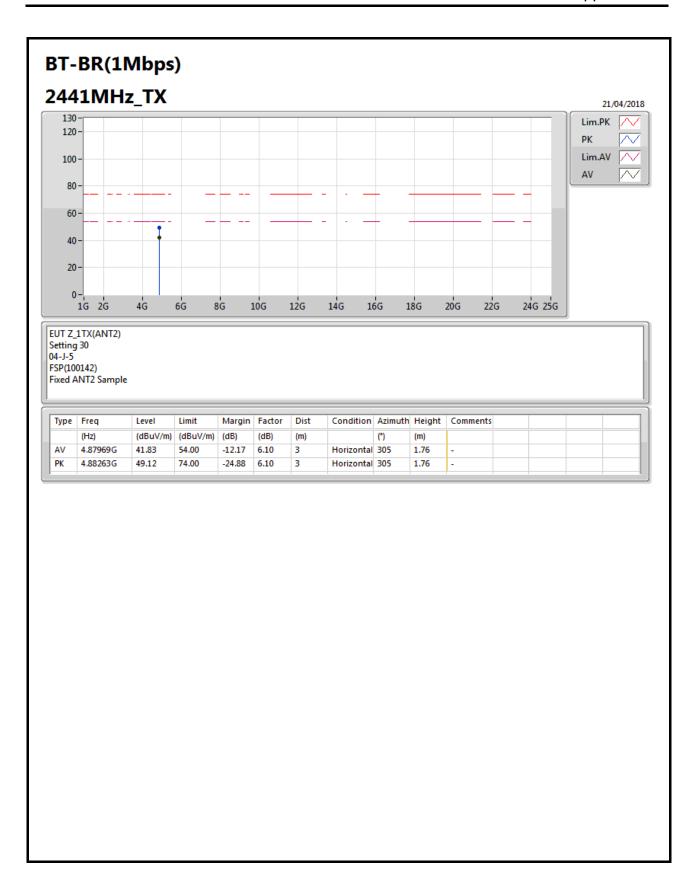




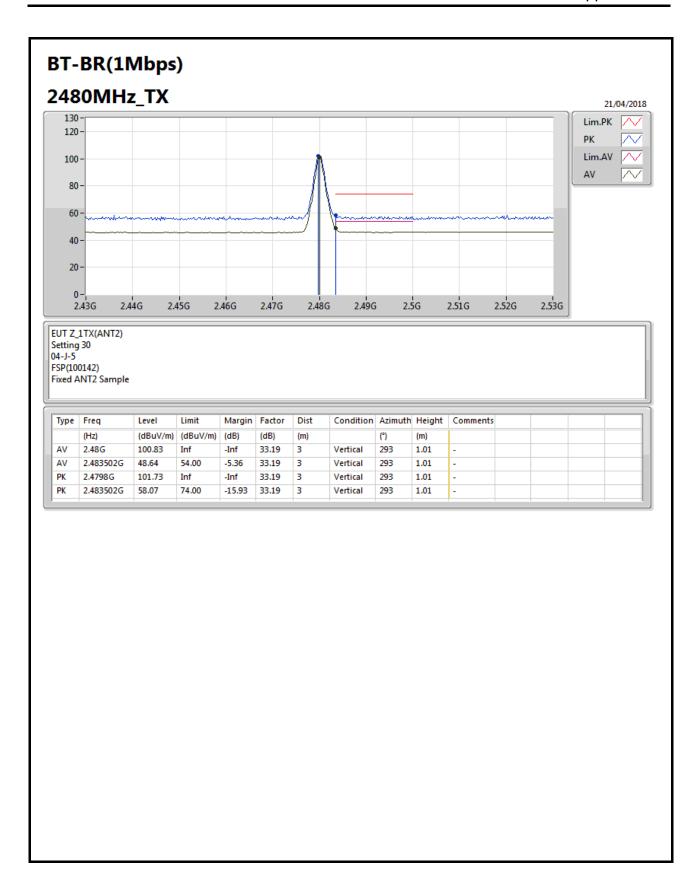




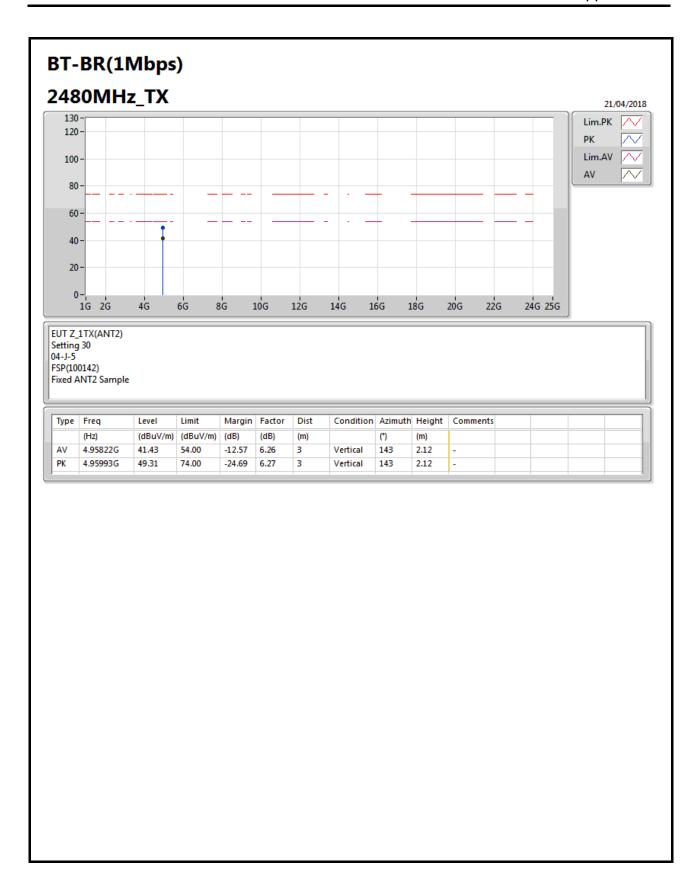




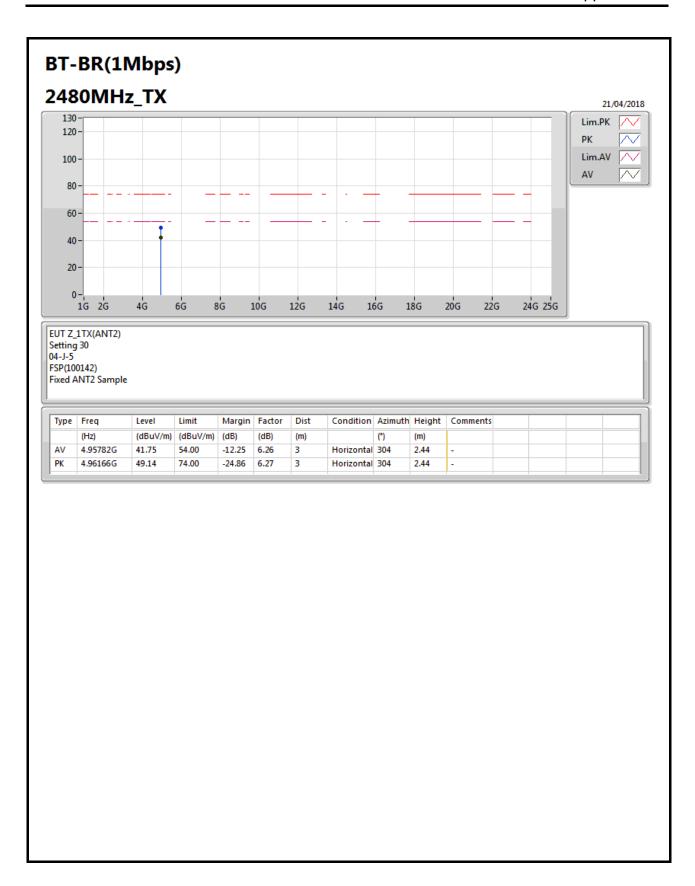




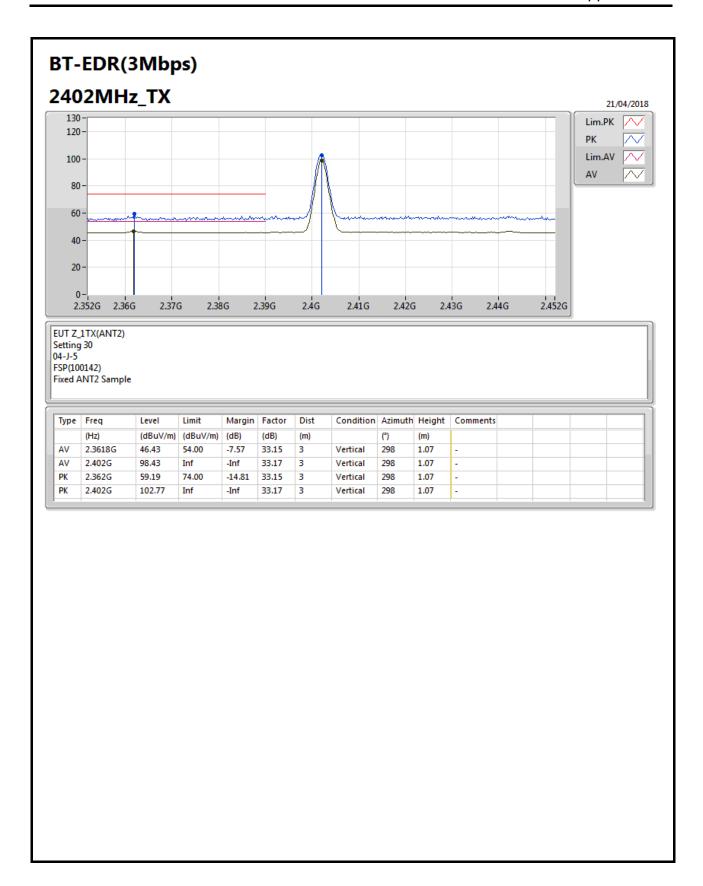




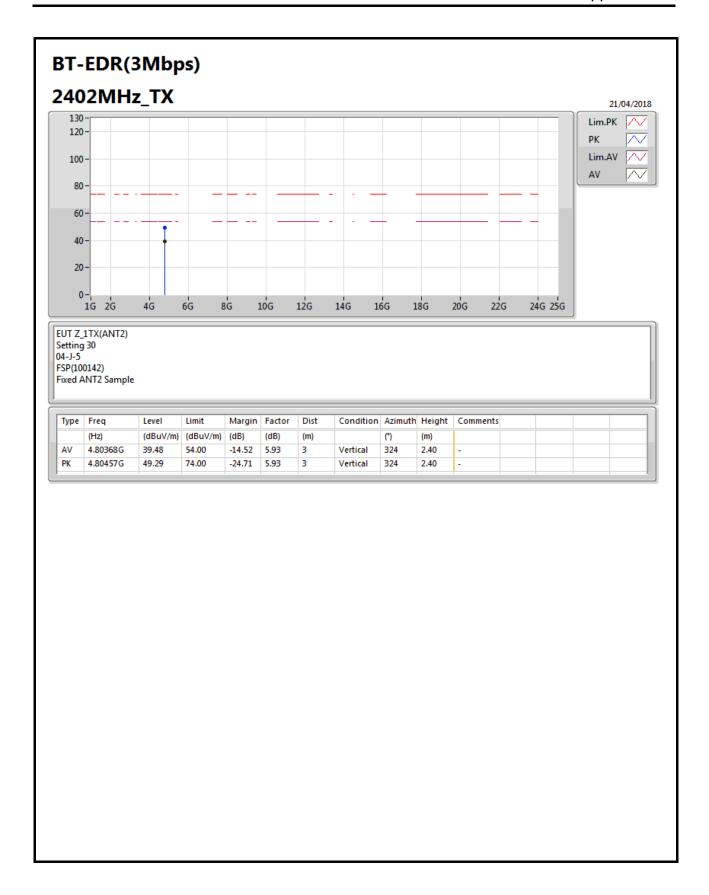




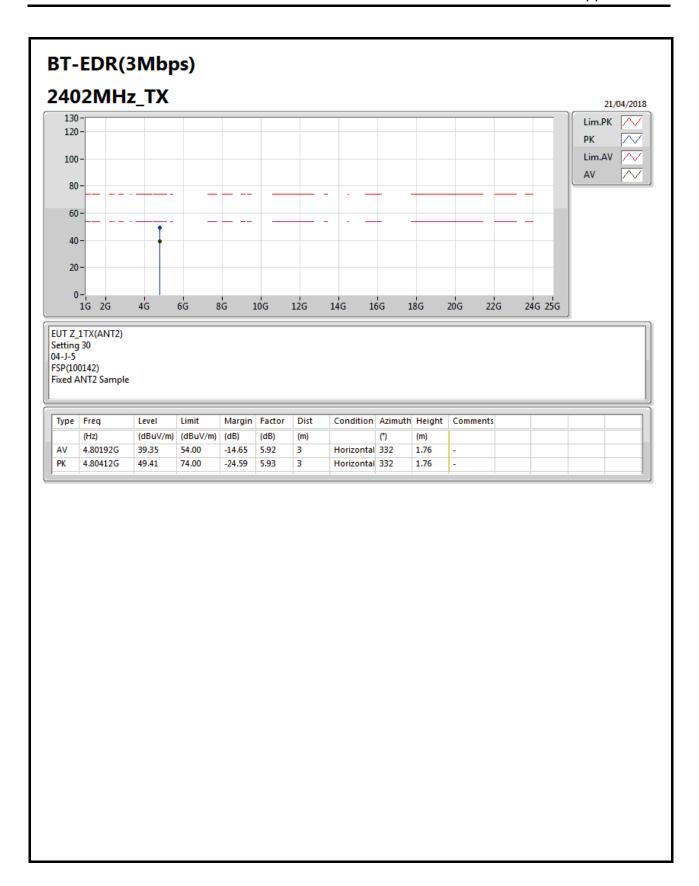




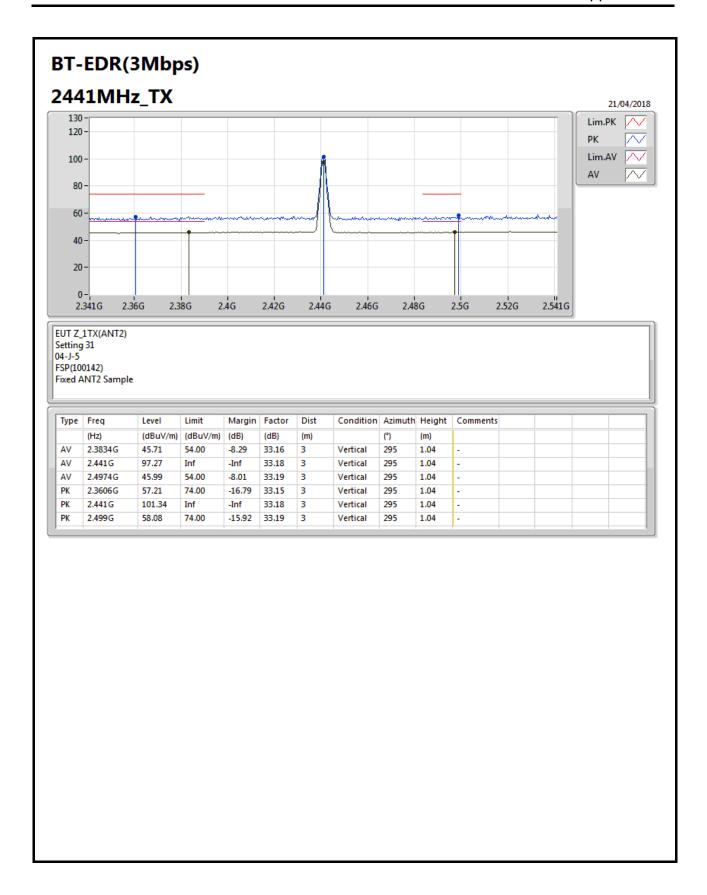




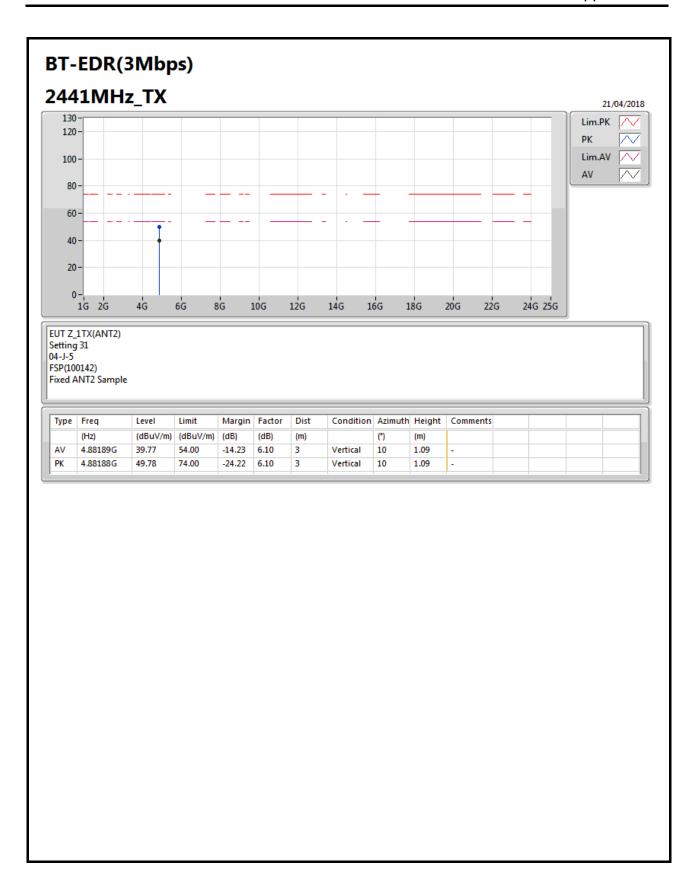




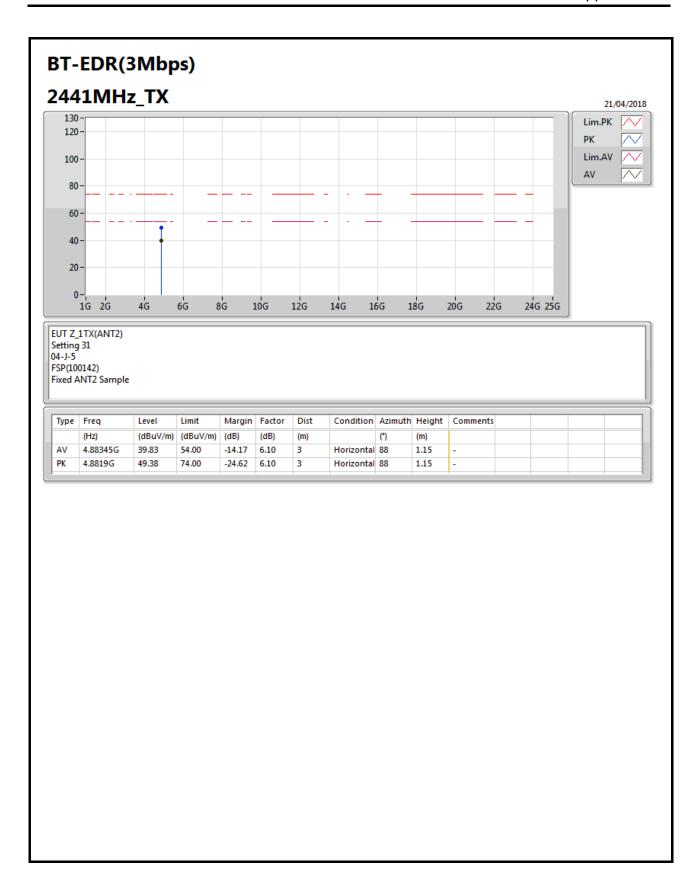




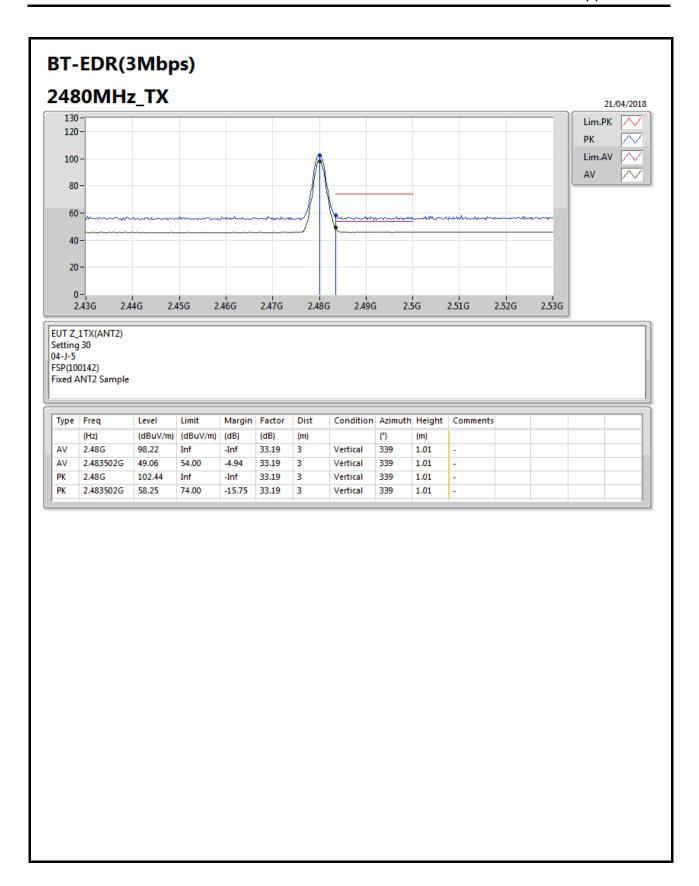




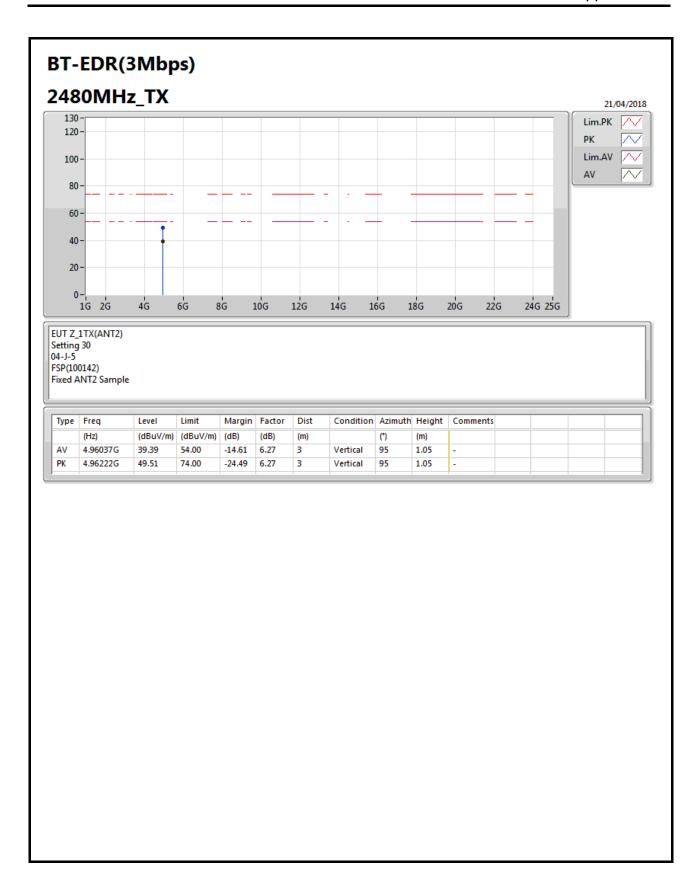




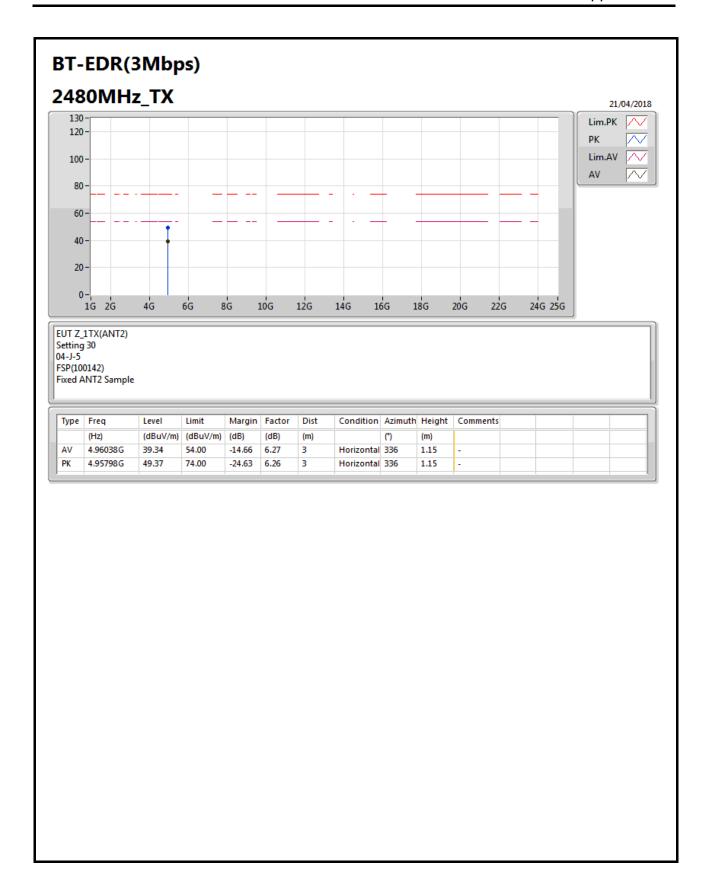








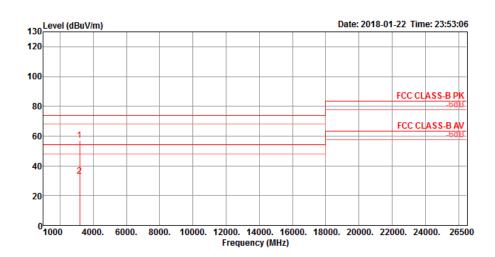






RSE Co-location Result

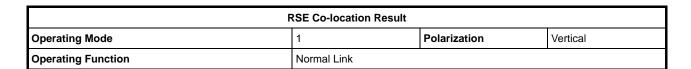
RSE Co-location Result										
Operating Mode	1	Polarization	Horizontal							
Operating Function	Normal Link									

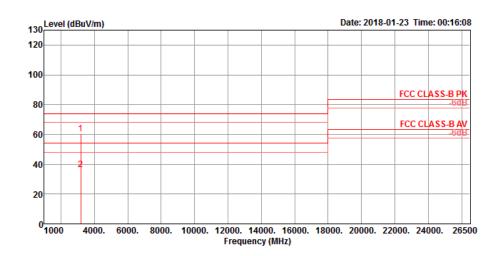


	Freq	Level		Over Limit					-	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3183.77											HORIZONTAL
2	3184 93	33.26	54 00	-20.74	29.39	9.10	28 64	33.87	159	245	Average	HORTZONTAL



RSE Co-location Result

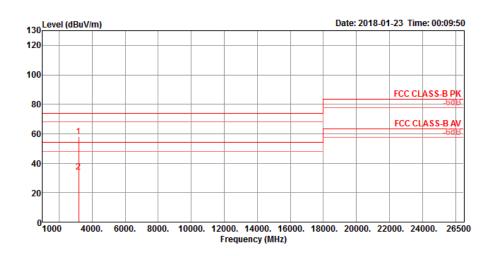




	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3184.80	60.37	74.00	-13.63	56.50	9.10	28.64	33.87	172	330	Peak	VERTICAL
2	2194 00	26 20	E4 00	17 62	22 51	0.10	20 64	22 07	172	220	Avenage	VEDITION



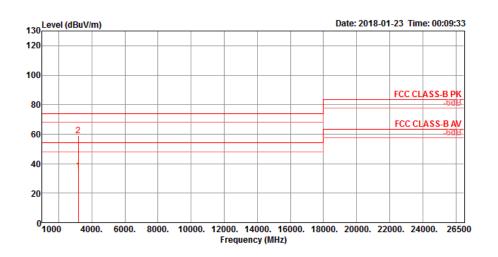
RSE Co-location Result										
Operating Mode	2	Polarization	Horizontal							
Operating Function	Normal Link									



	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3185.90	58.15	74.00	-15.85	54.27	9.10	28.64	33.86	169	257	Peak	HORIZONTAL
2	3186.10	33.90	54.00	-20.10	30.02	9.10	28.64	33.86	169	257	Average	HORTZONTAL



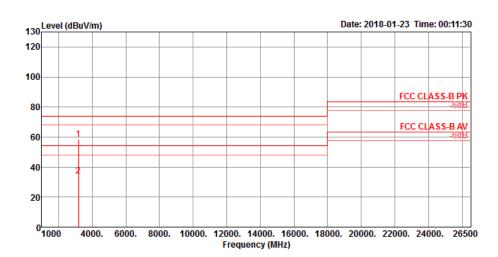
RSE Co-location Result										
Operating Mode	2	Polarization	Vertical							
Operating Function	Normal Link									



	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3184.48	34.90	54.00	-19.10	31.03	9.10	28.64	33.87	147	217	Average	VERTICAL
2	3186.99	59.05	74.00	-14.95	55.17	9.10	28.64	33.86	147	217	Peak	VERTICAL

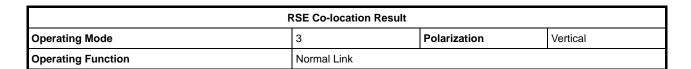


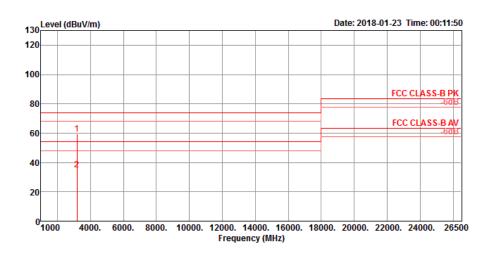
RSE Co-location Result										
Operating Mode	3	Polarization	Horizontal							
Operating Function	Normal Link									



	Freq	Level						Factor		1/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3184.43	58.68	74.00	-15.32	54.81	9.10	28.64	33.87	142	224	Peak	HORIZONTAL
2	3185.79	33.91	54.00	-20.09	30.03	9.10	28.64	33.86	142	224	Average	HORIZONTAL



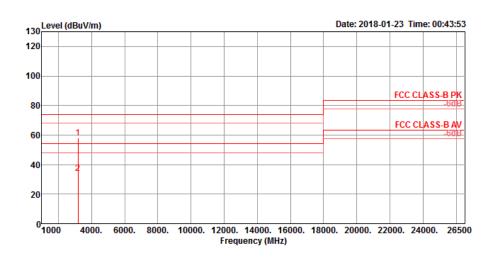




Freq	Level		Over Limit					-		Remark	Pol/Phase
 MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
			-14.58 -18.81							Peak Average	VERTICAL VERTICAL



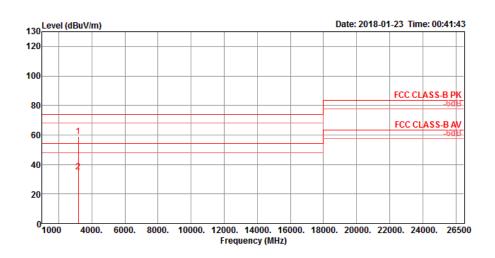
RSE Co-location Result										
Operating Mode	4	Polarization	Horizontal							
Operating Function	Normal Link									



	Freq	Level	Limit Line					Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3183.93	58.27	74.00	-15.73	54.40	9.10	28.64	33.87	183	222	Peak	HORIZONTAL
2	3186 54	33 97	54 00	-20 03	30 00	0 10	28 64	33 86	123	222	Average	HODT TONTAL



RSE Co-location Result							
Operating Mode	4	Polarization	Vertical				
Operating Function	Normal Link						

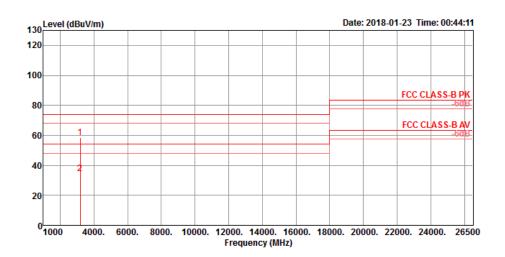


	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1 2	3186.46 3186.58										Peak Average	VERTICAL VERTICAL



RSE Co-location Result

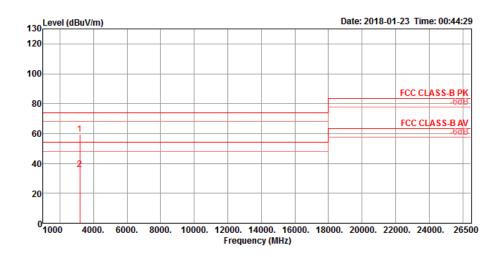
ı	RSE Co-location Result		
Operating Mode	5	Polarization	Horizontal
Operating Function	Normal Link		



	Freq	Level		Over Limit						T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3184.64	58.69	74.00	-15.31	54.82	9.10	28.64	33.87	117	51	Peak	HORIZONTAL
2	3186.98	34.73	54.00	-19.27	30.85	9.10	28.64	33.86	117	51	Average	HORIZONTAL



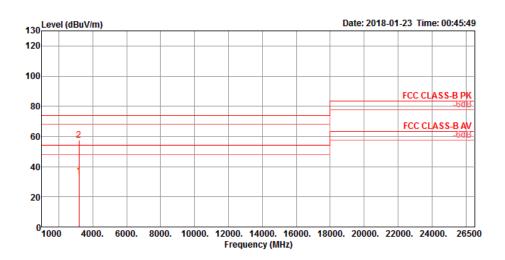
RSE Co-location Result							
Operating Mode	5	Polarization	Vertical				
Operating Function	Normal Link						



	Freq	Level						Preamp Factor		T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3185.00	59.36	74.00	-14.64	55.49	9.10	28.64	33.87	175	291	Peak	VERTICAL
2	3185.62	35.98	54.00	-18.02	32.10	9.10	28.64	33.86	175	291	Average	VERTICAL

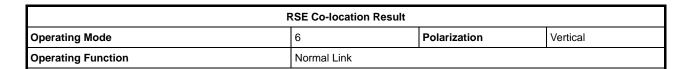


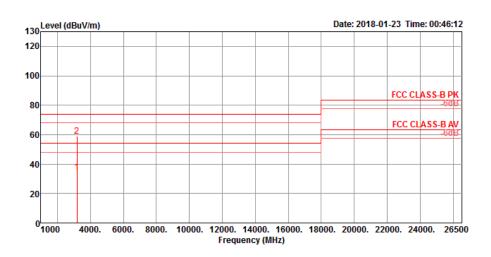
F	RSE Co-location Result						
Operating Mode	6	Polarization	Horizontal				
Operating Function Normal Link							



	Freq	Level		Over Limit					-	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3185.48	33.78	54.00	-20.22	29.90	9.10	28.64	33.86	168	77	Average	HORIZONTAL
2	3187.71	57.35	74.00	-16.65	53.47	9.10	28.64	33.86	168	77	Peak	HORIZONTAL







	Freq	Level	Limit Line	Over Limit						T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	3187.30	34.73	54.00	-19.27	30.85	9.10	28.64	33.86	124	238	Average	VERTICAL
2	3187.67	59.01	74.00	-14.99	55.13	9.10	28.64	33.86	124	238	Peak	VERTICAL



Appendix D. Antenna List

Page No. : D1 of D8

Report No.: FR5D1601-14

Table for Filed Antenna

No.	Brand	Ant. Type	Con. Type	Peak Gain (dBi)	Model No.
1	Walsin	Dipole	IPEX	3.14	RFDPA171320EMLB301
2	LYNwave	PIFA	IPEX	3.5	ALA110-222050-300011
2	ACON	DIEA	IDEV	TX1: 1.94	ANP6Y-100140
3	ACON	PIFA	IPEX	TX2: -0.22	ANP6Y-100141
4	SA	PIFA	IPEX	TX1: 0.64	SE-ECS50-001
4	SA	PIFA	IPEX	TX2: 1.54	SE-ECS50-002
5	ACON	PIFA	IPEX	TX1: -0.48	025.9013Y.0011
5	ACON	PIFA	IPEX	TX2: -0.37	025.9013Z.0011
6	WNC	PIFA	IPEX	TX1: -0.77	025.9013Y.0001
0	WINC	FIIA	IFLX	TX2: 0.35	025.9013Z.0001
7	HONGBO	PIFA	IPEX	TX1: -0.66	DQ602371500
,	HONOBO	1117	II LX	TX2: -1.40	DQ602371500
8	INPAQ	PIFA	IPEX	TX1: -1.57	DQ6LB020204
	IIVI AQ	1117	11 LX	TX2: -0.90	DQ6LB020204
9	WNC	PIFA	IPEX	TX1: 0.89	DQ6415G8200
	VIIIO	1 11 / 1	II LX	TX2: 0.44	DQ6415G8200
10	HONGBO	PIFA	IPEX	-0.66	DQ602371400
11	INPAQ	PIFA	IPEX	-1.74	DQ6LB024100
12	WNC	PIFA	IPEX	1.30	DQ6415G8500
13	High-Tek	PIFA	IPEX	TX1: -0.23	0ACCN016037N
10	Tilgit Tok	1 11 / 1	II LX	TX2: 0.90	0ACCN016038N
14	Hong-Bo	PIFA	IPEX	TX1: -1.55	ANM6Y-100000
	Trong 20	1 11 7 1	27	TX2: 0.70	ANM6Y-100001
15	INPAQ	PIFA	IPEX	0.62	DQ6LB024204
16	WNC	PIFA	IPEX	1.33	DQ6415G9700
17	HONGBO	PIFA	IPEX	TX1: -2.04	DQ602368900
	HONOBO	1 11 / \	II LX	TX2: 0.58	DQ602368900
18	INPAQ	PIFA	IPEX	TX1: -1.99	DQ6LB020301
10	IIVI AQ	1117	11 LX	TX2: -1.08	DQ6LB020301
19	HONGBO	PIFA	IPEX	1.50	DQ602368800
20	INPAQ	PIFA	IPEX	0.69	DQ6LB024201
21	WNC	PIFA	IPEX	1.86	DQ6415G9800
22	INPAQ	PIFA	IPEX	TX1: 0.03	WA-P-LB-02-289
	IIVI AQ	1117	II LA	TX2: -0.50	WA-P-LB-01-138

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00	LLIVOLADEIOT	DIEA	IDEV	TX1: -2.10	LA05RF838-1H
23	LUXSHAREICT	PIFA	IPEX	TX2: -1.90	LA05RF836-1H
24	INPAQ	PIFA	IPEX	0.38	DQ6LB024203
25	Hong-Bo	PIFA	IPEX	2.15	DQ602369200
26	INPAQ	PIFA	IPEX	0.28	DQ6LB024205
27	WNC	PIFA	IPEX	0.37	DQ6415G9500
20	CDEED	PIFA	IPEX	TX1: 0.95	025.90133.0001
28	SPEED	FIFA	IPEX	TX2: 0.03	025.90134.0001
29	Inno Wave	PIFA	IPEX	TX1: 2.66	025.90135.0001
29	iiiio vvave	FIFA	IFEX	TX2: 0.71	025.90136.0001
30	SPEED	PIFA	IPEX	TX1: 2.35	025.90146.0001
30	SPEED	FIFA	IFEX	TX2: -0.45	025.900GO.0001
31	Inno Wave	PIFA	IPEX	TX1: 1.16	025.90144.0001
31	iiiio vvave	TIIA	II LX	TX2: 1.29	025.90145.0001
32	INPAQ	PIFA	IPEX	TX1: 0.11	025.90131.0001
32	INIAQ	TIIA	II LX	TX2: -2.10	025.90132.0001
33	Foxconn	PIFA	IPEX	TX1: -0.75	350504E00-600-G
	1 OXCOTIT	1117	II EX	TX2: 0.33	350504F00-600-G
34	WNC	Dipole	IPEX	TX1: -0.45	497317-003
J-7	VVIVO	Біроіс	II EX	TX2: 1.26	497317-003
35	ACON	Dipole	IPEX	TX1: 0.41	025.90119.0001
	ACCIV	Біроіс	II EX	TX2: 0.83	025.9011A.0001
36	ACON	PIFA	IPEX	TX1: 1.16	APP6Y-700246
30	ACCIV	1117	II EX	TX2: 0.20	APP6Y-700246
37	JEM	PIFA	IPEX	TX1: 1.45	1510-0119-0258
<i>31</i>	OLIVI	1117	II LX	TX2: 1.51	1510-0119-0258
38	ACON	PIFA	IPEX	TX1: 1.87	APP6Y-700260
50	ACCIV	1117	II EX	TX2: 1.48	APP6Y-700260
39	JEM	PIFA	IPEX	TX1: 1.79	1510-0119-0259
- 55	OLIVI	1117	II EX	TX2: 2.47	1510-0119-0259
40	SA	PIFA	IPEX	TX1: -0.08	SE-ECM40-001
40	J.	1 11 /3	11 _ /	TX2: -1.18	SE-ECM40-002
41	High-tek	PIFA	IPEX	TX1: -0.92	0ACCN017005N
71	i ligit tek	1 11 /3	11	TX2: -1.89	0ACCN017006N
42	ACON	PIFA	IPEX	TX1: -4.43	025.9010D.0001
72	7,0011	1 11 73	11 = 1	TX2: -3.66	025.9010E.0001

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SP	ORTON I	AB.

43	ACON	PIFA	IPEX	TX1: -4.27	025.9010D.0001
				TX2: -3.06	025.9010E.0001
44	ACON		IPEX	TX1: 0.28	025.90119.0001
		Dipole		TX2: 0.58	025.9011A.0001
45 AC		PIFA	IPEX	TX1: -3.50	025.9010D.0001
	ACON			TX2: -3.88	025.9010E.0001
		Dipole	IPEX	TX1: 0.52	025.90119.0001
46	ACON			TX2: -0.04	025.9011A.0001
			IPEX	TX1: 2.71	025.90123.0001
47	High-tek	PIFA		TX2: -1.63	025.90124.0001
40	I Bab Asla	DIEA		TX1: 2.71	025.90123.0001
48	High-tek	PIFA	IPEX	TX2: -1.63	025.90124.0001
40	I Pak dal	DIEA	IDEV	TX1: 2.71	025.90123.0001
49	High-tek	PIFA	IPEX	TX2: -1.63	025.90124.0001
50	WNC	PIFA	IPEX	TX1: 1.52	DQ6415GCK00
51	Yageo	PIFA	IPEX	TX1:-0.95	DQ612141W00
50	LIONICRO	DIEA	IDEV	TX1: 2.32	260-23717
52	HONGBO	PIFA	IPEX	TX2: 0.01	260-23717
53	HONGBO	PIFA	IPEX	TX1: 0.01	260-23718
54	TONODA	PIFA	IPEX	TX1: 1.39	T-543-9001133-A
54	TONGDA			TX2: 1.42	T-543-9001133-A
55	TONGDA	GDA PIFA	IPEX	TX1: 1.42	T-543-9001133-3
33				TX2: 2.07	1-543-9001135-3
56	WNC	PIFA	IPEX	TX1:-0.85	81EAA415.GEM
30	VVIVO			TX2:-0.22	81EAA415.GEN
57	Yageo	PIFA	IPEX	TX1:2.89	ANTA0HC12451WLAN1
37	rageo	PIFA		TX2:1.83	ANTA0HC12451WLAN2
58	High-Tek	PIFA	IPEX	TX1:-0.73	0ACCN017031N
		FIFA	IFEX	TX2:-1.58	0ACCN017032N
59	INPAQ	IPAQ PIFA	IPEX	TX1:0.00	DQ6LB020507
				TX2:-0.82	(WA-P-LBLB-02-057)
60	WNC	WNC PIFA	IPEX		DQ6415GED00
				TX1:1.67	(81EAA415.GED)
				TX2:1.56	DQ6415GED00
					(81EAA415.GED)
61	INPAQ	INPAQ PIFA	IPEX	TX1:1.7	WA-P-LB-02-508
J.				TX2:1.93	WA-P-LB-02-509

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62	High-Tek	PIFA	IPEX	TX1:1.12	0ACQD017001N
				TX2:-2.59	0ACQD017002N
63	WNC	PIFA	IPEX	TX1:2.45	81EAA415.GER
				TX2:0.31	81EAA415.GER
64	YAGEO	PIFA	IPEX	TX1:1.40	ANTA0HQ12391WLAN1
				TX2:-0.50	ANTA0HQ12391WLAN2
65	WNC	Dipole	IPEX	1.68	9E.XCI15.G05
66	YAGEO	PIFA	IPEX	1.4	ANTA0HQ12391WLAN1
67	High-Tek	PIFA	IPEX	1.12	0ACQD017001N
68	WNC	PIFA	IPEX	2.45	81EAA415.GDZ
	\/\ 050	D: 1	IPEX	TX1:0.15	ANITA OLIO 4000 414// ANI4
69	YAGEO	Dipole		Tx2:0.15	ANTA0HQ12391WLAN4
70		DIEA		TX1:-0.15	025.9018H.0001
70	High-Tek	PIFA	IPEX	TX2:0.96	025.90181.0001
7.4	14/11/0	DIEA	IDEV	TX1:1.00	025.90189.0001
71	WNC	PIFA	IPEX	TX2:1.98	025.9018A.0001
70	WNC	DIEA	IDEV	TX1:-0.97	57EAA415.050
72		PIFA	IPEX	TX2:0.76	57EAA415.051
	WNC	PIFA	IPEX	TX1:-0.50	57EAA415.050
73				TX2:-1.01	57EAA415.051
74		PIFA	IPEX	TX1:-0.73	0ACCN016015N
74	High-tek			TX2:1.09	0ACCN016016N
75	I limb tol.	PIFA	IPEX	TX1:-0.17	0ACCN016015N
/5	High-tek			TX2:0.50	0ACCN016016N
76	Libert Tells	PIFA	IPEX	TX1:1.30	0ACCN017029N
76	High-Tek			TX2:0.62	0ACCN017024N
77	HONGBO	PIFA	IPEX	TX1:1.47	260-24205
		FIFA		TX2:-0.34	260-24206
78	ACON	PIFA	IPEX	TX1:-0.14	6036B0213401
70		PIFA		TX2:-2.14	6036B0213301
70	WNC	WNC PIFA	IPEX	TX1:0.06	6036B0213601
79				TX2:-1.10	6036B0213501
80	YAGEO	PIFA	IPEX	TX1:-0.34	ANTA0HV12461WLAN1
- 00				TX2:-0.55	ANTA0HV12461WLAN2
81	ACON	ACON PIFA	IPEX	TX1:0.55	6036B0212301
01				TX2:1.03	6036B0212401
82	WNC	PIFA	IPEX	TX1:1.76	6036B0212101
02		VINC PIFA		TX2:0.02	6036B0212201

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83	YAGEO	PIFA	IPEX	TX1:1.44	ANTA0HV12461WLAN3
				TX2:-0.47	ANTA0HV12461WLAN4
84	ACON		IPEX	TX1:-1.65	6036B0214201
		PIFA		TX2:-0.71	6036B0214101
85	WNC	PIFA	IPEX	TX1:-0.63	6036B0214401
				TX2:-0.09	6036B0214301
	YAGEO	PIFA	IPEX	TX1:-0.72	ANTA0HV12461WLAN5
86				TX2:-1.97	ANTA0HV12461WLAN6
	INPAQ	PIFA	IPEX	TX1:0.76	025.901AM.0011
87				TX2:-0.01	025.901AN.0011
88	Foxconn	PIFA	IPEX	0.29	ANTP2M2-CNC05-EH
		DIEA		TX1: -1.31	0ACAR017015N
89	High-Tek	PIFA	IPEX	TX2: -1.14	0ACAR017016N
00	I limb Tale	DIEA	IDEV	TX1: -0.56	0ACAR017017N
90	High-Tek	PIFA	IPEX	TX2: -1.71	0ACAR017018N
91		DIEA	IDE)/	TX1: 0.75	DC33001WO00
91	High-Tek	PIFA	IPEX	TX2: -0.52	DC33001WO10
92	INPAQ	DIEA	IPEX	TX1: 1.7	WA-P-LB-02-508
92		PIFA		TX2:1.93	WA-P-LB-02-509
93	INPAQ	PIFA	IPEX	TX1: 2.55	WA-P-LB-02-502
93				TX2: 1.85	WA-P-LB-02-503
94	INPAQ	PIFA	IPEX	TX1:1.55	WA-P-LB-02-502
34	INFAQ			TX2:0.22	WA-P-LB-02-503
95	INPAQ	PIFA	IPEX	TX1:1.76	WA-P-LBLB-02-055
33	INFAQ	FIFA		TX2:1.59	WA-P-LBLB-02-055
96	INDAO	NPAQ PIFA	IPEX	TX1:0.00	WA-P-LBLB-02-057
30	IIVI AQ			TX2:-0.82	WA-P-LBLB-02-057
97	WNC	PIFA	IPEX	TX1:1.67	DQ6415GED00
31		FIFA		TX2:1.56	DQ6415GED00
98	WNC	WNC PIFA	IPEX	TX1:2.48	025.901AH.0001
50				TX2:2.47	025.901AI.0001
99	WNC	PIFA	IPEX	TX1:-0.54	025.901AH.0001
- 55				TX2:1.58	025.901AI.0001
100	INPAQ	PIFA	IPEX	TX1:-0.76	WA-P-LBLB-02-058
.00				TX2:0.38	VIII. LDLD 02 000
101	WNC	WNC PIFA	IPEX	TX1:2.41	DQ6415GEB00
101				TX2:2.44	243302233
102	Tongda	PIFA	IPEX	1.42	T-543-9001133-3

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103	HONGBO	PIFA	IPEX	0.01	260-23718
104			IPEX	TX1:-0.75	350504E00-600-G
	Foxconn	PIFA		TX2:0.33	350504F00-600-G
105	WNC	PIFA	IPEX	TX1:0.34	DQ6415GEW00
				TX2:1.21	DQ6415GEW00
106	YAGEO	PIFA	IPEX	TX1:0.77	DQ612552W00
				TX2:0.76	DQ612552W00
107	WNC	PIFA	IPEX	0.34	DQ6415GEV00
108	YAGEO	PIFA	IPEX	-0.83	DQ612551W00
400	W/N/O			TX1:2.37	DQ6415GEY00
109	WNC	PIFA	IPEX	TX2:0.91	DQ6415GEY00
440	V4.0F0	DIEA		TX1:1.84	DQ612562W00
110	YAGEO	PIFA	IPEX	TX2:-1.29	DQ612562W00
111	WNC	PIFA	IPEX	2.37	DQ6415GEX00
112	YAGEO	PIFA	IPEX	1.04	DQ612561W00
110	VACEO	DIEA	IDEV	TX1:0.11	DQ601072200
113	YAGEO	PIFA	IPEX	TX2:1.47	(ANTA0HQ10722WLAN1)
114	Foxconn	PIFA	IPEX	TX1:2.63	350505Y00-600-G(ANTS2M6-CZ
114				TX2:0.67	Z52-EH)
115	Foxconn	PIFA	IPEX	TX1:1.62	350506100-600-G
113				TX2:0.78	(ANTS2M1-CZZ49-EH)
116	HIGH-TEK	PIFA	IPEX	TX1:0.80	DQ601700400
110	THOTFILK			TX2:0.81	(0ACQD017004N)
117	INPAQ	PIFA	IPEX	TX1:1.30	DQ6LB020508
117	IIVI AQ			TX2:0.98	(WA-P-LBLB-02-056)
118	WNC	PIFA	IPEX	TX1:1.66	DQ6415GD500
	Witte	1 11 7 1		TX2:1.82	(81EAA415.GD5)
119	WNC	PIFA	IPEX	TX1:0.10	025.90185.0001
		WITO TITA	II LA	TX2:0.10	025.90186.0001
120	WNC	PIFA	IPEX	TX1:-0.40	025.90187.0001
120	VVINC	FIIA	IFEA	TX2:1.11	025.90188.0001
121	WNC	PIFA	IPEX	TX1:0.83	025.90183.0001
				TX2:-0.29	025.90184.0001
122	WNC	PIFA	IPEX	TX1:0.62	025.901AS.0001
				TX2:0.61	025.901AT.0001
123	WNC	WNC PIFA	IPEX	TX1:2.46	025.901AS.0001
				TX2:2.44	025.901AT.0001
124	YAGEO	PIFA	IPEX	1.40	ANTA0HQ12571WLAN1

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125	WNC	PIFA	IPEX	2.45	81EAA415.GE8
126	HTK	PIFA	IPEX	1.12	0ACQD018004N
127	нтк	PIFA	IPEX	TX1:1.01	025.90199.0001
				TX2:1.63	025.9019A.0001
128	WNC	PIFA	IPEX	TX1:1.57	025.90197.0001
120				TX2:0.25	025.90198.0001
129	HTK	PIFA	IPEX	-0.41	0ACAU017007N
130	ACON	PIFA	IPEX	TX1:1.82	ANP6Y-100208
130				TX2:-0.12	ANP6Y-100209
131	ICT	PIFA	IPEX	TX1:0.8	LA9RF066-CS-H
131				TX2:0.1	LA9RF067-CS-H
132	ICT	PIFA	IPEX	-2.1	LA9RF076-CS-H

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