# FCC 47 CFR PART 15 SUBPART C AND ANSI C63.10:2009 TEST REPORT

For

#### Computer

**Trade Name: ADVANTECH** 

Issued for

Advantech Co. Ltd.

No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.

#### Issued by

Compliance Certification Services Inc. Hsinchu Lab.

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## **Revision History**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	02/16/2015	Initial Issue	All Page 198	Dola Hsieh

#### **TABLE OF CONTENTS**

TITLE PAGE NO. 1. TEST REPORT CERTIFICATION ......4 3. DESCRIPTION OF TEST MODES ......7 4. TEST METHODOLOGY .......10 5. FACILITIES AND ACCREDITATION .......10 5.3 MEASUREMENT UNCERTAINTY .......11 6. SETUP OF EQUIPMENT UNDER TEST......12 7. FCC PART 15.247 REQUIREMENTS......14 7.2 MAXIMUM PEAK OUTPUT POWER .......44 7.3 AVERAGE POWER .......49 7.4 POWER SPECTRAL DENSITY .......54 7.5 CONDUCTED SPURIOUS EMISSION ......85 

#### 1. TEST REPORT CERTIFICATION

**Applicant** : Advantech Co. Ltd.

Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District,

Taipei 114, Taiwan, R.O.C.

**Equipment Under Test**: Computer

(where "X" may be any alphanumeric character, "-" or blank)

Trade Name : ADVANTECH

Tested Date : September 12, 2014 ~ January 12, 2015

APPLICABLE STANDARD		
Standard Test Result		
FCC Part 15 Subpart C AND ANSI C63.10:2009	PASS	

WE HEREBY CERTIFY THAT: The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:

Sb. Lu

Sr. Engineer

Reviewed by:

Gundam Lin Sr. Engineer

## 2. EUT DESCRIPTION

Product Name	Computer	
Model Number	TREK-570 ; TREK-570XXXXXXXXXXXXXXXX	
Woder Number	(where "X" may be any alphanumeric character , "-" or blank)	
Identify Number	T140912L01	
Received Date	September 12, 2014	
Frequency Range	IEEE 802.11b/g, 802.11gn HT20 : 2412MHz ~ 2462MHz IEEE 802.11gn HT40 : 2422MHz ~ 2452MHz Bluetooth 4.0 : 2402MHz ~ 2480MHz	
Transmit Power	1TX: IEEE 802.11b: 23.64 dBm (0.2312 W) IEEE 802.11g: 26.19 dBm (0.4159 W) IEEE 802.11gn HT20: 25.68 dBm (0.3698 W) IEEE 802.11gn HT40: 23.87 dBm (0.2438 W) Bluetooth 4.0: 2.90 dBm (0.0019W) 2TX: IEEE 802.11b: 18.72 dBm (0.0745 W) IEEE 802.11g: 25.98 dBm (0.3963 W) IEEE 802.11gn HT20: 26.60 dBm (0.4571 W) IEEE 802.11gn HT40: 21.22 dBm (0.1324 W)	
Channel Spacing	IEEE 802.11b/g, 802.11gn HT20/HT40 : 5MHz Bluetooth 4.0: 2MHz	
Channel Number	IEEE 802.11b/g, 802.11gn HT20 : 11 Channels IEEE 802.11gn HT40 : 7 Channels Bluetooth 4.0 : 40 Channels	
Transmit Data Rate	1TX: IEEE 802.11b: up to 11 Mbps IEEE 802.11g: up to 54 Mbps IEEE 802.11gn (HT20,800ns GI): up to 65.00 Mbps IEEE 802.11gn (HT20,400ns GI): up to 72.20 Mbps IEEE 802.11gn (HT40,800ns GI): up to 135.00 Mbps IEEE 802.11gn (HT40,400ns GI): up to 150.00 Mbps IEEE 802.11gn (HT40,400ns GI): up to 150.00 Mbps Bluetooth 4.0: 1 Mbps 2TX: IEEE 802.11b: up to 11 Mbps IEEE 802.11g: up to 54 Mbps IEEE 802.11gn (HT20,800ns GI): up to 130.00 Mbps IEEE 802.11gn (HT20,400ns GI): up to 144.40 Mbps IEEE 802.11gn (HT40,800ns GI): up to 270.00 Mbps IEEE 802.11gn (HT40,800ns GI): up to 300.00 Mbps IEEE 802.11gn (HT40,400ns GI): up to 300.00 Mbps	

Type of Modulation	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11gn HT20/40: OFDM (64QAM, 16QAM, QPSK, BPSK) Bluetooth 4.0: GFSK	
	PIFA Antenna × 1,	
Antenna Type	Antenna 1(Chain 0) Gain : 3.97 dBi (Taoglas / MA231)  Dipole Antenna × 2,	
	Antenna 2(Chain 1) Gain : 2.62 dBi (HowTsen / S-083-4)	
	Antenna 2(Chain 1) Gain : 5 dBi (Wieson / GPOT113-020)	
Power Rating	6-32Vdc, 6A Max	
Test Voltage	120Vac, 60Hz	
DC Power Cable Type	Non-shielded cable, 1.5m × 1 (Detachable)	
I/O Port	EUT : RJ-45 Port × 1, USB Port × 3, Power Port × 1, RS232 Port × 1, HDMI Port × 1, Signal Port × 1, VGA Port × 2, Smart Display Port × 1	
	Panel : Smart Display Port × 1, USB Port × 1	
Signal Cable	Shielded signal cable 2.1m × 1 (Detachable)	
Signal Cable	Shielded VGA to RS232 cable, 0.4m × 1 (Detachable)	

#### The difference of the series model

Model Number	Difference	
TREK-570	For marketing purpose only.	
TREK-570XXXXXXXXXXXXXXXXXX	2. where "X" may be any alphanumeric character, "-" or blank	

#### Remark:

- 1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
- 2. For more details, please refer to the User's manual of the EUT.
- 3. The model TREK-570 was considered the main model for testing.
- 4 This submittal(s) (test report) is intended for FCC ID: M82-TREK570LTE filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

### 3. DESCRIPTION OF TEST MODES

The EUT is an 802.11n transceiver in Computer form factor.

For IEEE 802.11b/g, 802.11gn HT20/HT40 mode (1TX / 1RX): Chain 0 transmit/receive.

For Bluetooth: Chain 0 transmit/receive.

For IEEE 802.11b/g, 802.11gn HT20/HT40 mode (2TX / 2RX):

Chain 0 & Chain 1 transmit/receive.

The EUT comes with two types for sales, the detail information please refer the table as below:

Antenna List		Gain (dBi)	Test item	
			Spurious emissions	Conducted
PIFA Antenna × 1	Antenna 1(Chain 0)	2.07	V	V
PIPA AIILEIIIIa ^ I	(Taoglas / MA231)	3.97	V	V
	Antenna 2(Chain 1)	2.62		
Dipole Antenna × 2	(HowTsen / S-083-4)			
Dipole Antenna ^ 2	Antenna 2(Chain 1)	5	\ \	V
	(Wieson / GPOT113-020)		V	V

#### Conducted Emission / Radiated Emission Test (Below 1 GHz)

1. The following test modes were scanned during the preliminary test:

No.	Pre-Test Mode
1	TX Mode

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test M	ode	
Emission	Radiated Emission	TX Mode
Lillission	Conducted Emission	N/A

**Remark :** Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

#### Conducted / Radiated Emission Test (Above 1 GHz)

#### IEEE 802.11b, 802.11g, 802.11gn HT20 mode

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)	
Low	2412	
Middle	2437	
High	2462	

IEEE 802.11b mode: 1Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11g mode: 6Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11gn HT20 mode: 6.5Mbps data rate (worst case) were chosen for full testing.

#### IEEE 802.11gn HT40 mode

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)	
Low	2422	
Middle	2437	
High	2452	

IEEE 802.11gn HT40 mode: 13.5Mbps data rate (worst case) were chosen for full testing.

#### Bluetooth 4.0 mode

The EUT had been tested under operating condition.

There are three channels have been tested as following:

<u> </u>		
Channel	Frequency (MHz)	
Low	2402	
Middle	2440	
High	2480	

**Remark:** The field strength of spurious emission was measured in the following position: EUT stand-up position(X axis), lie-down position(X, Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.

#### 4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2009 and FCC CFR 47, 15.207, 15.209 and 15.247.

#### 5. FACILITIES AND ACCREDITATION

#### 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

NO. 989-1 Wen Shan Rd., Shang Shan Village, Qionglin Shiang Hsinchu County 30741, Taiwan, R.O.C

The sites are constructed in conformance with the requirements of ANSI C63.10:2009 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-1-5.

#### 5.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Taiwan TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada INDUSTRY CANADA

Japan VCCI

Taiwan BSMI

USA FCC MRA

Copies of granted accreditation certificates are available for downloading from our web site, http:///www.ccsrf.com

Remark: FCC Designation Number TW1027.

#### 5.3 MEASUREMENT UNCERTAINTY

The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4-2.

PARAMETER	UNCERTAINTY
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.97
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 3.58
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 3.81
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 2.48

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 22, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

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

## 6. SETUP OF EQUIPMENT UNDER TEST

#### **SUPPORT EQUIPMENT**

No.	Product	Manufacturer	Model No.	Serial No.
1	Notebook PC	HP	ProBook 4421s	CNF03242PJ

No.	Signal Cable Description
1	Non-shielded RJ-45 cable, 12m × 1

#### SETUP DIAGRAM FOR TESTS

EUT & peripherals setup diagram is shown in appendix setup photos.

#### **EUT OPERATING CONDITION**

#### WiFi:

1. EUT & peripherals setup diagram is shown in appendix setup photos.

2. Run Test software. "artqui"

(1)TX Mode:

TX Data Rate: 1Mbps Bandwidth 20 (IEEE 802.11b mode)

6Mbps Bandwidth 20 (IEEE 802.11g mode)

6.5Mbps Bandwidth 20 (IEEE 802.11gn HT20 mode)

13.5Mbps Bandwidth 40 (IEEE 802.11gn HT40 mode)

Power control: 1TX

IEEE 802.11b Channel Low (2412MHz) Power set 18.5

IEEE 802.11b Channel Mid (2437MHz) Power set 22

IEEE 802.11b Channel High (2462MHz) Power set 21

IEEE 802.11g Channel Low (2412MHz) Power set 14.5

IEEE 802.11g Channel Mid (2437MHz) Power set 22

IEEE 802.11g Channel High (2462MHz) Power set 12

IEEE 802.11gn HT20 Channel Low (2412MHz) Power set 13

IEEE 802.11gn HT20 Channel Mid (2437MHz) Power set 20

IEEE 802.11gn HT20 Channel High (2462MHz) Power set 11.5

IEEE 802.11gn HT40 Channel Low (2422MHz) Power set 10

IEEE 802.11gn HT40 Channel Mid (2437MHz) Power set 16

IEEE 802.11gn HT40 Channel High (2452MHz) Power set 12

#### Power control: 2TX

IEEE 802.11b Channel Low (2412MHz) Chain0/Chain1 Power set 13
IEEE 802.11b Channel Mid (2437MHz) Chain0/Chain1 Power set 12.5
IEEE 802.11b Channel High (2462MHz) Chain0/Chain1 Power set 14
IEEE 802.11g Channel Low (2412MHz) Chain0/Chain1 Power set 9.5
IEEE 802.11g Channel Mid (2437MHz) Chain0/Chain1 Power set 16
IEEE 802.11g Channel High (2462MHz) Chain0/Chain1 Power set 8.5
IEEE 802.11n HT20 Channel Low (2412MHz) Chain0/Chain1 Power set 10
IEEE 802.11n HT20 Channel Mid (2437MHz) Chain0/Chain1 Power set 16
IEEE 802.11n HT20 Channel High (2462MHz) Chain0/Chain1 Power set 7.5
IEEE 802.11n HT40 Channel Low (2422MHz) Chain0/Chain1 Power set 1
IEEE 802.11n HT40 Channel Mid (2437MHz) Chain0/Chain1 Power set 9.5

IEEE 802.11n HT40 Channel High (2452MHz) Chain0/Chain1 Power set 5

- 3. All of the functions are under run.
- 4. Start test.

#### Bluetooth 4.0

- 1. EUT & peripherals setup diagram is shown in appendix setup photos.
- 2. Run "BtUSBTool" Software to test
- 3. PACKET TRANSMIT (TX Mode)

Freq: 2402, 2440, 2480

Power Setting : Default

- 4. All of the functions are under run.
- 5. Start test

## 7. FCC PART 15.247 REQUIREMENTS

#### 7.1 6dB BANDWIDTH

#### **LIMITS**

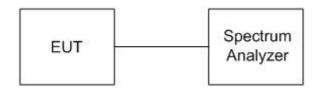
§ 15.247(a) (2) For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

#### **TEST EQUIPMENT**

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360132	06/10/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

#### **TEST SETUP**



#### **TEST PROCEDURE**

- 1. The transmitter output was connected to a spectrum analyzer.
- 2. Set RBW = 100 kHz.
- 3. Set the video bandwidth (VBW)  $\geq$  3 x RBW.
- 4. Detector = Peak.
- 5. Trace mode = max hold.
- 6. Sweep = auto couple.
- 7. Allow the trace to stabilize.
- 8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

## **TEST RESULTS**

**IEEE 802.11b Mode (1TX)** 

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz) Chain 0	Minimum Limit (kHz) Pass / F	
Low	2412	10.075	500	PASS
Middle	2437	10.080	500	PASS
High	2462	10.070	500	PASS

**IEEE 802.11g Mode (1TX)** 

Channel	Channel Frequency	6dB Bandwidth (MHz)	Minimum Limit	Pass / Fail	
	(MHz)	Chain 0	(kHz)		
Low	2412	16.110	500	PASS	
Middle	2437	16.350	500	PASS	
High	2462	16.365	500	PASS	

IEEE 802.11an HT20 Mode (1TX)

Channel	Channel Frequency	6dB Bandwidth (MHz)	Minimum Limit	Pass / Fail		
	(MHz)	Chain 0	(kHz)			
Low	2412	17.140	500	PASS		
Middle	2437	17.560	500	PASS		
High	2462	17.300	500	PASS		

IEEE 802.11gn HT40 Mode (1TX)

Channel	Channel Frequency	6dB Bandwidth (MHz)	Minimum Limit	Pass / Fail
	(MHz)	Chain 0	(kHz)	
Low	2422	36.105	500	PASS
Middle	2437	36.095	500	PASS
High	2452	36.330	500	PASS



## **Bluetooth 4.0 Mode**

Channel	Channel Frequency (MHz)	6dB Bandwidth (kHz)	Minimum Limit (kHz)	Pass / Fail
Low	2402	653.4	500	PASS
Middle	2440	648.3	500	PASS
High	2480	658.5	500	PASS

**IEEE 802.11b Mode (2TX)** 

Channel	Channel 6dB Bandwidth nnel Frequency (MHz)			Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(kHz)	
Low	2412	10.070	10.055	500	PASS
Middle	2437	10.070	10.070	500	PASS
High	2462	10.055	10.080	500	PASS

**IEEE 802.11g Mode (2TX)** 

Channel	Channel Frequency	6dB Bandwidth (MHz)		Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(kHz)	
Low	2412	16.335	16.375	500	PASS
Middle	2437	16.320	16.365	500	PASS
High	2462	16.340	16.355	500	PASS

IEEE 802.11qn HT20 Mode (2TX)

Channel	Channel Frequency	6dB Bandwidth (MHz)		Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(kHz)	
Low	2412	17.270	17.570	500	PASS
Middle	2437	17.550	17.550	500	PASS
High	2462	17.365	17.340	500	PASS

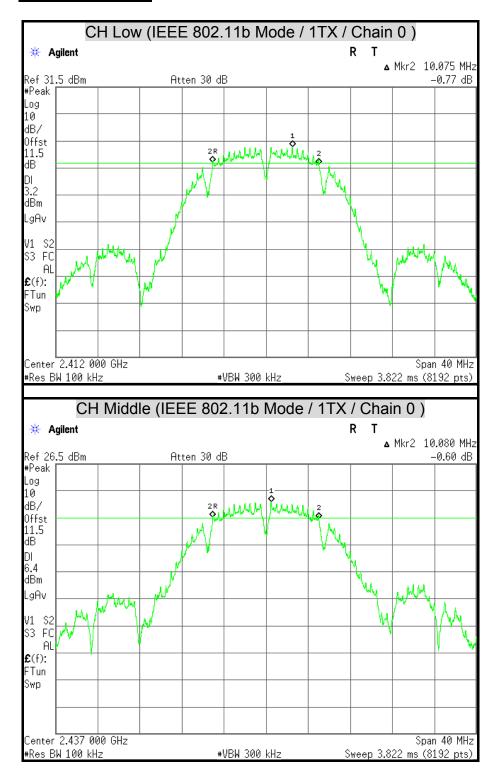
IEEE 802.11qn HT40 Mode (2TX)

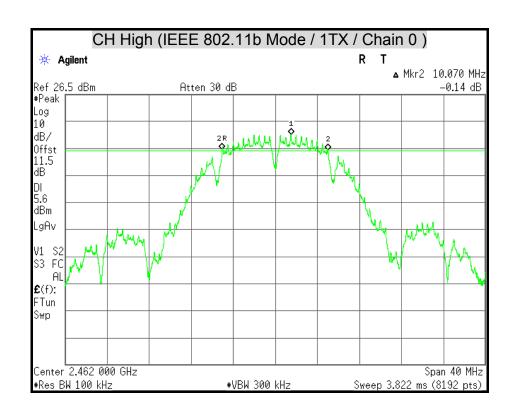
Channel	Channel Frequency	6dB Bandwidth (MHz)		Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(kHz)	
Low	2422	35.765	36.340	500	PASS
Middle	2437	36.300	36.340	500	PASS
High	2452	36.360	36.340	500	PASS

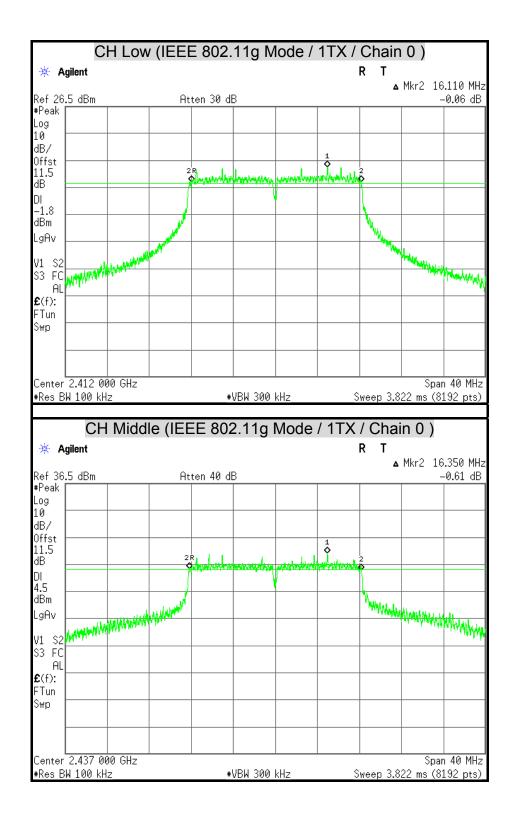
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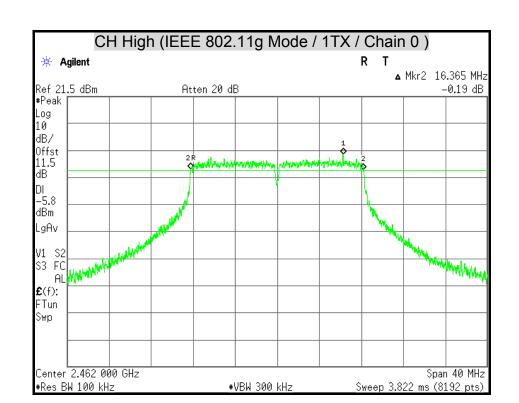
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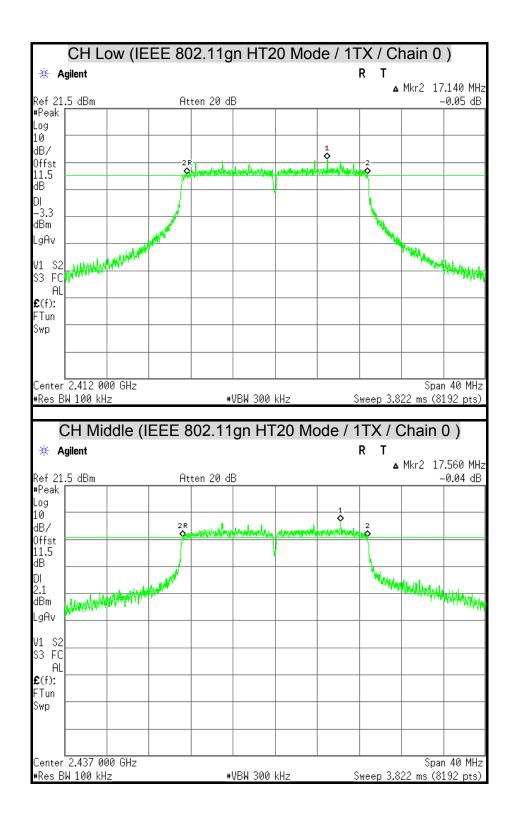
#### **6dB BANDWIDTH**

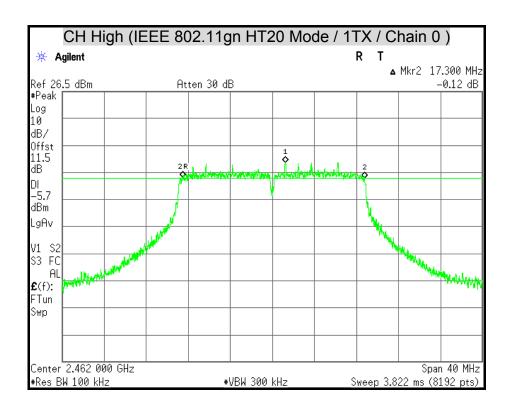


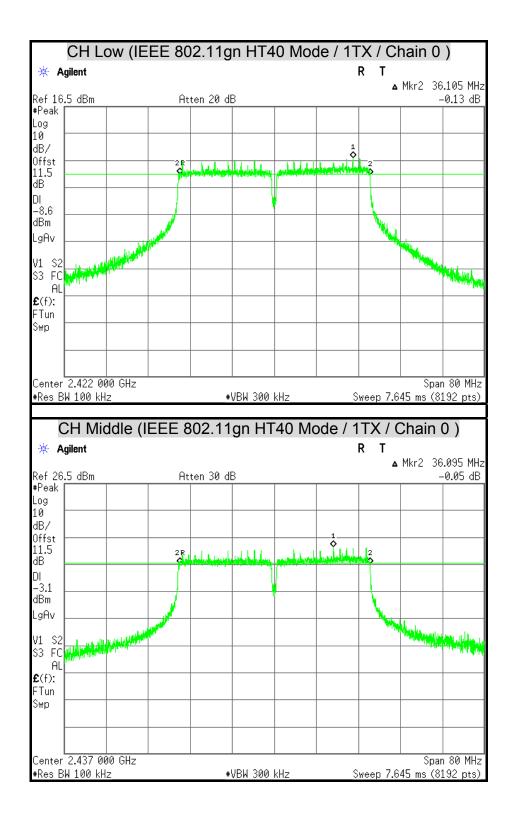


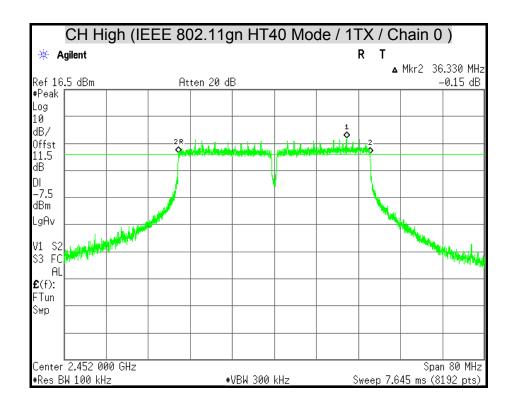




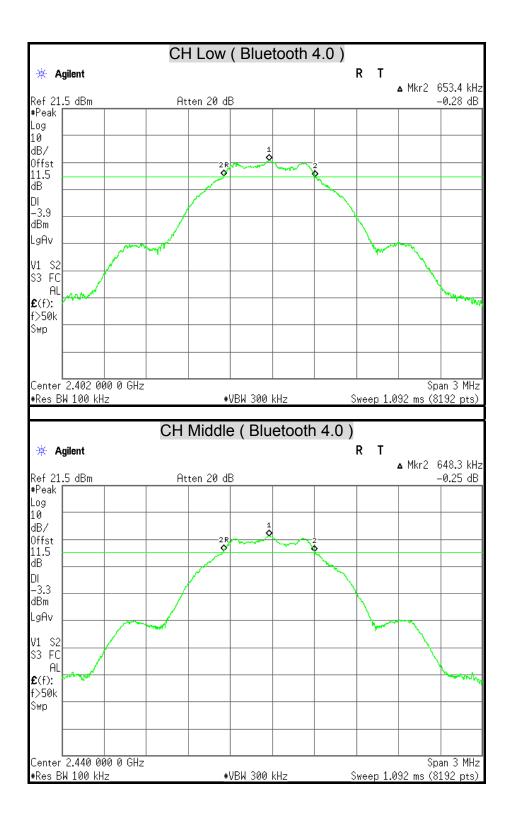


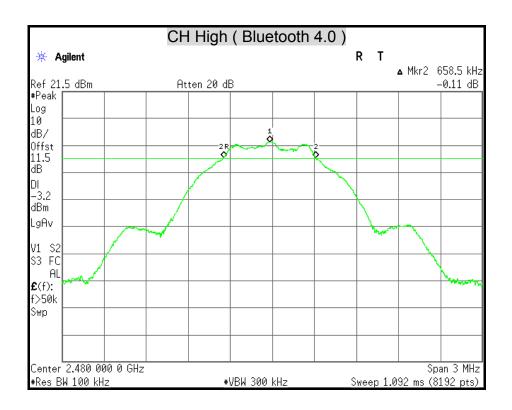


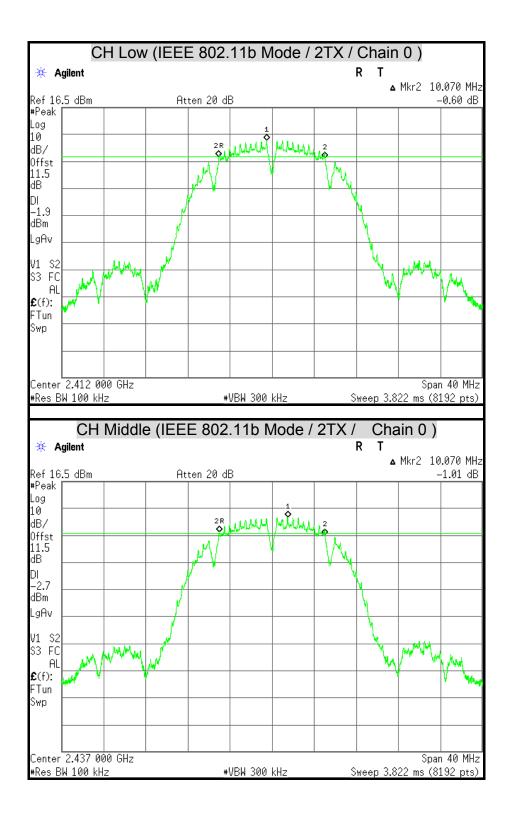


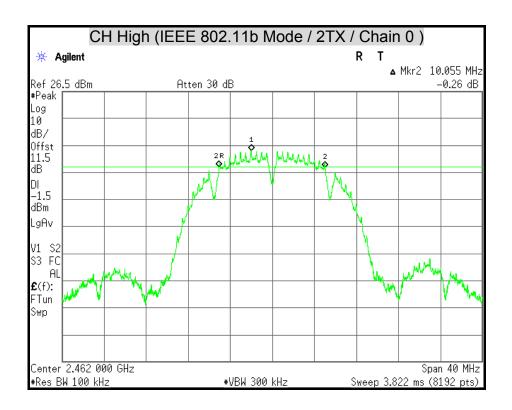


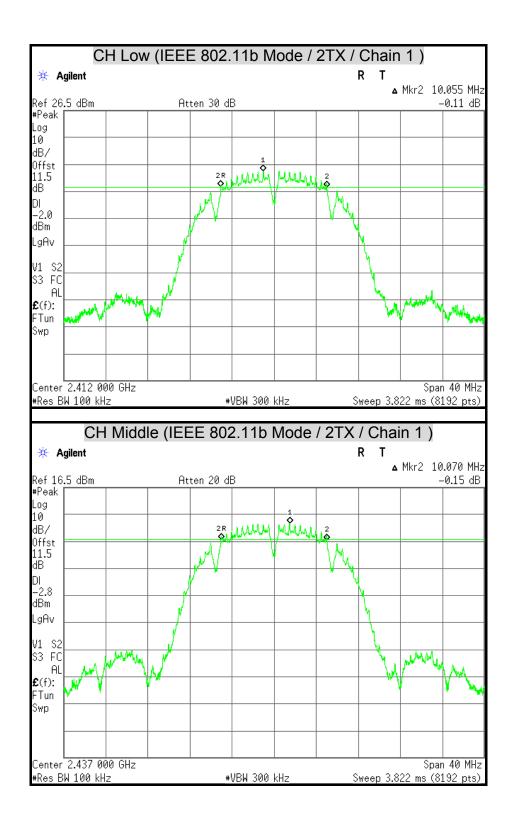


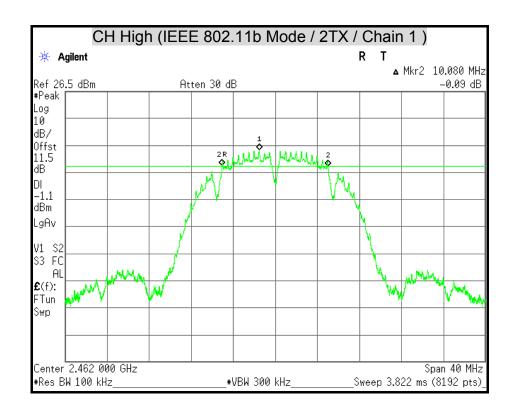


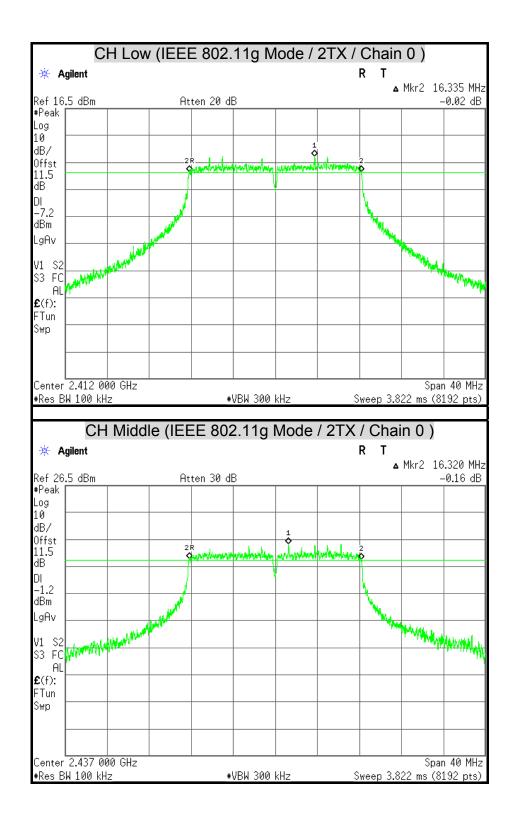


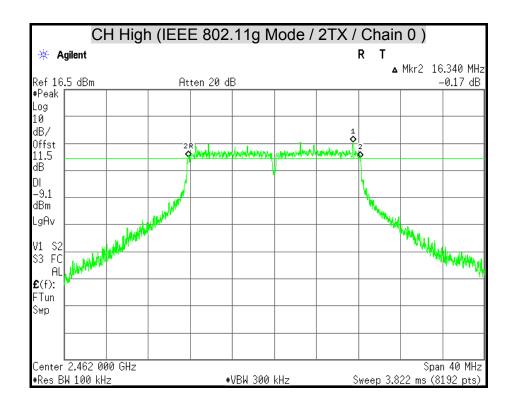




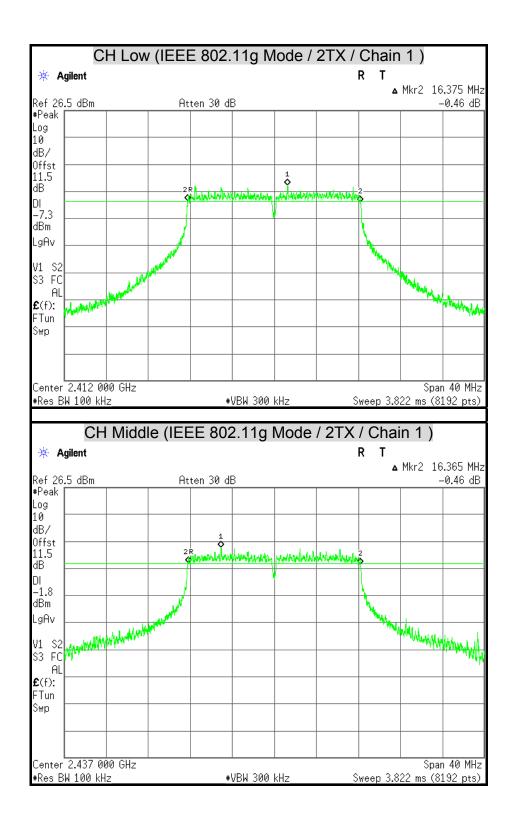


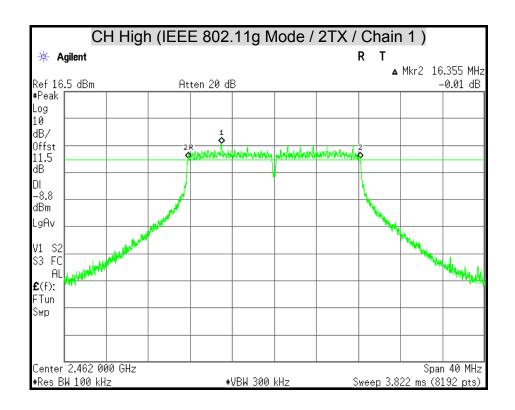


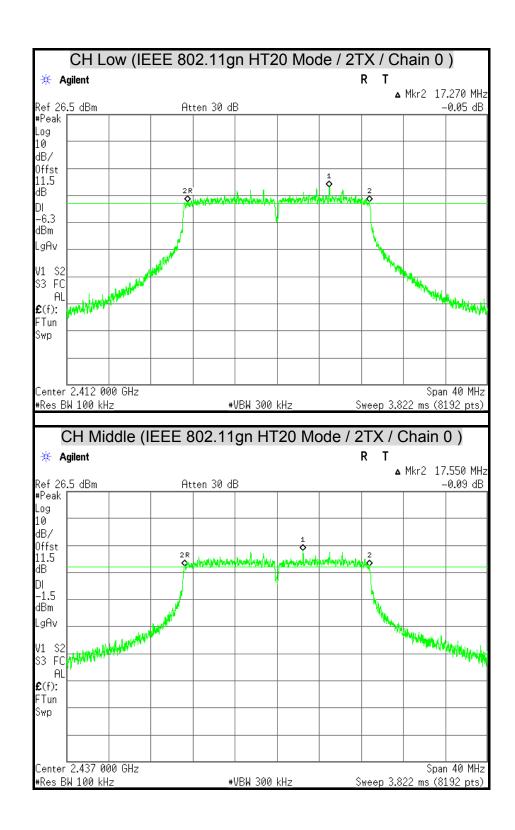


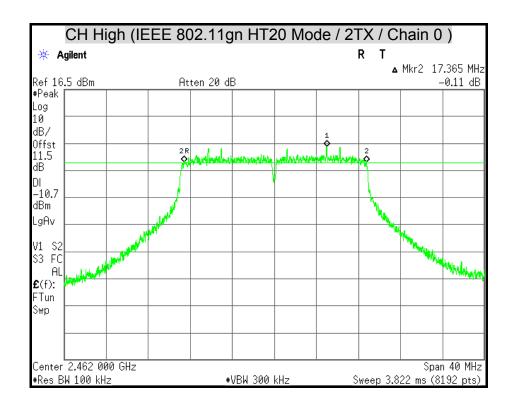


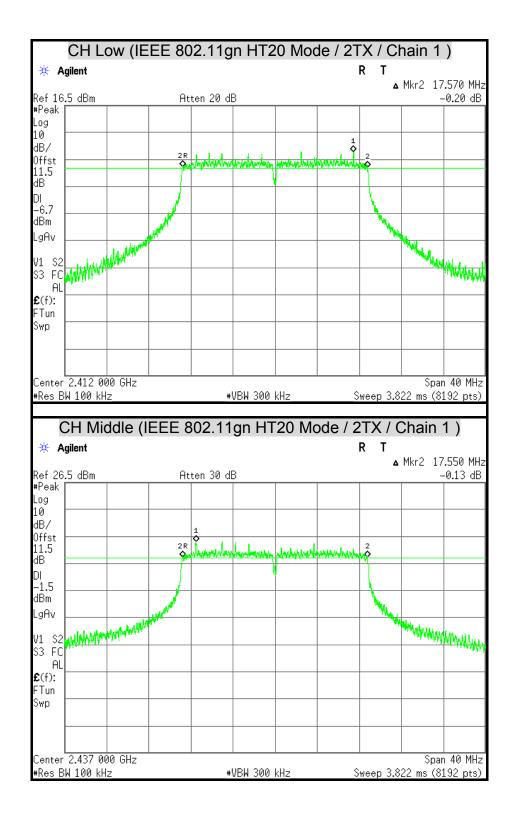
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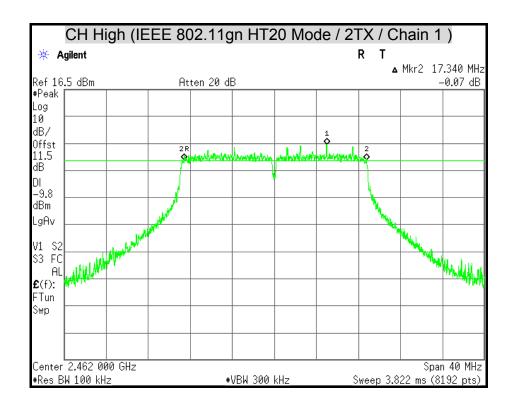




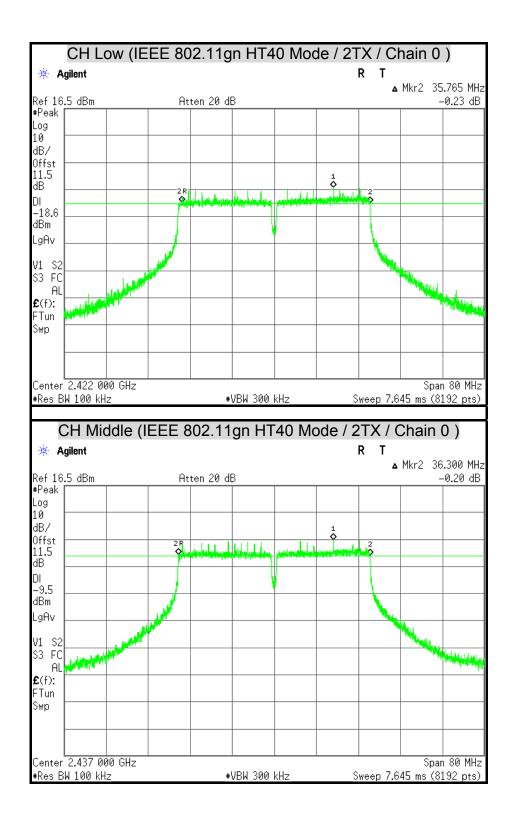


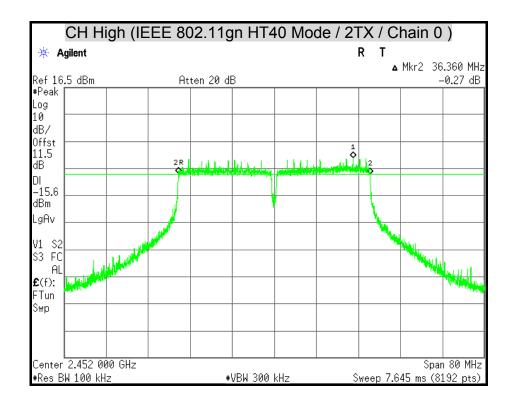




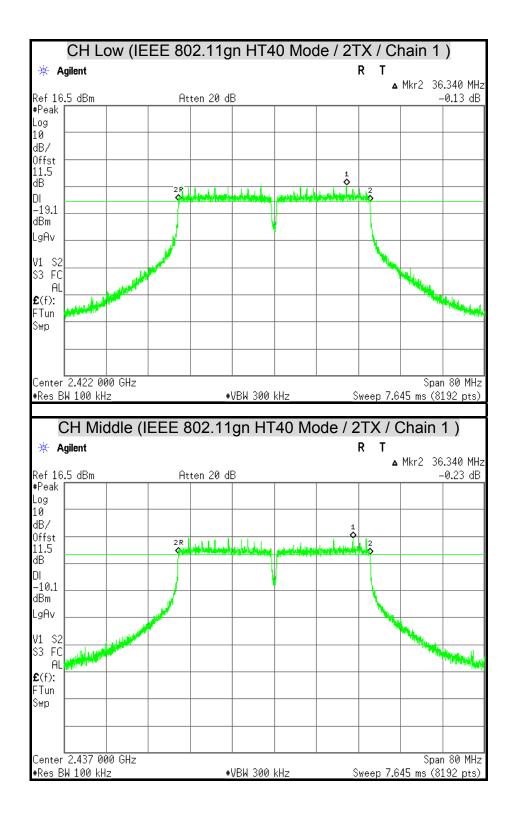


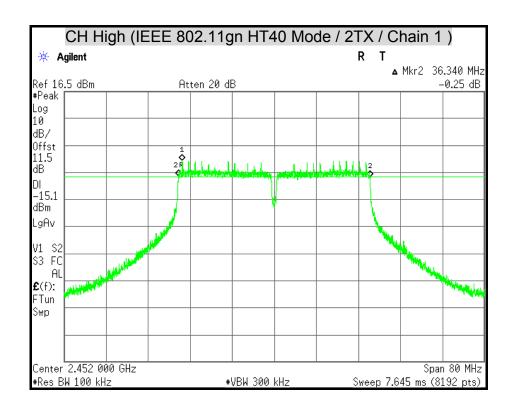






FCC ID : M82-TREK570LTE





# 7.2 MAXIMUM PEAK OUTPUT POWER

## **LIMITS**

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following :

§ 15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands : 1 watt.

§ 15.247(b) (4) Except as shown in paragraphs (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§ KDB 662911 : For power measurements on IEEE 802.11 devices

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \le 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N<sub>ANT</sub>;

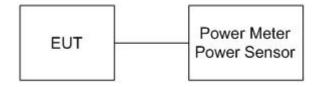
Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \ge 5$ .

## **TEST EQUIPMENT**

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Power Meter	Anritsu	ML2495A	1149001	12/11/2015
Power Sensor	Anritsu	MA2411B	1126148	12/11/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

## **TEST SETUP**



# **TEST PROCEDURE**

The transmitter output is connected to the power meter. The power meter is set to the peak power detection.

# **TEST RESULTS**

**IEEE 802.11b Mode (1TX)** 

Channel	Channel Frequency	Peak Power Chain 0		Peak Pov	Pass / Fail	
	(MHz)	(dBm)	(W)	(dBm)	(W)	
Low	2412	20.53	0.1130	30	1	PASS
Middle	2437	23.64	0.2312	30	1	PASS
High	2462	22.66	0.1845	30	1	PASS

### Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

**IEEE 802.11g Mode (1TX)** 

Channel	Channel Frequency	Peak Power Chain 0		Peak Pov	wer Limit	Pass / Fail
	(MHz)	(dBm)	(W)	(dBm)	(W)	
Low	2412	23.17	0.2075	30	1	PASS
Middle	2437	26.19	0.4159	30	1	PASS
High	2462	20.41	0.1099	30	1	PASS

## Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

**IEEE 802.11gn HT20 Mode (1TX)** 

Channel	Channel Frequency	Peak Power Chain 0		Peak Pov	Pass / Fail	
	(MHz)	(dBm)	(W)	(dBm)	(W)	
Low	2412	22.10	0.1622	30	1	PASS
Middle	2437	25.68	0.3698	30	1	PASS
High	2462	19.62	0.0916	30	1	PASS

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

# IEEE 802.11gn HT40 Mode (1TX)

Channel	Channel Frequency	Peak Power Chain 0		Peak Pov	wer Limit	Pass / Fail
	(MHz)	(dBm)	(W)	(dBm)	(W)	
Low	2422	19.26	0.0843	30	1	PASS
Middle	2437	23.87	0.2438	30	1	PASS
High	2452	20.47	0.1114	30	1	PASS

#### Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

## **Bluetooth 4.0 Mode**

Channel	Channel Frequency	Peak Power		Peak Pov	Pass / Fail	
Ondinio	(MHz)	(dBm)	(W)	(dBm)	(W)	1 455 / 1 411
Low	2402	2.11	0.0016	30	1	PASS
Middle	2440	2.68	0.0019	30	1	PASS
High	2480	2.90	0.0019	30	1	PASS

**Remark:** The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

# **IEEE 802.11b Mode (2TX)**

Channel	Channel Frequency	Peak Power (dBm)		Peak Power Total		Peak Power Limit		Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	1 400 / 1 4.11
Low	2412	15.41	15.45	18.44	0.0698	30	1	PASS
Middle	2437	14.52	14.42	17.48	0.0560	30	1	PASS
High	2462	15.83	15.59	18.72	0.0745	30	1	PASS

### Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for  $N_{ANT} \le 4$ , power limit do not reduce.
- 4. Total power = Chain 0 + Chain 1.

# **IEEE 802.11g Mode (2TX)**

Channel	Channel Frequency	/45	Power 3m)		Power otal		Power mit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	1 400 / 1 4.11
Low	2412	17.80	18.50	21.17	0.1309	30	1	PASS
Middle	2437	23.01	22.92	25.98	0.3963	30	1	PASS
High	2462	16.58	18.83	20.86	0.1219	30	1	PASS

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for  $N_{ANT} \le 4$ , power limit do not reduce.
- 4. Total power = Chain 0 + Chain 1.

IEEE 802.11gn HT20 Mode (2TX)

Channel	Channel Frequency	Peak Power (dBm)		Peak Power Total		Peak Power Limit		Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	1 400 / 1 411
Low	2412	18.14	19.12	21.67	0.1469	30	1	PASS
Middle	2437	23.32	23.85	26.60	0.4571	30	1	PASS
High	2462	15.90	15.64	18.78	0.0755	30	1	PASS

## Remark:

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for  $N_{ANT} \le 4$ , power limit do not reduce.
- 4. Total power = Chain 0 + Chain 1.

IEEE 802.11gn HT40 Mode (2TX)

Channel	Channel Frequency	Peak Power (dBm)		Peak Power Total		Peak Power Limit		Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	1 455 / 1 4.11
Low	2422	9.75	8.46	12.16	0.0164	30	1	PASS
Middle	2437	17.39	18.90	21.22	0.1324	30	1	PASS
High	2452	12.75	15.29	17.21	0.0526	30	1	PASS

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 10.5dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for  $N_{ANT} \le 4$ , power limit do not reduce.
- 4. Total power = Chain 0 + Chain 1.

# 7.3 AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST EQUIPMENT**

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Power Meter	ANRITSU	ML2495A	1149001	12/11/2015
Power Sensor	ANRITSU	MA2411B	1126148	12/11/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

# **TEST SETUP**



# **TEST PROCEDURE**

The transmitter output is connected to the power meter. The power meter is set to the average power detection.

# **TEST RESULTS**

**IEEE 802.11b Mode (1TX)** 

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain 0
Low	2412	18.40
Middle	2437	21.71
High	2462	20.67

#### Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

**IEEE 802.11g Mode (1TX)** 

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain 0
Low	2412	15.11
Middle	2437	21.27
High	2462	11.99

#### Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

IEEE 802.11gn HT20 Mode (1TX)

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain 0
Low	2412	13.80
Middle	2437	19.62
High	2462	11.40

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

IEEE 802.11gn HT40 Mode (1TX)

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain 0
Low	2422	11.09
Middle	2437	16.46
High	2452	12.34

#### Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

### **Bluetooth 4.0 Mode**

Channel	Channel Frequency (MHz)	Average Power (dBm)
Low	2402	1.84
Middle	2440	2.46
High	2480	2.61

**Remark:** The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

FCC ID: M82-TREK570LTE

Report No.: T140912L01-RP1

**IEEE 802.11b Mode (2TX)** 

Channel	Channel Frequency (MHz)	Average (dE	e Power Bm)
	(1411 12)	Chain 0	Chain 1
Low	2412	13.25	13.32
Middle	2437	12.33	12.27
High	2462	13.69	13.73

#### Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

**IEEE 802.11a Mode (2TX)** 

Channel	Channel Frequency (MHz)	Average Power (dBm)	
	(IVITIZ)	Chain 0	Chain 1
Low	2412	9.92	10.10
Middle	2437	15.68	15.53
High	2462	7.92	11.22

### Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

IEEE 802.11gn HT20 Mode (2TX)

Channel	Channel Frequency (MHz)	Average Power (dBm)	
	(1411 12)	Chain 0	Chain 1
Low	2412	10.32	10.63
Middle	2437	15.65	15.90
High	2462	7.03	7.09

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.



IEEE 802.11gn HT40 Mode (2TX)

Channel	Channel Frequency	Average Power (dBm)	
	(MHz)	Chain 0	Chain 1
Low	2422	1.17	1.05
Middle	2437	9.85	9.82
High	2452	4.63	6.67

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was Entered as an offset in the power meter to allow for direct reading of power.

# 7.4 POWER SPECTRAL DENSITY

# **LIMITS**

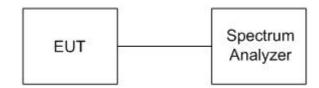
§ 15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

## **TEST EQUIPMENT**

Name of Equipment Manufacturer		Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360132	06/10/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

## **TEST SETUP**



## **TEST PROCEDURE**

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. Set analyzer center frequency to DTS channel center frequency.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- 5. Set the VBW  $\geq$  3 x RBW.
- 6. Detector = peak.
- 7. Sweep time = auto couple.
- 8. Trace mode = max hold.
- 9. Allow trace to fully stabilize.
- 10. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

# **TEST RESULTS**

**IEEE 802.11b Mode (1TX)** 

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain 0	Minimum Limit (dBm)	Pass / Fail
Low	2412	-3.83	8	PASS
Middle	2437	-1.98	8	PASS
High	2462	-3.18	8	PASS

### Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

**IEEE 802.11g Mode (1TX)** 

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain 0	Minimum Limit (dBm)	Pass / Fail
Low	2412	-10.42	8	PASS
Middle	2437	-3.99	8	PASS
High	2462	-11.76	8	PASS

### Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

**IEEE 802.11gn HT20 Mode (1TX)** 

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain 0	Minimum Limit (dBm)	Pass / Fail
Low	2412	-11.50	8	PASS
Middle	2437	-6.45	8	PASS
High	2462	-13.99	8	PASS

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

**IEEE 802.11gn HT40 Mode (1TX)** 

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain 0	Minimum Limit (dBm)	Pass / Fail
Low	2422	-17.71	8	PASS
Middle	2437	-12.22	8	PASS
High	2452	-15.51	8	PASS

#### Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

### Bluetooth 4.0 Mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail	
Low	2402	-7.51	8	PASS	
Middle	2440	-6.92	8	PASS	
High	2480	-6.81	8	PASS	

**Remark:** The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

**IEEE 802.11b Mode (2TX)** 

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail
		Chain 0	Chain 1	(dBm)	(dBm)	
Low	2412	-8.86	-9.35	-6.09	6.47	PASS
Middle	2437	-10.40	-10.37	-7.37	6.47	PASS
High	2462	-9.43	-8.84	-6.11	6.47	PASS

## Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain for the MIMO mode is 7.53 dBi which is more than 6dBi, the limit should be 6.47 dBm.
- 4. Total power spectral density = Chain 0 + Chain 1.

**IEEE 802.11g Mode (2TX)** 

Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(dBm)	
Low	2412	-15.29	-13.59	-11.35	6.47	PASS
Middle	2437	-9.01	-8.77	-5.88	6.47	PASS
High	2462	-16.16	-16.36	-13.25	6.47	PASS

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain for the MIMO mode is 7.53 dBi which is more than 6dBi, the limit should be 6.47 dBm.
- 4. Total power spectral density = Chain 0 + Chain 1.

**IEEE 802.11gn HT20 Mode (2TX)** 

Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(dBm)	
Low	2412	-14.38	-13.60	-10.96	6.47	PASS
Middle	2437	-7.97	-10.02	-5.86	6.47	PASS
High	2462	-19.32	-18.08	-15.65	6.47	PASS

## Remark:

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain for the MIMO mode is 7.53 dBi which is more than 6dBi, the limit should be 6.47 dBm.
- 4. Total power spectral density = Chain 0 + Chain 1.

**IEEE 802.11gn HT40 Mode (2TX)** 

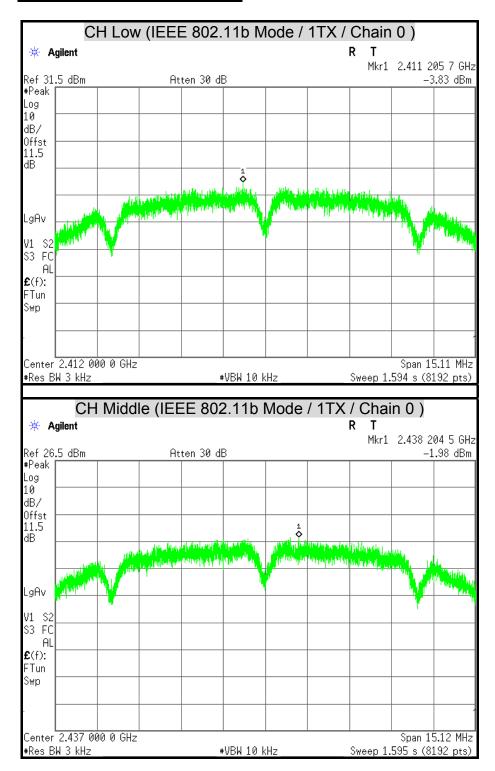
Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail
	(MHz)	Chain 0	Chain 1	(dBm)	(dBm)	
Low	2422	-27.87	-26.36	-24.04	6.47	PASS
Middle	2437	-18.55	-18.48	-15.50	6.47	PASS
High	2452	-24.71	-23.88	-21.26	6.47	PASS

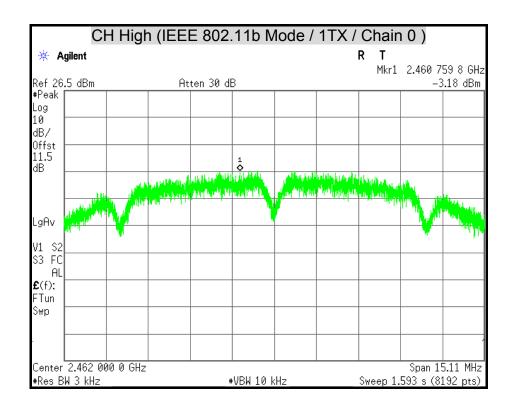
- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain for the MIMO mode is 7.53 dBi which is more than 6dBi, the limit should be 6.47 dBm.
- 4. Total power spectral density = Chain 0 + Chain 1.

FCC ID: M82-TREK570LTE

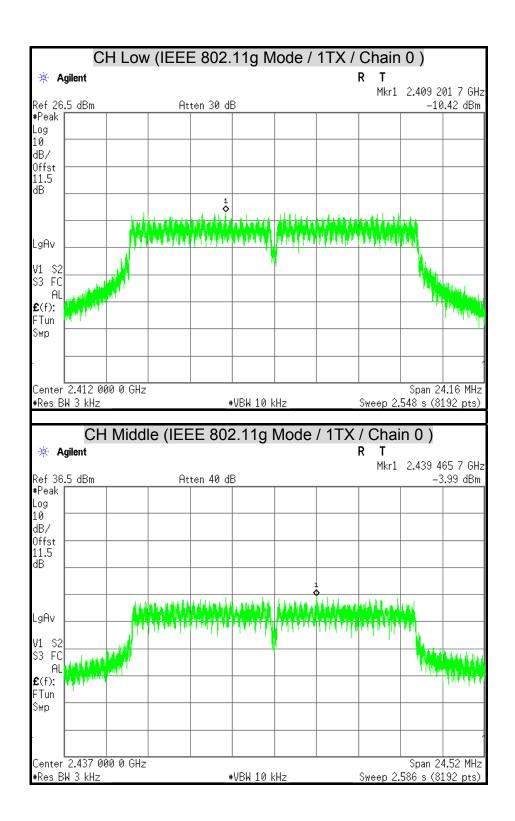
Report No.: T140912L01-RP1

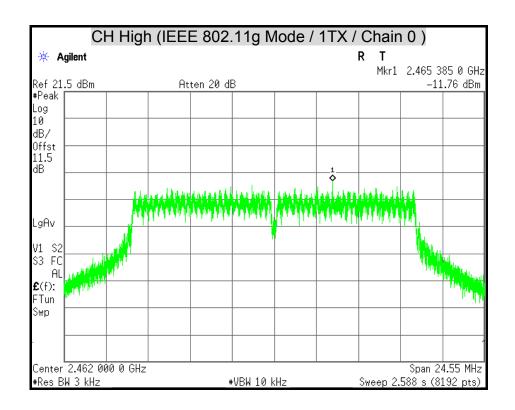
# **POWER SPECTRAL DENSITY**



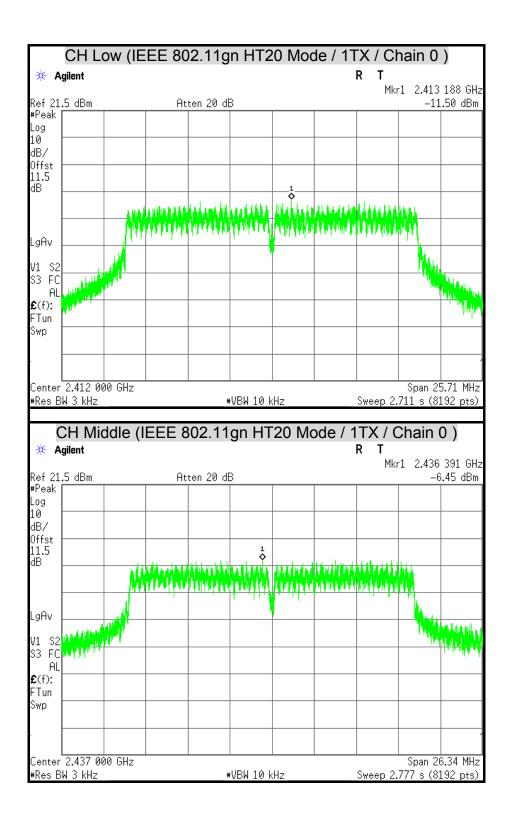


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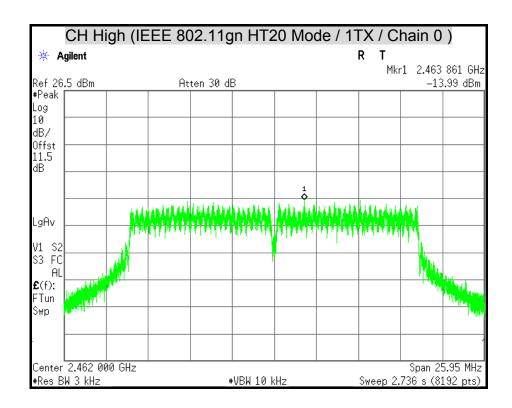


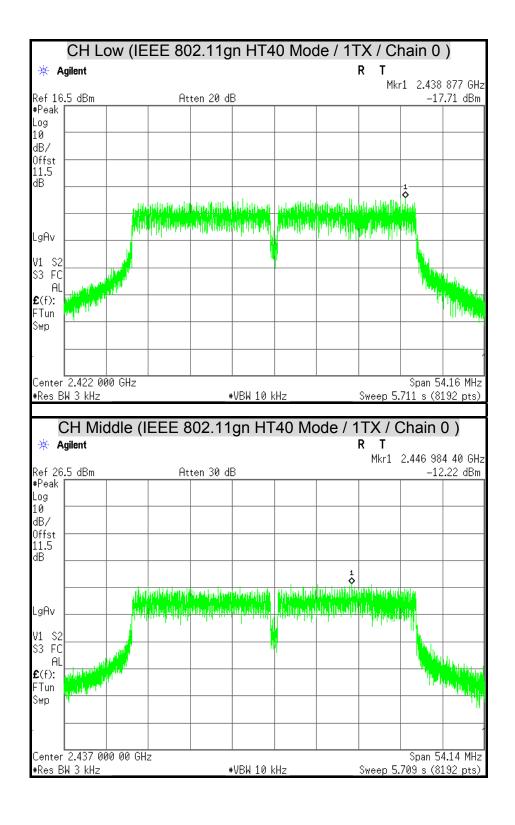


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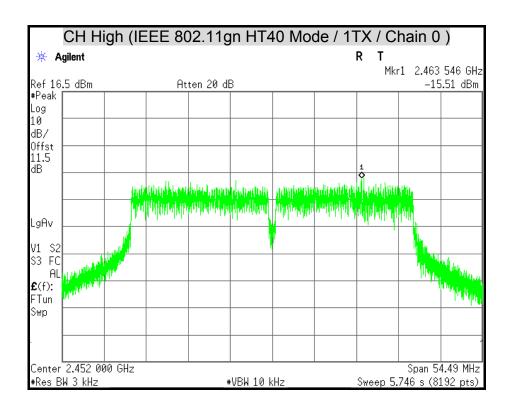


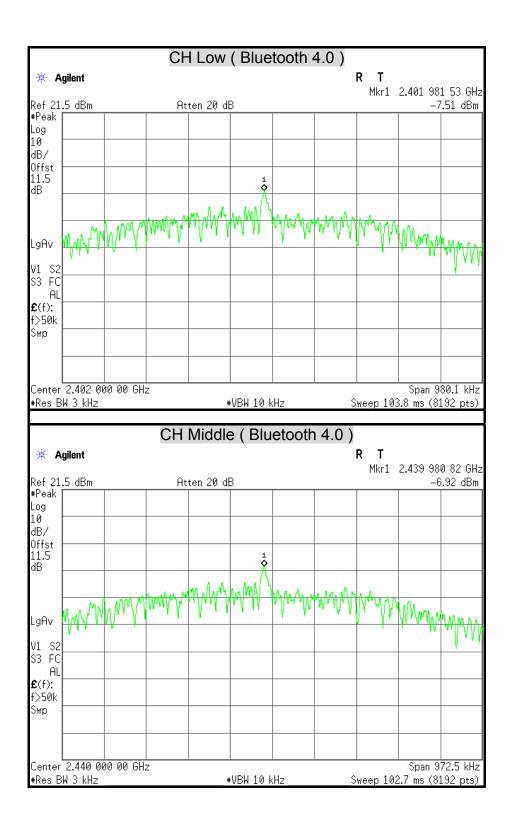
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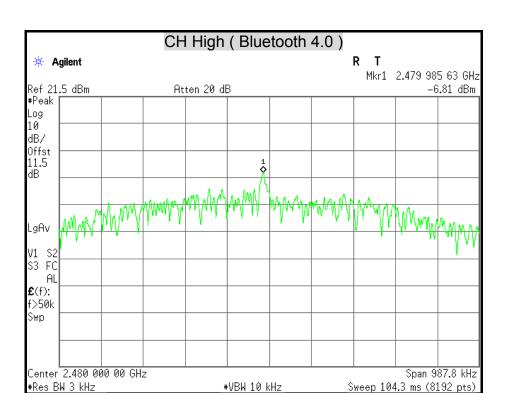


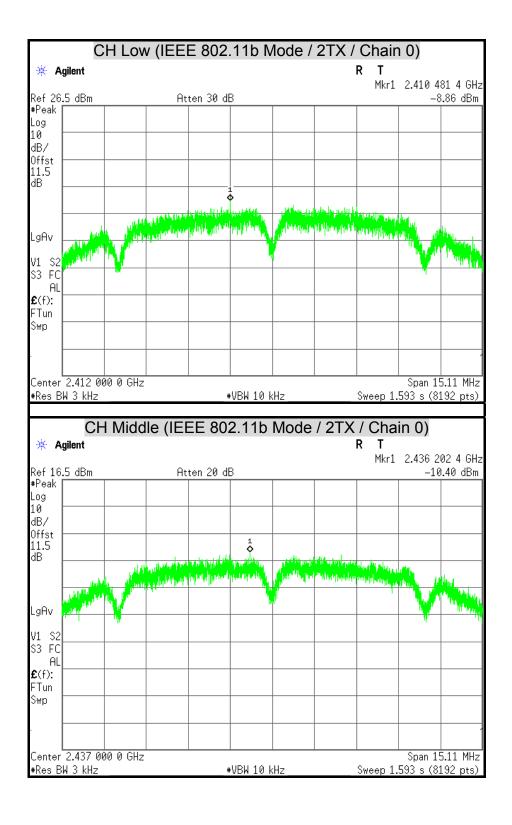


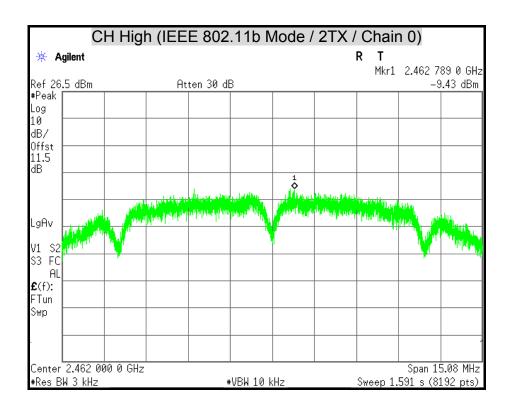
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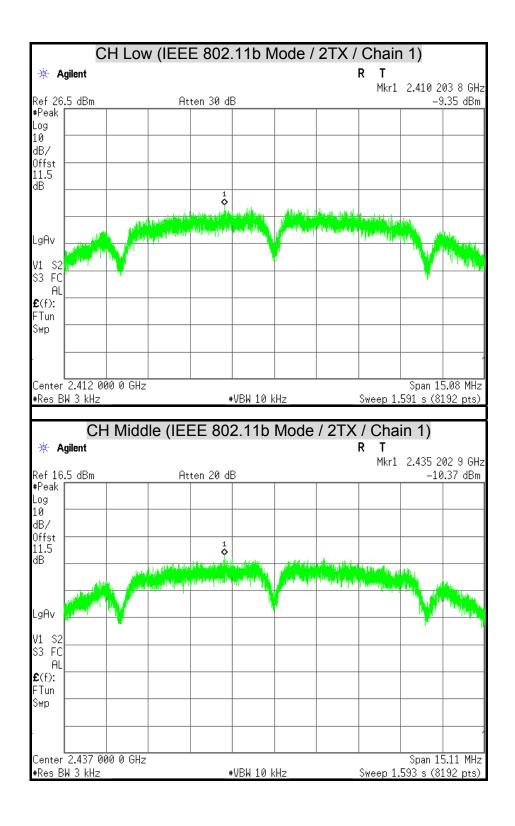


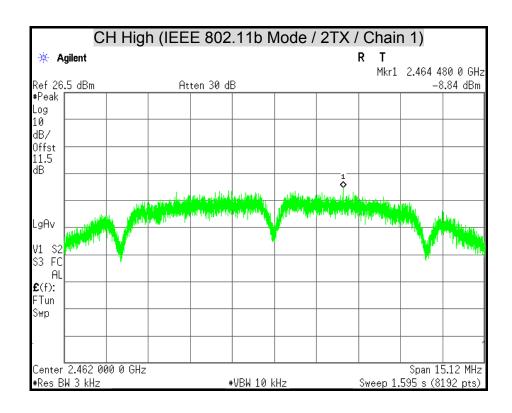


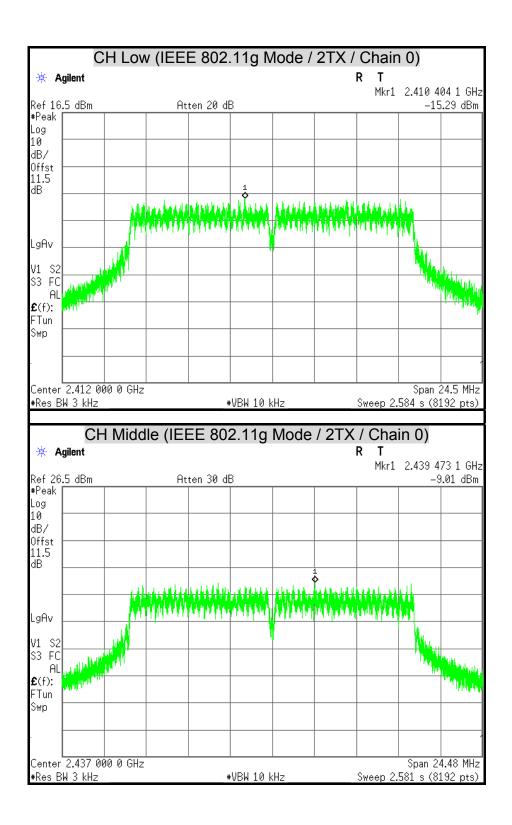


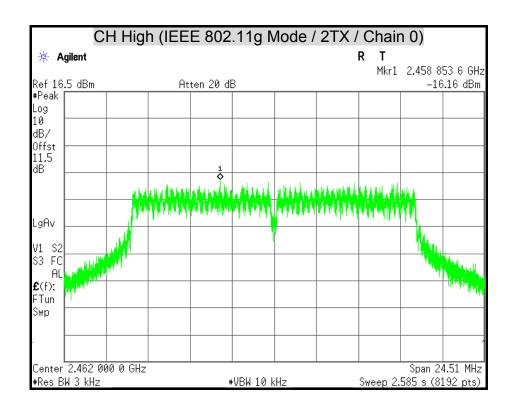


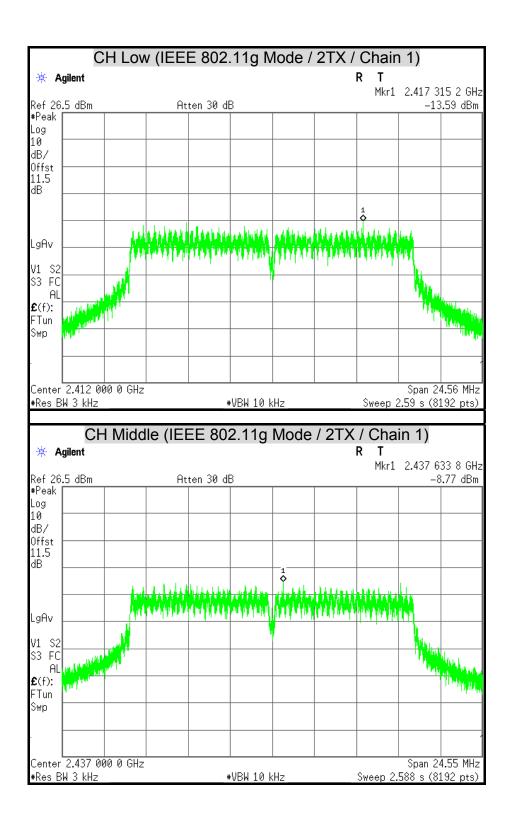


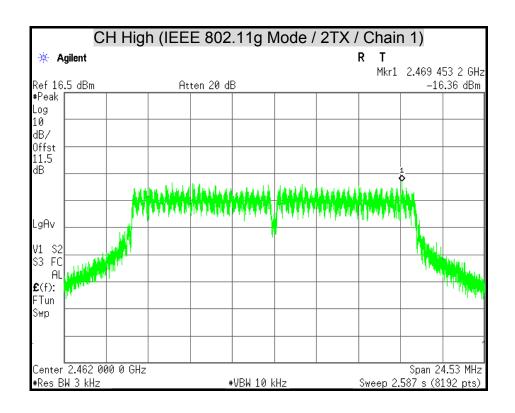


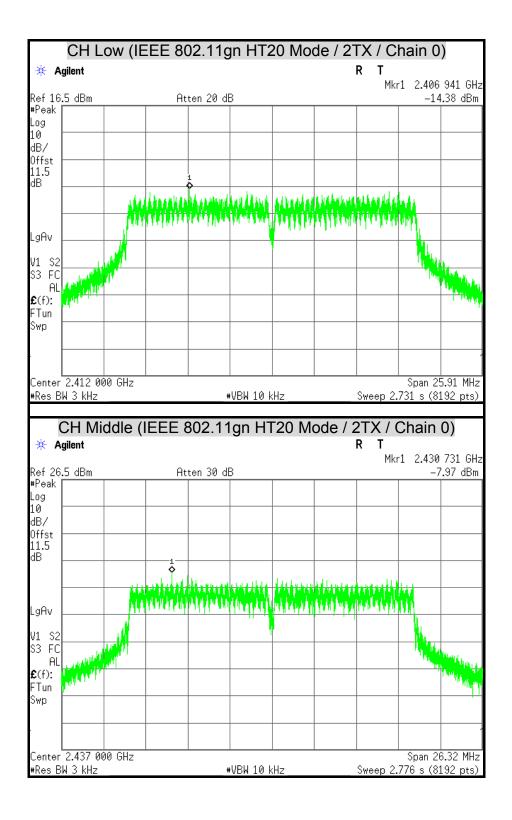


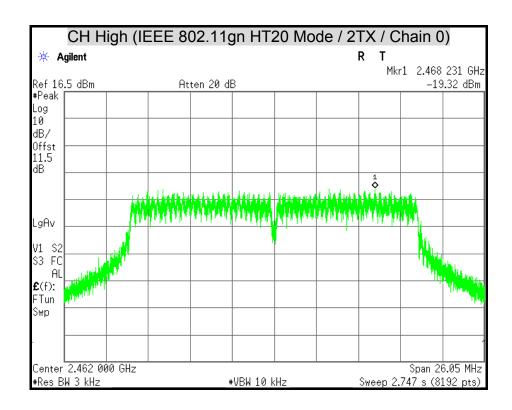


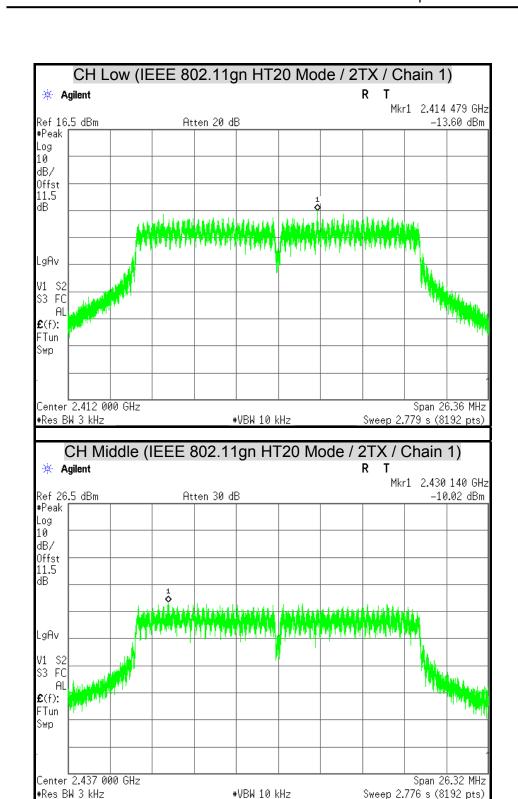


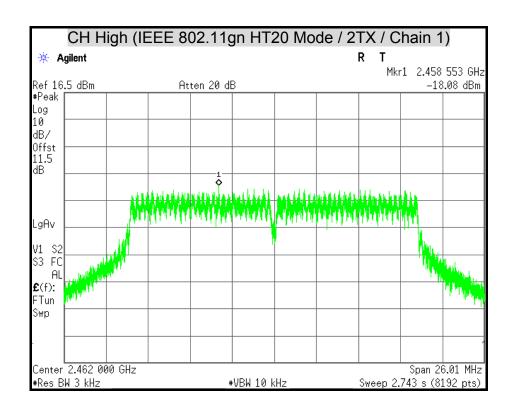


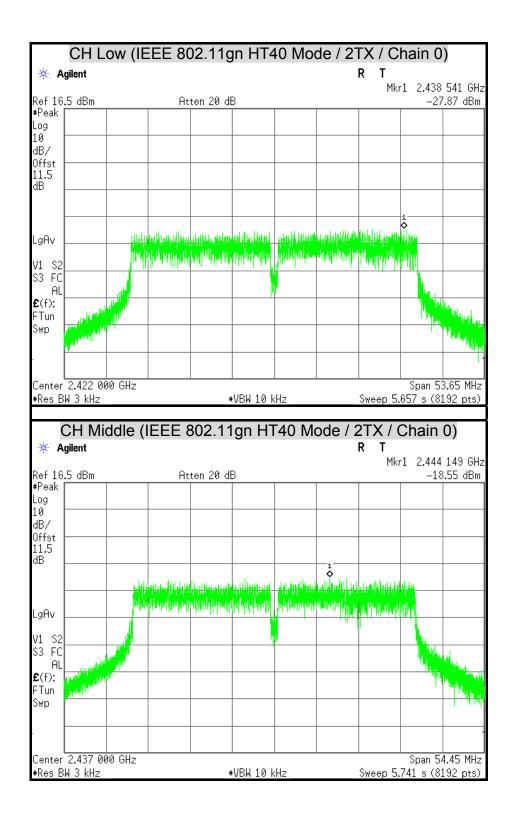


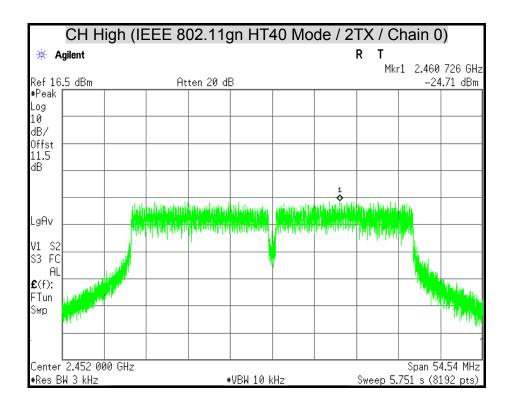


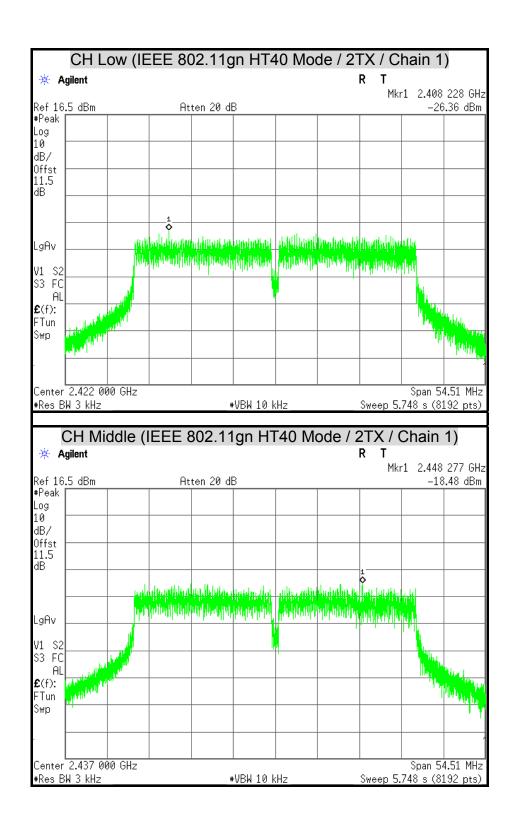


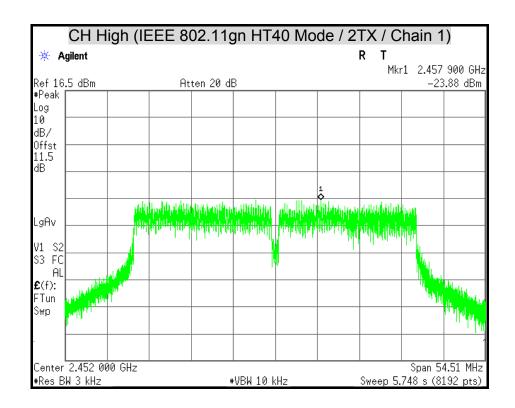












FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

# 7.5 CONDUCTED SPURIOUS EMISSION

### **LIMITS**

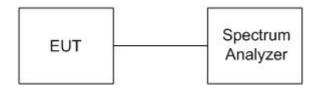
§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

### TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360132	06/10/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

# **TEST SETUP**



## **TEST PROCEDURE**

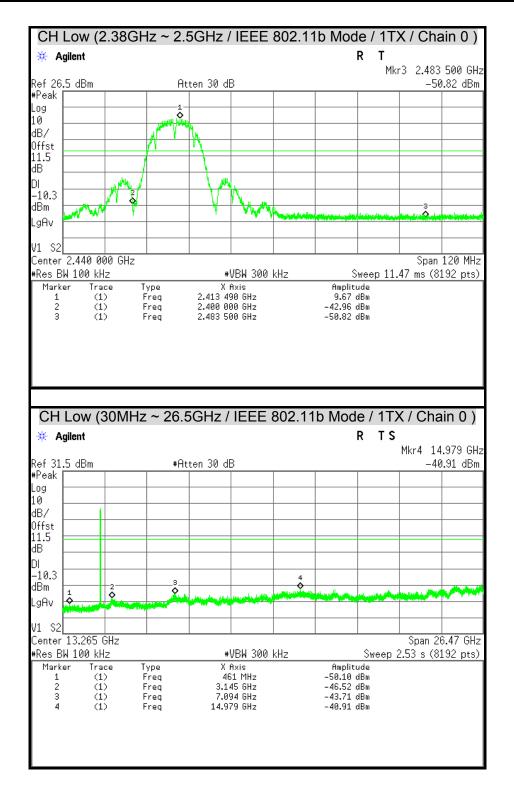
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

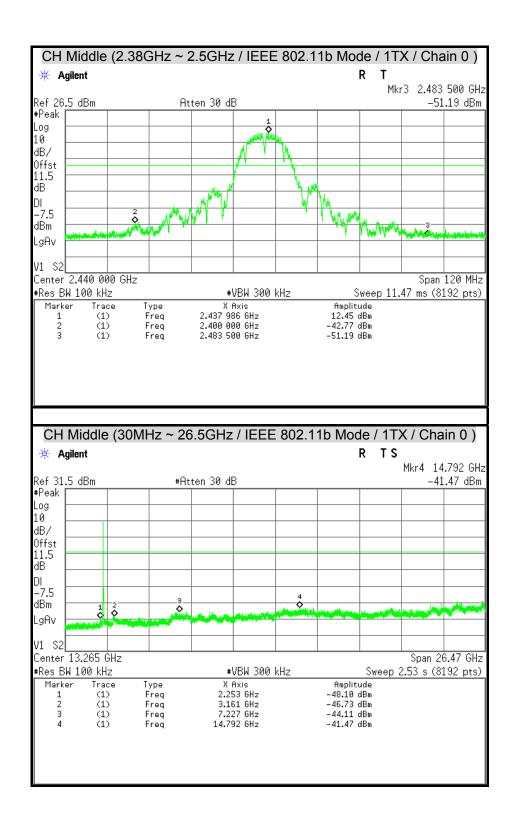
The spectrum from 30 MHz to 26.5 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

CC ID: M82-TREK570LTE Report No.: T140912L01-RP1

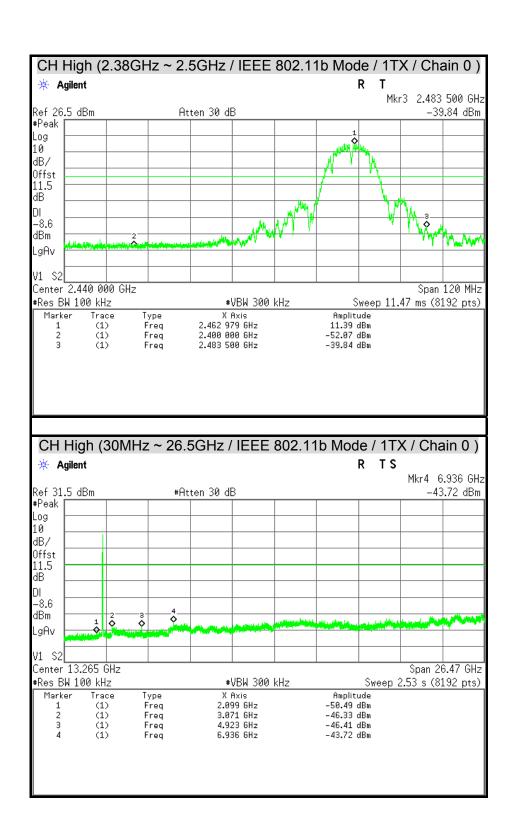
## **TEST RESULTS**

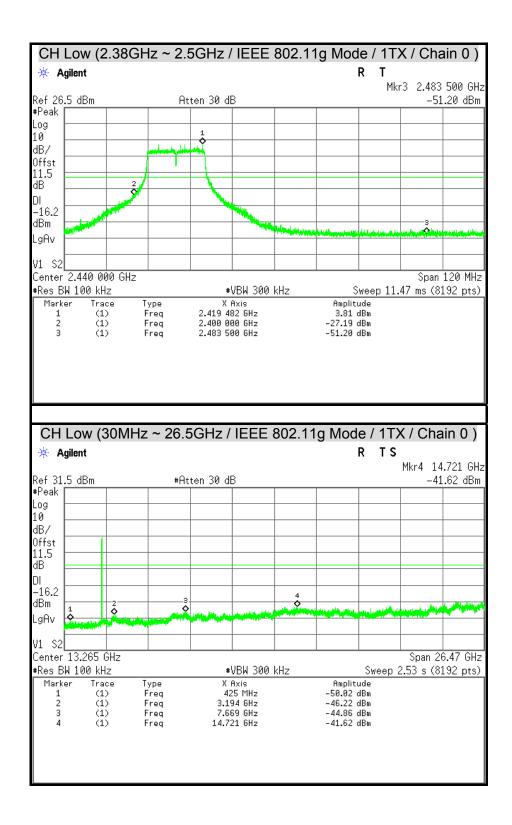
# **OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT**



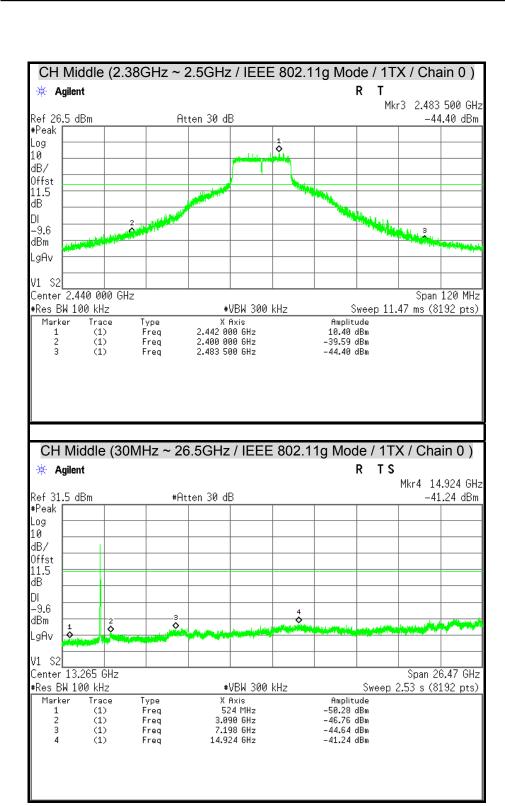


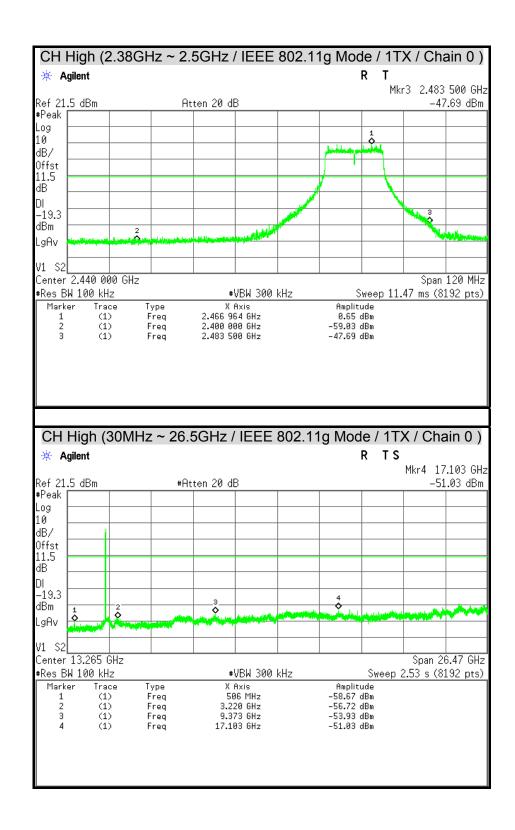


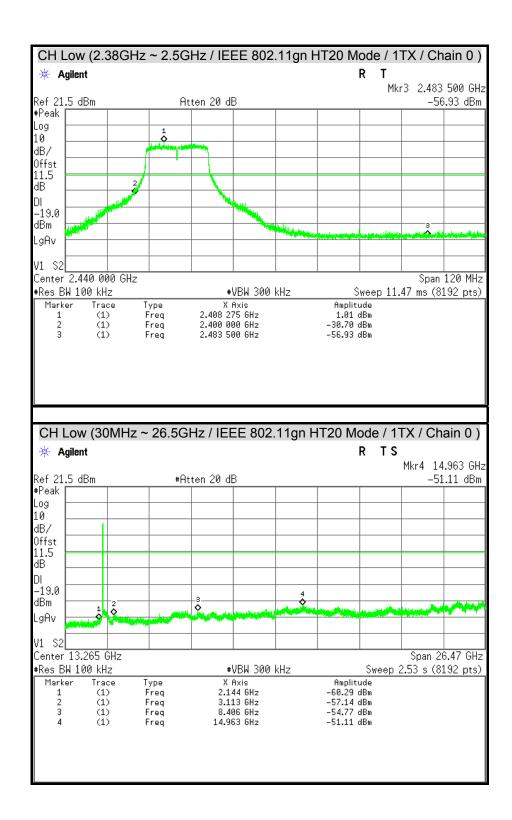


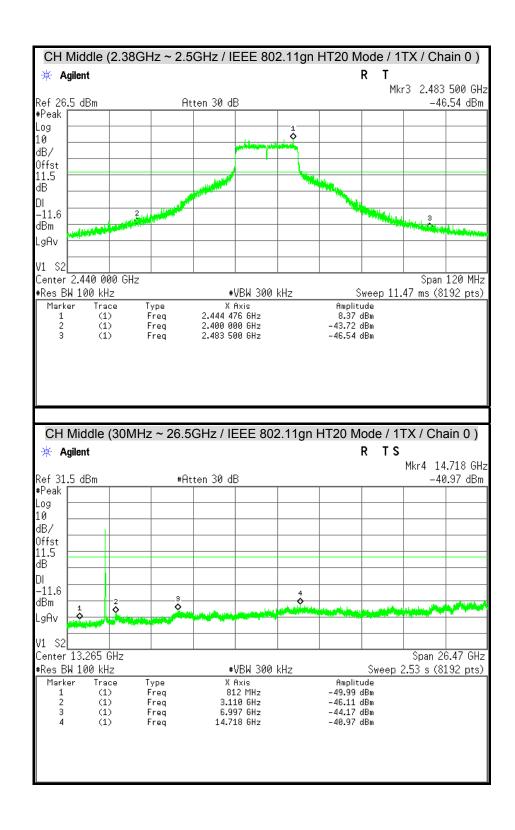


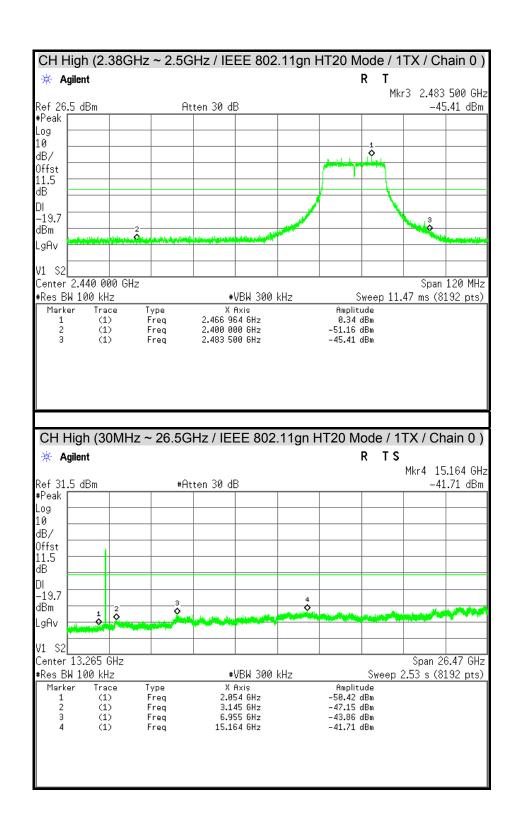


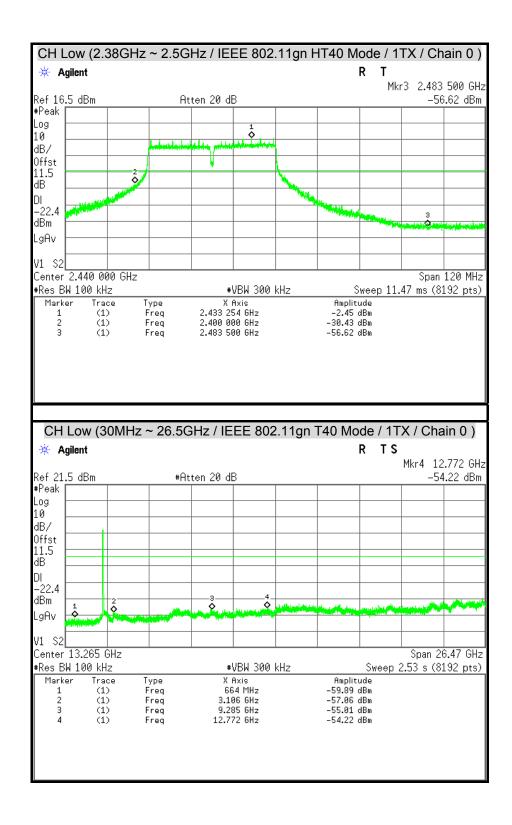


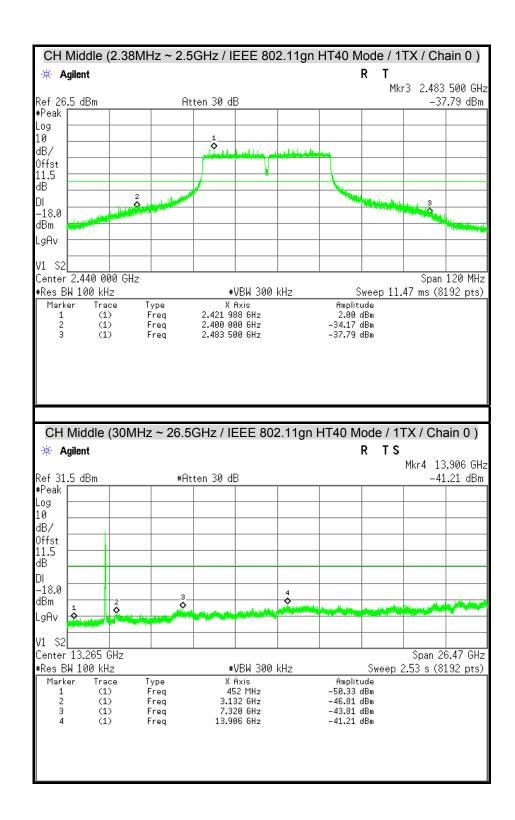


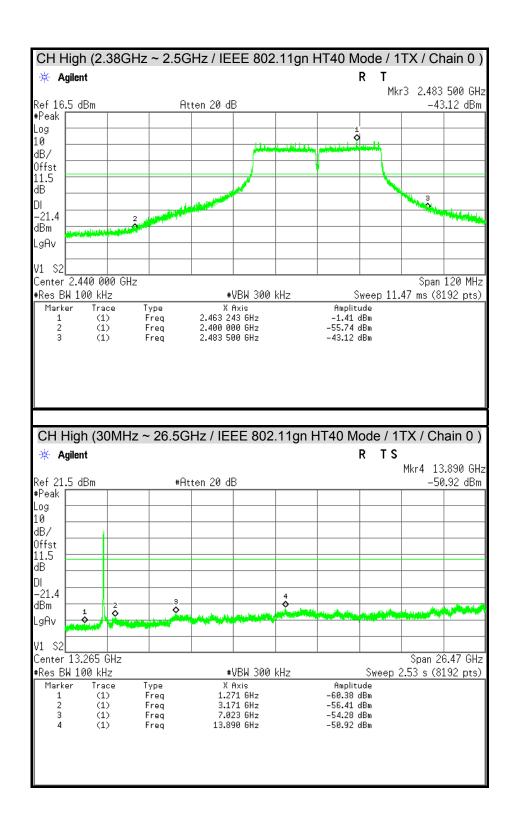




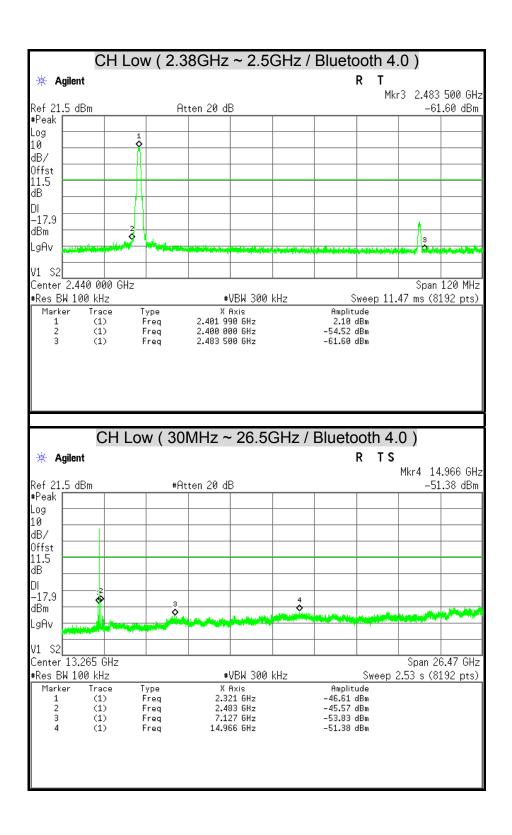


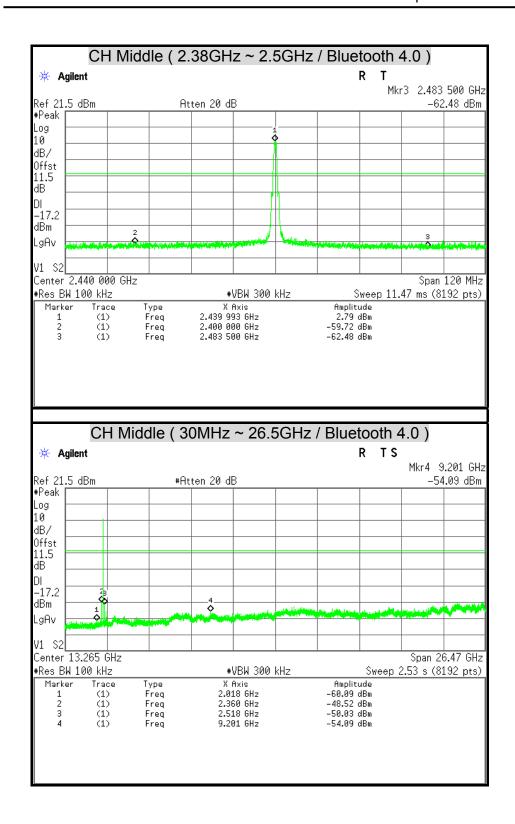


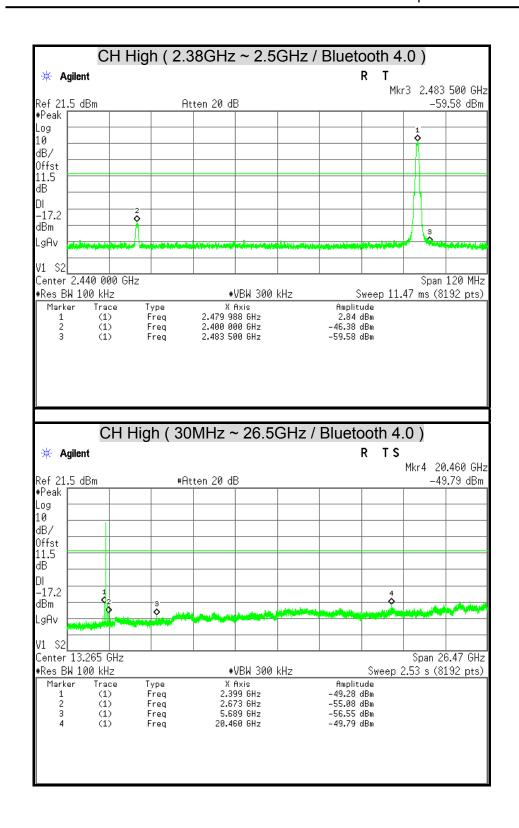


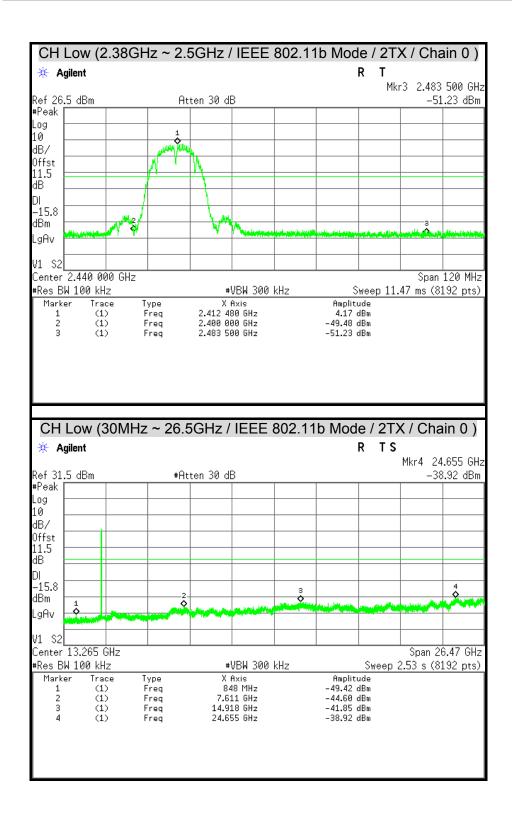


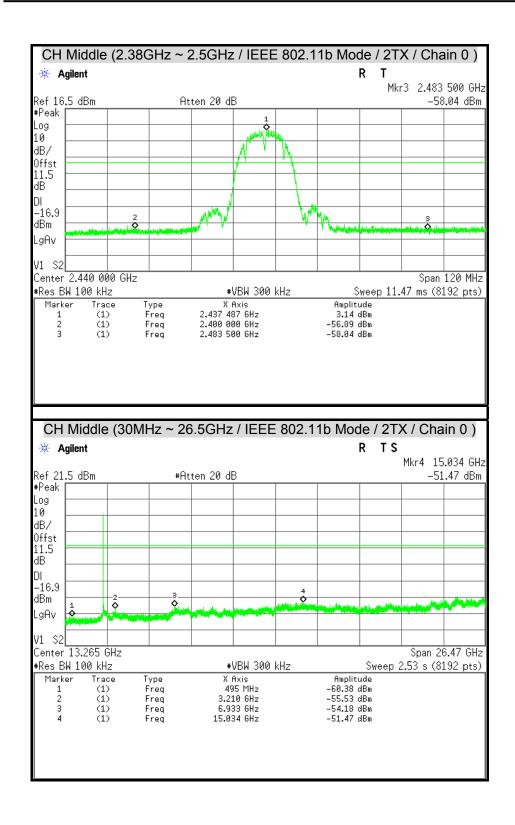


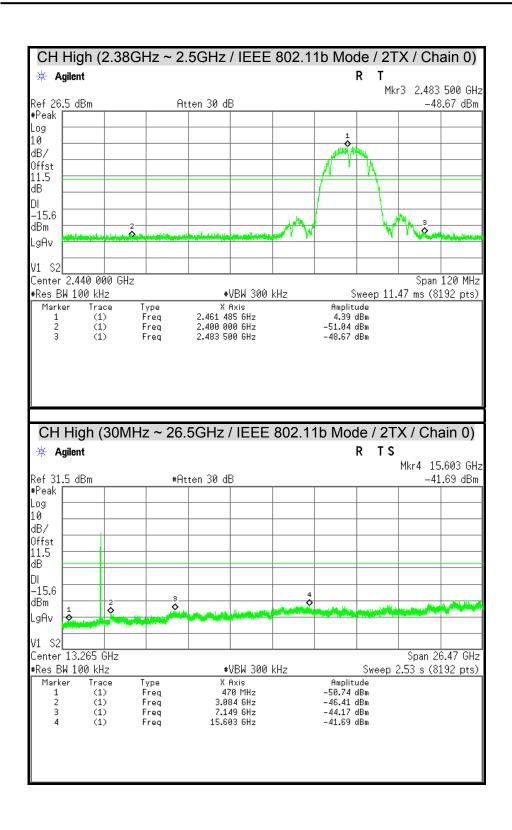


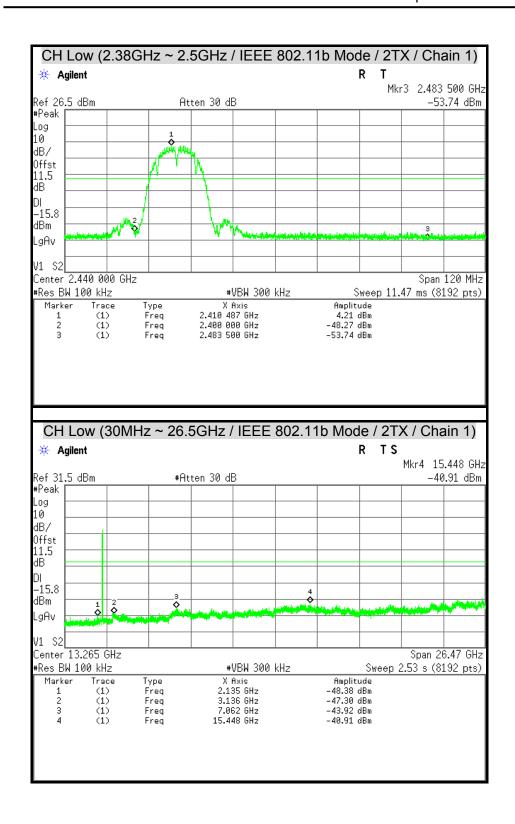


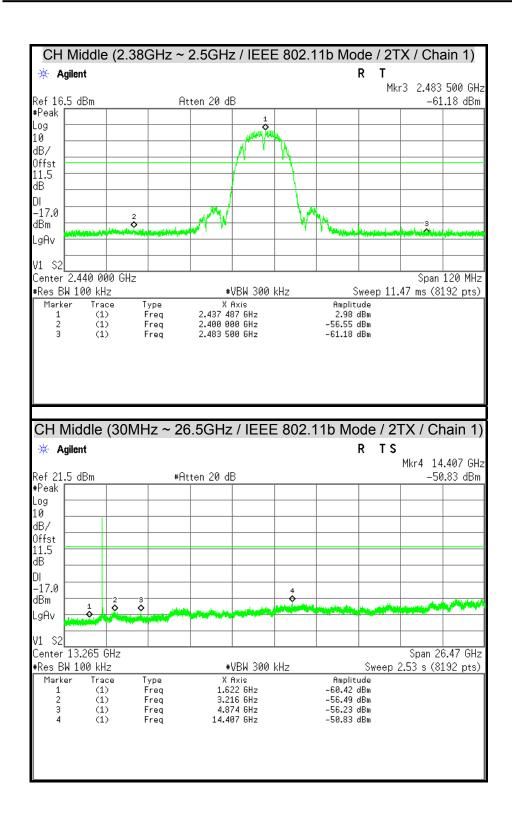


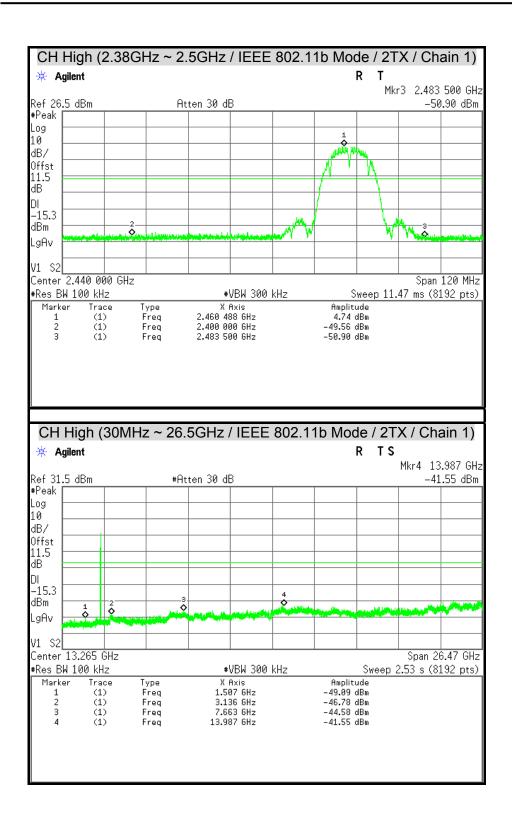


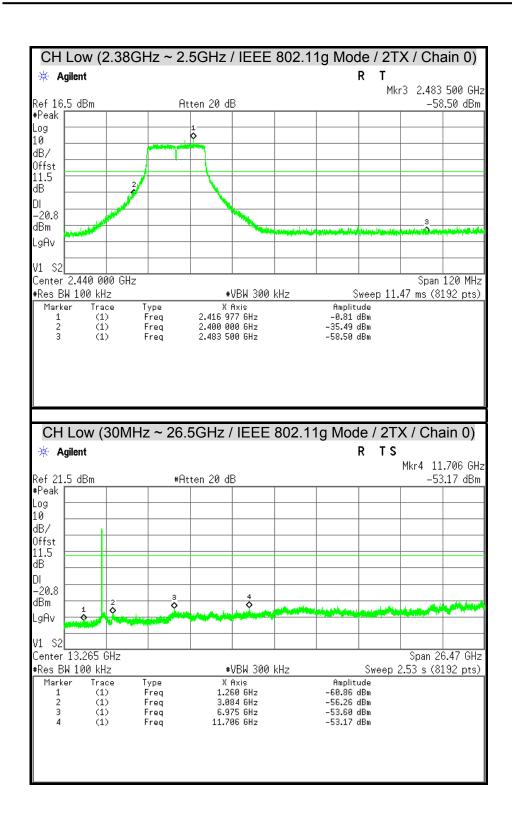


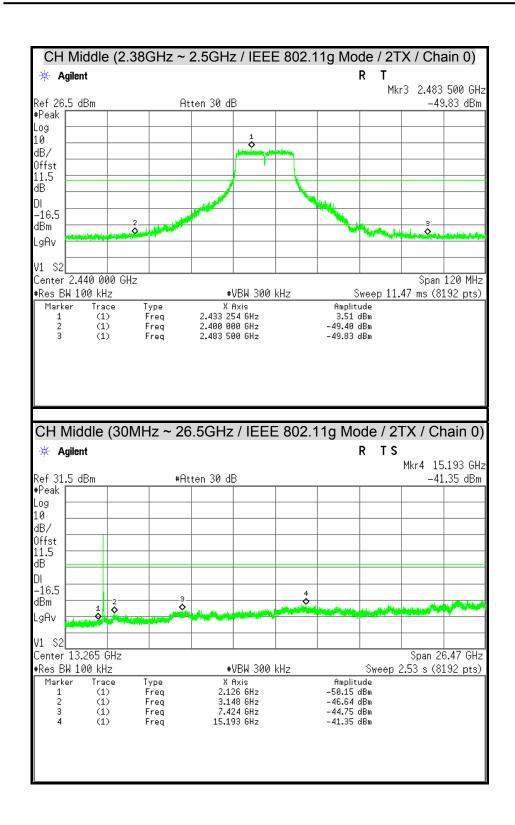


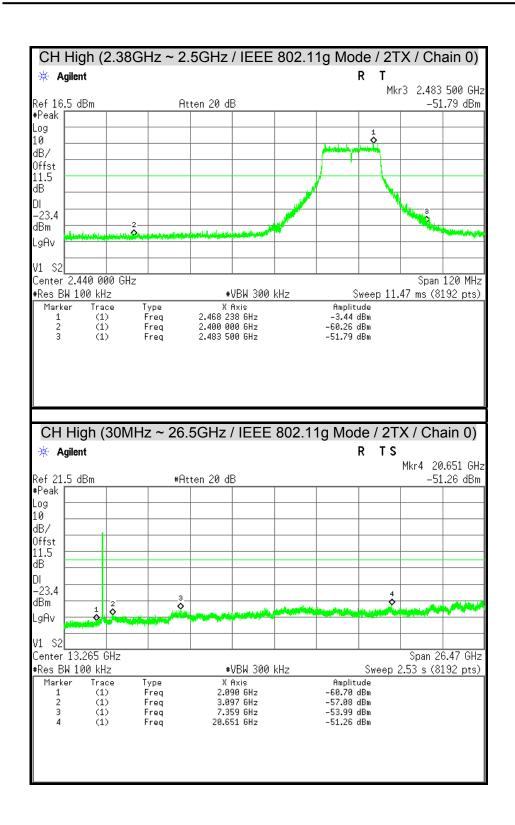


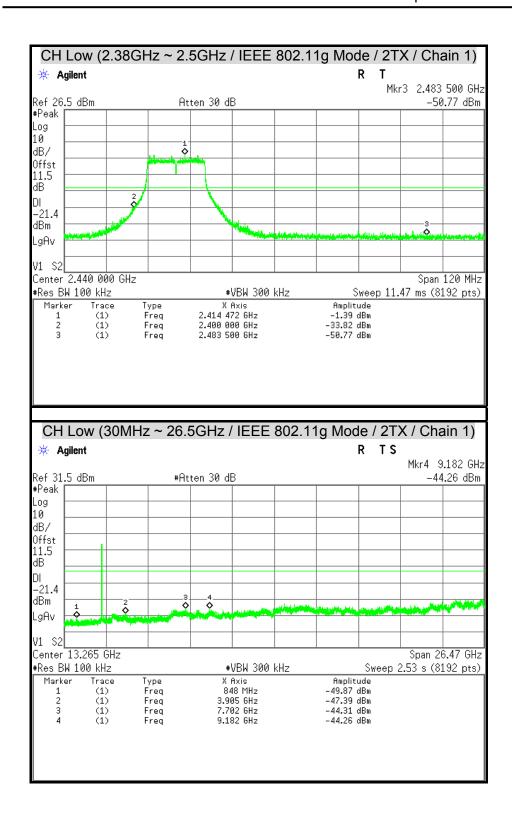


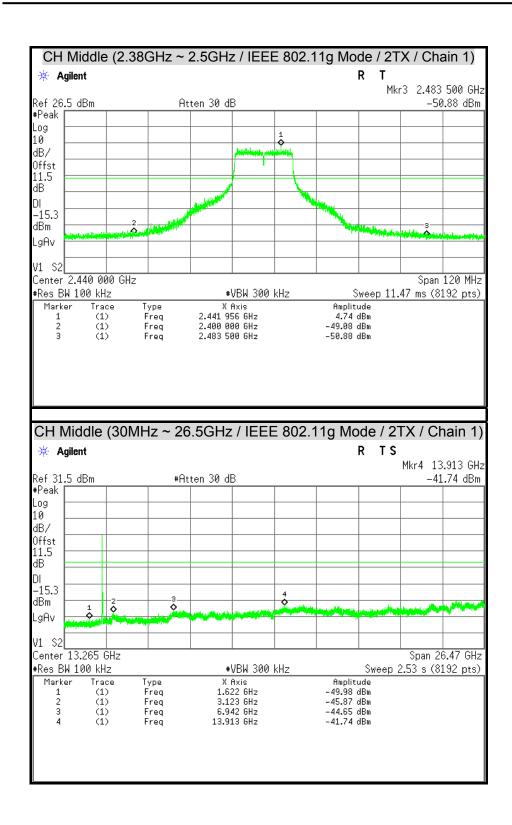


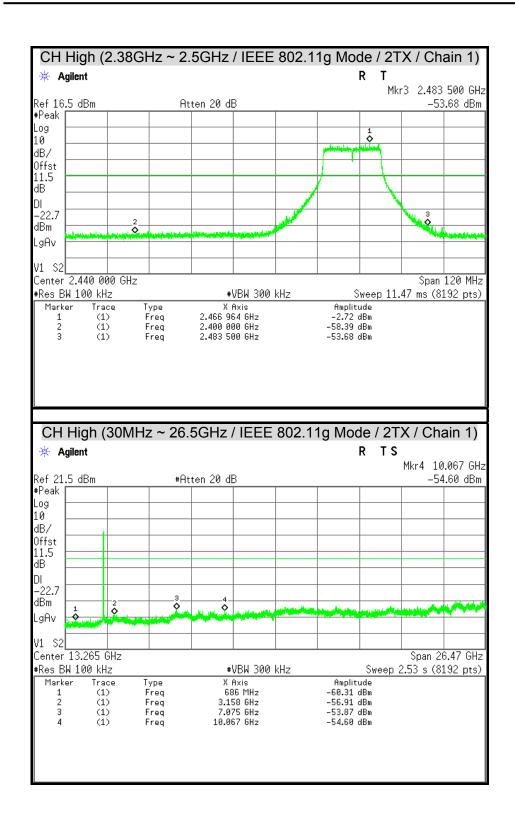


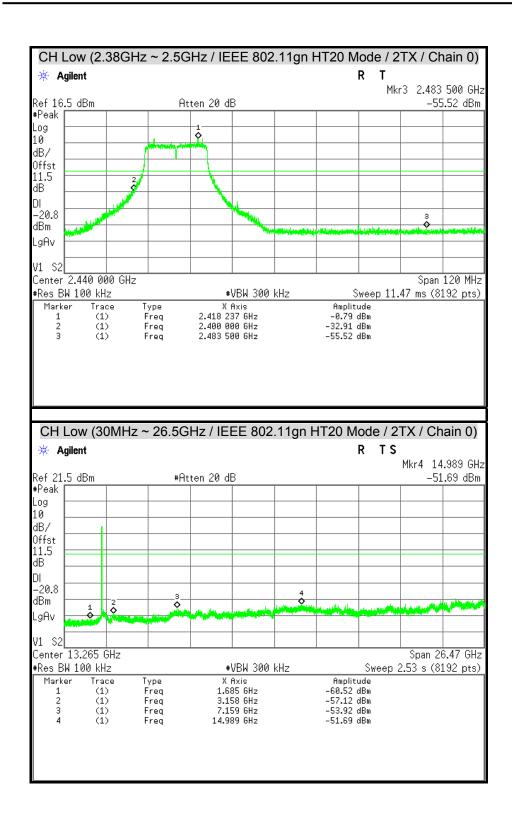


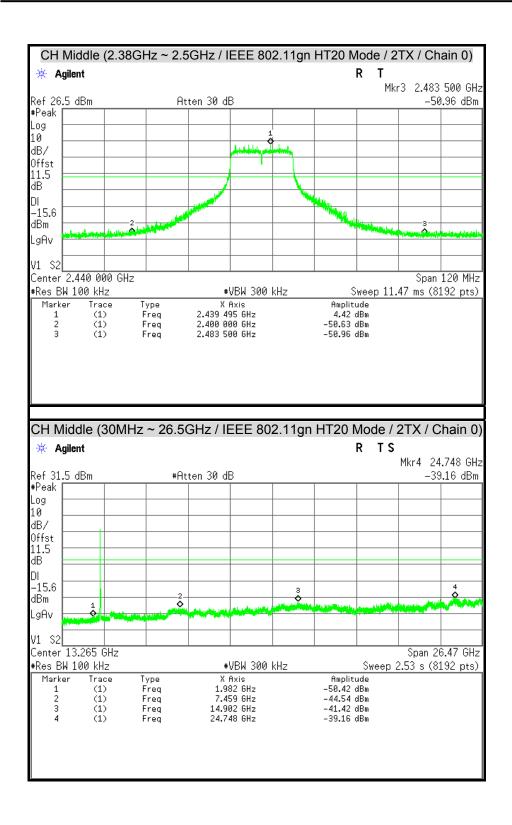


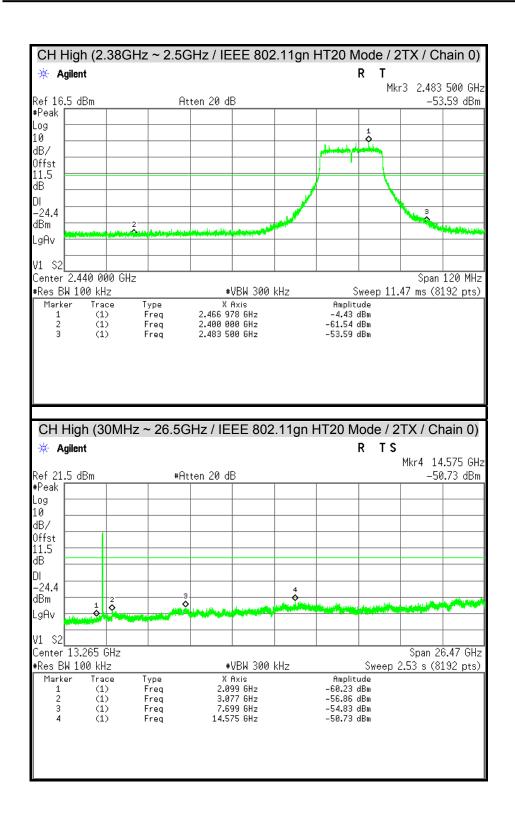


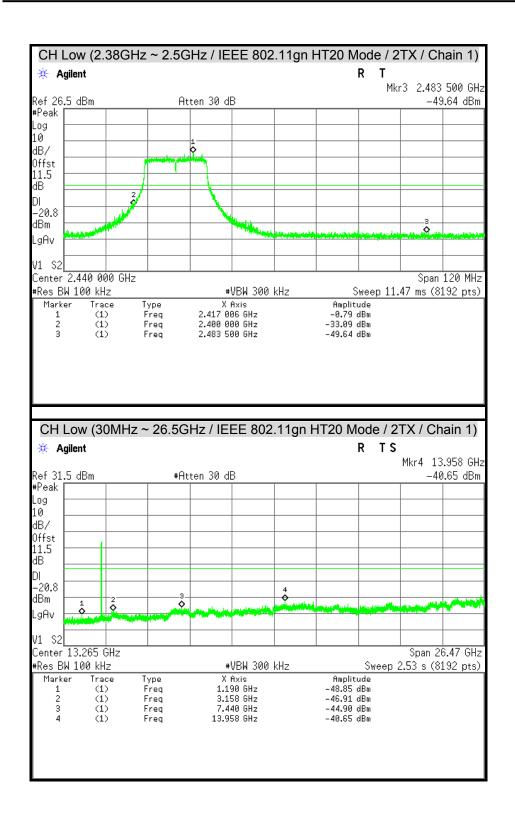


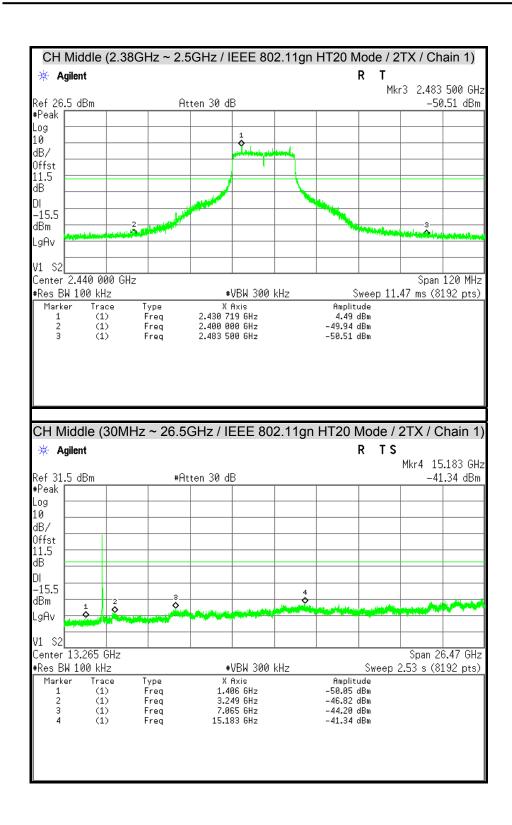


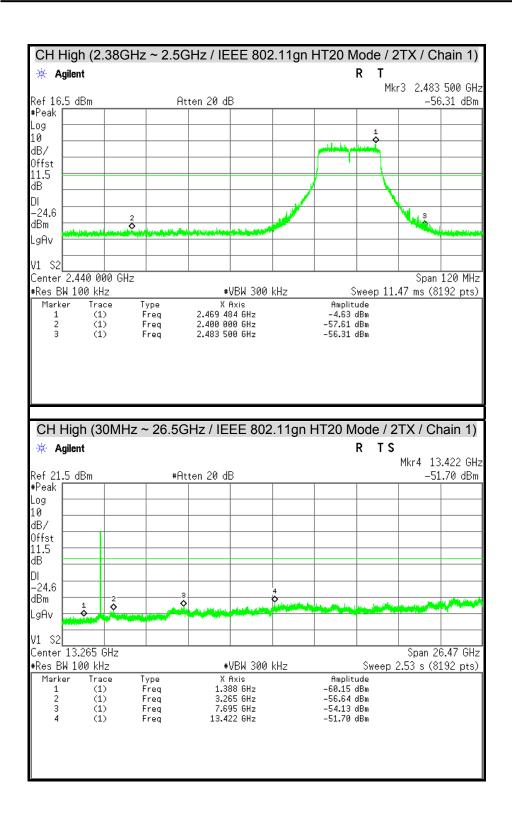


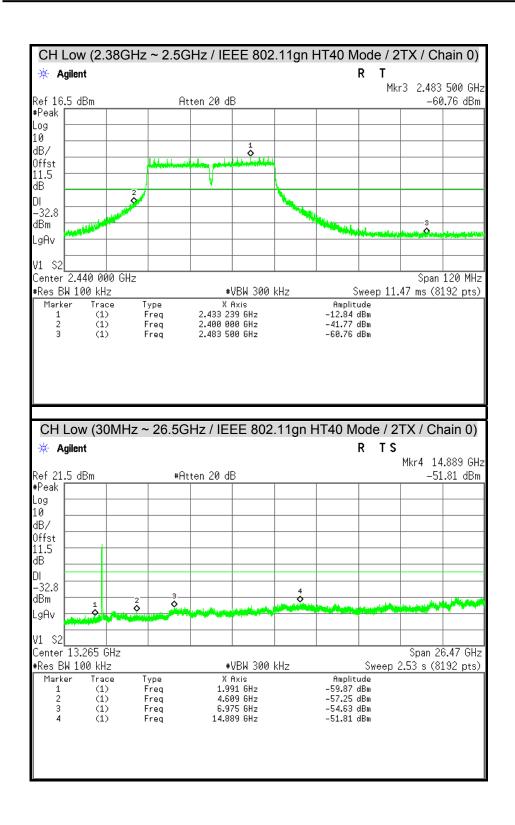


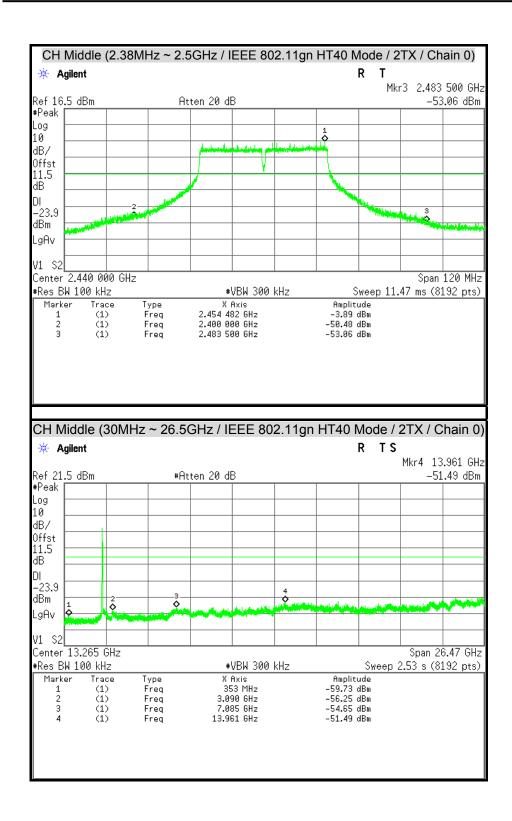


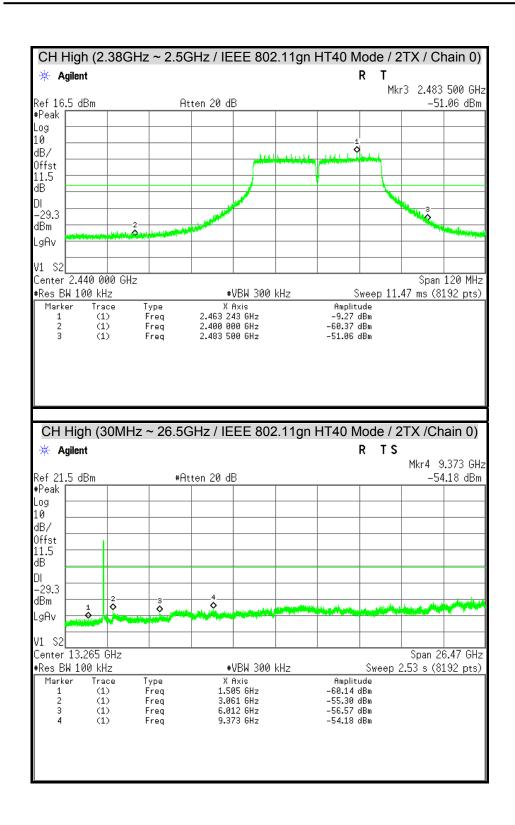


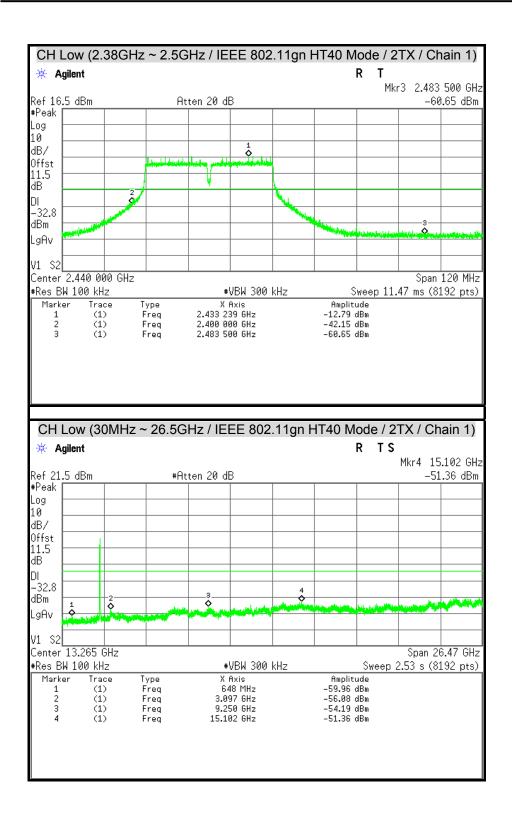


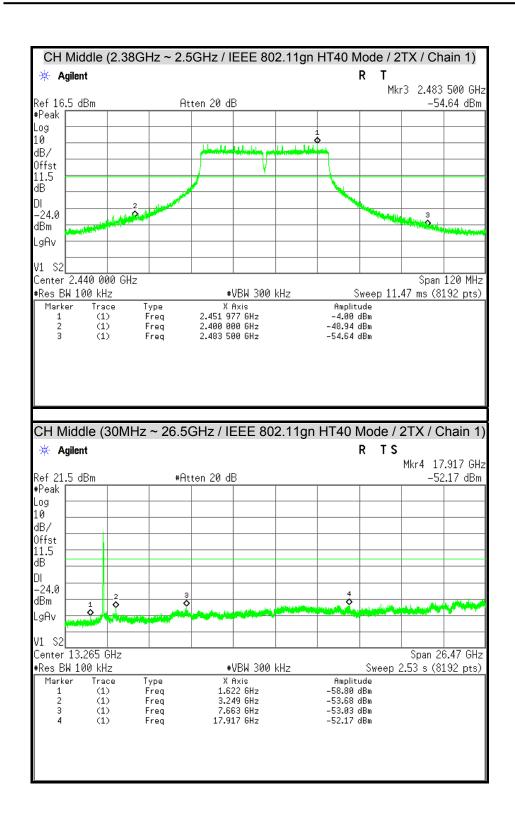


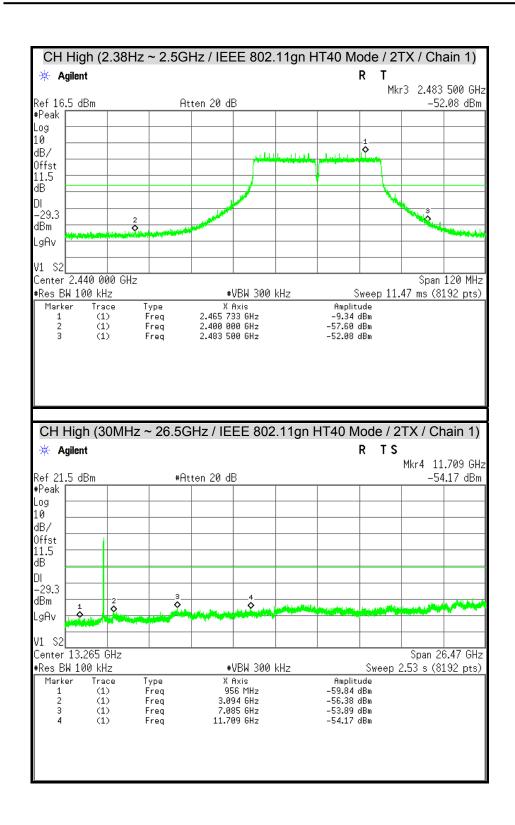












FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

## 7.6 RADIATED EMISSION

# **LIMITS**

(1) According to § 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 -1710	10.6 -12.7
6.26775 - 6.26825	108 -121.94	1718.8 - 1722.2	13.25 -13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 – 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 -16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 -335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41			

### Remark:

(2) According to § 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

<sup>1. 1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2. &</sup>lt;sup>2</sup> Above 38.6

(3) According to § 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Report No.: T140912L01-RP1

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

Remark: \*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

(4) According to § 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

# **TEST EQUIPMENT**

Radiated Emission / 966Chamber B

Name of Equipment	Manufacture	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY46180323	04/15/2015
EMI Test Receiver	ROHDE & SCHWARZ	ESCS 30	835418/008	10/14/2015
Bi-log Antenna	SCHWARZBECK	VULB 9168	9168-250	08/21/2015
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-778	08/19/2015
Double-Ridged Waveguide Horn	ETS-LINDGREN	3117	00078733	12/02/2015
Horn Antenna	COM-POWER	AH-840	03077	12/17/2015
Pre-Amplifier	Agilent	8447D	2944A10052	07/15/2015
Pre-Amplifier	Agilent	8449B	3008A01916	07/15/2015
LOOP Antenna	EMCO	6502	8905-2356	09/23/2015
Notch Filters Band Reject	Micro-Tronics	BRM05702-01	026	N.C.R

**Remark:** 1. Each piece of equipment is scheduled for calibration once a year.

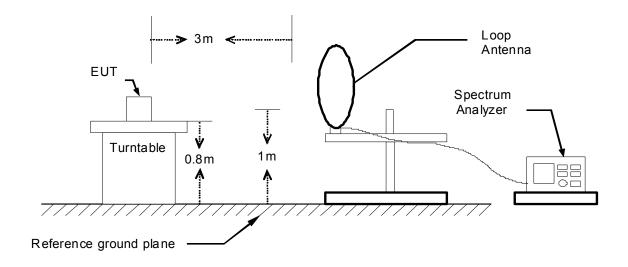
2. N.C.R = No Calibration Request.

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

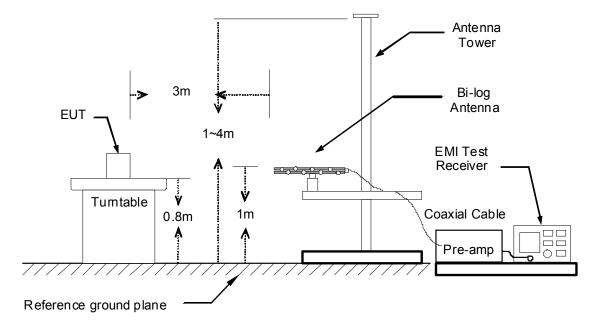
# **TEST SETUP**

The diagram below shows the test setup that is utilized to make the measurements for emission below 1GHz.

# 9kHz ~ 30MHz

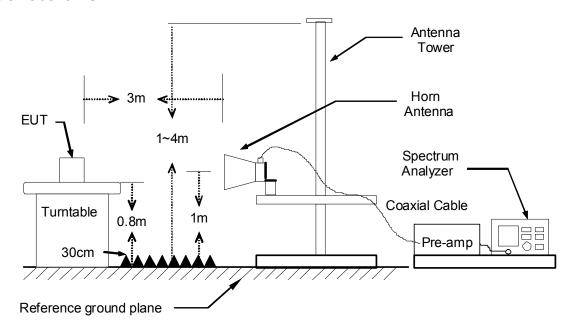


# 30MHz ~ 1GHz



Report No.: T140912L01-RP1

The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



## **TEST PROCEDURE**

- 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. While measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. While measuring the radiated emission above 1GHz, the EUT was set 3 meters away from the interference-receiving antenna.
- 3. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.
- 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

### Remark:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

FCC ID : M82-TREK570LTE Report No.: T140912L01-RP1

# **TEST RESULTS**

# Below 1 GHz (9kHz ~ 30MHz)

No emission found between lowest internal used/generated frequency to 30MHz.

# Below 1 GHz (30MHz ~ 1GHz)

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/11/06
Test Mode	TX Mode	Temp. & Humidity	24°C, 52%

	966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)			Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark						
93.05	48.24	-19.24	29.00	43.50	-14.50	Peak						
299.66	44.27	-11.45	32.82	46.00	-13.18	Peak						
500.45	53.06	-7.83	45.23	46.00	-0.77	QP						
523.73	42.04	-7.49	34.55	46.00	-11.45	Peak						
719.67	36.27	-4.00	32.27	46.00	-13.73	Peak						
889.42	37.66	-1.03	36.63	46.00	-9.37	Peak						
		966 Chamb	er_B at 3Met	ter / Vertical								
Frequency (MHz)	Reading (dBµV)	Correction Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark						
51.34	42.74	-13.50	29.23	40.00	-10.77	Peak						
91.11	52.07	-19.51	32.56	43.50	-10.94	Peak						
500.45	50.70	-7.83	42.87	46.00	-3.13	Peak						
526.64	38.49	-7.45	31.04	46.00	-14.96	Peak						
900.09	41.75	-0.83	40.92	46.00	-5.08	Peak						
942.77	34.01	-0.21	33.81	46.00	-12.19	Peak						

## Remark:

- 1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
- 2. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) PreAmp.Gain (dB)
- 4. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)
- 5. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

## **Above 1 GHz**

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11b (1TX) / CH Low	Temp. & Humidity	19 <sup>°</sup> C, 56%

	966 Chamber B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)		Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1500.00	52.22		-2.01	50.21		74.00	54.00	-3.79	Peak	
2494.00	48.10		3.60	51.70		74.00	54.00	-2.30	Peak	
2590.00	47.76		3.82	51.58		74.00	54.00	-2.42	Peak	
3360.00	40.63		5.39	46.03		74.00	54.00	-7.97	Peak	
4665.00	40.18		8.77	48.95		74.00	54.00	-5.05	Peak	
7170.00	38.74	-	13.62	52.36	-	74.00	54.00	-1.64	Peak	
		9	66 Chaml	ber_B at 3	3Meter / V	ertical				
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1100.00	48.29		-2.06	46.23		74.00	54.00	-7.77	Peak	
2176.00	44.81	-	2.97	47.79	-	74.00	54.00	-6.21	Peak	
2496.00	46.44		3.60	50.05		74.00	54.00	-3.95	Peak	
3165.00	42.02		5.07	47.09		74.00	54.00	-6.91	Peak	
4425.00	40.48		8.48	48.96		74.00	54.00	-5.04	Peak	
6300.00	38.56		12.64	51.20		74.00	54.00	-2.80	Peak	

### Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

Product Name	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11b (1TX) / CH Middle	Temp. & Humidity	19 <sup>°</sup> C, 56%

	966 Chamber_B at 3Meter / Horizontal										
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1132.00	48.74		-2.05	46.69		74.00	54.00	-7.31	Peak		
1500.00	51.30		-2.01	49.29		74.00	54.00	-4.71	Peak		
2390.00	51.96	40.95	3.39	55.36	44.34	74.00	54.00	-9.66	AVG		
3660.00	41.98		5.86	47.85		74.00	54.00	-6.15	Peak		
4665.00	39.54		8.77	48.31		74.00	54.00	-5.69	Peak		
6030.00	38.63		12.76	51.38		74.00	54.00	-2.62	Peak		
		9	66 Chaml	ber_B at 3	3Meter / V	ertical					
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1100.00	48.47		-2.06	46.41		74.00	54.00	-7.59	Peak		
2390.00	48.37		3.39	51.77		74.00	54.00	-2.23	Peak		
2484.00	47.51		3.58	51.08		74.00	54.00	-2.92	Peak		
4875.00	41.38		8.67	50.05		74.00	54.00	-3.95	Peak		
5880.00	38.45		12.25	50.70		74.00	54.00	-3.30	Peak		

## Remark:

6960.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

13.95

3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-1.58

Peak

52.42

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

38.47

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)



Product Name	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11b (1TX) / CH High	Temp. & Humidity	19 <sup>°</sup> C, 56%

Report No.: T140912L01-RP1

	966 Chamber_B at 3Meter / Horizontal												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark				
1500.00	51.40		-2.01	49.39		74.00	54.00	-4.61	Peak				
2390.00	47.48		3.39	50.88		74.00	54.00	-3.12	Peak				
2646.00	47.54	-	3.95	51.49	-	74.00	54.00	-2.51	Peak				
3255.00	42.52	-	5.22	47.74	-	74.00	54.00	-6.26	Peak				
4950.00	39.95		8.63	48.58		74.00	54.00	-5.42	Peak				
6240.00	39.44		12.66	52.10		74.00	54.00	-1.90	Peak				

	966 Chamber_B at 3Meter / Vertical													
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark					
2112.00	45.13		2.85	47.98		74.00	54.00	-6.02	Peak					
2378.00	46.74		3.37	50.11		74.00	54.00	-3.89	Peak					
2646.00	46.07		3.95	50.02	-	74.00	54.00	-3.98	Peak					
3285.00	41.52		5.27	46.79		74.00	54.00	-7.21	Peak					
4920.00	41.02		8.65	49.67		74.00	54.00	-4.33	Peak					
6945.00	38.48		13.90	52.38		74.00	54.00	-1.62	Peak					

## Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Product Name	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11g (1TX) / CH Low	Temp. & Humidity	19 <sup>°</sup> C, 56%

Report No.: T140912L01-RP1

	966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK			Limit-AV (dBuV/m)	Margin (dB)	Remark			
1100.00	48.63		-2.06	46.58		74.00	54.00	-7.42	Peak			
1500.00	51.17	-	-2.01	49.16	-	74.00	54.00	-4.84	Peak			
2508.00	47.12	-	3.63	50.75	-	74.00	54.00	-3.25	Peak			
4680.00	40.01	-	8.76	48.78	-	74.00	54.00	-5.22	Peak			
5955.00	38.61	-	12.57	51.19	-	74.00	54.00	-2.81	Peak			
6915.00	38.47		13.81	52.28		74.00	54.00	-1.72	Peak			

	966 Chamber_B at 3Meter / Vertical												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark				
1100.00	48.25		-2.06	46.19		74.00	54.00	-7.81	Peak				
2046.00	43.32		2.72	46.04		74.00	54.00	-7.96	Peak				
2508.00	45.87		3.63	49.50		74.00	54.00	-4.50	Peak				
4590.00	40.16		8.81	48.97		74.00	54.00	-5.03	Peak				
5820.00	38.30		11.99	50.29		74.00	54.00	-3.71	Peak				
6735.00	38.10		13.26	51.37		74.00	54.00	-2.63	Peak				

## Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

Product Name	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11g (1TX) / CH Middle	Temp. & Humidity	19 <sup>°</sup> C, 56%

	966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark			
1500.00	51.66		-2.01	49.65		74.00	54.00	-4.35	Peak			
2390.00	62.27	46.45	3.39	65.66	49.84	74.00	54.00	-4.16	AVG			
2486.00	60.77	40.95	3.58	64.36	44.53	74.00	54.00	-9.47	AVG			
4965.00	40.10		8.63	48.73		74.00	54.00	-5.27	Peak			
6075.00	38.05		12.74	50.79		74.00	54.00	-3.21	Peak			
7155.00	38.79		13.66	52.45		74.00	54.00	-1.55	Peak			
						•						

	966 Chamber_B at 3Meter / Vertical												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark				
1100.00	48.89		-2.06	46.83		74.00	54.00	-7.17	Peak				
2390.00	57.72	42.63	3.39	61.12	46.02	74.00	54.00	-7.98	AVG				
2484.00	58.82	43.95	3.58	62.40	47.53	74.00	54.00	-6.47	AVG				
4545.00	40.33		8.83	49.16		74.00	54.00	-4.84	Peak				
5985.00	38.00		12.70	50.70		74.00	54.00	-3.30	Peak				
6945.00	38.52		13.90	52.42		74.00	54.00	-1.58	Peak				

## Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)



**Product Name** Computer Rex Chiu **Test By** 2014/12/02 **Test Model TREK-570 Test Date** Temp. & Humidity **Test Mode** IEEE 802.11g (1TX) / CH High 19°C, 56%

Report No.: T140912L01-RP1

	966 Chamber_B at 3Meter / Horizontal												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK			Limit-AV (dBuV/m)	Margin (dB)	Remark				
1500.00	51.45		-2.01	49.44		74.00	54.00	-4.56	Peak				
2360.00	44.99		3.34	48.32		74.00	54.00	-5.68	Peak				
2544.00	46.24		3.71	49.95		74.00	54.00	-4.05	Peak				
4725.00	39.96		8.74	48.70		74.00	54.00	-5.30	Peak				
5700.00	40.03		11.47	51.49		74.00	54.00	-2.51	Peak				
7005.00	38.31		14.06	52.36		74.00	54.00	-1.64	Peak				

	966 Chamber_B at 3Meter / Vertical												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark				
1100.00	48.44		-2.06	46.39		74.00	54.00	-7.61	Peak				
2352.00	43.15		3.32	46.47		74.00	54.00	-7.53	Peak				
2590.00	44.59		3.82	48.41	-	74.00	54.00	-5.59	Peak				
4800.00	39.87		8.71	48.57		74.00	54.00	-5.43	Peak				
6150.00	38.50		12.70	51.21		74.00	54.00	-2.79	Peak				
6945.00	38.53		13.90	52.44		74.00	54.00	-1.56	Peak				

## Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT20 (1TX) / CH Low	Temp. & Humidity	19 <sup>°</sup> C, 56%

		96	6 Chambe	er_B at 3N	Meter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1500.00	50.88		-2.01	48.87		74.00	54.00	-5.13	Peak
2500.00	47.64		3.61	51.25		74.00	54.00	-2.75	Peak
2642.00	47.11		3.95	51.05		74.00	54.00	-2.95	Peak
4470.00	39.60		8.70	48.30		74.00	54.00	-5.70	Peak
5985.00	38.11		12.70	50.82		74.00	54.00	-3.18	Peak
7020.00	38.47		14.02	52.49		74.00	54.00	-1.51	Peak
		9	66 Chaml	per_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.02		-2.06	45.96		74.00	54.00	-8.04	Peak
2034.00	42.99		2.70	45.68		74.00	54.00	-8.32	Peak
2494.00	44.90		3.60	48.50		74.00	54.00	-5.50	Peak
3210.00	41.88		5.14	47.02		74.00	54.00	-6.98	Peak
4440.00	39.37		8.55	47.92		74.00	54.00	-6.08	Peak
6255.00	38.31		12.66	50.97		74.00	54.00	-3.03	Peak

### Remark

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

 $Remark\ Peak = Result(PK) - Limit(AV)$ 

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT20 (1TX) / CH Middle	Temp. & Humidity	19 <sup>°</sup> C, 56%

		96	6 Chambe	er_B at 3N	/leter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1500.00	50.78		-2.01	48.77		74.00	54.00	-5.23	Peak
2388.00	60.16	42.76	3.39	63.55	46.15	74.00	54.00	-7.85	AVG
2484.00	55.91	39.00	3.58	59.49	42.58	74.00	54.00	-11.42	AVG
4620.00	40.39		8.79	49.18	-	74.00	54.00	-4.82	Peak
6165.00	38.46		12.70	51.16	-	74.00	54.00	-2.84	Peak
6915.00	38.10		13.81	51.91		74.00	54.00	-2.09	Peak
		9	66 Chaml	ber_B at 3	BMeter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	49.22		-2.06	47.16	-	74.00	54.00	-6.84	Peak
2386.00	60.72	42.03	3.39	64.11	45.42	74.00	54.00	-8.58	AVG
2484.00	51.76	36.60	3.58	55.34	40.18	74.00	54.00	-13.82	AVG
4860.00	40.44		8.68	49.12		74.00	54.00	-4.88	Peak
6180.00	39.12		12.69	51.81		74.00	54.00	-2.19	Peak

### Remark:

7110.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

13.78

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-2.03

Peak

51.97

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor Margin = Result – Limit

38.19

Remark Peak = Result(PK) - Limit(AV)

Product Name Computer		Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT20 (1TX) / CH High	Temp. & Humidity	19 <sup>°</sup> C, 56%

Report No.: T140912L01-RP1

966 Chamber_B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1500.00	51.85		-2.01	49.84		74.00	54.00	-4.16	Peak
2364.00	44.00		3.34	47.35		74.00	54.00	-6.65	Peak
2602.00	46.22		3.85	50.07		74.00	54.00	-3.93	Peak
3285.00	41.43		5.27	46.70		74.00	54.00	-7.30	Peak
4725.00	39.86		8.74	48.60		74.00	54.00	-5.40	Peak
6240.00	38.47		12.66	51.13		74.00	54.00	-2.87	Peak
		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	47.78		-2.06	45.73		74.00	54.00	-8.27	Peak
2362.00	44.33		3.34	47.67		74.00	54.00	-6.33	Peak
2598.00	44.91		3.84	48.75		74.00	54.00	-5.25	Peak
3675.00	41.67		5.88	47.55		74.00	54.00	-6.45	Peak

### Remark:

4845.00

6225.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

8.68

12.67

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

74.00

54.00

54.00

-5.46

-2.36

Peak

Peak

48.54

51.64

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

39.85

38.97

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

Product Name Computer		Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT40 (1TX) / CH Low	Temp. & Humidity	19 <sup>°</sup> C, 56%

	966 Chamber_B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1100.00	48.48		-2.06	46.42		74.00	54.00	-7.58	Peak	
1500.00	50.72		-2.01	48.71		74.00	54.00	-5.29	Peak	
2484.00	48.19		3.58	51.77		74.00	54.00	-2.23	Peak	
3120.00	41.81		4.99	46.80		74.00	54.00	-7.20	Peak	
4470.00	39.33		8.70	48.03		74.00	54.00	-5.97	Peak	
6105.00	37.62	-	12.72	50.35		74.00	54.00	-3.65	Peak	
		9	66 Chaml	per_B at 3	3Meter / V	ertical				
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1100.00	48.61		-2.06	46.55		74.00	54.00	-7.45	Peak	
2034.00	43.70		2.70	46.40		74.00	54.00	-7.60	Peak	
2560.00	44.39		3.75	48.14		74.00	54.00	-5.86	Peak	
3210.00	40.78		5.14	45.93		74.00	54.00	-8.07	Peak	
4740.00	39.37		8.73	48.10		74.00	54.00	-5.90	Peak	
6240.00	38.29		12.66	50.96		74.00	54.00	-3.04	Peak	

### Remark.

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT40 (1TX) / CH Middle	Temp. & Humidity	19 <sup>°</sup> C, 56%

966 Chamber_B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1500.00	51.47		-2.01	49.46		74.00	54.00	-4.54	Peak
2390.00	63.21	48.85	3.39	66.61	52.24	74.00	54.00	-1.76	AVG
2484.00	62.56	48.36	3.58	66.14	51.94	74.00	54.00	-2.06	AVG
3210.00	41.31		5.14	46.45		74.00	54.00	-7.55	Peak
4740.00	38.91		8.73	47.64		74.00	54.00	-6.36	Peak
6150.00	38.32		12.70	51.03		74.00	54.00	-2.97	Peak
		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	49.57		-2.06	47.51		74.00	54.00	-6.49	Peak
2390.00	61.49	41.68	3.39	64.89	45.07	74.00	54.00	-8.93	AVG
2484.00	63.49	43.75	3.58	67.07	47.33	74.00	54.00	-6.67	AVG
3135.00	41.88		5.02	46.89		74.00	54.00	-7.11	Peak
4875.00	40.05		8.67	48.72		74.00	54.00	-5.28	Peak

### Remark:

7005.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

14.06

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-1.60

Peak

52.40

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor Margin = Result – Limit

38.34

Remark Peak = Result(PK) - Limit(AV)

Product Name Computer		Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/02
Test Mode	IEEE 802.11gn HT40 (1TX) / CH High	Temp. & Humidity	19 <sup>°</sup> C, 56%

Report No.: T140912L01-RP1

	966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark			
1500.00	51.93		-2.01	49.92		74.00	54.00	-4.08	Peak			
2390.00	46.65		3.39	50.04		74.00	54.00	-3.96	Peak			
2640.00	45.62		3.94	49.56		74.00	54.00	-4.44	Peak			
3105.00	40.98		4.97	45.95		74.00	54.00	-8.05	Peak			
4455.00	38.79		8.62	47.41		74.00	54.00	-6.59	Peak			
7095.00	38.56		13.82	52.38		74.00	54.00	-1.62	Peak			
					3Meter / V	ertical						
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark			
1100.00	48.58		-2.06	46.52		74.00	54.00	-7.48	Peak			
2366.00	43.86		3.35	47.21		74.00	54.00	-6.79	Peak			
2606.00	45.58		3.86	49.44		74.00	54.00	-4.56	Peak			

### Remark

3120.00

4635.00

6375.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

4.99

8.79

12.61

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

46.19

47.50

51.35

74.00

74.00

74.00

54.00

54.00

54.00

-7.81

-6.50

-2.65

Peak

Peak

Peak

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

41.19

38.72

38.75

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

Product Name Computer		Test By	Audi Chang
Test Model	TREK-570	Test Date	2014/11/05
Test Mode	Bluetooth 4.0 / TX Mode / CH Low	Temp. & Humidity	25°C, 50%

	966 Chamber_B at 3Meter / Horizontal										
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1534.00	48.02		-1.69	46.32		74.00	54.00	-7.68	Peak		
1606.00	47.27		-1.03	46.25		74.00	54.00	-7.75	Peak		
2322.00	51.89	42.97	3.26	55.15	46.23	74.00	54.00	-7.77	AVG		
2482.00	50.60	41.44	3.57	54.17	45.01	74.00	54.00	-8.99	AVG		
3300.00	41.90		5.29	47.19		74.00	54.00	-6.81	Peak		
3885.00	41.10		6.18	47.28		74.00	54.00	-6.72	Peak		
4770.00	39.32		8.72	48.04		74.00	54.00	-5.96	Peak		
		9	66 Chaml	ber_B at 3	3Meter / V	ertical					
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1100.00	48.31		-2.06	46.25		74.00	54.00	-7.75	Peak		
1534.00	46.00		-1.69	44.31		74.00	54.00	-9.69	Peak		
2322.00	45.91		3.26	49.17		74.00	54.00	-4.83	Peak		
2482.00	45.80		3.57	49.38		74.00	54.00	-4.62	Peak		
3225.00	41.49		5.17	46.66		74.00	54.00	-7.34	Peak		
3930.00	40.57		6.25	46.82		74.00	54.00	-7.18	Peak		
4620.00	39.99		8.79	48.79		74.00	54.00	-5.21	Peak		

### Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

Product Name	Computer	Test By	Audi Chang
Test Model	TREK-570	Test Date	2014/11/05
Test Mode	Bluetooth 4.0 / TX Mode / CH Middle	Temp. & Humidity	25°C, 50%

	966 Chamber_B at 3Meter / Horizontal										
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1534.00	49.12		-1.69	47.42		74.00	54.00	-6.58	Peak		
1600.00	48.91		-1.08	47.83		74.00	54.00	-6.17	Peak		
2248.00	44.56		3.12	47.67		74.00	54.00	-6.33	Peak		
2360.00	47.29		3.34	50.62		74.00	54.00	-3.38	Peak		
2520.00	46.64		3.66	50.30		74.00	54.00	-3.70	Peak		
3150.00	41.66		5.04	46.70		74.00	54.00	-7.30	Peak		
3930.00	40.81		6.25	47.06		74.00	54.00	-6.94	Peak		
4545.00	39.71		8.83	48.54		74.00	54.00	-5.46	Peak		
		9	66 Chaml	ber_B at 3	3Meter / V	ertical					
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1100.00	48.39		-2.06	46.34		74.00	54.00	-7.66	Peak		
2360.00	44.57		3.34	47.91		74.00	54.00	-6.09	Peak		
2520.00	44.17		3.66	47.83		74.00	54.00	-6.17	Peak		
3525.00	41.12		5.67	46.79		74.00	54.00	-7.21	Peak		
4410.00	39.42		8.40	47.82		74.00	54.00	-6.18	Peak		
5220.00	39.73		9.49	49.22		74.00	54.00	-4.78	Peak		

## Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Audi Chang		
Test Model	TREK-570	Test Date	2014/11/05		
Test Mode	Bluetooth 4.0 / TX Mode / CH High	Temp. & Humidity	25°C, 50%		

966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1536.00	50.22		-1.68	48.54		74.00	54.00	-5.46	Peak		
2288.00	43.92		3.19	47.12		74.00	54.00	-6.88	Peak		
2400.00	51.29	44.83	3.41	54.70	48.24	74.00	54.00	-5.76	AVG		
2560.00	46.13		3.75	49.88		74.00	54.00	-4.12	Peak		
3210.00	42.29		5.14	47.43		74.00	54.00	-6.57	Peak		
3660.00	40.93		5.86	46.79		74.00	54.00	-7.21	Peak		
4515.00	38.85		8.84	47.69		74.00	54.00	-6.31	Peak		
966 Chamber_B at 3Meter / Vertical											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark		
1100.00	48.60		-2.06	46.54		74.00	54.00	-7.46	Peak		
2204.00	42.73		3.03	45.76		74.00	54.00	-8.24	Peak		
2400.00	43.91		3.41	47.33		74.00	54.00	-6.67	Peak		
2560.00	42.67		3.75	46.42		74.00	54.00	-7.58	Peak		
3240.00	41.49		5.19	46.69		74.00	54.00	-7.31	Peak		
3705.00	41.70		5.93	47.62		74.00	54.00	-6.38	Peak		

### Remark:

4725.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

8.74

3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-5.87

Peak

48.13

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

39.39

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

Product Name	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/15
Test Mode	IEEE 802.11b (2TX) / CH Low	Temp. & Humidity	23°C, 56%

		96	6 Chambe	er_B at 3	Meter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1262.00	49.78		-2.04	47.74		74.00	54.00	-6.26	Peak
1532.00	49.03		-1.71	47.32		74.00	54.00	-6.68	Peak
2506.00	46.30		3.62	49.92		74.00	54.00	-4.08	Peak
3180.00	41.39		5.09	46.48		74.00	54.00	-7.52	Peak
4395.00	39.58		8.32	47.91		74.00	54.00	-6.09	Peak
6045.00	39.12		12.75	51.87		74.00	54.00	-2.13	Peak
		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.92		-2.06	46.86		74.00	54.00	-7.14	Peak
1500.00	47.14		-2.01	45.13		74.00	54.00	-8.87	Peak
2720.00	46.54		4.13	50.67		74.00	54.00	-3.33	Peak
3210.00	45.28		5.14	50.43		74.00	54.00	-3.57	Peak
4830.00	45.95	43.03	8.69	54.64	51.72	74.00	54.00	-2.28	AVG

# Remark:

6330.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

12.62

 Average test would be performed if the peak result were greater than the average limit.
 Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

51.01

Peak

-2.99

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

38.39

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/15
Test Mode	IEEE 802.11b (2TX) / CH Middle	Temp. & Humidity	23°C, 56%

		96	6 Chambe	er_B at 3N	/leter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.85		-2.06	46.79		74.00	54.00	-7.21	Peak
1244.00	50.61		-2.04	48.57		74.00	54.00	-5.43	Peak
2668.00	45.83		4.01	49.83		74.00	54.00	-4.17	Peak
3165.00	41.42		5.07	46.49		74.00	54.00	-7.51	Peak
4545.00	39.99		8.83	48.82		74.00	54.00	-5.18	Peak
5985.00	38.85		12.70	51.55		74.00	54.00	-2.45	Peak
		9	66 Chaml	per_B at 3	BMeter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	49.15		-2.06	47.09		74.00	54.00	-6.91	Peak
1500.00	47.19		-2.01	45.18		74.00	54.00	-8.82	Peak
2630.00	44.43		3.92	48.35		74.00	54.00	-5.65	Peak
3120.00	41.46		4.99	46.45		74.00	54.00	-7.55	Peak
4875.00	42.38		8.67	51.05		74.00	54.00	-2.95	Peak

# Remark:

6210.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

12.68

3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-3.06

Peak

50.94

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

38.26

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

Product Name	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/15
Test Mode	IEEE 802.11b (2TX) / CH High	Temp. & Humidity	23°C, 56%

966 Chamber_B at 3Meter / Horizontal												
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK	Result-AV (dBuV/m)		Limit-AV (dBuV/m)	Margin (dB)	Remark			
1244.00	49.32		-2.04	47.27		74.00	54.00	-6.73	Peak			
1500.00	49.48		-2.01	47.47		74.00	54.00	-6.53	Peak			
2578.00	46.75		3.79	50.55		74.00	54.00	-3.45	Peak			
3225.00	41.55		5.17	46.72		74.00	54.00	-7.28	Peak			
4410.00	39.83		8.40	48.23		74.00	54.00	-5.77	Peak			
6120.00	38.75		12.72	51.47		74.00	54.00	-2.53	Peak			

		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.91		-2.06	46.85		74.00	54.00	-7.15	Peak
2306.00	46.70		3.23	49.93		74.00	54.00	-4.07	Peak
2724.00	47.46		4.14	51.60	-	74.00	54.00	-2.40	Peak
3285.00	44.86		5.27	50.13		74.00	54.00	-3.87	Peak
4920.00	43.94		8.65	52.59		74.00	54.00	-1.41	Peak
9855.00	39.95	35.53	16.42	56.38	51.95	74.00	54.00	-2.05	AVG

# Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Product Name	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/15
Test Mode	IEEE 802.11g (2TX) / CH Low	Temp. & Humidity	23°C, 56%

Report No.: T140912L01-RP1

		96	6 Chambe	er_B at 3N	/leter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark
1228.00	50.04		-2.04	48.00		74.00	54.00	-6.00	Peak
1500.00	50.40		-2.01	48.39		74.00	54.00	-5.61	Peak
2600.00	46.30		3.85	50.14		74.00	54.00	-3.86	Peak
3165.00	43.22		5.07	48.28		74.00	54.00	-5.72	Peak
4530.00	39.45		8.84	48.28		74.00	54.00	-5.72	Peak
6060.00	38.31		12.74	51.06		74.00	54.00	-2.94	Peak
						•			

		9	66 Chaml	per_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.38		-2.06	46.32		74.00	54.00	-7.68	Peak
1500.00	47.36		-2.01	45.35		74.00	54.00	-8.65	Peak
2726.00	47.00		4.14	51.14	-	74.00	54.00	-2.86	Peak
3210.00	43.54		5.14	48.68		74.00	54.00	-5.32	Peak
4830.00	40.24		8.69	48.93		74.00	54.00	-5.07	Peak
6375.00	39.12		12.61	51.72		74.00	54.00	-2.28	Peak

# Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Product Name	Computer	Test By	Rex Chiu
Test Model TREK-570		Test Date	2014/12/15
Test Mode	IEEE 802.11g (2TX) / CH Middle	Temp. & Humidity	23°C, 56%

Report No.: T140912L01-RP1

		96	6 Chambe	er_B at 3N	/leter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1244.00	49.89		-2.04	47.84		74.00	54.00	-6.16	Peak
2384.00	53.97	38.27	3.38	57.35	41.65	74.00	54.00	-12.35	AVG
2484.00	59.97	46.12	3.58	63.55	49.70	74.00	54.00	-4.30	AVG
3255.00	41.72		5.22	46.94		74.00	54.00	-7.06	Peak
4875.00	40.11		8.67	48.78		74.00	54.00	-5.22	Peak
6165.00	38.50		12.70	51.20		74.00	54.00	-2.80	Peak

	966 Chamber_B at 3Meter / Vertical											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)			Limit-AV (dBuV/m)	Margin (dB)	Remark			
1624.00	47.65		-0.86	46.79		74.00	54.00	-7.21	Peak			
2390.00	62.68	46.00	3.39	66.07	49.39	74.00	54.00	-4.61	AVG			
2484.00	61.23	47.77	3.58	64.81	51.35	74.00	54.00	-2.65	AVG			
3255.00	46.06		5.22	51.28		74.00	54.00	-2.72	Peak			
4875.00	46.13	35.49	8.67	54.80	44.16	74.00	54.00	-9.84	AVG			
7305.00	47.85	35.40	13.26	61.12	48.66	74.00	54.00	-5.34	AVG			

# Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

  Margin = Posult | Limit

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/15
Test Mode	IEEE 802.11g (2TX) / CH High	Temp. & Humidity	23°C, 56%

	966 Chamber_B at 3Meter / Horizontal											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark			
1228.00	49.59		-2.04	47.55		74.00	54.00	-6.45	Peak			
1500.00	48.56		-2.01	46.55		74.00	54.00	-7.45	Peak			
2302.00	43.56		3.22	46.78		74.00	54.00	-7.22	Peak			
3165.00	40.98		5.07	46.05		74.00	54.00	-7.95	Peak			
4515.00	39.69		8.84	48.53		74.00	54.00	-5.47	Peak			
6120.00	37.62		12.72	50.34		74.00	54.00	-3.66	Peak			

	966 Chamber_B at 3Meter / Vertical  Frequency Reading- Reading- Correction Result-PK Result-AV Limit-PK Limit-AV Margin Remark											
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark			
1100.00	48.86		-2.06	46.80		74.00	54.00	-7.20	Peak			
1500.00	47.29		-2.01	45.28		74.00	54.00	-8.72	Peak			
2282.00	44.48		3.18	47.66	-	74.00	54.00	-6.34	Peak			
3150.00	41.80		5.04	46.84		74.00	54.00	-7.16	Peak			
3870.00	41.46		6.16	47.62		74.00	54.00	-6.38	Peak			
6375.00	38.61		12.61	51.22		74.00	54.00	-2.78	Peak			

# Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/15
Test Mode	IEEE 802.11gn HT20 (2TX) / CH Low	Temp. & Humidity	23°C, 56%

966 Chamber_B at 3Meter / Horizontal										
Frequency (MHz)	Reading- PK (dBuV)		Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1242.00	50.01		-2.04	47.97		74.00	54.00	-6.03	Peak	
1500.00	50.28		-2.01	48.27		74.00	54.00	-5.73	Peak	
2494.00	46.52		3.60	50.11		74.00	54.00	-3.89	Peak	
3210.00	41.90		5.14	47.04		74.00	54.00	-6.96	Peak	
4830.00	39.59		8.69	48.28		74.00	54.00	-5.72	Peak	
6315.00	38.79		12.63	51.42		74.00	54.00	-2.58	Peak	
		9	66 Chaml	per_B at 3	3Meter / V	ertical				
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark	
1100.00	48.65		-2.06	46.59		74.00	54.00	-7.41	Peak	
1608.00	45.67		-1.01	44.67		74.00	54.00	-9.33	Peak	
2714.00	45.59		4.12	49.70		74.00	54.00	-4.30	Peak	
3210.00	43.03		5.14	48.17		74.00	54.00	-5.83	Peak	
4815.00	41.55		8.70	50.25		74.00	54.00	-3.75	Peak	
6180.00	36.89		12.69	49.58		74.00	54.00	-4.42	Peak	

### Remark.

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/15
Test Mode	IEEE 802.11gn HT20 (2TX) / CH Middle	Temp. & Humidity	23°C, 56%

		96	6 Chambe	er_B at 31	Meter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1244.00	50.34		-2.04	48.30		74.00	54.00	-5.70	Peak
1500.00	50.10		-2.01	48.09		74.00	54.00	-5.91	Peak
2390.00	55.09	40.26	3.39	58.49	43.65	74.00	54.00	-10.35	AVG
2484.00	59.37	45.68	3.58	62.95	49.26	74.00	54.00	-4.74	AVG
3195.00	41.67		5.12	46.79		74.00	54.00	-7.21	Peak
4875.00	40.42		8.67	49.09		74.00	54.00	-4.91	Peak
6195.00	38.17		12.68	50.85		74.00	54.00	-3.15	Peak
		9	66 Chaml	per_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	49.80		-2.06	47.75		74.00	54.00	-6.25	Peak
2390.00	61.64	46.25	3.39	65.03	49.64	74.00	54.00	-4.36	AVG
2484.00	62.87	48.49	3.58	66.45	52.07	74.00	54.00	-1.93	AVG
3255.00	45.57		5.22	50.79		74.00	54.00	-3.21	Peak
4875.00	45.19	34.76	8.67	53.86	43.43	74.00	54.00	-10.57	AVG
	1	1	1		1	1	· · · · · · · · · · · · · · · · · · ·		

### Remark

7305.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

13.26

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

49.80

74.00

54.00

-4.20

**AVG** 

61.35

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

48.09

36.54

Margin = Result – Limit

 $Remark\ Peak = Result(PK) - Limit(AV)$ 

Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/15
Test Mode	IEEE 802.11gn HT20 (2TX) / CH High	Temp. & Humidity	23 <sup>°</sup> C, 56%

		96	6 Chambe	er_B at 3N	Meter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1240.00	49.63		-2.04	47.59		74.00	54.00	-6.41	Peak
1520.00	49.05		-1.82	47.23		74.00	54.00	-6.77	Peak
2366.00	44.31		3.35	47.66		74.00	54.00	-6.34	Peak
3120.00	41.48		4.99	46.47		74.00	54.00	-7.53	Peak
4650.00	40.28		8.78	49.06		74.00	54.00	-4.94	Peak
6240.00	38.74		12.66	51.40		74.00	54.00	-2.60	Peak
		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	50.67		-2.06	48.61		74.00	54.00	-5.39	Peak
1500.00	47.13		-2.01	45.12		74.00	54.00	-8.88	Peak
2556.00	45.19		3.74	48.93		74.00	54.00	-5.07	Peak
3180.00	42.54		5.09	47.64		74.00	54.00	-6.36	Peak
4515.00	39.31		8.84	48.15		74.00	54.00	-5.85	Peak

6375.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

12.61

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-2.87

Peak

51.13

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

38.53

Margin = Result - Limit

Remark Peak = Result(PK) – Limit(AV) Remark AVG = Result(AV) – Limit(AV)

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu
Test Model	TREK-570	Test Date	2014/12/15
Test Mode	IEEE 802.11gn HT40 (2TX) / CH Low	Temp. & Humidity	23°C, 56%

		96	6 Chambe	er_B at 3	Meter / Ho	rizontal			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1244.00	49.68		-2.04	47.64		74.00	54.00	-6.36	Peak
1518.00	48.52		-1.84	46.68		74.00	54.00	-7.32	Peak
2700.00	43.87		4.08	47.96		74.00	54.00	-6.04	Peak
3270.00	41.47		5.24	46.71		74.00	54.00	-7.29	Peak
4515.00	39.99		8.84	48.84		74.00	54.00	-5.16	Peak
6255.00	38.74		12.66	51.39		74.00	54.00	-2.61	Peak
		9	66 Chaml	ber_B at 3	3Meter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	51.89		-2.06	49.83		74.00	54.00	-4.17	Peak
1500.00	48.25		-2.01	46.24		74.00	54.00	-7.76	Peak
2720.00	43.54		4.13	47.66		74.00	54.00	-6.34	Peak
3105.00	42.32		4.97	47.29		74.00	54.00	-6.71	Peak
4515.00	39.67		8.84	48.51		74.00	54.00	-5.49	Peak

### Remark.

6240.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

12.66

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-3.06

Peak

50.94

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

38.27

Margin = Result – Limit

 $Remark\ Peak = Result(PK) - Limit(AV)$ 

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

<b>Product Name</b>	Computer	Test By	Rex Chiu		
Test Model	TREK-570		2014/12/15		
Test Mode	IEEE 802.11gn HT40 (2TX) / CH Middle	Temp. & Humidity	23°C, 56%		

966 Chamber_B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1228.00	49.42		-2.04	47.38		74.00	54.00	-6.62	Peak
2390.00	56.52	37.84	3.39	59.92	41.23	74.00	54.00	-12.77	AVG
2484.00	61.65	42.37	3.58	65.23	45.95	74.00	54.00	-8.05	AVG
3255.00	41.52		5.22	46.74		74.00	54.00	-7.26	Peak
4485.00	39.20		8.78	47.98		74.00	54.00	-6.02	Peak
6225.00	38.18		12.67	50.85		74.00	54.00	-3.15	Peak
		9	66 Chaml	ber_B at 3	BMeter / V	ertical			
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	50.44	-	-2.06	48.38		74.00	54.00	-5.62	Peak
2390.00	68.70	45.29	3.39	72.09	48.68	74.00	54.00	-5.32	AVG
2484.00	67.29	48.36	3.58	70.87	51.94	74.00	54.00	-2.06	AVG
3255.00	44.37		5.22	49.58		74.00	54.00	-4.42	Peak

4845.00

6210.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

8.68

12.68

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

48.62

50.80

74.00

74.00

54.00

54.00

-5.38

-3.20

Peak

Peak

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor Margin = Result - Limit

39.93

38.12

Remark Peak = Result(PK) - Limit(AV)

Report No.: T140912L01-RP1

Peak

Peak

Peak

Peak

-5.18

-6.62

-5.57

-2.59

Product Name	Computer	Test By	Rex Chiu		
Test Model	TREK-570	Test Date	2014/12/15		
Test Mode	IEEE 802.11gn HT40 (2TX) / CH High	Temp. & Humidity	23 <sup>°</sup> C, 56%		

966 Chamber_B at 3Meter / Horizontal									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1244.00	49.80		-2.04	47.76		74.00	54.00	-6.24	Peak
2168.00	43.97		2.96	46.93		74.00	54.00	-7.07	Peak
2606.00	44.42		3.86	48.28		74.00	54.00	-5.72	Peak
3135.00	41.77		5.02	46.78		74.00	54.00	-7.22	Peak
4440.00	39.92		8.55	48.47		74.00	54.00	-5.53	Peak
6150.00	38.23		12.70	50.94		74.00	54.00	-3.06	Peak
966 Chamber_B at 3Meter / Vertical									
Frequency (MHz)	Reading- PK (dBuV)	Reading- AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)		Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1100.00	48.61		-2.06	46.56		74.00	54.00	-7.44	Peak
2390.00	45.39		3.39	48.79		74.00	54.00	-5.21	Peak

### Remark

2578.00

3330.00

4590.00

6450.00

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.

3.79

5.34

8.81

12.57

3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

48.82

47.38

48.43

51.41

74.00

74.00

74.00

74.00

54.00

54.00

54.00

54.00

- 4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 5. Result = Reading + Correction Factor

45.02

42.03

39.63

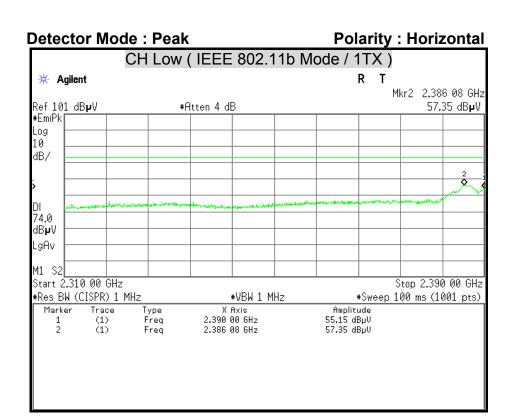
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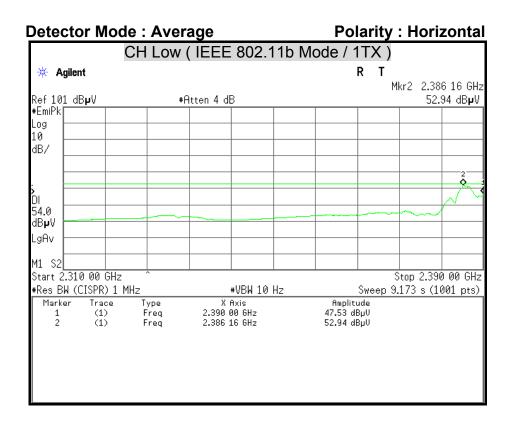
Margin = Result – Limit

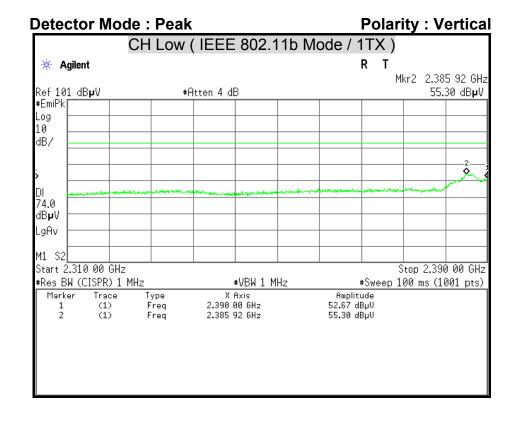
Remark Peak = Result(PK) – Limit(AV)

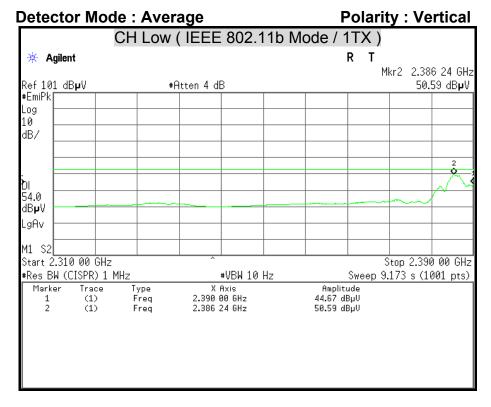
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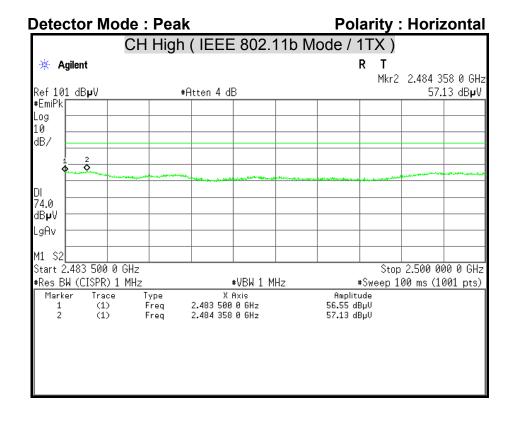
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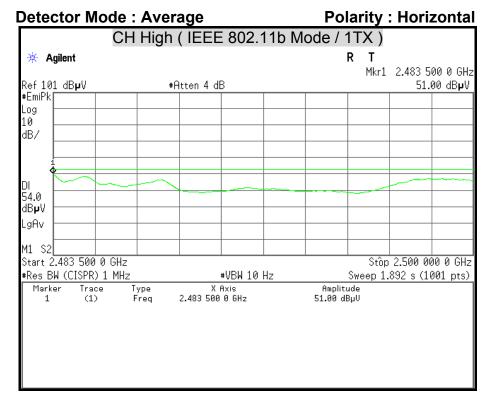


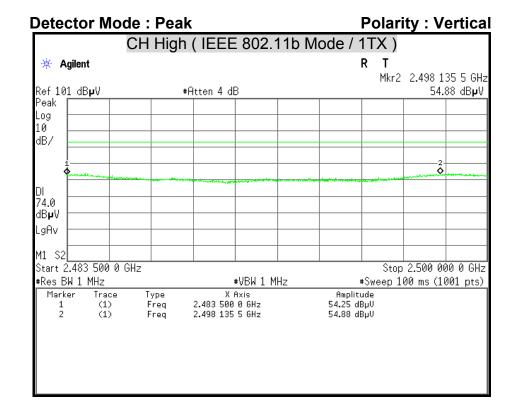


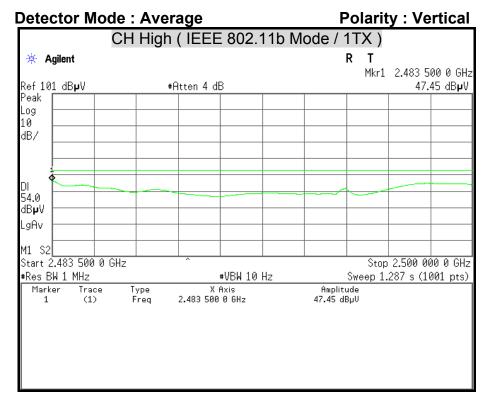


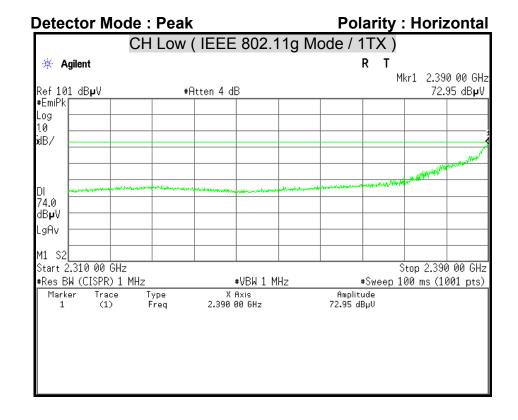


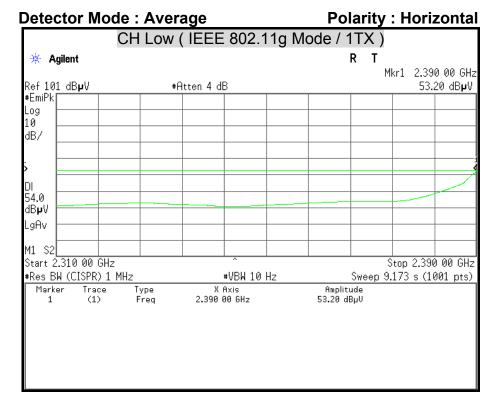


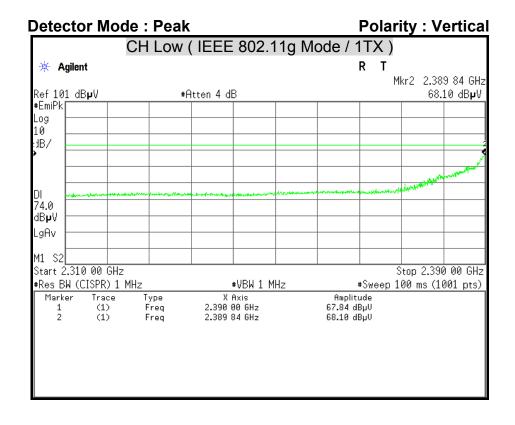


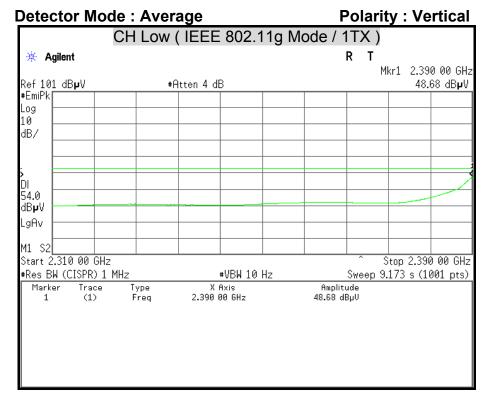


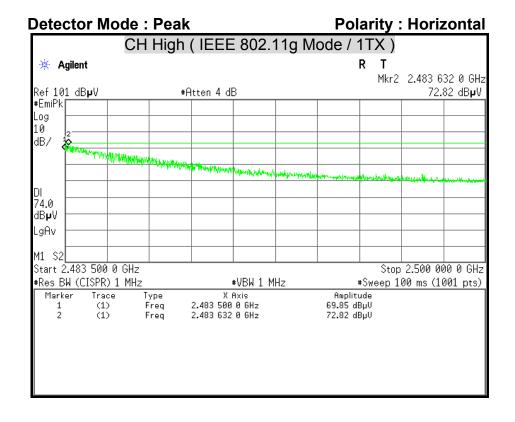


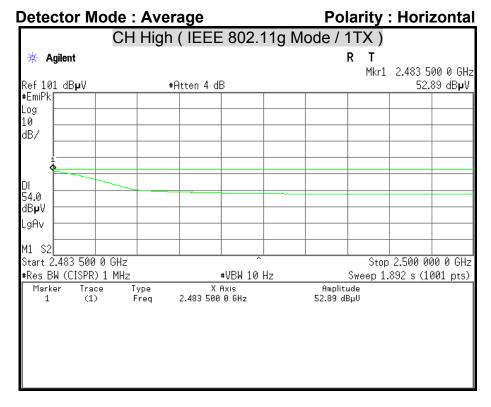


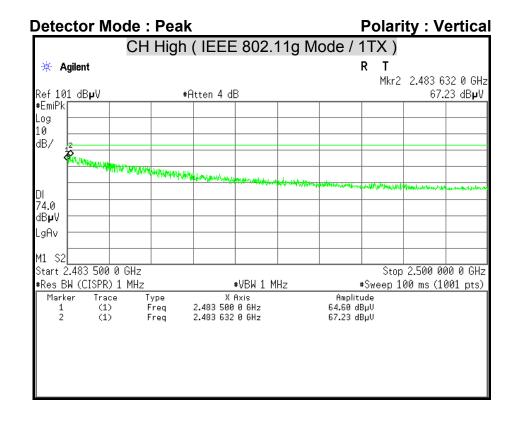


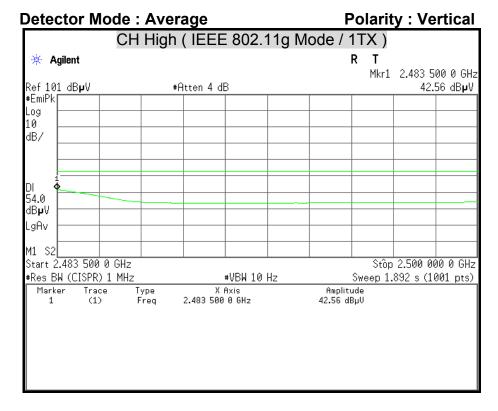


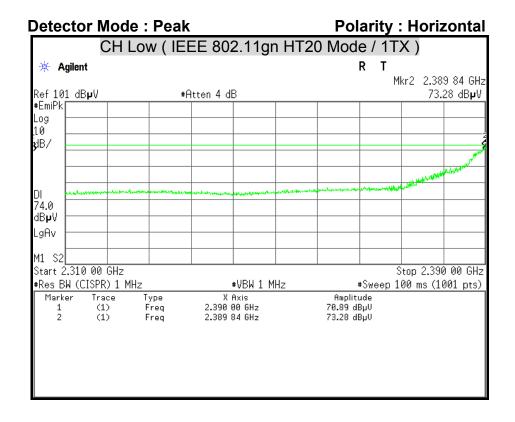


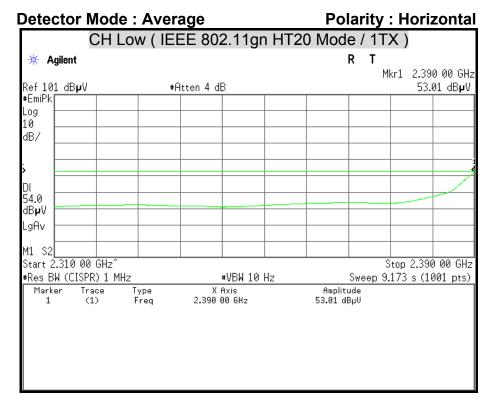


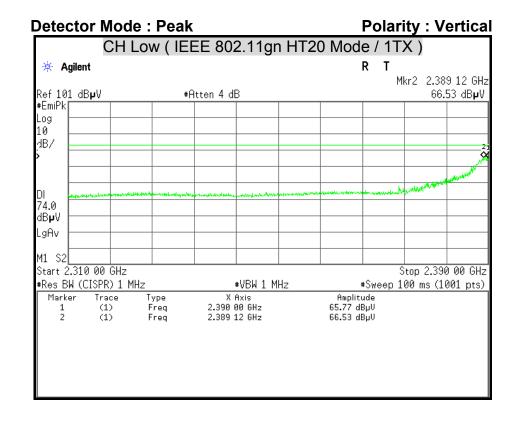


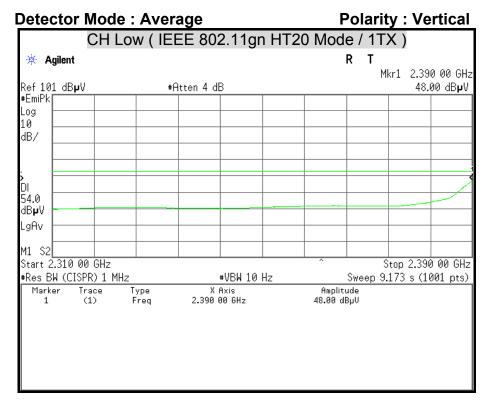


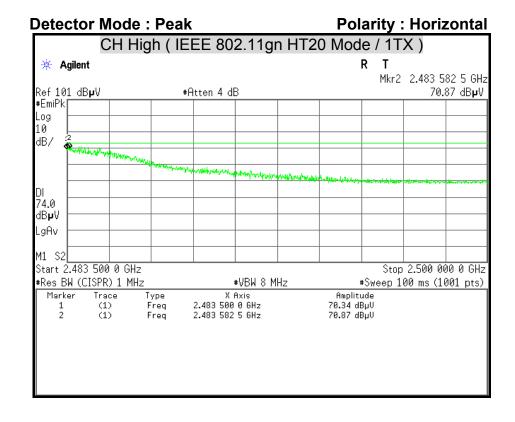


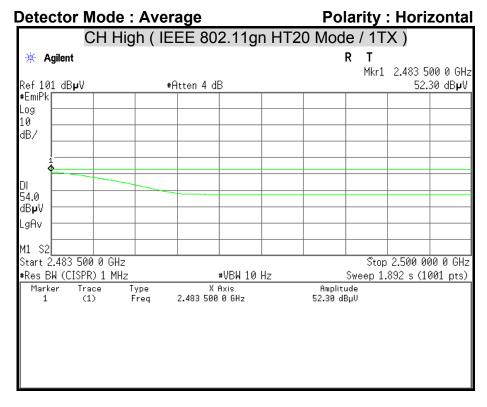


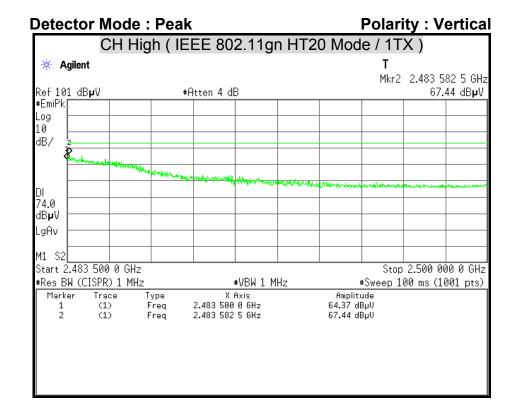


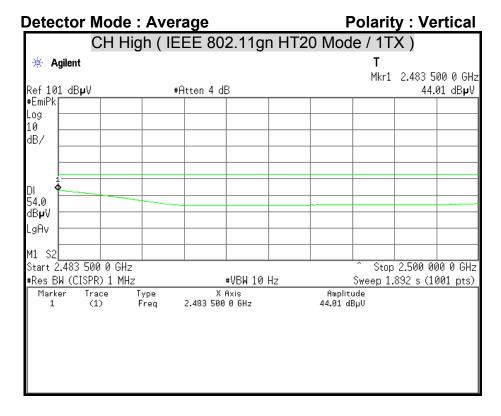


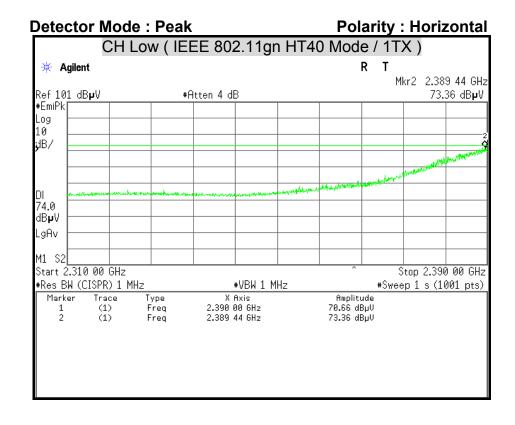


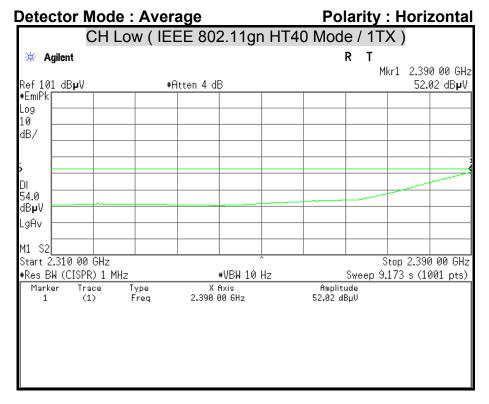


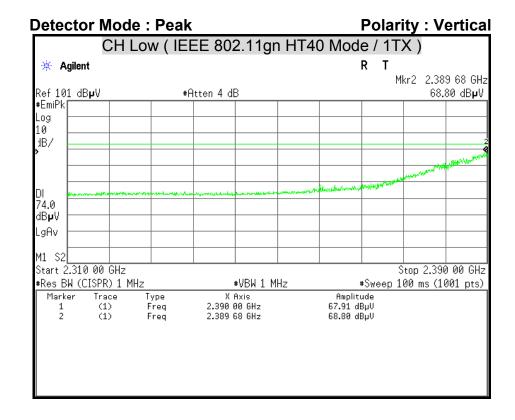


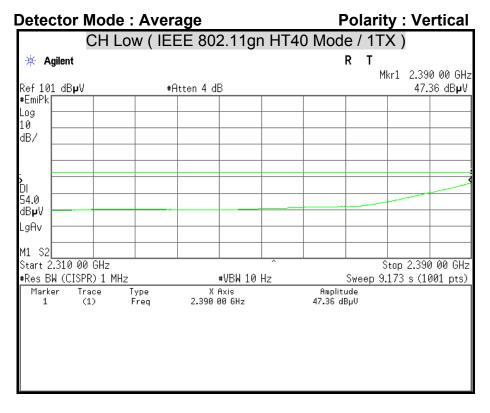


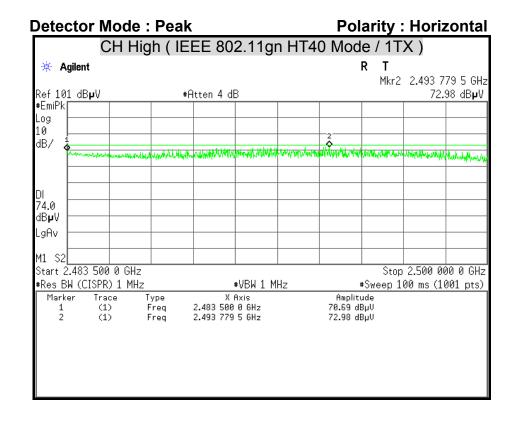


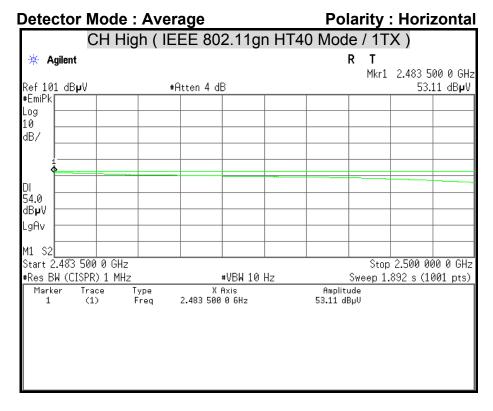


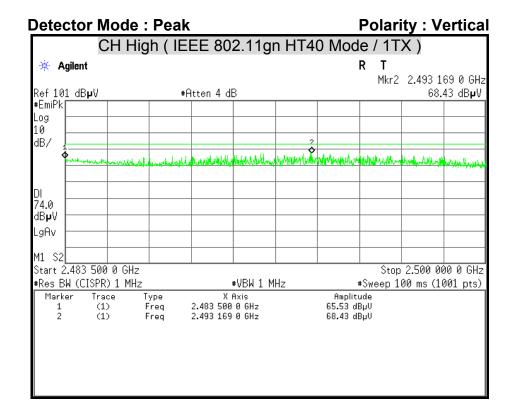


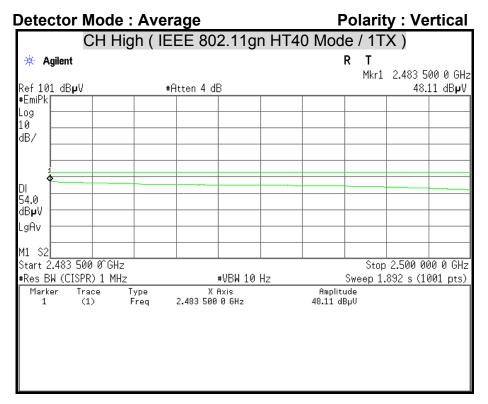


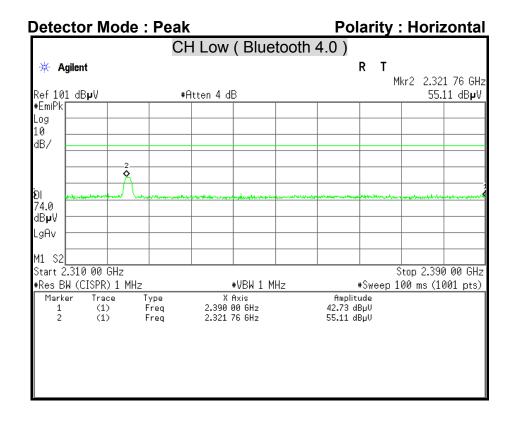


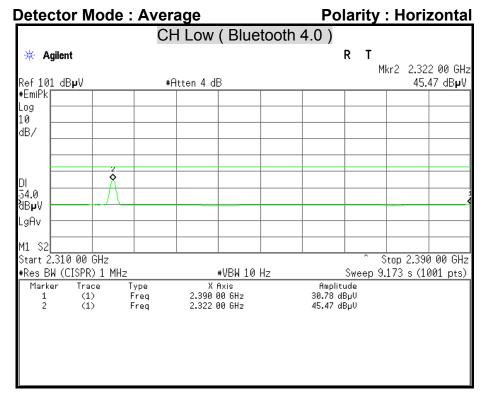


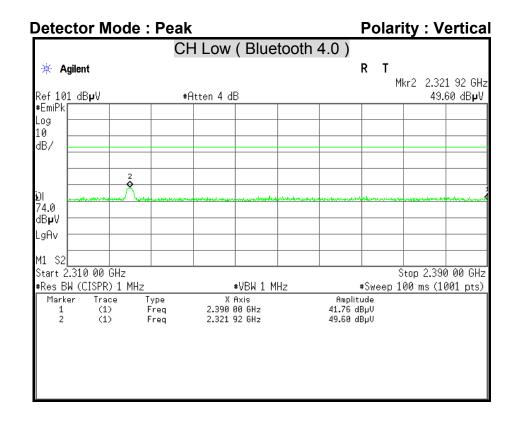


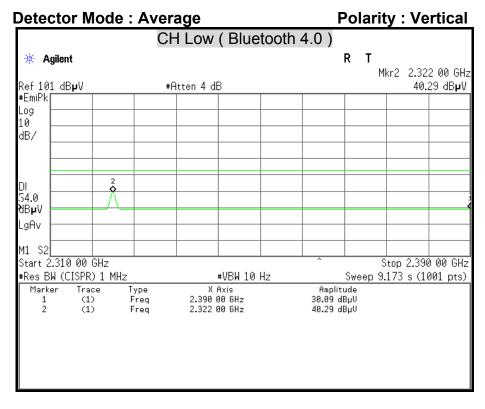


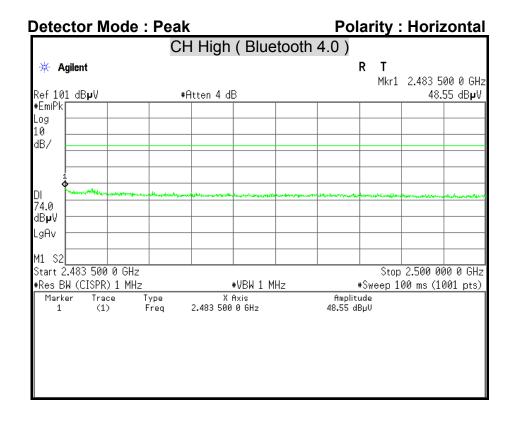


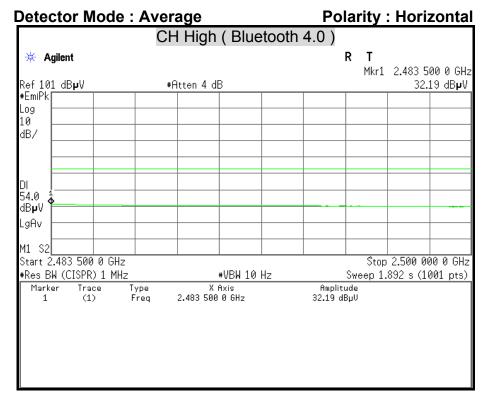


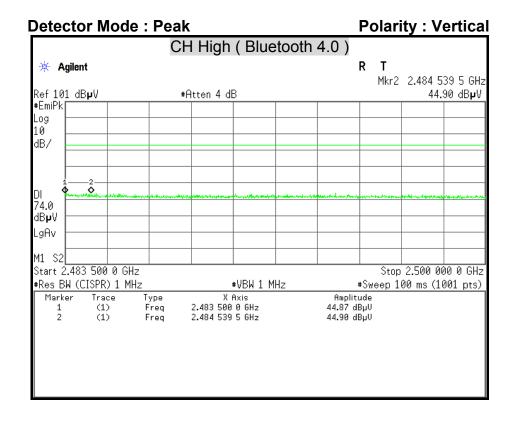


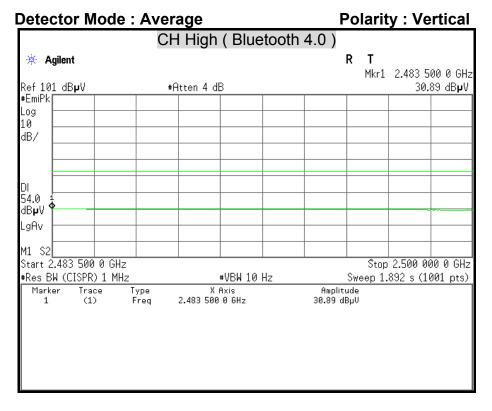


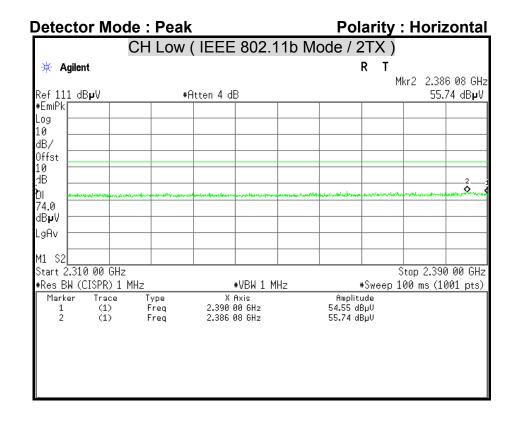


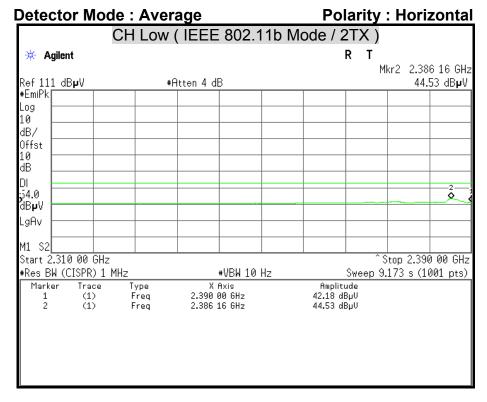


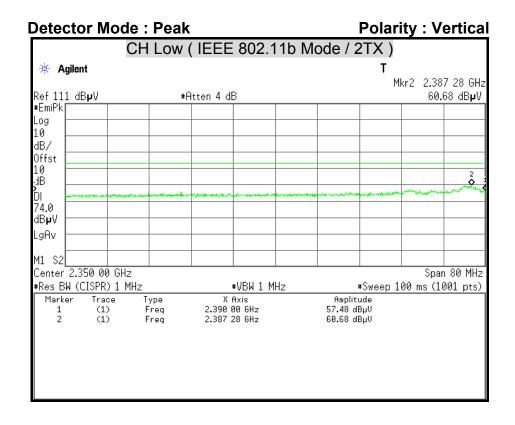


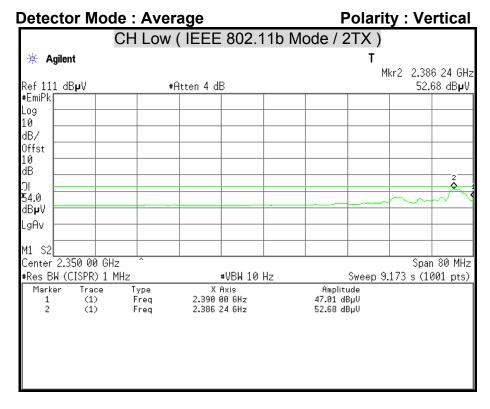


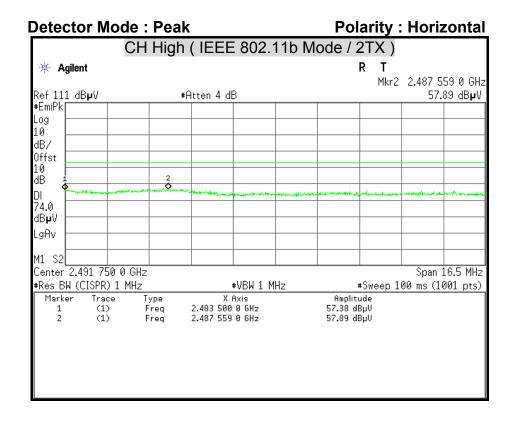


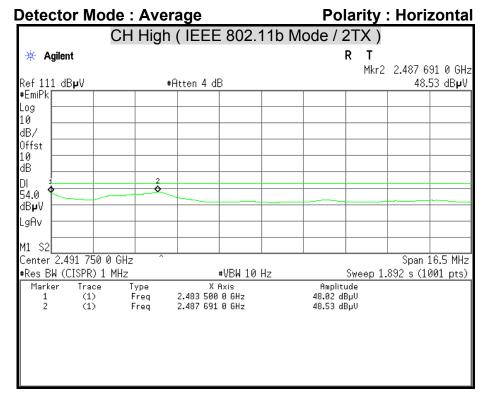


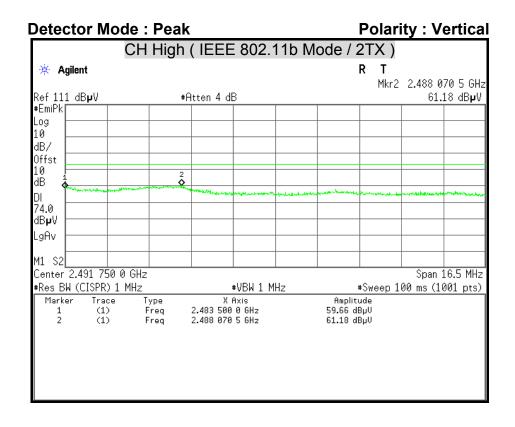


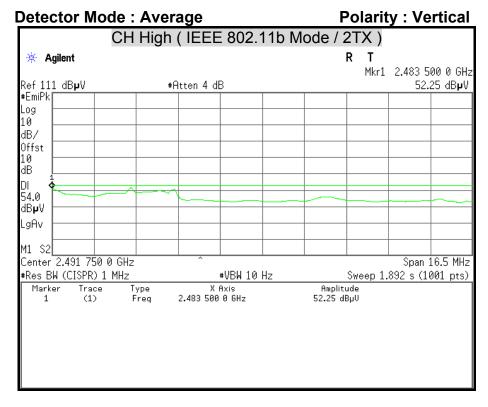


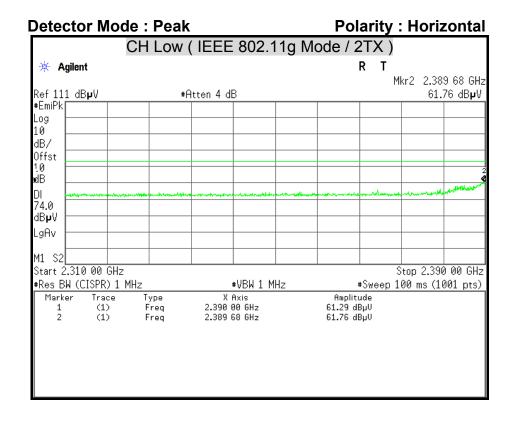


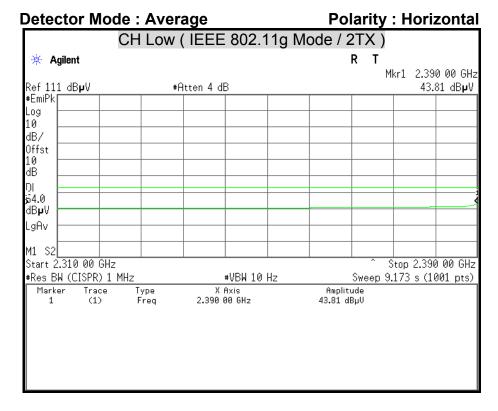


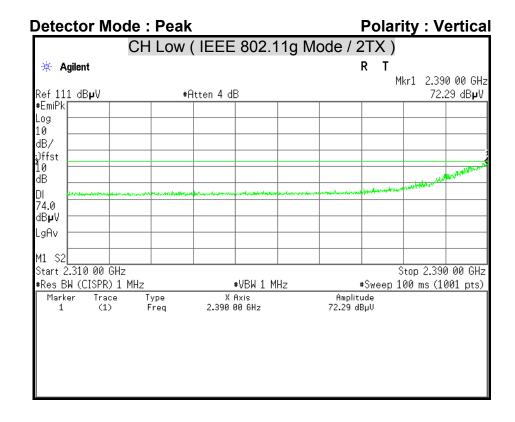


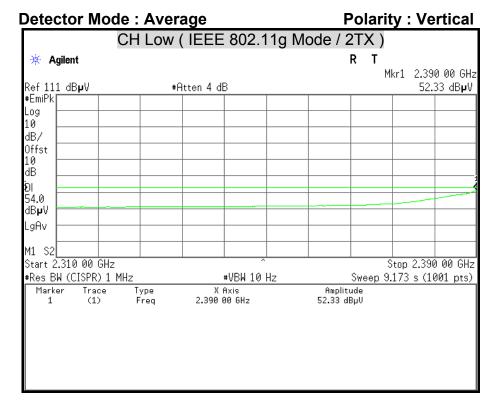


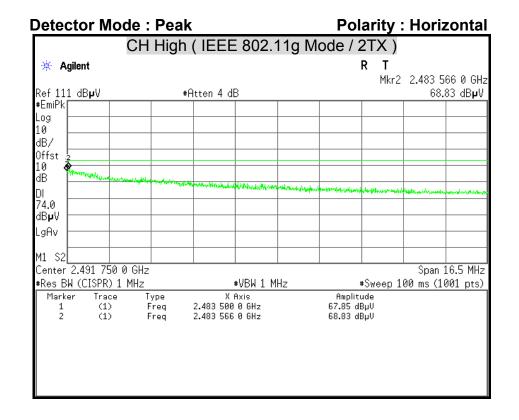


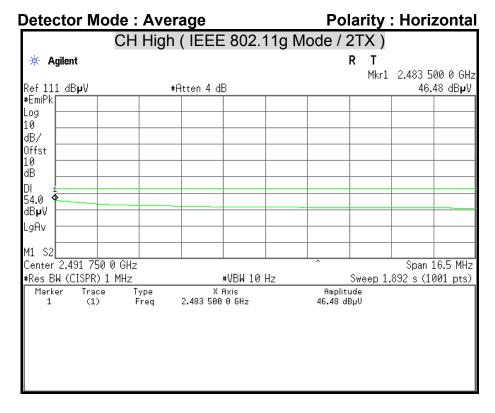


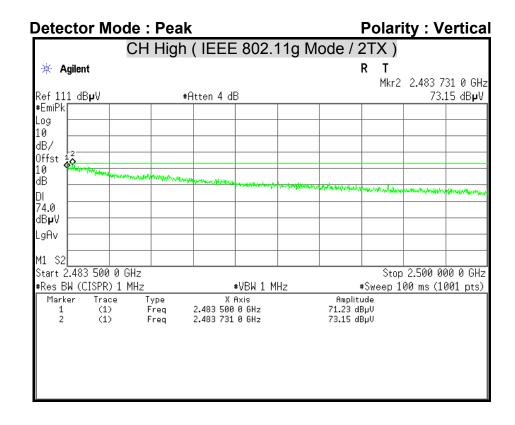


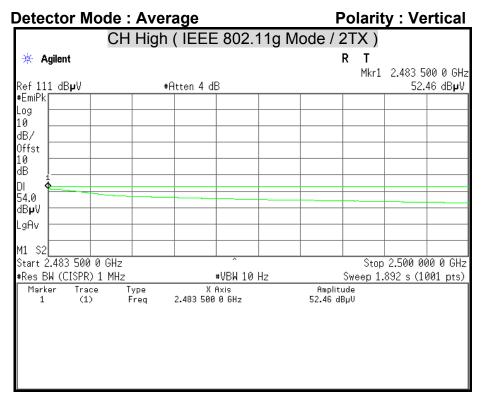


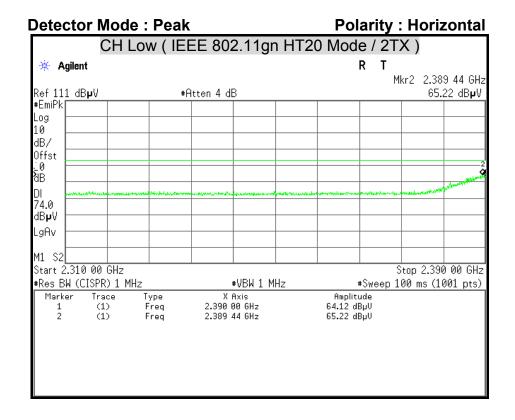


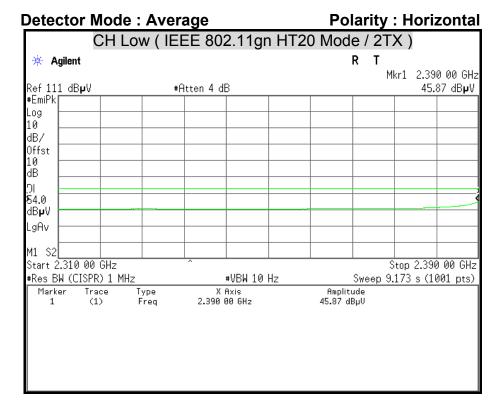


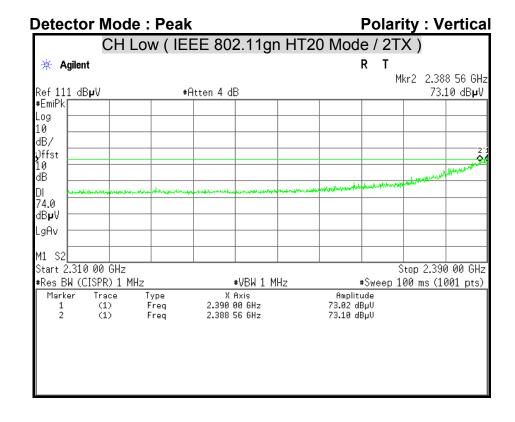


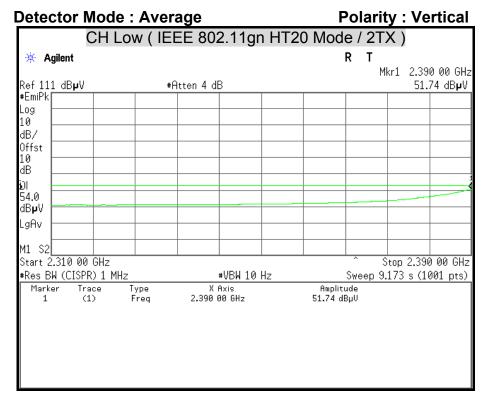


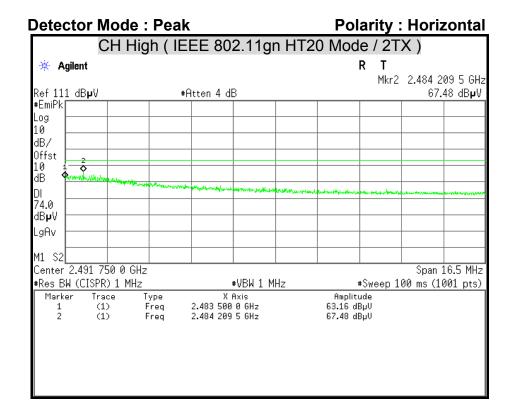


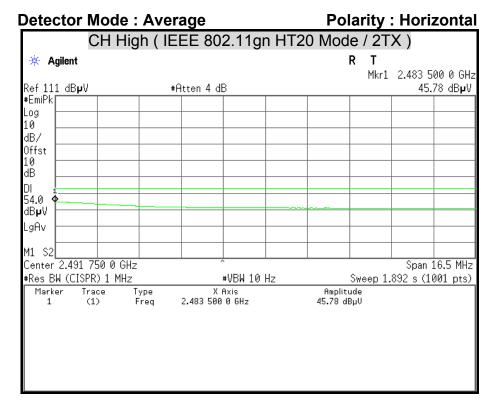


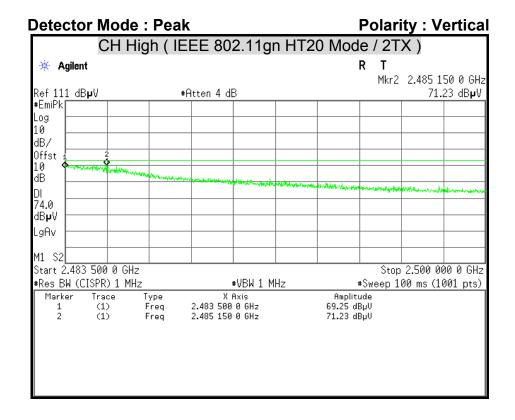


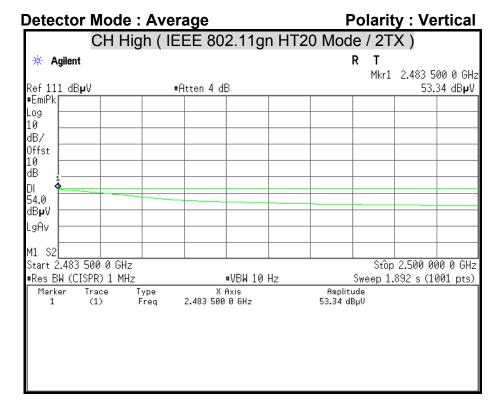


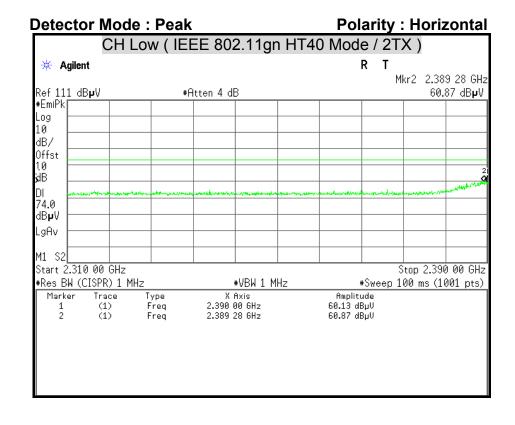


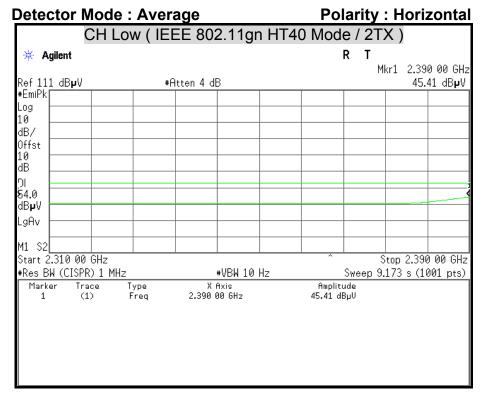


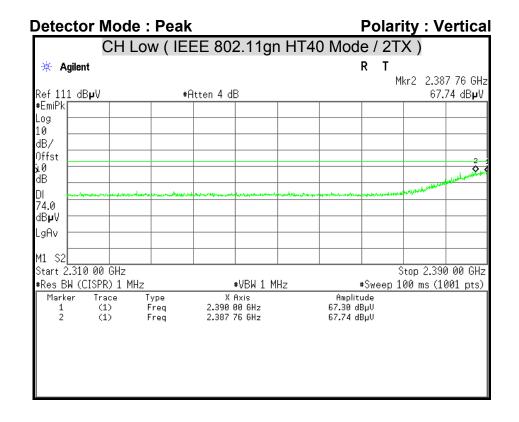


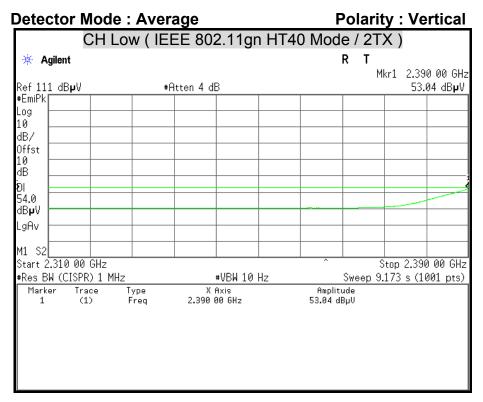


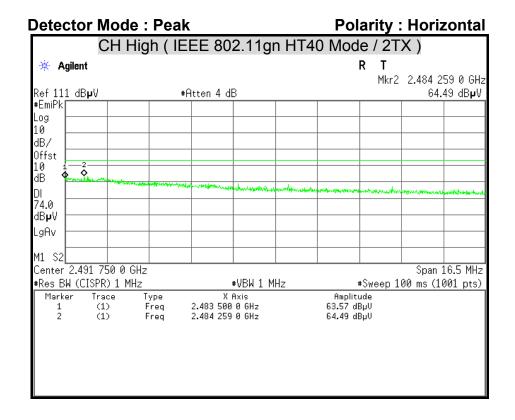


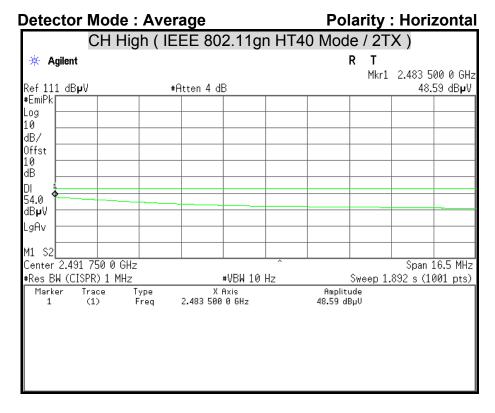


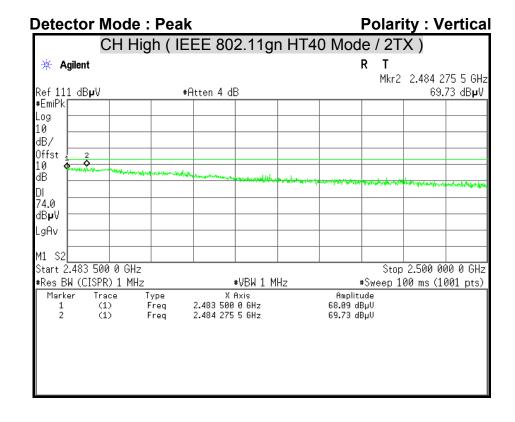


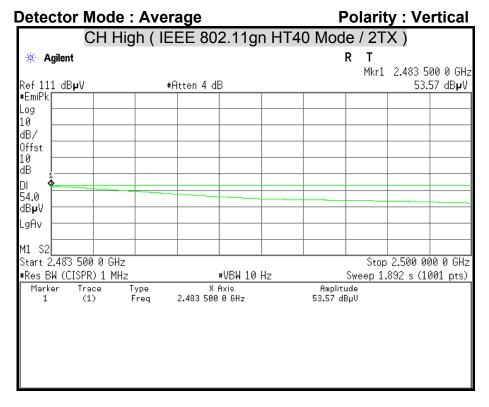












: M82-TREK570LTE Report No.: T140912L01-RP1

### 7.7 CONDUCTED EMISSION

### **LIMITS**

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range	Conducted Limit (dBµv)		
(MHz)	Quasi-peak	Average	
0.15 - 0.50	66 to 56	56 to 46	
0.50 - 5.00	56	46	
5.00 - 30.0	60	50	

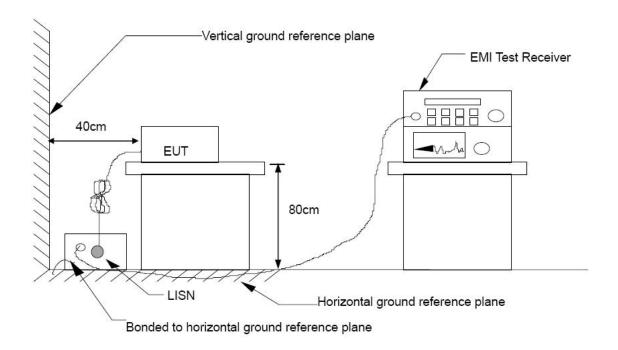
#### **TEST EQUIPMENT**

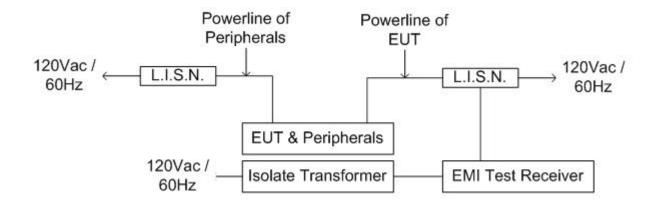
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-465	08/06/2015
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-473	03/10/2015
EMI Receiver	ROHDE & SCHWARZ	ESHS 30	838550/003	11/02/2015
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	100111	06/30/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

FCC ID: M82-TREK570LTE Report No.: T140912L01-RP1

## **TEST SETUP**





CC ID: M82-TREK570LTE Report No.: T140912L01-RP1

# **TEST PROCEDURE**

The basic test procedure was in accordance with ANSI C63.10:2009.

The test procedure is performed in a 4m × 3m × 2.4m (L×W×H) shielded room.

The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.

The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.

The EUT was located so that the distance between the boundary of the EUT and the closest surface of the LISN is 0.8 m. Where a mains flexible cord was provided by the manufacturer shall be 1 m long, or if in excess of 1 m, the excess cable was folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

## **TEST RESULTS**

Since the EUT is powered by DC source from system, this test item is not applicable.