

FCC REPORT

(WIFI)

Applicant: Baicells Technologies Co., Ltd.

Address of Applicant: 3F, Hui Yuan Development Building, No.1 Shangdi Information Industry Base, Haidian Dist., Beijing, China

Equipment Under Test (EUT)

Product Name: LTE Indoor CPE

Model No.: EG2011B

Trade mark: BaiCells

FCC ID: 2AG32EG2011B

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 17 Jan., 2018

Date of Test: 17 Jan., to 15 Mar., 2018

Date of report issued: 16 Mar., 2018

Test Result: PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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2 Version

Version No.	Date	Description
00	16 Mar., 2018	Original

Tested by:



Date:

16 Mar., 2018

Test Engineer

Reviewed by:



Date:

16 Mar., 2018

Project Engineer

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4 Test Summary

Test Items	Section	Result
Antenna Requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Conducted and Radiated Spurious Emission	15.205/15.209	Pass

5 General Information

5.1 Client Information

Applicant:	Baicells Technologies Co., Ltd.
Address of Applicant:	3F, Hui Yuan Development Building, No.1 Shangdi Information Industry Base, Haidian Dist., Beijing, China
Manufacturer:	Baicells Technologies Co., Ltd.
Address of Manufacturer:	3F, Hui Yuan Development Building, No.1 Shangdi Information Industry Base, Haidian Dist., Beijing, China

5.2 General Description of E.U.T.

Product Name:	LTE Indoor CPE
Model No.:	EG2011B
Operation Frequency:	2447MHz~2457MHz (802.11b/802.11g/802.11n(H20)) 2452MHz (802.11n(H40))
Channel numbers:	3 for 802.11b/802.11g/802.11n(H20) 1 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 300Mbps
Antenna Type:	PCB Antenna
Antenna gain:	3dBi
Power supply:	DC 5V
AC adapter:	Model: ADS-25FSG-06 05015EPCU Input: AC100-240V, 50/60Hz, 0.7A Output: DC 5V, 3.0A

Operation Frequency each of channel for 802.11b/g/n(H20)/n(H40)					
Channel	Frequency	Channel	Frequency	Channel	Frequency
8	2447MHz	9	2452MHz	10	2457MHz
<p>Note:</p> <ol style="list-style-type: none"> Channel 8, 9 & 10 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel, Channel; 9 selected for 802.11n-HT40 as Middle channel. The EUT only uses of the WiFi protocol were three channels. 					

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation
<p>The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p> <p>We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:</p>	
Per-scan all kind of data rate, the follow list were the worst case.	
Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	13Mbps
802.11n(H40)	27Mbps

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Items	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 30MHz)	2.14 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	4.24 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	4.35 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	4.44 dB (k=2)
Radiated Emission (18GHz ~ 26.5GHz)	4.56 dB (k=2)

5.6 Laboratory Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● FCC - Registration No.: 727551 Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551. ● IC - Registration No.: 10106A-1 The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● CNAS - Registration No.: CNAS L6048 Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
 Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
 Bao'an District, Shenzhen, Guangdong, China
 Tel: +86-755-23118282, Fax: +86-755-23116366
 Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

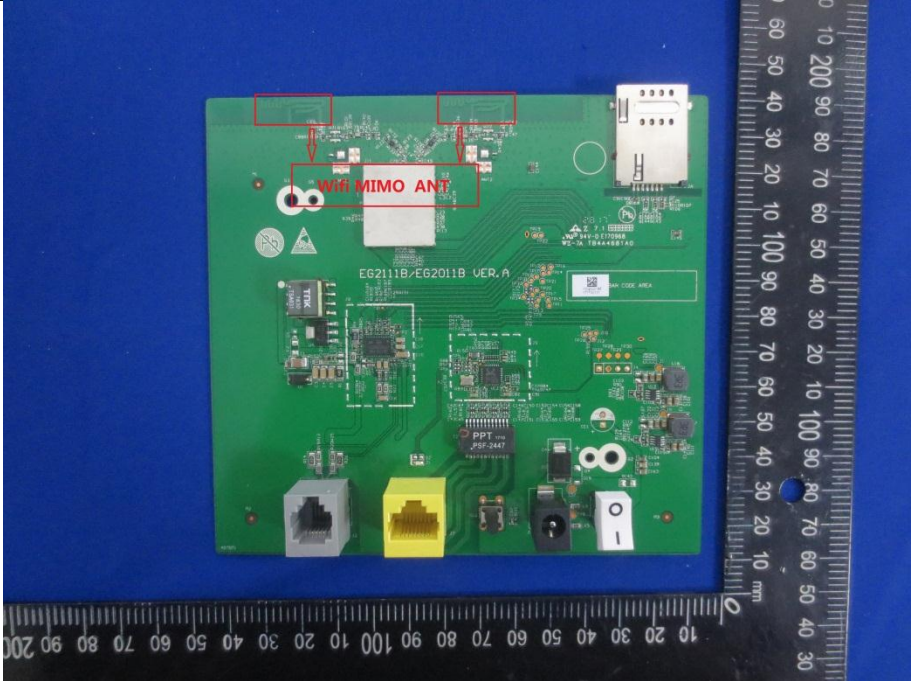
5.8 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	00044	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Horn Antenna	SCHWARZBECK	BBHA9120D	916	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
EMI Test Software	AUDIX	E3	6.110919b	N/A	N/A
Pre-amplifier	HP	8447D	2944A09358	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Pre-amplifier	CD	PAP-1G18	11804	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Cable	ZDECL	Z108-NJ-NJ-81	1608458	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Cable	MICRO-COAX	MFR64639	K10742-5	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Cable	SUHNER	SUCOFLEX100	58193/4PE	02-25-2017	02-24-2018
				02-23-2018	02-22-2019

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
LISN	CHASE	MN2050D	1447	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2017	07-20-2018
Cable	HP	10503A	N/A	02-25-2017	02-24-2018
				02-23-2018	02-22-2019
EMI Test Software	AUDIX	E3	6.110919b	N/A	N/A

6 Test results and Measurement Data

6.1 Antenna requirement:

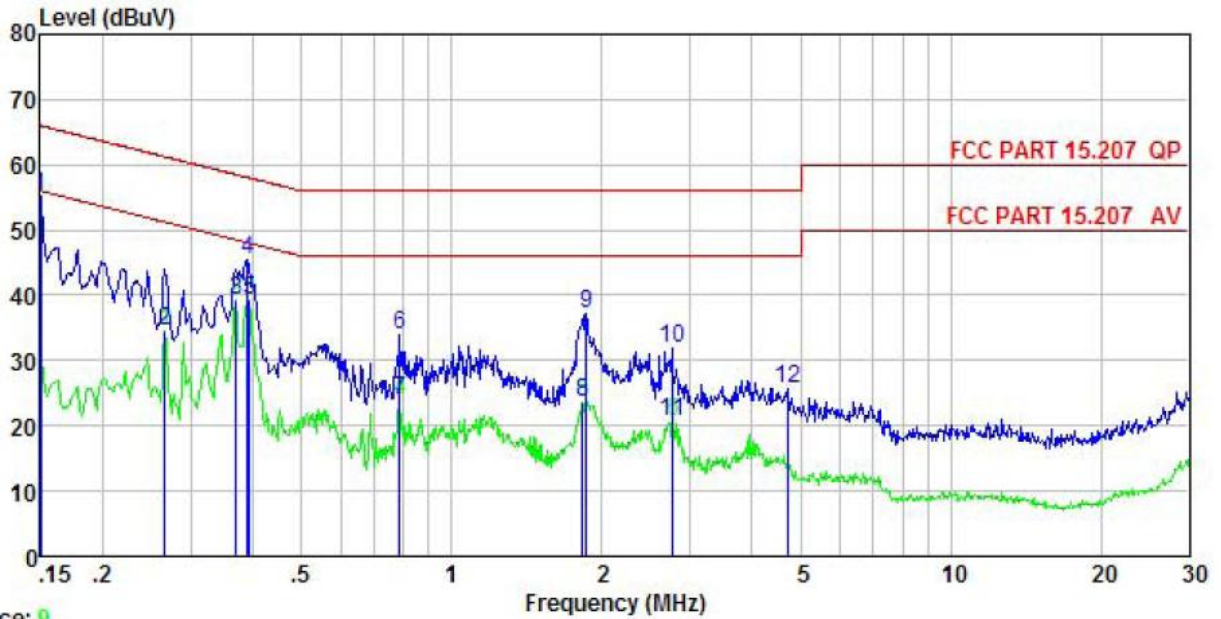
Standard requirement:	FCC Part 15 C Section 15.203 /247(c)
<p><i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i></p> <p><i>15.247(c) (1)(i) requirement:</i> <i>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</i></p>	
E.U.T Antenna:	
<p><i>The WiFi antenna is an PCB antenna which cannot replace by end-user, the best case gain of the antenna is 3 dBi.</i></p>	
 <p>The image shows a green printed circuit board (PCB) with a white antenna element. A red box highlights the antenna area, which is labeled 'WiFi MIMO ANT'. The PCB is populated with various components, including a central chip labeled 'EG2111B/E62011B VER. A', a yellow Ethernet port, a grey Ethernet port, and a white USB port. A ruler is placed vertically on the right side of the board for scale, showing measurements in millimeters.</p>	

6.2 Conducted Emission

Test Requirement:	FCC Part 15 C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz		
Limit:	Frequency range (MHz)	Limit (dBUV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test procedure	<ol style="list-style-type: none"> The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement. 		
Test setup:	<p><i>Remark</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>		
Test Instruments:	Refer to section 5.8 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Data:

Test Polarization: Neutral



Trace: 9

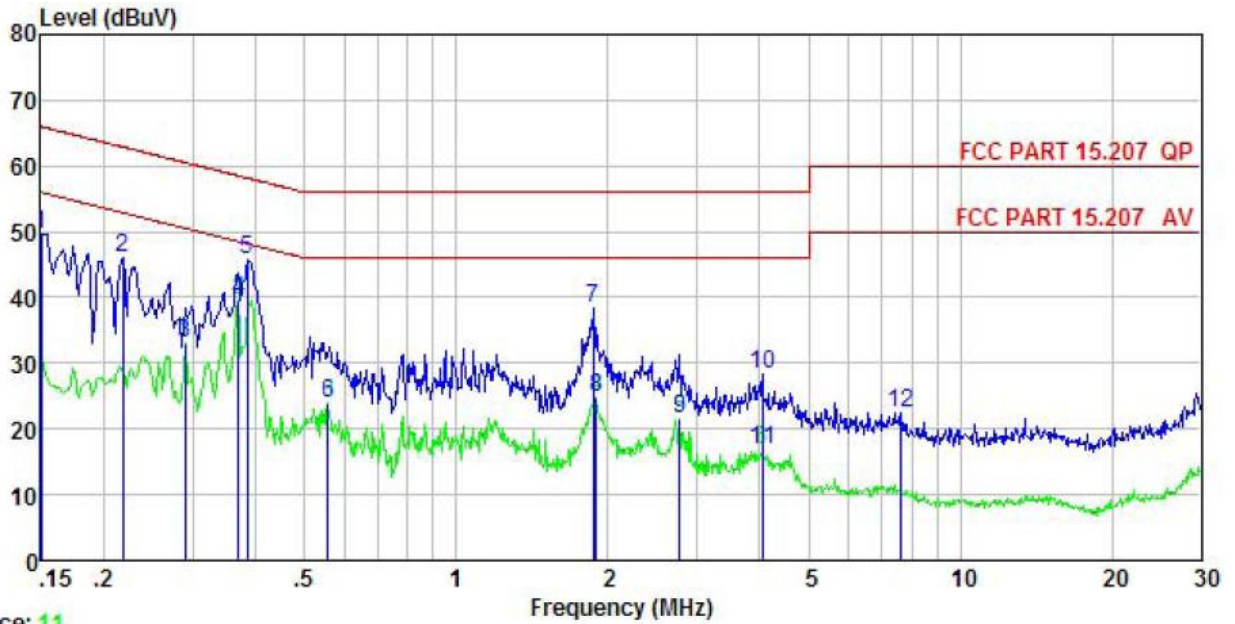
Site : CCIS Shielding Room
 Condition : FCC PART 15.207 QP LISN(RS) NEUTRAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test Mode : Wifi mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: MT
 Remark :

	Read	LISN	Cable	Limit	Over	
Freq	Level	Factor	Loss	Level	Line	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	43.62	0.70	10.78	55.10	66.00 -10.90 QP
2	0.266	23.05	0.65	10.75	34.45	51.25 -16.80 Average
3	0.369	28.02	0.63	10.73	39.38	48.52 -9.14 Average
4	0.389	34.25	0.62	10.72	45.59	58.08 -12.49 QP
5	0.393	27.83	0.62	10.72	39.17	47.99 -8.82 Average
6	0.788	22.41	0.65	10.81	33.87	56.00 -22.13 QP
7	0.788	12.56	0.65	10.81	24.02	46.00 -21.98 Average
8	1.829	11.94	0.67	10.95	23.56	46.00 -22.44 Average
9	1.858	25.72	0.67	10.95	37.34	56.00 -18.66 QP
10	2.765	20.41	0.68	10.93	32.02	56.00 -23.98 QP
11	2.779	9.14	0.68	10.93	20.75	46.00 -25.25 Average
12	4.696	14.22	0.70	10.86	25.78	56.00 -30.22 QP

Notes:

1. An initial pre-scan was performed on the live and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

Test Polarization: Line



Trace: 11

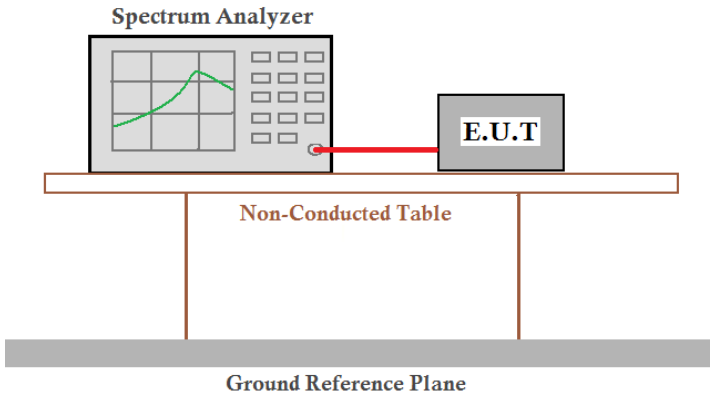
Site : CCIS Shielding Room
 Condition : FCC PART 15.207 QP LISN(RS) LINE
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test Mode : Wifi mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: MT
 Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	38.24	0.71	10.78	49.73	66.00	-16.27	QP
2	0.219	34.44	0.73	10.76	45.93	62.88	-16.95	QP
3	0.289	21.59	0.74	10.74	33.07	50.54	-17.47	Average
4	0.369	28.09	0.75	10.73	39.57	48.52	-8.95	Average
5	0.385	34.16	0.75	10.72	45.63	58.17	-12.54	QP
6	0.555	12.27	0.76	10.76	23.79	46.00	-22.21	Average
7	1.868	26.52	0.78	10.95	38.25	56.00	-17.75	QP
8	1.898	12.98	0.78	10.95	24.71	46.00	-21.29	Average
9	2.779	9.85	0.77	10.93	21.55	46.00	-24.45	Average
10	4.049	16.60	0.77	10.89	28.26	56.00	-27.74	QP
11	4.049	5.18	0.77	10.89	16.84	46.00	-29.16	Average
12	7.646	10.83	0.73	10.83	22.39	60.00	-37.61	QP

Notes:

1. An initial pre-scan was performed on the live and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

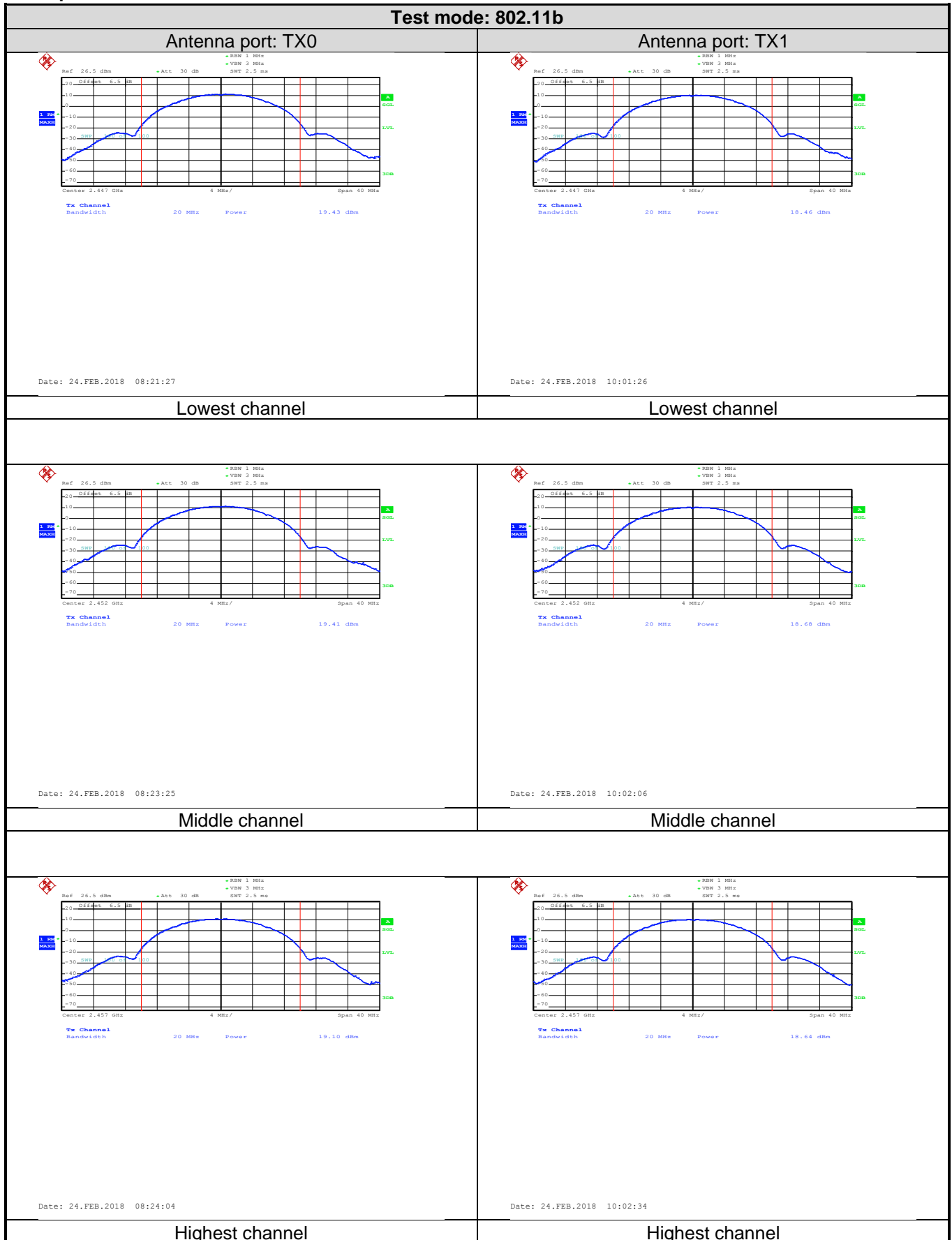
6.3 Conducted Output Power

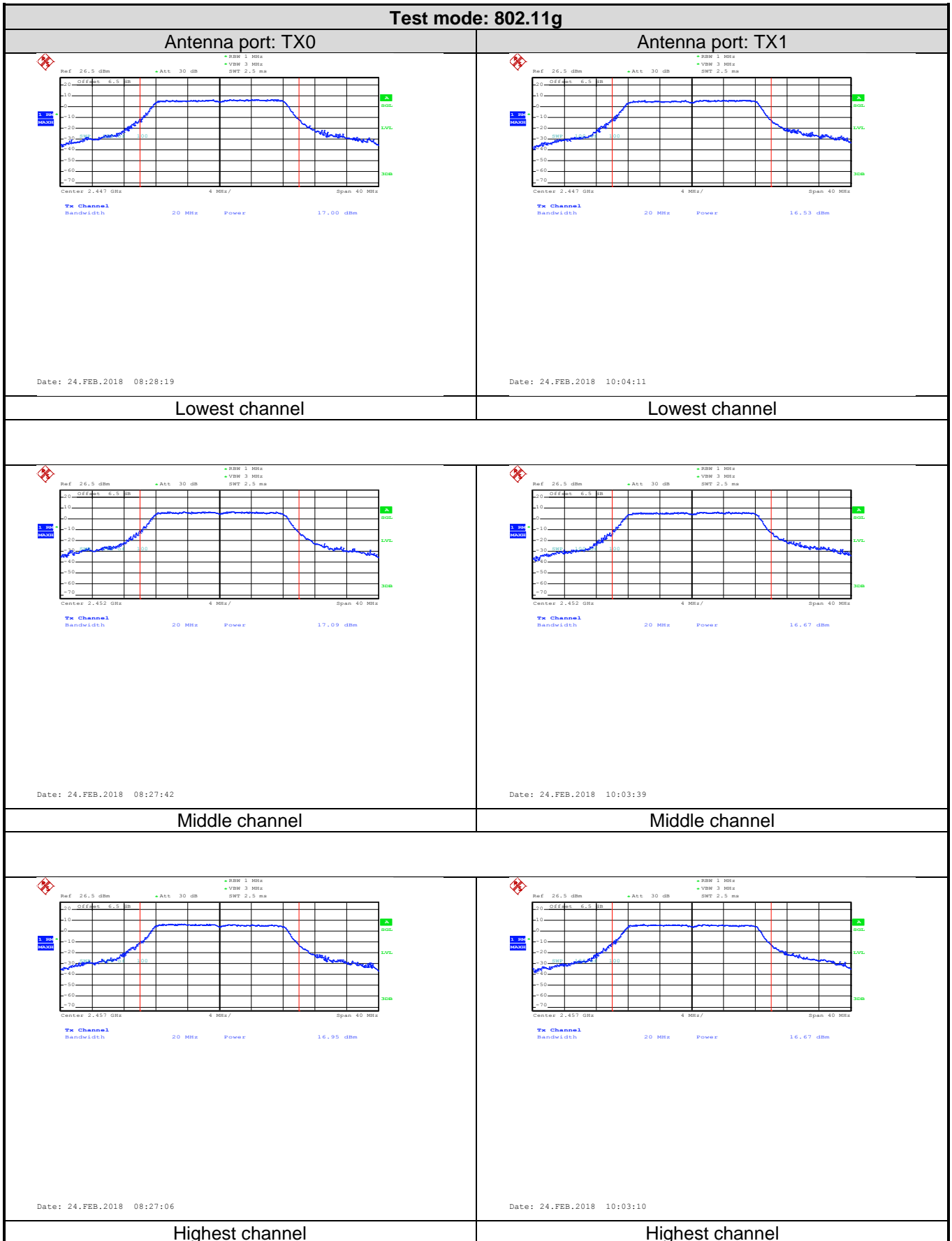
Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	30dBm
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer and an E.U.T (Equipment Under Test) are positioned on a Non-Conducted Table. A red line indicates the connection between the Spectrum Analyzer and the E.U.T. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

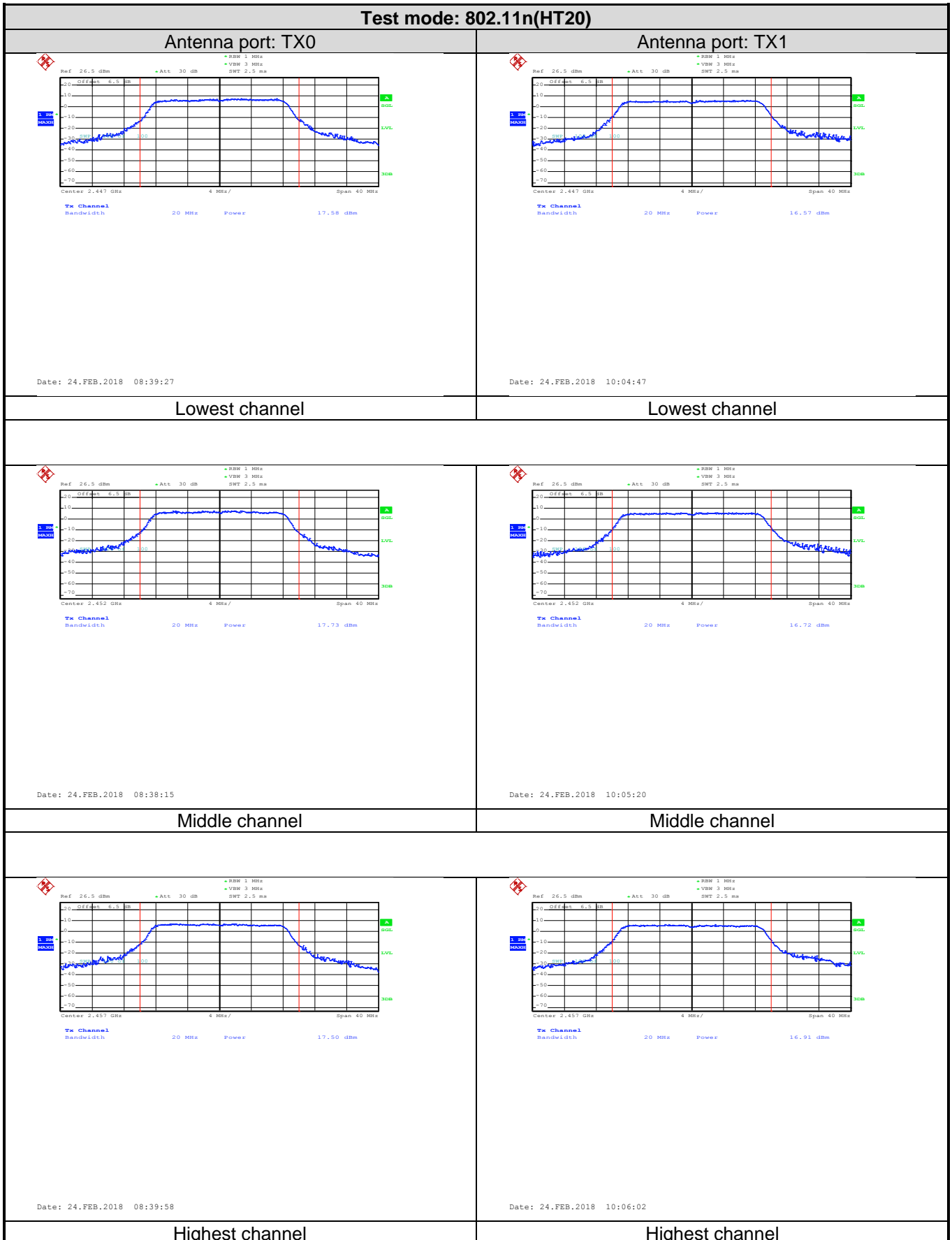
Measurement Data:

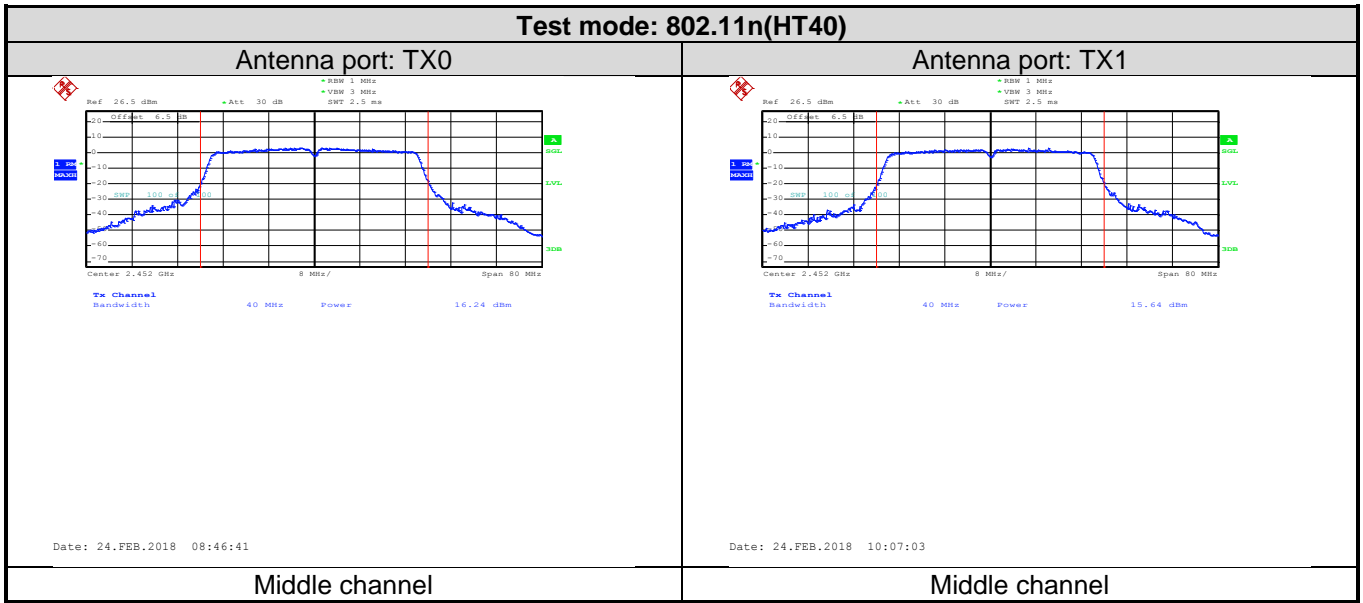
Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11b	Lowest	TX0	19.43	/	30	Pass
		TX1	18.46			
	Middle	TX0	19.41	/	30	Pass
		TX1	18.68			
	Highest	TX0	19.10	/	30	Pass
		TX1	18.64			
802.11g	Lowest	TX0	17.00	/	30	Pass
		TX1	16.53			
	Middle	TX0	17.09	/	30	Pass
		TX1	16.67			
	Highest	TX0	16.95	/	30	Pass
		TX1	16.67			
802.11n(H20)	Lowest	TX0	17.58	20.11	30	Pass
		TX1	16.57			
	Middle	TX0	17.73	20.26	30	Pass
		TX1	16.72			
	Highest	TX0	17.50	20.23	30	Pass
		TX1	16.91			
802.11n(H40)	Middle	TX0	16.24	18.96	30	Pass
		TX1	15.64			
Remark: Because the transmit signals are completely uncorrelated, so the Directional gain = G_{ANT} .						

Test plot as follows:

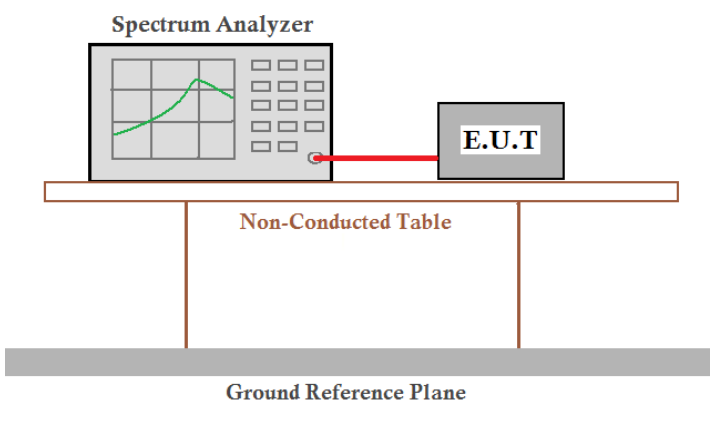








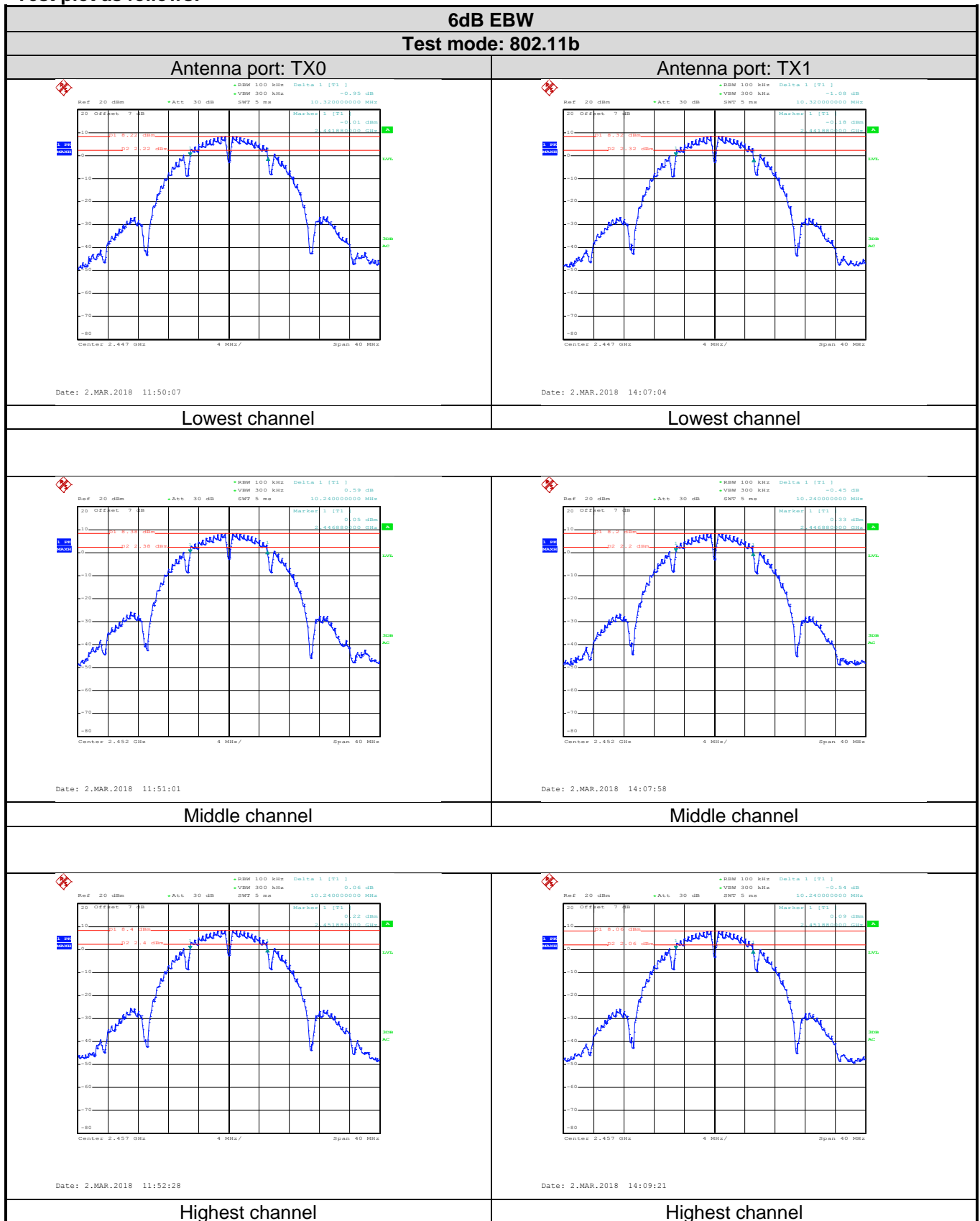
6.4 Occupy Bandwidth

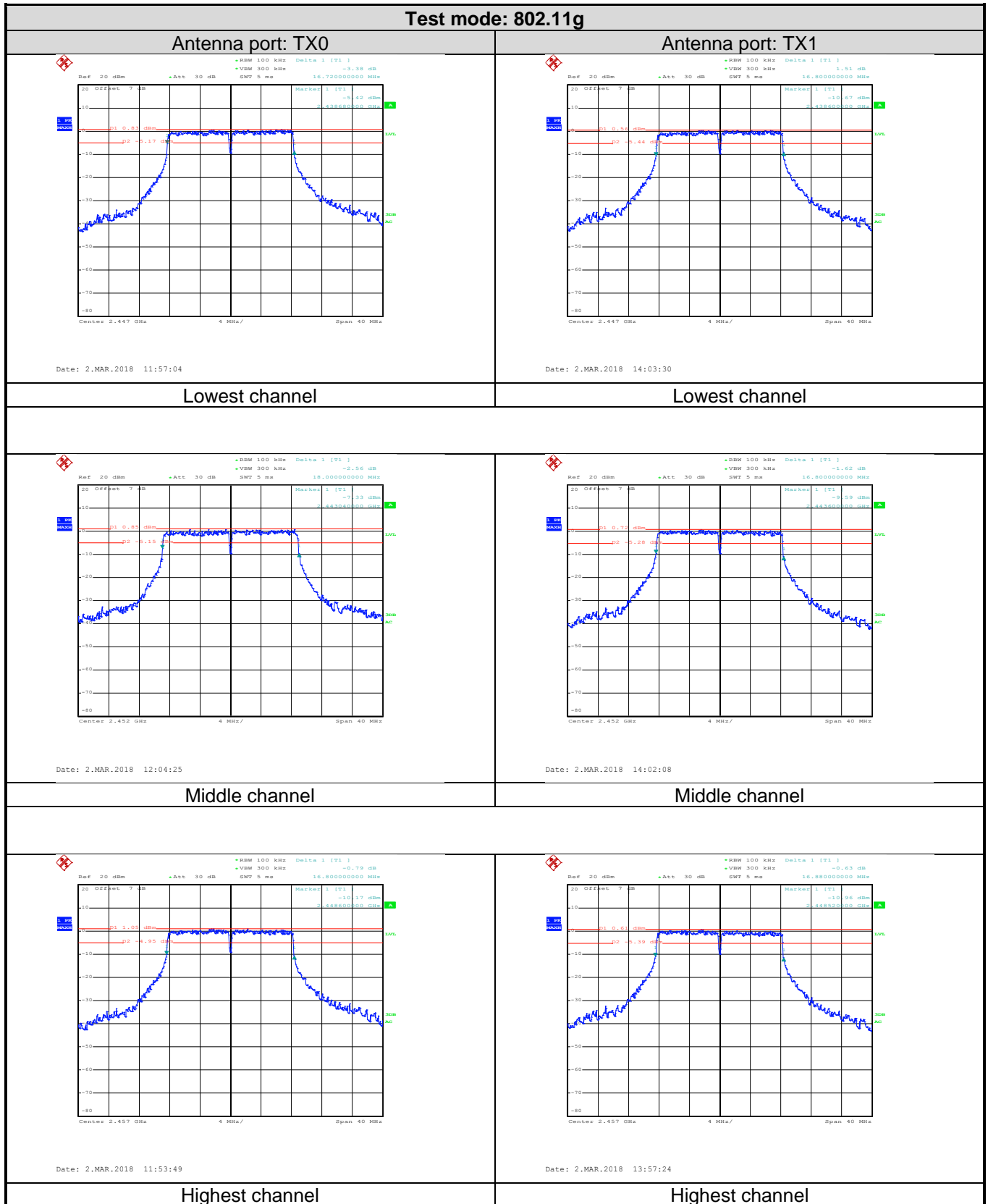
Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	>500kHz
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by two legs. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

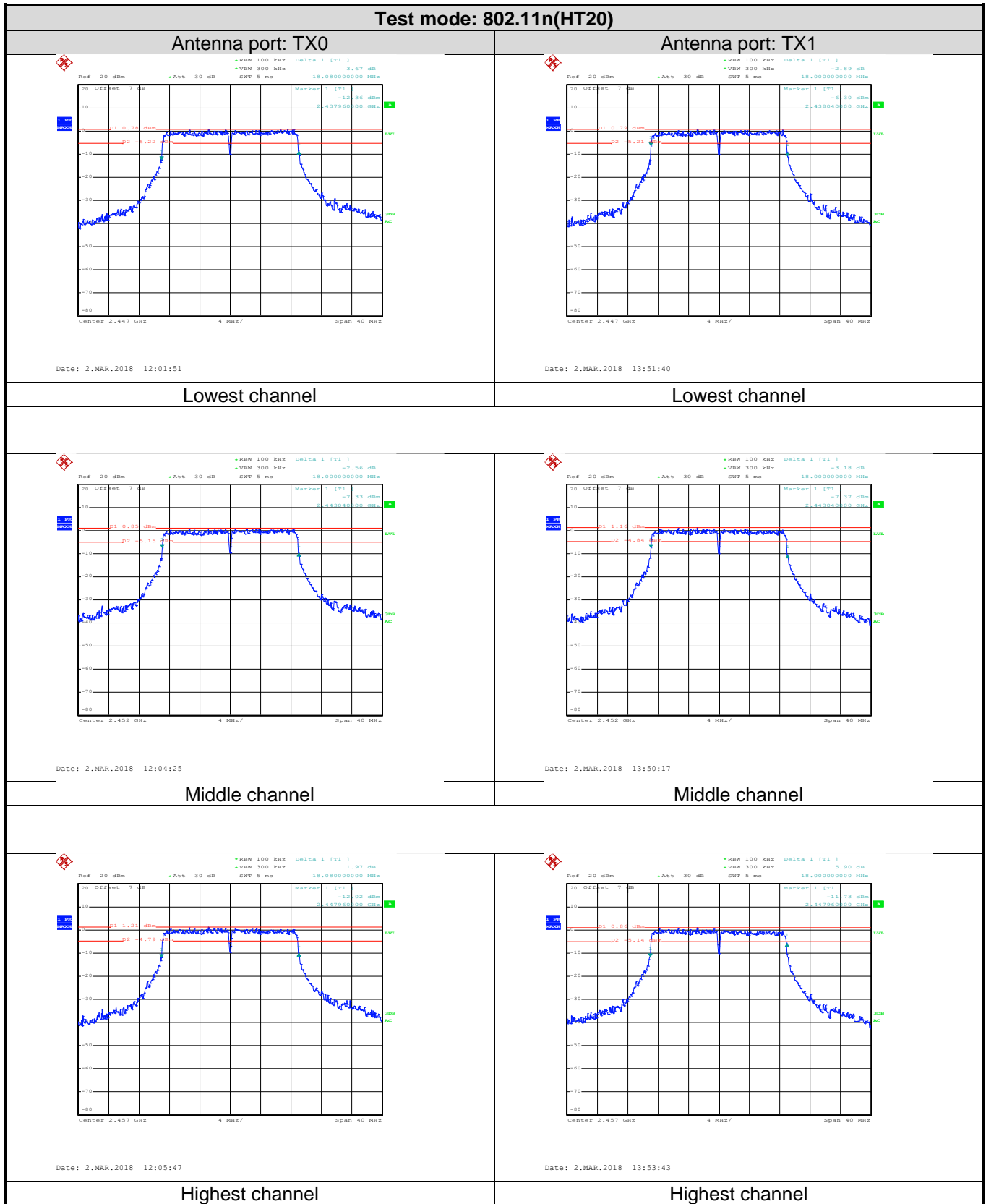
Measurement Data:

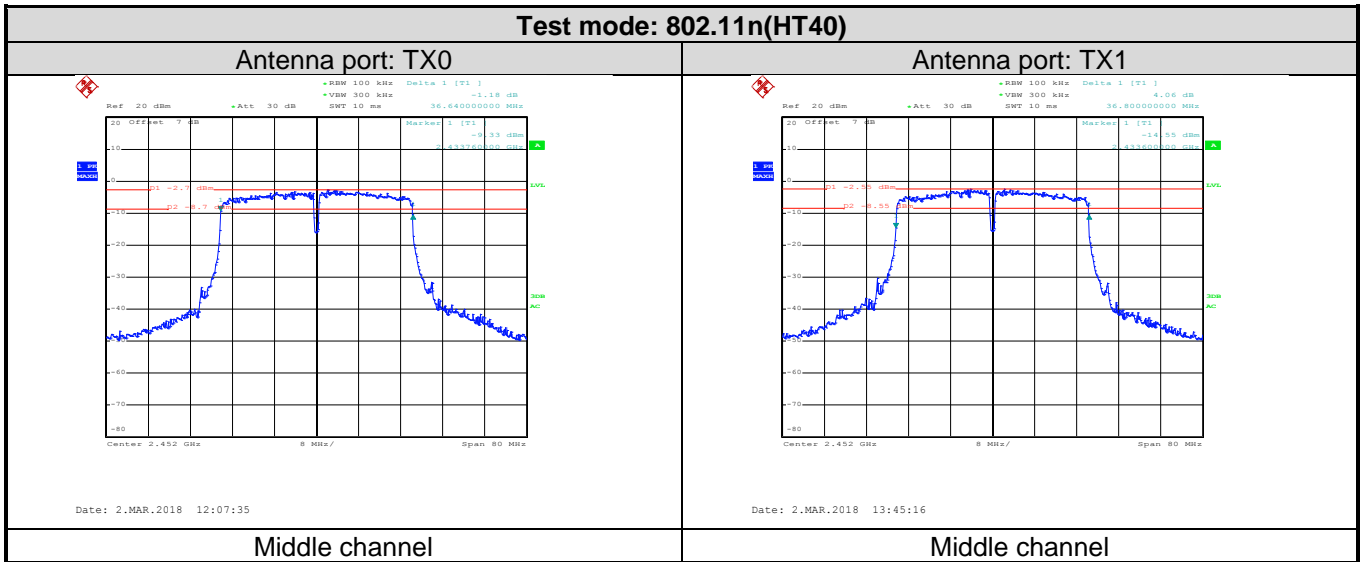
Antenna port: TX0						
Test CH	6dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	10.32	16.72	18.08	/	>500	Pass
Middle	10.24	16.80	18.00	36.64		
Highest	10.24	16.80	18.08	/		
Test CH	99% Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	15.04	16.56	17.84	/	N/A	N/A
Middle	15.04	16.56	17.76	36.16		
Highest	15.20	16.56	17.76	/		
Antenna port: TX1						
Test CH	6dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	10.32	16.80	18.00	/	>500	Pass
Middle	10.24	16.80	18.00	36.80		
Highest	10.24	16.88	18.00	/		
Test CH	99% Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	15.12	16.56	17.84	/	N/A	N/A
Middle	15.12	16.56	17.84	36.00		
Highest	15.20	16.56	17.76	/		

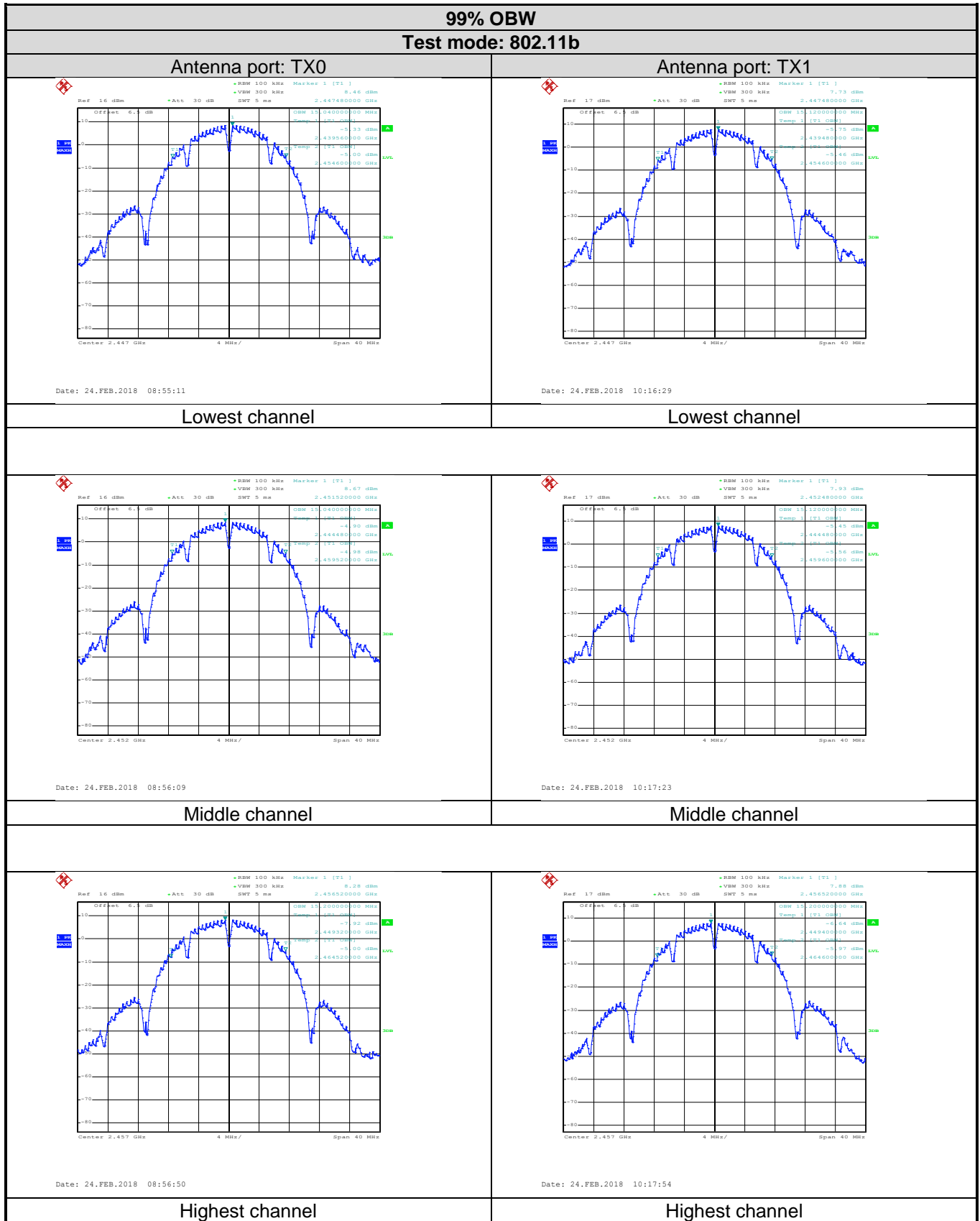
Test plot as follows:

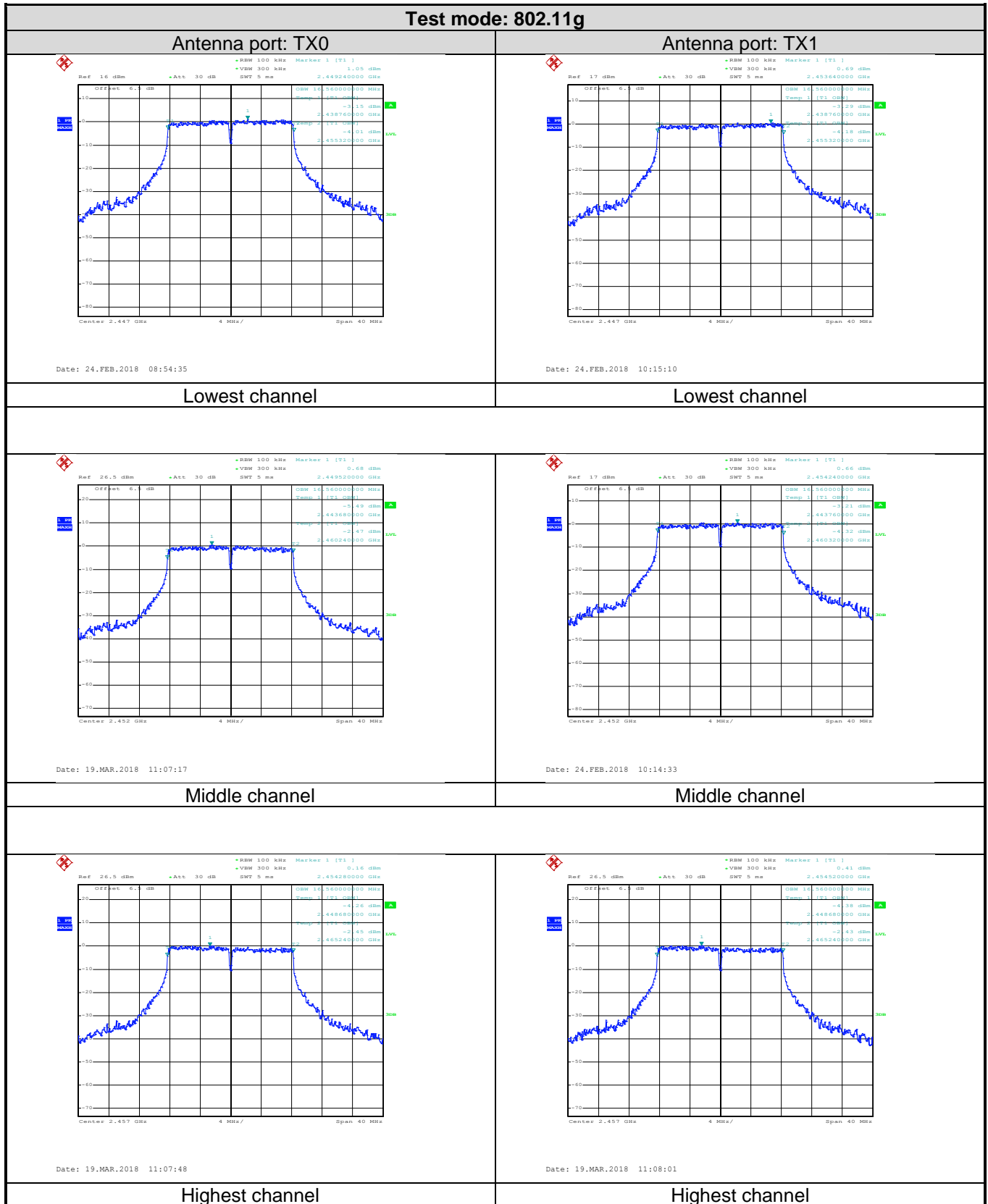


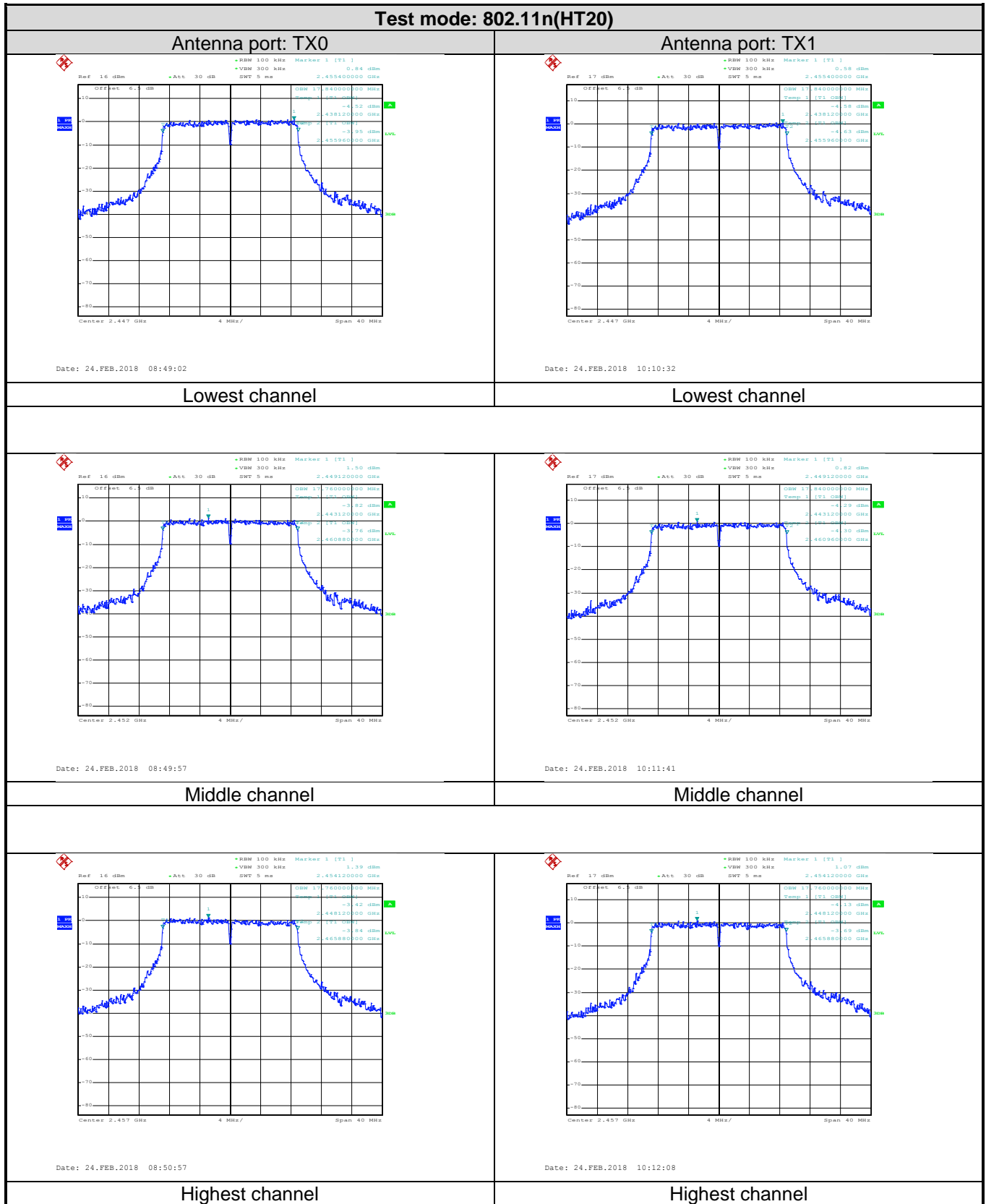


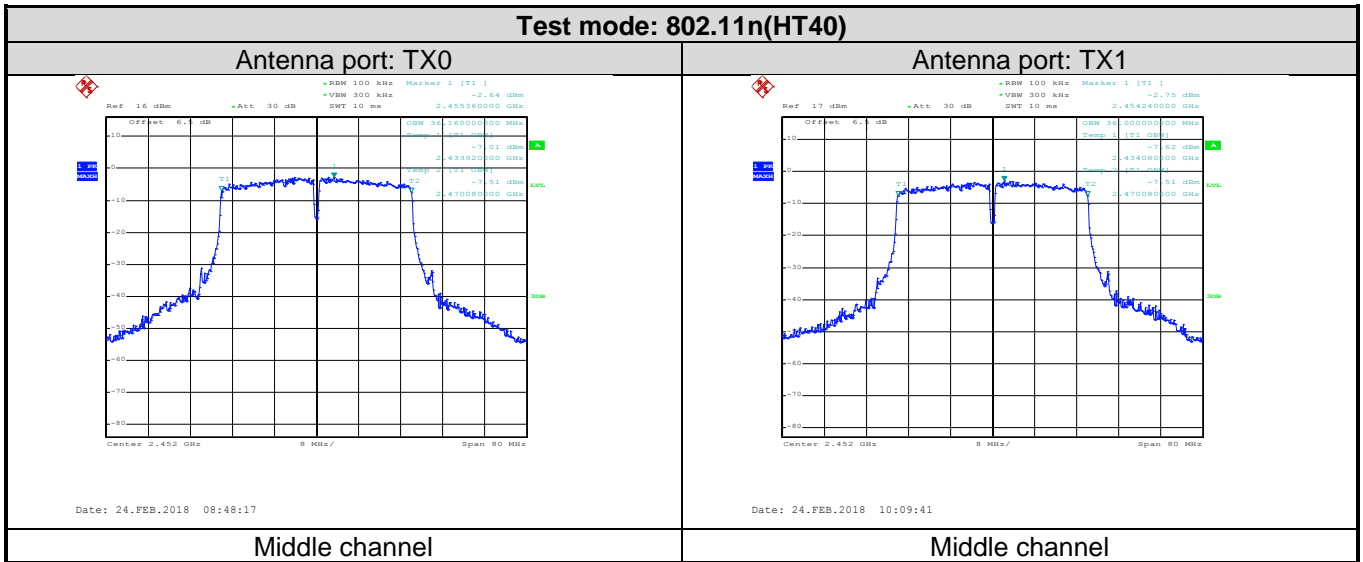




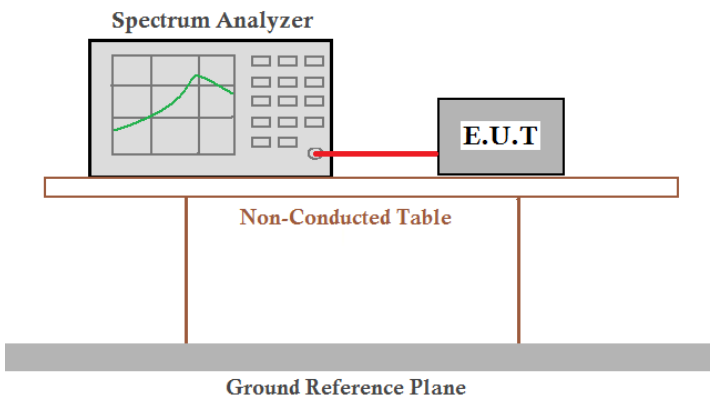








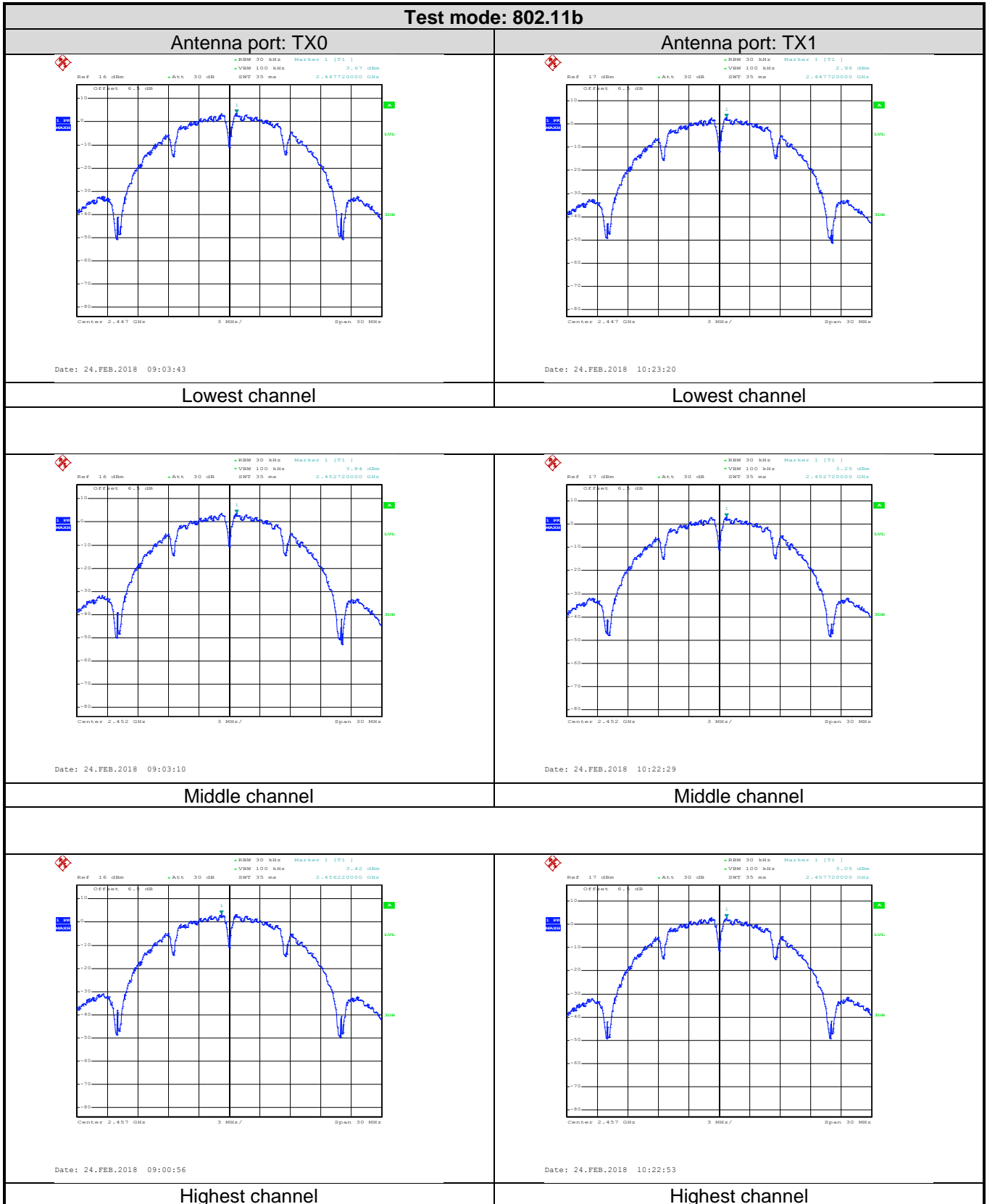
6.5 Power Spectral Density

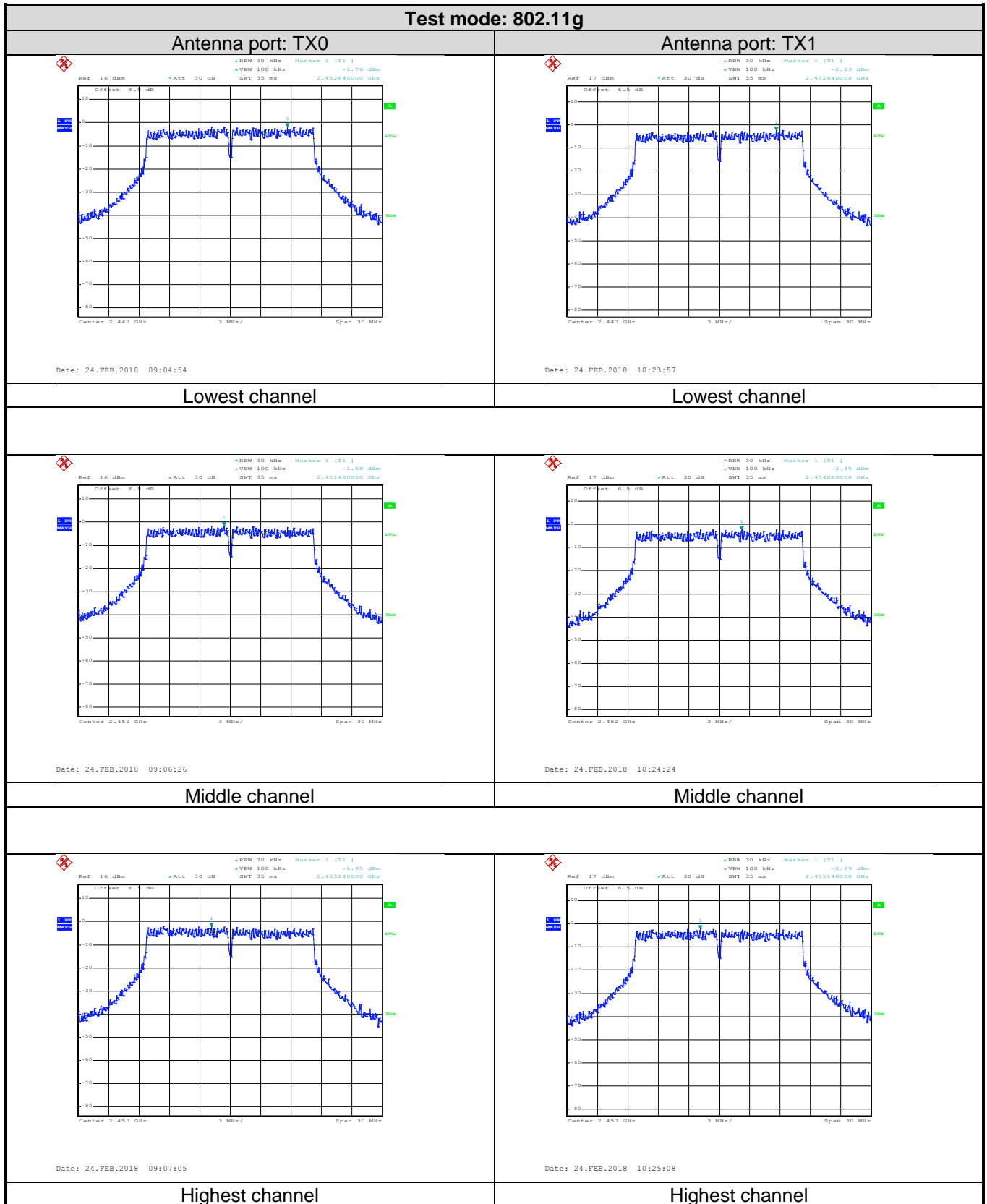
Test Requirement:	FCC Part 15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

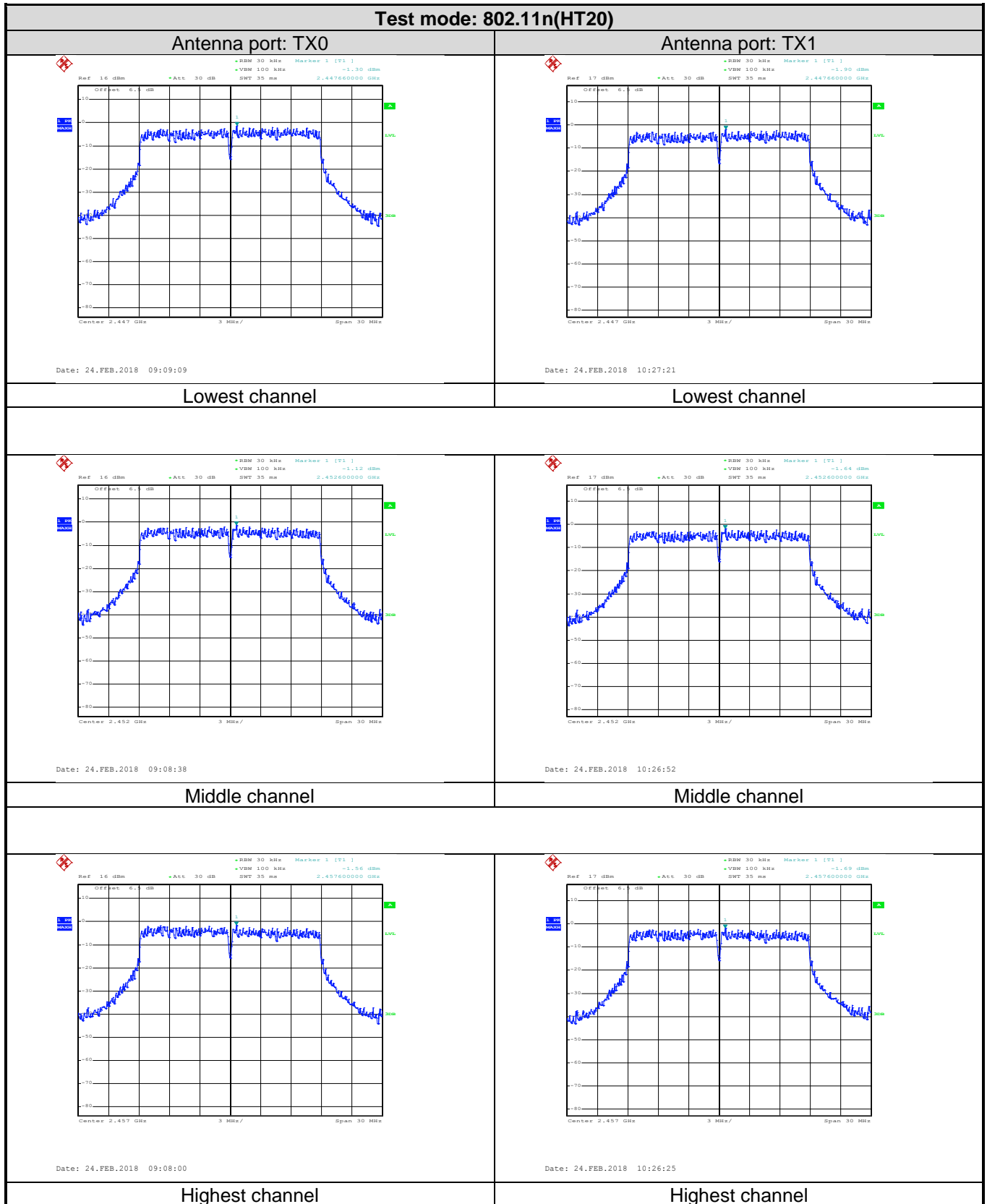
Measurement Data:

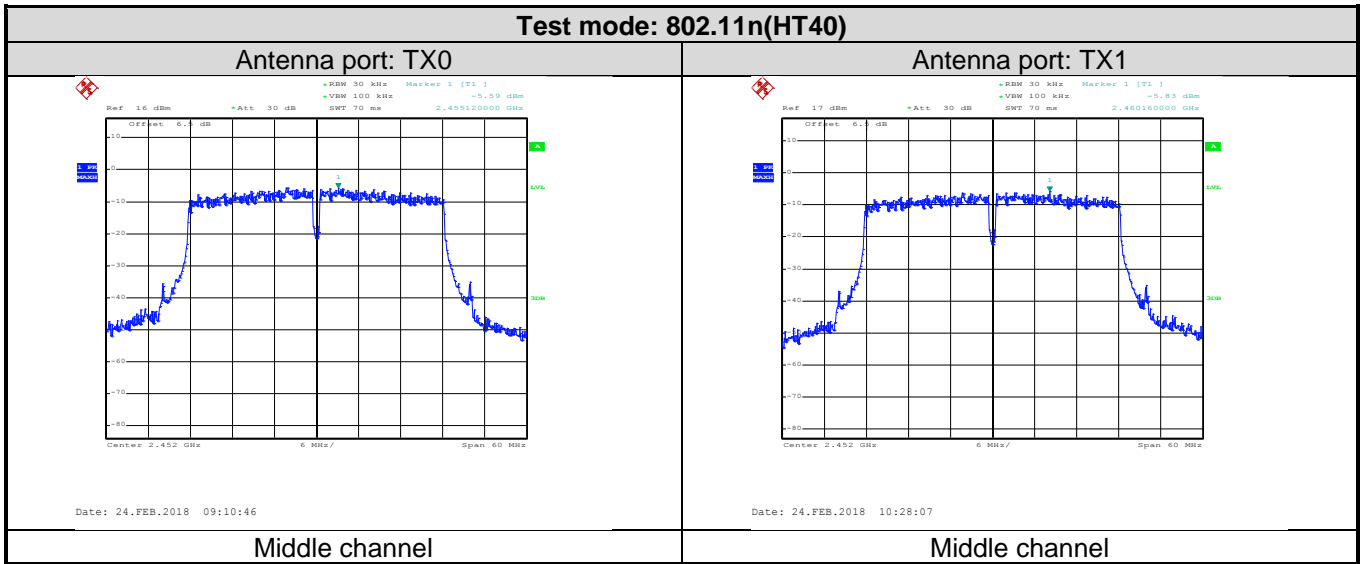
Mode	Test Channel	Ant. Port	PSD (dBm)	Total PSD (dBm)	Limit (dBm)	Result
802.11b	Lowest	TX0	3.67	/	8.00	Pass
		TX1	2.96			
	Middle	TX0	3.84	/	8.00	Pass
		TX1	3.25			
	Highest	TX0	3.42	/	8.00	Pass
		TX1	3.05			
802.11g	Lowest	TX0	-1.76	/	8.00	Pass
		TX1	-2.23			
	Middle	TX0	-1.58	/	8.00	Pass
		TX1	-2.35			
	Highest	TX0	-1.95	/	8.00	Pass
		TX1	-2.09			
802.11n(H20)	Lowest	TX0	-1.30	1.42	8.00	Pass
		TX1	-1.90			
	Middle	TX0	-1.12	1.64	8.00	Pass
		TX1	-1.64			
	Highest	TX0	-1.56	1.39	8.00	Pass
		TX1	-1.69			
802.11n(H40)	Middle	TX0	-5.59	-2.70	8.00	Pass
		TX1	-5.83			

Test plot as follows:



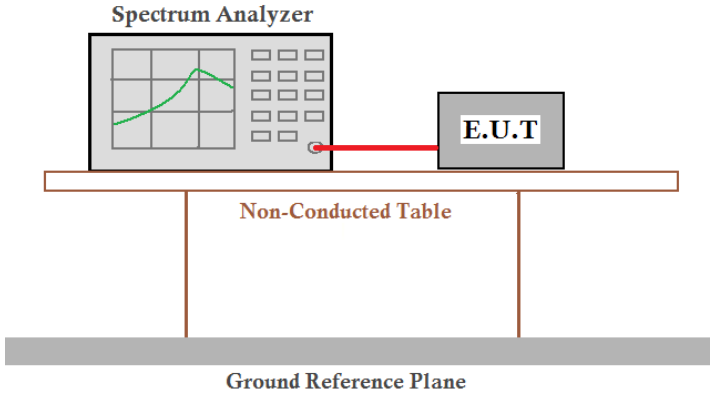




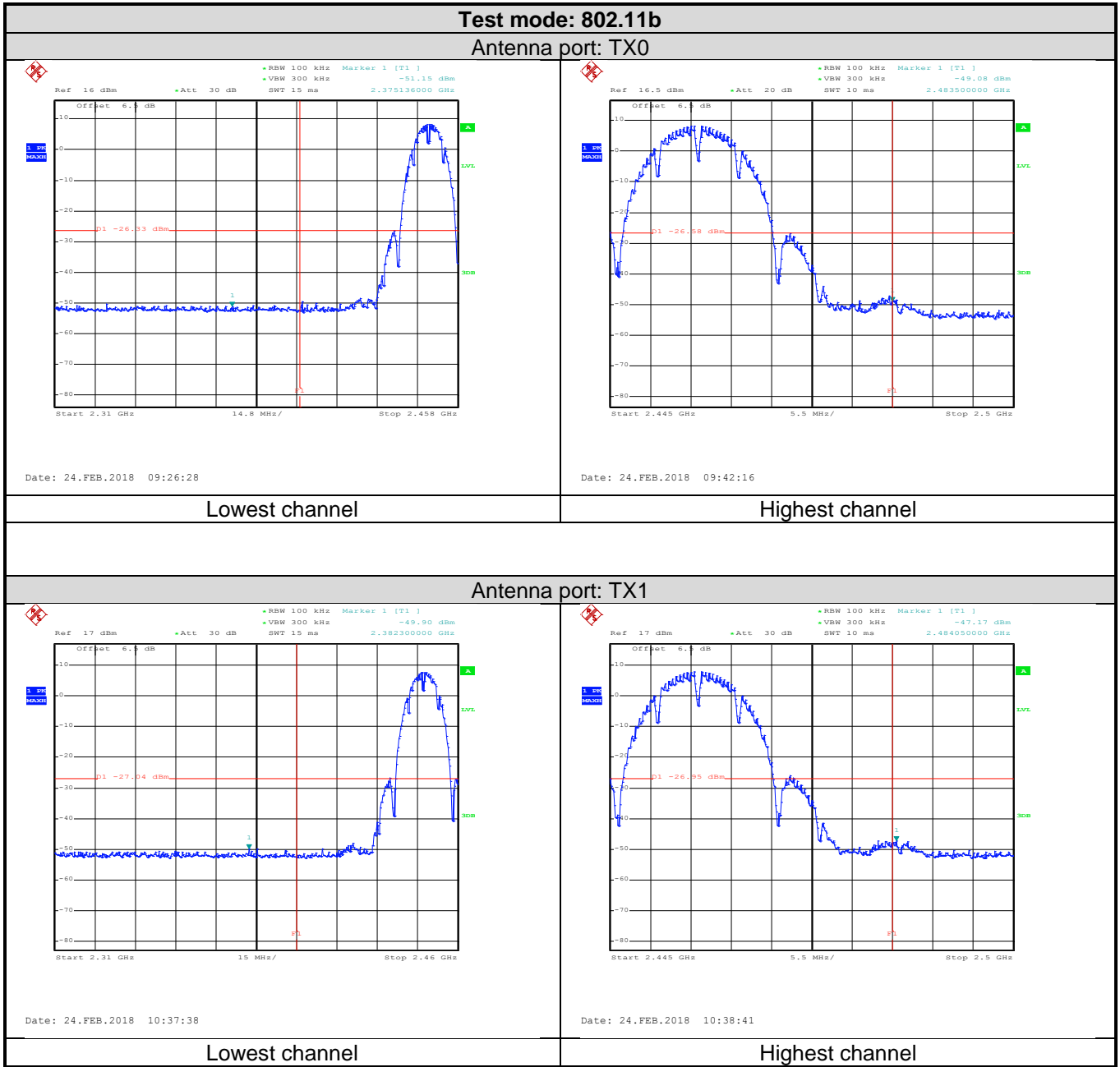


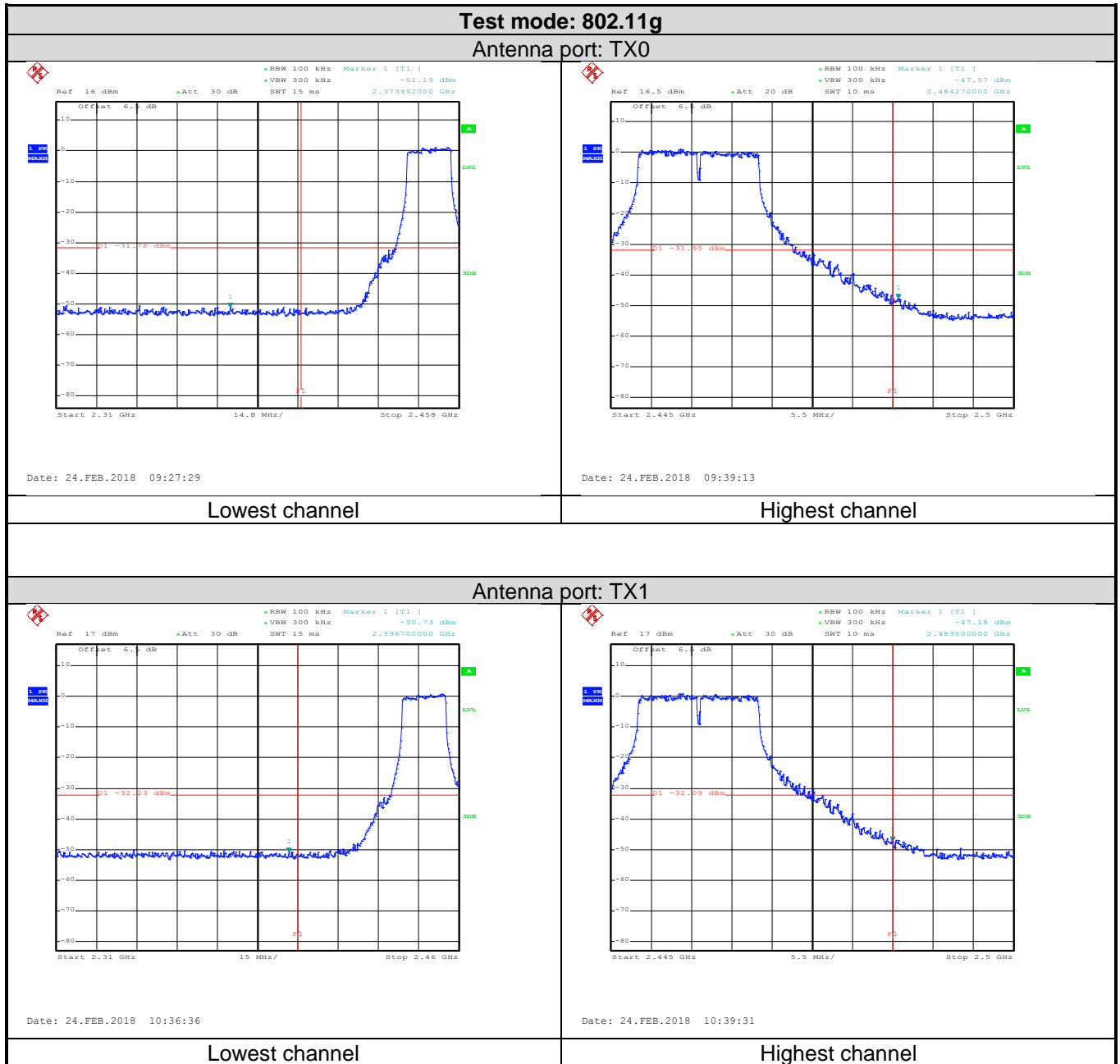
6.6 Band Edge

6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which sits on a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

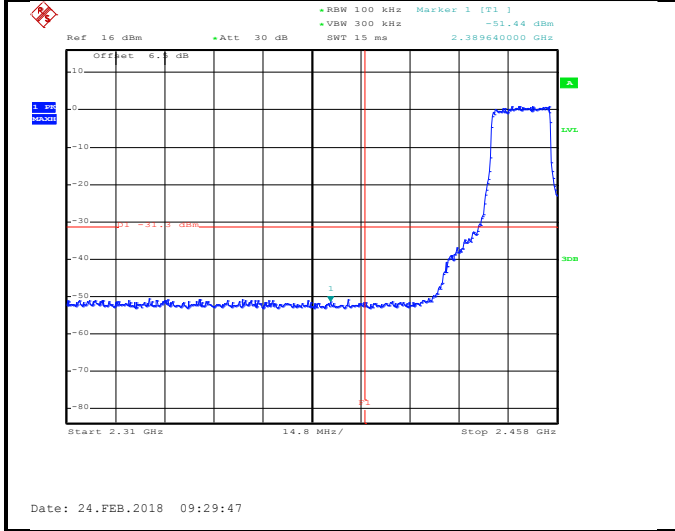
Test plot as follows:



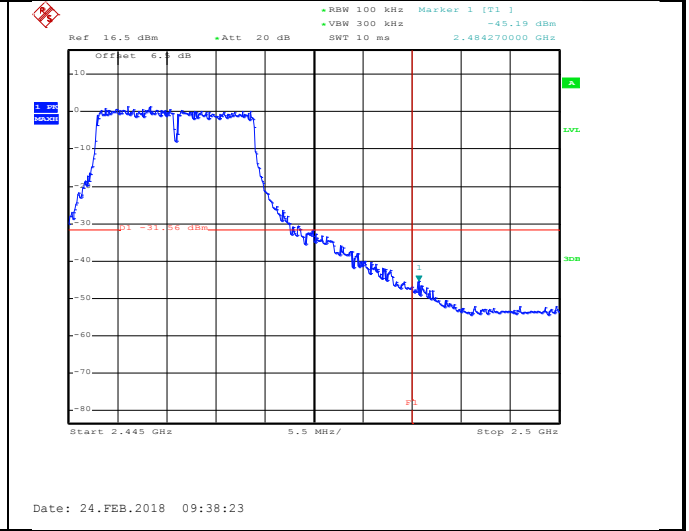


Test mode: 802.11n(HT20)

Antenna port: TX0

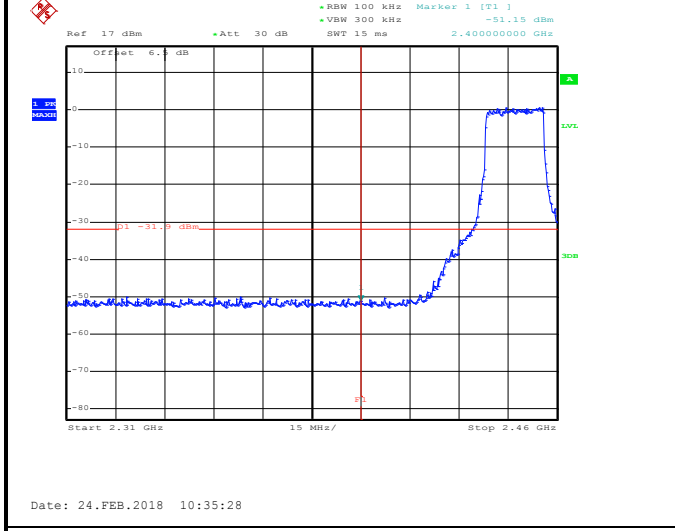


Lowest channel

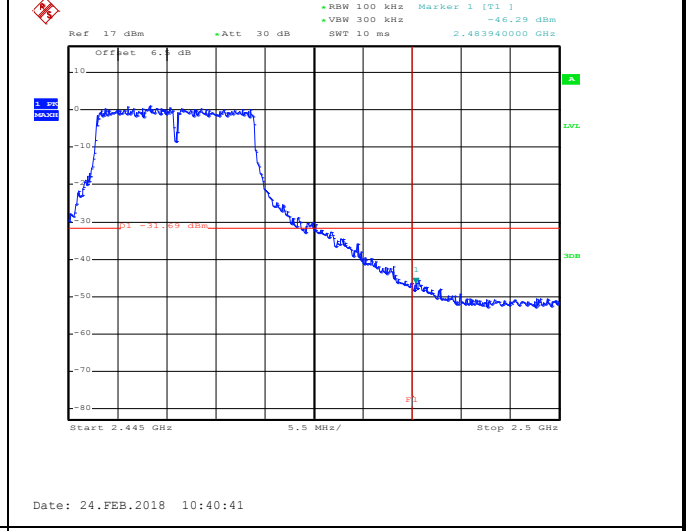


Highest channel

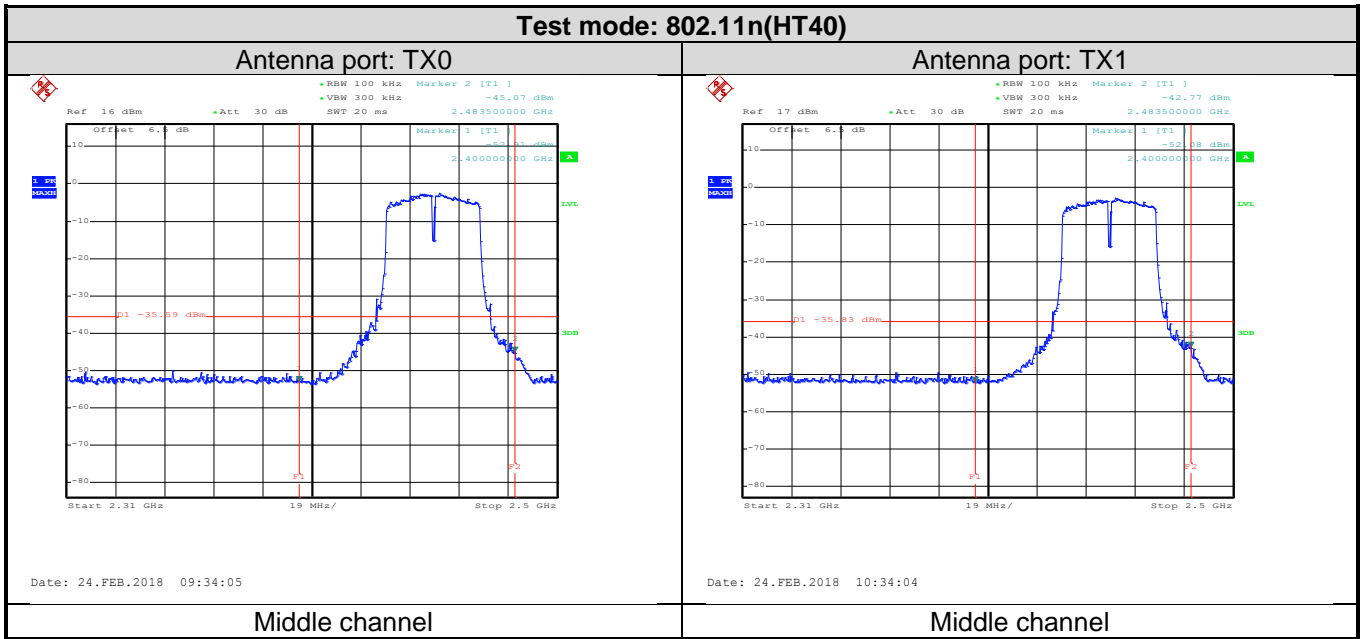
Antenna port: TX1



Lowest channel



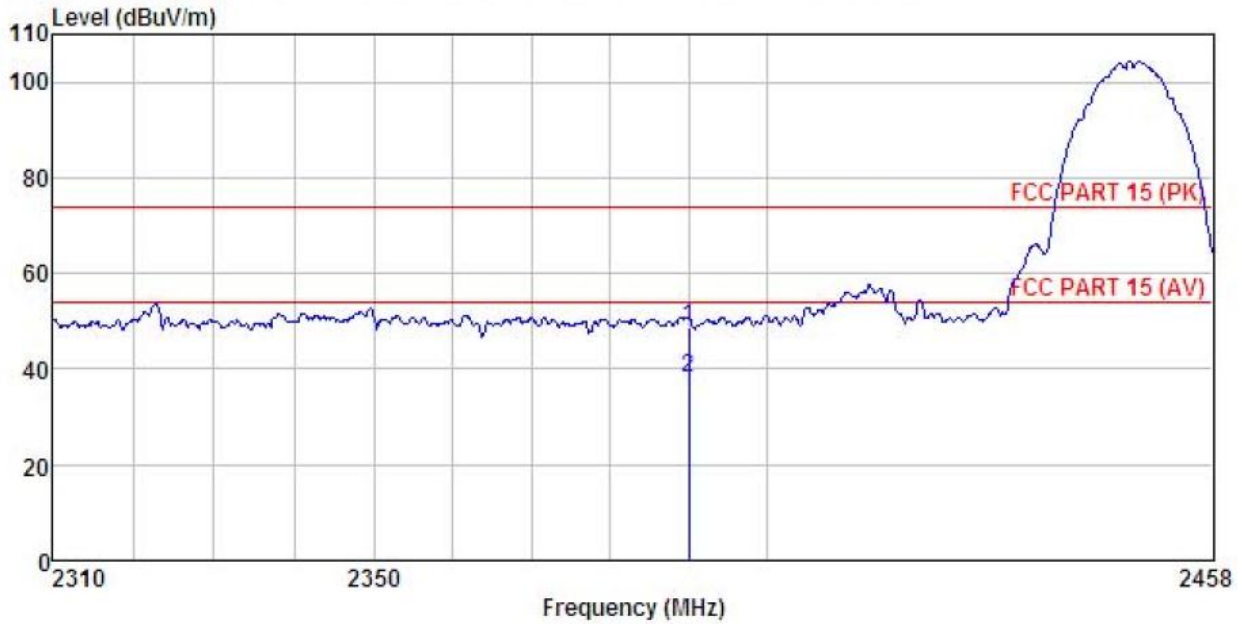
Highest channel



6.6.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013 and KDB558074				
Test Frequency Range:	2.3GHz to 2.5GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	Above 1GHz	54.00		Average Value	
		74.00		Peak Value	
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna 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 polarizations 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 rota 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 10dB 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 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 				
Test setup:					
Test Instruments:	Refer to section 5.8 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

Test mode: 802.11b
 Test channel: Lowest channel
 Test Polarization: Horizontal

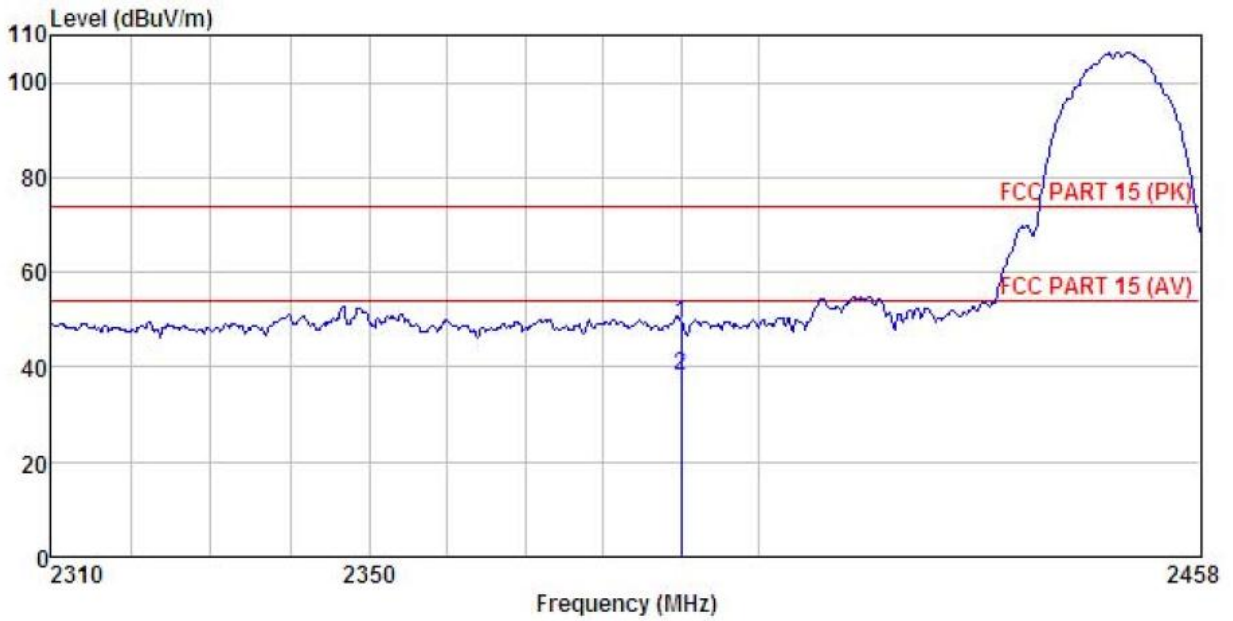


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11b-L mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	18.59	25.45	4.69	0.00	48.73	74.00 -25.27 Peak
2	2390.000	7.91	25.45	4.69	0.00	38.05	54.00 -15.95 Average

Remark:
 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
 2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical

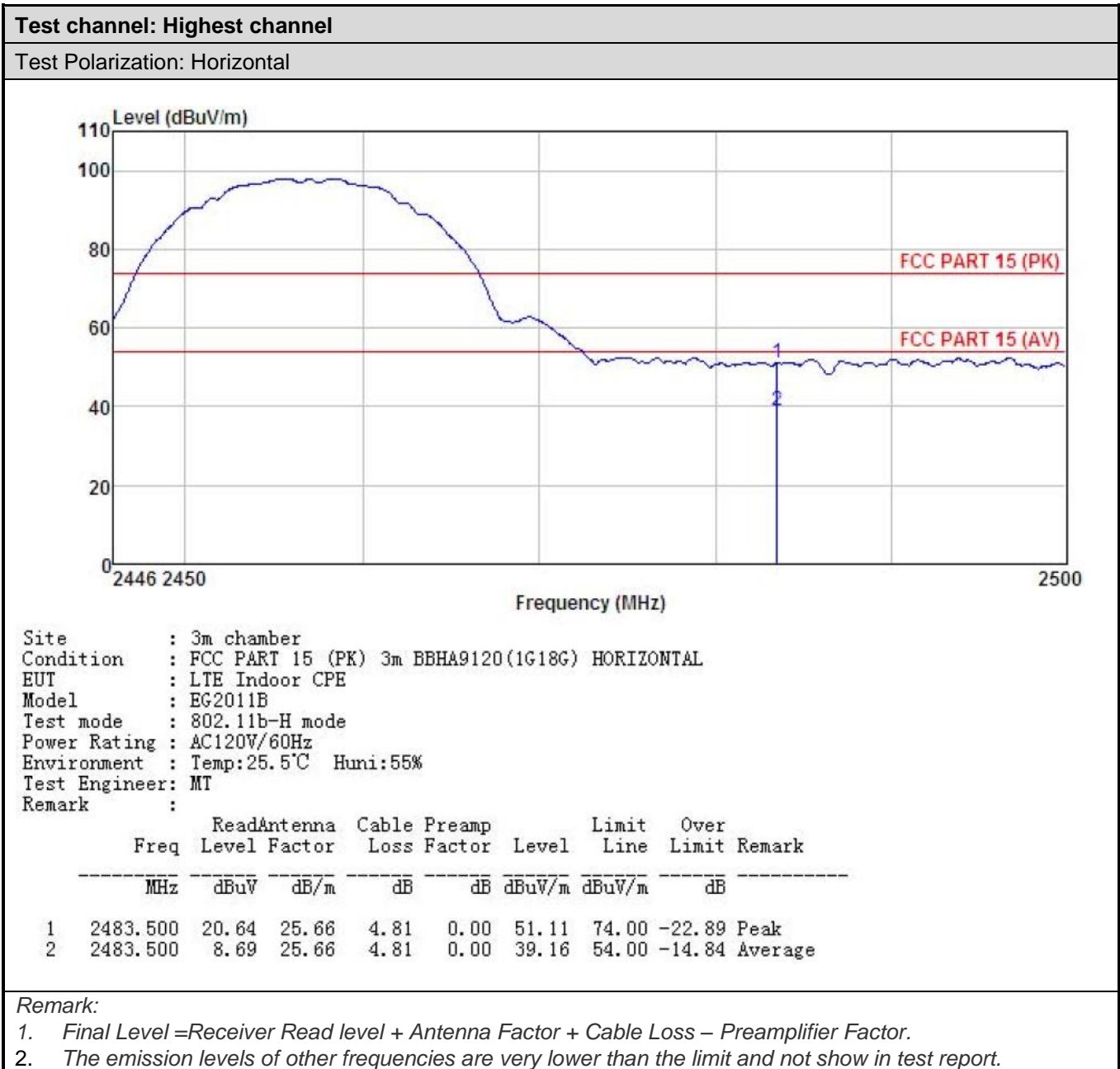


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11b-L mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

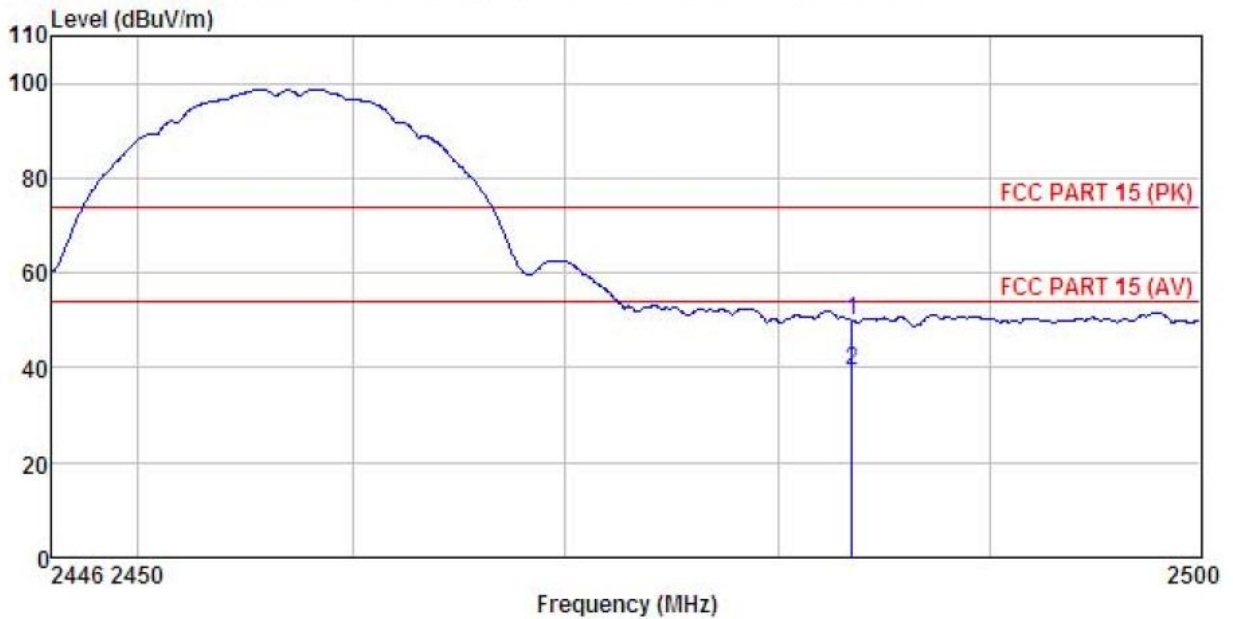
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	18.94	25.45	4.69	0.00	49.08	74.00	-24.92	Peak
2	2390.000	7.92	25.45	4.69	0.00	38.06	54.00	-15.94	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamp Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Polarization: Vertical

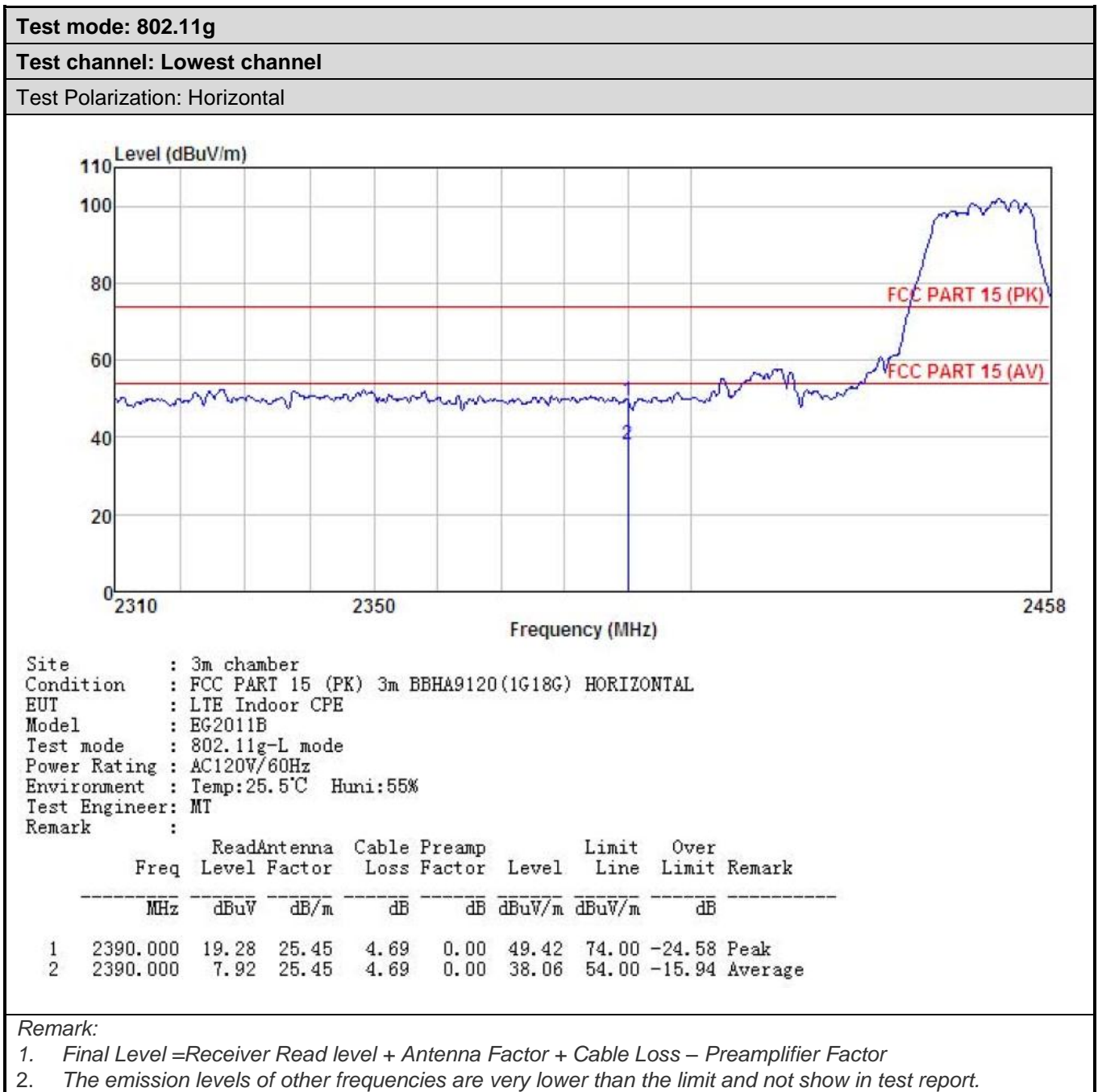


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11b-H mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

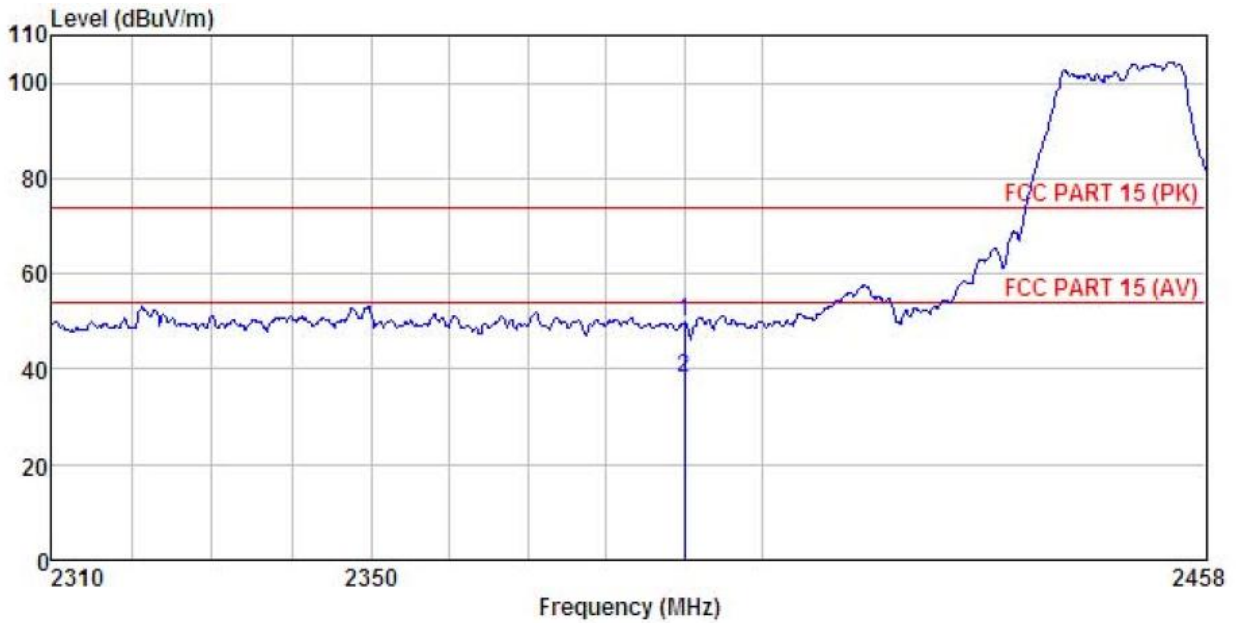
	Read	Antenna	Cable	Preamp	Level	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	19.56	25.66	4.81	0.00	50.03	74.00	-23.97 Peak
2	2483.500	8.76	25.66	4.81	0.00	39.23	54.00	-14.77 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Polarization: Vertical



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11g-L mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

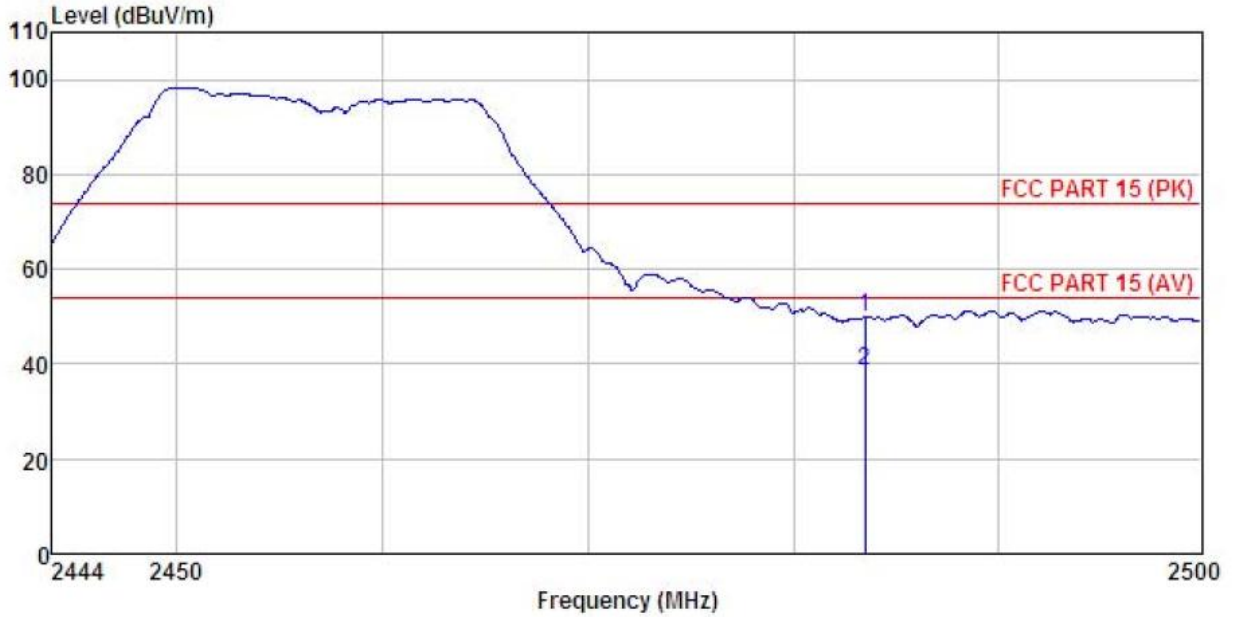
	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	19.62	25.45	4.69	0.00	49.76	74.00 -24.24 Peak
2	2390.000	8.03	25.45	4.69	0.00	38.17	54.00 -15.83 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test channel: Highest channel

Test Polarization: Horizontal



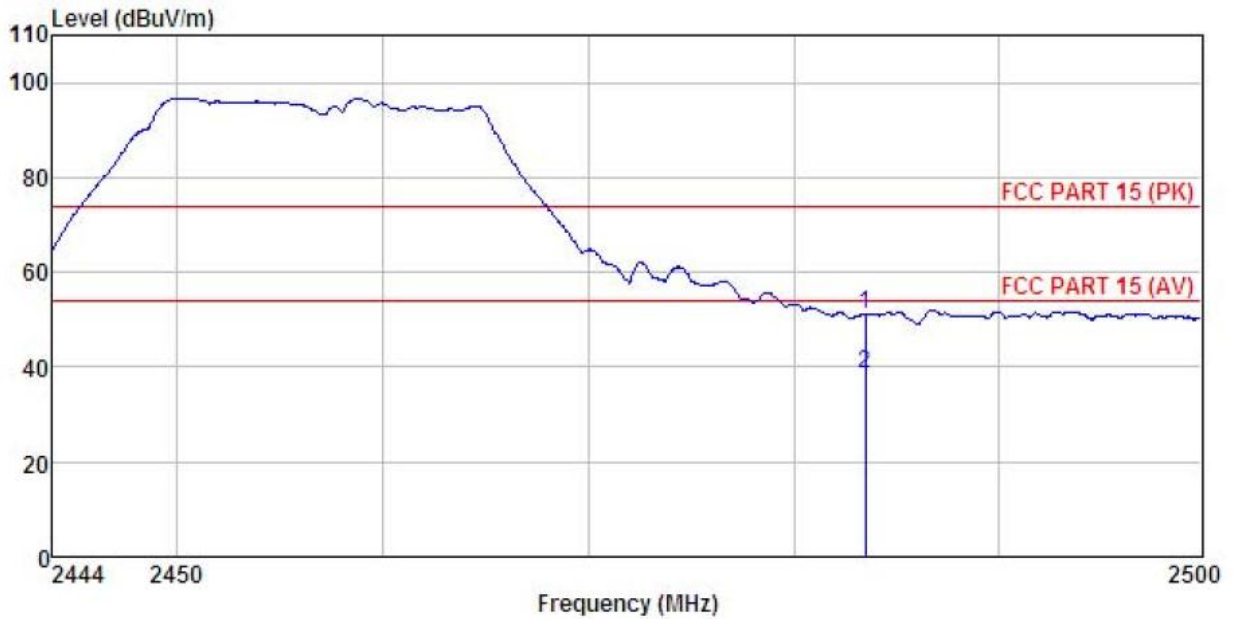
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11g-H mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	19.52	25.66	4.81	0.00	49.99	74.00 -24.01 Peak
2	2483.500	8.19	25.66	4.81	0.00	38.66	54.00 -15.34 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical



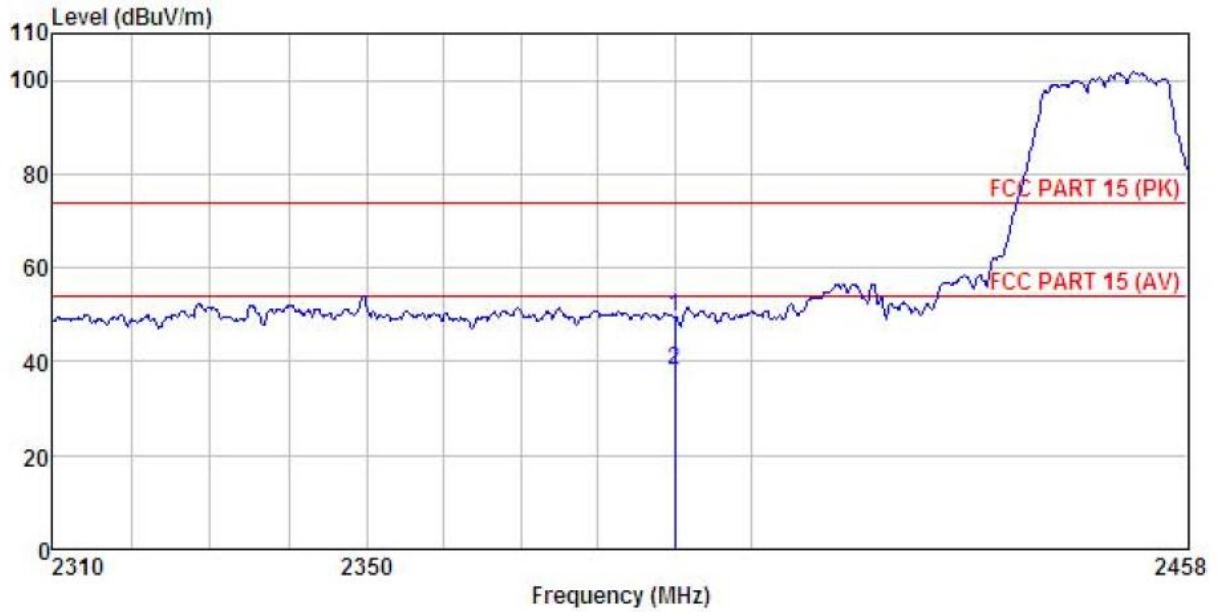
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11g-H mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	20.75	25.66	4.81	0.00	51.22	74.00 -22.78 Peak
2	2483.500	8.21	25.66	4.81	0.00	38.68	54.00 -15.32 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode: 802.11n (H20)
Test channel: Lowest channel
Test Polarization: Horizontal



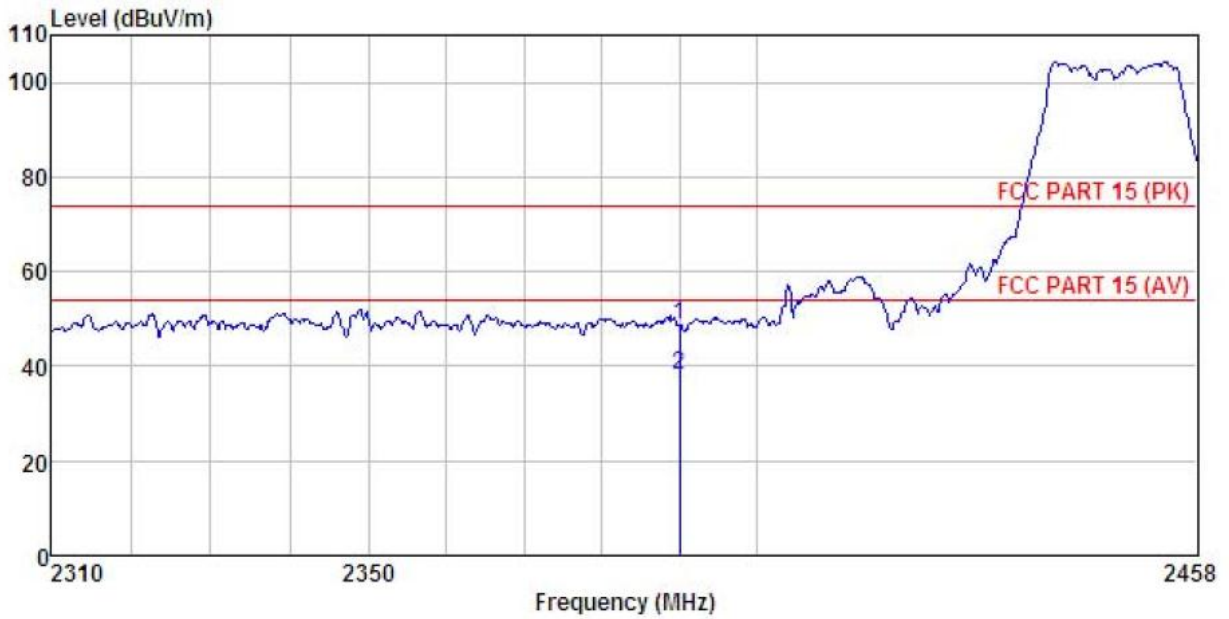
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n20-L mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	19.27	25.45	4.69	0.00	49.41	74.00	-24.59 Peak
2	2390.000	7.88	25.45	4.69	0.00	38.02	54.00	-15.98 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n20-L mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

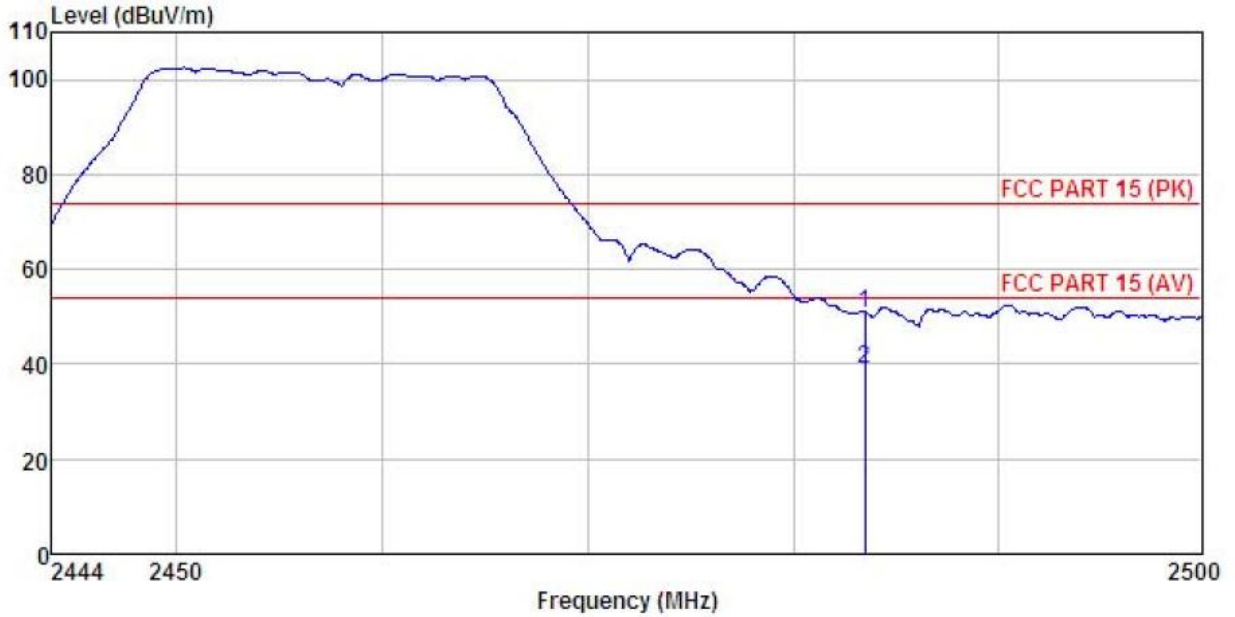
	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	18.49	25.45	4.69	0.00	48.63	74.00 -25.37 Peak
2	2390.000	7.91	25.45	4.69	0.00	38.05	54.00 -15.95 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test channel: Highest channel

Test Polarization: Horizontal



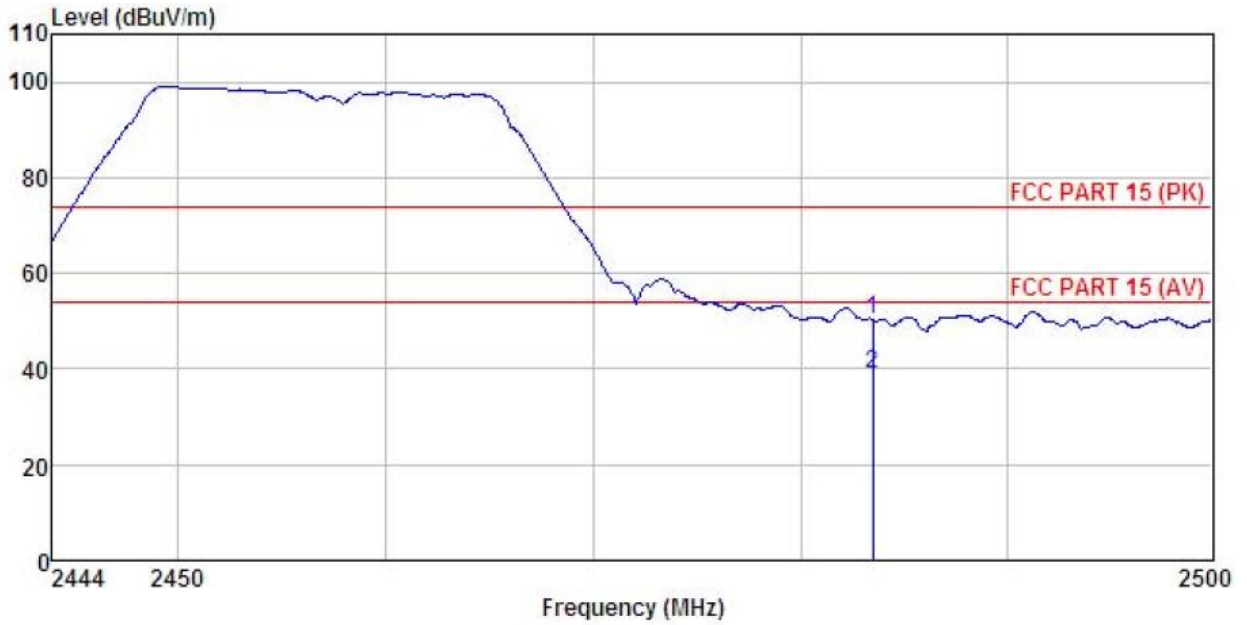
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n20-H mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	20.44	25.66	4.81	0.00	50.91	74.00 -23.09 Peak
2	2483.500	8.60	25.66	4.81	0.00	39.07	54.00 -14.93 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical



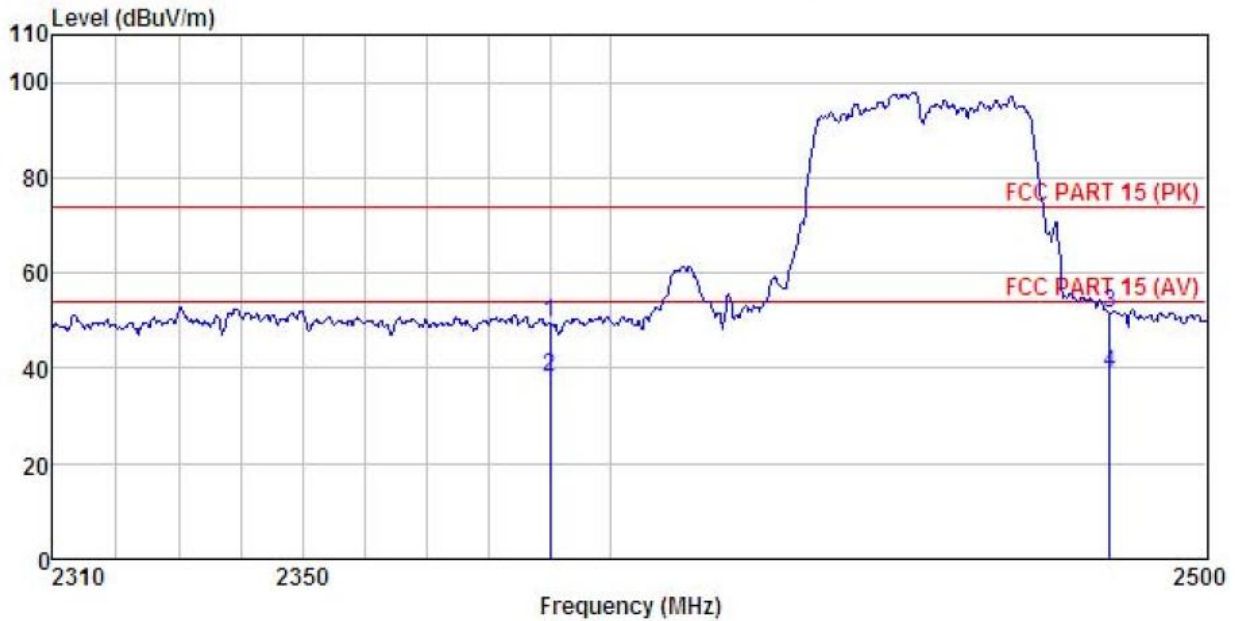
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n20-H mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	19.77	25.66	4.81	0.00	50.24	74.00	-23.76 Peak
2	2483.500	8.43	25.66	4.81	0.00	38.90	54.00	-15.10 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode: 802.11n (H40)
Test channel: Middle channel
 Test Polarization: Horizontal



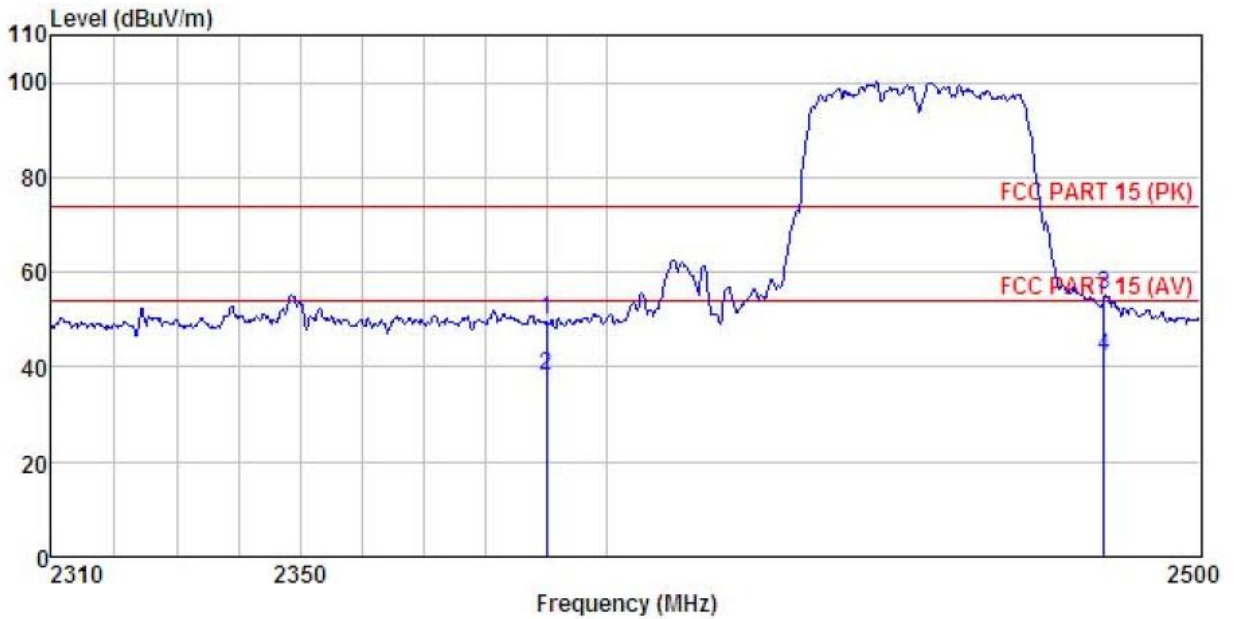
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n40 mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	Remark
	MHz	Level	Factor	Loss	Factor	Line	Limit	
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	19.42	25.45	4.69	0.00	49.56	74.00	-24.44 Peak
2	2390.000	8.00	25.45	4.69	0.00	38.14	54.00	-15.86 Average
3	2483.500	21.01	25.66	4.81	0.00	51.48	74.00	-22.52 Peak
4	2483.500	8.61	25.66	4.81	0.00	39.08	54.00	-14.92 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : 802.11n40 mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

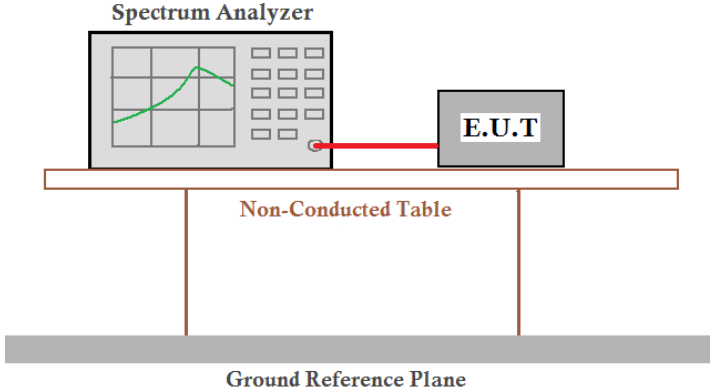
	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	19.99	25.45	4.69	0.00	50.13	74.00 -23.87 Peak
2	2390.000	7.95	25.45	4.69	0.00	38.09	54.00 -15.91 Average
3	2483.500	24.55	25.66	4.81	0.00	55.02	74.00 -18.98 Peak
4	2483.500	11.86	25.66	4.81	0.00	42.33	54.00 -11.67 Average

Remark:

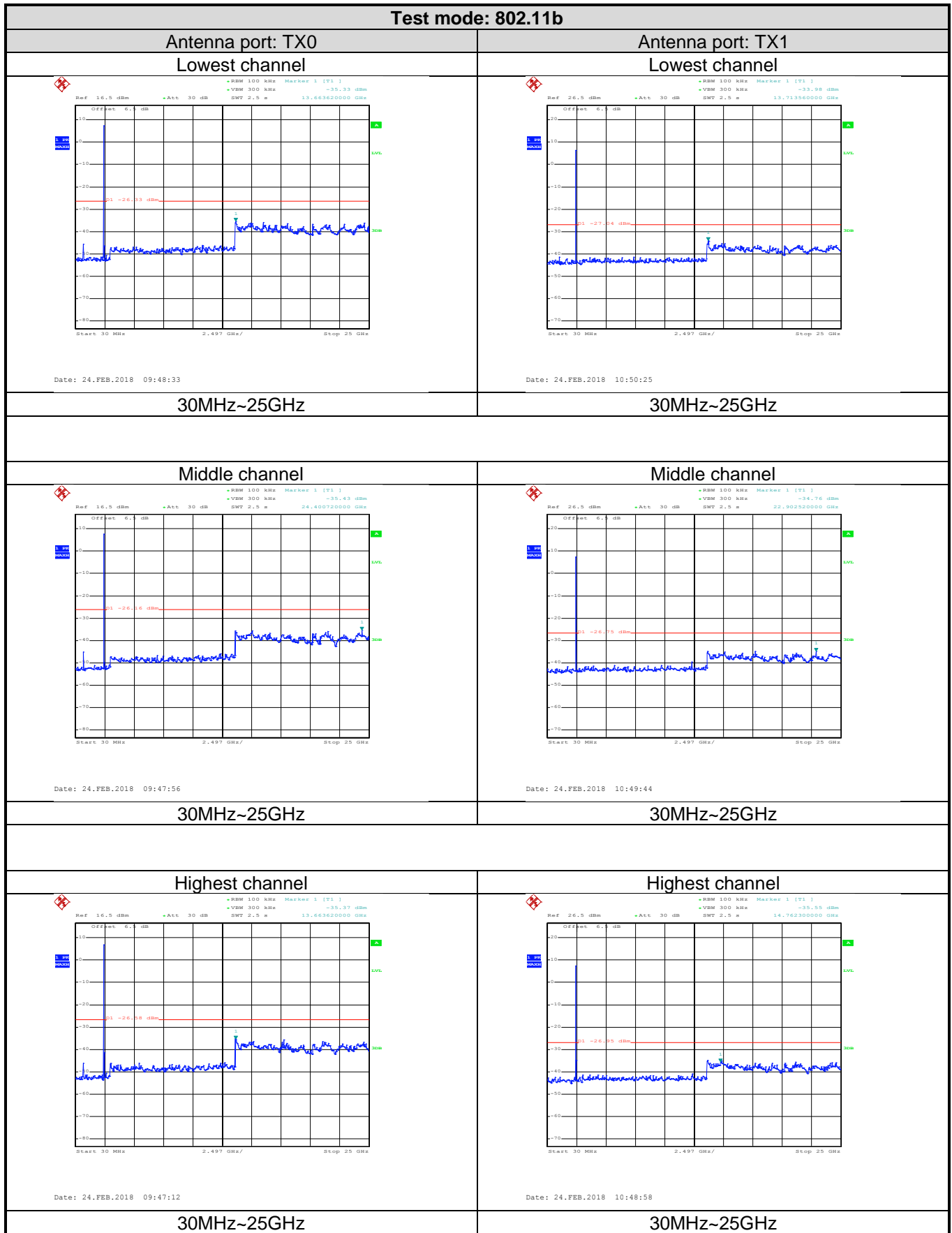
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

6.7 Spurious Emission

6.7.1 Conducted Emission Method

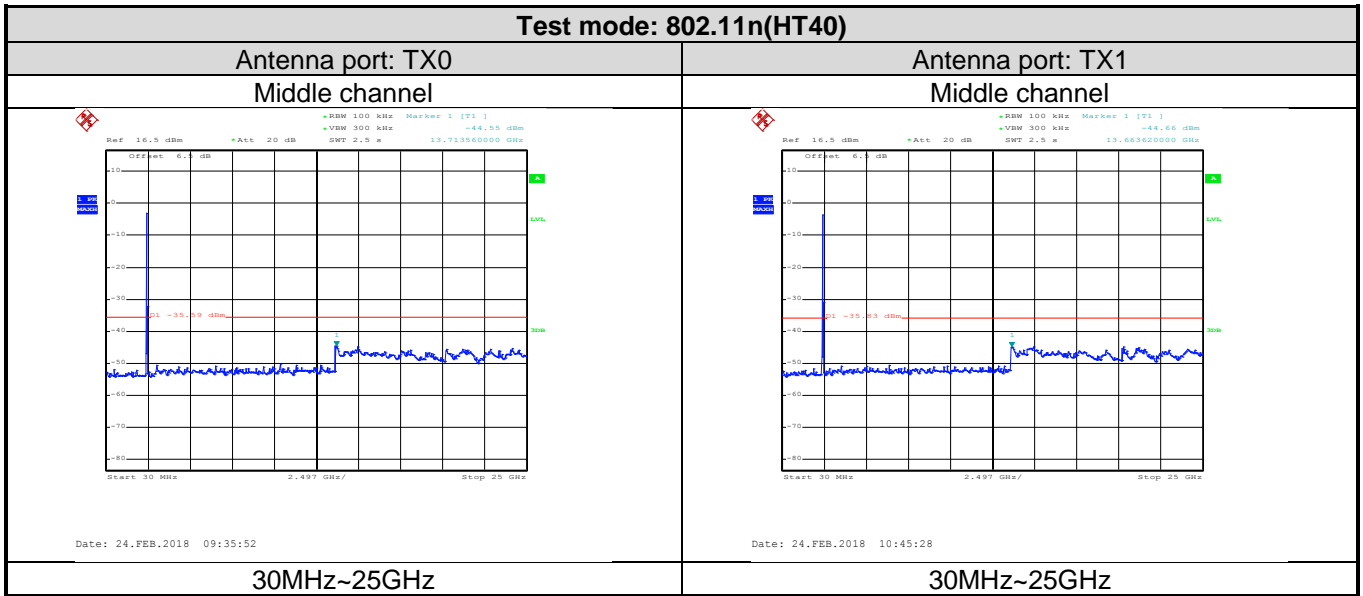
Test Requirement:	FCC Part 15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:



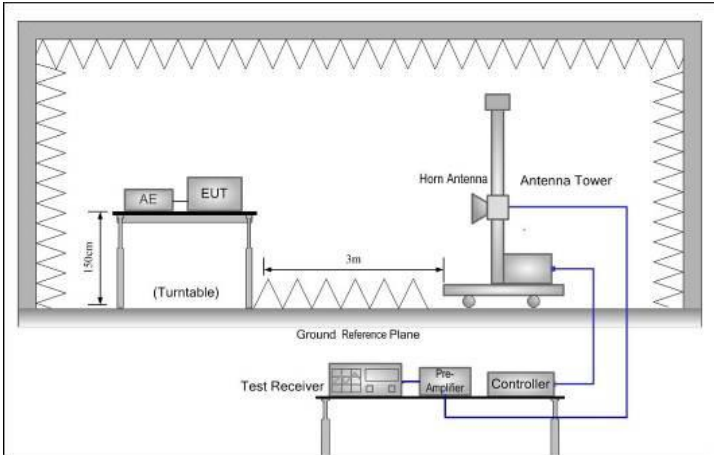
Test mode: 802.11g	
<p>Antenna port: TX0</p> <p>Lowest channel</p> <p>Date: 24.FEB.2018 09:49:37</p>	<p>Antenna port: TX1</p> <p>Lowest channel</p> <p>Date: 24.FEB.2018 10:46:28</p>
30MHz~25GHz	30MHz~25GHz
<p>Middle channel</p> <p>Date: 24.FEB.2018 09:50:26</p>	<p>Middle channel</p> <p>Date: 24.FEB.2018 10:47:24</p>
30MHz~25GHz	30MHz~25GHz
<p>Highest channel</p> <p>Date: 24.FEB.2018 09:51:40</p>	<p>Highest channel</p> <p>Date: 24.FEB.2018 10:48:10</p>
30MHz~25GHz	30MHz~25GHz

Test mode: 802.11n(HT20)	
<p>Antenna port: TX0</p> <p>Lowest channel</p> <p>Date: 19.MAR.2018 11:05:34</p>	<p>Antenna port: TX1</p> <p>Lowest channel</p> <p>Date: 24.FEB.2018 10:43:35</p>
30MHz~25GHz	30MHz~25GHz
<p>Middle channel</p> <p>Date: 24.FEB.2018 09:55:28</p>	<p>Middle channel</p> <p>Date: 24.FEB.2018 10:42:50</p>
30MHz~25GHz	30MHz~25GHz
<p>Highest channel</p> <p>Date: 24.FEB.2018 09:57:00</p>	<p>Highest channel</p> <p>Date: 24.FEB.2018 10:41:39</p>
30MHz~25GHz	30MHz~25GHz



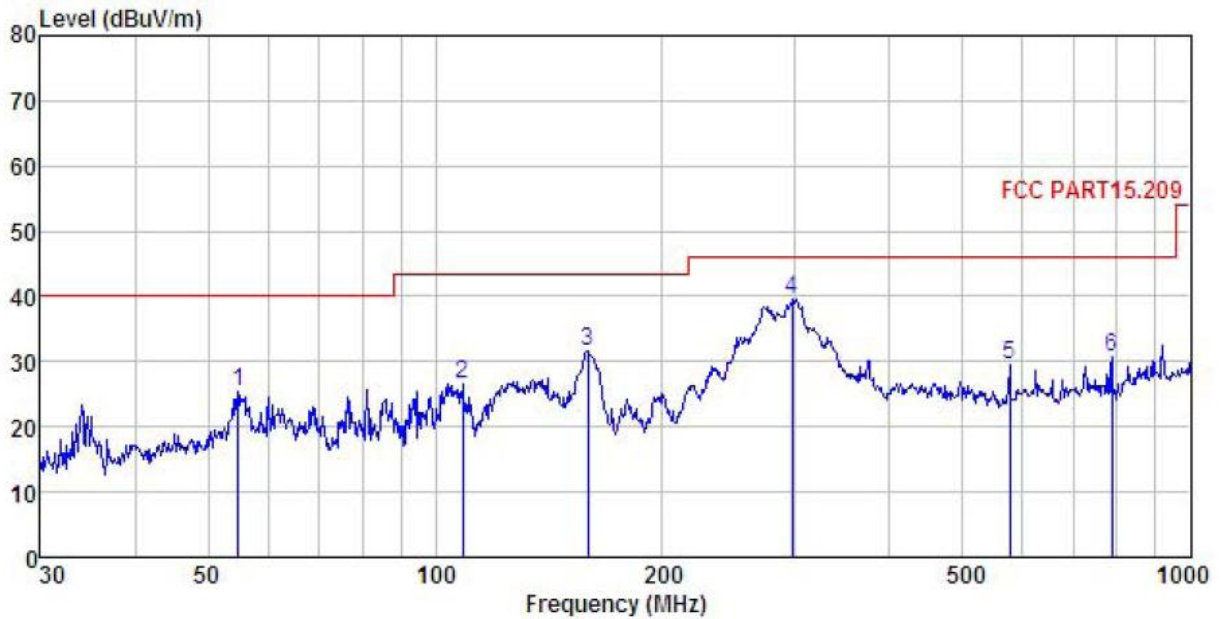
6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
RMS		1MHz	3MHz	Average Value	
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
74.0		Peak Value			
Test Procedure:	<ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna 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 polarizations of the antenna are set to make the measurement. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB 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 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 				
Test setup:	<p>Below 1GHz</p> <p>Above 1GHz</p>				

	
<p>Test Instruments:</p>	<p>Refer to section 5.8 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>
<p>Remark:</p>	<ol style="list-style-type: none"> 1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. 9 kHz to 30MHz is too low, so only shows the data of above 30MHz in this report.

Below 1GHz:

Test Polarization: Horizontal



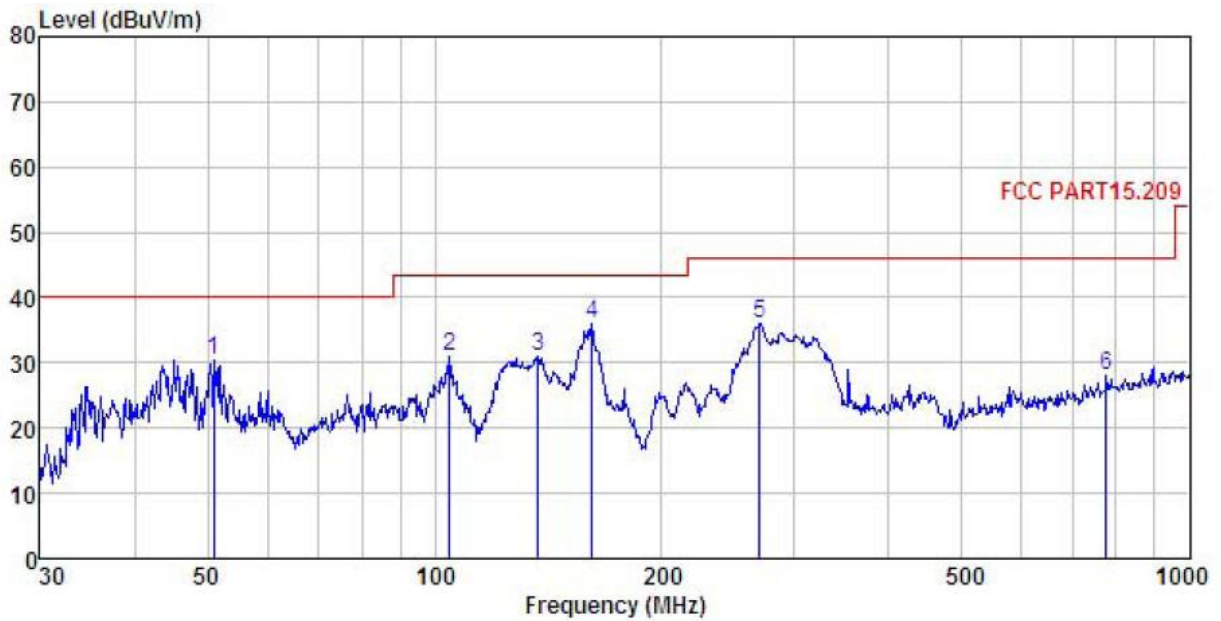
Site : 3m chamber
 Condition : FCC PART15.209 3m VULB9163(30M2G) HORIZONTAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : Wifi mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	54.835	40.47	13.44	1.36	29.80	25.47	40.00 -14.53 QP
2	108.647	41.91	12.04	2.03	29.47	26.51	43.50 -16.99 QP
3	159.225	49.53	8.60	2.58	29.14	31.57	43.50 -11.93 QP
4	297.224	51.89	13.34	2.93	28.46	39.70	46.00 -6.30 QP
5	576.644	36.62	18.00	3.92	29.01	29.53	46.00 -16.47 QP
6	787.851	34.95	19.55	4.35	28.26	30.59	46.00 -15.41 QP

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Pre-amplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test Polarization: Vertical



Site : 3m chamber
 Condition : FCC PART15.209 3m VULB9163(30M2G) VERTICAL
 EUT : LTE Indoor CPE
 Model : EG2011B
 Test mode : Wifi mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: MT
 Remark :

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	50.942	44.83	14.08	1.27	29.82	30.36	40.00 -9.64 QP
2	104.536	46.25	12.12	1.99	29.50	30.86	43.50 -12.64 QP
3	136.939	49.63	8.42	2.36	29.29	31.12	43.50 -12.38 QP
4	161.474	54.00	8.68	2.60	29.12	36.16	43.50 -7.34 QP
5	269.428	49.15	12.53	2.86	28.50	36.04	46.00 -9.96 QP
6	776.878	32.53	19.59	4.35	28.32	28.15	46.00 -17.85 QP

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Pre-amplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Above 1GHz:

Test mode: 802.11b for TX0								
Test channel: Lowest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	45.17	30.94	6.81	41.82	41.10	74.00	-32.90	Vertical
4894.00	45.83	30.94	6.81	41.82	41.76	74.00	-32.24	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	36.42	30.94	6.81	41.82	32.35	54.00	-21.65	Vertical
4894.00	34.92	30.94	6.81	41.82	30.85	54.00	-23.15	Horizontal
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	45.73	31.20	6.85	41.84	41.94	74.00	-32.06	Vertical
4904.00	46.00	31.20	6.85	41.84	42.21	74.00	-31.79	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	34.82	31.20	6.85	41.84	31.03	54.00	-22.97	Vertical
4904.00	36.03	31.20	6.85	41.84	32.24	54.00	-21.76	Horizontal
Test channel: Highest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	45.76	31.46	6.89	41.86	42.25	74.00	-31.75	Vertical
4914.00	46.20	31.46	6.89	41.86	42.69	74.00	-31.31	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	35.45	31.46	6.89	41.86	31.94	54.00	-22.06	Vertical
4914.00	37.00	31.46	6.89	41.86	33.49	54.00	-20.51	Horizontal
Remark:								
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.								
2. The emission levels of other frequencies are very lower than the limit and not show in test report.								

Test mode: 802.11b for TX1								
Test channel: Lowest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	45.27	30.94	6.81	41.82	41.20	74.00	-32.80	Vertical
4894.00	45.71	30.94	6.81	41.82	41.64	74.00	-32.36	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	35.64	30.94	6.81	41.82	31.57	54.00	-22.43	Vertical
4894.00	35.18	30.94	6.81	41.82	31.11	54.00	-22.89	Horizontal
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	46.29	31.20	6.85	41.84	42.50	74.00	-31.50	Vertical
4904.00	45.45	31.20	6.85	41.84	41.66	74.00	-32.34	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	36.01	31.20	6.85	41.84	32.22	54.00	-21.78	Vertical
4904.00	35.28	31.20	6.85	41.84	31.49	54.00	-22.51	Horizontal
Test channel: Highest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	46.03	31.46	6.89	41.86	42.52	74.00	-31.48	Vertical
4914.00	45.87	31.46	6.89	41.86	42.36	74.00	-31.64	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	35.94	31.46	6.89	41.86	32.43	54.00	-21.57	Vertical
4914.00	36.43	31.46	6.89	41.86	32.92	54.00	-21.08	Horizontal
Remark:								
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.								
2. The emission levels of other frequencies are very lower than the limit and not show in test report.								

Test mode: 802.11g for TX0								
Test channel: Lowest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	46.02	30.94	6.81	41.82	41.95	74.00	-32.05	Vertical
4894.00	45.62	30.94	6.81	41.82	41.55	74.00	-32.45	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	35.62	30.94	6.81	41.82	31.55	54.00	-22.45	Vertical
4894.00	36.13	30.94	6.81	41.82	32.06	54.00	-21.94	Horizontal
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	48.09	31.20	6.85	41.84	44.30	74.00	-29.70	Vertical
4904.00	46.91	31.20	6.85	41.84	43.12	74.00	-30.88	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	37.88	31.20	6.85	41.84	34.09	54.00	-19.91	Vertical
4904.00	37.18	31.20	6.85	41.84	33.39	54.00	-20.61	Horizontal
Test channel: Highest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	45.79	31.46	6.89	41.86	42.28	74.00	-31.72	Vertical
4914.00	46.50	31.46	6.89	41.86	42.99	74.00	-31.01	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	34.61	31.46	6.89	41.86	31.10	54.00	-22.90	Vertical
4914.00	36.44	31.46	6.89	41.86	32.93	54.00	-21.07	Horizontal
Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor. 2. The emission levels of other frequencies are very lower than the limit and not show in test report.								

Test mode: 802.11g for TX1								
Test channel: Lowest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	45.47	30.94	6.81	41.82	41.40	74.00	-32.60	Vertical
4894.00	45.34	30.94	6.81	41.82	41.27	74.00	-32.73	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	35.14	30.94	6.81	41.82	31.07	54.00	-22.93	Vertical
4894.00	25.88	30.94	6.81	41.82	21.81	54.00	-32.19	Horizontal
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	47.01	31.20	6.85	41.84	43.22	74.00	-30.78	Vertical
4904.00	46.61	31.20	6.85	41.84	42.82	74.00	-31.18	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	36.25	31.20	6.85	41.84	32.46	54.00	-21.54	Vertical
4904.00	36.16	31.20	6.85	41.84	32.37	54.00	-21.63	Horizontal
Test channel: Highest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	45.71	31.46	6.89	41.86	42.20	74.00	-31.80	Vertical
4914.00	46.12	31.46	6.89	41.86	42.61	74.00	-31.39	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	35.42	31.46	6.89	41.86	31.91	54.00	-22.09	Vertical
4914.00	35.83	31.46	6.89	41.86	32.32	54.00	-21.68	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode: 802.11n(H20) for MIMO								
Test channel: Lowest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	45.88	36.06	6.81	41.82	46.93	74.00	-27.07	Vertical
4894.00	46.12	36.06	6.81	41.82	47.17	74.00	-26.83	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4894.00	34.77	36.06	6.81	41.82	35.82	54.00	-18.18	Vertical
4894.00	37.42	36.06	6.81	41.82	38.47	54.00	-15.53	Horizontal
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	46.46	36.32	6.85	41.84	47.79	74.00	-26.21	Vertical
4904.00	45.69	36.32	6.85	41.84	47.02	74.00	-26.98	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	36.50	36.32	6.85	41.84	37.83	54.00	-16.17	Vertical
4904.00	35.24	36.32	6.85	41.84	36.57	54.00	-17.43	Horizontal
Test channel: Highest channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	45.39	36.58	6.89	41.86	47.00	74.00	-27.00	Vertical
4914.00	46.15	36.58	6.89	41.86	47.76	74.00	-26.24	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4914.00	36.91	36.58	6.89	41.86	38.52	54.00	-15.48	Vertical
4914.00	35.27	36.58	6.89	41.86	36.88	54.00	-17.12	Horizontal
Remark:								
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.								
2. The emission levels of other frequencies are very lower than the limit and not show in test report.								

Test mode: 802.11n(H40) for MIMO								
Test channel: Middle channel								
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	46.36	36.32	6.85	41.84	47.69	74.00	-26.31	Vertical
4904.00	45.70	36.32	6.85	41.84	47.03	74.00	-26.97	Horizontal
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polar.
4904.00	35.72	36.32	6.85	41.84	37.05	54.00	-16.95	Vertical
4904.00	36.51	36.32	6.85	41.84	37.84	54.00	-16.16	Horizontal
Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor. 2. The emission levels of other frequencies are very lower than the limit and not show in test report.								