

# FCC Test Report

Equipment	:	AC1200 Wi-Fi Gigabit Router
Brand Name	:	D-Link
Model No.	:	DIR-842
FCC ID	:	KA2IR842A1
Standard	:	47 CFR FCC Part 15.247
<b>Operating Band</b>	:	2400 MHz – 2483.5 MHz
FCC Classification	:	DTS
Applicant	:	D-Link Corporation No. 289, Xinhu 3rd Rd., Neihu District, Taipei City 11494, Taiwan, R. O. C.

The product sample received on Apr. 16, 2015 and completely tested on Jul. 08, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

**Reviewed by:** 

James Fan / Assistant Manager





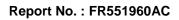
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# Summary of Test Result

	Conformance Test Specifications					
Report Clause	· Description Measured		Measured	Limit	Result	
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied	
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.2613640MHz 47.09 (Margin 14.30dB) – QP 45.43 (Margin 5.96dB) – AV	FCC 15.207	Complied	
3.2	15.247(a)	6dB Bandwidth	6dB Bandwidth [MHz] 20M: 9.10 / 40M: 35.59	≥500kHz	Complied	
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]: 29.81	Power [dBm]: 30	Complied	
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]: 3.13	PSD [dBm/3kHz]: 8	Complied	
3.5	15.247(d)	Emissions in non-restricted frequency bands	Out-of -band emissions are 20dB below the highest power	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied	
3.6	15.247(d)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 7311.00 MHz 53.00 (Margin 1.00dB) – AV [dBuV/m at 3m]: 2390.00 MHz 53.00 (Margin 1.00dB) – AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied	





# **Revision History**

Report No.	Version	Description	Issued Date
FR551960AC	Rev. 01	Initial issue of report	Jul. 23, 2015



### **1** General Description

### 1.1 Information

#### 1.1.1 RF General Information

RF General Information						
Internal antenna	Internal antenna					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)	
2400-2483.5	b	2412-2462	1-11 [11]	2	22.65	
2400-2483.5	g	2412-2462	1-11 [11]	2	29.81	
2400-2483.5	HT20	2412-2462	1-11 [11]	2	29.68	
2400-2483.5	HT40	2422-2452	3-9 [7]	2	25.83	
		that Maximum Daak			1	

Note 1: RF output power specifies that Maximum Peak Conducted Output Power.

Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.

Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

### 1.1.2 Antenna Information

	Antenna Category						
$\square$	Integral antenna (antenna permanently attached)						
	$\boxtimes$	Temporary RF connector provided					
	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connecte measurement. In case of conducted measurements the transmitter shall be connected to th measuring equipment via a suitable attenuator and correct for all losses in the RF path.						
$\boxtimes$	Exte	ernal antenna (dedicated antennas)					
	$\boxtimes$	Single power level with corresponding antenna(s).					
		Multiple power level and corresponding antenna(s).					
	$\boxtimes$	RF connector provided					
		Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type)					
		Standard antenna connector. (e.g., SMA, N, BNC, and TNC type)					

	Antenna General Information					
No.	Model	Туре	ype Connector Operating Frequencies (MHz) / Antenna Gain (dBi)			
				2400~2483.5	5150~5250	5725~5850
1	Fixed	Dipole	UFL	4.73	4.57	
2	Detachable	Dipole	R-SMA	5.52	7.	51



### 1.1.3 Type of EUT

	Identify EUT			
EUT Serial Number		N/A		
Pre	sentation of Equipment	Production ;  Pre-Production ;  Prototype		
		Type of EUT		
$\boxtimes$	Stand-alone			
	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:			
	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:			

### 1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle				
Operated normally mode for worst duty cycle				
Operated test mode for worst duty cycle				
Test Signal Duty Cycle (x)Power Duty Factor [dB] – (10 log 1/x)				
🛛 98.99% - IEEE 802.11b	0.04			
🛛 88.83% - IEEE 802.11g	0.51			
🛛 92.48% - IEEE 802.11n (HT20)	0.34			
⊠ 78.55% - IEEE 802.11n (HT40)	1.05			

### 1.1.5 EUT Operational Condition

Power Supply Type	12Vdc from adapter
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### **1.2** Accessories and Support Equipment

	Accessories				
No.	Equipment	Description			
1	AC Adapter 1	Brand: D-Link Model: AMS135-1201000FU I/P: 100-240Vac, 50/60Hz, 0.5A/27VA O/P: 12Vdc, 1A DC line: 1.22m non-shielded w/o core			
2	AC Adapter 2	Brand: D-Link Model: 2AAJ012F US I/P: 100-240Vac, 50/60Hz, 0.35A O/P: 12Vdc, 1A DC line: 1.23m non-shielded w/o core.			
3	AC Adapter 3	Brand: D-Link Model: AMS35-1201000F I/P: 100-240Vac, 50/60Hz, 0.5A O/P: 12Vdc, 1A DC line: 1.23m non-shielded w/o core.			

	Support Equipment					
No.	No. Equipment Brand Name Model Name FCC ID					
1	Notebook	DELL	Latitude E6440	DoC		
2	Notebook	DELL	Latitude E6430	DoC		

### 1.3 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 DTS Meas Guidnace v03r03
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01



### 1.4 Testing Location Information

	Testing Location										
$\boxtimes$	HWA YA	ADD	ADD : No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.								
		TEL	EL : 886-3-327-3456 FAX : 886-3-327-0973								
Test Condition Test Site No. Test Engineer Test E						Test Environment	Test Date				
RF Conducted		d	TH01-HY		Mark Liao	23°C / 62%	Jun. 29, 2015				
AC Conduction		n		CO04-HY	Skys Huang	22°C / 63%	Jun. 09, 2015				
Radiated Emission 03CH03-HY				03CH03-HY	Jack Li	21-22°C / 61-63%	May 18 ~ Jul. 08, 2015				
Test site registered number [643075] with FCC Test site registered number [4086B-1] with IC											

### **1.5 Measurement Uncertainty**

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

	Measurement Uncertainty	1	
Test Item		Uncertainty	Limit
AC power-line conducted emissions	±2.26 dB	N/A	
Emission bandwidth, 6dB bandwidth		±1.42 %	N/A
RF output power, conducted		±0.63 dB	N/A
Power density, conducted	±0.81 dB	N/A	
Unwanted emissions, conducted	30 – 1000 MHz	±0.51 dB	N/A
	1 – 18 GHz	±0.67 dB	N/A
	18 – 40 GHz	±0.83 dB	N/A
	40 – 200 GHz	N/A	N/A
All emissions, radiated	30 – 1000 MHz	±2.56 dB	N/A
	1 – 18 GHz	±3.59 dB	N/A
	18 – 40 GHz	±3.82 dB	N/A
	40 – 200 GHz	N/A	N/A
Temperature	L	±0.8 °C	N/A
Humidity	±3 %	N/A	
DC and low frequency voltages	±3 %	N/A	
Time	±1.42 %	N/A	
Duty Cycle		±1.42 %	N/A



# 2 Test Configuration of EUT

### 2.1 The Worst Case Modulation Configuration

	Worst Modulation Used for Conformance Testing										
Modulation Mode Transmit Chains (N <sub>TX</sub> ) Data Rate / MCS Worst Data R											
11b	2	1-11 Mbps	1 Mbps								
11g	2	6-54 Mbps	6 Mbps								
HT20	2	MCS 0-15	MCS 0								
HT40	2	MCS 0-15	MCS 0								

### 2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration						
IEEE Std. 802.11 Test Channel Frequencies (MHz)						
b, g, n (HT-20)	2412-(F1), 2437-(F2), 2462-(F3)					
n (HT-40)	2422-(F4), 2437-(F5), 2452-(F6)					

### 2.3 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (2400-2483.5MHz band)								
Test Software	MP_	TEST						
<b>Test Software Version</b>	RTL	319x3.0						
				Test Frequ	ency (MHz)			
Modulation Mode	N <sub>TX</sub>	NCB: 20MHz			NCB: 40MHz			
		2412	2437	2462	2422	2437	2452	
11b,1-11Mbps	2	37/41	34/39	34/37				
11g,6-54Mbps	2	37/39	54/56	39/40				
HT20,M0-15	2	33/36	52/54	36/38				
HT40,M0-15	2				33/34	42/43	33/35	



### 2.4 The Worst Case Measurement Configuration

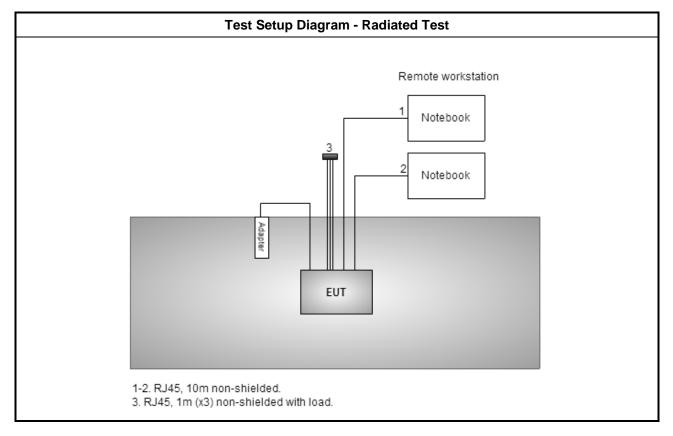
The Worst Case Mode for Following Conformance Tests							
Tests Item         AC power-line conducted emissions							
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz						
Operating Mode	Operating Mode Description						
1	AC Power (Adapter 1) & Radio link (WLAN) with Detachable antenna						

The Worst Case Mode for Following Conformance Tests						
Tests Item RF Output Power,6dB bandwidth, Power Spectral Density						
Test Condition         Conducted measurement at transmit chains						
Modulation Mode	11b,11g, HT20, HT40					
Operating Mode	Operating Mode Description					
1	AC Power (Adapter 1) & Radio link (WLAN) with Detachable antenna					

Th	e Worst Case Mode for Fo	bllowing Conformance Te	sts				
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions						
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.						
User Position		fixed position. mobile position and operati ee orthogonal planes. The					
User Position	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes. The worst planes is Y.						
Operating Mode	1. AC Power (Adapte	er 1) & Radio link (WLAN) v	vith Detachable antenna				
Modulation Mode	11b, 11g, HT20, HT40						
	X Plane	Y Plane	Z Plane				
Orthogonal Planes of EUT							
<ul> <li>Note:</li> <li>1) Adapter 1, Adapter 2 and Adapter 3 had been pretested and found that the Adapter 1 was the worst case and was selected for final test.</li> <li>2) Fixed antenna, and detachable antenna had been pretested and found that the Detachable antenna was the worst case and was selected for final test.</li> </ul>							



### 2.5 Test Setup Diagram





#### **Transmitter Test Result** 3

#### 3.1 **AC Power-line Conducted Emissions**

#### 3.1.1 **AC Power-line Conducted Emissions Limit**

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

ecreases with the logarithm of the frequency

#### 3.1.2 Measuring Instruments

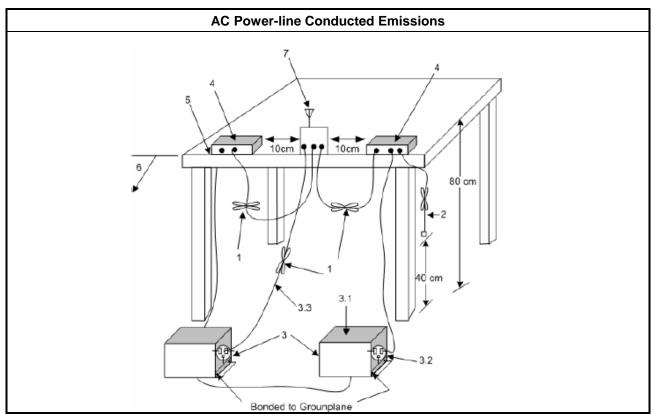
Refer a test equipment and calibration data table in this test report.

#### 3.1.3 **Test Procedures**

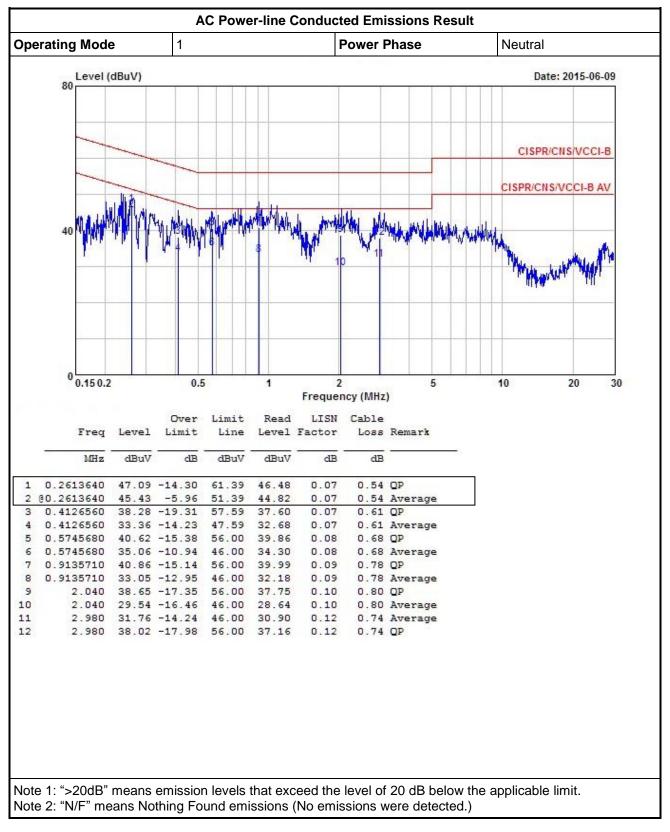
**Test Method** 

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

#### 3.1.4 Test Setup

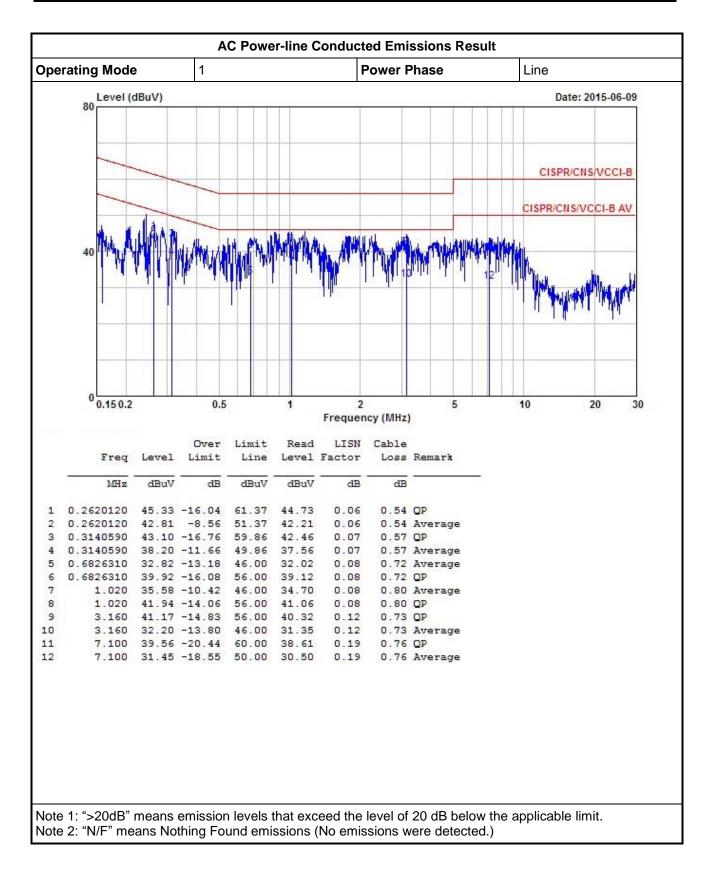






#### 3.1.5 Test Result of AC Power-line Conducted Emissions







### 3.2 6dB Bandwidth

#### 3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit

#### Systems using digital modulation techniques:

 $\bigcirc$  6 dB bandwidth ≥ 500 kHz.

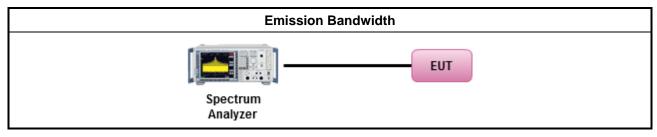
#### 3.2.2 Measuring Instruments

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

#### 3.2.3 Test Procedures

		Test Method						
$\boxtimes$	For the emission bandwidth shall be measured using one of the options below:							
	$\boxtimes$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 8.1 Option 1 for 6 dB bandwidth measurement.						
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 8.2 Option 2 for 6 dB bandwidth measurement.						
		Refer as ANSI C63.10, clause 6.9 for occupied bandwidth testing.						
$\boxtimes$	For	conducted measurement.						
		The EUT supports single transmit chain and measurements performed on this transmit chain.						
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.						
	$\square$	The EUT supports multiple transmit chains using options given below:						
		Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1.						
		Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains.						

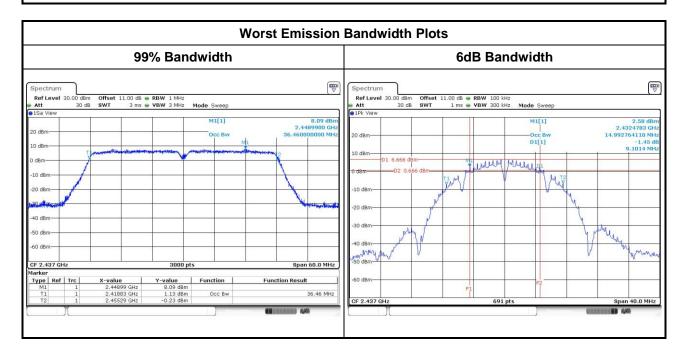
#### 3.2.4 Test Setup





#### 3.2.5 Test Result of Emission Bandwidth

Emission Bandwidth Result											
Cond	ition		Emission Bandwidth (MHz)								
Madulation		<b>F</b>		99% Ba	ndwidth			6dB Ba	ndwidth		
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	Chain- Port 1	Chain- Port 2	Chain- Port 3	Chain- Port 4	
11b	2	2412	15.01	15.09			9.57	10.03			
11b	2	2437	15.02	15.07			9.10	10.09			
11b	2	2462	15.04	15.06			9.51	9.97			
11g	2	2412	16.91	16.86			16.35	16.35			
11g	2	2437	17.06	17.00			16.35	16.35			
11g	2	2462	16.99	16.86			16.35	16.35			
HT-20	2	2412	18.08	18.02			17.62	17.62			
HT-20	2	2437	18.14	18.09			17.62	17.57			
HT-20	2	2462	18.03	18.03			17.62	17.62			
HT-40	2	2422	36.34	36.44			35.71	35.59			
HT-40	2	2437	36.30	36.46			35.59	35.59			
HT-40	2	2452	36.36	36.42			35.83	35.59			
Lin	N/A ≥500 kHz										
Res	Complied										





### 3.3 RF Output Power

#### 3.3.1 RF Output Power Limit

	RF Output Power Limit								
Max	Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit								
$\square$	2400-2483.5 MHz Band:								
	$\square$	If $G_{TX} \le 6 \text{ dBi}$ , then $P_{Out} \le 30 \text{ dBm} (1 \text{ W})$							
	$\square$	Point-to-multipoint systems (P2M): If $G_{TX} > 6 \text{ dBi}$ , then $P_{Out} = 30 - (G_{TX} - 6) \text{ dBm}$							
		Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm							
		Smart antenna system (SAS):							
		Single beam: If $G_{TX} > 6 \text{ dBi}$ , then $P_{Out} = 30 - (G_{TX} - 6)/3 \text{ dBm}$							
		Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm							
		Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm							
e.i.r	.p. P	ower Limit:							
$\square$	240	0-2483.5 MHz Band							
	$\square$	Point-to-multipoint systems (P2M): $P_{eirp} \le 36 \text{ dBm} (4 \text{ W})$							
		Point-to-point systems (P2P): $P_{eirp} \le MAX(36, [P_{Out} + G_{TX}]) dBm$							
		Smart antenna system (SAS)							
		Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX}) dBm$							
		□ Overlap beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$							
		Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8]) dBm$							
G <sub>TX</sub>	= the	aximum peak conducted output power or maximum conducted output power in dBm, e maximum transmitting antenna directional gain in dBi. i.r.p. Power in dBm.							

#### 3.3.2 Measuring Instruments

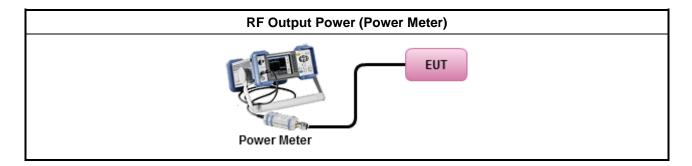
Refer a test equipment and calibration data table in this test report.



### 3.3.3 Test Procedures

		Test Method						
$\boxtimes$	Мах	ximum Peak Conducted Output Power						
	□ Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.1.1 (RBW ≥ DTS BW).							
	$\boxtimes$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.1.2 (Peak power meter)						
$\boxtimes$	Мах	ximum Conducted Output Power (Reference only)						
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).						
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)						
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).						
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)						
	RF	power meter and average over on/off periods with duty factor or gated trigger						
	$\boxtimes$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 9.2.3.2 Method AVGPM-G (using a gated RF average power meter)						
$\boxtimes$	For	conducted measurement.						
		The EUT supports single transmit chain and measurements performed on this transmit chain.						
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.						
	$\boxtimes$	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.						
		If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) EIRP <sub>total</sub> = P <sub>total</sub> + DG						

### 3.3.4 Test Setup





### 3.3.5 Directional Gain for Power Measurement

Directional Gain (DG) Result								
Transmit Chains No.		1	2	-	-			
Maximum G <sub>ANT</sub> (dBi)		5.52	5.52	-	-			
Modulation Mode	DG (dBi)	Ν <sub>τχ</sub>	N <sub>ss</sub>	STBC	Array Gain (dB)			
11b,1-11Mbps	5.52	2	1	-	-			
11g,6-54Mbps	5.52	2	1	-	-			
HT20,M0-15	5.52	2	1	-	-			
HT40,M0-15	5.52	2	1	-	-			



	Maximum Peak Conducted Output Power											
Condi	Condition				RF Output Power (dBm)							
Modulation Mode	Ντχ	Freq. (MHz)	Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 4	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit	
11b	2	2412	19.45	19.82			22.65	30.00	5.52	28.17	36.00	
11b	2	2437	17.65	18.49			21.10	30.00	5.52	26.62	36.00	
11b	2	2462	17.44	17.43			20.45	30.00	5.52	25.97	36.00	
11g	2	2412	21.26	21.45			24.37	30.00	5.52	29.89	36.00	
11g	2	2437	26.70	26.90			29.81	30.00	5.52	35.33	36.00	
11g	2	2462	22.25	22.42			25.35	30.00	5.52	30.87	36.00	
HT-20	2	2412	19.25	19.18			22.23	30.00	5.52	27.75	36.00	
HT-20	2	2437	26.52	26.82			29.68	30.00	5.52	35.20	36.00	
HT-20	2	2462	21.63	21.68			24.67	30.00	5.52	30.19	36.00	
HT-40	2	2422	18.58	17.92			21.27	30.00	5.52	26.79	36.00	
HT-40	2	2437	22.89	22.75			25.83	30.00	5.52	31.35	36.00	
HT-40	2	2452	18.43	18.52			21.49	30.00	5.52	27.01	36.00	
Resi	Result			Complied								

### 3.3.6 Test Result of Maximum Conducted Output Power

	Maximum Conducted (Average) Output Power										
Condi		RF Output Power (dBm)									
Modulation Mode	Ν <sub>τχ</sub>	Freq. (MHz)	Chain Port 1	Chain Port 2	Chain Port 3	Chain Port 4	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11b	2	2412	17.29	17.74			20.53	30.00	5.52	26.05	36.00
11b	2	2437	15.49	16.30			18.92	30.00	5.52	24.44	36.00
11b	2	2462	15.26	15.24			18.26	30.00	5.52	23.78	36.00
11g	2	2412	12.28	12.44			15.37	30.00	5.52	20.89	36.00
11g	2	2437	20.28	20.15			23.23	30.00	5.52	28.75	36.00
11g	2	2462	13.01	13.11			16.07	30.00	5.52	21.59	36.00
HT-20	2	2412	10.91	10.88			13.91	30.00	5.52	19.43	36.00
HT-20	2	2437	19.34	19.13			22.25	30.00	5.52	27.77	36.00
HT-20	2	2462	11.91	12.05			14.99	30.00	5.52	20.51	36.00
HT-40	2	2422	9.13	8.52			11.85	30.00	5.52	17.37	36.00
HT-40	2	2437	13.58	13.48			16.54	30.00	5.52	22.06	36.00
HT-40	2	2452	8.69	8.84			11.78	30.00	5.52	17.30	36.00
Resu	ult					C	Complie	d		-	

Note: AV power is for reference only.



### 3.4 **Power Spectral Density**

### 3.4.1 Power Spectral Density Limit

Power Spectral Density (PSD)  $\leq 8 \text{ dBm/3kHz}$ 

#### 3.4.2 Measuring Instruments

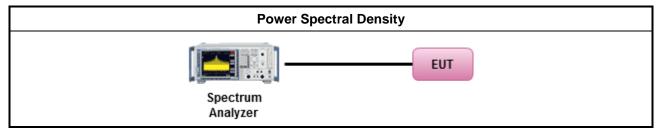
Refer a test equipment and calibration data table in this test report.

#### 3.4.3 Test Procedures

		Test Method
	outp the c conc of th	k power spectral density procedures that the same method as used to determine the conducted ut power. If maximum peak conducted output power was measured to demonstrate compliance to putput power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum ducted output power was measured to demonstrate compliance to the output power limit, then one e average PSD procedures shall be used, as applicable based on the following criteria (the peak procedure is also an acceptable option).
	$\square$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 10.2 Method PKPSD (RBW=3kHz; detector=peak)
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 10.4 Method AVGPSD-1 Alt. (slow sweep speed)
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 10.5 Method AVGPSD-2 (spectral trace averaging).
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
$\boxtimes$	For	conducted measurement.
		The EUT supports single transmit chain and measurements performed on this transmit chain.
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
	$\square$	The EUT supports multiple transmit chains using options given below:
		☑ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the N <sub>TX</sub> output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		Option 2: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.



### 3.4.4 Test Setup

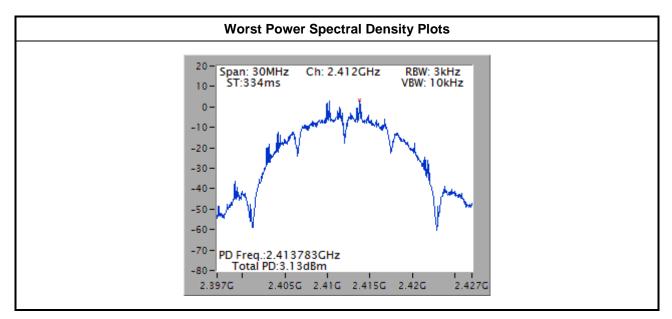


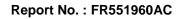


	Power Spectral Density Result							
Cond	lition		Power Spectral Density (dBm/3kHz)					
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Sum Chain	Power Limit				
11b	2	2412	3.13	8				
11b	2	2437	1.52	8				
11b	2	2462	-0.10	8				
11g	2	2412	-12.79	8				
11g	2 2437	2437	-4.93	8				
11g	2	2462	-11.89	8				
HT-20	HT-20 2 2412 HT-20 2 2437		-12.81	8				
HT-20			-4.95	8				
HT-20	2	2462	-12.23	8				
HT-40	2	2422	-17.04	8				
HT-40	2	2437	-12.43	8				
HT-40	2	2452	-16.67	8				
Res	sult		Con	nplied				

### 3.4.5 Test Result of Power Spectral Density

Note: Test result is bin-by-bin summing measured value of each TX port.







### 3.5 Emissions in non-restricted frequency bands

#### 3.5.1 Emissions in non-restricted frequency bands limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz

#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

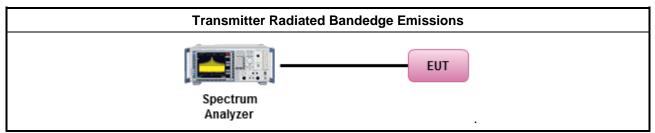
#### **Reference level measurement**

- 1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
- 2. Trace = max hold , Allow Trace to fully stabilize
- 3. Use the peak marker function to determine the maximum PSD level

#### **Emission level measurement**

- 1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
- 2. Trace = max hold , Allow Trace to fully stabilize
- 3. Scan Frequency range is up to 25GHz
- 4. Use the peak marker function to determine the maximum amplitude level

#### 3.5.4 Test Setup



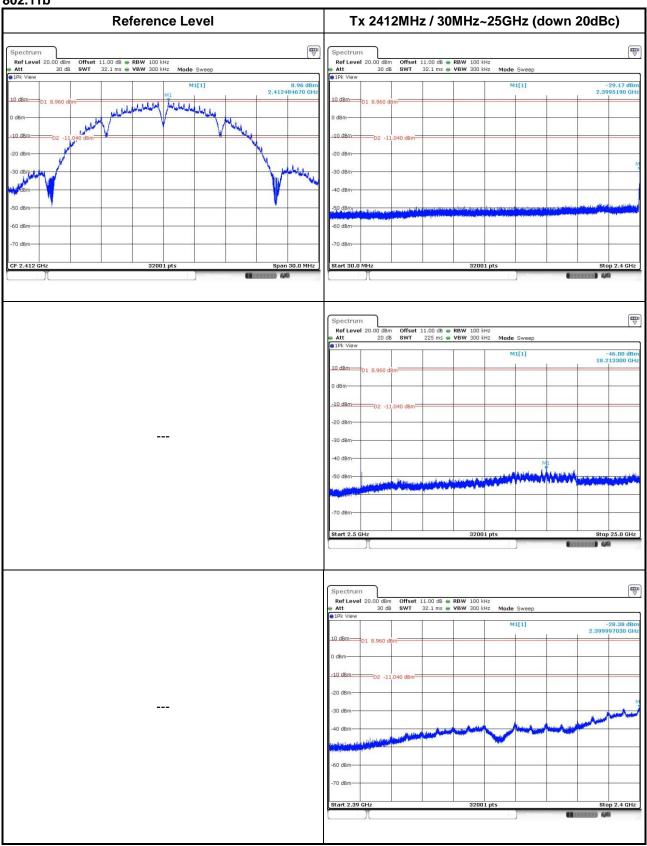
#### 3.5.5 Test Result of Emissions in non-restricted frequency bands

This test item is performed on each TX output individually without summing or adding 10  $\log(N_{ANT})$  since measurements are made relative to the in-band emissions on the individual outputs. Only worst test result of each operating mode is presented.

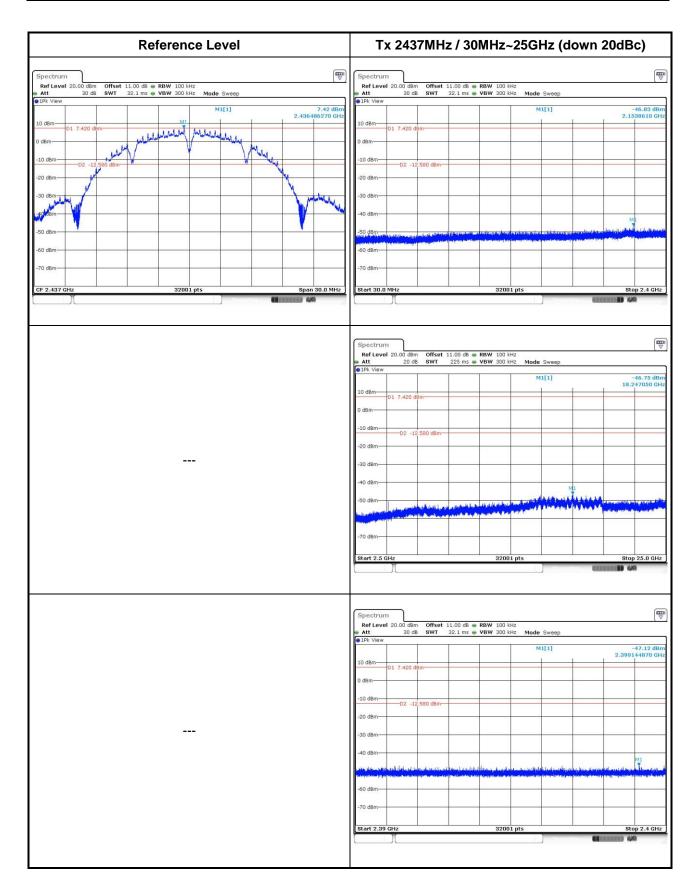


### 3.5.6 Test Result of Emissions in non-restricted frequency bands

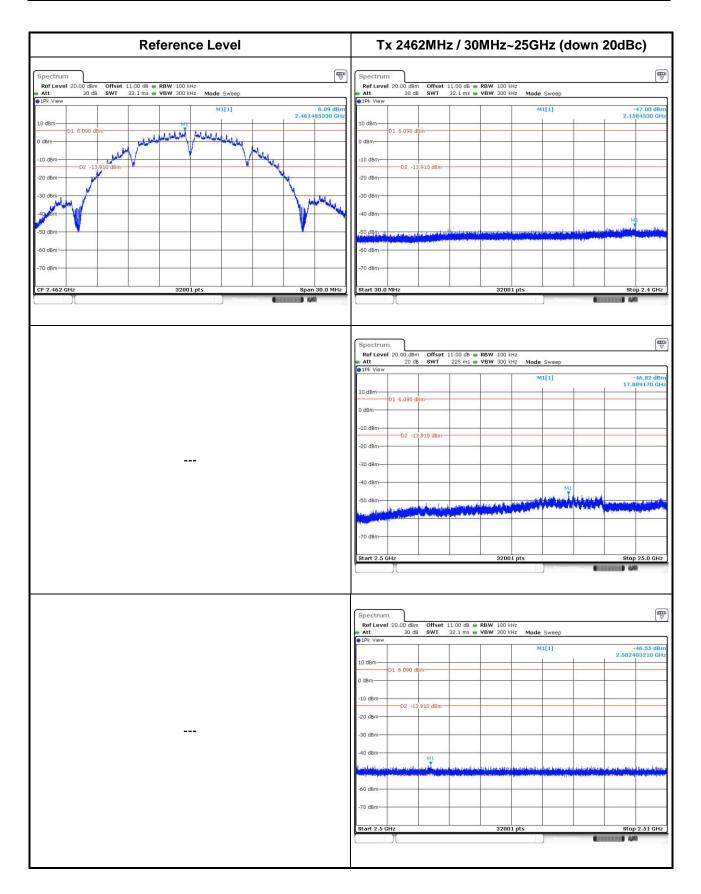
802.11b







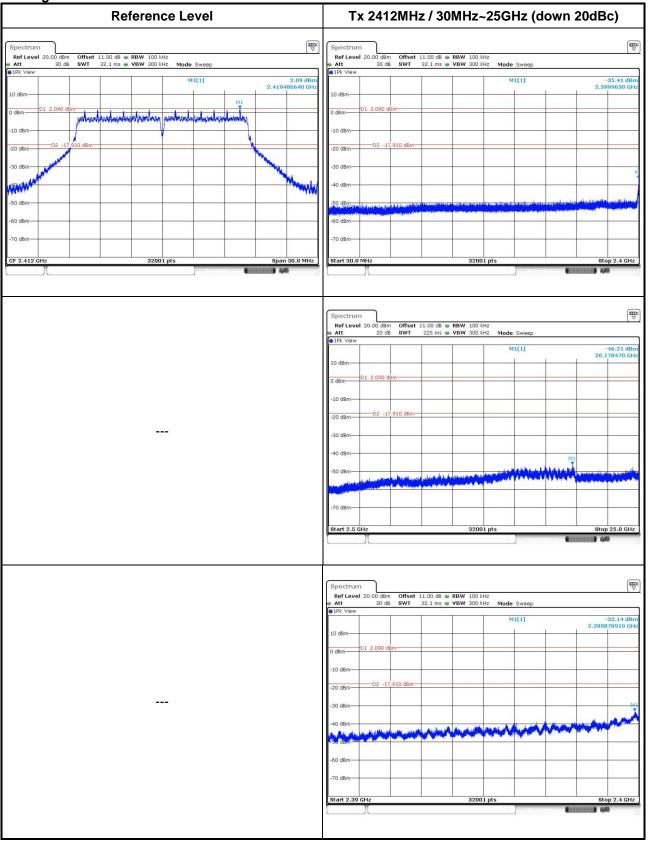




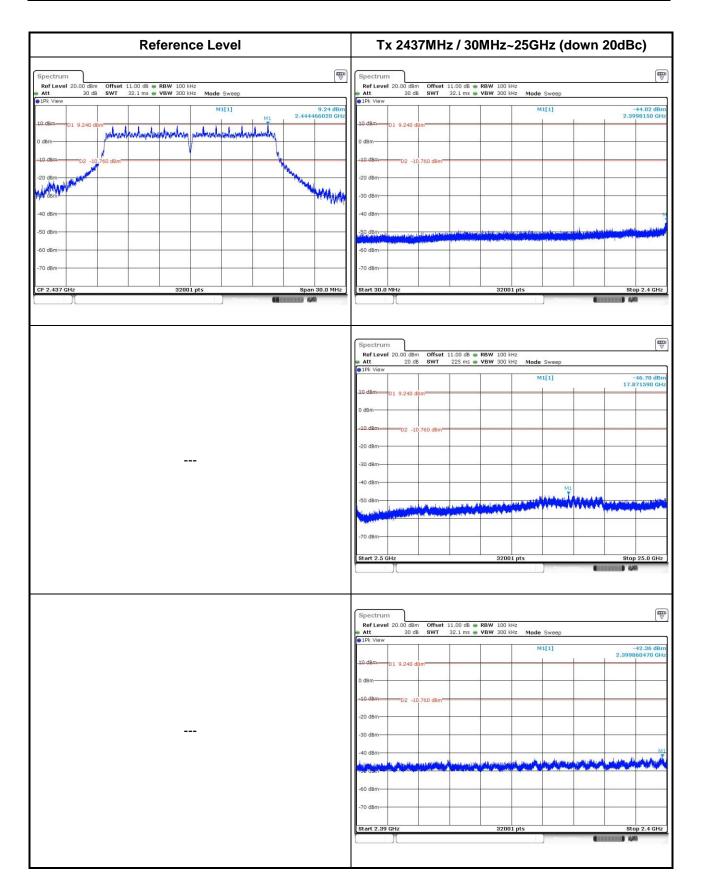


#### Report No. : FR551960AC

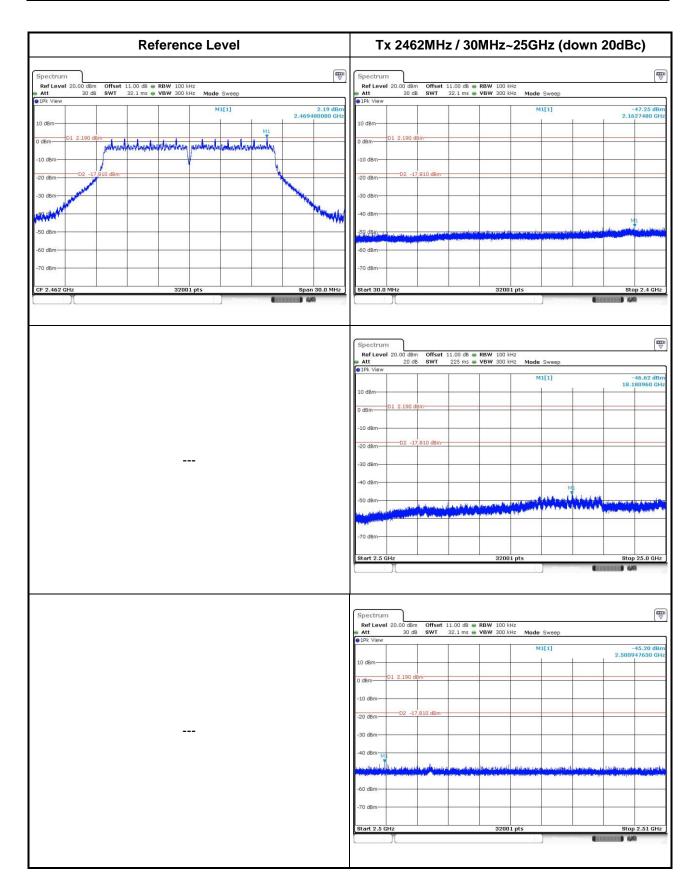
#### 802.11g







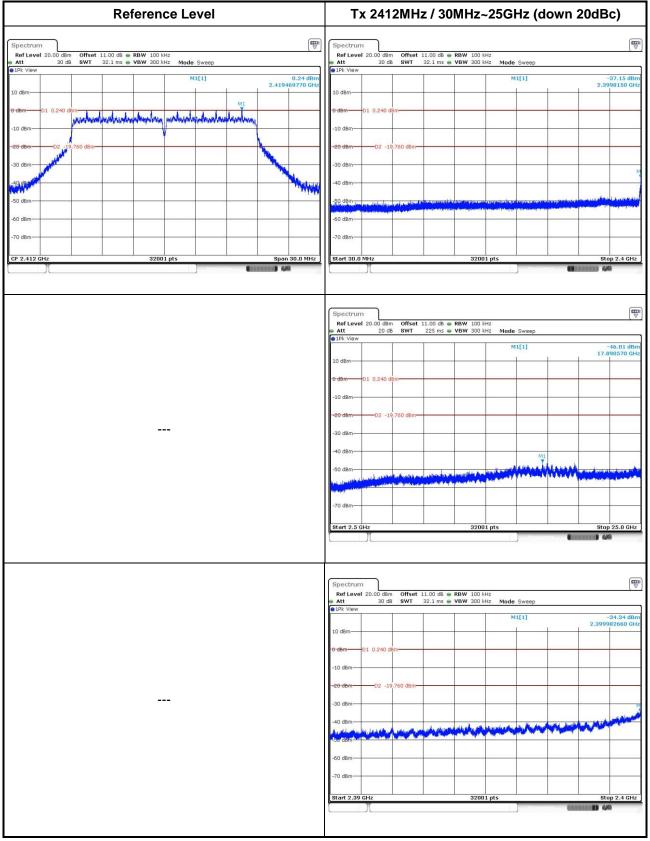






#### Report No. : FR551960AC

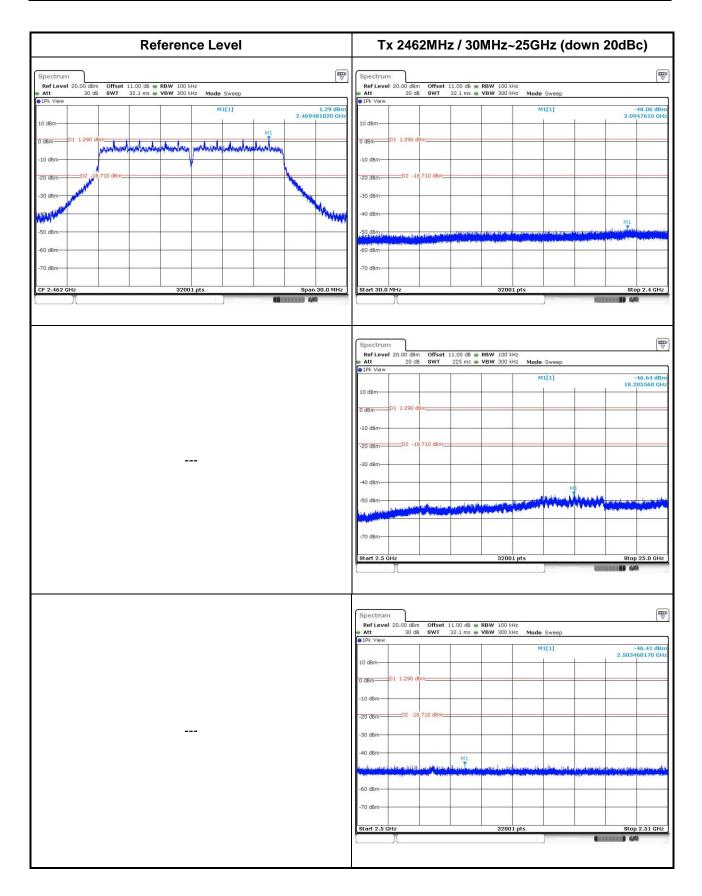
#### 802.11n HT20





Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
weetrum m	Spectrum
efLevel 20.00 dBm Offset 11.00 dB ● RBW 100 HH: 30 dB SWT 32.1 ms ● VBW 300 kHz Mode Sweep © View	Act         30 dB         Offset         11.00 dB         RBW         100 kHz           Act         30 dB         SWT         32.1 ms         VBW         300 kHz         Mode Sweep           Image: Strate S
M1[1] 8.25 dBm 2.444480080 GHz	M1[1] -42.81 2.3963340
dem 01 e.250 dem pur hundrughen hare production of the second	10 dBm 01 8.250 dBm
	0 d8m
dBm02_31.750 dBm	-10 dBm 02 -11 750 dBm 02 -12 -12 -12 -12 -12 -12 -12 -12 -12 -1
	-30 dBm
	-40 dBm
l dBm	
1 dBm	-60 dBm
dBm-	-70 dBm
2.437 GHz 32001 pts Span 30.0 MHz	Start 30.0 MHz 32001 pts Stop 2.4
	Spectrum           Ref Level 20.00 dBm         Offset 11.00 dB         RBW 100 kHz
	Att 20 dB SWT 225 ms      VBW 300 kHz Mode Sweep     IPk View
	10 dBm 01 6.250 dBm 01 6.250 dBm
	0 d8m
	-10 dBm
	-20 dBm
	-30 dBm-
	-40 d8m M1
	-50 dBm
	-70 dBm-
	Stort 2.5 GHz 32001 pts Stop 25.0
	Spectrum           Ref Level 20.00 dBm         Offset 11.00 dB         RBW 100 kHz           Att         30 dB         SWT         32.1 ms         VBW 300 kHz
	●1Pk View
	10 dBm 01 8.250 dBm 01 8.250 dBm
	0 dBm
	-10 dBm
	-20 dBm
	-30 dBm
	40 dBm Jours
	-60 dBm
	Start 2.39 GHz 32001 pts Stop 2.4

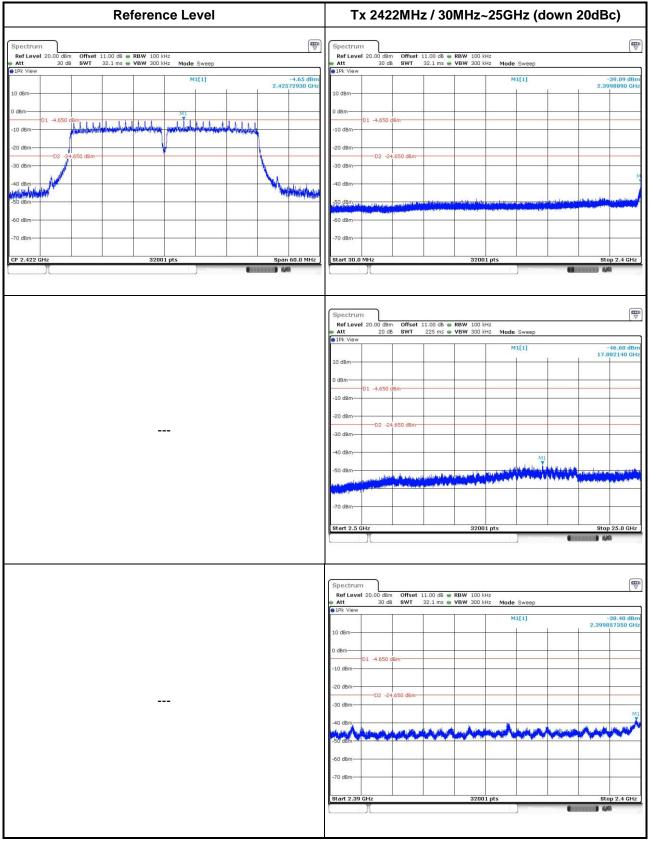




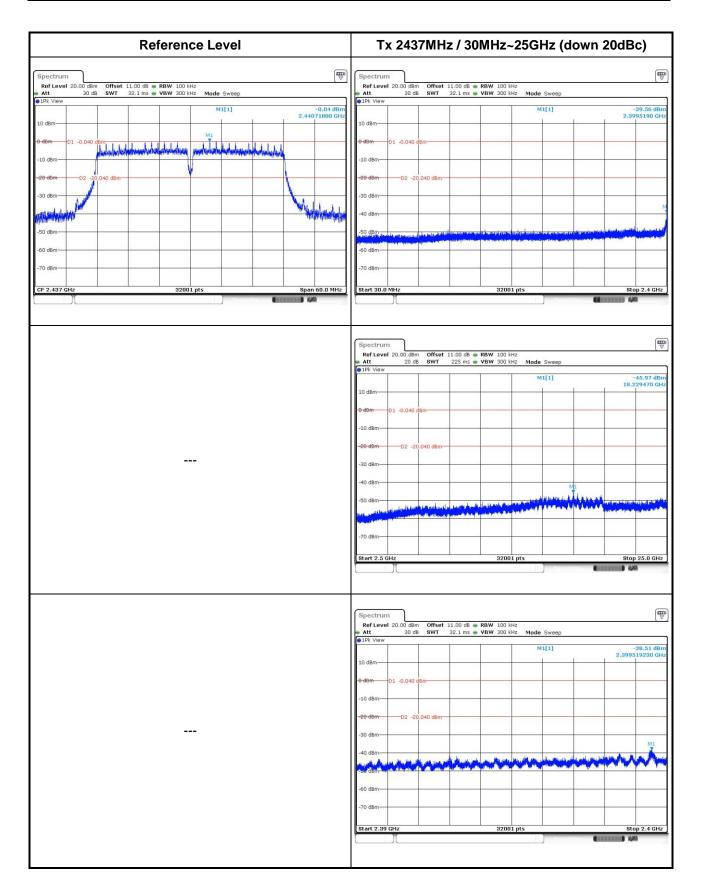


#### Report No. : FR551960AC

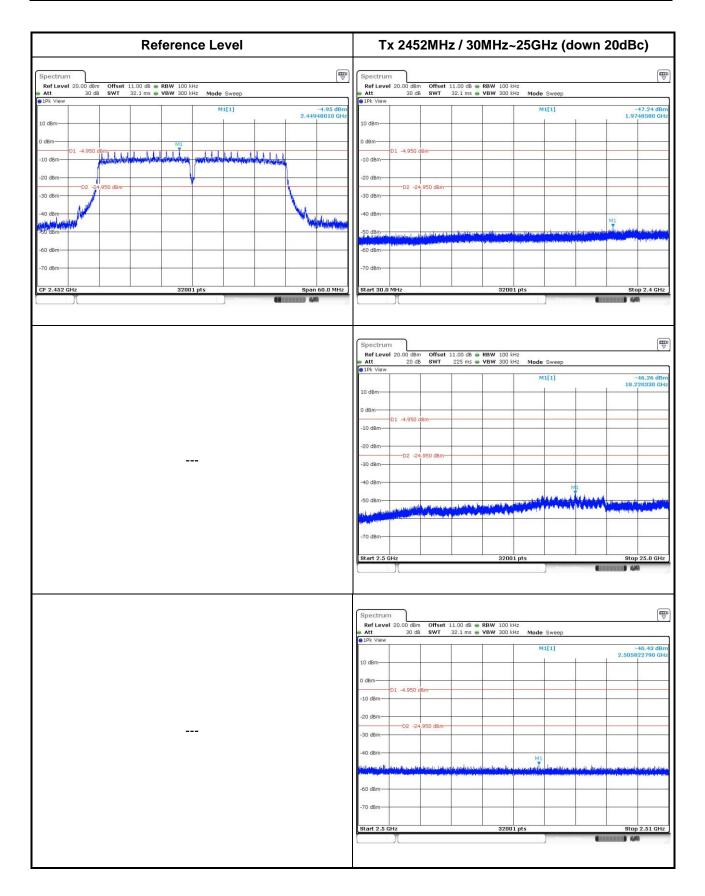
#### 802.11n HT40













# 3.6 Transmitter Radiated Unwanted Emissions

#### 3.6.1 Transmitter Radiated Unwanted Emissions Limit

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

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Un-restricted Ban	d Emissions Limit
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30
	n the peak conducted output power measured within band shall be attenuated by at least 20 dB relative to vel.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

#### **3.6.2 Measuring Instruments**

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



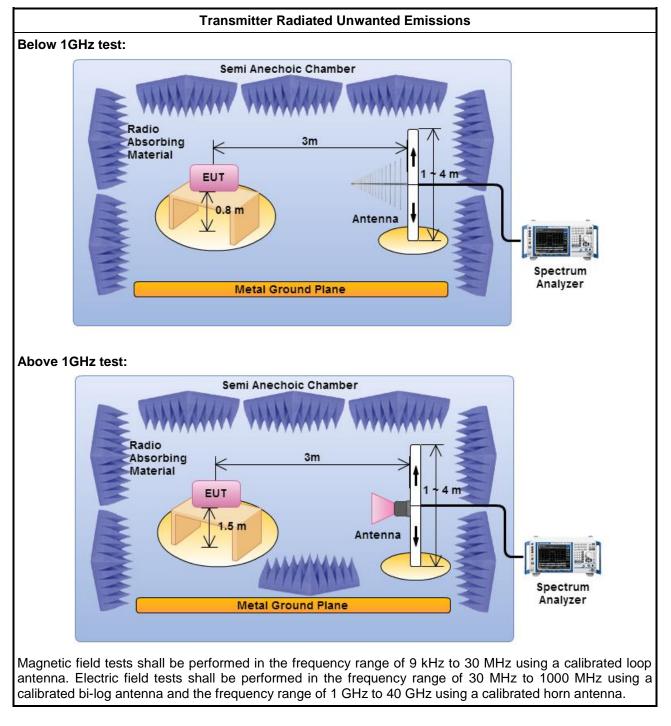
## 3.6.3 Test Procedures

		Test Method
$\boxtimes$	perfo equi extra dista	urements may be performed at a distance other than the limit distance provided they are normed in the near field and the emissions to be measured can be detected by the measurement ment. When performing measurements at a distance other than that specified, the results shall be bolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance-squared for power-densidurements).
$\boxtimes$	For	e transmitter unwanted emissions shall be measured using following options below:
	$\boxtimes$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 11 for unwanted emissions into non-restricted bands.
	$\boxtimes$	Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12 for unwanted emissions in restricted bands.
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.5.1 Option 1 (trac averaging for duty cycle ≥98%)
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.5.2 Option 2 (trac averaging + duty factor).
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.5.3 Option 3 (Reduce VBW≥1/T).
		Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.4 measurement procedure peak limit.
		Refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.3 measurement procedure Quasi-Peak limit.
		Refer as ANSI C63.10, clause 11.12.2.3 measurement procedure peak limit.
$\boxtimes$	For	adiated measurement, refer as FCC KDB 558074 DTS Meas Guidnace v03r03, clause 12.2.7
	$\square$	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
	$\square$	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.
	$\boxtimes$	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.
		Test Method

l est Method
For conducted and cabinet radiation measurement, refer as FCC KDB 558074 DTS Meas Guidnac v03r03, clause 12.2
<ul> <li>For conducted unwanted emissions into non-restricted bands (relative emission limits).</li> <li>Devices with multiple transmit chains:</li> <li>Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 1 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.</li> </ul>
<ul> <li>For conducted unwanted emissions into restricted bands (absolute emission limits).</li> <li>Devices with multiple transmit chains using options given below:</li> <li>(1) Measure and sum the spectra across the outputs or</li> <li>(2) Measure and add 10 log(N) dB</li> </ul>



#### 3.6.4 Test Setup



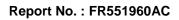
## 3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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



Modulation Mode		11g			Te	st Freq.	(MHz)		2437		
Polarization		Н									
onLevel	(dBuV/m)									Date: 20	15-07-08
81.0											
72.0								_			
63.0											
54.0										FCC (	CLASS-B
45.0		3		4			5				
36.0	<u>_</u> 11			4			_	6			
27.0											
18.0											
9.0											
0 <mark></mark>	100.	200.	200	400.	500	. 600		700.	000	000	1000
50	100.	200.	300.	400.		cy (MHz)	J. 1	100.	800.	900.	1000
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m		dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	124.13			43.50		11.65		31.66			Peak
2		40.27		43.50	57.11			31.61			Peak
3 4		44.81 39.11		46.00		12.60 15.86		31.48 31.44			QP Peak
5		42.27				20.50		31.38			QP
6		36.86						31.36			Peak
Note 1: ">20dB" me											

### 3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)





Modulation Mode	1'	1g			Те	st Freq.	(MHz)		2437		
Polarization	V				•						
90 Level (dBu	V/m)									Date: 2	015-07-08
	•										
81.0											
72.0											
63.0										FCC	CLASS-B
54.0		2									
45.0		╞╌╹		4			5	6			
36.0											
27.0		+							_		
18.0		+									
9.0											
0 <mark>30 100.</mark>	:	200.	300.	400		0. 600 ncy (MHz)	). 7	700.	800.	900	. 1000
Fr	req	Level	Over Limit		Level	Antenna Factor	Loss		A/Pos	T/Pos	Remark
M		BuV/m		dBuV/r	n dBuV		dB	dB	сm	deg	
			-2.12			14.54		31.82			
			-3.36					31.75			Peak
			-1.11					31.48			QP
4 374	1.85	42.24	-3.76	46.00	56.41	15.85	1.42	31.44			QP
			-7.01			20.50		31.38			Peak
6 731	.43	40.82	-5.18	46.00	48.27	21.97	1.95	31.37			Peak
Note 1: ">20dB" means	spuri	ous err	nission     spurior	evels	hat exce	eed the le	vel of 2	20 dB be	elow th	ie appl	icable lir



Modulation Mo	ode		11b				T	est Fi	req. (	(MHz)		2412			
N <sub>TX</sub>			2				P	olariz	atio	า		Н			
90	Level	(dBuV/m)	)										Date	e: 2015	-05-18
81.0														CC CLA	CC D
72.0													_		133-D
63.0			4									FC	<u> </u>	ASS-B	
54.0		2	6											A33-D	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
45.0			5												
36.0 27.0															
18.0															
9.0															
0	1000	400	0. 60	00.	8000.	10000		. 140		16000.	18000.	20000.	220	00.	25000
				0	ver	Limit		ency (M		Cable	Decome	A /Dec	т /г		
		Freq	Lev			Limit					Preamp Factor	A/POS	1/F		emark
4		MHz	dBuV			dBuV/m			/m	dB	dB	cm		leg	
1		2386.00 2386.00				54.00 74.00			.25		34.49 34.49				/erage eak
3		4824.00							.15		32.97				/erage
4						74.00			.15		32.97				eak
5						54.00 74.00		331 131			32.89 32.89				/erage eak
0			,	05 -2	0.51	/4.00	41.7		.40	0.07	52.05				uk
lote 1: ">20dB															ble limi
lote 2: "N/F" m lote 3: Measu												vere de	etec	ted.)	
lote 3: Measur												field s	tren	gth as	s meas
											es not n				
additior lote 5: For un-															
					- 1 - I			. 11 1	- 11			-+ 00		باللهما ما	

# 3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b



NTX         2         Polarization         V           Date: 2015-05-18           81.0         FCC CLASS.B           72.0         2         FCC CLASS.B           63.0         2         FCC CLASS.B           63.0         2         FCC CLASS.B           63.0         2         FCC CLASS.B           63.0         2         FCC CLASS.B           64.0         6         FCC CLASS.B           63.0         2         GOVER           18.0         Frequency (MHz)           9.0         Over Limit Read Antenna Cable Preamp A/Pos T/Pos           Freq         Level Limit Line           Evel Limit Line         Level Factor Loss Factor           MHz         dBuV/m         dBuV/m dBuV dB/m           1         2386.00         52.29           2         2386.00         S2.29           2         2386.00         S2.29           2         2386.00         S2.29           3         482.400         S2.29           2	<b>Modulation Mod</b>	le	11b			Te	st Freq.	(MHz)		2412		
81.0       -       -       -       -       -       -       -       FCC CLASS-B         63.0       2       -	Ν <sub>τχ</sub>		2			Ро	larizatio	n		V		
81.0       FCC CLASS-B         72.0       2         63.0       2         64.0       4         45.0       6         70.0       6         70.0       6         70.0       6         70.0       6         70.0       6         70.0       70         70.0												
72.0       2       3	90 Le	vel (dBuV/m)									Date: 20	015-05-18
72.0       2       3       FCC CLASS-B (AVG)         63.0       2       6       7       7         63.0       6       7       7       7       7         64.0       6       7       7       7       7       7         145.0       6       7       7       7       7       7       7       7         18.0       9       7 <t< th=""><th>81.0</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>FCC</th><th>CLASS_R</th></t<>	81.0										FCC	CLASS_R
03.0       4	72.0									_		
34.0       6	63.0	2	4									
36.0       7.0       5       1 <td>54.0</td> <td></td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>FU</td> <td>C CLASS</td> <td>5-B (AVG)</td>	54.0		6							FU	C CLASS	5-B (AVG)
27.0       100       100       1000       1000       12000       14000       16000       1800       2000       22000       25000         9.0       1000       4000       6000       8000       10000       12000       14000       16000       18000       20000       22000       25000         MHz       dBuV/m       dB       dBuV/m       dB       dBuV/m       dB       dB       cm       deg         1       2386.00       52.29       -1.71       54.00       54.96       27.25       4.57       34.49	45.0											
18.0       9.0	36.0											
9.0 9.0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) 0 Ver Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2386.00 52.29 -1.71 54.00 54.96 27.25 4.57 34.49 Average 2 2386.00 61.61 -12.39 74.00 64.28 27.25 4.57 34.49 Peak 3 4824.00 52.79 -1.21 54.00 47.82 31.15 6.79 32.97 Average 4 4824.00 55.14 -18.86 74.00 50.17 31.15 6.79 32.97 Peak 5 5000.00 35.16 -18.84 54.00 29.78 31.40 6.87 32.89 Average	27.0											
0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2386.00 52.29 -1.71 54.00 54.96 27.25 4.57 34.49 Average 2 2386.00 61.61 -12.39 74.00 64.28 27.25 4.57 34.49 Peak 3 4824.00 52.79 -1.21 54.00 47.82 31.15 6.79 32.97 Peak 3 4824.00 55.14 -18.86 74.00 50.17 31.15 6.79 32.97 Peak 5 5000.00 35.16 -18.84 54.00 29.78 31.40 6.87 32.89 Average	18.0											
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Frequency (MHz)         Over       Limit       Read       Antenna       Cable       Preamp       A/Pos       T/Pos         Freq       Level       Limit       Line       Level       Factor       Loss       Factor       Remark         MHz       dBuV/m       dB       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2386.00       52.29       -1.71       54.00       54.96       27.25       4.57       34.49        Average         2       2386.00       61.61       -12.39       74.00       64.28       27.25       4.57       34.49        Peak         3       4824.00       52.79       -1.21       54.00       47.82       31.15       6.79       32.97        Average         4       4824.00       55.14       -18.86       74.00       50.17       31.15       6.79       32.97        Peak         5       5000.00       35.16       -18.84       54.00       29.78       31.40       6.87       32.89        Average	0 <mark></mark>	00 400	0. 6000	. 8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	25000
Freq         Level         Limit         Line         Level         Factor         Loss         Factor         Remark           MHz         dBuV/m         dB         dBuV/m         dBuV         dBuV         dB         dB         cm         deg           1         2386.00         52.29         -1.71         54.00         54.96         27.25         4.57         34.49           Average           2         2386.00         61.61         -12.39         74.00         64.28         27.25         4.57         34.49           Peak           3         4824.00         52.79         -1.21         54.00         47.82         31.15         6.79         32.97          Average           4         4824.00         55.14         -18.86         74.00         50.17         31.15         6.79         32.97          Peak           5         5000.00         35.16         -18.84         54.00         29.78         31.40         6.87         32.89          Average						Frequen	icy (MHz)					
MHz       dBuV/m       dB       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2386.00       52.29       -1.71       54.00       54.96       27.25       4.57       34.49         Average         2       2386.00       61.61       -12.39       74.00       64.28       27.25       4.57       34.49         Peak         3       4824.00       52.79       -1.21       54.00       47.82       31.15       6.79       32.97        Average         4       4824.00       55.14       -18.86       74.00       50.17       31.15       6.79       32.97        Peak         5       5000.00       35.16       -18.84       54.00       29.78       31.40       6.87       32.89        Average		_									T/Pos	_
MHzdBuV/mdBdBuV/mdBuVdB/mdBdBcmdeg12386.0052.29-1.7154.0054.9627.254.5734.49Average22386.0061.61-12.3974.0064.2827.254.5734.49Peak34824.0052.79-1.2154.0047.8231.156.7932.97Average44824.0055.14-18.8674.0050.1731.156.7932.97Peak55000.0035.16-18.8454.0029.7831.406.8732.89Average		Freq							Factor			Remark
1       2386.00       52.29       -1.71       54.00       54.96       27.25       4.57       34.49         Average         2       2386.00       61.61       -12.39       74.00       64.28       27.25       4.57       34.49         Peak         3       4824.00       52.79       -1.21       54.00       47.82       31.15       6.79       32.97        Average         4       4824.00       55.14       -18.86       74.00       50.17       31.15       6.79       32.97        Peak         5       5000.00       35.16       -18.84       54.00       29.78       31.40       6.87       32.89        Average		MHz							dB	 ст	deg	
2       2386.00       61.61       -12.39       74.00       64.28       27.25       4.57       34.49        Peak         3       4824.00       52.79       -1.21       54.00       47.82       31.15       6.79       32.97        Average         4       4824.00       55.14       -18.86       74.00       50.17       31.15       6.79       32.97        Peak         5       5000.00       35.16       -18.84       54.00       29.78       31.40       6.87       32.89        Average	1				-		-					
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	Note 1: ">20dB"	means sp	urious er	mission l	levels th	at exce	ed the le	evel of 2	20 dB b	elow th	e appl	icable lim
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lim												
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<ul> <li>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</li> <li>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</li> <li>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as meas with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.</li> </ul>	Note 3: Measure Note 4: For restri with the I addition.	Peak-Dete										
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NTX         2         Polarization         H           Date: 2015-05-18           81.0         Date: 2015-05-18           81.0         FCC CLASS.B           72.0         FCC CLASS.B           63.0         FCC CLASS.B           64.0         FCC CLASS.B           65.0         FCC CLASS.B           90         FCC CLASS.B	Modulation Mod	е	11b			Te	st Freq.	(MHz)		2437		
81.0       FCC CLASS-B         72.0       FCC CLASS-B         63.0       FCC CLASS-B         64.0       FCC CLASS-B         65.0       FCC CLASS-B         72.0       FCC CLASS-B         70.0       FCC CLASS-B <th>Ντχ</th> <th></th> <th>2</th> <th></th> <th></th> <th>Ро</th> <th>larizatio</th> <th>'n</th> <th></th> <th>Н</th> <th></th> <th></th>	Ντχ		2			Ро	larizatio	'n		Н		
81.0       72.0       FCC CLASS-B         63.0       9       10       FCC CLASS-B         63.0       9       10       FCC CLASS-B         64.0       9       10       FCC CLASS-B         65.0       9       10       FCC CLASS-B         72.0       9       9       10       FCC CLASS-B         72.0       9       9       10       FCC CLASS-B         72.0       9       9       9       9         9.0       9       9       9       9         9.0       90       9       9       9         9.0       90       9       9       9         9.0       90       9       9       9       9         1000       4000.       6000.       8000.       10000.       12000.       16000.       18000.       20000.       22000.       25000         Frequency (MHz)       Frequency (MHz)       Read       Antenna       Cable       Preamp A/Pos T/Pos       Remark         MHz       dBuV/m       dB       dBuV/m       dBuV       dB/m       dB       dB       cm       cm       cm       cm       cm       cm       cm <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>												
81.0       FCC CLASS-B         72.0       FCC CLASS-B         63.0       FCC CLASS-B         64.0       FCC CLASS-B         65.0       FCC CLASS-B         72.0       FCC CLASS-B         7       FCC CLASS-B	90 Le	vel (dBuV/m)									Date: 2	015-05-18
View												
63.0       8       10       FCC CLASS-B (AVG)         54.0       8       10       FCC CLASS-B (AVG)         45.0       1											FCC	CLASS-B
54.0       8       10       FCC CLASS-B (AVG)         45.0       8       10       1 <th1< td=""><td></td><td></td><td></td><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th1<>				10								
45.0       36.0			- ę	•						FCC	CLAS	S-B (AVG)
36.0       36.0												
27.0       18.0       1000       1000       1000       1000       1000       1000       12000       14000       16000       18000       20000       22000       25000         9.0       1000       4000       6000       8000       10000       12000       14000       16000       18000       20000       22000       25000         Freq       Level       Limit       Lime       Read       Antenna       Cable       Preamp       A/Pos       T/Pos         MHz       dBuV/m       dB       dBuV/m       dBuV       dBuV       BdB       cm       deg         1       2390.00       37.61       -16.39       54.00       40.26       27.26       4.57       34.48        Average         2       2390.00       50.45       -33.55       74.00       53.10       27.26       4.57       34.48		1										
18.0       9.0       0       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000         Freq       Level       Limit       Read       Antenna       Cable       Preamp       A/Pos       T/Pos         MHz       dBuV/m       dB       dBuV/m       dBuV       dBuV       dB/m       dB       dB       cm       deg         1       2390.00       37.61       -16.39       54.00       40.26       27.26       4.57       34.48        Average         2       2390.00       50.45       -23.55       74.00       53.10       27.26       4.57       34.48        Average         3       2483.50       38.08       -15.92       54.00       40.42       27.46       4.62       34.42        Average         4       2483.50       51.88       -22.12       74.00       54.22       27.46       4.62       34.41        Average         5       2500.00       40.94       -13.06       54.00       43.22       27.50       4.63       34.41        Average												
9.0       0       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000         Freq       Level       Limit       Read       Antenna       Cable       Preamp       A/Pos       T/Pos         MHz       dBuV/m       dB       dBuV/m       dB       dBuV/m       dB       dB       cm       deg         1       2390.00       37.61       -16.39       54.00       40.26       27.26       4.57       34.48         Average         2       2390.00       50.45       -23.55       74.00       53.10       27.26       4.57       34.48         Average         3       2483.50       38.08       -15.92       54.00       40.42       27.46       4.62       34.42         Average         4       2483.50       51.88       -22.12       74.00       54.22       27.46       4.62       34.41         Peak         5       2500.00       40.94       -13.06       54.00       43.22       27.50       4.63       34.41       <												
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Over         Limit         Read         Antenna         Cable         Preamp         A/Pos         T/Pos           Freq         Level         Limit         Line         Level         Factor         Loss         Factor         Remark           MHz         dBuV/m         dB         dBuV/m         dBuV         dBuV         dBuV         dBuV         mt           1         2390.00         37.61         -16.39         54.00         40.26         27.26         4.57         34.48          Average           2         2390.00         50.45         -23.55         74.00         53.10         27.26         4.57         34.48          Peak           3         2483.50         38.08         -15.92         54.00         40.42         27.46         4.62         34.42          Peak           4         2483.50         51.88         -22.12         74.00         54.22         27.46         4.62         34.41          Peak           5         2500.00         40.94         -13.06         54.00         43.22         27.50         4.63         34.41          Peak           6         2500.00	U10	00 400	0. 6000.	8000.	10000.			16000.	18000.	20000.	22000.	25000
Freq         Level         Limit         Line         Level         Factor         Loss         Factor         Remark           MHz         dBuV/m         dB         dBuV/m         dBuV         duv				0	1.4			Cable	Desserve	A /D==	T /D	
MHz       dBuV/m       dB       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2390.00       37.61       -16.39       54.00       40.26       27.26       4.57       34.48         Average         2       2390.00       50.45       -23.55       74.00       53.10       27.26       4.57       34.48         Peak         3       2483.50       38.08       -15.92       54.00       40.42       27.46       4.62       34.42         Average         4       2483.50       51.88       -22.12       74.00       54.22       27.46       4.62       34.42         Peak         5       2500.00       40.94       -13.06       54.00       43.22       27.50       4.63       34.41         Peak         5       2500.00       52.38       -21.62       74.00       54.66       27.50       4.63       34.41         Peak         7       4874.00       50.05       -3.95       54.00       44.97       31.22       6.81       32.95		Enog	Lovol									
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3       2483.50       38.08       -15.92       54.00       40.42       27.46       4.62       34.42         Average         4       2483.50       51.88       -22.12       74.00       54.22       27.46       4.62       34.42         Peak         5       2500.00       40.94       -13.06       54.00       43.22       27.50       4.63       34.41         Average         6       2500.00       52.38       -21.62       74.00       54.66       27.50       4.63       34.41         Peak         7       4874.00       50.05       -3.95       54.00       44.97       31.22       6.81       32.95        Average         8       4874.00       52.60       -21.40       74.00       47.52       31.22       6.81       32.95        Peak         9       7311.00       50.80       -3.20       54.00       40.69       36.01       8.49       34.39        Average	1	2390.00	37.61		-		-	4.57	34.48			
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5       2500.00       40.94       -13.06       54.00       43.22       27.50       4.63       34.41         Average         6       2500.00       52.38       -21.62       74.00       54.66       27.50       4.63       34.41        Peak         7       4874.00       50.05       -3.95       54.00       44.97       31.22       6.81       32.95        Average         8       4874.00       52.60       -21.40       74.00       47.52       31.22       6.81       32.95        Peak         9       7311.00       50.80       -3.20       54.00       40.69       36.01       8.49       34.39        Average	3							4.62	34.42			Average
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Jote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lim	Note 2: "N/F" me	ans Nothii	ng Found	d spurio	us emis	sions (N	lo spuric	ous emi	ssions v			
	Note 3: Measurer	ment rece	ive anter	nna pola	rization	: H (Hò	izontal),	V (Ver	tical)			
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)										field st	rength	as meas
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<ul> <li>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</li> <li>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</li> <li>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as meas with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.</li> </ul>					emissio	ns shall	be atter	nuated	by at lea	ast 20 d	IB rela	tive to th
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as meas with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in	movimum								-			



Modulation Mode		11b			Te	st Freq.	(MHz)		2437		
N <sub>TX</sub>		2			Ро	larizatio	n		V		
										D-4 0	
90 Leve	l (dBuV/m)									Date: 2	015-05-18
81.0										FCC	CLASS-B
72.0										ru	CLA33-D
63.0	_		10								
54.0	2	8	9						FC	C CLASS	S-B (AVG)
45.0		1									
36.0											
27.0											
18.0											
9.0											
0 <mark>1000</mark>	400	0. 6000	. 8000.	10000.			16000.	18000.	20000.	22000.	25000
					Frequen	icy (MHz)					
			0ver			Antenna					
	Freq		Limit			Factor					Remark
1	MHz	dBuV/m 42.39		dBuV/m		dB/m	dB	dB 34.48	CM	deg	Average
2		54.58				27.26		34.48			Peak
3		41.77				27.46		34.42			Average
4		54.66				27.46		34.42			Peak
5		47.82			50.10			34.41			Average
6	2500.00	56.00	-18.00	74.00	58.28	27.50	4.63	34.41			<sup>_</sup>
7	4874.00	48.78	-5.22	54.00	43.70	31.22	6.81	32.95			Average
8	4874.00	52.41	-21.59	74.00	47.33	31.22	6.81	32.95			Peak
9		52.99				36.01	8.49	34.39			Average
10	7311.00	59.51	-14.49	74.00	49.40	36.01	8.49	34.39			Peak



81 72 63 54 45 36 27 18	.0 .0 .0 .0 .0 .0 .0 .0 .0	el (dBuV/n	2		6		Po		n		H		015-05-18 CLA\$S-B
81 72 63 54 45 36 27 18	.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	2	n)		6 \$								
81 72 63 54 45 36 27 18	.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	2	n)		6								
72 63 54 45 36 27 18	2.0 3.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5				6							FCC	CLASS-B
63 54 45 36 27 18	5.0 5.0 5.0 7.0 8.0 9.0		3		6								CLA33-D
54 45 36 27 18	.0 .0 .0 .0 .0 .0				6 5								
45 36 27 18	5.0 5.0 7.0 9.0 9.0				5								
36 27 18	5.0 7.0 9.0 9.0	0 40									FC	C CLASS	S-B (AVG)
27 18	.0 .0 .0	0 40											
27 18	.0 .0 .0	0 40				1							
18	.0 .0	0 40											
	.0	0 40											
3		0 40											
	<sup>0</sup> 100	0 40											
			00. 6	6000.	8000.	10000.		14000. 1cy (MHz)	16000.	18000.	20000.	22000.	25000
					0ver	limi+		Antenna	Cable	Preamn		T/Pos	
		Free	i Le	vel		Line		Factor				1/103	Remark
		MHz	dBu	V/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
	1							27.46		34.42			Average
	2									34.42			
	3					54.00		31.29					Average
	4					74.00		31.29		32.92			Peak
	5 6					54.00		36.20 36.20		34.49			Average
	0	/500.0	00 00	. )1	-17.09	74.00	40.00	50.20	0.00	54.45			Peak
Note 1: ">20d													
Note 2: "N/F"											vere de	etectec	1.)
Note 3: Meas					•		•		•	,	C . I . I		
Note 4: For re													
		eak-De	ector	mee	ets the A	.v-∟imit	so that	the AV le	evel doe	es not n	eed to	pe rep	orted in
additi		trioto al	oorde		اء مدم م	omice!-	ممحلحا	ho otto:-	المعلمين	مرجمه	ant 00	مل م م ا -	tive to the
Note 5: For u		measu				emissio	ns snal	i be atter	iuated	by at lea	ast 20 (	up leis	uve to th



Nodulation M	ode		1	1b			Те	st Freq.	(MHz)		2462		
N <sub>TX</sub>			2	2			Ро	larizatio	n		V		
90	Level	(dBuV/r	n)									Date: 2	015-05-18
81.0												FCC	CLASS-B
72.0			+								_	rcc	CLA33-D
63.0		2	-		6								
54.0		-	-	4							FC	C CLAS	S-B (AVG)
45.0		1		3									
36.0		_	-										
27.0		_											
18.0			_										
9.0													
	1000	40	00.	6000.	. 8000	. 10000		14000. 1cy (MHz)	16000.	18000.	20000.	22000.	25000
					0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos	
		Free	1	Level	Limit	Line		Factor					Remark
		MHz		dBuV/m		-	dBuV	-		dB	cm	deg	
1								27.46					Average
2										34.42			Peak
3						. 54.00 74.00		31.29 31.29		32.92			Average Peak
5						54.00				34.49			Average
6								36.20					Peak
lote 1: ">20dE	" me	ans s	nur	ious er	nission	levels t	hat exce	ed the le	vel of 2	20 dB h	elow th	e annl	licable lin
lote 2: "N/F" n													
lote 3: Measu													A.)
lote 3: Measu											field e	trenath	
								the AV le					
30711111111		ar-De	CU	ior mee		¬v-∟IIIIII	50 1121	ule AV le		55 1101 11	eeu io	ne ieh	
	<b>^</b>												
additio		riotad	hor	do un	workad	omicai	no chel	ho ottor	unted	hu ot la	oot 00		tive to th
additio lote 5: For un	rest				wanted		ons shal	l be atter	nuated	by at lea	ast 20	dB rela	ative to th



Modulation Mod	de	11g			Tes	st Freq.	(MHz)		2412			
N <sub>TX</sub>		2			Po	larizatio	n		Н			
90	evel (dBuV/m)	)								Date: 2	015-05-18	} 1
81.0										FCC	CLASS-B	
72.0												
63.0	2	4							FCC	CLASS	S-B (AVG)	
54.0 45.0		6										
45.0 36.0		5										
27.0										_		
18.0										_		
9.0										_		
0	00 400	0. 6000	). 8000.	10000.			16000.	18000.	20000. 2	2000.	2500	] 0 <b>0</b>
			0	1.4	-	cy (MHz)	C-11-	0	A (D			
	Freq	Level	Over Limit			Antenna Factor			A/Pos	/Pos	Remark	c
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg		
1			-13.13		43.52 58.94	27.26 27.26		34.48 34.48			Averag Peak	<u>e</u>
3			-13.67			31.15		32.97			Averag	ze .
4			-22.02			31.15		32.97			Peak	,-
5			-19.12			31.40		32.89			<b>-</b>	<u>s</u> e
6	5000.00	46.96	-27.04	74.00	41.58	31.40	6.87	32.89			Peak	
Note 1: ">20dB" Note 2: "N/F" me Note 3: Measure Note 4: For restr with the addition. Note 5: For un-re	ans Nothi ment rece icted banc Peak-Dete	ng Foun eive ante ls, the pe ector me	d spurio nna pola eak mea ets the A	us emiss arization: suremen .V-Limit :	sions (N : H (Hor nt is full so that	lo spuric izontal), y sufficie the AV le	ous emi V (Verl ent, as t evel doe	ssions v tical) he max es not ne	vere det field str eed to b	ectec ength e rep	d.) n as me ported in	easure า

# 3.6.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g



Modulation Mod	le	11g			Te	st Freq.	(MHz)		2412		
N <sub>TX</sub>		2			Ро	larizatio	n		V		
90 Le	vel (dBuV/m)									Date: 2	015-05-18
81.0										FCC	CLASS-B
72.0	2								_	r.c.	CLA33-D
63.0											
54.0	1	4							FC	C CLASS	S-B (AVG)
45.0		3									
36.0											
27.0											
18.0											
9.0											
0	00 400	0. 6000	. 8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	25000
						icy (MHz)					
	<b>F</b>		0ver			Antenna				T/Pos	_
	Freq		Limit			Factor					Remark
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg	
1			-1.16	-		-		34.48			Average
2	2390.00	66.80	-7.20	74.00	69.45	27.26	4.57	34.48			Peak
3			-15.32			31.15		32.97			Average
4			-22.48			31.15		32.97			Peak
5			-18.50 -27.27			31.40		32.89 32.89			Average Peak
0	5000.00	40.75	-2/.2/	/4.00	41.55	51.40	0.07	52.05			TEak
Note 1: ">20dB"											
Note 2: "N/F" me									were de	etectec	1.)
Note 3: Measure									field a	tron att-	
			eis ine A		รบ เทลเ	me av le	vei ade	s not n	eed to	ue rep	oned in
with the l	Peak-Dete									•	
Note 4: For restri with the l addition. Note 5: For un-re											ntive to th



Modulation Mod	е	11g			Te	st Freq.	(MHz)		2437		
N <sub>TX</sub>		2			Ро	larizatio	n		Н		
	ual (dDu)//m)									Date: 20	)15-05-18
90	vel (dBuV/m)									Date. 20	/13-03-10
81.0										FCC	CLASS-B
72.0			8								
63.0			-ĭ -								
54.0	2	6	-7						FC	C CLASS	-B (AVG)
45.0											
36.0		5									
27.0											
18.0											
9.0											
0 <sup>1</sup> 10	00 400	). <u>6000</u> .	8000.	10000.		14000.	16000.	18000.	20000.	22000.	25000
			0	1.4		icy (MHz)	Cable	Duranum	A /D = =	т (Па а	
	Freq	Level	Over Limit	Limit		Antenna Factor				1/205	Remark
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg	
1				54.00				34.48			Average
2				74.00				34.48			Peak
3				54.00		27.46		34.42			Average
4		51.76				27.46		34.42			Peak
5		34.74				31.22		32.95			Average
6 7				74.00 54.00		31.22 36.01		32.95			Peak
8				74.00			8.49	34.39			Average Peak
Ŭ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	05100	0.04	/4100	54155	50.01	0.45	54.55			- cun
Note 1: ">20dB" r											
Note 2: "N/F" mea									vere de	etected	.)
Note 3: Measurer											
Note 4: For restri											
	Peak-Dete	ctor mee	ets the A	V-Limit	so that	the AV le	evel doe	es not n	eed to	be rep	orted in
addition.											
Note 5: For un-re	stricted ba	ands, un	wanted	emissio	ns shall	be atter	nuated	by at lea	ast 20 (	dB rela	tive to the



Modulation Mo	de		11g			Te	st Freq.	(MHz)		2437	,	
N <sub>TX</sub>			2			Ро	larizatio	n		V		
90r	evel (dBu)	//m)									Date: 20	015-05-18
81.0												
72.0		_		8							FLL	CLA\$S-B
63.0	24			-ĭ								
54.0			6	7						FC	C CLASS	S-B (AVG)
45.0												
36.0			3									
27.0												
18.0												
9.0												
0	1000	4000.	6000.	8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	25000
							icy (MHz)					
				0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Fr	eq	Level		Line		Factor			-	-	Remark
	MH	z	dBuV/m	dB	dBuV/m		-	dB	dB	cm		
1					54.00		27.26		34.48			Average
2					74.00		27.26		34.48			
3			49.83			52.17			34.42			
4					74.00	68.13			34.42			Peak
5			40.25				31.22		32.95			Average
6					74.00		31.22		32.95			Peak
7	7311			-1.00	54.00 74.00	42.89	36.01 36.01		34.39 34.39			
Note 1: ">20dB Note 2: "N/F" m Note 3: Measur Note 4: For rest with the additior Note 5: For un-	eans No ement re ricted ba Peak-D	othin eceiv ands etec	g Found /e anter a, the pe ctor mee	l spurio ina pola ak mea its the A	us emiss arization: suremer \V-Limit s	sions (N : H (Hor nt is full so that	lo spurio rizontal), ly sufficie the AV le	us emi V (Ver ent, as t evel doe	ssions v tical) the max es not n	vere de field s eed to	etectec trength be rep	l.) as meas orted in



Modulation M	ode		11g				Те	st Freq.	(MHz)		2462		
Ν <sub>τχ</sub>			2				Ро	larizatio	n		Н		
90	Level	(dBuV/m	)									Date: 2	015-05-18
81.0												FCC	CLASS-B
72.0				-							_		CENSS-D
63.0		2			6								
54.0			4	-	Ĩ						FU	C CLAS	S-B (AVG)
45.0			- 3	-	5								
36.0													
27.0													
18.0													
9.0													
C	1000	400	0. 60	000.	8000.	10000.	12000	14000.	16000.	18000.	20000.	22000	25000
		-+00			0000.	10000.		14000. 1cy (MHz)			20000.	22000.	23000
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Freq	Lev	el	Limit	Line	Level	Factor	Loss	Factor			Remark
		MHz	dBuV			dBuV/m		dB/m	dB	dB	cm	deg	
1						54.00 74.00		27.46 27.46		34.42 34.42			Average Peak
3						54.00		31.29		32.92			Average
4						74.00				32.92			Peak
5						54.00		36.20		34.49			Average
6	7	7386.0	0 56.	12 ·	-17.88	74.00	45.81	36.20	8.60	34.49			Peak
Note 1: ">20dE													
Note 2: "N/F" n											were de	etected	d.)
Note 3: Measu													
Note 4: For res													
		ak-Dete	ector n	neet	s the A	V-Limit	so that	the AV le	vel doe	es not n	eed to	be rep	orted in
additio	n.												
			-										
Note 5: For un- maxim						emissio	ns shal	l be atter	uated	by at lea	ast 20	dB rela	ative to th



Modulation M	ode		11g				Те	st Freq	. (MHz)		2462		
N <sub>TX</sub>			2				Po	larizati	on		V		
												Deter	045.05.45
90	Level	(dBuV/m	)									Date: 2	015-05-18
81.0												FCC	CLASS-B
72.0		2										100	CLA33-D
63.0				6									
54.0		1	4								FC	C CLAS	S-B (AVG)
45.0			_	- 5									
36.0			-										
27.0													
18.0													
9.0													
· · ·	1000	400	0. 600	0. 80	00.	10000.		14000. ncy (MHz)	16000.	18000.	20000.	22000.	25000
				0ve	n	imi+			a Cable	Preamn	A/Pos	T/Pos	
		Freq	Leve	l Lim					Loss			1/103	Remark
		MHz	dBuV/	m dB	d	Bu <b>V/m</b>	dBuV	dB/m	dB	dB	cm	deg	
1	. 1	2483.50	0 52.7	6 -1.	24	54.00		27.46		34.42			Average
2			0 69.1					27.46		34.42			
3			38.8					31.29		32.92			Average
4			0 52.5					31.29		32.92			Peak
5			0 42.8					36.20		34.49			Average
6		/200.00	0 57.0	1 -10.	19	/4.00	47.50	30.20	8.60	54.49			Peak
	3" me	ans sp	ourious e	emissi	on le	vels th	nat exce	ed the	level of 2	20 dB b	elow th	ie appl	icable lin
Note $T_{1}^{*} > 200E$											were de	etected	d.)
Note 2: "N/F" n	reme	ent rece	eive ante	enna p	olari	zation	: H (Ho	rizontal	), V (Ver	tical)			
		d hone	ds. the r	beak m	neasu	ireme	nt is ful	ly suffic	ient, as t	he max	field s	trength	n as mea
Note 2: "N/F" n Note 3: Measu	tricte	u pano											
Note 2: "N/F" n Note 3: Measu Note 4: For res				eets th	e AV·	-Limit	so that	the AV	level do	es not n	eed to	be rep	orted in
Note 2: "N/F" n Note 3: Measu Note 4: For res	e Pea			eets th	e AV	-Limit	so that	the AV	level do	es not n	eed to	be rep	orted in
Note 2: "N/F" n Note 3: Measu Note 4: For res with the	e Pea n.	ak-Dete	ector m										



3.6.9	<b>Transmitter Radiated Unwanted Emissions</b>	(Above 1GHz) for HT20
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Modulatio	on Mod	е	1	HT20				Те	st Fi	eq. (	(MHz)		2412	2			
N <sub>TX</sub>			2	2				Pc	olariz	atio	n		Н				
	90	/el (dE	BuV/m)											Da	te: 20	15-05-18	<b>;</b> ]
	81.0														FCC (	LASS-B	
	72.0						_										
	63.0	2											F	сс с	1 1 5 5	-B (AVG)	
	54.0			46											LA33	-0 (AVO)	
	45.0	-1		34													
	36.0			1													
	27.0																
	18.0																
	9.0 0 100		4000					42000				40000	20000			2500	
	100	0	4000.	600	0. 800	JU. 10	0000.	12000. Freque			16000.	18000.	20000.	220	000.	2500	0
					0ve							Preamp		5 T/	Pos		
			Freq	Leve	l Lim:	it Li	ne	Level	Fac	tor	Loss	Factor				Remark	5
		-	 MHz	dBuV/	m dB	 dBi	ıV∕m	dBuV	dB	 /m	dB	dB	cm		deg		-
	1				3 -12.4		1.00	44.18				34.48				Averag	e
	2	23	90.00	56.4	3 -17.	57 74	1.00	59.08			4.57	34.48				Peak	
	3				5 -16.3			32.88				32.97		-		Averag	ge
	4 5				9 -25.3 5 -18.8			43.32		.15 .40		32.97 32.89				Peak	
	6				8 -27.9			40.70				32.89		_		Averag Peak	,e
	-																
Note 1: ">	20dB" r	near	าร รุธน	rious	emissic	n leve	els the	at exce	eed t	he le	vel of 2	20 dB h	elow t	he a	appli	cable li	imit.
Note 2: "N																	
Note 3: M	easurer	nent	receiv	/e ant	enna p	olariza	ation:	H (Ho	rizor	ital),	V (Vert	tical)					
Note 4: Fo																	
	th the F	'eak	-Detec	tor m	eets the	e AV-L	imit s	o that	the /	AV le	vel doe	es not n	eed to	be	repo	orted in	۱
ac	dition.																
Note 5: Fo			المما المحا	ماد		المتحد م المن		المرام م			الم مقصين	- 1 + 0 + 1 -			- 1 -	1	م ما ۱



NTX         2         Polarization         V           Date: 2015-05-18           81.0         72.0         2         0         6         FCC CLASS-B         FCC CLASS	Modulation Mod	e	HT20			Te	st Freq.	(MHz)		2412		
81.0       2       3	N <sub>TX</sub>		2			Ро	larizatio	n		V		
81.0       2												
72.0       2 <th2< th=""> <th2< th=""></th2<></th2<>	90 Le	vel (dBuV/m)									Date: 20	015-05-18
72.0       2       2       3       63.0       FCC CLASS-B (AVG)         63.0       54.0       5       6       6       6       FCC CLASS-B (AVG)         45.0       5       5       6       6       6       6       6         36.0       77.0       6       6       6       6       6       6       6         9.0       9.0       6       7       6       7       6       6       7       6       7       6       7       6       7       6       7       7       6       7       7       6       7       7       6       7       7       6       7	81.0										FCC	
54.0       54.0       56	72.0	2									FLL	CLASS-B
54.0       4	63.0											
45.0       36.0	54.0	1	4							FC	C CLASS	S-B (AVG)
27.0       18.0       9.0       1000       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000         1000       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000         Freq Level Limit Line       Read Antenna Cable Preamp A/Pos T/Pos         MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg         1       2390.00       52.86       -1.14       54.00       55.51       27.26       4.57       34.48        Average         2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48        Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Average         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89	45.0											
18.0       9.0       9.0       9.0       9.0       1000       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000         Freq Level Limit Line       Read Antenna Cable Preamp A/Pos T/Pos         Freq Level Limit Line       Level Factor       Loss       Factor       Remark         MHz dBuV/m dB dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg         1       2390.00       52.86       -1.14       54.00       55.51       27.26       4.57       34.48        Average         2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48        Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Peak         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89        Average	36.0		-35									
9.0 9.0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) 0 Ver Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 52.86 -1.14 54.00 55.51 27.26 4.57 34.48 Average 2 2390.00 67.75 -6.25 74.00 70.40 27.26 4.57 34.48 Peak 3 4824.00 36.11 -17.89 54.00 31.14 31.15 6.79 32.97 Average 4 4824.00 48.96 -25.04 74.00 43.99 31.15 6.79 32.97 Peak 5 5000.00 35.09 -18.91 54.00 29.71 31.40 6.87 32.89 Average	27.0											
0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) 0ver Limit Read Antenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2390.00 52.86 -1.14 54.00 55.51 27.26 4.57 34.48 Average 2 2390.00 67.75 -6.25 74.00 70.40 27.26 4.57 34.48 Peak 3 4824.00 36.11 -17.89 54.00 31.14 31.15 6.79 32.97 Average 4 4824.00 48.96 -25.04 74.00 43.99 31.15 6.79 32.97 Peak 5 5000.00 35.09 -18.91 54.00 29.71 31.40 6.87 32.89 Average	18.0											
Frequency (MHz)         Over Limit Read Antenna Cable Preamp A/Pos T/Pos         Freq Level Limit Line       Level Factor       Loss       Factor       Remark         MHz       dBuV/m       dB       dBuV/m       dBuV       dBuV       dB       memory       dBuV/m       dBuV/m       dBuV       dBuV<	9.0											
Frequency (MHz)           Over         Limit         Read         Antenna         Cable         Preamp         A/Pos         T/Pos           Freq         Level         Limit         Line         Level         Factor         Loss         Factor         Remark           MHz         dBuV/m         dB         dBuV/m         dBuV         dBuV         dB         dB         cm         deg           1         2390.00         52.86         -1.14         54.00         55.51         27.26         4.57         34.48          Average           2         2390.00         67.75         -6.25         74.00         70.40         27.26         4.57         34.48          Peak           3         4824.00         36.11         -17.89         54.00         31.14         31.15         6.79         32.97          Average           4         4824.00         48.96         -25.04         74.00         43.99         31.15         6.79         32.97          Peak           5         5000.00         35.09         -18.91         54.00         29.71         31.40         6.87         32.89	0	00 400	D. 6000	. 8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	25000
Freq         Level         Limit         Line         Level         Factor         Loss         Factor         Remark           MHz         dBuV/m         dB         dBuV/m         dBuV         dBuV         dB/m         dB         dB         cm         deg           1         2390.00         52.86         -1.14         54.00         55.51         27.26         4.57         34.48          Average           2         2390.00         67.75         -6.25         74.00         70.40         27.26         4.57         34.48          Peak           3         4824.00         36.11         -17.89         54.00         31.14         31.15         6.79         32.97          Average           4         4824.00         48.96         -25.04         74.00         43.99         31.15         6.79         32.97          Peak           5         5000.00         35.09         -18.91         54.00         29.71         31.40         6.87         32.89          Average												
MHz       dBuV/m       dB       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2390.00       52.86       -1.14       54.00       55.51       27.26       4.57       34.48        Average         2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48        Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Peak         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89        Average							Antenna	Cable	Preamp	A/Pos	T/Pos	
MHz       dBuV/m       dB       dBuV/m       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2390.00       52.86       -1.14       54.00       55.51       27.26       4.57       34.48         Average         2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48         Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Peak         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89         Average		Freq	Level	Limit	Line				Factor			Remark
1       2390.00       52.86       -1.14       54.00       55.51       27.26       4.57       34.48         Average         2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48        Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Peak         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89        Average		 MH-7	dBuV/m		dBuV/m							
2       2390.00       67.75       -6.25       74.00       70.40       27.26       4.57       34.48        Peak         3       4824.00       36.11       -17.89       54.00       31.14       31.15       6.79       32.97        Average         4       4824.00       48.96       -25.04       74.00       43.99       31.15       6.79       32.97        Peak         5       5000.00       35.09       -18.91       54.00       29.71       31.40       6.87       32.89        Average	1		-		-		-					
4 4824.00 48.96 -25.04 74.00 43.99 31.15 6.79 32.97 Peak 5 5000.00 35.09 -18.91 54.00 29.71 31.40 6.87 32.89 Average	_											-
5 5000.00 35.09 -18.91 54.00 29.71 31.40 6.87 32.89 Average	3	4824.00	36.11	-17.89	54.00			6.79	32.97			Average
5												
0 5000.00 40.20 -27.72 74.00 40.90 51.40 0.07 52.09 PEAK	-											-
	0	5000.00	40.20	-2/./2	74.00	40.90	51.40	0.07	52.05			reak
	Note 1: ">20dB"	means sp	urious ei	mission	levels th	at exce	ed the le	evel of 2	20 dB b	elow th	e appl	icable lin
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lim												
												,
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable lin Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)										field s	trength	as mea
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)												
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)	addition.										•	
<ul> <li>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</li> <li>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</li> <li>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mea with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.</li> </ul>	Note 5: For un-re	stricted ba	ands, un		emissio	ns shall	be atter	nuated	by at lea	ast 20 (	dB rela	tive to th
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as meas with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in												



Modulation Mode	•	HT20			Te	st Freq.	(MHz)		2437		
N <sub>TX</sub>		2			Ро	larizatio	n		Н		
										Data: 20	AE 05 40
90	el (dBuV/m)									Date: 20	)15-05-18
81.0										FCC	CLASS-B
72.0										ruu	LA33-D
63.0			8								
54.0	2	8							FC	C CLASS	-B (AVG)
45.0											
36.0		5									
27.0											
18.0											
9.0											
0 <mark>0</mark>	0 4000	. 6000.	8000.	10000.		14000. cy (MHz)	16000.	18000.	20000.	22000.	25000
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line		Factor		Factor			Remark
	MHz	dBuV/m		dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.00			54.00		27.26		34.48			Average
2	2390.00				54.11			34.48			Peak
3	2483.50					27.46		34.42			Average
4	2483.50					27.46		34.42			Peak
5	4874.00					31.22		32.95			
6 7	4874.00 7311.00				44.54	31.22 36.01		32.95			Peak
8	7311.00							34.39 34.39			Average Peak
Note 1: ">20dB" m Note 2: "N/F" mean Note 3: Measurem Note 4: For restrict with the Pe addition.	ns Nothin ent recei ted bands	g Found ve anter s, the pe	l spurio na pola ak mea	us emiss arization: suremer	sions (N : H (Hoi nt is full	lo spurio rizontal), y sufficie	us emi V (Veri ent, as t	ssions v tical) he max	vere de field s	etected trength	l.) as meas



Modulation Mode	9	HT20			Te	st Freq.	(MHz)		2437		
N <sub>TX</sub>		2			Ро	larizatio	n		V		
90 Lev	el (dBuV/m)									Date: 20	015-05-18
81.0										FCC	
72.0			8							FLL	CLA\$S-B
63.0	4		- I								
54.0		6	7						FC	C CLASS	S-B (AVG)
45.0											
36.0		<b>)</b>							_		
27.0											
18.0											
9.0											
0 <sup>1</sup> 100	0 4000	). 6000.	8000.	10000.		14000. icy (MHz)	16000.	18000.	20000.	22000.	25000
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq			Line		Factor					Remark
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg	
1	2390.00	47.29	-6.71	54.00	49.94	27.26	4.57	34.48			Average
2		62.28					4.57	34.48			Peak
3		48.63				27.46		34.42			Average
4		64.27				27.46		34.42			
5		38.68				31.22		32.95			Average
6		51.44				31.22		32.95			Peak
7		52.22 66.97				36.01		34.39 34.39			Average Peak
, i i i i i i i i i i i i i i i i i i i						20102		222			
Note 1: ">20dB" m											
Note 2: "N/F" mea									vere de	etected	l.)
Note 3: Measurem											
Note 4: For restric with the P											
addition.											
Note 5: For un-res	الممتعد		1 1	a			المحققين	- النم بدما			1 1 - 1



81.0 72.0 63.0 54.0 45.0 36.0 27.0 18.0 9.0	2	IBuV/m)	2	6		Po		n		H		015-05-18
81.0 72.0 63.0 54.0 45.0 36.0 27.0 18.0 9.0	2		4	6								015-05-18
81.0 72.0 63.0 54.0 45.0 36.0 27.0 18.0 9.0	2		4	6								
72.0 63.0 54.0 45.0 36.0 27.0 18.0 9.0	2		4	6						_	FCC 4	
63.0 54.0 45.0 36.0 27.0 18.0 9.0	2		4	6							FUU	CLASS-B
54.0 45.0 36.0 27.0 18.0 9.0			4	6								
45.0 36.0 27.0 18.0 9.0			3	Ĭ						EC	C CI A 55	S-B (AVG)
36.0 27.0 18.0 9.0			3	1							C CLASS	5-D (AVO)
27.0 18.0 9.0			-	•								
18.0 9.0												
9.0												
C												
	1000	4000	. 600	0. 8000.	10000.		14000. Icy (MHz)	16000.	18000.	20000.	22000.	25000
				0ver	limit		Antenna	Cable	Proomn			
		Freq	Level	L Limit			Factor				17105	Remark
		MHz	dBuV/r	n dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	24	483.50	41.24	4 -12.76	54.00	43.58	27.46	4.62	34.42			Average
2				5 -14.64					34.42			Peak
3				5 -15.34					32.92			Average
4				5 -22.24			31.29		32.92			Peak
5				9 -13.41 3 -19.67			36.20		34.49 34.49			Average
0	/.	00.00	54.53	-19.0/	74.00	44.02	30.20	0.00	54.49			Peak
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu Note 4: For res with the additio Note 5: For un	neans remen strictec e Peal n.	Nothin at received bands k-Detect	g Four ve ante s, the p ctor me	nd spurio enna pola eak mea eets the A	us emis arization sureme V-Limit	sions (N : H (Ho nt is full so that	lo spurio rizontal), y sufficie the AV le	us emi V (Vert nt, as t vel doe	ssions v ical) he max es not n	vere de field st eed to	etected trength be rep	l.) as mea orted in



Modulation Mo	de	HT20			Te	st Freq.	(MHz)		2462		
N <sub>TX</sub>		2			Ро	larizatio	n		V		
		_,								Dato: 2	015-05-18
90 <mark>-</mark>	evel (dBuV/ı	n)								Date. 20	013-03-18
81.0										FCC	CLASS-B
72.0	2										
63.0			6								
54.0		4							FC	C CLASS	S-B (AVG)
45.0											
36.0		+ + +									
27.0											
18.0											
9.0											
°1	000 40	000. 6000	). 8000.	10000.		14000. icy (MHz)	16000.	18000.	20000.	22000.	25000
			0ver			Antenna				T/Pos	
	Fre	q Level	. Limit			Factor		Factor			Remark
	MHz	dBuV/m	dB	dBuV/m		 dB/m	dB	dB		deg	
1		50 52.27		-		27.46		34.42	Cm	-	Average
2		50 68.41						34.42			Peak
3		00 36.85				31.29		32.92			Average
4	4924.0	00 50.23	-23.77	74.00		31.29		32.92			Peak
5	7386.	00 42.63	-11.37	54.00	32.32	36.20	8.60	34.49			Average
6	7386.	00 57.54	-16.46	74.00	47.23	36.20	8.60	34.49			Peak
Note 1: ">20dB" Note 2: "N/F" m Note 3: Measure	eans Noth	hing Foun	d spurio	us emis	sions (N	lo spurio	us emi	ssions v			
Note 4: For rest	ricted bar Peak-De		eak mea	sureme	nt is full	y sufficie	ent, as t	he max			
Note 5: For un-r	-	hands ur	wanted	emissio	ns shall	l he atter	uated	hv at le:	ast 20	dR rela	tive to th



Modulation I	Node		НТ	40			Т	est F	req.	(MHz)		2422				
N <sub>TX</sub>			2				F	olariz	zatio	n		Н				
1	90 Leve	l (dBuV/n	<b>)</b>										Dat	e: 201	15-05-18	
81	.0												F		LASS-B	
72	.0									_	_					
63		2										FC	с сі	2224	B (AVG)	
	.0		46											.HJJ-		
45	.0	1														
36			1													
27	.0															
	.0															
ç	0.0															
	<sup>0</sup> 1000	) 40	00.	6000.	8000.	10000		0. 14( ency (N		16000.	18000.	20000.	220	00.	25000	)
					0ver	Limit	Read	l Ant	enna	Cable	Preamp	A/Pos	T/F	os		
		Freq	L	evel	Limit	Line	Leve	el Fac	tor	Loss	Factor			1	Remark	
	1	MHz		uV/m	dB -13.13	dBuV/m 54.00			8/m 7.26	dB	dB 34.48	Cm		deg	Average	
	2				-16.07				.26		34.48		_		Average Peak	
	3				-19.85				.18		32.96				Average	
	4				-26.65			3 31			32.96		-		Peak	
	5	5000.0	03	4.93	-19.07	54.00		5 31		6.87	32.89		-	/	Average	!
	6	5000.0	04	6.85	-27.15	74.00	41.4	7 31	.40	6.87	32.89		-		Peak	
Note 1: ">200	IB" m	oone er	Jurio		niccion	lovole t	hat av	cood i	the le			olow th		nnlic	sable lin	nit
Note 2: "N/F"																m.
Note 3: Meas			•		•			•	•					nou.	/	
Note 4: For re												field s	tren	ath	as mea	sur
					ets the A											2.011
additi																
		triated h	and		wanted	omicci	ono oh		otton	unotod I	by at la	a at 20	др.	alat	ive to th	סו
Note 5: For u	n-res	inclea i	Janu	s, un	wanteu	61112210	2112 211	all be	aller	iualeu	by at le	asi 20	uрі	elat	ive to th	IC



Modulation M	ode		HT40				Те	st Freq.	(MHz)		2422		
Ν <sub>τχ</sub>			2				Ро	larizatio	n		V		
90	Level	(dBuV/m	)									Date: 20	015-05-18
81.0	)											FCC	
72.0	) — –	2										FLL	CLA\$S-B
63.0	1	Ĩ			_								
54.0	,	1									FC	C CLASS	S-B (AVG)
45.0			46										
36.0													
27.0													
18.0													
9.0													
,	1000	400	00. 60	00. 8	000.	10000.		14000.	16000.	18000.	20000.	22000.	25000
				_				ncy (MHz)		_			
		<b>F</b>	1	0v0				Antenna				T/Pos	
		Freq	Leve	51 L1	niτ	Line		Factor					Remark
		MHz	dBuV	/m dl	в –		dBuV				cm	deg	
1								27.26		34.48			Average
2						74.00		27.26		34.48			
3	<b>}</b> (	4844.0	0 33.3	30 -20	.70	54.00	28.28	31.18	6.80	32.96			Average
4						74.00		31.18		32.96			Peak
5						54.00		31.40		32.89			Average
6	)	5000.0	0 46.	76 -27	.24	74.00	41.38	31.40	6.87	32.89			Peak
			uriouo	omiooi		ovolo th	ot ovo				alaw th		iooblo lim
	)"												
			ina Fol								were de	electec	ı.)
Note 2: "N/F" r	nean				DOIAL	ization	. п (но		•	,			
Note 2: "N/F" r Note 3: Measu	nean: ireme	ent rece	eive an				at 10 f. 1		+		field	1	
Note 2: "N/F" r Note 3: Measu Note 4: For res	nean ireme stricte	ent rece ed band	eive an ds, the	peak n	neas	sureme							
Note 2: "N/F" r Note 3: Measu Note 4: For res with th	nean ireme stricte e Pea	ent rece ed band	eive an ds, the	peak n	neas	sureme		ly sufficie the AV le					
Note 2: "N/F" r Note 3: Measu Note 4: For res with th additio	nean ireme stricte e Pea n.	ent rece ed band ak-Dete	eive an ds, the ector m	peak n leets th	neas ne A\	sureme /-Limit	so that	the AV le	evel doe	es not n	eed to	be rep	orted in
additio Note 5: For un	nean ireme stricte e Pea n. -restr	ent rece ed band ak-Dete	eive an ds, the ector m eands, r	peak n neets th unwant	neas ne A\ ted e	sureme /-Limit	so that	the AV le	evel doe	es not n	eed to	be rep	orted in



Modulation Mod	le	HT40			Te	st Freq.	(MHz)		2437			
N <sub>TX</sub>		2			Ро	larizatio	n		Н			
90 <mark>Le</mark>	vel (dBuV/m)									Date: 20	015-05-18	
81.0										FCC		
72.0										FLL	CLA\$S-B	
63.0	2											
54.0	14	_	8						FC	C CLASS	S-B (AVG)	
45.0		6										
36.0		5										
27.0												
18.0												
9.0												
0 <mark></mark>	00 4000	). 6000.	8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	25000	
					Frequer	icy (MHz)						
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos		
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark	
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg		
1		40.93						34.48			Average	
2		58.19						34.48			Peak	
3		42.65 53.18				27.46		34.42			Average Peak	
4		36.85			31.77	27.46 31.22		34.42 32.95			Average	
6	4874.00					31.22		32.95			Peak	
7	7311.00					36.01		34.39			Average	
8	7311.00						8.49				Peak	
Note 1: ">20dB"												
Note 2: "N/F" me									vere de	etected	l.)	
Note 3: Measure												
Note 4: For restri												
	Peak-Dete	ctor mee	ets the A	V-Limit	so that	the AV le	evel doe	es not n	eed to	be rep	orted in	
addition.												
Note 5: For un-re				emissio	ns shal	be atter	nuated	by at lea	ast 20	dB rela	tive to the	
	n measure											



Modulation Mo	de	HT40			Те	st Freq.	(MHz)		2437			
N <sub>TX</sub>		2			Ро	larizatio	n		V			
90 <mark>-</mark>	evel (dBuV/m)									Date: 20	015-05-18	
81.0										FCC	CLASS-B	
72.0	2									FLL	LA33-D	
63.0												
54.0	18		8						FC	C CLASS	S-B (AVG)	
45.0		6	_+									
36.0		5										
27.0												
18.0												
9.0												
0 <u>-</u> 10	000 400	0. 6000.	8000.	10000.		14000. icy (MHz)	16000.	18000.	20000.	22000.	25000	
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos		
	Freq			Line		Factor					Remark	
	MHz	dBuV/m		dBuV/m		 dB/m	dB	dB	cm	deg		
1	2390.00	52.69	-1.31	54.00	55.34	27.26	4.57	34.48			Average	
2	2390.00	67.41	-6.59	74.00	70.06	27.26	4.57	34.48			Peak	
3		52.58				27.46	4.62	34.42			Average	
4		67.28				27.46		34.42				
5		35.52				31.22		32.95			Average	
6		47.23				31.22		32.95			Peak	
7		41.21				36.01		34.39			Average	
8	/311.00	54.18	-19.62	74.00	44.07	30.01	8.49	34.39			Peak	
Note 1: ">20dB"	means sp	urious er	nission	levels th	at exce	ed the le	vel of 2	20 dB b	elow th	ne appli	icable lim	
Note 2: "N/F" me												
Note 3: Measure											,	
Note 4: For restr									field s	trenath	as meas	
	Peak-Dete											
addition.										20100		
Note 5: For un-re		ands. un	wanted	emissio	ns shal	l be atter	uated I	bv at lea	ast 20	dB rela	tive to the	



Modulation M	ode		HT40	)			Те	st Freq.	(MHz)		2452				
N <sub>TX</sub>			2				Ро	larizatio	n		Н				
90	Level (	(dBuV/m	I)									Date: 2	015-05-18		
81.0												FCC	CLASS-B		
72.0				-						_	_		CENSS-D		
63.0		2			_										
54.0		-	4		6						FU	C CLAS	S-B (AVG)		
45.0		1			5										
36.0			3												
27.0															
18.0															
9.0															
C	1000	40	00 60	000.	8000.	10000.	12000	14000.	16000.	18000	20000.	22000	25000		
	1000				0000.	10000.		ncy (MHz)	10000.	10000.	20000.	22000.	23000		
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos			
		Freq	Lev	el	Limit	Line	Level	Factor	Loss	Factor			Remark		
		MHz	dBuV			dBuV/m		dB/m	dB	dB	cm	deg			
1						54.00 74.00				34.42 34.42			Average Peak		
3						54.00		31.27		32.93			Average		
4						74.00		31.27		32.93			Peak		
5						54.00				34.45			Average		
6	7	7356.0	0 53.	17 -	20.83	74.00	42.94	36.13		34.45			Peak		
Note 1: ">20dE	" me	ans sr	ourious	emi	ssion	levels th	at exce	ed the le	evel of 2	20 dB b	elow th	e appl	icable lin		
Note 2: "N/F" n															
Note 3: Measu													~-)		
											field s	trenath	n as meas		
													orted in		
Note 4: For res	e Pea	ak-Det		11661											
Note 4: For res		ak-Det		neeu								•			
Note 4: For res with the	n.												ative to th		



Frequency (MHz) Over Limit Read Antenna Cable Preamp A/Pos T/Pos	Modulation Mo	ode	H	HT40			Te	st Freq.	(MHz)		2452			
81.0       -	N <sub>TX</sub>		2	2			Ро	larizatio	n		V			
81.0       2       6														
Y20       Y	90	_evel (dB	uV/m)									Date: 20	015-05-18	
72.0       2       6       6       FCC CLASS-B (AVG         63.0       4       6       6       FCC CLASS-B (AVG         64.0       4       6       6       6       FCC CLASS-B (AVG         65.0       40.0       4000       6000       8000       10000       14000       16000       18000       20000       22000       250         7.0       1000       4000       6000       8000       10000       12000       14000       16000       20000       22000       250         9.0       0       0       0       0       1000       12000       14000       16000       20000       22000       250         Freq       Level       Limit       Line       Level Factor       Loss       Factor       Remar         70       135.5       64.60       9.40       74.64       4.62       34.42        Avera         2       2483.59       52.67       -1.93       54.00       27.46       4.62       34.42        Avera         3       4904.00       48.15       -3.285       74.00       42.98       31.27       6.83       32.93         Avera	81.0											FCC	CLASS_B	
63.0       6       6       7000       7	72.0	2											CLAJJ-D	
64.0       4       4       6       7000000000000000000000000000000000000	63.0	- 1			6									
36.0       27.0       1 </td <td>54.0</td> <td></td> <td></td> <td>4</td> <td>-i-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>FC</td> <td>C CLASS</td> <td>S-B (AVG)</td>	54.0			4	-i-						FC	C CLASS	S-B (AVG)	
27.0       18.0       9.0       1000       6000.       8000.       10000.       12000.       16000.       18000.       20000.       22000.       250         Frequency (MHz)         Wer       Limit       Lime       Level       Facumery (MHz)         MHz       GbuV/m       dB       dBuV/m       dB       dBuV/m       dB       dB       cm       deg         1       2483.50       52.07       -1.93       54.00       54.41       27.46       4.62       34.42         Avera         2       2483.50       64.60       -9.40       74.00       66.94       27.46       4.62       34.42         Avera         3       4904.00       48.15       -19.43       54.00       29.40       31.27       6.83       32.93         Peak         5       7356.00       41.23       -12.77       54.00       31.00       36.13       8.55       34.45         Avera         6       7356.00       55.82       -18.18       74.00       45.59       36.13       8.55       34.45        Peak	45.0			i –										
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable of 25.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak	36.0			3										
9.0       0       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000.         Freq Level Limit Line Level Factor Loss Factor       Remark         MHz dbuV/m db dbuV db/m db dB db cm deg         1 2483.50 52.07 -1.93 54.00 54.41 27.46 4.62 34.42 Avera         2 2483.50 64.60 -9.40 74.00 66.94 27.46 4.62 34.42 Avera         2 4094.00 34.57 -19.43 54.00 29.40 31.27 6.83 32.93 Peak         3 4904.00 34.57 -19.43 54.00 42.98 31.27 6.83 32.93 Peak         3 4904.00 48.15 -25.85 74.00 42.98 31.27 6.83 32.93 Peak         A 4984.00 45.59 36.00 31.00 36.13 8.55 34.45 Avera         6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak         S 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Nothing Found spurious emiss	27.0													
S.0       0       4000.       6000.       8000.       10000.       12000.       14000.       16000.       18000.       20000.       22000.       25000.         Freq Level Limit Line Level Factor Loss Factor       Remark         MHz dbuV/m dB dbuV/m dbuV dB/m dB dB cm deg         1 2483.50 52.07 -1.93 54.00 54.41 27.46 4.62 34.42 Avera         2 2483.50 64.60 -9.40 74.00 65.94 27.46 4.62 34.42 Avera         2 3493.50 64.60 -9.40 74.00 65.94 27.46 4.62 34.42 Peak         3 4904.00 34.57 -19.43 54.00 29.40 31.27 6.83 32.93 Avera         4 4904.00 48.15 -25.85 74.00 42.98 31.27 6.83 32.93 Peak         5 7356.00 41.23 -12.77 54.00 31.00 36.13 8.55 34.45 Avera         6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak         S 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         Note 1: ">20dB" means s	18.0													
O         1000         4000.         6000.         10000.         12000.         14000.         16000.         16000.         20000.         22000.         22000.           Frequency (MHz)           Over Limit Read Antenna Cable Preamp A/Pos T/Pos           Frequeve Limit Line Level Factor Loss Factor         Remar           MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg           1 2483.50         52.67         -1.93         54.00         54.41         27.46         4.62         34.42           Avera           2 483.50         64.60         -9.40         74.00         66.94         27.46         4.62         34.42           Avera           3 4904.00         48.15         -25.85         74.00         42.98         31.27         6.83         32.93           Peak           5 7356.00         41.23         -12.77         54.00         31.00         36.13         8.55         34.45           Avera           6         7356.00         55.82         -18.18         74.00         45.59         36.13         8.55         34.45														
Frequency (MHz)         Over       Limit       Read       Artenna Cable       Pream A/Pos T/Pos       Remar         MHz       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV       dBuV/m       dBuV       dBuV/m       dBuV       dBuV       dBuV/m       dBuV       dBuV/m       dBuV       dBuV       dBuV/m       dBuV       dBuV       dBuV       dBuV       dBuV/m       dBuV       dBuV <t< td=""><td></td><td></td><td>4000</td><td>0000</td><td></td><td>40000</td><td>42000</td><td>44000</td><td>40000</td><td>40000</td><td>20000</td><td>22000</td><td>05000</td></t<>			4000	0000		40000	42000	44000	40000	40000	20000	22000	05000	
Over       Limit       Read       Anterna       Cable       Preamp       A/Pos       T/Pos         MHz       dBuV/m       dB       dBuV/m       dBuV/m       dBuV       dB/m       dB       dB       cm       deg         1       2483.50       52.07       -1.93       54.00       54.41       27.46       4.62       34.42         Avera         2       2483.50       64.60       -9.40       74.00       66.94       27.46       4.62       34.42         Avera         2       2483.50       64.60       -9.40       74.00       69.42       27.46       4.62       34.42         Avera         4       4904.00       48.15       -25.85       74.00       42.98       31.27       6.83       32.93         Avera         6       7356.00       55.82       -18.18       74.00       45.59       36.13       8.55       34.45         Peak         Note 1: ">Vote 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable       Note 7356.00       55.82       -18.18       74.00       45.59       36.13       8.55		1000	4000.	6000	. 8000.	10000.			16000.	18000.	20000.	22000.	25000	
FreqLevelLimitLineLevelFactorLossFactorRemarMHzdBuV/mdBdBuV/mdBdBuV/mdB/mdBdBcmdeg12483.5052.07-1.9354.0054.4127.464.6234.42Avera22483.5064.60-9.4074.0066.9427.464.6234.42Peak34904.0048.15-19.4354.0029.4031.276.8332.93Avera44904.0048.15-25.8574.0042.9831.276.8332.93Peak57356.0041.23-12.7754.0031.0036.138.5534.45Peak67356.0055.82-18.1874.0045.5936.138.5534.45PeakNote 1: ">VOte 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicableNote 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as mawith the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported iaddition.					Over	limit			Cable	Preamp	A/Pos	T/Pos		
MHz       dBuV/m       dB       dBuV/m       dB/W       dB/m       dB       cm       deg         1       2483.50       52.07       -1.93       54.00       54.41       27.46       4.62       34.42         Avera         2       2483.50       64.60       -9.40       74.00       66.94       27.46       4.62       34.42         Peak         3       4904.00       34.57       -19.43       54.00       29.40       31.27       6.83       32.93         Peak         4       4904.00       48.15       -25.85       74.00       42.98       31.27       6.83       32.93         Peak         5       7356.00       41.23       -12.77       54.00       31.00       36.13       8.55       34.45         Peak         6       7356.00       55.82       -18.18       74.00       45.59       36.13       8.55       34.45         Peak         Note 1: ">V/F" means Nothing Found spurious emissions (No spurious emissions (No spurious emissions were detected.)       Note 2: "N/F" means Nothing Found spurious emissions: (No spurious emissions were detected.) </td <td></td> <td>F</td> <td>reg</td> <td>Level</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>.,</td> <td>Remark</td>		F	reg	Level							-	.,	Remark	
1       2483.50       52.07       -1.93       54.00       54.41       27.46       4.62       34.42        Avera         2       2483.50       64.60       -9.40       74.00       66.94       27.46       4.62       34.42        Peak         3       4904.00       34.57       -19.43       54.00       29.40       31.27       6.83       32.93        Avera         4       4904.00       48.15       -25.85       74.00       42.98       31.27       6.83       32.93        Peak         5       7356.00       41.23       -12.77       54.00       31.00       36.13       8.55       34.45        Peak         6       7356.00       55.82       -18.18       74.00       45.59       36.13       8.55       34.45        Peak         Note 1: ">V/F" means Nothing Found spurious emissions (No spurious emissions were detected.)       Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)       Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)       Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as ma with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition. <td></td>														
2       2483.50       64.60       -9.40       74.00       66.94       27.46       4.62       34.42         Peak         3       4904.00       34.57       -19.43       54.00       29.40       31.27       6.83       32.93         Avera         4       4904.00       48.15       -25.85       74.00       42.98       31.27       6.83       32.93         Peak         5       7356.00       41.23       -12.77       54.00       31.00       36.13       8.55       34.45         Avera         6       7356.00       55.82       -18.18       74.00       45.59       36.13       8.55       34.45         Peak         Vote 1: ">>20dB" means spurious emission levels that exceed the level of 20 dB below the applicable         vote 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)       Note 3:       Measurement receive antenna polarization: H (Horizontal), V (Vertical)       Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as me with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition.		N	۱Hz	dBuV/m	u dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
<ul> <li>3 4904.00 34.57 -19.43 54.00 29.40 31.27 6.83 32.93 Avera 4 4904.00 48.15 -25.85 74.00 42.98 31.27 6.83 32.93 Peak 5 7356.00 41.23 -12.77 54.00 31.00 36.13 8.55 34.45 Avera 6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak 6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak</li> <li>Note 1: "&gt;20dB" means spurious emission levels that exceed the level of 20 dB below the applicable compared by the second second</li></ul>													-	
<ul> <li>4 4904.00 48.15 -25.85 74.00 42.98 31.27 6.83 32.93 Peak</li> <li>5 7356.00 41.23 -12.77 54.00 31.00 36.13 8.55 34.45 Avera</li> <li>6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak</li> </ul>														
<ul> <li>5 7356.00 41.23 -12.77 54.00 31.00 36.13 8.55 34.45 Avera</li> <li>6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak</li> </ul> Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as me with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition.														
6 7356.00 55.82 -18.18 74.00 45.59 36.13 8.55 34.45 Peak           Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable           Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)           Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)           Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as me with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition.														
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<ul> <li>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</li> <li>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</li> <li>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measurement the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition.</li> </ul>														
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<ul> <li>Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)</li> <li>Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)</li> <li>Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measurement the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported i addition.</li> </ul>														
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# 4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Apr. 15. 2015	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 22, 2015	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 31, 2014	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
Software	Audix	E3	3	Conducted	NCR	Conduction (CO04-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May. 05, 2015	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 15, 2014	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	<b>-20 ~ 100</b> ℃	Apr. 07, 2015	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 17, 2015	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 17, 2015	Conducted (TH01-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345675/4	30MHz ~ 26.5GHz	Nov. 30, 2014	Conducted (TH01-HY)
RF Cable-3m	HUBER+SUHNER	SUCOFLEX_104	SN 345669/4	30MHz ~ 26.5GHz	Nov. 30, 2014	Conducted (TH01-HY)

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



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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 29, 2014	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 11, 2015	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Sep. 01, 2014	Radiation (03CH03-HY)
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Apr. 02, 2015	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 20, 2014	Radiation (03CH03-HY)
Horn Antenna	ETS · LINDGREN	3115	6741	1GHz ~ 18GHz	Jul. 11, 2014	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	Jan. 27, 2015	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 15, 2014	Radiation (03CH03-HY)
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 12, 2014	Radiation (03CH03-HY)
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation (03CH03-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EMC INSTRUMENTS	EMC184045B	980192	18GHz ~ 40GHz	Aug. 25.2014	Radiation (03CH03-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	Feb. 02, 2015	Radiation (03CH03-HY)

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