

FCC Test Report

Equipment	:	Wireless AC1200 Dual Band Access Point
Brand Name	:	D-Link
Model No.	:	DAP-1665
FCC ID	:	KA2AP1665A1
Standard	:	47 CFR FCC Part 15.247
Operating Band	:	2400 MHz – 2483.5 MHz
FCC Classification	:	DTS
Applicant Manufacturer	:	D-Link Corporation 17595 Mt. Herrmann, Fountain Valley, CA 92708 U.S.A

The product sample received on Aug. 08, 2013 and completely tested on Sep. 07, 2013. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 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:

Gary Chang / Manager





Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Accessories and Support Equipment	7
1.3	Testing Applied Standards	7
1.4	Testing Location Information	7
1.5	Measurement Uncertainty	8
2	TEST CONFIGURATION OF EUT	9
2.1	The Worst Case Modulation Configuration	9
2.2	Test Channel Frequencies Configuration	9
2.3	The Worst Case Power Setting Parameter	9
2.4	The Worst Case Measurement Configuration	10
2.5	Test Setup Diagram	11
3	TRANSMITTER TEST RESULT	12
3.1	AC Power-line Conducted Emissions	12
3.2	6dB Bandwidth	15
3.3	RF Output Power	17
3.4	Power Spectral Density	21
3.5	Emissions in non-restricted frequency bands	24
3.6	Transmitter Radiated Unwanted Emissions	
4	TEST EQUIPMENT AND CALIBRATION DATA	62
APPE	ENDIX A. TEST PHOTOS	A1-A3



Summary of Test Result

	Conformance Test Specifications						
Report Clause	· Description		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]:0.1532130MHz 47.40 (Margin 18.42dB) – QP 41.08 (Margin 14.74dB) - AV	FCC 15.207	Complied		
3.2	15.247(a)	6dB Bandwidth	6dB Bandwidth [MHz] 20M:17.57 / 40M:35.36	≥500kHz	Complied		
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]:28.54	Power [dBm]:30	Complied		
3.4	15.247(e)	Power Spectral Density	PSD [dBm/10kHz]:4.56	PSD [dBm/3kHz]:5.99	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]:2483.50MHz 52.92 (Margin 1.08dB) - AV [dBuV/m at 3m]:2390.00MHz 52.92 (Margin 1.08dB) - AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied		





Revision History

Report No.	Version	Description	Issued Date
FR380810AC	Rev. 01	Initial issue of report	Sep. 30, 2013



1 General Description

1.1 Information

1.1.1 RF General Information

	RF General Information							
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (Ν _{τx})	RF Output Power (dBm)	Co-location		
2400-2483.5	b	2412-2462	1-11 [11]	2	27.00	Yes		
2400-2483.5	g	2412-2462	1-11 [11]	2	28.54	Yes		
2400-2483.5	HT20	2412-2462	1-11 [11]	2	28.34	Yes		
2400-2483.5	HT40	2422-2452	3-9 [7]	2	27.57	Yes		

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.

Note 4: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting)

antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)

1.1.2 Antenna Information

	Antenna Category					
	Equipment placed on the market without antennas					
	Inte	gral antenna (antenna permanently attached)				
		Temporary RF connector provided				
		No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.				
\square	Exte	ernal antenna (dedicated antennas)				
		Single power level with corresponding antenna(s).				
		Multiple power level and corresponding antenna(s).				
	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.	No. Ant. Cat. Ant. Type Connector Gain (dBi)					
1	External	Dipole	R-SMA	2		
2	External	Dipole	R-SMA	3		

1.1.3 Type of EUT

	Identify EUT				
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.:				
	Other:				

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	Operated test mode for worst duty cycle			
Test Signal Duty Cycle (x)Power Duty Factor[dB] - (10 log 1/x)				
⊠ 98.66% - IEEE 802.11b	0.06			
⊠ 96.78% - IEEE 802.11g	0.14			
⊠ 95.21% - IEEE 802.11n (HT20)	0.21			
⊠ 93.65% - IEEE 802.11n (HT40)	0.28			

1.1.5 EUT Operational Condition

Supply Voltage	AC mains	DC	
Type of DC Source	Internal DC supply	External DC adapter	Battery



1.2 Accessories and Support Equipment

	Accessories						
No.	Equipment	Brand Name	Model Name	Spec.			
1	Adapter 1	D-Link	ADS012PM-W	I/P: 100-240Vac, 50-60Hz, 0.5A, O/P: 12Vdc, 1.0A 1.25m non-shielded without core.			
1	Adapter 2	D-Link	F12W-120100SPAU	I/P: 100-240Vac, 50-60Hz, 0.3A, O/P: 12Vdc, 1.0A 1.2m non-shielded without core.			

Support Equipment							
No.	No. Equipment Brand Name Model Name FCC ID						
1	1 Notebook ThinkPad SL410 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 C63.10-2009
- FCC KDB 558074 v03r01
- FCC KDB 662911 v02
- FCC KDB 412172 v01

1.4 Testing Location Information

	Testing Location										
\bowtie	HWA YA	ADD	ADD : No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.								
	TEL : 886-3-327-3456 FAX : 886-3-327-0973										
Т	Test Condition Test).	Test Engineer	Test Environment	Test Date				
F	RF Conducted		TH01-HY		Mark Liao	22°C / 62%	Sep. 07, 2013				
AC Conduction		n	CO04-HY		Skys Huang	23°C / 65%	Aug. 27, 2013				
Ra	Radiated Emission 03CH08-HY				Jack Li 24°C / 66% Aug. 19 ~ Aug. 22, 2						
			umber [636805] v umber [4086B-2]								



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		±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	Modulation Mode Transmit Chains (N _{TX}) Data Rate / MCS Worst Data Rate / M										
11b,1-11Mbps	2	1-11 Mbps	1 Mbps								
11g,6-54Mbps	2	6-54 Mbps	6 Mbps								
HT20,M0-15	2	MCS 0-15	MCS 0								
HT40,M0-15	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 W	orst C	ase Power	Setting Para	meter (2400-	-2483.5MHz	band)			
Test Software	RTL	TL819x							
Test Software Version	2.3								
				Test Frequ	ency (MHz)				
Modulation Mode	Ντχ		NCB: 20MH	2	NCB: 40MHz				
		2412	2437	2462	2422	2437	2452		
11b,1-11Mbps	2	44/42	56/50	48/46	-	-	-		
11g,6-54Mbps	2	55/53	63/63	57/59	-	-	-		
HT20,M0-15	2	54/52	63/63	55/57	-	-	-		
HT40,M0-15	2	-	-	-	49/50	55/57	52/55		



The Worst Case Measurement Configuration 2.4

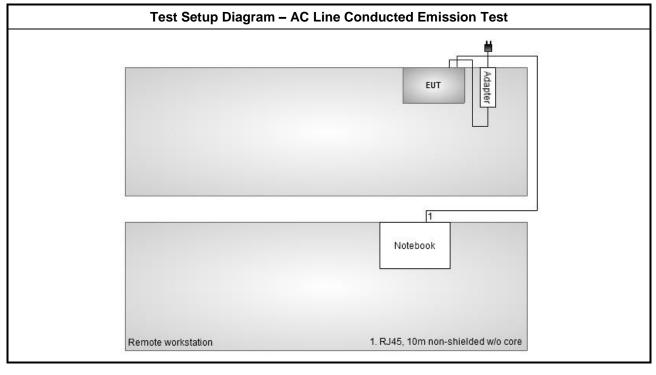
Т	he Worst Case Mode for Following Conformance Tests					
Tests Item	AC power-line conducted emissions					
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz					
Operating Mode	Operating Mode Description					
1	AC Power & Radio link (WLAN), adapter 1					
Note: Adapter 1, adapter selected for final test.	2 had been pretested and found that the adapter 1 was the worst case and was					

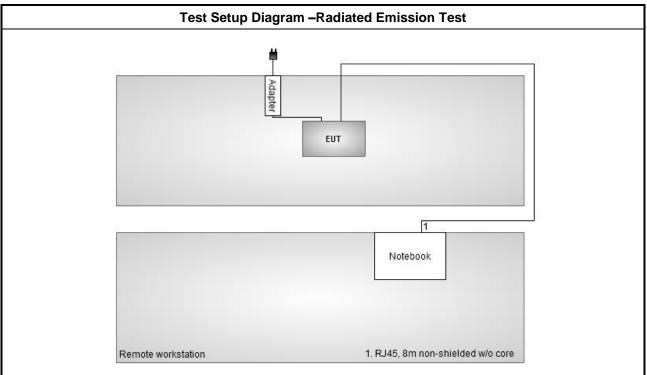
TI	ne Worst Case Mode for Following Conformance Tests			
Tests Item	RF Output Power,6dB bandwidth, Power Spectral Density			
Test Condition	Conducted measurement at transmit chains			
Modulation Mode	11b,11g, HT20,HT40			
Operating Mode	Operating Mode Description			
1	AC Power & Radio link (WLAN), adapter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

Th	e Worst Case Mode for Fo	ollowing 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.						
	EUT will be placed in	fixed position.					
User Position	EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is X.						
	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 X.						
Operating Mode < 1GHz	🛛 1. AC Power & Radi	o link (WLAN), adapter 1					
Modulation Mode	11b, 11g, HT20, HT40						
	X Plane	Y Plane	Z Plane				
Orthogonal Planes of EUT							
Note: Adapter 1, adapter 2 selected for final test.	had been pretested and fo	und that the adapter 1 was	the worst case and was				



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 c	of the frequency	1					

ecreases with the logarithm of the frequency

3.1.2 Measuring Instruments

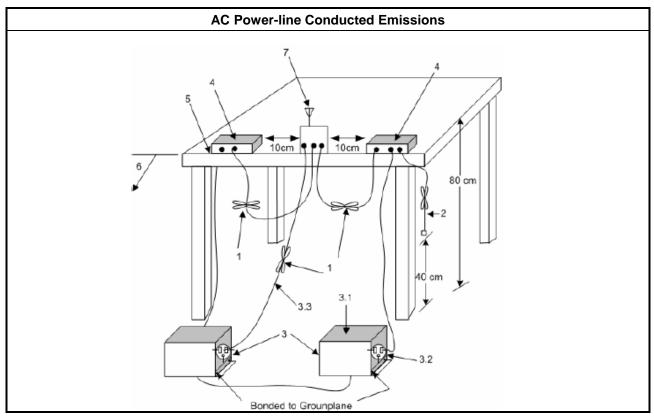
Refer a test equipment and calibration data table in this test report.

3.1.3 **Test Procedures**

Test Method

Refer as ANSI C63.10-2009, clause 6.2 for AC power-line conducted emissions.

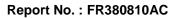
3.1.4 Test Setup



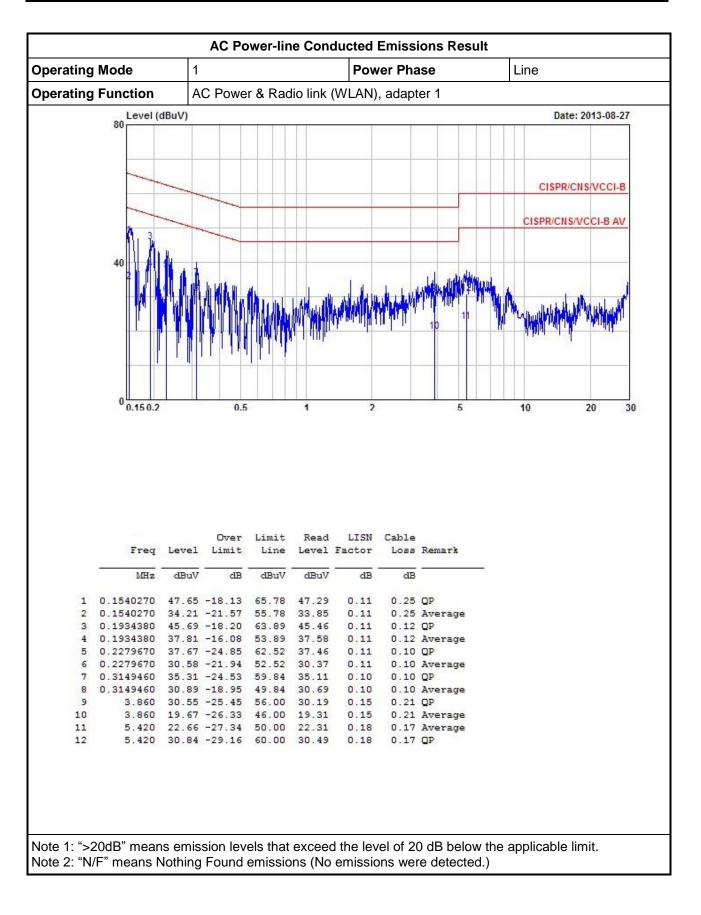


Mode	1				Pow	er Pha	ase	Neutral
Function	AC	C Powe	r & Rac	lio link	(WLAN)	, adapt	ter 1	
Level (d	IBuV)							Date: 2013-08
80								
-								
								CISPR/CNS/VCCI
-	63							
								CISPR/CNS/VCCI-B A
40								
	A Bark				5. 5510		ار استارین این	
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				l lini	1. III	II II II II	9	N. Markenin Hilds
	L, I, L	1	1 PT					
			1	-				
0 45 0 2		0.5			2			10 20
0.150.2		0.5		1	and the second second second	cy (MHz)	11 C 1	10 20
Fred	Level	Over	Limit	Read	LISN	Cable	Remark	
Freq MHz	Level	Over Limit dB	Limit Line dBuV		LISN Factor dB		Remark	
MHz	dBuV	Limit	Line dBuV	Level dBuV	Factor 	Loss dB		
MHz	dBuV 47.40	Limit	Line dBuV 65.82	Level dBuV 46.90	Factor dB 0.24	Loss dB 0.26	QP	
MHz 0.1532130 0.1532130 0.1934380	dBuV 47.40 41.08 45.26	Limit dB -18.42 -14.74 -18.63	Line dBuV 65.82 55.82 63.89	Level dBuV 46.90 40.58 44.91	Factor 	Loss dB 0.26	OP Average	
0.1532130 0.1532130 0.1532130 0.1934380 0.1934380	dBuV 47.40 41.08 45.26 32.54	Limit dB -18.42 -14.74 -18.63 -21.35	Line dBuV 65.82 55.82 63.89 53.89	Level dBuV 46.90 40.58 44.91 32.19	Factor dB 0.24 0.24 0.23 0.23	Loss dB 0.26 0.26 0.12 0.12	QP Average QP Average	
MHz 0.1532130 <u>80.1532130</u> 0.1934380 0.1934380 0.3913610	dBuV 47.40 41.08 45.26 32.54 23.78	Limit dB -18.42 -14.74 -18.63 -21.35 -24.25	Line dBuV 65.82 55.82 63.89 53.89 48.03	Level dBuV 46.90 40.58 44.91 32.19 23.46	Factor dB 0.24 0.23 0.23 0.23 0.22	Loss dB 0.26 0.26 0.12 0.12 0.12 0.10	OP Average OP Average Average	
MHz 0.1532130 <u>80.1532130</u> 0.1934380 0.1934380 0.3913610 0.3913610 0.5493430	dBuV 47.40 41.08 45.26 32.54 23.78 29.94 24.51	Limit dB -18.42 -14.74 -18.63 -21.35 -24.25 -28.09 -21.49	Line dBuV 65.82 55.82 63.89 53.89 48.03 58.03 46.00	Level dBuV 46.90 40.58 44.91 32.19 23.46 29.62 24.16	Factor dB 0.24 0.24 0.23 0.23	Loss dB 0.26 0.12 0.12 0.10 0.10 0.10 0.13	OP Average OP Average Average OP Average	
MHz 0.1532130 <u>80.1532130</u> 0.1934380 0.1934380 0.3913610 0.3913610 0.5493430 0.5493430	dBuV 47.40 41.08 45.26 32.54 23.78 29.94 24.51 31.30	Limit dB -18.42 -14.74 -18.63 -21.35 -24.25 -28.09 -21.49 -24.70	Line dBuV 65.82 55.82 63.89 53.89 48.03 58.03 46.00 56.00	Level dBuV 46.90 40.58 44.91 32.19 23.46 29.62 24.16 30.95	Factor dB 0.24 0.23 0.23 0.23 0.22 0.22 0.22 0.22	Loss dB 0.26 0.26 0.12 0.12 0.10 0.10 0.13 0.13	OP Average Average Average OP Average OP	
MHz 0.1532130 <u>0.1532130</u> 0.1934380 0.3913610 0.3913610 0.5493430 0.5493430 0.5493430 3.400	dBuV 47.40 41.08 45.26 32.54 23.78 29.94 24.51 31.30 17.51	Limit dB -18.42 -14.74 -18.63 -24.25 -24.25 -28.09 -21.49 -24.70 -28.49	Line dBuV 65.82 55.82 63.89 53.89 53.89 53.89 58.03 46.00 56.00 46.00	Level dBuV 46.90 40.58 44.91 32.19 23.46 29.62 24.16 30.95 17.01	Factor dB 0.24 0.23 0.23 0.22 0.22 0.22 0.22 0.22 0.22	Loss dB 0.26 0.22 0.12 0.12 0.10 0.10 0.13 0.13 0.22	QP Average Average Average QP Average QP Average	
MHz 0.1532130 <u>80.1532130</u> 0.1934380 0.1934380 0.3913610 0.3913610 0.5493430 0.5493430 0.5493430 3.400 3.400 6.020	dBuV 47.40 41.08 45.26 32.54 23.78 29.94 24.51 31.30 17.51 26.48 22.18	Limit dB -18.42 -14.74 -18.63 -21.35 -24.25 -28.09 -21.49 -24.70 -28.49 -29.52 -27.82	Line dBuV 65.82 55.82 63.89 53.89 48.03 58.03 46.00 56.00 46.00 56.00 56.00 56.00	Level dBuV 46.90 40.58 44.91 32.19 23.46 29.62 24.16 30.95 17.01 25.98 21.67	Factor dB 0.24 0.23 0.23 0.23 0.22 0.22 0.22 0.22	Loss dB 0.26 0.22 0.12 0.12 0.10 0.10 0.13 0.13 0.22 0.22 0.16	QP Average QP Average QP Average QP Average QP Average QP	
MHz 0.1532130 <u>80.1532130</u> 0.1934380 0.1934380 0.3913610 0.3913610 0.5493430 0.5493430 0.5493430 3.400 3.400 6.020	dBuV 47.40 41.08 45.26 32.54 23.78 29.94 24.51 31.30 17.51 26.48 22.18	Limit dB -18.42 -14.74 -18.63 -21.35 -24.25 -28.09 -21.49 -24.70 -28.49 -29.52	Line dBuV 65.82 55.82 63.89 53.89 48.03 58.03 46.00 56.00 46.00 56.00 56.00 56.00	Level dBuV 46.90 40.58 44.91 32.19 23.46 29.62 24.16 30.95 17.01 25.98 21.67	Factor dB 0.24 0.23 0.23 0.22 0.22 0.22 0.22 0.22 0.22	Loss dB 0.26 0.12 0.12 0.12 0.10 0.10 0.10 0.13 0.13 0.22 0.22	QP Average QP Average QP Average QP Average QP Average QP	
	80 Level (d	80 40 40	80 40 40	80 Level (dBuV) 40 40	80 Level (dBuV) 40 40	80 Level (dBuV) 40 40 0 0.150.2 0.5 1 2	80 40 40 0.150.2 0.5 1 2	80 Level (dBuV) 40 40 40

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.

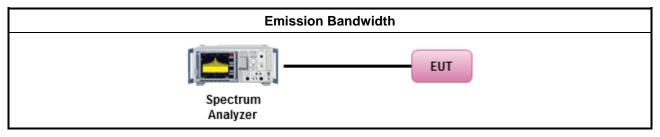
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

		Test Method							
\square	For	ne emission bandwidth shall be measured using one of the options below:							
	\square	Refer as FCC KDB 558074 v03r01, clause 8.1 Option 1 for 6 dB bandwidth measurement.							
		Refer as FCC KDB 558074 v03r01, clause 8.2 Option 2 for 6 dB bandwidth measurement.							
		Refer as ANSI C63.10, clause 6.9.1 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	e.						
	\boxtimes	The EUT supports multiple transmit chains using options given below:							
		Option 1: Multiple transmit chains measurements need to be performed on one of the activitransmit chains (antenna outputs). All measurement had be performed on transmit chains 1							
		Option 2: Multiple transmit chains measurements need to be performed on each transmic chains individually (antenna outputs). All measurement had be performed on all transmic chains.							

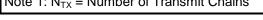
3.2.4 Test Setup

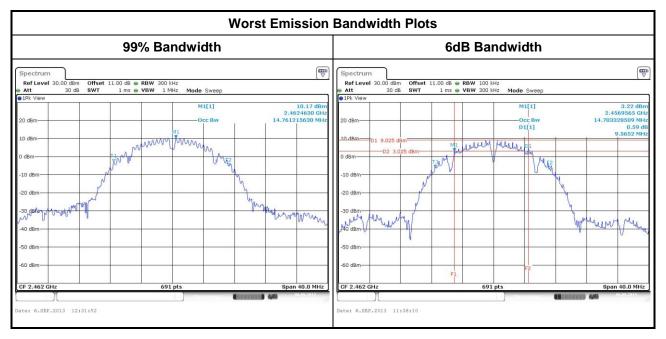




3.2.5 Test Result of Emission Bandwidth

			En	nission B	andwidth	n Result				
Cond	ition		Emission Bandwidth (MHz)							
Madulation		Free		99% Ba	ndwidth			6dB Ba	ndwidth	
Modulation Mode	Ντχ	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	1	2412	15.63	14.93	-	-	10.03	10.03	-	-
11b	1	2437	16.90	15.05	-	-	10.09	10.03	-	-
11b	1	2462	15.57	14.76	-	-	10.09	9.57	-	-
11g	1	2412	16.96	16.79	-	-	16.29	16.29	-	-
11g	1	2437	18.41	17.08	-	-	16.29	16.35	-	-
11g	1	2462	16.96	16.90	-	-	16.29	16.35	-	-
HT-20	2	2412	18.12	17.89	-	-	17.10	17.57	-	-
HT-20	2	2437	19.39	18.23	-	-	16.46	16.93	-	-
HT-20	2	2462	18.12	17.95	-	-	17.16	16.93	-	-
HT-40	2	2412	36.12	36.58	-	-	35.36	35.13	-	-
HT-40	2	2437	36.35	36.58	-	-	35.25	35.36	-	-
HT-40	2	2462	36.24	36.58	-	-	35.36	35.36	-	-
Lin	nit		N/A ≥500 kHz							
Res	ult			Complied						







3.3 **RF Output Power**

3.3.1 RF Output Power Limit

		RF Output Power Limit
Мах	imu	m Peak Conducted Output Power or Maximum Conducted Output Power Limit
\square	240	0-2483.5 MHz Band:
	\square	If $G_{TX} \le 6 \text{ dBi}$, then $P_{Out} \le 30 \text{ dBm} (1 \text{ W})$
	\boxtimes	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ 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: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$
		□ 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 _{TX}	= 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

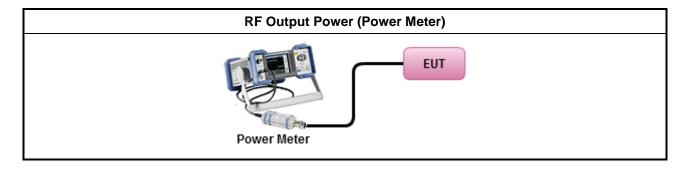
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

		Test Method
\boxtimes	Max	imum Peak Conducted Output Power
		Refer as FCC KDB 558074 v03r01, clause 9.1.1 (RBW ≥ DTS BW).
		Refer as FCC KDB 558074 v03r01, clause 9.1.2 (Integrated band power method).
	\boxtimes	Refer as FCC KDB 558074 v03r01, clause 9.1.3 (Peak power meter)
\square	Max	imum Conducted Output Power (For reference only)
		Refer as FCC KDB 558074 v03r01, clause 9.2.1.2 Method AVGSA-1 (spectral trace averaging).
		Refer as FCC KDB 558074 v03r01, clause 9.2.1.3 Method AVGSA-1 Alt. (slow sweep speed)
		Refer as FCC KDB 558074 v03r01, clause 9.2.1.4 Method AVGSA-2 (spectral trace averaging).
		Refer as FCC KDB 558074 v03r01, clause 9.2.1.5 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 v03r01, clause 9.2.3 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.
	\boxtimes	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 _{total} = P _{total} + DG

3.3.4 Test Setup





	Dire	ectional Gain (D	G) Result		
Transmit Chains No.		1	2	-	-
Maximum G _{ANT} (dBi)		3	3	-	-
Modulation Mode	DG (dBi)	Ν _{τχ}	N _{ss}	STBC	Array Gain (dB)
11b,1-11Mbps	3	2	1	-	-
11g,6-54Mbps	3	2	1	-	-
HT-20,M0-M15	3	2	1	-	-
HT-40,M0-M15	3	2	1	-	-
Note 1: For all transmitter outputs of Any transmit signals are con All transmit signals are con Note 2: For all transmitter outputs of Any transmit signals are con All transmit signals are con Note 3: For Spatial Multiplexing, Di where Nss = the number of Note 4: For CDD transmissions, din Directional Gain (DG) = G _A Array Gain = 0 dB (i.e., no Array Gain = 0 dB (i.e., no	orrelated oppletely with une orrelated oppletely rectional findepe rectional NT + Arra array ga	, Directional Gai uncorrelated, Dir qual antenna gai , Directional Gai uncorrelated, Dir I Gain (DG) = G, ndent spatial stra gain is calculate ay Gain, where A in) for $N_{TX} \leq 4$;	n = G_{ANT} + 10 log rectional Gain = ins, directional gain n =10 log[(10 ^{G1/2} rectional Gain = aNT + 10 log(N _{TX} / eams data. ed as power mea Array Gain is as f	$\begin{array}{l} g(N_{TX}) \\ G_{ANT} \\ ain is to be comp \\ ^{0} + \ldots + 10^{GN/20} \right)^{2} \\ 10 \log[(10^{G1/10} + . N_{SS}), \\ N_{SS}), \\ asurements: \\ ollows: \end{array}$	

3.3.5 Directional Gain for Power Measurement



	Maximum Conducted Output Power												
Condi	tion			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	21.93	21.92	-	-	24.94	30	3	27.94	36		
11b	2	2437	24.01	23.96	-	-	27.00	30	3	30.00	36		
11b	2	2462	22.51	21.83	-	-	25.19	30	3	28.19	36		
11g	2	2412	23.63	24.63	-	-	27.17	30	3	30.17	36		
11g	2	2437	25.23	25.81	-	-	28.54	30	3	31.54	36		
11g	2	2462	24.03	24.70	-	-	27.39	30	3	30.39	36		
HT-20	HT-20 2 2412				-	-	27.26	30	3	30.26	36		
HT-20	HT-20 2 2437				-	-	28.34	30	3	31.34	36		
HT-20	2	2462	23.88	24.57	-	-	27.25	30	3	30.25	36		
HT-40	2	2422	22.71	23.82	-	-	26.31	30	3	29.31	36		
HT-40	2	2437	23.72	25.26	-	-	27.57	30	3	30.57	36		
HT-40	2	2452	22.72	24.18	-	-	26.52	30	3	29.52	36		
Res	ult					C	Complie	d					

3.3.6 Test Result of Maximum Conducted Output Power

		Maxi	mum Co	onducte	d (Avera	age) Out	put Pov	ver					
Cond	ition			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	20.13	19.65	-	-	22.91	30	3	25.91	36		
11b	2	2437	22.51	22.15	-	-	25.34	30	3	28.34	36		
11b	2	2462	20.63	19.48	-	-	23.10	30	3	26.10	36		
11g	2	2412	16.27	15.58	-	-	18.95	30	3	21.95	36		
11g	2	2437	19.61	19.92	-	-	22.78	30	3	25.78	36		
11g	2	2462	16.73	16.52	-	-	19.64	30	3	22.64	36		
HT-20	2	2412	15.95	15.15	-	-	18.58	30	3	21.58	36		
HT-20	HT-20 2 2437				-	-	22.57	30	3	25.57	36		
HT-20	HT-20 2 2462				-	-	18.91	30	3	21.91	36		
HT-40	2	2422	14.65	14.43	-	-	17.55	30	3	20.55	36		
HT-40	2	2437	16.68	17.62	-	-	20.19	30	3	23.19	36		
HT-40	2	2452	15.01	15.22	-	-	18.13	30	3	21.13	36		
Res	ult					C	Complie	d					

Note: Average power is for reference only



3.4 **Power Spectral Density**

3.4.1 Power Spectral Density Limit

Power Spectral	Density Limit
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Power Spectral Density (PSD) \leq 8 dBm/3kHz

3.4.2 Measuring Instruments

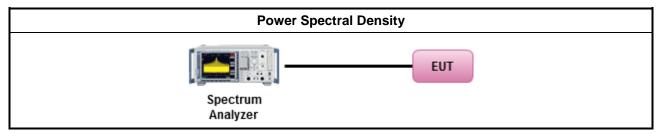
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

			Test Method
	outp the cond of th	out po outpu ducte ne av	wer spectral density procedures that the same method as used to determine the conducted ower. If maximum peak conducted output power was measured to demonstrate compliance to it power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum d output power was measured to demonstrate compliance to the output power limit, then one erage PSD procedures shall be used, as applicable based on the following criteria (the peak cedure is also an acceptable option).
	\boxtimes	Refe	er as FCC KDB 558074 v03r01, clause 10.2 Method PKPSD (RBW=10kHz; detector=peak)
		Ref	er as FCC KDB 558074 v03r01, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
		Ref	er as FCC KDB 558074 v03r01, clause 10.4 Method AVGPSD-1 Alt. (slow sweep speed)
		Refe	er as FCC KDB 558074 v03r01, clause 10.5 Method AVGPSD-2 (spectral trace averaging).
		Refe	er as FCC KDB 558074 v03r01, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
\square	For	cond	ucted 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 _{TX} 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

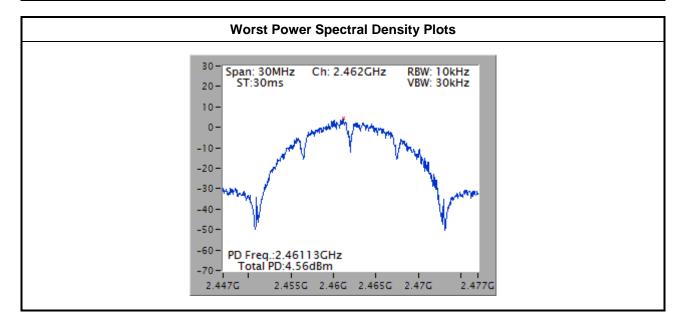


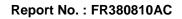


		I	Power Spectral Density Result				
Cond	lition		Power Spectral Density (dBm/10kHz) Sum Chain Power Limit 4.51 8 4.47 8 4.56 8 -3.54 8 -0.72 8 -1.86 8 -3.53 8 1.11 8				
Modulation Mode	Ντχ	Freq. (MHz)	Sum Chain	Power Limit			
11b	2	2412	4.51	8			
11b	2	2437	4.47	8			
11b	2	2462	4.56	8			
11g	2	2412	-3.54	8			
11g	2	2437	-0.72	8			
11g	2	2462	-1.86	8			
HT-20	2	2412	-3.53	8			
HT-20	2	2437	1.11	8			
HT-20	2	2462	-3.20	8			
HT-40	2	2422	-6.50	8			
HT-40	2	2437	-3.25	8			
HT-40	2	2452	-5.24	8			
Res	sult		Com	plied			

3.4.5 Test Result of Power Spectral Density

Note 1: PSD = sum each transmit chains by bin-to-bin PSD







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

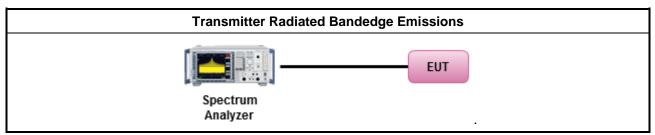
Reference level measurement

- 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

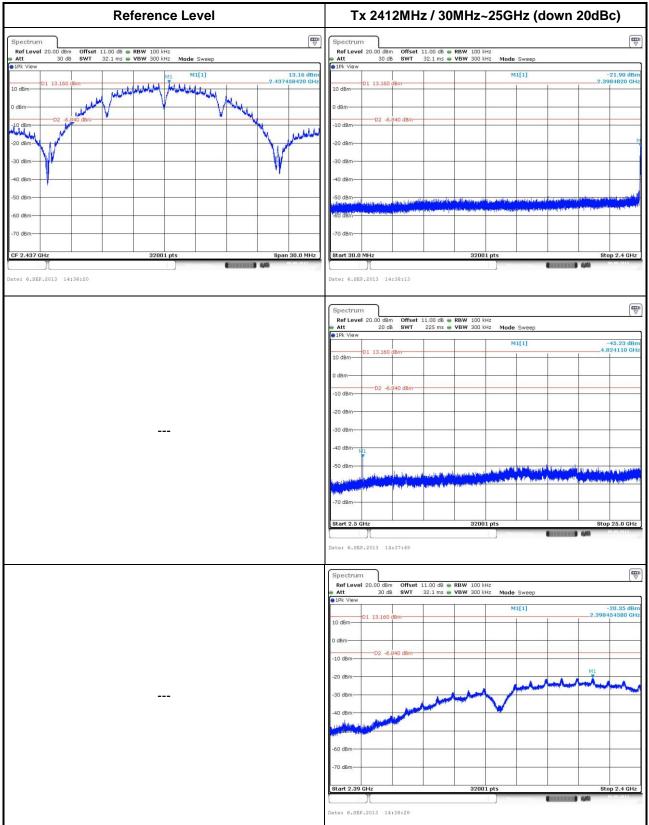
3.5.4 Test Setup



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.

802.11b

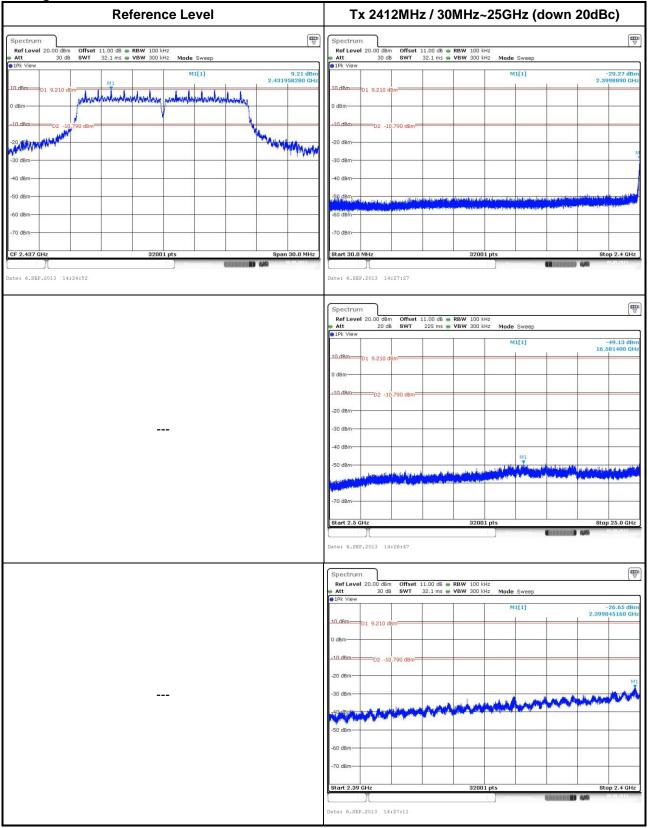




pectrum			Spectrum				(
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D1 13.160 dBm	M1[1]	-43.01 dBm 2.3890020 GHz	D1 13.16	0 dBm		M1[1]	-48.14 d 2.2953900 d
dBm			10 dBm				
dBm-			0 dBm				
D2 -6.840 dBm			-10 dBm	6.840 dBm			
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0 dBm			-30 dBm				
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dBm			0 dBm		_		
D2 -6.840 dBm			D2 -	6.840 dBm			
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802.11g



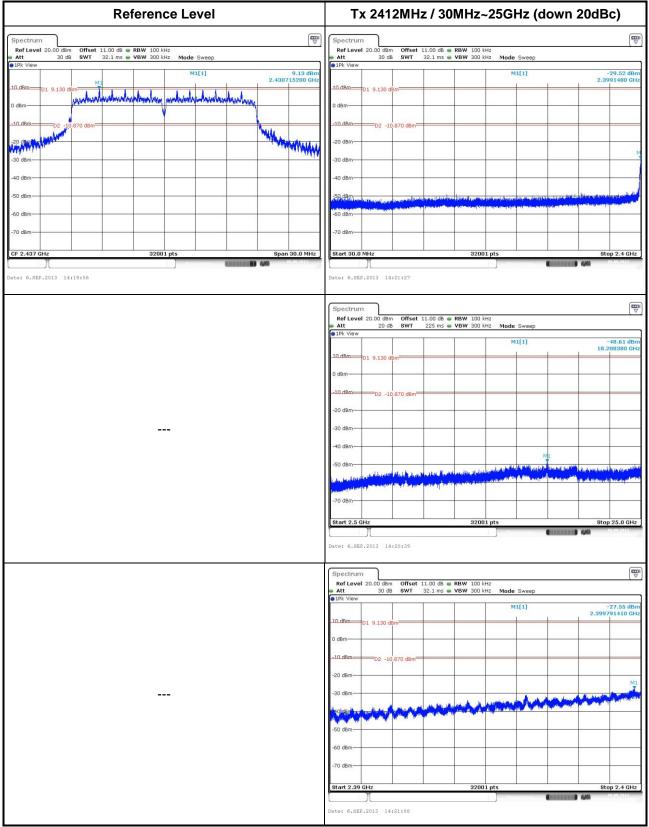


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Now MI[1] -40.56 dBm Offset 11.00 dBm Mode Sweep Ref Lavel 20.00 dBm MI[1] -40.56 dBm SWT 32.1 ms Mode Sweep Ref Lavel 20.00 dBm MI[1] -40.56 dBm SWT 32.1 ms Mode Sweep Ref Lavel 20.00 dBm MI[1] -40.56 dBm SWT 32.1 ms Mode Sweep Ref Lavel 20.00 dBm MI[1] -40.56 dBm SWT 32.1 ms Mode Sweep Ref Lavel 20.00 dBm MI[1] -40.56 dBm 10.48m 2.394824300 c Jam D D D D D D D Jam D D D D D D D D Jam D D D D D D D D D Jam D	: 6.SEP.2013 14:26:01			Date: 6.SEP.2013 14:29:00		
Ref Lavel 20.00 dbm Offset 11.00 db @ RBW 100 H2 att Set Lavel 20.00 dbm Offset 11.00 db @ RBW 100 H2 att Set Lavel 20.00 dbm Offset 11.00 db @ RBW 100 H2 att Set Lavel 20.00 dbm Mide Sweep Pr Viaw M1[1] -40.56 dbm 30 db SWT 32.1 ms @ VBW 300 kH2 att M1[1] -46.51 dbm 1.dBm 01 9.210 dbm M1[1] -40.56 dbm 11.dBm 01 9.210 dbm M1[1] -46.51 dbm 0.dBm 02 -10.790 dbm 0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td></td<>						
Att 30 dB SWT 32.1 ms VBW 300 Hz Mode Sweep Pk View -40.56 dBm -10.46m -40.56 dBm -40.56 dBm -40.56 dBm 10.48m -10.46m -10.46m -10.46m -40.45m -40.45m -40.45m 0 dBm -10.46m -10.46m -10.46m -10.46m -10.46m -10.46m -10.46m -40.45m -40.45m <t< td=""><td></td><td>00 dB 🖷 RBW 100 kHz</td><td></td><td></td><td>.00 dB 🖷 RBW 100 kHz</td><td>Ľ</td></t<>		00 dB 🖷 RBW 100 kHz			.00 dB 🖷 RBW 100 kHz	Ľ
MI[1] 40.25 dfm dfm 01 9.210 dfm 01 9.210 dfm 0	Att 30 dB SWT 32]	Att 30 dB SWT 3		
Bm Im Im <td< td=""><td></td><td>M1[1]</td><td>-40.56 dBm 2.397927410 GHz</td><td></td><td>M1[1]</td><td>-46.51 di 2.394824380 G</td></td<>		M1[1]	-40.56 dBm 2.397927410 GHz		M1[1]	-46.51 di 2.394824380 G
1.ddm 02 10.790 dbm Image: 100 mm 110 dbm 110 db	dBm 01 9.210 dBm			_10.dBm01 9.210 dBm		
ndm i<	IBm			0 dBm		
dam i <t< td=""><td>D2 -10.790 d8m</td><td></td><td></td><td>-10.dBm D2 -10.790 dBm</td><td></td><td></td></t<>	D2 -10.790 d8m			-10.dBm D2 -10.790 dBm		
0 dam) dBm			-20 dBm		
) dBm			-30 dBm-		
			Ma	-40 dBm-		
0 d8m) dBm	فالعاط البرالي والاحتياب والأنية معادا لعدن لاح		menus and every service is about it	ators de la La de martina de la Lindera da de la desta de la demanda de la desta de la desta de la demanda de la	المنتصاب إقراقه معاليا مراعد القاملين ماها
D dBm		1 a sulling of a subscription				ny santay na sa Amarika ang antaga saipa
				-60 dBm		
art 2.39 GHz 32001 pts Stop 2.4 GHz 32001 pts Stop 2.4 GHz 32001 pts Stop 2.4 GHz				i I I I		
	, d. ohn Jilly, onlyn, s ¹ llyn yfyfryddin yf yn			-70 dBm		



Report No. : FR380810AC

802.11n HT20



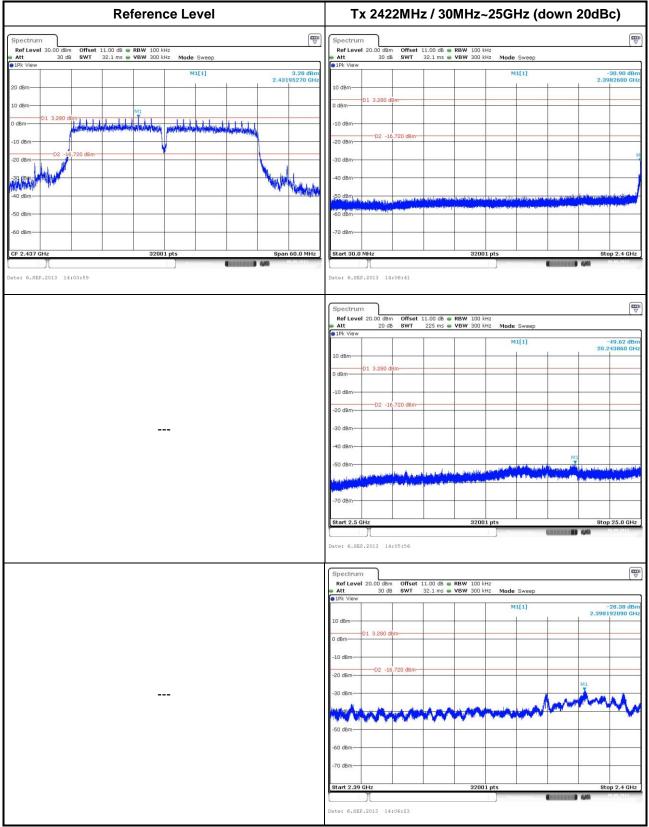


pectrum			Spectrum		
Ref Level 20.00 dBm Offset 11.	00 dB 🖷 RBW 100 kHz .1 ms 🖷 VBW 300 kHz 🛛 Mode Sweep	(*)		et 11.00 dB • RBW 100 kHz 32.1 ms • VBW 300 kHz Mode Sweep	(
Pk View	M1[1]	-39.88 dBm	IPk View	M1[1]	-46.47 dB
dBm01 9.130 dBm		2.3988520 GHz	10.dBm D1 9.130 dBm	mata1	2.3999630 G
IBm-			0 dBm-		
D2 -10.870 dBm			-10.d8m D2 -10.870 d8r	n	
) dBm-			-20 dBm-		
) dBm			-30 dBm		
) dBm			-40 dBm		
agen	ny na minana katalanan (terreni yera) di kara yaraka salama kila kirana ana	and the start of the second started would	-50 dBm	a the first state of the state	water the same and the barrow of the
dem	<mark>al here in a his optimiser in board gewinder word die politike optimiser op</mark> timeter optimiser optimiser optimiser op	Construction of the second	-60 dBm	<mark>yn de parte en benedelen i de besken de besken de besken de beskender om de beskender om de beskender beskender Er</mark>	
) dBm			-70 dBm		
art 30.0 MHz	32001 pts	Stop 2.4 GHz	Start 30.0 MHz	32001 pts	Stop 2.4 GH
: 6.SEP.2013 14:19:24	,		Date: 6.SEP.2013 14:22:09		
ectrum			Spectrum		(
tt 20 dB SWT 22	00 dB 🖷 RBW 100 kHz 25 ms 🖶 VBW 300 kHz 🛛 Mode Sweep		Att 20 dB SWT	et 11.00 dB • RBW 100 kHz 225 ms • VBW 300 kHz Mode Sweep	
Pk View	M1[1]	-49.69 dBm	91Pk View	M1[1]	-48.54 d
dBmD1 9.130 dBm		18.169000 GHz	10.dBm D1 9.130 dBm		16.111020 (
Bm			0 dBm		
dBmD2 -10.870 dBm			-10.dRm D2 -10.870 dBr		
dBm			-20 dBm		
) dBm			-30 dBm		
dBm	ML		-40 dBm	N11	
dBm	a a sugar of the black of the back of the back	weekstern Harrison and the state of the stat	-50 dBm	والمراجعة والمراجع والمحمد والمحمد والمرجع ويلب الرون	a fail and a fail and a fail and a fail and a strate of the
and the second			and a state of the	and a second sheet down on a second sheet of the second sheet of t	
dBm			-70 dBm		
art 2.5 GHz	32001 pts	Stop 25.0 GHz	Start 2.5 GHz	32001 pts	Stop 25.0 GF
)()				Meeninis	CONTRACTO 4/4
: 6.SEP.2013 14:20:06			Date: 6.SEP.2013 14:23:10		
			Granter		ſ
Ref Level 20.00 dBm Offset 11.			Spectrum Ref Level 20.00 dBm Offse		l
Att 30 dB SWT 32 Pk View	.1 ms e VBW 300 kHz Mode Sweep		Att 30 dB SWI IPk View	32.1 ms VBW 300 kHz Mode Sweep	
dbm	M1[1]	-39.15 dBm 2.399789850 GHz	10 dBm	M1[1]	-44.74 di 2.399935780 di
dBm 01 9.130 dBm			_10_dBmD1 9.130 dBm		
IBm			0 dBm-		
D2 -10.870 dBm			-10.dBmD2 -10.870 dBn	n	
) dBm			-20 dBm		
D dBm-			-30 dBm-		
D dBm		M1	-40 dBm-		
		a takan di paka di paka di paka di ka	an and bottom and a market also		and the set of the set of the set
D dBm			-60 dBm		
23.902.0012			-70 dBm		
) dBm					
D dBm				32001 pts	Stop 2.4 G



Report No. : FR380810AC

802.11n HT40





ectrum			Spectrum				ſ
ef Level 20.00 dBm Offset 11.00	dB e RBW 100 kHz ms e VBW 300 kHz Mode Sweep	(*)	Ref Level 20.00 dB	am Offset 11.00 di dB SWT 32.1 m	8 • RBW 100 kHz s • VBW 300 kHz	Mode Sween	(
k View		-32.58 dBm	1Pk View	1 1 1	5 6 1011 300 kHz		-42.60 dB
dBm	M1[1]	-32.38 dBm 2.3995190 GHz	10 dBm			M1[1]	2.3992960 G
D1 3.280 dBm			D1 3.280	dBm-	_		
Bm			0 dBm				
dBm			-10 dBm				
D2 -16.720 dBm			-20 dBm	16.720 dBm			
dBm			-30 dBm				
dBm			-40 dBm				
dBm	and a long to a little of the little strengthe a provide a first of the start of the start of the start of the	and the second second second second	-50 dBm	Indexed Intelligences have not	And a set the approximation	a made product holes had at the	non-terr initiation in the particular
dBm			-60 dBm	A DESCRIPTION OF THE OWNER OF THE	and the second s	and and the state of a second second second	
dBm			-70 dBm		_		
rt 30.0 MHz	32001 pts	Stop 2.4 GHz	Start 30.0 MHz		32001 p	ots California	Stop 2.4 G
: 6.SEP.2013 14:04:42	,		Date: 6.SEP.2013 1	4:07:11			
ectrum			Spectrum				(
	d8 🖷 RBW 100 kHz ms 🖷 VBW 300 kHz 🛛 Mode Sweep	(1)	RefLevel 20.00 dB		8 - RBW 100 kHz s - VBW 300 kHz		
k View		-49.07 dBm	●1Pk View				-49.22 d
dBm	M1[1]	16.548350 GHz	10 dBm			M1[1]	2.501760 0
01 3.280 dBm			01 3.280	dBm			
Bm			0 dBm-				
dBm			-10 dBm				
dBm D2 -16.720 dBm			-20 dBm	16.720 dBm			
dBm			-30 dBm				
dBm	M1		-40 dBm-				
dBm	A real and the board burger burgers and the same and the same	and the state of the state	-50 dBm	المتعرب المحال المحال المحال	الأستر الأربية الأربيسي والمراجع	and a state of the	and the second statement
A suddition of the second second second	And a second	the dealership in a provide the local part of the ball	and a lattice and a lattice of the second	-		And a state of the state of the state	and the second
dBm			-70 dBm				
rt 2.5 GHz	32001 pts	Stop 25.0 GHz	Start 2.5 GHz		32001 p	ots	Stop 25.0 G
: 6.SEP.2013 14:05:20			Date: 6.SEP.2013 1	4:07:59			
ectrum			Spectrum				(
ef Level 20.00 dBm Offset 11.00 tt 30 dB SWT 32.1	dB 🖷 RBW 100 kHz ms 🖷 VBW 300 kHz 🛛 Mode Sweep		Att 30 c	im Offset 11.00 de dB SWT 32.1 m	8 • RBW 100 kHz s • VBW 300 kHz		
Pk View	M1[1]	-28.52 dBm	• 1Pk View			M1[1]	-40.83 d
dBm		2.399467360 GHz	10 dBm				2.399236430 (
D1 3.280 dBm			0 dBm-01 3.280	dBm			
			22				
D2 -16.720 dBm			-10 dBm	16.720 dBm			
02 -16.720 dBm		M1	-20 dBm				
dBm			-30 dBm				
10 Marsha Marsha	and the second second	mmm	-40 dBm-				M1
			the same store both the state	Hay and a stranger	and selection to be	all a star be were a star a star	and the second states
l dBm			all a she was the star of a first she was she as	al and the second second second	Andre Mitselferten, die Herre	A DESCRIPTION OF A DESC	
dBm			-60 dBm		+ +		
			-70 dBm		_		
dBm-				1	1		
dBm	32001 pts	Stop 2.4 GHz	Start 2.39 GHz		32001 p		Stop 2.4 G



3.6 Transmitter Radiated Unwanted Emissions

3.6.1 Transmitter Radiated Unwanted Emissions Limit

Restricted Band Emissions Limit								
Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)						
2400/F(kHz)	48.5 - 13.8	300						
24000/F(kHz)	33.8 - 23	30						
30	29	30						
100	40	3						
150	43.5	3						
200	46	3						
500	54	3						
	Field Strength (uV/m) 2400/F(kHz) 24000/F(kHz) 30 100 150 200	Field Strength (uV/m) Field Strength (dBuV/m) 2400/F(kHz) 48.5 - 13.8 24000/F(kHz) 33.8 - 23 30 29 100 40 150 43.5 200 46						

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.



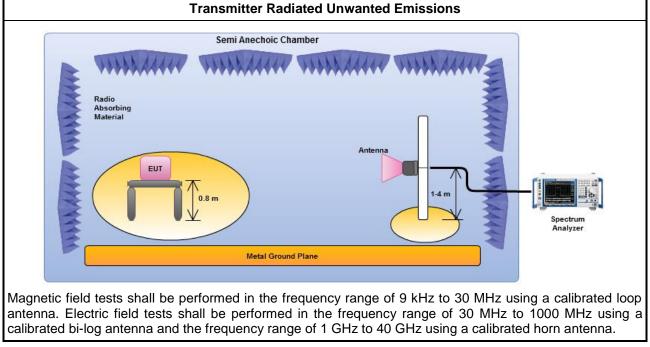
3.6.3 Test Procedures

			Test Method								
\boxtimes	perfe equi extra dista	orme pmei apola ance	ments may be performed at a distance other than the limit distance provided they are not d in the near field and the emissions to be measured can be detected by the measurement nt. When performing measurements at a distance other than that specified, the results shall be ted to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear for field-strength measurements, inverse of linear distance-squared for power-density ments).								
\boxtimes	For	For the transmitter unwanted emissions shall be measured using following options below:									
	Refer as FCC KDB 558074 v03r01, clause 11 for unwanted emissions into non-restricted bands.										
	\square	Refe	er as FCC KDB 558074 v03r01, clause 12 for unwanted emissions into restricted bands.								
			Refer as FCC KDB 558074 v03r01, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)								
			Refer as FCC KDB 558074 v03r01, clause 12.2.5.2 Option 2 (trace averaging + duty factor).								
		\boxtimes	Refer as FCC KDB 558074 v03r01, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).								
			Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time								
			Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.								
		\boxtimes	Refer as FCC KDB 558074 v03r01, clause 11.3 and 12.2.4 measurement procedure peak limit.								
		\boxtimes	Refer as FCC KDB 558074 v03r01, clause 12.2.3 measurement procedure Quasi-Peak limit.								
\boxtimes	For radiated measurement, refer as FCC KDB 558074 v03r01, clause 12.2.7										
	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.										
	\square	Refe	er as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.								
	\square	Ref	er as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.								

	Test Method
For	conducted and cabinet radiation measurement, refer as FCC KDB 558074 v03r01, clause 10.2.2
	For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: 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 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB



3.6.4 Test Setup



Note: Test distance is 3m.

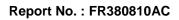
3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

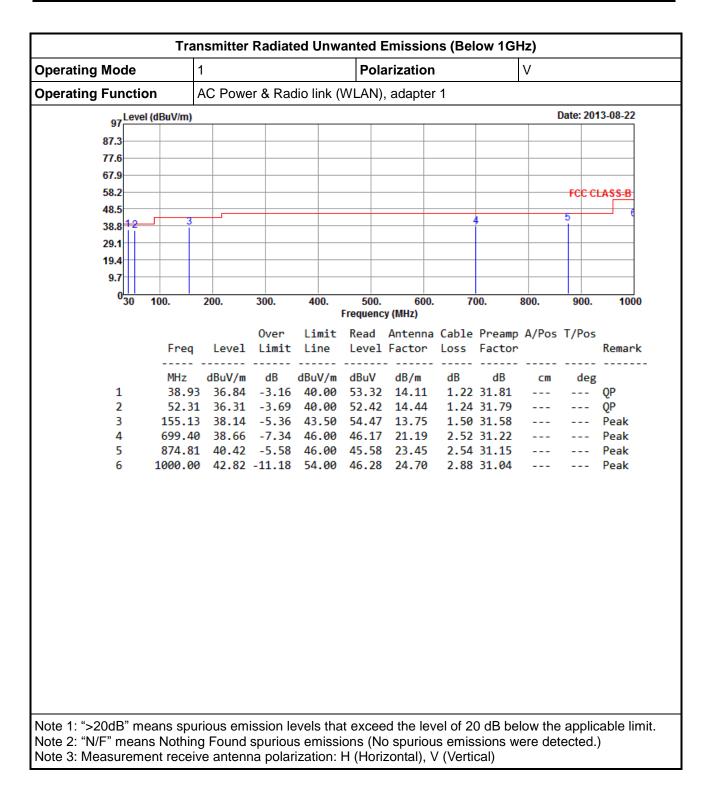


Operating Mode			1 Polarization H									
Operating Function			AC Pov	/er & Ra	dio link (WLAN)	, adapte	ər 1				
97	dBuV/m)	Date: 2013-08-22										
87.3												
77.6												
67.9												
58.2											FCC CI	ASS-B
48.5	5		<u>_</u>						4		5	
38.8	3		2					3]
29.1	I										_	
19.4	L											
9.7												
	30 1	100.	200.	300.	400.	500. Frequenc	60 y (MHz):	0. 1	00.	800.	900.	1000
				0ver				a Cable	Preamp	A/Pos	T/Pos	
		Freq	Leve	L Limit					Factor		1/105	Remark
		MHz	dBuV/r	n dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		183.45	39.2	7 -4.23	43.50	57.74		1.50	31.56			Peak
2	2	217.36	35.96	5 -10.04	46.00	54.63	11.15	1.68	31.50			Peak
3	}	624.62	37.12	2 -8.88	46.00	45.71	20.35	2.36	31.30			Peak
4	Ļ		42.88		46.00				31.22			QP
5				5 -5.85					31.15			Peak
6	5	1000.00	40.33	3 -13.67	54.00	43.79	24.70	2.88	31.04			Peak
lote 1: ">20dE lote 2: "N/F" r lote 3: Measu	neans	Nothin	g Found	d spuriou	is emiss	ions (N	o spuric	ous emis	sions w			

3.6.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)









Modulation	Мс	ode		1	l1b			Tes	t Freq. (MHz)		2412			
N _{TX}				1				Pola	arizatior	1		Н			
	120	_evel	(dBuV/r	n)									Date: 20	013-08-1	9
	08.0														
	96.0														
	50.0 84.0														
	72.0												FCC	CLASS-E	3
	50.0														
	ŀ	2	4 B		6							FCC	CLASS	S-B (AVG)
	48.0		Ĭ		5										
	36.0														
	24.0														
	12.0	+		+						_					
	0	1000	40	00.	6000.	8000.	10000.	12000.	14000. 1	6000. 1	18000. 2	20000.	22000.	250	000
								Frequenc	y (MHz)						
						0ver			Antenna	Cable	Preamp	A/Pos	T/Po	s	
			Fre	₽q	Level	Limit	Line	Level	Factor	Loss	Factor	•		Rema	rk
			MH:		dBuV/m			dBuV	dB/m	dB	dB	cm	de	_	
	1				41.21						35.65				<u> </u>
	2				49.16						35.65				
	3				45.46 52.71						34.52 34.52			_	<u> </u>
	5				36.83				31.09		33.04			-	
	6								31.09		33.04			Peak	-
Note 1: ">20)dB	" me	eans s	pur	ious em	ission le	evels th	at excee	ed the lev	vel of 2	0 dB be	low the	e appl	icable	limi
Note 2: "N/F															
Note 3: Mea															
Note 4: For												field st	rength	as me	eas
									he AV lev						
with															
with add															
	itior) .	ricted	bar	nds, unv	vanted e	emissior	ns shall	be atteni	uated b	y at lea	st 20 c	IB rela	tive to	the

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



Modulation M	ode		11b				Tes	t Freq. (MHz)		2412		
N _{TX}			1				Pola	rization			V		
120	Level	(dBuV/m)										Date: 201	13-08-19
108.0													
96.0													
84.0											_	TCC C	
72.0										_	_	FLUU	LASS-B
60.0	2	4									FCC	CLASS-	B (AVG)
48.0	-	Ť	- 8										
36.0													
24.0													
12.0													
,	1000	400	0. 60	00.	8000.	10000.	12000. Frequenc		6000. 1	8000. 2	20000. 2	2000.	25000
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Free	l Lev	/el	Limit	Line	Level	Factor	Loss	Factor			Remark
1		MHz	dBu\		dB	dBuV/m 54.00		dB/m 25.80	dB	dB 35.65	Cm	deg	
2						74.00				35.65			
2								26.90		34.52			
						74.00		26.90		34.52			·
5								31.09		33.04			
6		4824.0	0 49.	.75	-24.25	74.00	45.06	31.09	6.64	33.04			Peak
Note 1: ">20dE	3" me	eans sp	urious	emi	ission le	evels that	at excee	d the lev	el of 20	0 dB be	low the	applic	cable limi
Note 2: "N/F" r											vere de	tected.)
Note 3: Measu													
Note 4: For res													
		ak-Dete	ector m	eet	s the A\	/-Limit s	o that th	ne AV lev	el does	s not ne	ed to b	e repo	orted in
additio							-					_	
Note 5: For un						mission	s shall	be attenu	lated b	y at lea	st 20 d	B relat	ive to the
mavim	um n	neasure	d in-b	and	level								



Modulation Mode		11b			Tes	t Freq. (MHz)		2437		
N _{TX}		1			Pola	arization	1		Н		
120 Level	(dBuV/m)									Date: 201	3-08-19
108.0											
96.0											
84.0											
72.0										FCC C	LASS-B
60.0	4										
	2	8	8						FCU	CLASS-	B (AVG)
48.0	Ĩ		7								
36.0											
24.0											
12.0											
01000	4000	. 6000.	8000.		12000. Frequenc	14000. 1 v (MHz)	6000. 1	18000. 2	0000.	22000.	25000
			0ver			Antenna	Cable	Decomp	A /Pos	T /Poc	
	Freq	l eve]		Limit		Factor				1/FUS	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2354.0	0 43.77					4.65	34.55		-	
2	2354.0	0 53.49	-20.51	74.00	56.57	26.82	4.65	34.55			Peak
3	2496.0	0 43.94	-10.06	54.00	46.30	27.19	4.86	34.41			Average
4		0 56.75			59.11			34.41			Peak
5		0 49.68				31.15		33.02			Average
6		0 53.88						33.02			
7		0 38.23						34.30			
8	/311.0	0 50.99	-23.01	74.00	41.42	35.65	8.22	34.30			Peak
Note 1: ">20dB" me	eans spu	irious em	ission le	evels that	at excee	d the lev	vel of 2	0 dB be	low the	e applic	able limit
Note 2: "N/F" mean									ere de	tected.)
Note 3: Measureme											
Note 4: For restricte with the Pe addition.											
Note 5: For un-rest maximum r				emission	is shall	be atteni	uated b	y at lea	st 20 d	IB relat	ive to the



Modulation Mode		11b			Tes	t Freq. (MHz)		2437		
N _{TX}		1			Pola	arization	1		V		
120Level	(dBuV/m)									Date: 201	3-08-19
108.0											
96.0											
84.0											
72.0										FCC C	LASS-B
	24										
60.0	8	5	8						FCC	CLASS-	B (AVG)
48.0			7								
36.0											
24.0									_		
12.0											
0 <mark></mark>	4000	. 6000.	8000.	10000.	12000	14000. 1	6000. 1	8000. 2	0000.	22000.	25000
1000	4000		0000.		Frequenc					22000.	20000
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line		Factor					Remark
	MHz	dBuV/m		dBuV/m		dB/m	dB	dB	cm	deg	
1		9 49.57						34.55			
2		60.09						34.55			Peak
3		48.68			51.04			34.41			Average
4		9 61.35			63.71			34.41			Peak
5		9 48.25			43.48			33.02			Average
6 7		54.23						33.02			
8		38.8152.20				35.65		34.30 34.30			Average Peak
0	/511.0	0 52.20	-21.00	74.00	42.05	22.02	0.22	54.50			геак
Note 1: ">20dB" me	ans spu	irious em	ission le	evels that	at excee	d the lev	vel of 2	0 dB be	low the	e applic	able limit
Note 2: "N/F" mean											
Note 3: Measureme											
Note 4: For restricte with the Pea addition.	d band	s, the pea	ak meas	uremen	t is fully	sufficier	nt, as th	ie max i			
Note 5: For un-resti maximum n				mission	s shall	be atten	uated b	y at lea	st 20 d	B relat	ive to the



Modulation M	ode	!	1	l1b				Test	Freq. (I	MHz)		2462		
N _{TX}			1	ĺ				Pola	rization			Н		
400	Leve	el (dBuV/i	m)									Da	ate: 2013	3-08-19
120			Ĺ											
96.0			_											
84.0)		_										FCC CL	ACCD
72.0			+-											A33-D
60.0		2	+	4		6						FCC C	LASS-E	(AVG)
48.0			+	3		5								
36.0 24.0														
12.0			_											
	1000		000.	600	0	8000.	10000.	12000	14000. 10	000 40	000. 2	0000. 22	000.	25000
	1000	, -+(.00.	000		0000.		Frequency						23000
						0ver			Antenna				T/Pos	
		Fr	eq	Lev	el	Limit	Line	Level	Factor	Loss	Factor			Remark
		MH	·	dBuV	/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1				46.	98	-7.02	54.00	49.40	27.16	4.85	34.43			Average
2									27.16		34.43			Peak
3									31.21 31.21		33.00 33.00			Average Peak
5									35.83		34.40			Average
6		7386	.00	50.	79	-23.21	74.00	41.11	35.83	8.25	34.40			Peak
Note 1: ">20dE Note 2: "N/F" n Note 3: Measu	near	ns Notl	hing	g Fou	nd s	spuriou	s emissi	ions (No	spuriou	s emiss	ions w			
Note 2: "N/F" n Note 3: Measu Note 4: For res	near rem strict	ns Notl ent rec ted bar	hing ceiv nds,	g Fou e ant , the p	nd s enn oeal	spuriou a polar k meas	s emissi ization: uremen	ions (No H (Horiz t is fully	spuriou contal), \ sufficien	s emiss / (Vertic it, as the	ions w al) e max f	ere dete field stre	ected.) ngth a	as meas
Note 2: "N/F" n Note 3: Measu Note 4: For res with th	near rem strict e Pe	ns Notl ent rec ted bar eak-De	hing ceiv nds, etect	g Fou e ant , the p	nd s enn oeal	spuriou a polar k meas	s emissi ization: uremen	ions (No H (Horiz t is fully	o spuriou zontal), \	s emiss / (Vertic it, as the	ions w al) e max f	ere dete field stre ed to be	ected.) ngth a	as meas rted in
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un	near rem strict e Pe neve resi	ns Noti ent rec ted bar eak-De el (dBuV/i tricted	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre ed to be Da	ngth a repor	as meas ted in 3-08-19
Note 2: "N/F" n Note 3: Measu Note 4: For res with th addi t io	near rem strict e Pe neve resi	ns Noti ent rec ted bar eak-De el (dBuV/i tricted	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre ed to be Da	ngth a repor	as meas ted in 3-08-19
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un	near rem strict e Pe neve res um	ns Noti ent rec ted bar eak-De el (dBuV/i tricted	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre ed to be Da	ngth a repor ate: 2013	as meas rted in 3-08-19 ve to th
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un maxim	near rem strict e Pe neve res um	ns Notl lent red ted bar eak-De el (dBuV/i tricted measu	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre ed to be Da	ngth a repor	as meas rted in 3-08-19 ve to th
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un maxim 96.0 84.0	near rem strict e Pe neve rest	ns Noti ent rec ted bar eak-De el (dBuV/i tricted	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre eed to be Da st 20 dB	ngth a repor ate: 2013	as meas ted in 3-08-19 ve to th ASS-B
Note 2: "N/F" n Note 3: Measu Note 4: For res with th addition Note 5: For un maxim 84.0 72.0	near rem strict e Pe res um	ns Notl lent red ted bar eak-De el (dBuV/i tricted measu	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e level.	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre eed to be Da st 20 dB	repor repor relativ	as meas ted in 3-08-19 ve to th ASS-B
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un maxim 96.0 84.0 72.0 60.0 48.0 36.0	near rem strict e Pe res um	ns Notl lent red ted bar eak-De el (dBuV/i tricted measu	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e level.	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre eed to be Da st 20 dB	repor repor relativ	as meas ted in 3-08-19 ve to th ASS-B
Note 2: "N/F" n Note 3: Measu Note 4: For res with th additio Note 5: For un maxim 96.0 84.0 72.0 60.0 48.0	near rem trict e Pe resi um	ns Notl lent red ted bar eak-De el (dBuV/i tricted measu	hing ceiv nds, etect m) bar	g Fou e ant , the p tor m nds, u	nd s enn beal eets inwa	spuriou a polar k meas the A\ anted e level.	s emissi ization: uremen /-Limit s	ions (No H (Horiz t is fully o that th	spuriou zontal), \ sufficien ie AV lev	s emiss / (Vertic t, as the rel does	ions w al) e max f not ne	ere dete field stre eed to be Da st 20 dB	repor repor relativ	as meas ted in 3-08-19 ve to th ASS-B



Modulation M	ode		11b				Tes	t Freq. (MHz)		2462		
Ν _{τχ}			1				Pola	arization	1		V		
120	Level ((dBuV/m)										Date: 20	13-08-19
108.0											_		
96.0													
84.0													
72.0												FCC C	LA\$S-B
60.0		2			6						FCC	CLASS-	B (AVG)
48.0			4		6							LA33-	
46.0					5								
24.0													
12.0													
0	1000	4000). 600)0.	8000.	10000.	12000. Frequenc	14000. 1	6000. 1	8000. 2	0000. 2	22000.	25000
					0				C-1-1-	D	A /D	т (р	
		Freq	Lov	-1	Over			Antenna Factor				T/Pos	Remark
		MHz	dBuV	/m	dB	dBuV/m		dB/m	dB	dB	cm	deg	
1		2483.5		-		-		27.16	4.85	34.43		-	Average
2		2483.5	0 62.	17	-11.83	74.00	64.59	27.16	4.85	34.43			Peak
3		4924.0	0 45.	29	-8.71	54.00	40.43	31.21	6.65	33.00			Average
4								31.21		33.00			Peak
5								35.83		34.40			
6		7386.0	0 52.	74	-21.26	74.00	43.06	35.83	8.25	34.40			Peak
Note 1: ">20dE	" me	ans spi	irious	emi	ssion le	evels the	at excee	ed the lev	vel of 2	0 dB be	low the	applic	cable limi
Note 2: "N/F" n													
Note 3: Measu											510 00		/
Note 4: For res											field str	enath	as meas
								he AV lev					
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			0013								,s iopt	
	n												
addition Note 5: For un-		icted ba	ands u	เทพะ	anted o	missior	is shall	he atteni	uated h	v at lea	h 00 ta	R relat	ive to the



3.6.8	Transmitter Radiated Unwanted Emissions (A	Above 1GHz) for 11g
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Modulation	Mode		11g				Tes	t Freq. (MHz)		2412			
N _{TX}			1				Pol	arizatior	١		Н			
1	20 Level	(dBuV/m))									Date: 20	13-08-19	
10	B. O								_					
9	6. 0								_		_			
8	4.0											ECC C	LASS-B	
7	2.0								_			FLU	LASS-B	
6	0.0	4									FCC	CLASS-	B (AVG)	
4	B.0 1	3	6											
3	6.0													
	4.0													
	2.0													
	0 <mark>1000</mark>	400	0. 60	000.	8000.	10000.	12000. Frequenc		6000. 1	8000. 2	0000.	22000.	25000)
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos		
		Free	a Le	vel	Limit			Factor					Remark	:
														-
		MHz		V/m	dB		dBuV	dB/m	dB	dB	cm	deg		
	1					54.00				35.65			Averag	e
	2 3					74.00				35.65			Peak	
	5 4				-8.77	54.00 74.00				34.51 34.51			Averag Peak	e
	5					54.00		31.09		33.04			Averag	e
	6					74.00		31.09		33.04			Peak	,-
Noto 1: "> 20	dD" m		uriouo	omi	agion la	avala th	ot ovoo	ad the lea	vol of 2		low the	onnlig		nit
Note 1: ">20														nit.
Note 2: "N/F' Note 3: Mea:												iecied.)	
Note 3: Meas											fiald et	onath	as maa	SUR
								he AV lev						Suit
addit				reet		v~∟n111€3	so inai l			SHOUTE	อนเบเ	le lehc		
auuli	-											<i>.</i>		
Note 5: For u	in-ract	ricted h	ande	110\//	anted e	mission	ne enaii	ne atten	liaten n	v at loo	5t 70 A	R relat	IVA to th	164



Modulation M	lode		11g				Tes	t Freq. (MHz)		2412		
N _{TX}			1				Pola	arization			V		
													42.00.40
12	OLevel	(dBuV/m)										Jate: 20	13-08-19
108.	0												
96.	0												
84.	0											ECC C	LASS-B
72.	0	4										ruuu	LA33-D
60.	0 2	3								_	FCC	CLASS-	B (AVG)
48.	-		-6							_	_		
36.	0		-5										
24.	0		_									_	
12.	0												
	0 <mark>1000</mark>	400	0. 600	00.	8000.	10000.	12000. Frequenc		6000. 1	8000. 2	20000. 2	2000.	25000
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Freq	Lev	el	Limit	Line	Level	Factor	Loss	Factor			Remark
		MHz	dBuV	·	dB	dBuV/m		dB/m	dB	dB		deg	
	1									35.65	Cm		
	2					74.00				35.65			
	3							26.91		34.51			
	4	2390.0	0 68.	10	-5.90	74.00	71.00	26.91		34.51			
	5	4824.0	0 32.	4 3 ·	-21.57	54.00	27.74	31.09	6.64	33.04			Average
	6	4824.0	0 44.	49	-29.51	74.00	39.80	31.09	6.64	33.04			Peak
Note 1: ">20d	B" me	eans sp	urious	emis	ssion le	evels that	at excee	d the lev	el of 20) dB be	low the	applic	cable limi
Note 2: "N/F"													
Note 3: Measu													/
Note 4: For re											field str	enath	as measi
								ne AV lev					
additio				2010					2. 2000			5.0pc	
	-												
Note 5: For ur	-rest	ricted ba	ands.ι	Inwa	anted e	mission	is shall	be atteni	lated b	v at lea	st 20 d	B relat	tive to the



Modulation Mode		11g			Tes	t Freq. (MHz)		2437		
N _{TX}		1			Pola	arization			Н		
l and										Date: 201	2 09 40
120	(aBuv/m)								'	Date. 20	13-00-19
108.0											
96.0								_	_		
84.0										-	
72.0							_	_	_	FCC CI	LA\$S-B
60.0	3								FCC	CLASS-	
48.0		6	8							CLA33-	D (AVO)
36.0	1	5	7								
24.0											
12.0									_		
01000	4000	. 6000.	8000.		12000. Frequenc	14000. 1 v (MHz)	6000. 1	8000. 2	0000. 2	22000.	25000
			0ver			Antenna	Cable	Decomp	A /Pos	T /Poc	
	Freq	[مربع]		Limit		Factor				1/205	Remark
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB	cm	deg	
1		43.86						34.51		-	
2		58.88				26.91		34.51			
3	2484.0	41.73	-12.27	54.00	44.15	27.16	4.85	34.43			Average
4	2484.0	9 56.13	-17.87	74.00	58.55	27.16	4.85	34.43			Peak
5	4874.0	33.03	-20.97	54.00	28.26	31.15	6.64	33.02			Average
6	4874.0	9 47.19	-26.81	74.00	42.42	31.15	6.64	33.02			Peak
7		37.64						34.30			Average
8	7311.0	50.68	-23.32	74.00	41.11	35.65	8.22	34.30			Peak
Note 1: ">20dB" me Note 2: "N/F" mean Note 3: Measureme Note 4: For restricte with the Per addition.	s Nothir ent recei ed bands	g Found ve anten s, the pea	spuriou na polar ak meas	s emiss rization: suremen	ions (N H (Hori it is fully	o spuriou zontal), \ v sufficier	is emis / (Verti ht, as th	sions w cal) ie max t	rere de field str	tected.) as measu



Modulation Mode	•	11g			Tes	t Freq. (MHz)		2437		
N _{TX}		1			Pola	arizatior	1		V		
										D-4 204	2 00 40
120	el (dBuV/m)									Date: 201	13-08-19
108.0											
96.0											
84.0							_				
72.0										FCC C	LASS-B
60.0	4										
	8	6	8						FCC	CLASS	B (AVG)
48.0		4	7								
36.0											
24.0											
12.0											
0 <mark>1000</mark>	0 4000). 6000.	8000.	10000.	12000.	14000. 1	6000. 1	8000. 2	0000.	22000.	25000
					Frequenc						
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level		Line		Factor					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.0	0 48.47	-5.53	54.00	51.37	26.91	4.70	34.51			Average
2		0 64.19		74.00				34.51			Peak
3		0 47.63						34.43			Average
4		0 62.33						34.43			Peak
5		0 34.17			29.40			33.02			Average
6		0 47.92						33.02			
7		0 37.92						34.30			Average
8	/311.0	0 51.14	-22.86	74.00	41.57	35.65	8.22	34.30			Peak
Note 1: ">20dB" m	ieans spi	urious em	ission le	evels that	at excee	ed the lev	vel of 2	0 dB be	low the	e applic	able limit
Note 2: "N/F" mea									vere de	tected.)
Note 3: Measurem	ent recei	ve anten	na polai	rization:	H (Hori	zontal), '	V (Verti	cal)			
Note 4: For restric											
with the Po											
addition.										•	
Note 5: For un-res	tricted ba	ands, unv	anted e	mission	is shall	be atten	uated b	y at lea	st 20 d	IB relat	ive to the
		d in-band									



Modulation	Mode		11g			Tes	t Freq. (MHz)		2462		
N _{TX}			1			Pola	arization)		Н		
											Dato: 204	13-08-19
1	20 Level	(dBuV/m)									Jale. 20	13-06-19
108	.0									_		
96	i.0											
84	.0										ECC CI	ACCD
72		2							_	_	FLUU	LA\$S-B
60	.0	Ĩ.		-						FCC	CLASS-	B (AVG)
48	.0	1	4	6								
	.0		4	•						_	_	
	.0											
	.0											
14												
	⁰ 1000	4000	. 6000.	8000.	10000.	12000. Frequenc	14000. 1 v (MHz)	6000. 1	8000. 2	20000. 2	2000.	25000
				0ver	limit		Antenna	Cable	Preamo		T/Pos	
		Freq	l evel				Factor				17105	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
	1	2483.5	45.22	-8.78	54.00	47.64	27.16	4.85	34.43			Average
	2	2483.5	64.27	-9.73	74.00	66.69	27.16	4.85	34.43			Peak
	3	4924.0	32.72	-21.28	54.00	27.86	31.21	6.65	33.00			Average
	4		9 44.56						33.00			
	5		38.19				35.83		34.40			
	6	7386.0	50.69	-23.31	74.00	41.01	35.83	8.25	34.40			Peak
Note 1: ">200	lB" me	eans spu	irious em	nission le	evels that	at excee	ed the lev	el of 2	0 dB be	low the	applic	able limi
Note 2: "N/F"												
Note 3: Meas												,
Note 4: For r										field str	ength	as measi
			ctor mee									
addit		0.0								- N		
		rictod bo	nde unv	vantad	minoion	c chall	ha attan	untad h		ot 20 d	D rolat	ivo to tho
Note 5: For u	11-1621		nus, unv	vanieu e	111122101	15 511ali	be alleni	Jaleu D	y at lea	St 20 u	Dielai	



Modulation M	ode		11g				Tes	t Freq. (MHz)		2462		
N _{TX}			1				Pola	arization	1		V		
	Loval	(dDu)//m)									r)ato: 201	13-08-19
12		(dBuV/m)									`	Jule: 20	13-00-13
108.	0				_				_	_	_		
96.	0												
84.	0											500.0	
72.		2			_				_	_		FLLL	LASS-B
60.											FCC	CLASS-	
48.0			4	6								CLASS-	
			4	5									
36.													
24.													
12.													
	01000	4000	. 600	0.	8000.	10000.	12000.	14000. 1	6000. 1	8000. 2	20000. 2	2000.	25000
							Frequenc	y (MHz)					
				(Over	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Freq	Leve	el	imit	Line		Factor			-		Remark
_		MHz	dBuV/	/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	l	2483.5	0 52.9	92 -	-1.08	54.00	55.34	27.16	4.85	34.43			Average
1	2	2483.5				74.00		27.16		34.43			Peak
3	3					54.00		31.21		33.00			Average
	1					74.00		31.21		33.00			
	5					54.00		35.83		34.40			
6	5	7386.0	0 52.3	30 -2	21.70	74.00	42.62	35.83	8.25	34.40			Peak
Note 1: ">20dl	3" me	ans spu	irious e	mise	sion le	evels that	at excee	ed the lev	vel of 2	0 dB be	low the	applic	cable lim
Note 2: "N/F" r													
Note 3: Measu													
Note 4: For rea											field str	ength	as meas
								ne AV lev					
with th												-1	
additic	n.												
		icted ba	ınds. u	nwar	nted e	mission	s shall	be atteni	uated h	v at lea	st 20 dl	3 relat	ive to the



Modulation Mo	ode		HT2	0			Tes	t Freq. (MHz)		2412		
N _{TX}			2				Pola	arizatior)		Н		
120	Leve	l (dBuV/m)									Date: 201	13-08-19
108.0				_									
96.0													
84.0				_								ECC C	LASS-B
72.0		4		_								ruu u	LA33-D
60.0	_	i								_	FCC	CLASS-	B (AVG)
48.0	1	3	-6										
36.0			-5-	_									
24.0				_									
12.0				_									
-	1000	400	0. 6	000.	8000.	10000.	12000. Frequenc		6000. 1	8000. 2	0000. 2	2000.	25000
					0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Free	q Lo	evel	Limit	Line		Factor					Remark
		MHz		uV/m	dB		dBuV	dB/m	dB	dB	cm	deg	
1						54.00				35.65			
2						74.00				35.65			Peak
3						74.00		26.91 26.91		34.51 34.51			Average Peak
5						54.00		31.09		33.04			Average
6								31.09		33.04			Peak
Note 1: ">20dB	" m	0000 00	uriou	- om	iccion l	ovola th	at avea	nd the lea	val of 2		low the	onnlic	abla limit
Note 1: >2006 Note 2: "N/F" m													
Note 3: Measu												ecteu.)
Note 3: Measure											field etr	enath	as measi
								he AV lev					
additio			50101	neel		v - Lii iii lii lii	so mai li			SHOULE		e iepu	
auuuu	1. C												
Note 5: For un-	rest	ricted b	ande	UD\4	anted 4	missio	ns shall	he atteni	lated h	v at lea	st 20 d	R relat	ive to the



Modulation N	ode		HT20			Tes	t Freq. (MHz)		2412		
N _{TX}			2			Pola	arizatior)		V		
	Leve	l (dBuV/m)								I	Date: 20'	13-08-19
12	, <u> </u>	(4221)										
108.	0											
96.	0											
84.	0										ECC C	LASS-B
72.	0	4								_	FUL L	LA33-D
60.										FCC	CLASS-	B (AVG)
48.	- 2	P	6							100	CLASS-	
			4									
36.			T I									
24.	ן א											
12.								_				
	0 <mark>1000</mark>	400	0. 6000.	8000.	10000.	12000.	14000. 1	6000 1	8000. 2	20000. 2	2000	25000
	1000	400	. 0000.		10000.	Frequenc		I			2000.	23000
				0ver	limit	Read	Antenna	Cable	Pream	A/Pos	T/Pos	
		Freq	Leve	l Limit			Factor				1/103	Remark
		MHz	dBuV/r	n dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
	L			9 -9.31					35.65		_	Average
	2			8 -23.52					35.65			
	3			2 -1.08					34.51			-
	1	2390.0	0 72.5	3 -1.47	74.00	75.43	26.91	4.70	34.51			
1	5	4824.0	0 33.14	4 -20.86	54.00	28.45	31.09	6.64	33.04			Average
(5	4824.0	0 45.29	9 -28.71	74.00	40.60	31.09	6.64	33.04			Peak
Note 1: ">20dl	3" m	eans sp	urious er	nission le	evels that	at excee	ed the lev	vel of 2	0 dB be	ow the	applic	cable limit
Note 2: "N/F" I												
Note 3: Measu												/
Note 4: For re										fiold etr	enath	as maasi
				ets the A								
		ak-Dele	CIOI MEE	ets the A	v-Limit S	o mat ti	IE AV IE		s not ne		e repo	nteu In
additic												
Note 5: For un	-rest	ricted h	ands lin	wanted e	noizzima	is shall	he atteni	lated h	v at lea	h (12 tai	к relat	ive to the
			d in-ban		11100101	is shan			y at ico	101 20 U	Dicial	



Modulation Mode		HT20				Tes	t Freq. (MHz)		2437		
N _{TX}		2				Pola	arizatior	١		Н		
Love	(dBu)//m)										Date: 201	3.08.10
120	el (dBuV/m)										Dute. 20	13-00-13
108.0												
96.0											_	
84.0											-	
72.0								_			FCCC	LASS-B
60.0	2									ECC	CLASS-	
48.0		-6		8						ru	CLASS-	D (AVO)
	5	Ă		7								
36.0		1										
24.0												
12.0								_			_	
0 ^L 1000) 400	0. 60	00.	8000.		12000. Frequenc	14000. 1 v (MHz)	6000. 1	8000. 2	20000. 2	22000.	25000
				0ver			Antenna	Cable	Preamp	A/Pos	T/Pos	
	Free	l Lev	/el	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBu\	//m	dB	dBuV/m		dB/m	dB	dB	cm	deg	
1							26.91		34.51			
2					74.00				34.51			
3					54.00				34.43			Average
4	2483.5	50 56.	. 21 -	-17.79	74.00	58.63	27.16		34.43			Peak
5					54.00		31.15		33.02			Average
6					74.00		31.15		33.02			
7							35.65		34.30			
8	/311.6	00 50.	.61 ·	-23.39	/4.00	41.04	35.65	8.22	34.30			Peak
Note 1: ">20dB" m Note 2: "N/F" mea												
Note 3: Measurem)
Note 4: For restrict with the Pe	ted band	ls, the	peał	k meas	uremen	t is fully	sufficier	nt, as th	ne max			
addition. Note 5: For un-res maximum					mission	s shall	be atten	uated b	y at lea	st 20 d	B relat	ive to the



Modulation Mode		HT20			Tes	t Freq. (MHz)		2437		
N _{TX}		2			Pola	arization			V		
120 Level	(dBuV/m)									Date: 201	3-08-19
108.0											
96.0											
84.0											
72.0										FCC CI	LASS-B
	4										
60.0	R I	6	8						FCC	CLASS-	B (AVG)
48.0		1	7								
36.0											
24.0											
12.0											
0 <mark>1000</mark>	4000	. 6000.	8000.	10000.	12000	14000. 1	6000 1	8000 2	0000. 2	22000.	25000
1000	4000		0000.		Frequenc						20000
			0ver			Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line		Factor					Remark
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB	 ст	deg	
1		48.12				26.91		34.51		-	
2		62.87			65.77			34.51			Peak
- 3		47.25						34.43			Average
4		61.61			64.03			34.43			Peak
5	4874.00	33.52	-20.48	54.00	28.75	31.15	6.64	33.02			Average
6	4874.00	45.63	-28.37	74.00	40.86	31.15	6.64	33.02			
7	7311.00	38.66	-15.34	54.00	29.09	35.65	8.22	34.30			Average
8	7311.00	52.03	-21.97	74.00	42.46	35.65	8.22	34.30			Peak
Note 1: ">20dB" me Note 2: "N/F" means Note 3: Measureme Note 4: For restricte with the Pea addition.	s Nothin nt recei d bands	g Found ve anten s, the pea	spuriou na polar ak meas	s emiss ization: suremen	ions (Ne H (Hori t is fully	o spuriou zontal), \ sufficier	us emis V (Vertient, as th	sions w cal) ie max f	ere de field str	tected.) as measi



Modulation M	ode		HT20			Tes	t Freq. (MHz)		2462		
N _{TX}			2			Pola	arizatior	1		Н		
	Loval	(dBu)//m)									Date: 201	13-08-19
12		(dBuV/m)										13-00-13
108.)							_		_	_	
96.)											
84.											TOO O	
72.)	2									FLUU	LA\$S-B
60.		Ī								FCC	CLASS-	
48.0			4	6								
36.0				5								
			Ĭ									
24.												
12.												
	0 <mark>1000</mark>	4000	. 6000.	8000.	10000.	12000.	14000. 1	6000. 1	8000. 2	20000. 2	22000.	25000
						Frequenc						
				0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Freq	Leve]		t Line						.,	Remark
		MHz	dBuV/n	ı dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	L	2483.5	0 45.84	-8.1	54.00	48.26	27.16	4.85	34.43			Average
1	2	2483.5	0 66.03	-7.9	7 74.00	68.45	27.16	4.85	34.43			Peak
3	3	4924.0	0 32.03	-21.9	7 54.00	27.17	31.21	6.65	33.00			Average
4	1	4924.0	0 44.27	-29.7	3 74.00	39.41	31.21	6.65	33.00			Peak
5	5	7386.0	0 37.33	-16.6	7 54.00	27.65	35.83	8.25	34.40			Average
(5	7386.0	0 50.58	3 -23.4	2 74.00	40.90	35.83	8.25	34.40			Peak
N							1.4					
Note 1: ">20dl												
Note 2: "N/F" r										vere de	tected.)
Note 3: Measu											_	
Note 4: For rea												
		ak-Dete	ctor mee	ets the A	V-Limit s	so that t	he AV lev	el doe	s not ne	ed to b	e repo	orted in
additic	n.											
Note 5: For un			ands, un [.] d in-ban		emissior	ns shall	be atten	uated b	y at lea	st 20 d	B relat	ive to the



Modulation Mod	е	HT20			Tes	t Freq. (MHz)		2462		
N _{TX}		2			Pola	arization)		V		
	ol (dBu\//m)									Date: 201	3.08.19
120	/el (dBuV/m)										13-00-13
108.0									_		
96.0											
84.0									_	TCC C	ACCD
72.0	2								_	FLUU	LASS-B
60.0									FCC	CLASS-	
48.0		4									
36.0		3	5								
24.0											
12.0											
0 <mark></mark>	00 400). 6000.	8000.	10000.		14000. 1	6000. 1	8000. 2	0000. 2	22000.	25000
			_		Frequenc			_			
	-		0ver			Antenna				T/Pos	
	Freq	Level	Limit			Factor					Remark
	MHz	dBuV/m	dB	dBuV/m		dB/m	dB	dB		dog	
1		0 52.74		-		-			Cm	deg	Average
2		0 72.43						34.43			
3		0 33.29						33.00			
4		0 45.66						33.00			
5		0 38.57						34.40			
6		0 51.99						34.40			
Note 1: ">20dB" ı	neans sni	irious em	ission le	ovels the	at excee	d the lev	el of 2	0 dB be	low the	annlic	ahle limit
Note 2: "N/F" me											
Note 3: Measure									ere de	iecieu.)
Note 4: For restri									fiald et	enath	as maasi
	Peak-Dete										
addition.	eak-Dele	CIOI Meet	IS THE AV	/-Linnit S		IE AV IE		s not ne		e ieho	
	otriotod L	ando urri	unted a	minaiaa		ha attain:	unto d L	v ot los	ot 20 -	D rolet	ivo to the
Note 5: For un-re	stricted ba			mission	is shall	be attent	Jalea D	y at lea	รเ 20 ติ	b relat	
			INEVEL								



Modulation Mo	de	H	IT40			Test	t Freq. (I	MHz)		2422		
N _{TX}		2				Pola	rization			н		
120	evel (dBu\	//m)								D	ate: 2013	3-08-19
108.0												
96.0												
84.0											FOC OI	A
72.0	_										FCC CL	АЗЗ-В
60.0	2			6				_		FCC	CLASS-B	(AVG)
48.0	1		1	ì								
36.0				-				_				
24.0				_								
12.0												
	000	4000.	6000.	8000.	10000.	12000.	14000 10	6000. 1	8000. 2	20000. 22	2000.	25000
		1000.		0000.	10000.	Frequenc						20000
				0ver			Antenna				T/Pos	
	F	req	Level	Limit	t Line	Level	Factor	Loss	Factor			Remark
1		Hz	dBuV/m 45.75		-	dBuV 48.65	dB/m 26.91	dB	dB 34.51	CM	deg	Average
2					5 74.00				34.51			Peak
3			32.28						33.04			Average
4					L 74.00				33.04			Peak
5	726	6.00	38.25	-15.75	5 54.00	28.75	35.54	8.20	34.24			Average
6	726	6.00	51.33	-22.67	7 74.00	41.83	35.54	8.20	34.24			Peak
lote 1: ">20dB"	means	spuri	ious em	ission	levels th	at excee	d the lev	el of 2	0 dB be	low the	applica	able limi
lote 2: "N/F" m												
Note 3: Measure											,	
lote 4: For rest										field stre	ength a	is measi
							ne AV lev					
addition												
ote 5: For un-r	estricte	d ban	ds, unv	/anted	emissior	ns shall l	be attenu	lated b	y at lea	st 20 dE	3 relativ	ve to the
	m meas											



Modulation Mod	е	HT40			Tes	t Freq. (MHz)		2422		
N _{TX}		2			Pola	arization	1		V		
										D-4 204	2 00 40
120	/el (dBuV/m)									Date: 201	13-08-19
108.0											
96.0											
84.0									_	TCC C	
72.0	2								_	FLUU	LA\$S-B
60.0			6						FCC	CLASS-	B (AVG)
48.0		4	Ĭ								
36.0		3	5								
24.0											
12.0											
0 <mark>-</mark> 10	00 4000). 6000.	8000.	10000.	12000. Frequenc		6000. 1	8000. 2	20000. 2	22000.	25000
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level				Factor				.,	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.0	0 52.61	-1.39	54.00	55.51	26.91	4.70	34.51			Average
2		0 69.45						34.51			
3		0 33.38						33.04			0
4		0 45.57						33.04			
5		0 38.69						34.24			
6	/266.0	0 52.97	-21.03	74.00	43.47	35.54	8.20	34.24			Peak
Noto 1: "> 20dP" r		rious om	ingion k	wole the	at avaa	d the lev	(a) of 2		low the	opplic	
Note 1: ">20dB" r											
Note 2: "N/F" mea										lected.)
Note 3: Measurer									field of	onath	00 m 000:
Note 4: For restri											
	Peak-Dete	ctor meet	IS THE A	/-Limit s	o that t	IE AV IEV	vei does	s not ne	ed to b	e repo	rted in
addition.											
Note 5: For un-re	stricted ba			mission	is shall	be atten	uated b	y at lea	st 20 d	в relat	ive to the



Modulation Mode	•	HT40			Tes	t Freq. (MHz)		2437		
N _{TX}		2			Pola	arizatior	n		Н		
120	l (dBuV/m)									Date: 201	3-08-19
108.0											
96.0											
84.0											
72.0										FCC C	LASS-B
	3										
60.0		6	8					_	FCC	CLASS-	B (AVG)
48.0		ĩ	7								
36.0											
24.0											
12.0											
0 <mark></mark>) 400	0. 6000.	8000.	10000.	12000	14000. 1	6000 1	8000. 2	0000 *	22000	25000
1000	, 400		0000.		Frequence		I				23000
			0ver			Antenna				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	2390.0	0 46.22	-7.78	-		-	4.70	34.51			Average
2	2390.0	0 61.44	-12.56	74.00	64.34	26.91	4.70	34.51			Peak
3	2483.5	0 41.65	-12.35	54.00	44.07	27.16	4.85	34.43			Average
4	2483.5	0 56.42	-17.58	74.00	58.84	27.16	4.85	34.43			Peak
5	4874.0	0 32.44	-21.56	54.00	27.67	31.15	6.64	33.02			Average
6		0 45.19			40.42	31.15	6.64	33.02			Peak
7		0 38.34				35.65		34.30			
8	7311.0	0 51.55	-22.45	74.00	41.98	35.65	8.22	34.30			Peak
Note 1: ">20dB" m											
Note 2: "N/F" mear									vere de	tected.)
Note 3: Measurem			•		•	, ·	•	,			
Note 4: For restrict with the Pe addition.											
Note 5: For un-res maximum				mission	s shall	be atten	uated b	y at lea	st 20 d	B relat	ive to the



		HT40 2				Test Freq. (MHz) Polarization				2437		
N _{TX}												
120	(dBuV/m)									Date: 201	3-08-19	
108.0												
96.0							_					
84.0												
72.0	2									FCC C	LASS-B	
	7											
60.0	1	6	8						FCC	CLASS-	B (AVG)	
48.0		i i	7									
36.0												
24.0												
12.0												
0 <mark>1000</mark>	4000	. 6000.	8000.	10000.	12000	14000. 1	6000 1	8000 2	0000. 2	22000.	25000	
1000	4000		0000.		Frequence		I			2000.	23000	
			0ver			Antenna	Cable	Preamp	A/Pos	T/Pos		
	Freq	Level	Limit	Line		Factor					Remark	
	MHz	dBuV/m	dB	dBuV/m		 dB/m	dB	dB	 ст	deg		
1		3 52.57						34.51		-		
2		68.04						34.51			Peak	
3		48.55						34.43			Average	
4	2483.5	63.92	-10.08	74.00	66.34	27.16		34.43			Peak	
5	4874.0	33.94	-20.06	54.00	29.17	31.15	6.64	33.02			Average	
6	4874.0	45.85	-28.15	74.00	41.08	31.15	6.64	33.02			Peak	
7	7311.0	38.49	-15.51	54.00	28.92	35.65	8.22	34.30			Average	
8	7311.0	ð 51.85	-22.15	74.00	42.28	35.65	8.22	34.30			Peak	
Note 1: ">20dB" me Note 2: "N/F" mean Note 3: Measureme Note 4: For restricte with the Pe addition.	s Nothir ent recei	g Found ve anten s, the pea	spuriou na polar ak meas	s emiss ization: suremen	ions (N H (Hori it is fully	o spuriou zontal), \ sufficier	us emis V (Verti nt, as th	sions w cal) ie max i	rere de field str	tected.) as measi	



Modulation Mode		HT40			Tes	Test Freq. (MHz)				2452			
N _{TX}	2				arization			Н					
120 Level	(dBuV/m)									Date: 201	13-08-19		
108.0													
96.0													
84.0									_				
72.0								_	_	FCC CI	LA\$S-B		
60.0	2							_	FCC	CLASS-			
48.0		4	6						100	CLAUJ-			
36.0			5										
24.0													
12.0													
⁰ 1000	400). 6000.	8000.	10000.	12000. Frequenc	14000. 1 y (MHz)	6000. 1	8000. 2	0000. 2	2000.	25000		
			0ver	Limit		Antenna	Cable	Preamp	A/Pos	T/Pos			
	Freq	Level	Limit			Factor				.,	Remark		
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg			
1		0 46.43						34.43			Average		
2		0 61.75						34.43			Peak		
3		0 32.47				31.18		33.01			0		
4		0 44.88						33.01					
5		0 37.74 0 50.66						34.36 34.36					
0	/550.0	0 50.00	-23.34	74.00	41.05	55.75	0.24	54.50			reak		
Note 1: ">20dB" me	ans sn	Irious em	ission le	wels the	at exce	nd the lev	el of 2	0 dB be	low the	annlic	able limit		
Note 2: "N/F" mean													
Note 3: Measureme										ເວບເປັນ.	/		
Note 4: For restricte			•		•	, ·	•	,	fiald etr	enath	as maasu		
with the Pe													
addition.	ak-Dele	CIOI MEE	IS THE AL	/-Linnit S	่ง และ เ	IG AV IG/		5 HOL HE		e ieho			
	riated by	nde un	iontod a	micolor		ha attan	inted h	v at las	ct 20 4	B rolet	ivo to the		
Note 5: For un-rest	ncied Da	anus, unw	vanteu e	IIIISSIOF	IS SHALL	ve allent	ialea D	y at lea	ວເ∠∪ 0	Dielat	IVE IO THE		



Modulation Mo	ode		HT40				Tes	Test Freq. (MHz)				2452			
N _{TX}			2				Pol	Polarization							
	l ovol (d	RuV/m)										Date: 20	13-08-19		
120	Level (u	BuV/m)													
108.0															
96.0									_		_				
84.0					_							ECC C	LACC D		
72.0	2								_		_	FLU	LA\$S-B		
60.0											FCC	CLASS-	B (AVG)		
48.0			4	6								CLAUG	0 (100)		
36.0			3	5											
24.0															
12.0									_						
0	1000	4000	. 6000	. 8	000.	10000.	12000. Frequence	14000. 1	6000. 1	8000. 2	20000.	22000.	25000		
												T (D			
		Ener	Lava		ver	Limit		Antenna				T/Pos	_		
		Freq	Leve	1 L.	1010	LTUE		Factor		Factor			Remark		
		MHz	dBuV/	m (dR	dBuV/m		dB/m	dB	dB	cm	deg			
1			52.8					-		34.43			Average		
2						74.00				34.43			Peak		
3			33.3					31.18		33.01					
4								31.18		33.01			Ŭ		
5								35.75		34.36					
6	5	7356.00	51.8	4 -2	2.16	74.00	42.21	35.75	8.24	34.36			[_]		
Note 1: ">20dB	" moo	ne enu		mice	ion le	wale the	at avca	nd the lev	val of 2	0 dB be	low the	annlia	cable lim		
Note 2: "N/F" m												lected.	.)		
Note 3: Measur					•		•		•	,	field of	onath	00 0000		
Note 4: For res															
		<-Deteo	ctor me	ets th	ne A\	/-Limit s	so that t	he AV lev	vel doe	s not ne	ed to b	e repo	orted in		
additior								•				_ .			
Note 5: For un-						missior	ns shall	be atten	uated b	y at lea	st 20 d	B relat	tive to th		
	m m	SOOLIFO	d in-bar	יםו הי											



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9 kHz ~ 2.75 GHz	Mar. 26, 2013	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRO NIK	NSLK 8127	8127-477	9kHz – 30MHz	Jan. 21, 2013	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9 kHz ~ 30 MHz	Apr. 18, 2013	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010001	9 kHz ~ 30 MHz	Nov. 09, 2012	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	FSV40	101499	9Kz – 40GHz	Jan. 28, 2013	Radiation (03CH08-HY)
Receiver	R&S	ESR3	101657	9KHz – 3GHz	Jan. 30,2013	Radiation (03CH08-HY)
Amplifier	COM-POWER	PA-103	161241	10MHz ~ 1000MHz	Feb. 26, 2013	Radiation (03CH08-HY)
Amplifier	Agilent	83017A	MY39501308	1GHz – 26.5 GHz	Dec. 18, 2012	Radiation (03CH08-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	1GHz~18GHz	Feb. 18, 2013	Radiation (03CH08-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170517	18GHz~40GHz	Jan. 14, 2013	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170517	15GHz~40GHz	Sep. 28, 2012	Radiation (03CH08-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30 MHz - 1 GHz	Oct. 06, 2012	Radiation (03CH08-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	MITEQ	AMF-7D-001018 00-30-10P	9121372	26.5GHz ~ 40GHz	Feb. 27, 2013	Radiation (03CH08-HY)
Loop Antenna	R&S	HFH2-Z2	860004/0001	9 kHz - 30 MHz	Jul. 03, 2012	Radiation (03CH08-HY)

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



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101063	9KHz~40GHz	Feb. 18, 2013	Conducted (TH01-HY)
Spectrum Analyzer	R&S	FSP 40	100305	9KHz~40GHz	Mar. 20, 2013	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP- SD	MAA1112-007	-20 ~ 100℃	Nov. 21, 2012	Conducted (TH01-HY)
Signal Generator	R&S	SMB100A	175727	10MHz ~ 40GHz	Jan. 14, 2013	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 02, 2013	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 02, 2013	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Jun. 21, 2013	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 16, 2013	Conducted (TH01-HY)

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