FCC Test Report

Product Name	Logistic Monitoring Gateway
Model No	GWS-CSCG
FCC ID.	WL6GWS-CSCG

Applicant	ELITEGROUP COMPUTER SYSTEMS CO., LTD
Address	No.239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan

Apr. 15, 2017
May 31, 2017
1740404R-RFUSP02V00
V1.0
esting Laboratory

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Product Name Logistic Monitoring Gateway Applicant ELITEGROUP COMPUTER SYSTEMS CO., LTD Address No.239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan Manufacturer Golden Elite Technology (SHENZHEN) CO., LTD. Model No. GWS-CSCG FCC ID. WL6GWS-CSCG EUT Rated Voltage DC 5V by USB EUT Test Voltage DC 5V by USB Trade Name ECS Applicable Standard FCC CFR Title 47 Part 15 Subpart C: 2016 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 DTS Meas Guidance v04 Test Result Complied Documented By : Tested By : Approved By : Approved By :	31, 2017)404R-RFUSP02V0	
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(Director / Vincent Lin)		



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DEKRA

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Logistic Monitoring Gateway
Trade Name	ECS
Model No.	GWS-CSCG
FCC ID.	WL6GWS-CSCG
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW
Number of Channels	802.11b/g/n-20MHz: 11
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 72.2Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK)
	802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ECS	IAHA20170410	PIFA	1.71dBi for 2.4 GHz

Note:

1. The antenna of EUT conforms to FCC 15.203.

2. Only the higher gain antenna was tested and recorded in this report



802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

- 1. The EUT is a Logistic Monitoring Gateway with a built-in WLAN, Zigbee and NFC transceiver, this report for WLAN.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 3. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report.
- 4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$ 802.11g is 6Mbps \$ 802.11n(20M-BW) is 7.2Mbps)
- 5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

INotebook PCDELLP62G229FJC2N/A	J/A
2 Fixture N/A CI53A20_V2.0 N/A N/A	√/A

Signal Cable Type		Signal cable Description
А	USB 2.0 Cable	Shielded, 0.75m
В	USB 2.0 Cable	Shielded, 1.0m
С	USB 2.0 Cable	Shielded, 1.8m
D	Signal Cable	Non-Shielded, 0.25m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- 1. Setup the EUT as shown in Section 1.4.
- 2. Execute software "Raltek MP Tool" on the EUT.
- 3. Configure the test mode, the test channel, and the data rate.
- 4. Press "OK" to start the continuous Transmit.
- 5. Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

http://www.dekra.com.tw/english/about/certificates.aspx?bval=5

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: <u>http://www.dekra.com.tw/index_en</u>

Site Description:	Accredited by TAF Accredited Number: 3023
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	TEL: 886-2-2602-7968 / FAX : 866-2-2602-3286
	E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW1014

1.7. List of Test Item and Equipment

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	EMI Test Receiver	R&S	ESR7	161601	2017.01.06	2018.01.05
Х	Two-Line V-Network	R&S	ENV216	101306	2017.02.16	2018.02.15
Х	Two-Line V-Network	R&S	ENV216	101307	2017.03.17	2018.03.16
Х	Coaxial Cable	Quietek	RG400_BNC	RF001	2016.05.25	2017.05.24

For Conduction measurements /ASR1

Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. Test Software version : QuieTek EMI 2.0 V2.1.113

For Conducted measurements /ASR4

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	Spectrum Analyzer	R&S	FSV30	103464	2017.01.09	2018.01.08
Х	Power Meter	Anritsu	ML2496A	1548003	2016.12.15	2017.12.14
Х	Power Sensor	Anritsu	MA2411B	1531024	2016.12.15	2017.12.14
Х	Power Sensor	Anritsu	MA2411B	1531025	2016.12.15	2017.12.14
	Bluetooth Tester	R&S	CBT	101238	2017.01.03	2018.01.02

Note:

- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. Test Software version : QuieTek Conduction Test System V8.0.110

For Radiated measurements /ACB1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	Loop Antenna	A.H.	SAS-562B	272	2016.07.21	2017.07.20
Х	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-674	2017.02.09	2018.02.08
Х	Horn Antenna	ETS-Lindgren	3117	00203800	2016.10.13	2017.10.12
Х	Horn Antenna	Com-Power	AH-840	101087	2017.05.03	2018.05.02
Х	Pre-Amplifier	EMCI	EMC001330	980316	2017.05.14	2018.05.15
Х	Pre-Amplifier	EMCI	EMC051835SE	980311	2017.05.15	2018.05.16
Х	Pre-Amplifier	EMCI	EMC05820SE	980310	2017.05.15	2018.05.16
Х	Pre-Amplifier	EMCI	EMC184045SE	980314	2017.05.17	2018.05.18
Х	Filter	MICRO TRONICS	BRM50702	G251	2016.08.11	2017.08.10
	Filter	MICRO TRONICS	BRM50716	G188	2016.08.11	2017.08.10
Х	EMI Test Receiver	R&S	ESR7	101602	2016.12.15	2017.12.14
Х	Spectrum Analyzer	R&S	FSV40	101149	2017.01.24	2018.01.23
Х	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2017.05.25	2018.05.24
Х	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2016.08.11	2017.08.10

Note:

1. All equipments are calibrated every one year.

- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. Test Software version : QuieTek EMI 2.0 V2.1.113

^{1.} All equipments are calibrated every one year.



2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit						
Frequency	Limits					
MHz	QP	AVG				
0.15 - 0.50	66-56	56-46				
0.50-5.0	56	46				
5.0 - 30	60	50				

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.4. Uncertainty

± 2.35 dB

2.5. Test Result of Conducted Emission

Product	:	Logistic Monitoring Gateway
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)
Test Date	:	2017/05/24

Frequency	Correct	Correct Reading Measurement		Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
Line 1					
Quasi-Peak					
0.160	9.560	35.957	45.517	-20.197	65.714
0.230	9.562	25.101	34.662	-29.052	63.714
0.510	9.580	28.454	38.034	-17.966	56.000
1.472	9.580	10.095	19.675	-36.325	56.000
3.600	9.596	20.130	29.726	-26.274	56.000
9.900	9.649	16.717	26.367	-33.633	60.000
Average					
0.160	9.560	20.055	29.615	-26.099	55.714
0.230	9.562	14.160	23.722	-29.992	53.714
0.510	9.580	18.995	28.575	-17.425	46.000
1.472	9.580	4.374	13.954	-32.046	46.000
3.600	9.596	10.183	19.779	-26.221	46.000
9.900	9.649	12.335	21.985	-28.015	50.000

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Product	:	Logistic Monitoring Gateway					
Test Item	:	Conducte	Conducted Emission Test				
Power Line	:	Line 2	Line 2				
Test Mode	:	Mode 3: 7	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)				
Test Date	:	2017/05/2	4				
Frequency	Cor	rrect	Reading	Measurement	Margin	Limit	
	Fac	ctor	Level	Level			
MHz	d	В	dBµV	dBµV	dB	dBµV	
Line 2							

Quasi-Peak					
0.161	9.552	35.759	45.311	-20.375	65.686
0.280	9.563	19.846	29.409	-32.877	62.286
0.500	9.570	21.938	31.508	-24.492	56.000
2.742	9.587	15.293	24.881	-31.119	56.000
3.800	9.598	21.552	31.150	-24.850	56.000
10.290	9.653	15.374	25.027	-34.973	60.000
Average					
0.161	9.552	19.711	29.264	-26.422	55.686
0.280	9.563	10.846	20.409	-31.877	52.286
0.500	9.570	15.558	25.129	-20.871	46.000
2.742	9.587	9.753	19.340	-26.660	46.000
3.800	9.598	9.160	18.758	-27.242	46.000
10.290	9.653	10.540	20.193	-29.807	50.000

1. All Reading Levels are Quasi-Peak and average value.

2. "means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor



3. Peak Power Output

3.1. Test Setup



3.2. Limits

The maximum peak power shall be less 1 Watt.

3.3. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

3.4. Uncertainty

±0.86 dB

3.5. Test Result of Peak Power Output

Product	:	Logistic Monitoring Gateway
Test Item	:	Peak Power Output Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
Test Date	:	2017/05/23

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required	Degult
		1	2	5.5	11	1	Limit	Kesult
		Measurement Level (dBm)						
01	2412	17.90				19.72	<30dBm	Pass
06	2437	17.78	17.63	17.52	17.41	19.51	<30dBm	Pass
11	2462	17.65				19.37	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss



Product	:	Logistic Monitoring Gateway
Test Item	:	Peak Power Output Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)
Test Date	:	2017/05/23

		Average Power								Peak		
Eraguanay		For different Data Rate (Mbps)								Required		
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
	Measurement Level (dBm)											
01	2412	11.31								17.76	<30dBm	Pass
06	2437	11.09	10.89	10.76	10.61	10.52	10.43	10.34	10.22	17.13	<30dBm	Pass
11	2462	10.58								16.50	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss



Product	:	Logistic Monitoring	Gateway
		0 0	2

- Test Item Peak Power Output Data :
- Test Mode

Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) :

Test Date 2017/05/23 :

		Average Power								Peak		
	Frequency		F	or diffe	erent Da	ata Rate	e (Mbps	s)		Power	Required	
Channel No	(MHz)	7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2	Limit	Result
	Measurement Level (dBm)											
01	2412	10.17								16.51	<30dBm	Pass
06	2437	10.09	9.88	9.74	9.63	9.51	9.42	9.33	9.24	16.22	<30dBm	Pass
11	2462	9.62	-							15.68	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss



4. Radiated Emission

4.1. Test Setup



4.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits								
Frequency	Field strength	Measurement distance						
MHz	(microvolts/meter)	(meter)						
0.009-0.490	2400/F(kHz)	300						
0.490-1.705	24000/F(kHz)	30						
1.705-30	30	30						
30-88	100	3						
88-216	150	3						
216-960	200	3						
Above 960	500	3						

Remarks: E field strength $(dB\mu V/m) = 20 \log E$ field strength (uV/m)

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement. The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

4.4. Uncertainty

```
Horizontal :
30-300MHz: ±4.08dB ; 300M-1GHz: ±3.86dB ; 1-18GHz: ±3.77dB ; 18-40GHz: ±3.98dB °
Vertical :
30-300MHz: ±4.81dB ; 300M-1GHz: ±3.87dB ; 1-18GHz: ±3.83dB ; 18-40GHz: ±3.98dB °
```

4.5. Test Result of Radiated Emission

Product	:	Logistic Monitoring Gateway
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date	:	2017/05/25

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
4824.000	-3.785	45.470	41.686	-32.314	74.000
7236.000	-0.753	45.000	44.246	-29.754	74.000
9648.000	1.186	44.050	45.236	-28.764	74.000
Average Detector:					
					54.000
Vertical					
Peak Detector:					
4824.000	-3.785	45.640	41.856	-32.144	74.000
7236.000	-0.753	45.420	44.666	-29.334	74.000
9648.000	1.186	43.880	45.066	-28.934	74.000
Average Detector:					
					54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	: Logistic Monitoring Gateway							
Test Item	: Harmonic Radiated Emission Data							
Test Mode	: Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)							
Test Date	: 2017/05/25							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$			
Horizontal								
Peak Detector:								
4874.000	-3.770	57.010	53.240	-20.760	74.000			
7311.000	-0.719	43.880	43.162	-30.838	74.000			
9748.000	1.331	47.680	49.011	-24.989	74.000			
Avenage Detectory								
Average Detector:					54.000			
					54.000			
Vertical								
Peak Detector:								
4874.000	-3.770	52.130	48.360	-25.640	74.000			
7311.000	-0.719	44.270	43.552	-30.448	74.000			
9748.000	1.331	50.000	51.331	-22.669	74.000			
Avaraga Dataatari								
Average Delector:					54 000			
					34.000			

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	:	Logistic Monitoring Gateway
Test Item	:	Harmonic Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)
Test Date	:	2017/05/25

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$
Horizontal					
Peak Detector:					
4924.000	-3.743	58.480	54.737	-19.263	74.000
7386.000	-0.683	43.680	42.997	-31.003	74.000
9848.000	1.571	46.540	48.111	-25.889	74.000
Average Detector:					
4924.000	-3.743	55.410	51.667	-2.333	54.000
Vertical					
Peak Detector:					
4924.000	-3.743	52.840	49.097	-24.903	74.000
7386.000	-0.683	43.610	42.927	-31.073	74.000
9848.000	1.571	46.880	48.451	-25.549	74.000
Average Detector:					
					54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product Test Item Test Mode Test Date	Product:Logistic Monitoring GatewayTest Item:Harmonic Radiated Emission DataTest Mode:Mode 2: Transmit (802.11g 6Mbps) (2412MHz)Test Date:2017/05/25								
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBµV	dBµV/m	dB	dBµV/m				
Horizontal									
Peak Detector:									
4824.000	-3.785	49.960	46.176	-27.824	74.000				
7236.000	-0.753	45.560	44.806	-29.194	74.000				
9648.000	1.186	43.980	45.166	-28.834	74.000				
Average Detector:									
					54.000				
Vertical									
Peak Detector:									
4824.000	-3.785	46.510	42.726	-31.274	74.000				
7236.000	-0.753	44.790	44.036	-29.964	74.000				
9648.000	1.186	44.250	45.436	-28.564	74.000				
Average Detector:									
					54.000				

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	Logistic Monitoring Gateway							
Test Item	: Harmonic Radiated Emission Data							
Test Mode	: Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)							
Test Date	: 2017/05/25							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBµV	dBµV/m	dB	dBµV/m			
Horizontal								
Peak Detector:								
4874.000	-3.770	48.440	44.670	-29.330	74.000			
7311.000	-0.719	45.350	44.632	-29.368	74.000			
9748.000	1.331	44.300	45.631	-28.369	74.000			
Average Detector:								
					54.000			
Vertical								
Peak Detector:								
4874.000	-3.770	46.970	43.200	-30.800	74.000			
7311.000	-0.719	45.230	44.512	-29.488	74.000			
9748.000	1.331	44.880	46.211	-27.789	74.000			
Average Detector:								
					54.000			

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	: Logistic Monitoring Gateway						
Test Item	: Harmonic Radiated Emission Data						
Test Mode	: Mode 2:	: Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)					
Test Date	: 2017/05	/25					
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$		
Horizontal							
Peak Detector:							
4924.000	-3.743	50.280	46.537	-27.463	74.000		
7386.000	-0.683	44.430	43.747	-30.253	74.000		
9848.000	1.571	43.660	45.231	-28.769	74.000		
Average Detector:							
					54.000		
Vertical							
Peak Detector:							
4924.000	-3.743	48.120	44.377	-29.623	74.000		
7386.000	-0.683	44.340	43.657	-30.343	74.000		
9848.000	1.571	43.230	44.801	-29.199	74.000		
Average Detector:							
					54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	: Logistic Monitoring Gateway				
Test Item	: Harmoni	c Radiated Emiss	sion Data		
Test Mode	: Mode 3:	Transmit (802.11	n MCS0 7.2Mbps 20	M-BW)(2412MH	Iz)
Test Date	: 2017/05/	25			
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$
Horizontal					
Peak Detector:					
4824.000	-3.785	48.150	44.366	-29.634	74.000
7236.000	-0.753	45.030	44.276	-29.724	74.000
9648.000	1.186	43.170	44.356	-29.644	74.000
Average Detector:					
					54.000
Vertical					
Peak Detector:					
4824.000	-3.785	46.490	42.706	-31.294	74.000
7236.000	-0.753	45.230	44.476	-29.524	74.000
9648.000	1.186	43.680	44.866	-29.134	74.000
Average Detector:					
					54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: Logistic Monitoring Gateway					
Test Item	: Harmonic Radiated Emission Data					
Test Mode	: Mode 3: 7	Transmit (802.11r	n MCS0 7.2Mbps 20N	И-BW) (2437 MH	łz)	
Test Date	: 2017/05/2	25				
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$	
Horizontal						
Peak Detector:						
4874.000	-3.770	47.770	44.000	-30.000	74.000	
7311.000	-0.719	54.660	53.942	-20.058	74.000	
9748.000	1.331	44.350	45.681	-28.319	74.000	
Average Detector:						
					54.000	
Vertical						
Peak Detector:						
4874.000	-3.770	45.800	42.030	-31.970	74.000	
7311.000	-0.719	48.050	47.332	-26.668	74.000	
9748.000	1.331	44.360	45.691	-28.309	74.000	
Average Detector:						
					54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	: Logistic M	Logistic Monitoring Gateway					
Test Item	: Harmonic	Harmonic Radiated Emission Data					
Test Mode	: Mode 3: Tr	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)					
Test Date	: 2017/05/25	5					
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$		
Horizontal							
Peak Detector:							
4924.000	-3.743	49.280	45.537	-28.463	74.000		
7386.000	-0.683	44.500	43.817	-30.183	74.000		
9848.000	1.571	43.450	45.021	-28.979	74.000		
Average Detector:							
					54.000		
Vertical							
Peak Detector:							
4924.000	-3.743	47.980	44.237	-29.763	74.000		
7386.000	-0.683	44.610	43.927	-30.073	74.000		
9848.000	1.571	43.930	45.501	-28.499	74.000		
Average Detector:							
					54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product	:	Logistic Monitoring Gateway
Test Item	:	General Radiated Emission Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)
Test Date	:	2017/05/24
Test Item Test Mode Test Date	:	General Radiated Emission Data Mode 1: Transmit (802.11b 1Mbps)(2437 MF 2017/05/24

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	$dB\mu V/m$
Horizontal					
201.690	-13.581	45.417	31.835	-11.665	43.500
239.520	-12.068	46.340	34.272	-11.728	46.000
312.270	-9.808	46.810	37.001	-8.999	46.000
359.800	-8.701	40.354	31.653	-14.347	46.000
600.360	-3.330	33.857	30.526	-15.474	46.000
731.310	-1.495	39.154	37.659	-8.341	46.000
Vertical					
170.650	-11.131	35.091	23.960	-19.540	43.500
312.270	-9.808	37.046	27.237	-18.763	46.000
359.800	-8.701	38.676	29.975	-16.025	46.000
600.360	-3.330	34.100	30.769	-15.231	46.000
746.830	-1.286	38.592	37.306	-8.694	46.000
885.540	0.366	30.697	31.062	-14.938	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.



Product	: Logistic Monitoring Gateway					
Test Item	: General Radiated Emission Data					
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps)(2437 MHz	z)		
Test Date	: 2017/05	/24				
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBµV	dBµV/m	dB	dBµV/m	
Horizontal						
171.620	-11.262	34.435	23.173	-20.327	43.500	
237.580	-12.185	46.839	34.654	-11.346	46.000	
312.270	-9.808	45.746	35.937	-10.063	46.000	
360.770	-8.674	40.551	31.876	-14.124	46.000	
551.860	-4.490	32.966	28.477	-17.523	46.000	
858.380	0.041	29.996	30.036	-15.964	46.000	
Vertical						
110.510	-14.117	38.422	24.305	-19.195	43.500	
232.730	-12.489	37.709	25.220	-20.780	46.000	
359.800	-8.701	38.928	30.227	-15.773	46.000	
729.370	-1.521	40.837	39.316	-6.684	46.000	
745.860	-1.299	38.281	36.981	-9.019	46.000	
886.510	0.378	33.709	34.087	-11.913	46.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.



Product Test Item Test Mode Test Date	 Logistic Monitoring Gateway General Radiated Emission Data Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) 2017/05/24 				
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
170.650	-11.131	34.090	22.959	-20.541	43.500
235.640	-12.306	47.012	34.705	-11.295	46.000
312.270	-9.808	45.582	35.773	-10.227	46.000
600.360	-3.330	34.529	31.198	-14.802	46.000
729.370	-1.521	40.952	39.431	-6.569	46.000
744.890	-1.313	41.157	39.844	-6.156	46.000
Vertical					
168.710	-10.973	34.309	23.336	-20.164	43.500
238.550	-12.124	37.671	25.547	-20.453	46.000
312.270	-9.808	36.136	26.327	-19.673	46.000
359.800	-8.701	39.981	31.280	-14.720	46.000
730.340	-1.507	36.254	34.747	-11.253	46.000
943.740	1.010	29.932	30.943	-15.057	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

5. **RF** antenna conducted test

5.1. Test Setup

RF antenna Conducted Measurement:



5.2. Limits

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

5.3. Test Procedure

The EUT was tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.4. Uncertainty

±1.23dB

5.5. Test Result of RF antenna conducted test

Product	:	Logistic Monitoring Gateway
Test Item	:	RF antenna conducted test
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
Test Date	:	2017/05/23

Channel 01 (2412MHz)



Channel 06 (2437MHz)





Note: The above test pattern is synthesized by multiple of the frequency range.



Product	:	Logistic Monitoring Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)
Test Date	:	2017/05/23

Channel 01 (2412MHz)







Channel 11 (2462MHz)



Note: The above test pattern is synthesized by multiple of the frequency range.



Product	:	Logistic Monitoring Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
Test Date	:	2017/05/23

Channel 01 (2412MHz)







Channel 11 (2462MHz)



Note: The above test pattern is synthesized by multiple of the frequency range.



6. Band Edge

6.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:

Above 1GHz



6.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

6.4. Uncertainty

Conducted: ±1.23dB Radiated: Horizontal polarization : 1-18GHz: ±3.77dB Vertical polarization : 1-18GHz : ±3.83dB

6.5. **Test Result of Band Edge**

Product	:	Logistic Monitoring Gateway
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)
Test Date	:	2017/05/25

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	(dBµV/m)	$(dB\mu V/m)$	Result
01 (Peak)	2390.000	11.556	47.172	58.728	74.00	54.00	Pass
01 (Peak)	2397.681	11.574	68.779	80.353			
01 (Peak)	2400.000	11.579	64.321	75.900			
01 (Peak)	2410.580	11.604	93.069	104.673			
01 (Average)	2389.130	11.553	39.353	50.907	74.00	54.00	Pass
01 (Average)	2390.000	11.556	39.274	50.830	74.00	54.00	Pass
01 (Average)	2398.406	11.575	64.214	75.789			
01 (Average)	2400.000	11.579	59.261	70.840			
01 (Average)	2411.304	11.605	88.751	100.357			

Figure Channel 01:



Figure Channel 01:

Horizontal (Average)



All readings above 1GHz are performed with peak and/or average measurements as necessary. Note:1.

- Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto. 2.
- Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. 3.
- "*", means this data is the worst emission level. 4.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product Logistic Monitoring Gateway :
- Test Item Band Edge Data :
- Test Mode Mode 1: Transmit (802.11b 1Mbps) (2412MHz) :
- Test Date 2017/05/25 •

RF Radiated Measurement (VERTICAL):

Channel No	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Regult
Channel No.	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
01 (Peak)	2373.768	11.507	52.018	63.525	74.00	54.00	Pass
01 (Peak)	2390.000	11.556	46.896	58.452	74.00	54.00	Pass
01 (Peak)	2396.812	11.571	69.294	80.866			
01 (Peak)	2400.000	11.579	64.077	75.656			
01 (Peak)	2410.725	11.605	93.012	104.617			
01 (Average)	2385.072	11.543	40.240	51.784	74.00	54.00	Pass
01 (Average)	2390.000	11.556	38.962	50.518	74.00	54.00	Pass
01 (Average)	2398.116	11.574	63.874	75.449			
01 (Average)	2400.000	11.579	58.930	70.509			
01 (Average)	2411.304	11.605	88.385	99.991			







VERTICAL (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.

- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- "*", means this data is the worst emission level. 4.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average 6. detection.



Product	:	Logistic Monitoring Gateway
Test Item	:	Band Edge Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
Test Date	:	2017/05/25

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Peak Limit (dBµV/m)	Average Limit (dBµV/m)	Result
11 (Peak)	2463.355	11.747	91.613	103.360			
11 (Peak)	2483.500	11.800	48.884	60.684	74.00	54.00	Pass
11 (Average)	2461.181	11.741	87.324	99.064			
11 (Average)	2483.500	11.800	40.470	52.270	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)





Horizontal (Average)



- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
11 (Peak)	2460.891	11.739	93.222	104.962			
11 (Peak)	2483.500	11.800	49.122	60.922	74.00	54.00	Pass
11 (Average)	2461.181	11.741	88.939	100.679			
11 (Average)	2483.500	11.800	40.167	51.967	74.00	54.00	Pass

Figure Channel 11:

VERTICAL (Peak)



Figure Channel 11:

VERTICAL (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.

- 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



Product	:	Logistic Monitoring Gateway
Test Item	:	Band Edge Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2017/05/25

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
01 (Peak)	2389.710	11.555	51.917	63.472	74.00	54.00	Pass
01 (Peak)	2390.000	11.556	50.381	61.937	74.00	54.00	Pass
01 (Peak)	2400.000	11.579	68.806	80.385			
01 (Peak)	2415.507	11.616	91.319	102.935			
01 (Average)	2390.000	11.556	33.876	45.432	74.00	54.00	Pass
01 (Average)	2400.000	11.579	46.189	57.768			
01 (Average)	2419.275	11.625	74.236	85.861			





- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product Logistic Monitoring Gateway :
- Test Item Band Edge Data :
- Test Mode Mode 2: Transmit (802.11g 6Mbps) (2412MHz) :
- Test Date 2017/05/25 :

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
01 (Peak)	2389.855	11.556	53.440	64.995	74.00	54.00	Pass
01 (Peak)	2390.000	11.556	51.828	63.384	74.00	54.00	Pass
01 (Peak)	2400.000	11.579	71.086	82.665			
01 (Peak)	2415.507	11.616	93.858	105.474			
01 (Average)	2390.000	11.556	35.117	46.673	74.00	54.00	Pass
01 (Average)	2400.000	11.579	48.121	59.700			
01 (Average)	2419.275	11.625	76.370	87.995			

Figure Channel 01:

VERTICAL (Peak)



Figure Channel 01:

VERTICAL (Average)



- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
 - 2.
 - Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. 3.
 - "*", means this data is the worst emission level. 4.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	(dBµV/m)	$(dB\mu V/m)$	Result
11 (Peak)	2454.659	11.721	90.835	102.556			
11 (Peak)	2483.500	11.800	60.709	72.509	74.00	54.00	Pass
11 (Average)	2454.514	11.720	74.046	85.766			
11 (Average)	2483.500	11.800	36.339	48.139	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)





- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
11 (Peak)	2468.138	11.761	90.552	102.313			
11 (Peak)	2483.500	11.800	60.134	71.934	74.00	54.00	Pass
11 (Peak)	2483.790	11.800	60.296	72.096	74.00	54.00	Pass
11 (Average)	2469.152	11.763	73.385	85.149			
11 (Average)	2483.500	11.800	36.082	47.882	74.00	54.00	Pass

Figure Channel 11:

VERTICAL (Peak)



Figure Channel 11:

VERTICAL (Average)



- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product Logistic Monitoring Gateway :
- Test Item : Band Edge Data
- Test Mode Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) :
- Test Date 2017/05/25 :

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	$(dB\mu V/m)$	Result
01 (Peak)	2389.420	11.554	52.709	64.263	74.00	54.00	Pass
01 (Peak)	2390.000	11.556	49.629	61.185	74.00	54.00	Pass
01 (Peak)	2400.000	11.579	70.227	81.806			
01 (Peak)	2406.667	11.595	90.175	101.770			
01 (Average)	2390.000	11.556	33.263	44.819	74.00	54.00	Pass
01 (Average)	2400.000	11.579	45.124	56.703			
01 (Average)	2416.232	11.617	73.755	85.373			





- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto. 2.
 - Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. 3.
 - "*", means this data is the worst emission level. 4.

 - 5. Measurement Level = Reading Level + Correct Factor.
 - The average measurement was not performed when the peak measured data under the limit of average 6. detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	$(dB\mu V/m)$	Result
01 (Peak)	2389.130	11.553	52.934	64.488	74.00	54.00	Pass
01 (Peak)	2390.000	11.556	52.215	63.771	74.00	54.00	Pass
01 (Peak)	2400.000	11.579	71.867	83.446			
01 (Peak)	2417.826	11.622	92.837	104.459			
01 (Average)	2390.000	11.556	33.852	45.408	74.00	54.00	Pass
01 (Average)	2400.000	11.579	45.913	57.492			
01 (Average)	2419.275	11.625	76.018	87.643			

Figure Channel 01:

VERTICAL (Peak)



Figure Channel 01:

VERTICAL (Average)



- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
Channel No.	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	$(dB\mu V/m)$	Result
11 (Peak)	2454.659	11.721	89.942	101.663			
11 (Peak)	2483.500	11.800	55.520	67.320	74.00	54.00	Pass
11 (Peak)	2483.935	11.801	58.692	70.493	74.00	54.00	Pass
11 (Average)	2454.080	11.719	73.286	85.005			
11 (Average)	2483.500	11.800	34.829	46.629	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)



Figure Channel 11:





- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 - 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
 - 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 - 4. "*", means this data is the worst emission level.
 - 5. Measurement Level = Reading Level + Correct Factor.
 - 6. The average measurement was not performed when the peak measured data under the limit of average detection.



- Product : Logistic Monitoring Gateway
- Test Item : Band Edge Data
- Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)
- Test Date : 2017/05/25

RF Radiated Measurement (VERTICAL):

Channal No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
11 (Peak)	2458.717	11.733	87.615	99.348			
11 (Peak)	2483.500	11.800	55.318	67.118	74.00	54.00	Pass
11 (Average)	2455.384	11.723	71.809	83.532			
11 (Average)	2483.500	11.800	32.506	44.306	74.00	54.00	Pass

Figure Channel 11:

VERTICAL (Peak)



Figure Channel 11:

VERTICAL (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.

- 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

The EUT was setup according to ANSI C63.4: 2014; tested according to DTS test procedure of Jan KDB558074 for compliance to FCC 47CFR 15.247 requirements.

7.4. Uncertainty

± 279.2Hz

7.5. Test Result of 6dB Bandwidth

Product	:	Logistic Monitoring Gateway
Test Item	:	6dB Bandwidth Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
Test Date	:	2017/05/23

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	10200	>500	Pass
06	2437	10200	>500	Pass
11	2462	10200	>500	Pass

Spectr	um							E
Ref Le	vel	20.50 dE	Sm Offset ().50 dB 🖷	RBW 100 kHz			(-
Att		30	dB SWT	1.1 ms 👄	VBW 300 kHz	Mode Sweep		
●1Pk Vie	W							
10 dBm-						M1[1]		7.42 dBn 2.4134990 GH: -0.10 dBn
		1 1 400	dDee		MR, Meller	Mullin M3		2.4069000 GH
0 dBm—	=	1 1.420		N ²	V V	(h		
-10 dBm				WW	V	Vu		
				J			4	
-20 dBm-	+		MMU P	W			My pym	hav
-30 dBm	_	Al	w r cal		_		- W/-	14.
40 dBm		JU V					v	M M M
-50 dBm	V.							- VWV
-60 dBm	_				_			
-70 dBm	+							
CF 2.41	2 GH	Iz			1001	pts		Span 50.0 MHz
Marker								
Type	Ref	Trc	X-value	.	Y-value	Function	Fun	ction Result
M1		1	2.413499 GHz		7.42 dBn	1		
M2		1	2.40	69 GHz	-0.10 dBn	1		
113	-		2.71	1 202	5.15 Ubi		the second s	23.05.2017
								ages -

Figure Channel 01:

Date: 23.MAY.2017 20:19:50



Figure Channel 06:



Date: 23.MAY.2017 20:24:05

Figure Channel 11:

Spect	rum			0						H ∨
Ref L	evel 2	20.50 dB 30 d	m Offset 0.50	ms e VB	₩ 100 kH ₩ 300 kH	iz iz	Mode Sweep			
1Pk Vi	iew									
10 dBm	_					M	M1[1] M2[1]		2.46	6.16 dBn 534990 GH: -1.78 dBn 569000 GH:
0 dBm		0.160	dBm	MPA	puller a l	¥-	- CM M3	1	2.10	
-10 dBm	n			Mun		-	- Vila			-
-20 dBn	n		. w	Υ –		-	- Y	wh		
-30 dBr	n+	1	Mar M			┢		Wrun	hay .	
-40 dBr	n	N				-			My.	
450 dBr	non	<u>}</u>				-			- 7	Mary
-60 dBm	n					\vdash				
-70 dBm	-					\vdash				
CF 2.4	62 GH	z			100	l pts			Spar	1 50.0 MHz
Marker										
Туре	Ref	Trc	X-value	1	-value	-	Function	Fund	tion Resul	t
M1		1	2.463499	aHz	6.16 dB	3m				
M2 M3		1	2.4569	GHz	-1.78 dt	3m				
		1					Measuring		444	25.05.2017

Date: 25.MAY.2017 20:07:06



Product	:	Logistic Monitoring Gateway
Test Item	:	6dB Bandwidth Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)
Test Date	:	2017/05/23

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16400	>500	Pass
06	2437	16400	>500	Pass
11	2462	16400	>500	Pass

Figure Channel 01:

Att	3461	20.30 u 30	dB SWT	1.1 ms 🖷	VBW 300 kHz	Mode Sweep		
1Pk Vi	ew							
						M1[1]		1.36 dBr
10 dBm-	_		_			Malil		2.4194930 GH
						M2[1]	1	2.4038000 GH
0 dBm—	+			M21.1		1 I det de	vi 3	+ +
1000000	-D	1 -4.64	0 dBm	Townall	and a second	dial and a second and a second and	4	
-10 dBm	+		-		- V			
00 10-				1			1	
-20 aBm				M			W	
-30 dBm			N^/	ป			our mat	
			LUS MAN				May	hi
-40 dBg	NH W	Mathanalah	Melladia .	-	-			Calvaswill alla the state of th
wyme.	×							- www.yly
-50 dBm	+							
60 d0-								
-60 aBM								
-70 dBm								
-/0 0011	` I.							
CF 2.4	12 GF	łz			1001 p	ts		Span 50.0 MHz
Marker								
Type	Ref	Trc	X-valu	ie	Y-value	Function	Fu	nction Result
M1		1	2.419493 GHz		1.36 dBm			
M2		1	2.4	038 GHz	-5.28 dBm			
M3		1	2.4	202 GHz	-5.05 dBm			

Date: 23.MAY.2017 20:32:14



Figure Channel 06:

Spect	rum									
Ref L	evel	20.50 d 30	Bm Offset 0.50 dB SWT 1.1		₩ 100 kHz	Mode	Sween			
• 1Pk Vi	ew	6.00								
10 dBm	_					M	11[1]		2.44	1.20 dBn 44930 GH -5.20 dBn
0 dBm-	_		,	121 1			1 1. M3	-	2.42	88000 GH
-10 dBn		1 -4.80	0 dBm	Manharine	Martindhay pe	بعاميماصل	your the most			
-20 dBn				1			1	e		
-30 dBn	-+		week way all					www.llwoolla		
-40 dBp	inner	Marcontel	Har					-1010	Witness Minister	way would
-50 dBn	-+-									.44
-60 dBn	- +									
-70 dBn	- +									
CF 2.4	37 GF	łz			1001 p	ots			Span	50.0 MHz
Marker		1 - 1				1 -		-		
Type	Ref	1	2 444402 (2H7	1 20 dpm	Fund		Fun	ction Result	
M2		1	2.4288 (SHZ	-5.20 dBm					
M3		1	2.4452 (GHz	-5.23 dBm					
		J) Ne	suring		1444	3.05.2017

Date: 23.MAY.2017 20:36:02

Figure Channel 11:

Spect	rum										
Ref Le	evel	20.50 d	Bm Offset	0.50 dB 👄	RBW 100	KHZ	Mode	Sween			
1Pk Vi	ew	50	00 0111	1.1 115	1011 3001	ST IE	Houe	Sweep			
							M	11[1]		2.40	0.61 dBm 694930 GHz
10 dBm-							M	12[1] M1		2.4	-5.99 dBm
0 dBm—		1 5 20	0 dBm	M2	where berland		whethe	Juntur M3		1	
-10 dBm		1 -5.39	0 dBm			-V-				-	
-20 dBm	-			- And	_	_		<u>ک</u>	1		
-30 dBm	-		whenhow	M		-			wind		+
-40 dBm		and an a bille	sall all and a	_		_			alload	Muntur	<u> </u>
ላØለሌለት -50 dBm	Mullin.	WH IN OWN								- 18 WA	May any bring b
-60 dBm	-					_					
-70 dBm	+					+					
CF 2.46	52 GH	łz			10	01 pt:	5			Spar	n 50.0 MHz
Marker	0-6	1 7	×	- 1		- 1			F		
M1	Ref	1	2 469493 CH2		T-Value	dBm	Fund	tion	Fun	ction Resul	t
M2		1	2.4	538 GHz	-5.99	dBm					
MЗ		1	2.4	702 GHz	-5.82	dBm					
M3			2.4	702 GHz	-5.82	dBm) Mea	asuring		140	23.05.2017

Date: 23.MAY.2017 20:41:27



Product	:	Logistic Monitoring Gateway
Test Item	:	6dB Bandwidth Data
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
Test Date	:	2017/05/23

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17650	>500	Pass
06	2437	17700	>500	Pass
11	2462	17700	>500	Pass

Figure Channel 01:

Att		30	dB SWT	1.1 ms 👄	VBW 300 kHz	Mode Swee	эp		
●1Pk Vi	iew				24 A.				
						M1[1]			0.26 dBn
10 dBm	_		_	_		MOLI		2.41	-6 02 dBa
						M2[1]	M1	2.40	32000 GH
0 dBm-	-		_	M2 1 1			Tunt		02000 am
	-	D1 -5.74	0 dBm	Tanalined	man Courses of the	والمع المعطامة والمعالم	what 3	_	
-10 dBn	n-+				- ¥				
22				1	T T				
-20 dBn	0-			A.			M		
20 48 6			الما	NO			w		
-30 ubii			INANAI				"Uny	(Xa.)	
-40 dBa	, ul	toto Muhal	Mun	_				Mul	
MUNIN	Jame -	s fabitets : 1001			1			2 of Delay of Delay	Mounthrough
-50 dBn	n								.16
-60 dBn	n-+								
70 d0 a									1
-/0 ubii	"								
CE 2 4	12.0	47			1001 m	te		Span	50.0 MHz
Jarker	12 0	112			1001 p			opun	00.0 1/11/2
Tyne	Ref	Trel	X-val	ue	Y-value	Eunction	I F	unction Result	
M1		1	2.419	9493 GHz	0.26 dBm	- i unotion		anotion nosuit	
M2		1	2.4	4032 GHz	-6.02 dBm				
M3		1	2.42	2085 GHz	-7.59 dBm				

Date: 23.MAY.2017 20:45:14



Ref L	evel	20.50	dBm 1 dB	Offse	t 0.50 d	B 🖷 I	RBW	100 kH	Hz Hz M	Mode	Sween						
• 1Pk Vi	iew									loue	oncop						
										M	11[1]					2.44	0.22 dB 44930 GI
10 dBm							1		1	M	12[1] M1					2 42	-7.81 dB
0 dBm-					Ma	hallo	Jul	uh la	l.	halu	dea le colo	МЗ				2.12	01000 0
-10 dBm	n	01 -5.7		m			-	an alter and	Harac			1					
-20 dBn	n		-		- Job		\vdash		-			k					
-30 dBm	n		-	un proper	NW		-		-				anymal	U.A.A.			
-40 dBn դետաՊW	- mur	hundfinder	had	V ^{ru} *	-		\vdash		\vdash					in	Wanty	Wilhing	Manghan
-50 dBm	∩-+		+				+		-		<u> </u>						
-60 dBm	n		-		_		-		-								
-70 dBm	n		+				+		-								
CF 2.4	37 G	Hz						100	1 pts							Span	50.0 MH
Marker																	
Туре	Ref	Trc		X-va	lue	_	Y-1	value		Fund	tion			Func	tion R	lesult	
M1		1		2.44	14493 GH	z		0.22 d	Bm								
M2 M3		1		2.4	+2815 GH +4585 GH	z z		7.81 d	Bm								

Figure Channel 06:

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Figure Channel 11:

Att		30	db SWT	1.1 ms 🖷	VBW 300 kHz	Mode Sweep				
1Pk Vi	ew		_			M1[1]		0.00 40-		
						MILI		2,4694930 GH		
10 dBm·	-		-	-	+ +	M2[1]		-8.61 dBr		
						M	1	2.4531500 GH		
0 dBm—	-			Ma Jul	1.1.1		. M3			
10 dBm	D	1 -6.3	30 dBm		to a log the property of the	THE DEPART OF A DAME OF A DEPARTMENT	aw -			
10 0011	1				Υ					
-20 dBm			_	- f						
				N			Thus .			
-30 dBm	-						WWW.			
10 10			MANN'				"Marth	s.6		
-40 aBm	unan	MUMUN	,NU					WSWALL		
-50 dBm								and the work of the second		
-60 dBm	+		-							
-/U aBm										
CF 2.46	52 GH	Iz			1001 pt	ts		Span 50.0 MHz		
1arker										
Туре	Ref	Trc	X-val	ue	Y-value	Function	Func	tion Result		
M1		1	2.469	9493 GHz	-0.33 dBm					
M3		1	2.43	7085 GHz	-8.05 dBm					

8. **Power Density**

8.1. Test Setup



8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.4. Uncertainty

 \pm 1.23 dB

8.5. Test Result of Power Density

Product	:	Logistic Monitoring Gateway
Test Item	:	Power Density Data
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
Test Date	:	2017/05/23

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	7.420	\leq 8dBm	Pass
06	2437	7.160	\leq 8dBm	Pass
11	2462	6.060	≤ 8 dBm	Pass

IFK VIEW			M1[1]			7 42 dBr
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		2.41	29940 GH
10 dBm		0.0 4.0			-	
1 dBm Mm	runnun	mmm	1000 contract	mannen	when	
and r		1	N I		122	man
10 dBm					- W	- M
-20 dBm-						
-30 dBm						
-40 dBm						
-50 dBm						
-60 dBm						<u> </u>
-70 dBm						
CF 2.412 GHz		100:	L pts		Spar	15.3 MHz

Figure Channel 01:





Figure Channel 06:

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Figure Channel 11:



Product	:	Logistic Monitoring Gateway
Test Item		Down Dongity Data

lest Item	:	Power Density Data
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)
Test Date	:	2017/05/23

est Date	:	2017/05/2

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
01	2412	1.350	\leq 8dBm	Pass
06	2437	1.190	\leq 8dBm	Pass
11	2462	0.640	\leq 8dBm	Pass

Figure Channel 01:

1Pk View		20 No.				
				M1[1]	2.41	1.35 dBn 94960 GH
0 dBm						
I dBm	Maulion	hundraulus	where were	unduralment	pollinen my	
10 dBm						
20 dBm					hun	
5646Bm						www
40 dBm						
50 dBm						
50 dBm						
70 dBm						
F 2.412 GHz			1001 pts		Span	24.6 MHz



Figure Channel 06:

THK VIEW				
			M1[1]	1.19 dBm 2.4444960 GHz
10 dBm				M1
0 dBm	Montenantina	Manformburg	mantenantenporture	montaining
-10 dBm				
-20 dBm				www.
VSO UBm				white
-40 dBm				
-50 dBm				
-60 dBm				
-70 dBm				
CE 2 427 CH2		1001	nte	Span 24.6 MHz

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Figure Channel 11:

Att	30 dB	SWT	1 ms 🖷	VBW 300 ki	Hz Mode 9	Sweep			
TPK VIEW					м	1[1]		2.46	0.64 dBn 94960 GH
10 dBm	3						N	11	
0 dBm	لىر	mulan	mann	marthur	mentand	Invalan	monthan	luy	
-10 dBm	_f_	50 - 51, - 68946.9			Ψ				
-20 dBm	sol .							have	Lin .
136 UBm									W from any 1
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.462 GH	Iz			100	1 pts			Span	24.6 MHz



Product	:	Logistic Monitoring Gateway
Test Item	:	Power Density Data
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
Test Date	:	2017/05/23

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result	
01	2412	0.330	\leq 8dBm	Pass	
06	2437	0.200	\leq 8dBm	Pass	
11	2462	-0.350	\leq 8dBm	Pass	



			M1[1]		0.33 dBr
LO dBm				+ +	2.4194845 GH
) dBm	monten	matronante	Jues work and market	M1	
10 dBm					
20 dBm	Å				hy me
allinger the second					Why Marty
40 dBm					
50 dBm					
60 dBm					
70 dBm					

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Figure Channel 06:

1Pk View	30 GB	SWI	1 ms 🖷 V	BW 300 KH	z Mode Sv	veep			
					M1	[1]	12	2.444	0.20 dBn 5060 GH
10 dBm									
0 dBm		No. An.	Andan	۸ ۱	. A N		M1 V		
-10 dBm		er or allow longly	an a change and an	whomenan	t when which we	and Ground Grad	N UPP - MAUNY	$\left\{ - \right\}$	
-20 dBm	No.							Y.	
-39, slart								'n	What
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CE 2 427 CH	7			1001	nte			Snan 2	5 55 MU2

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9. EMI Reduction Method During Compliance Testing

No modification was made during testing.



Attachment 1: EUT Test Photographs



Attachment 2: EUT Detailed Photographs