FCC Test Report

Equipment	:	**SUBGIGA RFID READER**
Brand Name	:	**DIGI**
Model No.	:	**NF-02**
FCC ID	:	**SUFUHFNF02**
Standard	:	**47 CFR FCC Part 15.247**
Operating Band	:	**902-928 MHz**
FCC Classification	:	**DSS**
Applicant	:	**Teraoka Weigh System Pte Ltd** **4 Leng Kee Rd, #05-03/04/05&11, SIS Building,** **Singapore 159088**

The product sample received on Oct. 12, 2015 and completely tested on Nov. 09, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Reviewed by:

James Fan / Assistant Manager

Testing Laboratory
1190

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Summary of Test Result

Conformance Test Specifications					
Report Clause	**Ref. Std. 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]: 0.4761190MHz 31.55 (Margin 14.86dB) - AV 39.85 (Margin 16.56dB) - QP	FCC 15.207	Complied
3.2	15.247(a)	20dB Bandwidth	158.70 kHz	N/A	Complied
3.2	15.247(a)	Carrier Frequency Separation (ChS)	500 kHz	ChS ≥ BW_{20dB}	Complied
3.3	15.247(a)	Number of Hopping Frequencies (N)	50	N ≥ 50	Complied
3.4	15.247(a)	Time of Occupancy (Dwell Time)	0.2072 sec	0.4 s within a 20s period	Complied
3.5	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm] 26.13	Power [dBm] 30	Complied
3.6	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
3.7	15.247(d)	Transmitter Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 8345.25MHz 51.24 (Margin 2.76dB) - AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR5O1328	Rev. 01	Initial issue of report	Nov. 25, 2015

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information					
Frequency Range (MHz)	**Modulation**	**Ch. Frequency (MHz)**	**Ch. Space**	**Channel Number**	**RF Output Power (dBm)**
902-928	PR-ASK	902.75-927.25	500 kHz	50	26.13
Note 1: RF output power specifies that Maximum Peak Conducted Output Power.					

1.1.2 Antenna Information

Antenna Category	
☒	Integral 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.
☐	External antenna (dedicated antennas)
☐	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.	**Ant. Cat.**	**Ant. Type**	**Connector**	**Gain (dBi)**
1	Integral	PCB	No Connector	2.86

1.1.3 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☐ Operated normally mode for worst duty cycle	
☒ Operated test mode for worst duty cycle	
Test Signal Duty Cycle (x)	**Power Duty Factor [dB] – (10 log 1/x)**
☒ 56.11%	2.51

1.1.4 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	☐ Production ; ☒ Pre-Production ; ☐ Prototype
Type of EUT	
☒	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:

1.1.5 EUT Operational Condition

Power Supply Type	5Vdc from host via non-detachable USB cable (1.5m shielded w/o core.)

1.2 Support Equipment

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

1.3 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC Public Notice DA 00-705

1.4 Testing Location Information

Testing Location					
☒	HWA YA	ADD : No. 52, Hwa Ya 1st 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			
Test Condition		**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
RF Conducted		TH01-HY	Aaron Liang	24°C / 62%	Nov. 09, 2015
AC Conduction		CO04-HY	Skys Huang	21°C / 55%	Nov. 05, 2015
Radiated Emission		03CH09-HY	Mark Liao	20°C / 62%	Nov. 05, 2015
Test site registered number [213289] with FCC. Test site registered number [4086G-1] with IC.					

1.5 Measurement Uncertainty

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

Measurement Uncertainty			
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
All emissions, radiated	30 – 1000 MHz	±3.62 dB	N/A
	Above 1GHz	±5.60 dB	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				
Test Freqency	**Transmit Chains (N_{TX})**	**Data Rate**	**Modulation Mode**	**RF Output Power (dBm)**
902.75 MHz	1	256kbps	PR-ASK	26.05
915.25 MHz	1			25.53
927.25 MHz	1			**26.13**

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter			
Test Software Version / Instrument	---		
Modulation Mode	**902.75 MHz**	**915.25 MHz**	**927.25 MHz**
PR-ASK	-2	-5	-2

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
1	RFID Tx, USB linked to NB

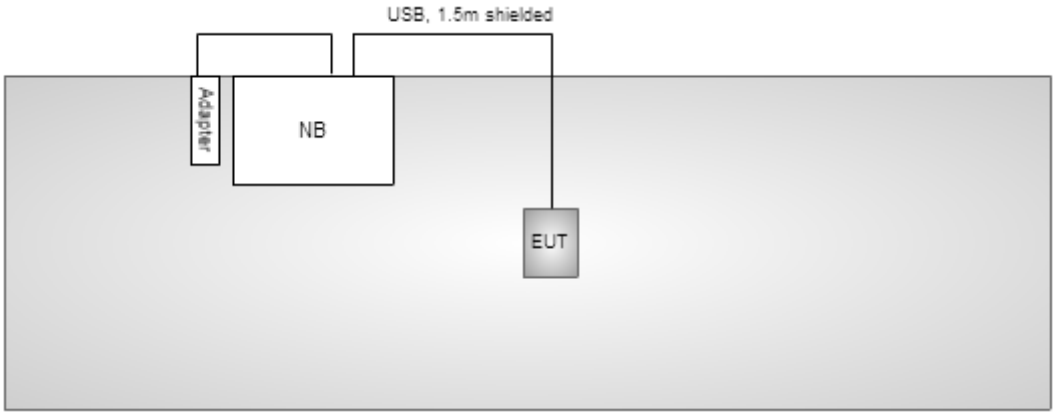
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power, 20dB Bandwidth, Carrier Frequency Separation (ChS)
Test Condition	Conducted measurement at transmit chains
Modulation Mode	PR-ASK
Test Frequency	902.75 MHz, 915.25 MHz, 927.25 MHz

The Worst Case Mode for Following Conformance Tests	
Tests Item	Number of Hopping Frequencies (N), Time of Occupancy (Dwell Time), Emissions in Non-Restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains
Modulation Mode	PR-ASK

The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is Y.		
	☐ EUT will be a battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes. The worst planes is Y.		
Operating Mode	☒ 1. RFID Tx, USB linked to NB		
Modulation Mode	PR-ASK		
Test Frequency	902.75 MHz, 915.25 MHz, 927.25 MHz		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			

2.4 Test Setup Diagram

Test Setup Diagram - Radiated Test



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

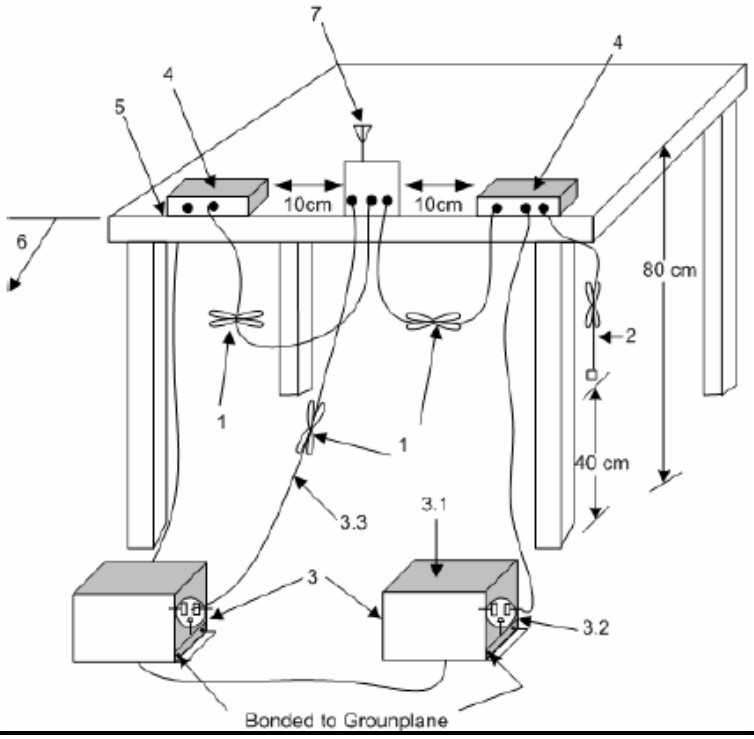
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

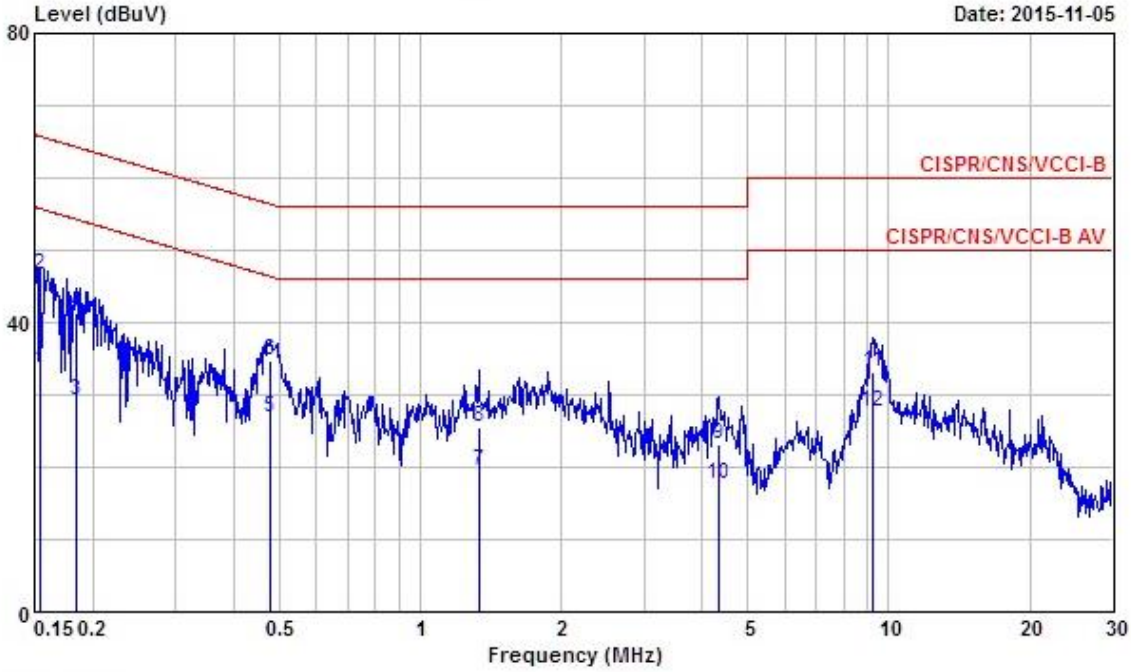
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

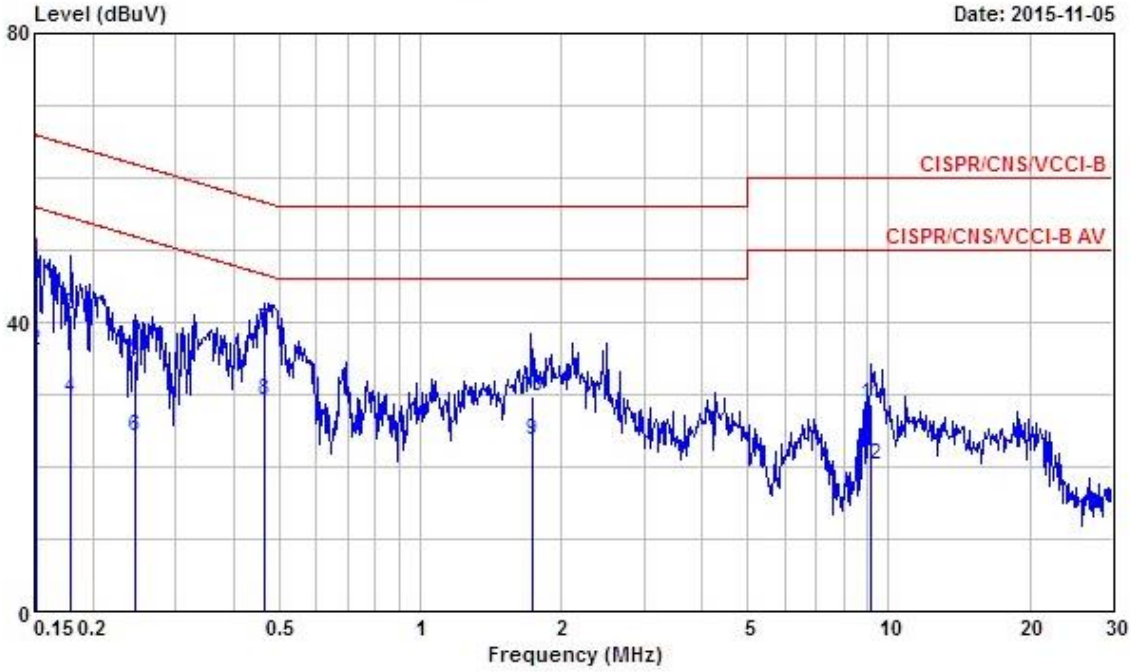
AC Power-line Conducted Emissions Result			
Test Freq.	902.75 MHz	**Power Phase**	Neutral
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	33.39	-22.39	55.78	33.10	0.07	0.22	Average
2	0.1540270	46.50	-19.28	65.78	46.21	0.07	0.22	QP
3	0.1844300	29.33	-24.95	54.28	28.98	0.07	0.28	Average
4	0.1844300	41.20	-23.08	64.28	40.85	0.07	0.28	QP
5	0.4786490	26.72	-19.64	46.36	26.55	0.07	0.10	Average
6	0.4786490	34.68	-21.68	56.36	34.51	0.07	0.10	QP
7	1.330	19.51	-26.49	46.00	19.24	0.09	0.18	Average
8	1.330	25.51	-30.49	56.00	25.24	0.09	0.18	QP
9	4.340	23.28	-32.72	56.00	23.03	0.14	0.11	QP
10	4.340	17.67	-28.33	46.00	17.42	0.14	0.11	Average
11	9.250	33.20	-26.80	60.00	32.78	0.23	0.19	QP
12	9.250	27.72	-22.28	50.00	27.30	0.23	0.19	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

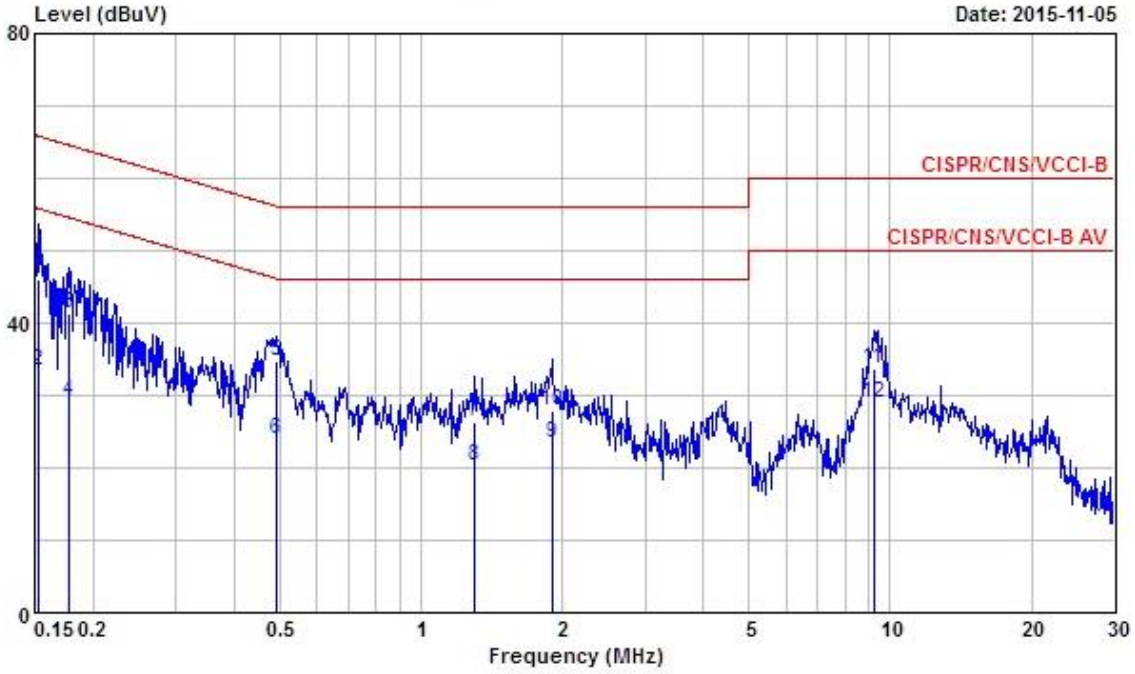
AC Power-line Conducted Emissions Result			
Operating Mode	902.75 MHz	**Power Phase**	Line
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1515980	48.63	-17.28	65.91	48.36	0.05	0.22	QP
2	0.1515980	35.94	-19.97	55.91	35.67	0.05	0.22	Average
3	0.1796080	41.10	-23.40	64.50	40.77	0.06	0.27	QP
4	0.1796080	29.42	-25.08	54.50	29.09	0.06	0.27	Average
5	0.2468240	34.69	-27.17	61.86	34.39	0.06	0.24	QP
6	0.2468240	24.20	-27.66	51.86	23.90	0.06	0.24	Average
7	@0.4661350	38.94	-17.64	56.58	38.77	0.07	0.10	QP
8	@0.4661350	29.12	-17.46	46.58	28.95	0.07	0.10	Average
9	1.730	23.77	-22.23	46.00	23.41	0.10	0.26	Average
10	1.730	29.70	-26.30	56.00	29.34	0.10	0.26	QP
11	9.160	28.63	-31.37	60.00	28.22	0.22	0.19	QP
12	9.160	20.20	-29.80	50.00	19.79	0.22	0.19	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

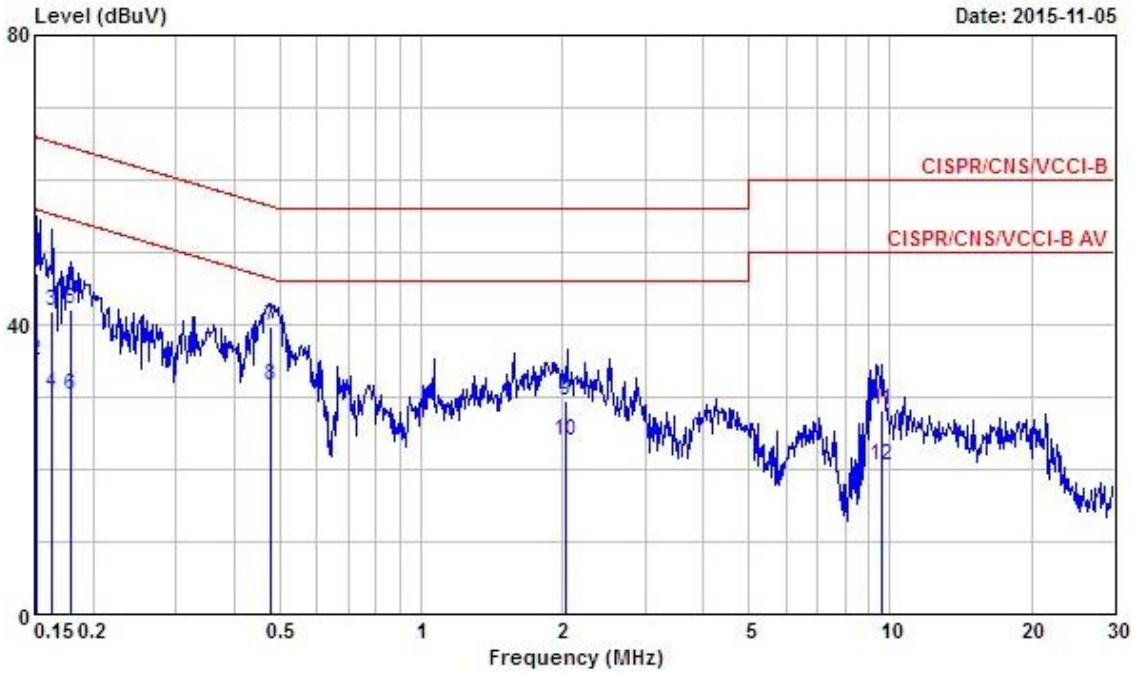
AC Power-line Conducted Emissions Result			
Test Freq.	915.25 MHz	**Power Phase**	Neutral
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1524030	46.16	-19.71	65.87	45.87	0.07	0.22	QP
2	0.1524030	33.29	-22.58	55.87	33.00	0.07	0.22	Average
3	0.1767760	41.30	-23.34	64.64	40.97	0.07	0.26	QP
4	0.1767760	29.11	-25.53	54.64	28.78	0.07	0.26	Average
5	0.4914980	34.63	-21.51	56.14	34.46	0.07	0.10	QP
6	0.4914980	24.08	-22.06	46.14	23.91	0.07	0.10	Average
7	1.300	26.24	-29.76	56.00	25.97	0.09	0.18	QP
8	1.300	20.14	-25.86	46.00	19.87	0.09	0.18	Average
9	1.900	23.30	-22.70	46.00	22.91	0.10	0.29	Average
10	1.900	27.93	-28.07	56.00	27.54	0.10	0.29	QP
11	9.200	33.70	-26.30	60.00	33.28	0.23	0.19	QP
12	9.200	28.85	-21.15	50.00	28.43	0.23	0.19	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

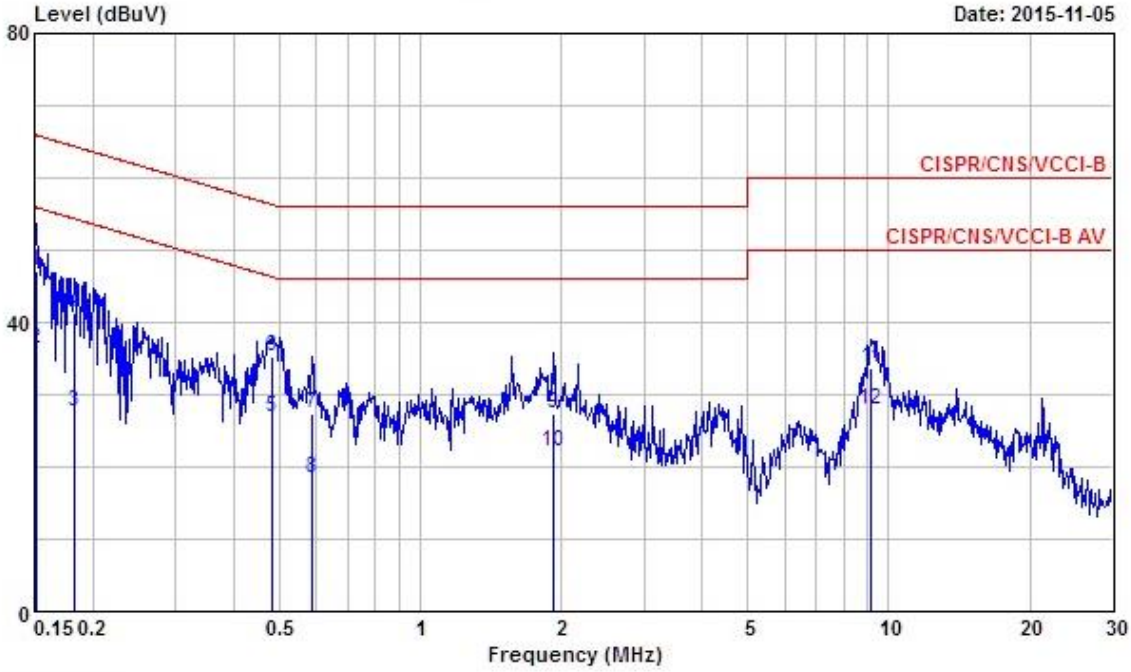
AC Power-line Conducted Emissions Result			
Operating Mode	915.25 MHz	**Power Phase**	Line
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1515980	47.23	-18.68	65.91	46.96	0.05	0.22	QP
2	0.1515980	35.10	-20.81	55.91	34.83	0.05	0.22	Average
3	0.1632710	41.94	-23.36	65.30	41.65	0.05	0.24	QP
4	0.1632710	30.50	-24.80	55.30	30.21	0.05	0.24	Average
5	0.1796080	42.22	-22.28	64.50	41.89	0.06	0.27	QP
6	0.1796080	30.17	-24.33	54.50	29.84	0.06	0.27	Average
7	@0.4761190	39.85	-16.56	56.41	39.68	0.07	0.10	QP
8	@0.4761190	31.55	-14.86	46.41	31.38	0.07	0.10	Average
9	2.040	29.38	-26.62	56.00	28.99	0.10	0.29	QP
10	2.040	24.07	-21.93	46.00	23.68	0.10	0.29	Average
11	9.600	28.17	-31.83	60.00	27.74	0.23	0.20	QP
12	9.600	20.57	-29.43	50.00	20.14	0.23	0.20	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

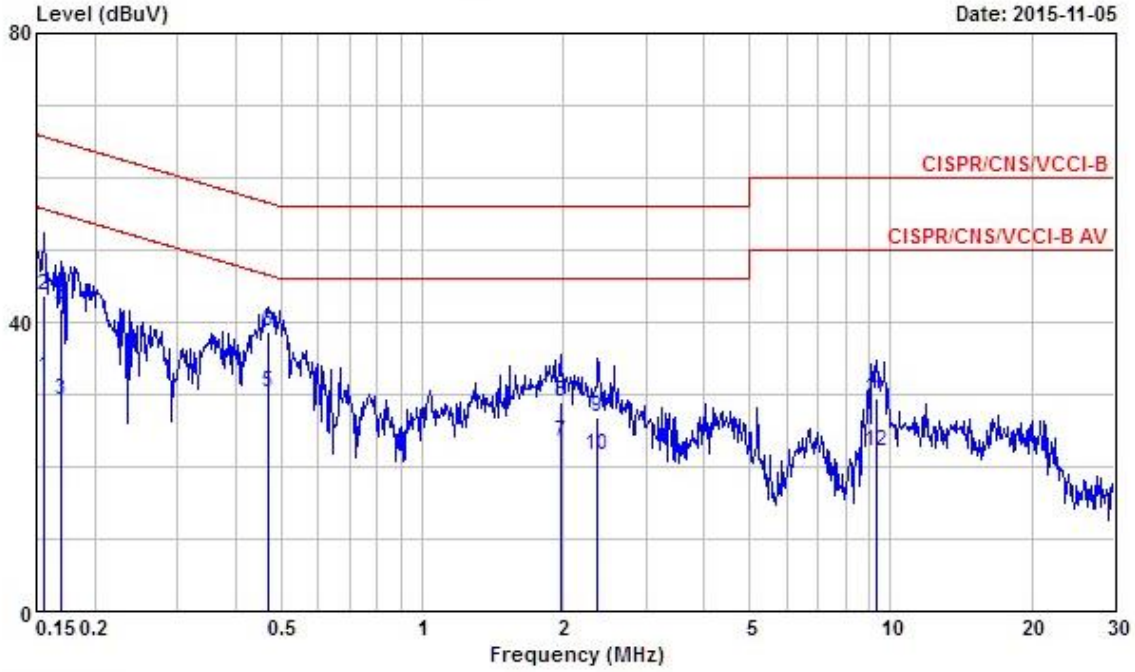
AC Power-line Conducted Emissions Result			
Test Freq.	927.25 MHz	**Power Phase**	Neutral
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1515980	47.03	-18.88	65.91	46.74	0.07	0.22	QP
2	0.1515980	36.32	-19.59	55.91	36.03	0.07	0.22	Average
3	0.1824860	27.74	-26.63	54.37	27.40	0.07	0.27	Average
4	0.1824860	41.31	-23.06	64.37	40.97	0.07	0.27	QP
5	0.4837480	26.93	-19.34	46.27	26.76	0.07	0.10	Average
6	0.4837480	35.18	-21.09	56.27	35.01	0.07	0.10	QP
7	0.5885140	27.39	-28.61	56.00	27.21	0.08	0.10	QP
8	0.5885140	18.47	-27.53	46.00	18.29	0.08	0.10	Average
9	1.920	27.47	-28.53	56.00	27.08	0.10	0.29	QP
10	1.920	22.19	-23.81	46.00	21.80	0.10	0.29	Average
11	9.160	33.60	-26.40	60.00	33.18	0.23	0.19	QP
12	9.160	27.86	-22.14	50.00	27.44	0.23	0.19	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result			
Operating Mode	927.25 MHz	**Power Phase**	Line
Operating Function	RFID Tx, USB linked to NB		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1556680	32.28	-23.41	55.69	32.00	0.05	0.23	Average
2	0.1556680	43.59	-22.10	65.69	43.31	0.05	0.23	QP
3	0.1694400	29.26	-25.73	54.99	28.96	0.05	0.25	Average
4	0.1694400	41.87	-23.12	64.99	41.57	0.05	0.25	QP
5	@0.4711010	30.22	-16.27	46.49	30.05	0.07	0.10	Average
6	@0.4711010	38.76	-17.73	56.49	38.59	0.07	0.10	QP
7	1.970	23.39	-22.61	46.00	22.99	0.10	0.30	Average
8	1.970	28.89	-27.11	56.00	28.49	0.10	0.30	QP
9	2.370	26.89	-29.11	56.00	26.53	0.11	0.25	QP
10	2.370	21.46	-24.54	46.00	21.10	0.11	0.25	Average
11	9.300	29.46	-30.54	60.00	29.05	0.22	0.19	QP
12	9.300	22.01	-27.99	50.00	21.60	0.22	0.19	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems		
☒	902-928MHz Band:	
	☒	N ≥ 50, 20 dB bandwidth of the hopping channel is less than 250 kHz
	☐	N ≥ 25, 20 dB bandwidth of the hopping channel is 250 kHz or greater
	☒	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
N: Number of Hopping Frequencies		

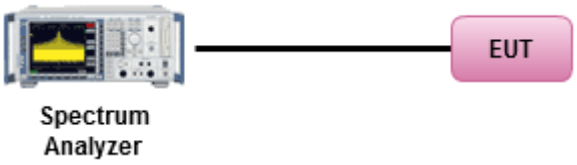
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method		
☒	Refer as ANSI C63.10, clause 6.9 for 20 dB bandwidth and occupied bandwidth measurement.	
☒	Refer as ANSI C63.10, clause 7.8.2 for carrier frequency separation measurement.	
☒	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.

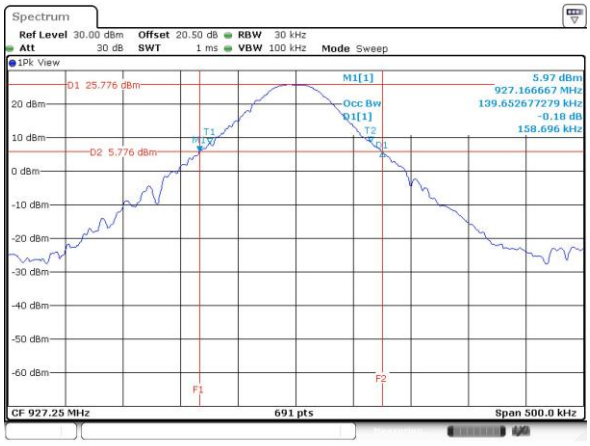
3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation


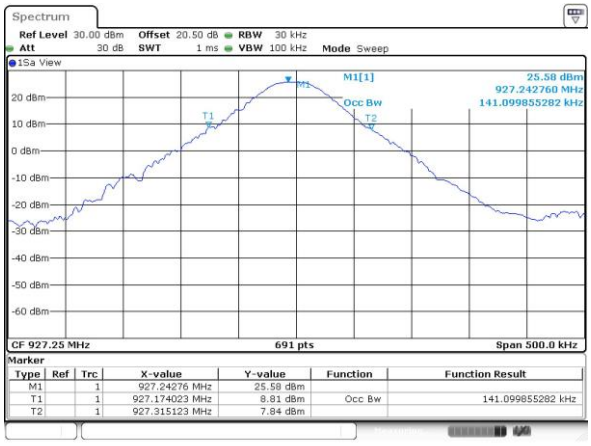
3.2.5 Test Result of 20dB Bandwidth and Carrier Frequency Separation

20dB Bandwidth and Carrier Frequency Separation Result					
Modulation Mode	**Freq. (MHz)**	**20dB Bandwidth (kHz)**	**99% Bandwidth (kHz)**	**Channel Spacing (kHz)**	**Channel Separation Limits (kHz)**
PR-ASK	902.75	144.93	133.86	500.00	144.93
PR-ASK	915.25	144.93	130.25	500.00	144.93
PR-ASK	927.25	158.70	141.10	500.00	158.70
Result		**Complied**			

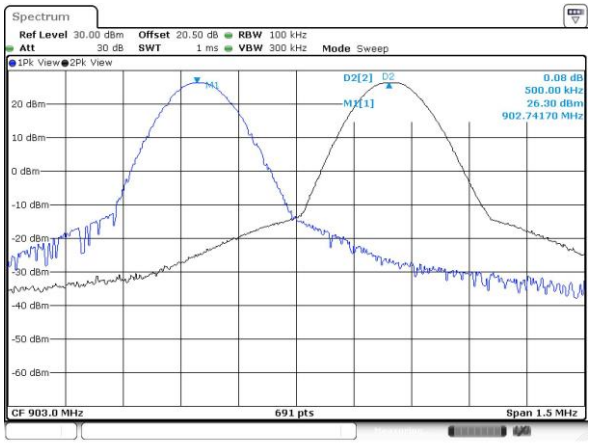
Worst 20dB Bandwidth Plot



Worst OBW Bandwidth Plot



Worst Carrier Frequency Separation Plot



3.3 Number of Hopping Frequencies

3.3.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit for Frequency Hopping Systems	
☒	902-928 MHz Band:
☒	N ≥ 50, 20 dB bandwidth of the hopping channel is less than 250 kHz
☐	N ≥ 25, 20 dB bandwidth of the hopping channel is 250 kHz or greater
N: Number of Hopping Frequencies	

3.3.2 Measuring Instruments

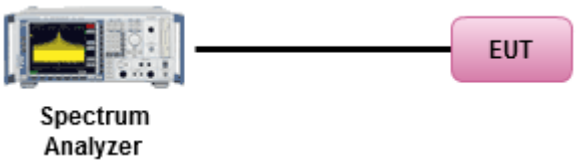
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 7.8.3 for number of hopping frequencies measurement.
☒	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.

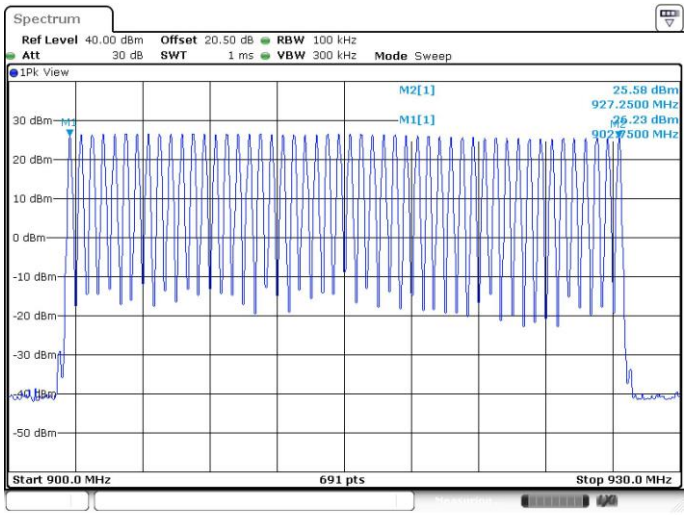
3.3.4 Test Setup

Number of Hopping Frequencies



3.3.5 Test Result of Number of Hopping Frequencies

Number of Hopping Frequencies Result			
Modulation Mode	**Freq. (MHz)**	**Hopping Channel Number (N)**	**Hopping Channel Number Limits**
PR-ASK	902.75-927.25	50	50
Result	**Complied**		

Hopping Frequencies Plot


3.4 Time of Occupancy (Dwell Time)

3.4.1 Time of Occupancy (Dwell Time) Limit

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems		
☒	902-928 MHz Band:	
	☒	≤ 0.4 second within a 20 second period, 20 dB bandwidth of the hopping channel is less than 250 kHz
	☐	≤ 0.4 second within a 10 second period, 20 dB bandwidth of the hopping channel is 250 kHz or greater

3.4.2 Measuring Instruments

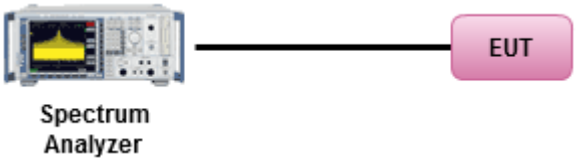
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method		
☒	Refer as ANSI C63.10, clause 7.8.4 for dwell time measurement.	
☒	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.

3.4.4 Test Setup

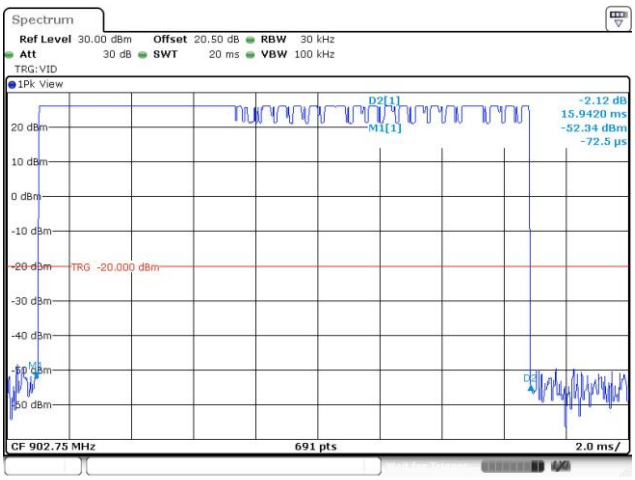
Time of Occupancy (Dwell Time)

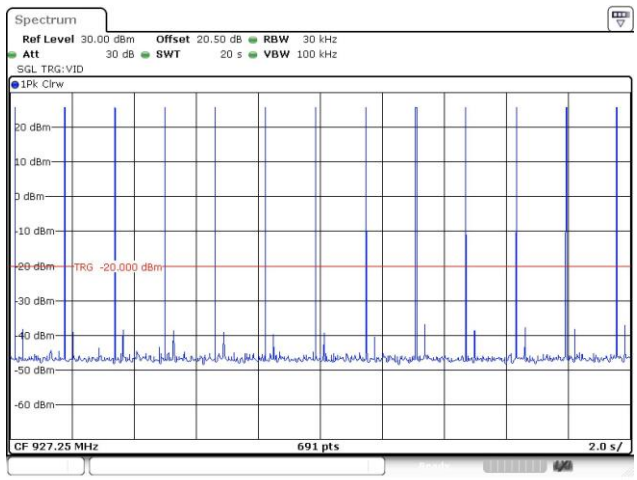


3.4.5 Test Result of Time of Occupancy (Dwell Time)

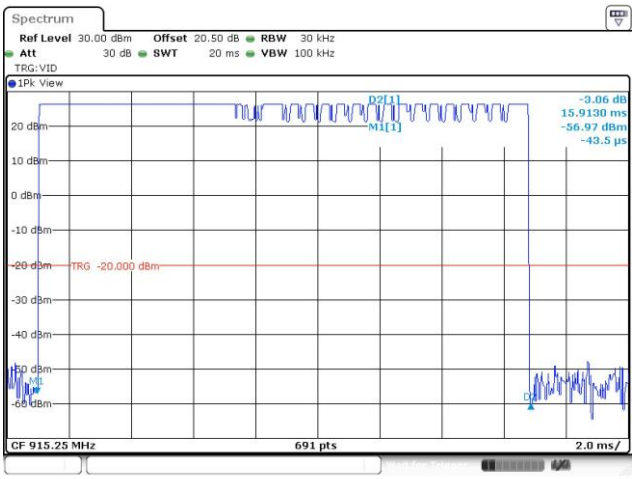
Time of Occupancy (Dwell Time) Result					
Modulation Mode	**Freq. (MHz)**	**Pulse Time per Hop (ms)**	**Number of Pulse in 20s period**	**Dwell Time in 20s period**	**Dwell Time Limits (s)**
PR-ASK	902.75	15.9420	13	0.2072	0.4
	915.25	15.9130	13	0.2069	0.4
	927.25	15.8551	13	0.2061	0.4
Result		**Complied**			

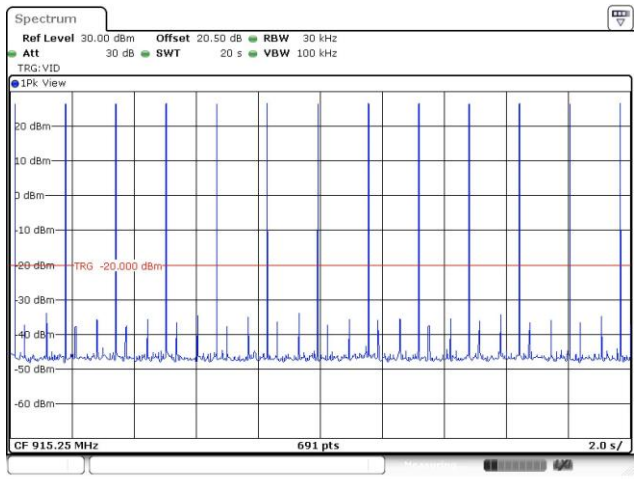
902.75 MHz



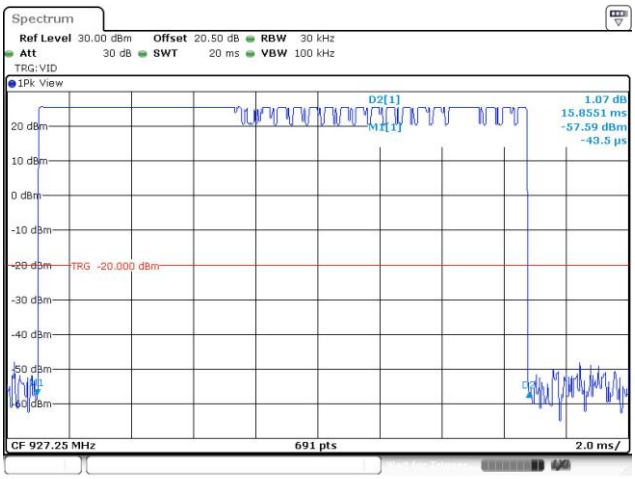


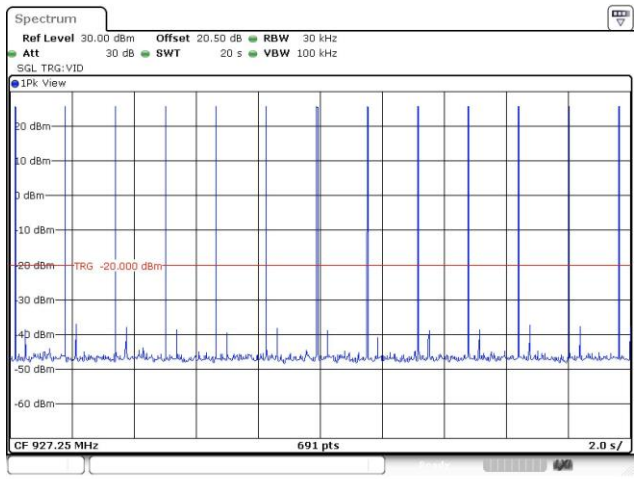
915.25 MHz





927.25 MHz





3.5 RF Output Power

3.5.1 RF Output Power Limit

RF Output Power Limit for Frequency Hopping Systems		
Maximum Peak Conducted Output Power Limit		
☒	902-928 MHz Band:	
	☒	For Hopping Channel: N ≥ 50
		☒ If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)
		☒ If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6) dBm
	☐	For Hopping Channel: N ≥ 25
		☐ If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 24 dBm (0.25 W)
		☐ If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6) dBm
G_{TX} = the maximum transmitting antenna directional gain in dBi. **N:** Number of Hopping Frequencies		

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
☒	Maximum Peak Conducted Output Power
☐	Refer as FCC DA 00-0705, spectrum analyzer for peak power.
☒	Refer as FCC DA 00-0705, peak power meter for peak power.
☐	Refer as ANSI C63.10, clause 6.10.2.1 for peak power meter.
☐	Refer as ANSI C63.10, clause 6.10.2.1 for spectrum analyzer - (RBW ≥ EBW).
☒	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.

3.5.4 Test Setup

RF Output Power (Peak Power Meter)


3.5.5 Test Result of Maximum Peak Conducted Output Power

Maximum Peak Conducted Output Power Result					
Condition		**RF Output Power (dBm)**			
Modulation Mode	**Frequency**	**Conducted Power (dBm)**	**Conducted Power (W)**	**Max. Limit(dBm)**	**Max. Limit(W)**
PR-ASK	902.75	26.05	0.4027	30.00	1.0000
PR-ASK	915.25	25.53	0.3573	30.00	1.0000
PR-ASK	927.25	**26.13**	0.4102	30.00	1.0000
Result		**Complied**			

Maximum Average Conducted Output Power Result			
Condition		**RF Output Power (dBm)**	
Modulation Mode	**Frequency**	**Conducted Power (dBm)**	**Conducted Power (W)**
PR-ASK	902.75	25.48	0.3532
PR-ASK	915.25	25.02	0.3177
PR-ASK	927.25	**25.50**	0.3548
Result		**Complied**	

Note: Average power is for reference only.

3.6 Emissions in Non-Restricted Frequency Bands

3.6.1 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

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Reference level measurement

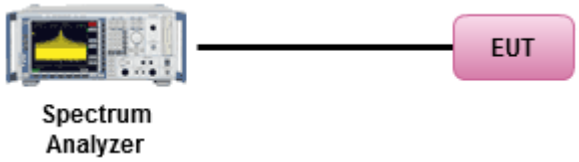
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

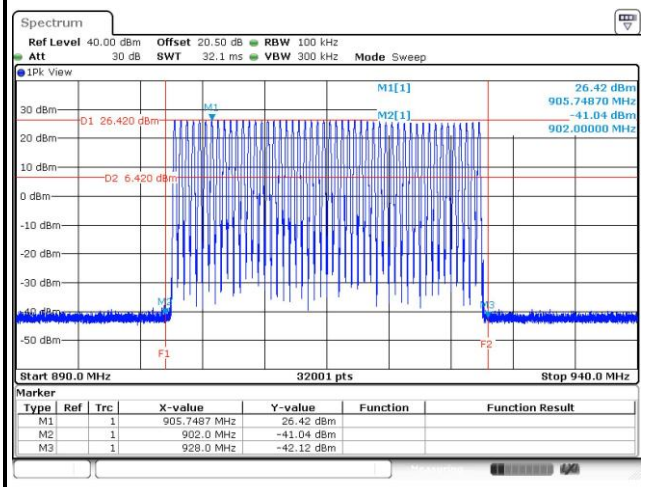
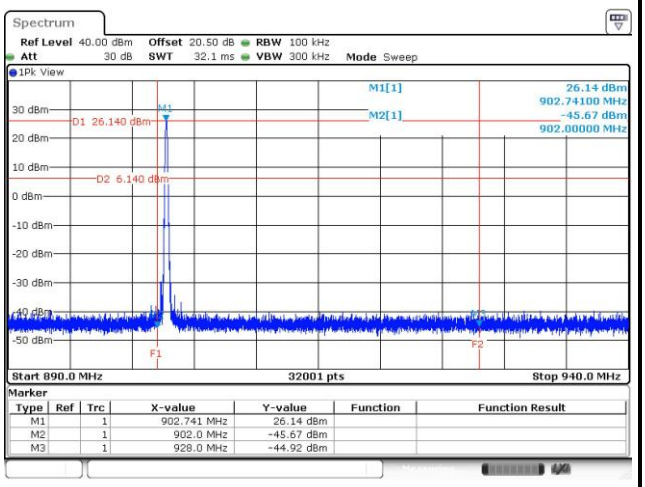
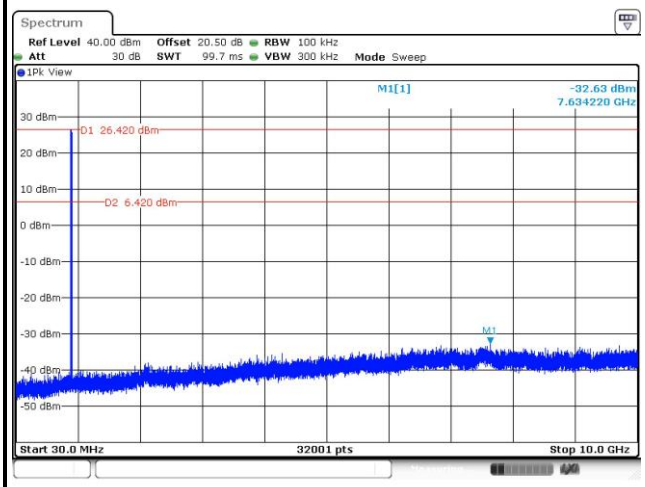
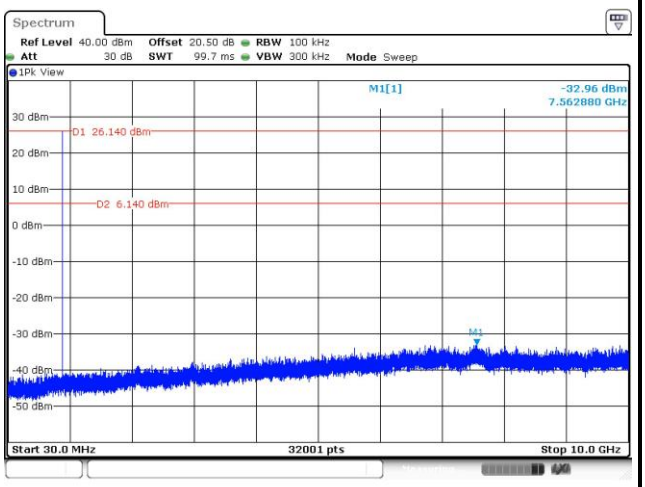
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

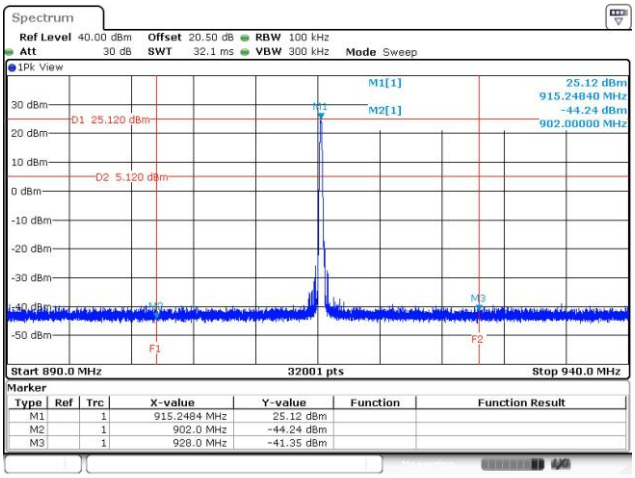
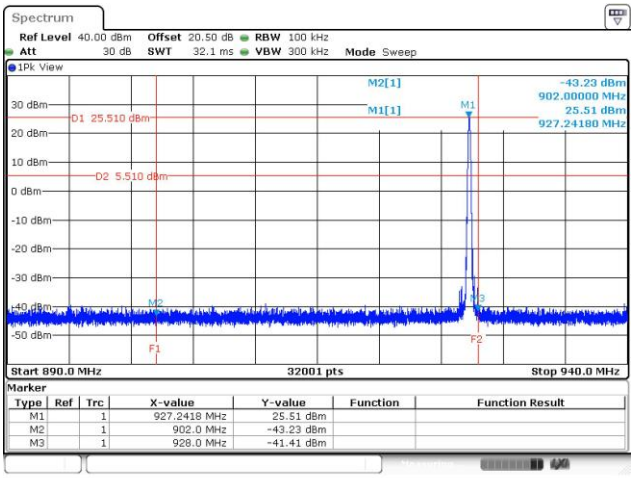
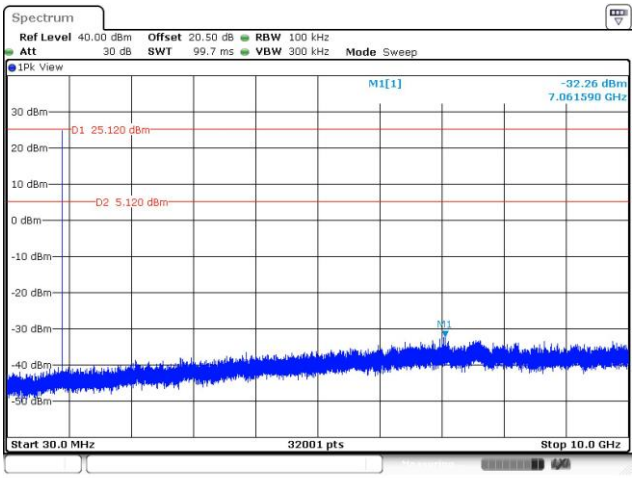
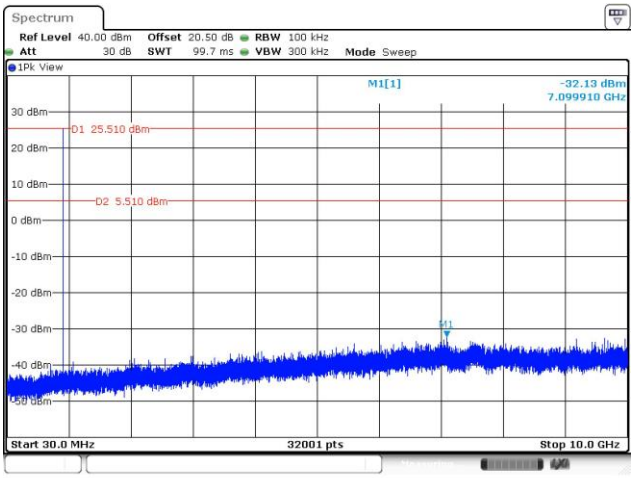
3.6.4 Test Setup

Transmitter Radiated Bandedge Emissions



3.6.5 Test Result of Emissions in Non-Restricted Frequency Bands

Hopping on	Hopping off
30MHz~10GHz (down 20dBc)	TX Freq 902.75MHz / 30MHz~10GHz (down 20dBc)
	
	

Hopping off	Hopping off
TX Freq 915.25MHz / 30MHz~10GHz (down 20dBc)	TX Freq 927.25MHz / 30MHz~10GHz (down 20dBc)
	
	

3.7 Transmitter Unwanted Emissions

3.7.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dB)**
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

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.

3.7.2 Measuring Instruments

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

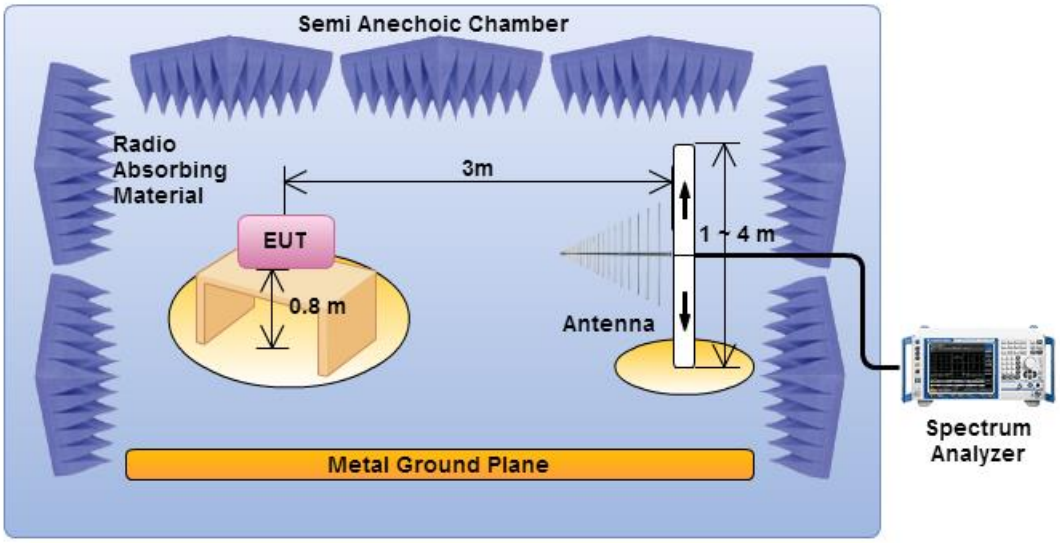
3.7.3 Test Procedures

Test Method – General Information		
☒	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).	
☒	For the transmitter unwanted emissions shall be measured using following options below:	
	☒	Refer as FCC DA 00-0705, for spurious radiated emissions. The dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms)
	☒	For unwanted emissions into non-restricted bands. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
	☒	For unwanted emissions into restricted bands.
		☐ Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☒ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
		☒ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement.	
	☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
	☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.
	☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.

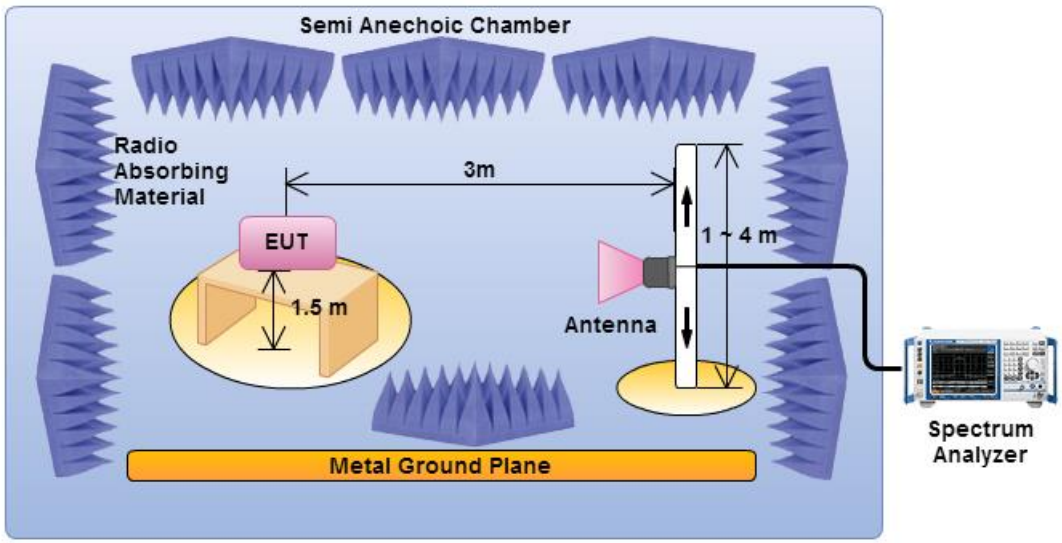
3.7.4 Test Setup

Transmitter Radiated Unwanted Emissions

Below 1GHz test:



Above 1GHz test:



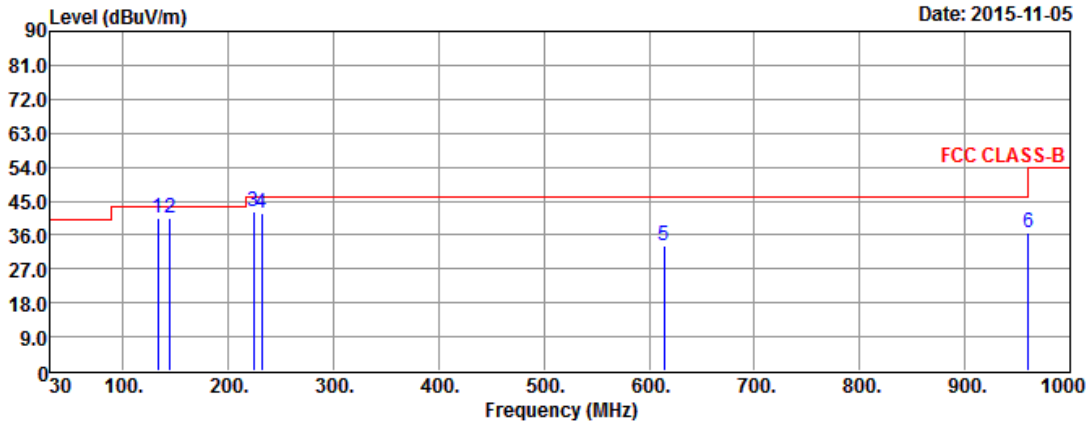
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna.

3.7.5 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.

3.7.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

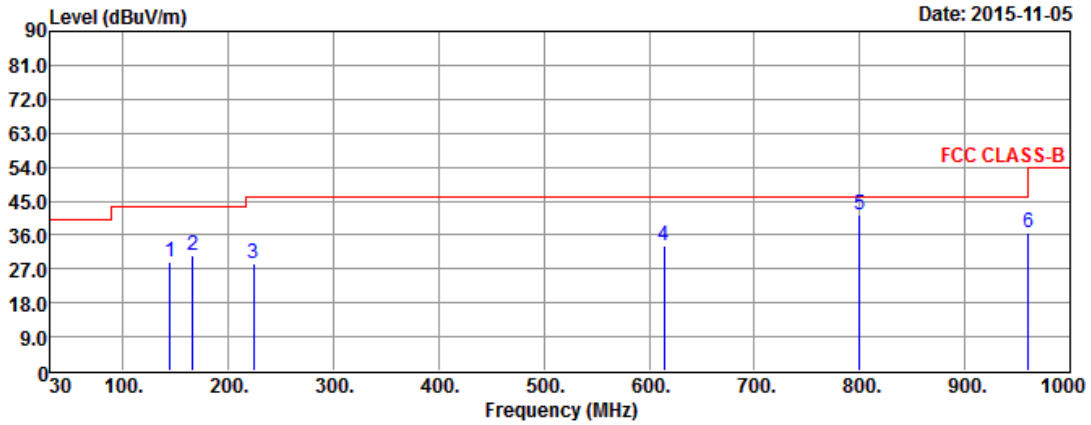
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	902.75
Polarization	H		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	132.82	40.45	-3.05	43.50	58.02	13.15	0.78	31.50	---	---	Peak
2	144.46	40.43	-3.07	43.50	57.22	13.89	0.81	31.49	---	---	Peak
3	224.00	42.40	-3.60	46.00	61.23	11.62	0.96	31.41	---	---	Peak
4	231.76	41.99	-4.01	46.00	60.24	12.17	0.98	31.40	---	---	Peak
5	614.00	33.16	-12.84	46.00	42.28	20.54	1.60	31.26	---	---	QP
6	960.00	36.78	-9.22	46.00	41.24	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

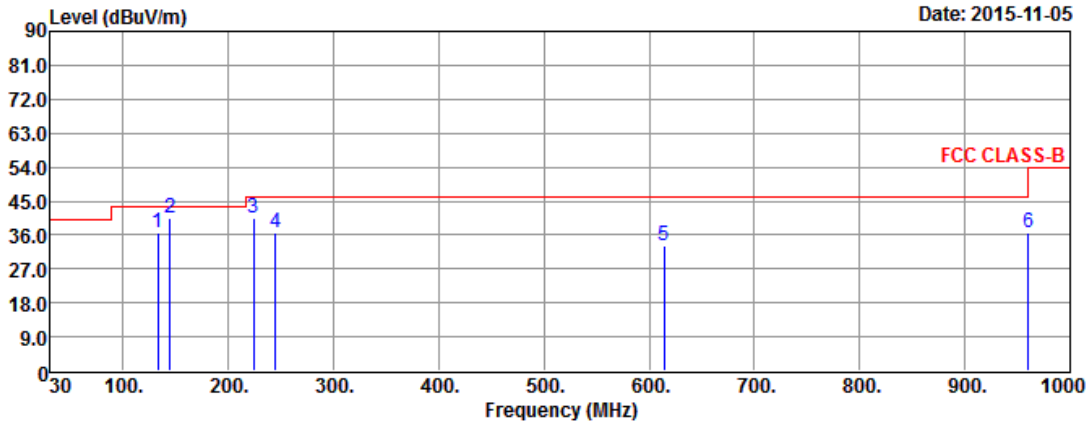
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	902.75
Polarization	V		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	144.46	29.03	-14.47	43.50	45.82	13.89	0.81	31.49	---	---	Peak
2	165.80	30.65	-12.85	43.50	47.45	13.79	0.87	31.46	---	---	Peak
3	224.00	28.40	-17.60	46.00	47.23	11.62	0.96	31.41	---	---	Peak
4	614.00	33.20	-12.80	46.00	42.32	20.54	1.60	31.26	---	---	QP
5	800.18	41.41	-4.59	46.00	48.03	22.70	1.82	31.14	---	---	Peak
6	960.00	36.80	-9.20	46.00	41.26	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

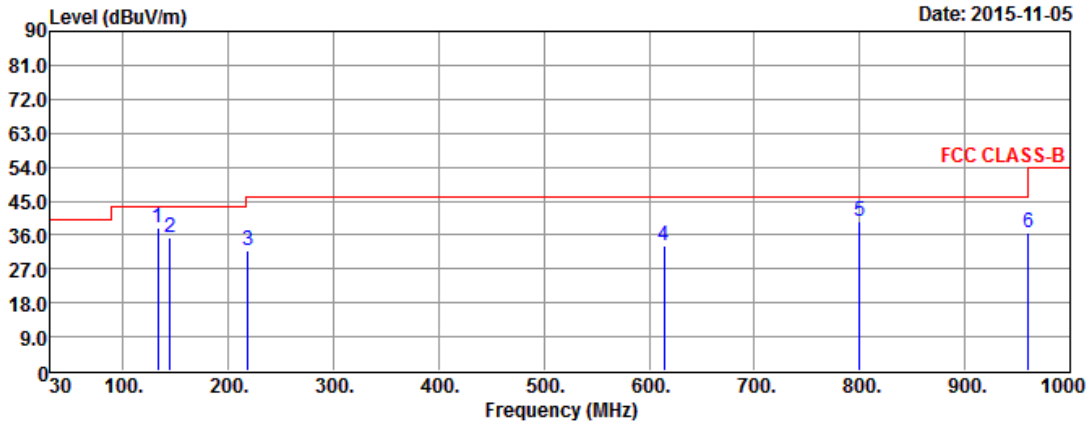
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	915.25
Polarization	H		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	132.82	36.81	-6.69	43.50	54.38	13.15	0.78	31.50	---	---	Peak
2	144.46	40.52	-2.98	43.50	57.31	13.89	0.81	31.49	---	---	Peak
3	224.00	40.32	-5.68	46.00	59.15	11.62	0.96	31.41	---	---	Peak
4	244.37	36.76	-9.24	46.00	54.56	12.59	1.00	31.39	---	---	Peak
5	614.00	33.14	-12.86	46.00	42.26	20.54	1.60	31.26	---	---	QP
6	960.00	36.78	-9.22	46.00	41.24	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

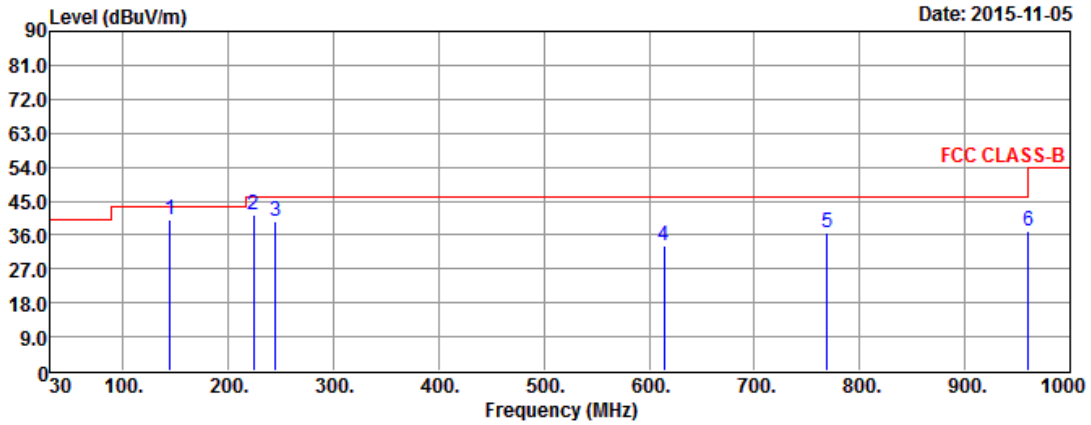
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	915.25
Polarization	V		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	132.82	37.83	-5.67	43.50	55.40	13.15	0.78	31.50	---	---	Peak
2	144.46	35.13	-8.37	43.50	51.92	13.89	0.81	31.49	---	---	Peak
3	218.18	31.79	-14.21	46.00	50.93	11.32	0.95	31.41	---	---	Peak
4	614.00	33.13	-12.87	46.00	42.25	20.54	1.60	31.26	---	---	QP
5	800.18	39.68	-6.32	46.00	46.30	22.70	1.82	31.14	---	---	Peak
6	960.00	36.68	-9.32	46.00	41.14	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

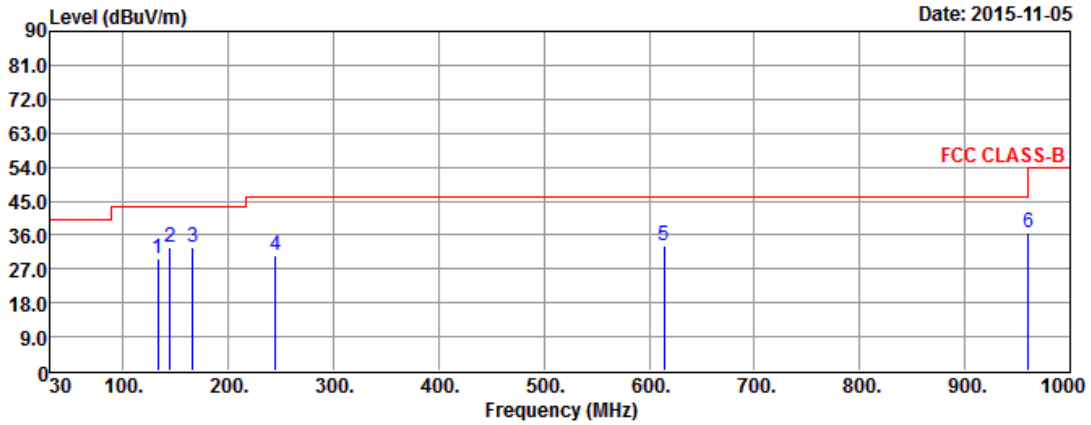
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	927.25
Polarization	H		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	144.46	40.02	-3.48	43.50	56.81	13.89	0.81	31.49	---	---	Peak
2	224.00	41.36	-4.64	46.00	60.19	11.62	0.96	31.41	---	---	Peak
3	244.37	39.46	-6.54	46.00	57.26	12.59	1.00	31.39	---	---	Peak
4	614.00	33.14	-12.86	46.00	42.26	20.54	1.60	31.26	---	---	QP
5	769.14	36.79	-9.21	46.00	43.66	22.51	1.79	31.17	---	---	Peak
6	960.00	36.95	-9.05	46.00	41.41	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	927.25
Polarization	V		

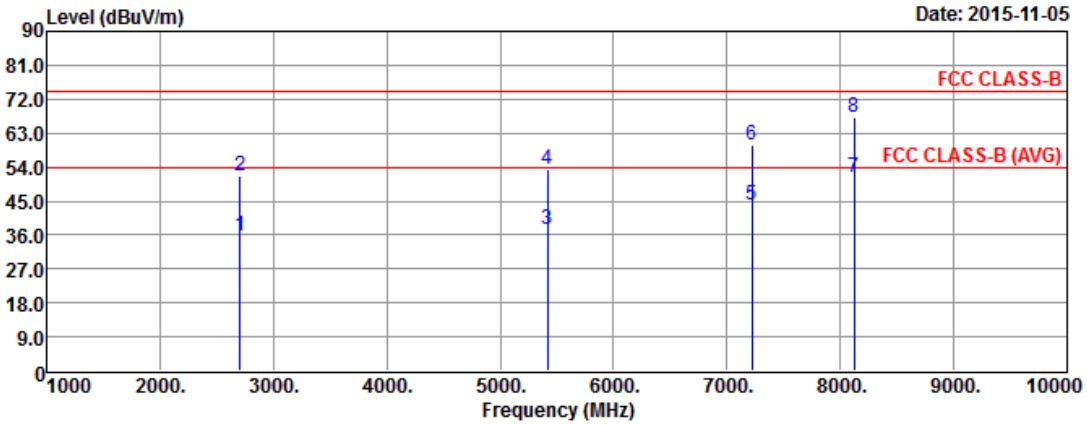


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	132.82	29.92	-13.58	43.50	47.49	13.15	0.78	31.50	---	---	Peak
2	144.46	32.85	-10.65	43.50	49.64	13.89	0.81	31.49	---	---	Peak
3	165.80	32.55	-10.95	43.50	49.35	13.79	0.87	31.46	---	---	Peak
4	244.37	30.75	-15.25	46.00	48.55	12.59	1.00	31.39	---	---	Peak
5	614.00	33.14	-12.86	46.00	42.26	20.54	1.60	31.26	---	---	QP
6	960.00	36.72	-9.28	46.00	41.18	24.72	1.98	31.16	---	---	QP

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

3.7.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

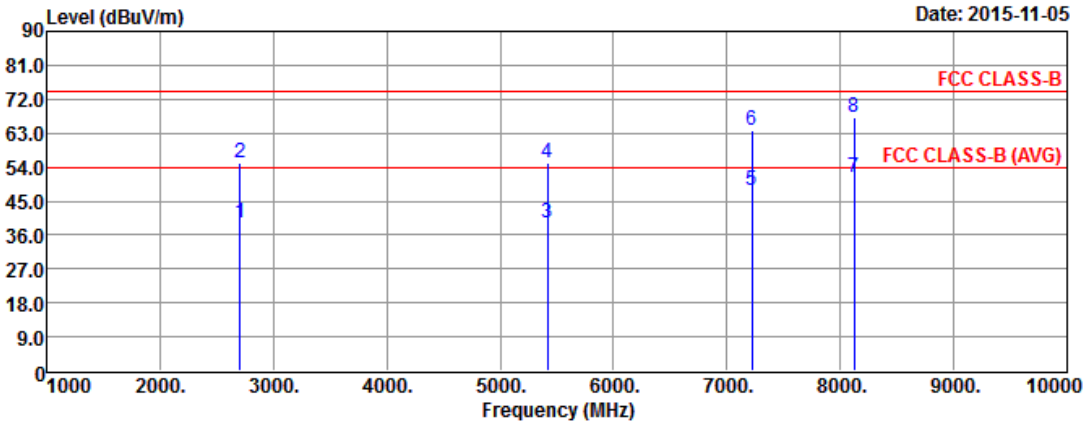
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	902.75
Operating Function	Transmit	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2708.25	35.54	-18.46	54.00	36.73	28.19	4.85	34.23	332	353	Average
2	2708.25	51.49	-22.51	74.00	52.68	28.19	4.85	34.23	332	353	Peak
3	5416.50	37.29	-16.71	54.00	31.26	31.65	7.23	32.85	272	340	Average
4	5416.50	53.24	-20.76	74.00	47.21	31.65	7.23	32.85	272	340	Peak
5	7222.00	44.05	-9.95	54.00	34.36	35.59	8.35	34.25	272	326	Average
6	7222.00	60.00	-14.00	74.00	50.31	35.59	8.35	34.25	272	326	Peak
7	8124.75	51.18	-2.82	54.00	40.29	36.95	8.98	35.04	271	302	Average
8	8124.75	67.13	-6.87	74.00	56.24	36.95	8.98	35.04	271	302	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time

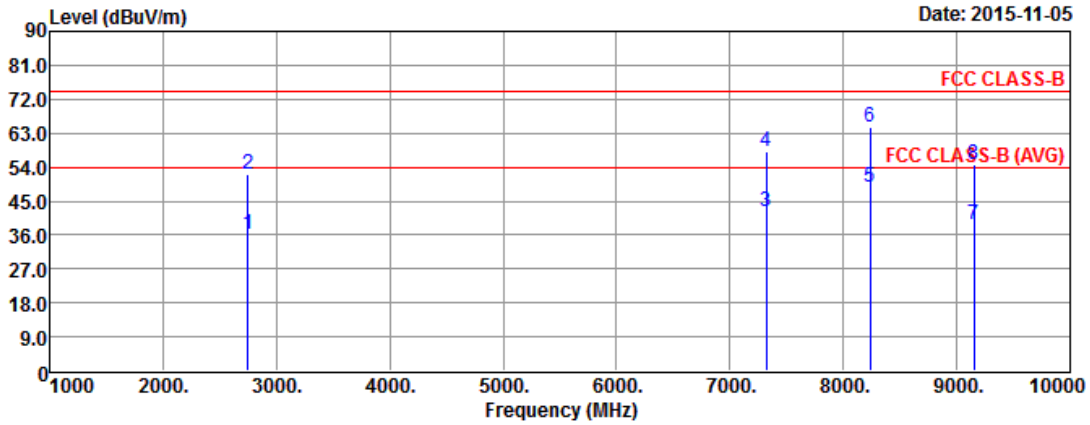
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	902.75
Operating Function	Transmit	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2708.25	39.31	-14.69	54.00	40.50	28.19	4.85	34.23	268	356	Average
2	2708.25	55.26	-18.74	74.00	56.45	28.19	4.85	34.23	268	356	Peak
3	5416.50	39.03	-14.97	54.00	33.00	31.65	7.23	32.85	254	209	Average
4	5416.50	54.98	-19.02	74.00	48.95	31.65	7.23	32.85	254	209	Peak
5	7222.00	47.72	-6.28	54.00	38.03	35.59	8.35	34.25	245	97	Average
6	7222.00	63.67	-10.33	74.00	53.98	35.59	8.35	34.25	245	97	Peak
7	8124.75	51.17	-2.83	54.00	40.28	36.95	8.98	35.04	272	324	Average
8	8124.75	67.12	-6.88	74.00	56.23	36.95	8.98	35.04	272	324	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time

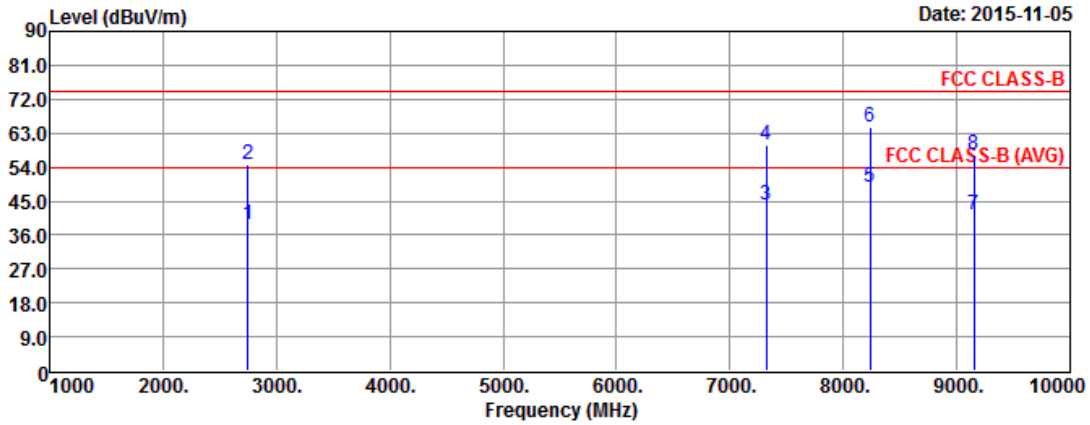
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	915.25
Operating Function	Transmit	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2745.75	36.30	-17.70	54.00	37.27	28.33	4.91	34.21	265	129	Average
2	2745.75	52.25	-21.75	74.00	53.22	28.33	4.91	34.21	265	129	Peak
3	7322.00	42.19	-11.81	54.00	32.28	35.81	8.50	34.40	237	136	Average
4	7322.00	58.14	-15.86	74.00	48.23	35.81	8.50	34.40	237	136	Peak
5	8237.25	48.48	-5.52	54.00	37.54	36.91	9.03	35.00	283	282	Average
6	8237.25	64.43	-9.57	74.00	53.49	36.91	9.03	35.00	283	282	Peak
7	9152.50	38.65	-15.35	54.00	26.17	38.04	9.30	34.86	275	339	Average
8	9152.50	54.60	-19.40	74.00	42.12	38.04	9.30	34.86	275	339	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time

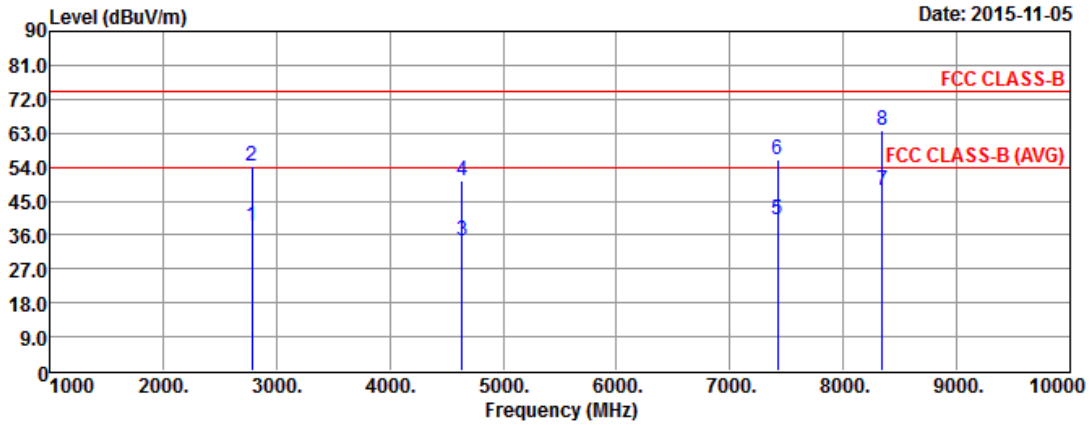
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	915.25
Operating Function	Transmit	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2745.75	38.62	-15.38	54.00	39.59	28.33	4.91	34.21	270	11	Average
2	2745.75	54.57	-19.43	74.00	55.54	28.33	4.91	34.21	270	11	Peak
3	7322.00	43.71	-10.29	54.00	33.80	35.81	8.50	34.40	263	86	Average
4	7322.00	59.66	-14.34	74.00	49.75	35.81	8.50	34.40	263	86	Peak
5	8237.25	48.83	-5.17	54.00	37.89	36.91	9.03	35.00	261	335	Average
6	8237.25	64.78	-9.22	74.00	53.84	36.91	9.03	35.00	261	335	Peak
7	9152.50	41.19	-12.81	54.00	28.71	38.04	9.30	34.86	207	316	Average
8	9152.50	57.14	-16.86	74.00	44.66	38.04	9.30	34.86	207	316	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time

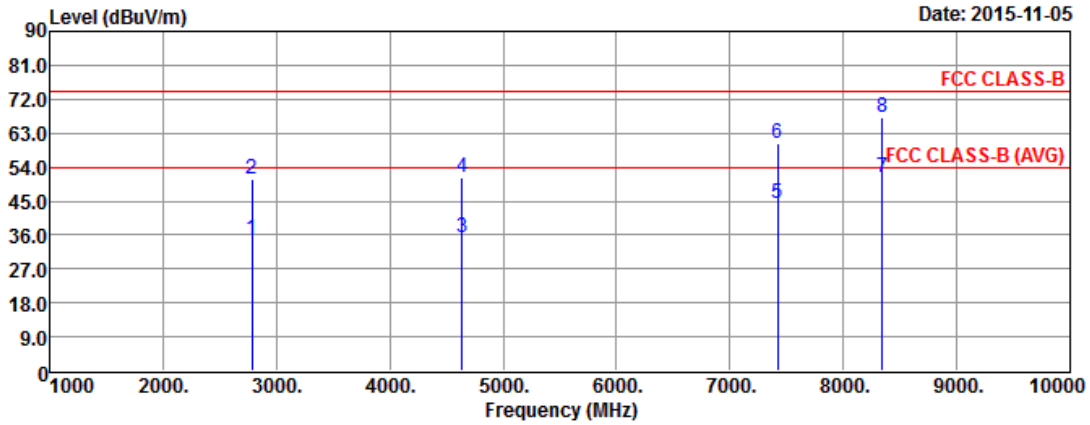
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	927.25
Operating Function	Transmit	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2781.75	38.23	-15.77	54.00	38.98	28.47	4.97	34.19	279	90	Average
2	2781.75	54.18	-19.82	74.00	54.93	28.47	4.97	34.19	279	90	Peak
3	4636.25	34.61	-19.39	54.00	30.88	30.89	5.89	33.05	231	110	Average
4	4636.25	50.56	-23.44	74.00	46.83	30.89	5.89	33.05	231	110	Peak
5	7418.00	40.13	-13.87	54.00	30.02	36.02	8.63	34.54	215	145	Average
6	7418.00	56.08	-17.92	74.00	45.97	36.02	8.63	34.54	215	145	Peak
7	8345.25	47.59	-6.41	54.00	36.57	36.86	9.13	34.97	275	311	Average
8	8345.25	63.54	-10.46	74.00	52.52	36.86	9.13	34.97	275	311	Peak

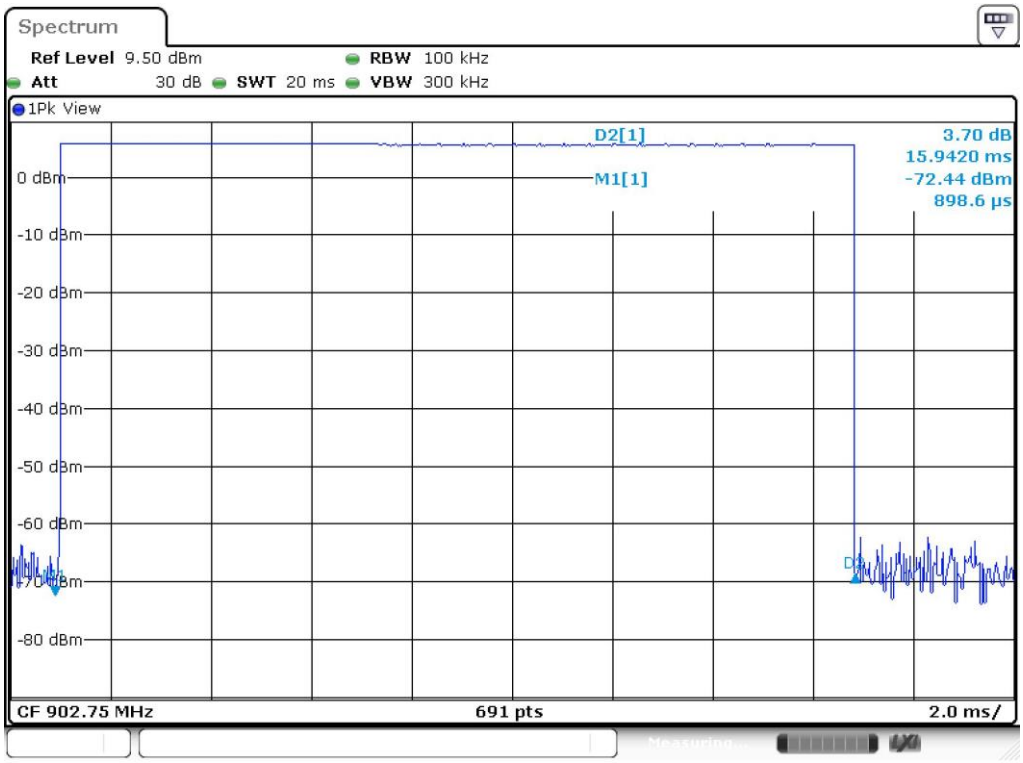
Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time

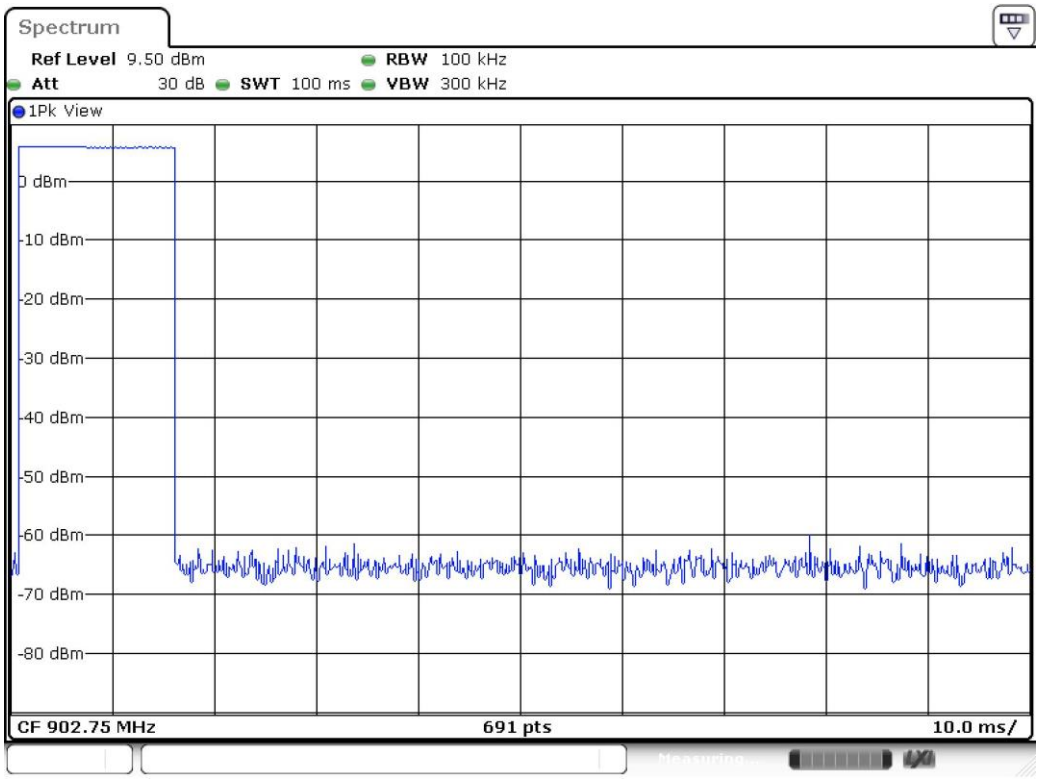
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	PR-ASK	**Test Freq. (MHz)**	927.25
Operating Function	Transmit	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2781.75	34.72	-19.28	54.00	35.47	28.47	4.97	34.19	258	47	Average
2	2781.75	50.67	-23.33	74.00	51.42	28.47	4.97	34.19	258	47	Peak
3	4636.25	35.17	-18.83	54.00	31.44	30.89	5.89	33.05	265	184	Average
4	4636.25	51.12	-22.88	74.00	47.39	30.89	5.89	33.05	265	184	Peak
5	7418.00	44.41	-9.59	54.00	34.30	36.02	8.63	34.54	262	88	Average
6	7418.00	60.36	-13.64	74.00	50.25	36.02	8.63	34.54	262	88	Peak
7	8345.25	51.24	-2.76	54.00	40.22	36.86	9.13	34.97	243	332	Average
8	8345.25	67.19	-6.81	74.00	56.17	36.86	9.13	34.97	243	332	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: Average emission obtained from the worst average correction factor = 20 log (15.949ms/100ms) = -15.95 dB or Average emission setting: RBW=1MHz; VBW ≥ 1/T, where T is “Pulse On Time





$$20\log(\text{Duty cycle}) = 20\log\frac{15.949\ \text{ms}}{100\ \text{ms}} = -15.95\text{dB}$$

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Apr. 15. 2015	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 22, 2015	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 30, 2015	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
CDN	TESEQ	M016	25100	150kHz ~ 26MHz	Feb. 17, 2015	Conduction (CO04-HY)
CDN	TESEQ	M016	25103	150kHz ~ 26MHz	Feb. 17, 2015	Conduction (CO04-HY)
Software	Audix	E3	3	Conducted	NCR	Conduction (CO04-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May 06, 2015	Conducted (TH01-HY)
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jun. 22, 2015	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 17, 2015	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 17, 2015	Conducted (TH01-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345675/4	30MHz ~ 26.5GHz	Nov. 30, 2014	Conducted (TH01-HY)
RF Cable-3m	HUBER+SUHNER	SUCOFLEX_104	SN 345669/4	30MHz ~ 26.5GHz	Nov. 30, 2014	Conducted (TH01-HY)

※ Calibration Interval of instruments listed above is one year.

※ NCR: Non-Calibration required.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EMC	EMC9135	980232	9kHz ~ 1.0GHz	Jan. 27, 2015	Radiation (03CH09-HY)
Amplifier	EMC	EMC051845	980240	500MHz ~ 18GHz	Mar. 04, 2015	Radiation (03CH09-HY)
Amplifier	EMC	EMC184045B	980192	18G ~40GHz	Sep. 01, 2015	Radiation (03CH09-HY)
Spectrum	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	Jul. 15, 2015	Radiation (03CH09-HY)
Bilog Antenna	TESEQ	CBL 6112D	35418	30MHz ~ 1GHz	Mar. 30, 2015	Radiation (03CH09-HY)
Horn Antenna	AARONIA AG	POWERLOG 70180	05192	1GHz ~ 18GHz	Jan. 05, 2015	Radiation (03CH09-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170614	18GHz ~ 40GHz	Dec. 29, 2014	Radiation (03CH09-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Jul. 23, 2015	Radiation (03CH09-HY)
RF Cable-high	Jye Bao	RG142	03CH09-HY	1GHz ~ 40GHz	Jul. 23, 2015	Radiation (03CH09-HY)
Turn Table	Chain Tek	T-200S	1308028	0 ~ 360 degree	NCR	Radiation (03CH09-HY)
Antenna Mast	Chain Tek	MBS-400	1308049	1 ~ 4 m	NCR	Radiation (03CH09-HY)

※ Calibration Interval of instruments listed above is one year.

※ NCR: Non-Calibration required.