FCC C2PC Test Report

Equipment	:	802.11abgn 1x with BT
Brand Name	:	Summit
Model No.	:	SDC-SSD40NBT
FCC ID	:	TWG-SDCSSD40NBT
Standard	:	47 CFR FCC Part 15.247
Operating Band	:	5725 MHz – 5850 MHz
Equipment Class	:	DTS
Applicant	:	Summit Data Communications, Inc. 526 South Main Street Suite 805 Akron, OH 44311

The product sample received on Mar. 07, 2013 and completely tested on Mar. 18, 2013. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

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

Reviewed by:

Wayne Hsu / 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**
1.1.3	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.1721540MHz 47.17 (Margin 7.69dB) - AV 53.34 (Margin 11.52dB) - QP	FCC 15.207	Complied
3.2	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]: 15.96	Power [dBm]:30	Complied
3.3	15.247(c)	Transmitter Radiated Bandedge Emissions	Non-Restricted Bands: 5724.34MHz: 33.40dB	Non-Restricted Bands: > 30 dBc Restricted Bands: FCC 15.209	Complied
3.4	15.247(c)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 292.50MHz 44.91 (Margin 1.09dB) - QP	Non-Restricted Bands: > 30 dBc Restricted Bands: FCC 15.209	Complied

Remark: This is a C2PC Report only, and please see Section 1.1.1 for the detail description and information.

Revision History

Report No.	Version	Description	Issued Date
FR330859AI	Rev. 01	Initial issue of report	Mar. 20, 2013

1 General Description

1.1 Information

1.1.1 Product Details

This report is prepared for FCC class II permissive change. The difference compared with original design is adding two sets of antenna. Please refer to item 1.1.3 for antenna information. In this report, conducted output power, conducted emission and radiated emission tests had been re-tested and only its data was recorded in the following sections.

1.1.2 RF General Information

RF General Information						
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**RF Output Power (dBm)**	**Co-location**
5725-5850	a	5745-5825	149-165 [5]	1	15.96	N/A
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	15.84	N/A
Note 1: RF output power specifies that Maximum Peak Conducted Output Power. Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation. Note 3: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)						

1.1.3 Antenna Information

Antenna Category		
☐	Equipment placed on the market without antennas	
☐	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)	
	☒	Single power level with corresponding antenna(s).
	☐	Multiple power level and corresponding antenna(s).
	☒	RF connector provided
		☒ Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type…)
		☐ Standard antenna connector. (e.g., SMA, N, BNC, and TNC type…)

Antenna General Information							
No.	**Ant. Cat.**	**Brand**	**Model**	**Ant. Type**	**Connector**	**Gain**	**Cable**
1	External	Venture	M01-50908010-R	Omni-directional	MHF IPEX	2 dBi	Length 100mm
2	External	Venture	M01-50908011-R	Omni-directional	MHF IPEX	2 dBi	Length 180mm
Note: The antenna No.1 and No.2 had been pre-tested and found that the **antenna No. 2** was the worst case for final test.							

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

Supply Voltage	☐ AC mains	☒ DC	
Type of DC Source	☐ Internal DC supply	☒ Host	☐ Battery

1.2 Support Equipment

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**Serial No.**
1	PDA	HP	HSTNH-L05C-WL	-
2	Cradle	HP	HSTNH-F02X	-

1.3 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- FCC KDB 558074
- FCC KDB 662911
- FCC KDB 412172

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**
AC Conduction		CO04-HY	Bill Hsiao	22°C / 54%	Mar. 18, 2013
RF Conducted		TH01-HY	Ian Du	24°C / 65%	Mar. 07, 2013
Radiated Emission		03CH05-HY	Daniel Hsu	25°C / 65 %	Mar. 13, 2013

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
RF output power, conducted		±0.63 dB	N/A
Unwanted emissions, conducted	30 – 1000 MHz	±0.51 dB	N/A
	1 – 18 GHz	±0.67 dB	N/A
	18 – 40 GHz	±0.83 dB	N/A
	40 – 200 GHz	N/A	N/A
All emissions, radiated	30 – 1000 MHz	±2.56 dB	N/A
	1 – 18 GHz	±3.59 dB	N/A
	18 – 40 GHz	±3.82 dB	N/A
	40 – 200 GHz	N/A	N/A
Temperature		±0.8 °C	N/A
Humidity		±3 %	N/A
DC and low frequency voltages		±3 %	N/A
Time		±1.42 %	N/A
Duty Cycle		±1.42 %	N/A

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing				
Modulation Mode	**Transmit Chains (N_{TX})**	**Data Rate / MCS**	**Worst Data Rate / MCS**	**RF Output Power (dBm)**
11a	1	6-54 Mbps	6 Mbps	**15.96**
HT-20	1	MCS 0-7	MCS 0	**15.84**
Note 1: IEEE Std. 802.11n modulation consists of HT20 (HT: High Throughput). Then EUT support HT20. Note 2: Modulation modes consist below configuration: 11a: IEEE 802.11a, HT20: IEEE 802.11n Note 3: RF output power specifies that Maximum Peak Conducted Output Power.				

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
IEEE Std. 802.11	**Test Channel Frequencies (MHz) – FX (Frequencies Abbreviations)**
a, n (HT20)	5745-(F1), 5785-(F2), 5825-(F3)

2.3 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (5725-5850MHz band)				
Test Software Version	SRU V3.03.09.00			
Modulation Mode	**N_{TX}**	**Test Frequency (MHz)**		
		5745	**5785**	**5825**
11a	1	default	default	default
HT-20	1	default	default	default

2.4 The Worst Case Measurement Configuration

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

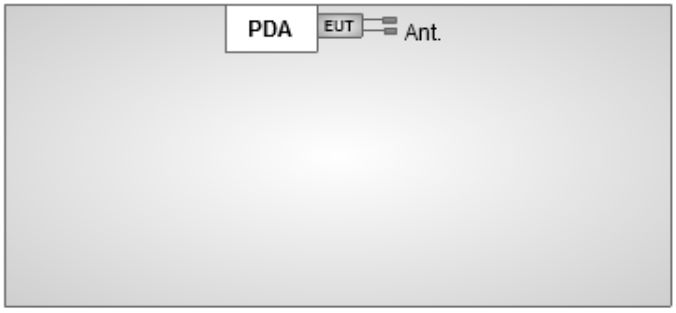
The Worst Case Mode for Following Conformance Tests	
Tests Item	RF Output Power
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11a, HT20

The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
User Position	☐ 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 X.		
	☒ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes. The worst planes is Z.		
Operating Mode < 1GHz	☒ 1. Radio link (WLAN)		
Modulation Mode	11a, HT20		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			

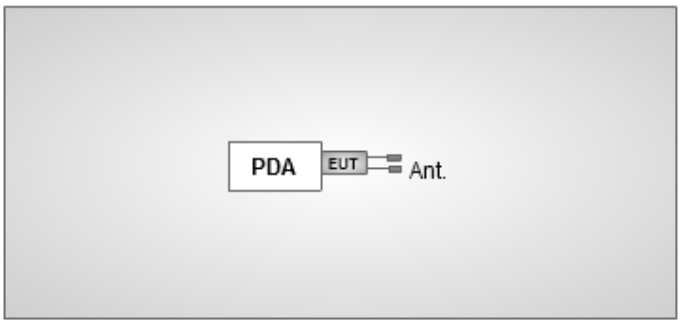
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test

Test Setup Diagram - Radiated Below 1GHz Test



Test Setup Diagram - Radiated Above 1GHz 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

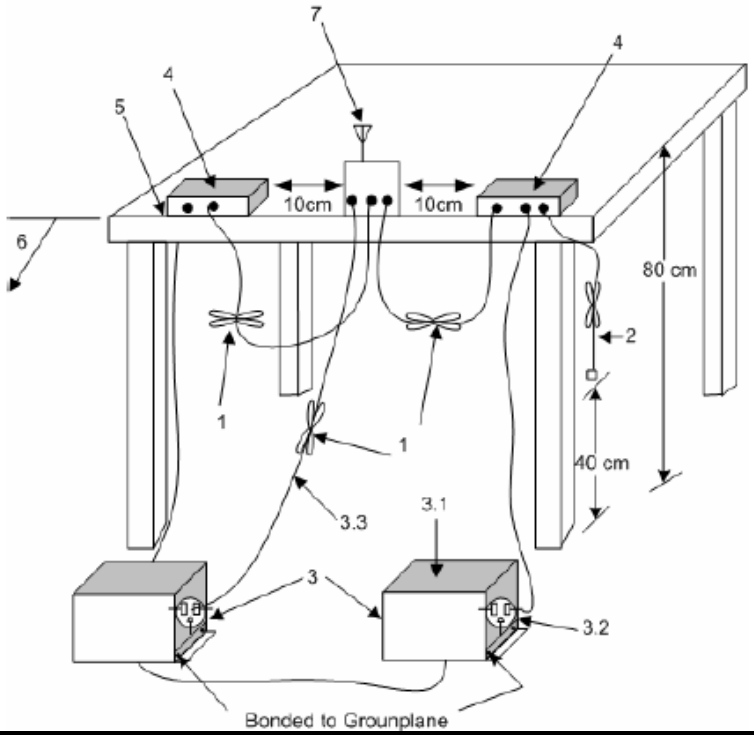
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

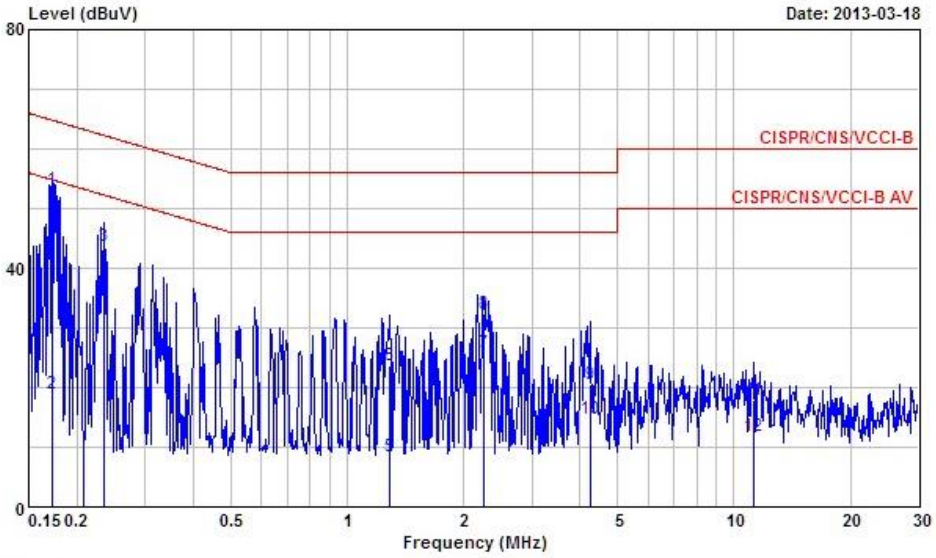
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

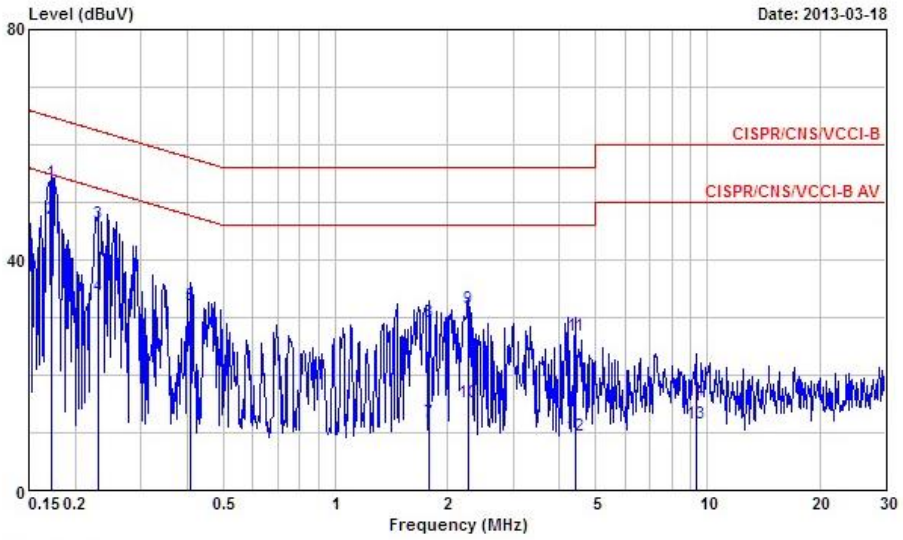
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Radio link (WLAN)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1721540	53.15	-11.71	64.86	52.66	0.11	0.38	QP
2	0.1721540	18.82	-36.04	54.86	18.33	0.11	0.38	Average
3	0.2353310	43.78	-18.48	62.26	43.35	0.11	0.32	QP
4	0.2353310	35.52	-16.74	52.26	35.09	0.11	0.32	Average
5	1.290	8.47	-37.53	46.00	8.01	0.12	0.34	Average
6	1.290	23.66	-32.34	56.00	23.20	0.12	0.34	QP
7	2.260	25.88	-20.12	46.00	25.37	0.13	0.38	Average
8	2.260	32.47	-23.53	56.00	31.96	0.13	0.38	QP
9	4.250	20.56	-35.44	56.00	20.10	0.16	0.30	QP
10	4.250	14.76	-31.24	46.00	14.30	0.16	0.30	Average
11	11.260	17.96	-42.04	60.00	17.38	0.25	0.33	QP
12	11.260	11.89	-38.11	50.00	11.31	0.25	0.33	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	1	**Power Phase**	Line
Operating Function	Radio link (WLAN)		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1721540	53.34	-11.52	64.86	52.72	0.24	0.38	QP
2	@0.1721540	47.17	-7.69	54.86	46.55	0.24	0.38	Average
3	0.2303960	46.23	-16.21	62.44	45.68	0.23	0.32	QP
4	0.2303960	33.63	-18.81	52.44	33.08	0.23	0.32	Average
5	0.4083060	32.18	-25.50	57.68	31.56	0.22	0.40	QP
6	0.4083060	24.43	-23.25	47.68	23.81	0.22	0.40	Average
7	1.780	11.93	-34.07	46.00	11.30	0.25	0.38	Average
8	1.780	29.28	-26.72	56.00	28.65	0.25	0.38	QP
9	2.270	31.71	-24.29	56.00	31.07	0.26	0.38	QP
10	2.270	15.34	-30.66	46.00	14.70	0.26	0.38	Average
11	4.430	26.81	-29.19	56.00	26.21	0.30	0.30	QP
12	4.430	9.58	-36.42	46.00	8.98	0.30	0.30	Average
13	9.300	11.66	-38.34	50.00	10.95	0.41	0.30	Average
14	9.300	15.53	-44.47	60.00	14.82	0.41	0.30	QP

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 RF Output Power

3.2.1 RF Output Power Limit

RF Output Power Limit		
Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit		
☒	5725-5850 MHz Band:	
	☒	If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)
	☒	Point-to-multipoint systems (P2M): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6) dBm
	☐	Point-to-point systems (P2P): If G_{TX} > 6 dBi, then P_{Out} = 30 dBm
e.i.r.p. Power Limit:		
☒	5725-5850 MHz Band	
	☒	Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)
	☐	Point-to-point systems (P2P): N/A
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi. **P_{eirp}** = e.i.r.p. Power in dBm.		

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
☐	Maximum Peak Conducted Output Power
☐	Refer as FCC KDB 558074, clause 8.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, clause 8.1.2 Option 2 (integrated band power method).
☐	Refer as FCC KDB 558074, clause 8.1.3 Option 2 (peak power meter for VBW ≥ DTS BW)
☒	Maximum Conducted (Average) Output Power
☐	Refer as FCC KDB 558074, clause 8.2.1 Option 1 (spectral trace averaging).
☐	Refer as FCC KDB 558074, clause 8.2.2 Option 2 (slow sweep speed).
☒	Refer as FCC KDB 558074, clause 8.2.3 Option 3 (average power meter).
☒	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.
☐	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
☐	If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.2.4 Test Setup

RF Output Power (Power Meter)

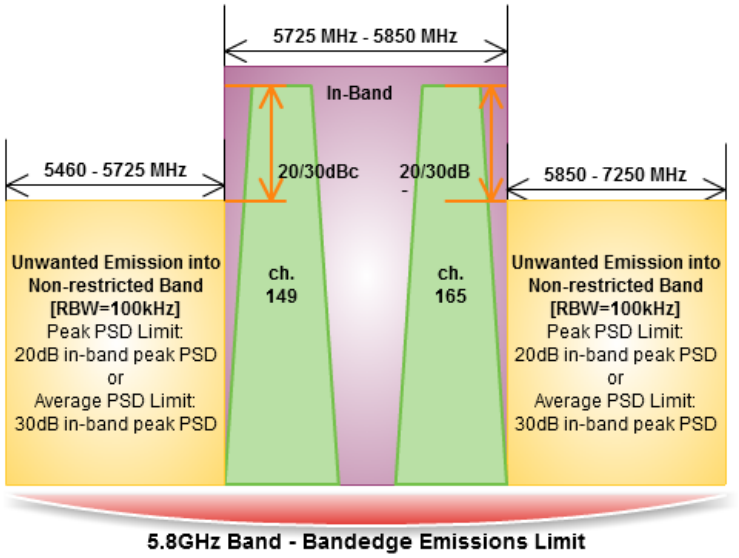
3.2.5 Test Result of Maximum Peak Conducted Output Power

Maximum Peak Conducted Output Power Result						
Condition		RF Output Power (dBm)				
Modulation Mode	Freq. (MHz)	RF Output Power	Power Limit	Antenna Gain (dBi)	EIRP Power	EIRP Limit
11a	5745	15.79	30	2	17.79	36
11a	5785	15.42	30	2	17.42	36
11a	5805	15.96	30	2	17.96	36
HT-20	5745	15.84	30	2	17.84	36
HT-20	5785	15.38	30	2	17.38	36
HT-20	5805	15.21	30	2	17.21	36
Result		Complied				

3.3 Transmitter Radiated Bandedge Emissions

3.3.1 Transmitter Radiated Bandedge Emissions Limit

Transmitter Radiated Bandedge Emissions Limit



3.3.2 Measuring Instruments

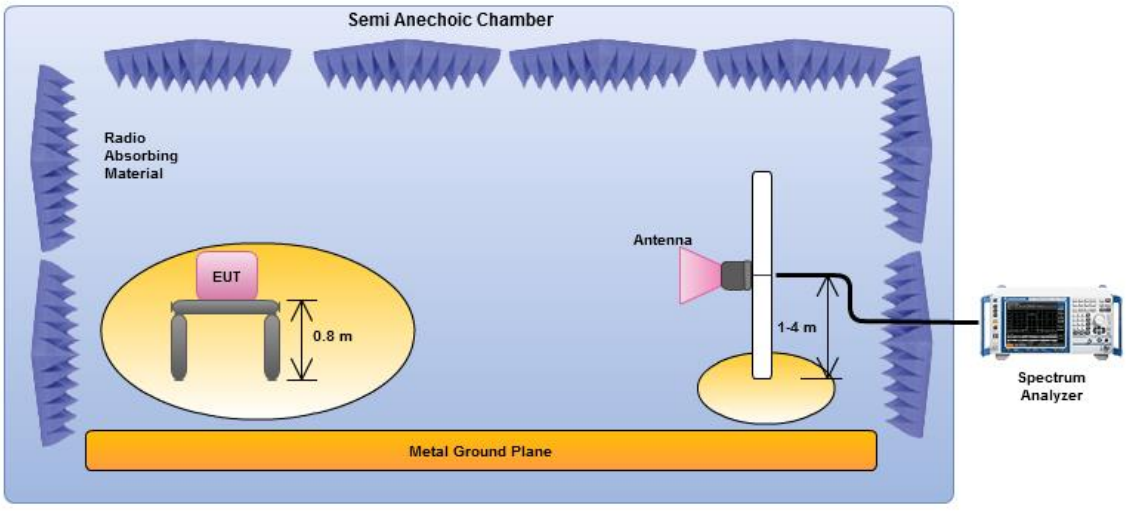
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method		
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
☒	Refer as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
☒	For the transmitter unwanted emissions shall be measured using following options below:	
	☒	Refer as FCC KDB 558074, clause 10.1 for unwanted emissions into non-restricted bands.
	☒	Refer as FCC KDB 558074, clause 10.2 for unwanted emissions into restricted bands.
		☐ Refer as FCC KDB 558074, clause 10.2.3.3 and 8.2.1 Option 1 (spectral trace averaging)
		☐ Refer as FCC KDB 558074, clause 10.2.3.3 and 8.2.1 Option 2 (slow sweep speed).
		☒ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒ Refer as FCC KDB 558074, clause 10.2.3.2 and 8.1.1 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:	
	☐	Refer as FCC KDB 558074, clause 10.2.5.2 for narrower resolution bandwidth using the band power and summing the spectral levels (i.e., 100 kHz or 1 MHz).
	☒	Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.
	☐	Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.

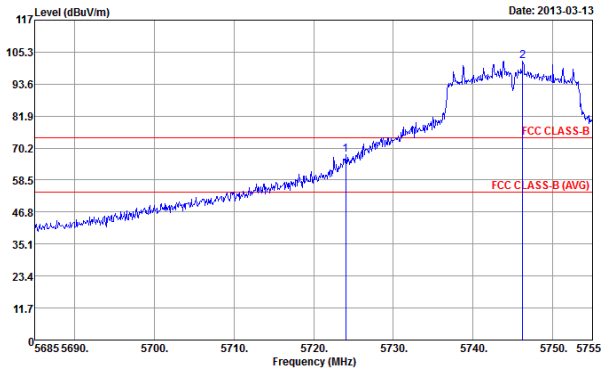
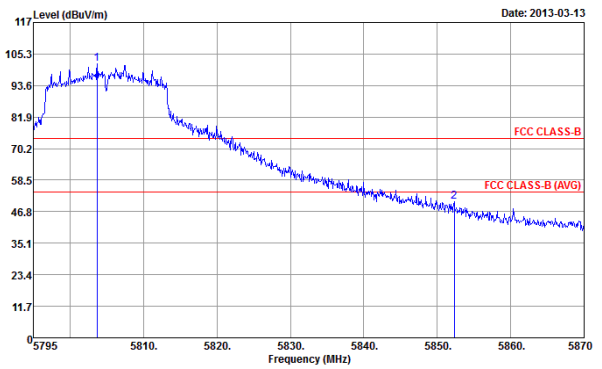
3.3.4 Test Setup

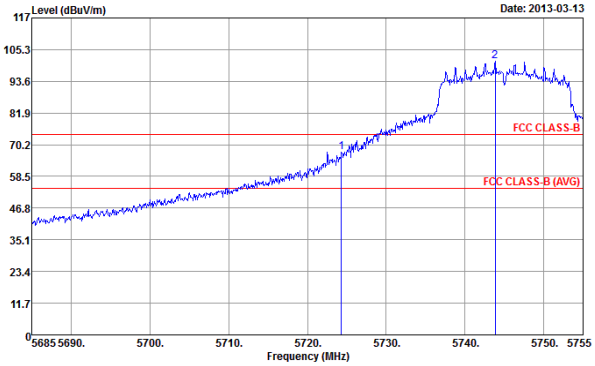
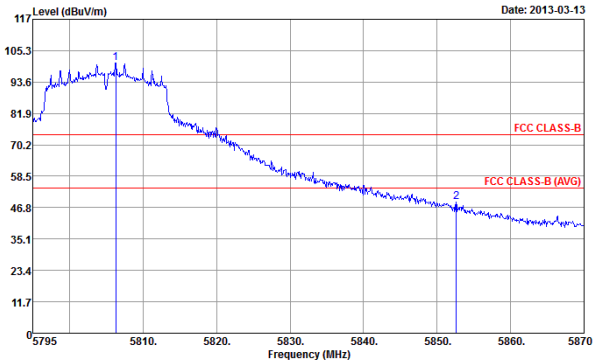
Transmitter Radiated Bandedge Emissions



Electric field tests shall be performed in transmitter bandedge emissions using a calibrated horn antenna.

3.3.5 Test Result of Transmitter Radiated Bandedge Emissions

Transmitter Radiated Bandedge Emissions Result								
Modulation	11a			**N_{TX}**	1			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
5460-5725	5745	102.14	5724.06	67.94	34.2	30	PK	V
5850-7250	5825	101.54	5852.30	50.64	50.9	30	PK	V
Low Bandedge				**Up Bandedge**				
								
Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)								

Transmitter Radiated Bandedge Emissions Result								
Modulation	HT-20			**N_{TX}**	1			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
5460-5725	5745	100.99	5724.34	67.59	33.40	30	PK	V
5850-7250	5825	100.75	5852.60	48.94	51.81	30	PK	V
Low Bandedge				**Up Bandedge**				
								
Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)								

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 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.

3.4.2 Measuring Instruments

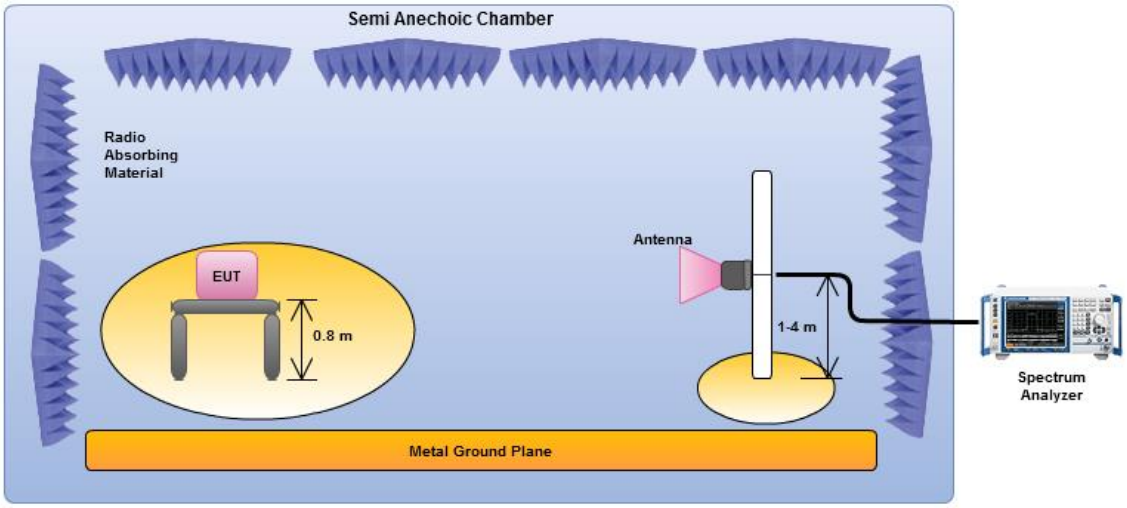
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method			
☒	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).		
	☐	Measurements in the frequency range 5 GHz - 10GHz are typically made at a closer distance 1.0m, because the instrumentation noise floor is typically close to the radiated emission limit.	
	☐	Measurements in the frequency range 10 GHz - 18GHz are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit.	
	☐	Measurements in the frequency range above 18 GHz - 40GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit.	
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
☒	For the transmitter unwanted emissions shall be measured using following options below:		
	☒	Refer as FCC KDB 558074, clause 10.1 for unwanted emissions into non-restricted bands.	
	☒	Refer as FCC KDB 558074, clause 10.2 for unwanted emissions into restricted bands.	
		☐	Refer as FCC KDB 558074, clause 10.2.3.3 and 8.2.1 Option 1 (spectral trace averaging)
		☐	Refer as FCC KDB 558074, clause 10.2.3.3 and 8.2.1 Option 2 (slow sweep speed).
		☒	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074, clause 10.2.3.2 and 8.1.1 measurement procedure peak limit.
		☐	Refer as FCC KDB 558074, clause 10.2.3.1 measurement procedure Quasi-Peak limit.
☒	For radiated measurement, refer as FCC KDB 558074, clause 10.2.1.		
	☒	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.	
☐	For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 10.2.2.		
	☐	For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.	
	☐	For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB	

3.4.4 Test Setup

Transmitter Radiated Unwanted Emissions



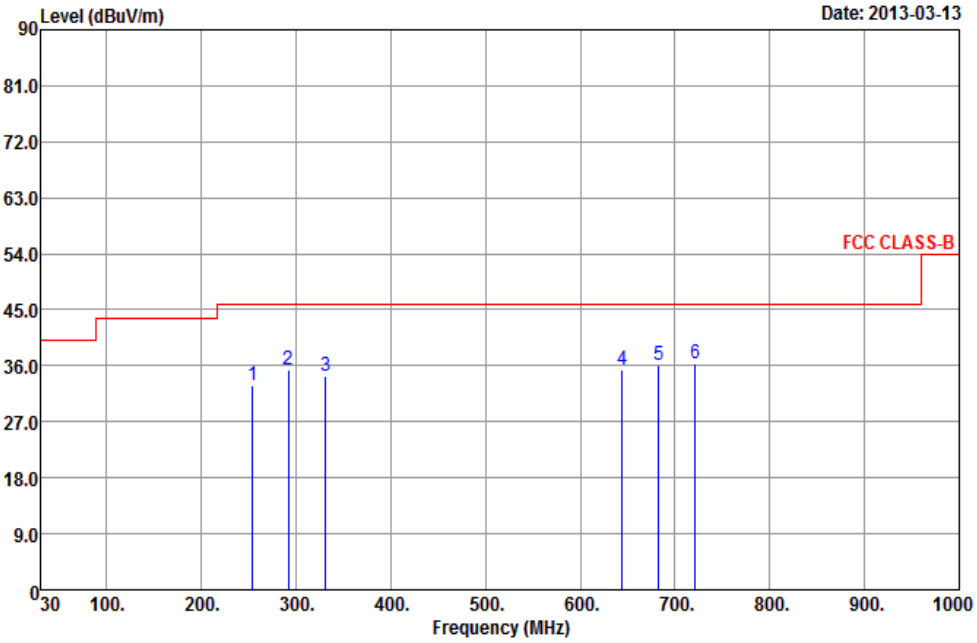
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn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

3.4.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.

3.4.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

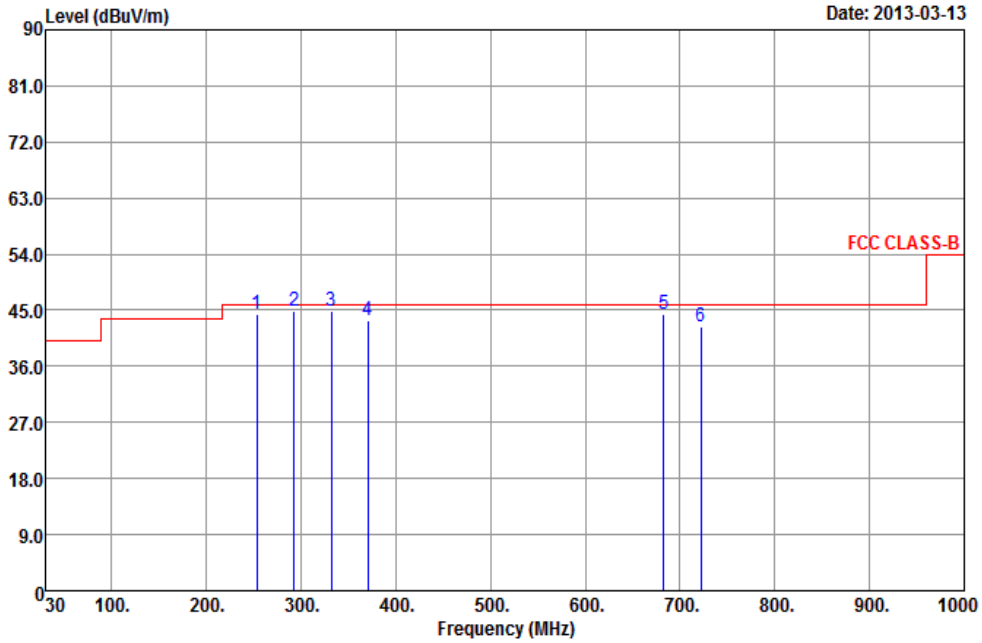
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Polarization**	V
Operating Function	Radio link (WLAN)		



	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	253.62	32.93	-13.07	46.00	49.07	13.07	1.72	30.93	---	---	Peak
2	291.67	35.27	-10.73	46.00	51.21	13.32	1.84	31.10	---	---	Peak
3	331.17	34.28	-11.72	46.00	49.54	13.84	1.94	31.04	---	---	Peak
4	644.25	35.25	-10.75	46.00	42.48	20.47	2.44	30.14	---	---	Peak
5	682.57	36.08	-9.92	46.00	43.24	20.45	2.57	30.18	---	---	Peak
6	721.64	36.33	-9.67	46.00	42.21	21.67	2.65	30.20	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)			
Operating Mode	1	**Polarization**	H
Operating Function	Radio link (WLAN)		

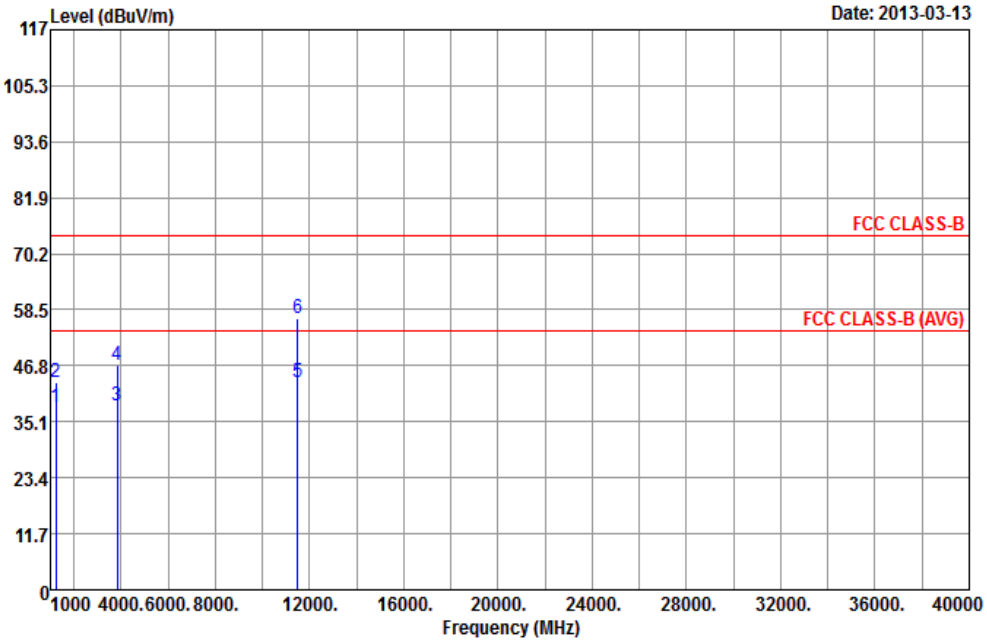


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	253.27	44.29	-1.71	46.00	60.48	13.03	1.71	30.93	---	---	QP
2	292.50	44.91	-1.09	46.00	60.83	13.32	1.84	31.08	---	---	QP
3	331.59	44.85	-1.15	46.00	60.11	13.85	1.93	31.04	---	---	QP
4	370.42	43.25	-2.75	46.00	57.32	14.91	2.05	31.03	---	---	QP
5	682.76	44.26	-1.74	46.00	51.41	20.46	2.57	30.18	---	---	QP
6	721.69	42.28	-3.72	46.00	48.16	21.67	2.65	30.20	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)

3.4.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

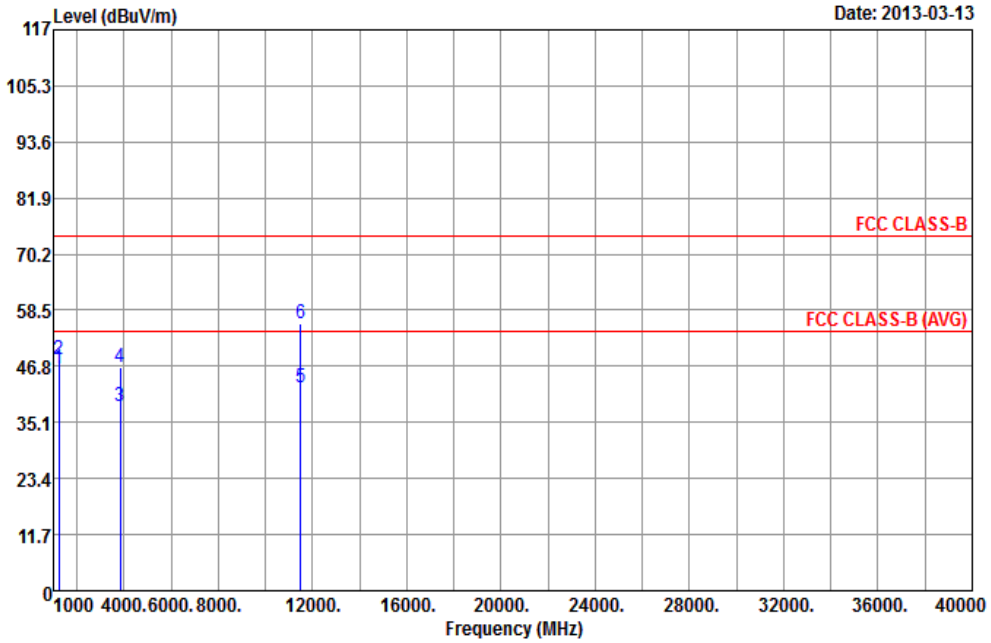
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F1
N_{TX}	1	**Polarization**	V



	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	1228.00	38.24	-15.76	54.00	44.67	27.95	3.18	37.56	---	---	Average
2	1228.00	43.26	-30.74	74.00	49.69	27.95	3.18	37.56	---	---	Peak
3	3830.00	38.61	-15.39	54.00	34.51	33.16	5.88	34.94	---	---	Average
4	3830.00	46.85	-27.15	74.00	42.75	33.16	5.88	34.94	---	---	Peak
5	11490.00	43.22	-10.78	54.00	29.28	38.49	10.35	34.90	---	---	Average
6	11490.00	56.63	-17.37	74.00	42.69	38.49	10.35	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

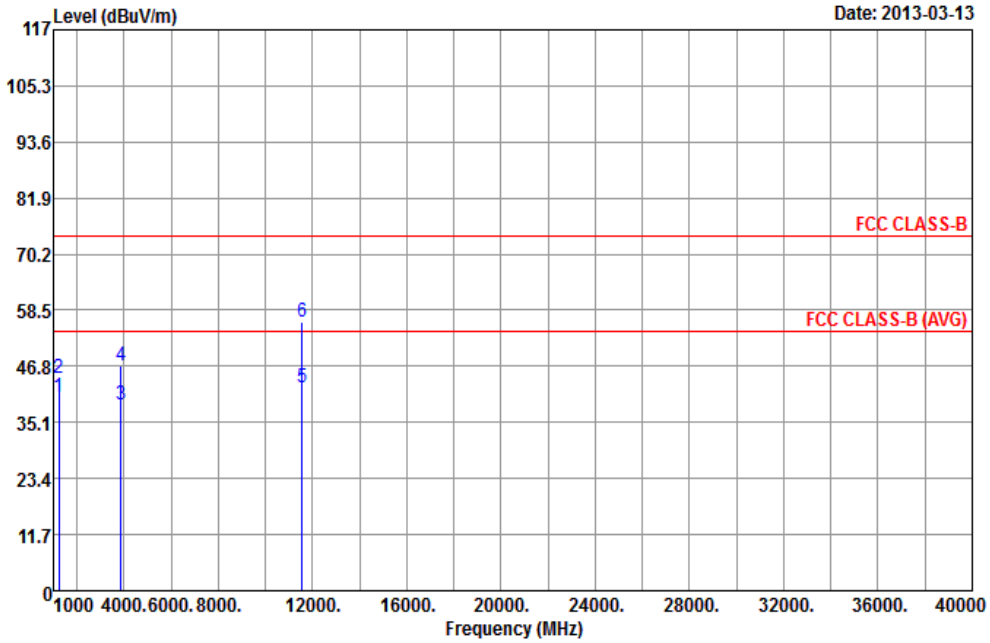
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F1
N_{TX}	1	**Polarization**	H



	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	1228.00	46.21	-7.79	54.00	52.64	27.95	3.18	37.56	---	---	Average
2	1228.00	48.32	-25.68	74.00	54.75	27.95	3.18	37.56	---	---	Peak
3	3830.00	38.38	-15.62	54.00	34.28	33.16	5.88	34.94	---	---	Average
4	3830.00	46.51	-27.49	74.00	42.41	33.16	5.88	34.94	---	---	Peak
5	11490.00	42.23	-11.77	54.00	28.29	38.49	10.35	34.90	---	---	Average
6	11490.00	55.69	-18.31	74.00	41.75	38.49	10.35	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

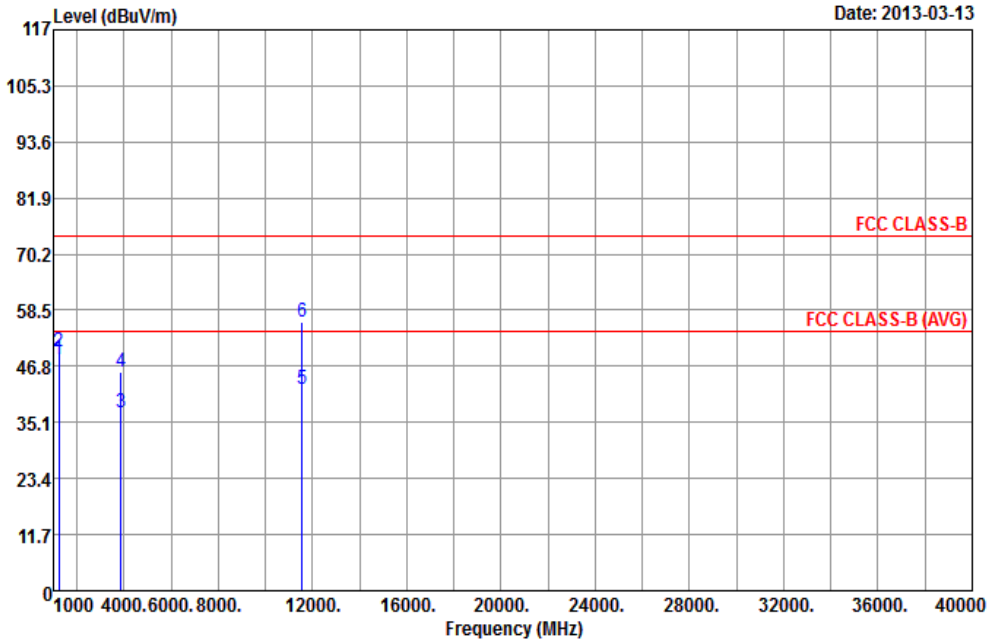
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F2
N_{TX}	1	**Polarization**	V



	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	1228.00	40.25	-13.75	54.00	46.68	27.95	3.18	37.56	---	---	Average
2	1228.00	44.31	-29.69	74.00	50.74	27.95	3.18	37.56	---	---	Peak
3	3856.00	38.82	-15.18	54.00	34.62	33.20	5.89	34.89	---	---	Average
4	3856.00	46.93	-27.07	74.00	42.73	33.20	5.89	34.89	---	---	Peak
5	11570.00	42.34	-11.66	54.00	28.29	38.56	10.39	34.90	---	---	Average
6	11570.00	56.11	-17.89	74.00	42.06	38.56	10.39	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

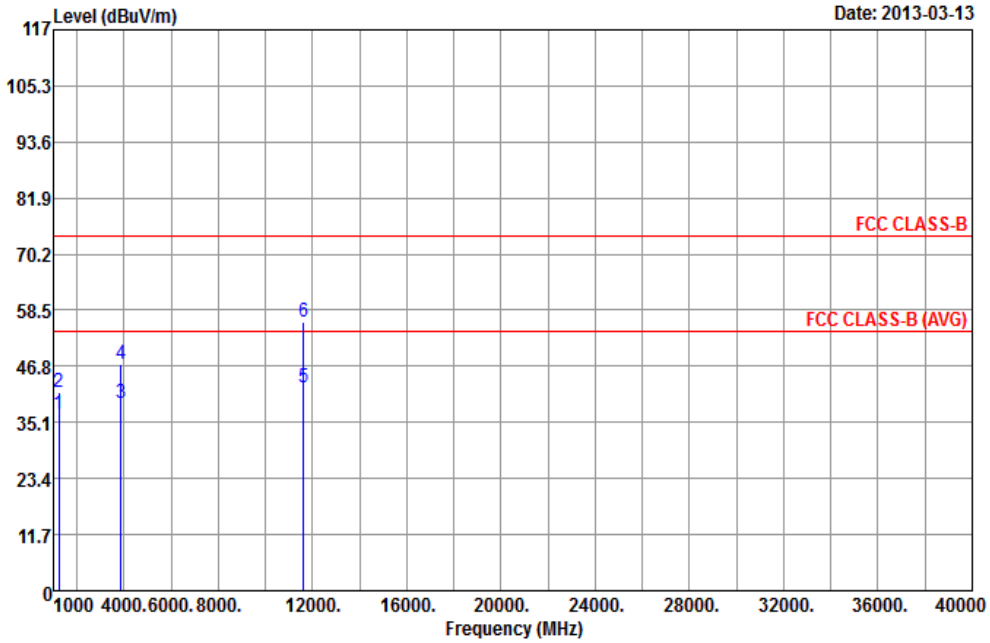
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F2
N_{TX}	1	**Polarization**	H



	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	1228.00	48.36	-5.64	54.00	54.79	27.95	3.18	37.56	---	---	Average
2	1228.00	50.02	-23.98	74.00	56.45	27.95	3.18	37.56	---	---	Peak
3	3856.00	37.22	-16.78	54.00	33.02	33.20	5.89	34.89	---	---	Average
4	3856.00	45.65	-28.35	74.00	41.45	33.20	5.89	34.89	---	---	Peak
5	11570.00	42.14	-11.86	54.00	28.09	38.56	10.39	34.90	---	---	Average
6	11570.00	55.96	-18.04	74.00	41.91	38.56	10.39	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

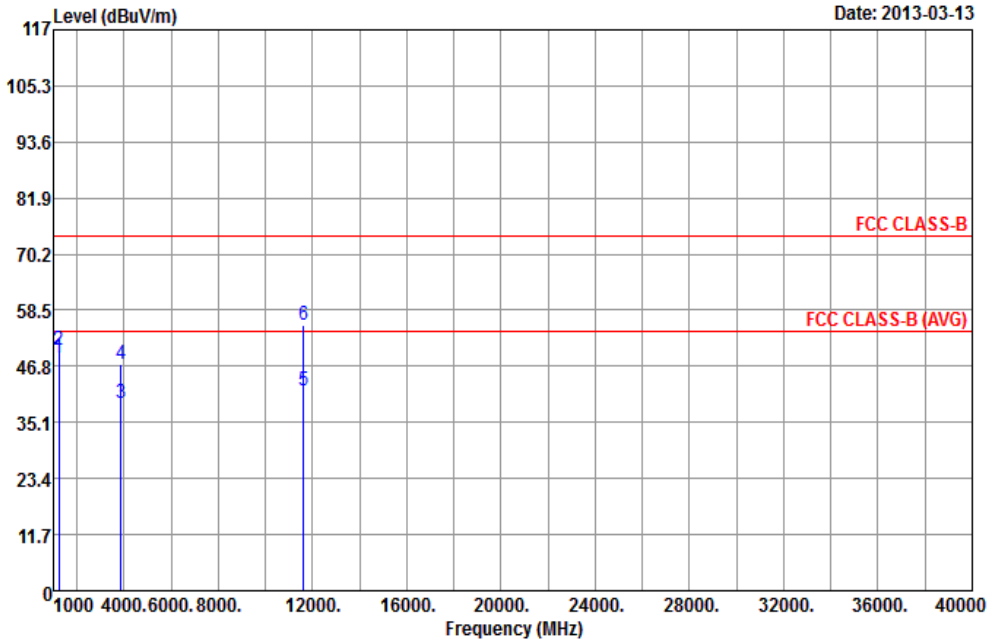
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F3
N_{TX}	1	**Polarization**	V



	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	1228.00	36.92	-17.08	54.00	43.35	27.95	3.18	37.56	---	---	Average
2	1228.00	41.45	-32.55	74.00	47.88	27.95	3.18	37.56	---	---	Peak
3	3870.00	38.95	-15.05	54.00	34.69	33.22	5.90	34.86	---	---	Average
4	3870.00	47.24	-26.76	74.00	42.98	33.22	5.90	34.86	---	---	Peak
5	11610.00	42.36	-11.64	54.00	28.26	38.59	10.41	34.90	---	---	Average
6	11610.00	55.94	-18.06	74.00	41.84	38.59	10.41	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	**Test Freq. (FX)**	F3
N_{TX}	1	**Polarization**	H

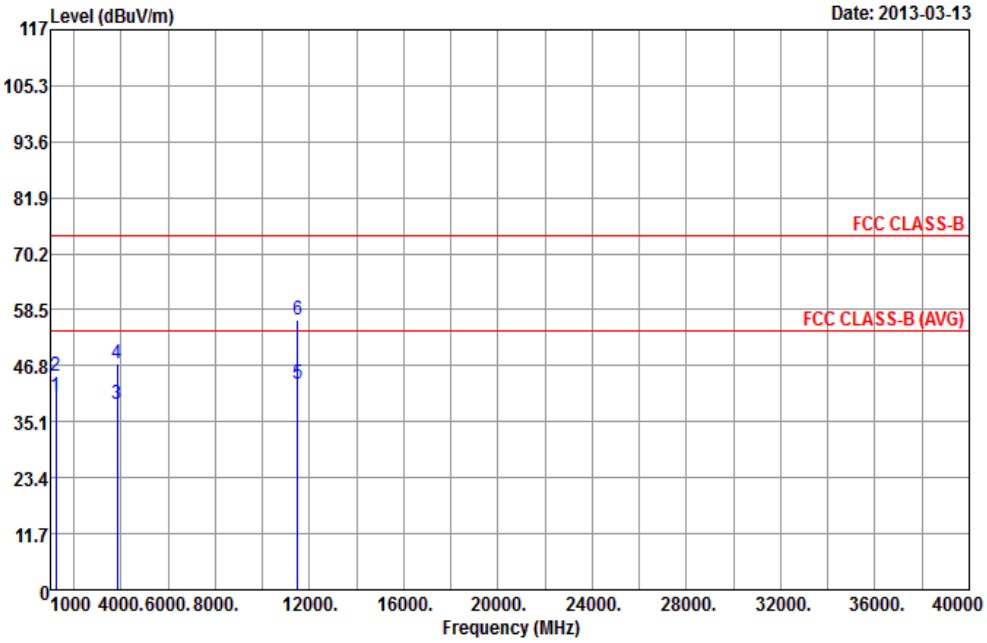


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1228.00	48.56	-5.44	54.00	54.99	27.95	3.18	37.56	---	---	Average
2	1228.00	50.34	-23.66	74.00	56.77	27.95	3.18	37.56	---	---	Peak
3	3870.00	39.06	-14.94	54.00	34.80	33.22	5.90	34.86	---	---	Average
4	3870.00	47.24	-26.76	74.00	42.98	33.22	5.90	34.86	---	---	Peak
5	11610.00	41.83	-12.17	54.00	27.73	38.59	10.41	34.90	---	---	Average
6	11610.00	55.39	-18.61	74.00	41.29	38.59	10.41	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

3.4.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT-20

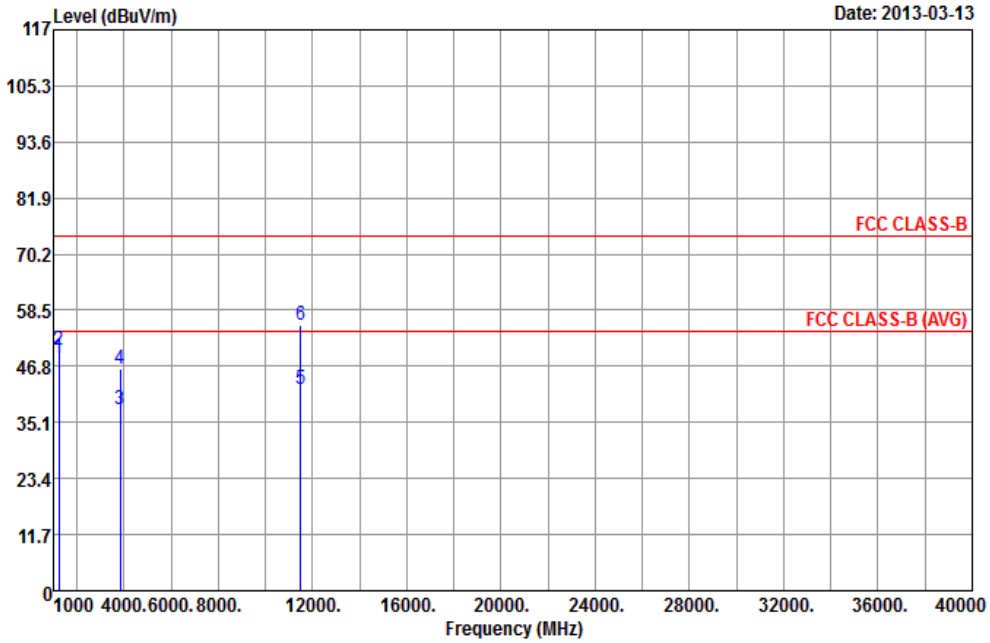
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F1
N_{TX}	1	**Polarization**	V



	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	1228.00	40.25	-13.75	54.00	46.68	27.95	3.18	37.56	---	---	Average
2	1228.00	44.52	-29.48	74.00	50.95	27.95	3.18	37.56	---	---	Peak
3	3830.00	38.85	-15.15	54.00	34.75	33.16	5.88	34.94	---	---	Average
4	3830.00	47.24	-26.76	74.00	43.14	33.16	5.88	34.94	---	---	Peak
5	11490.00	42.93	-11.07	54.00	28.99	38.49	10.35	34.90	---	---	Average
6	11490.00	56.45	-17.55	74.00	42.51	38.49	10.35	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

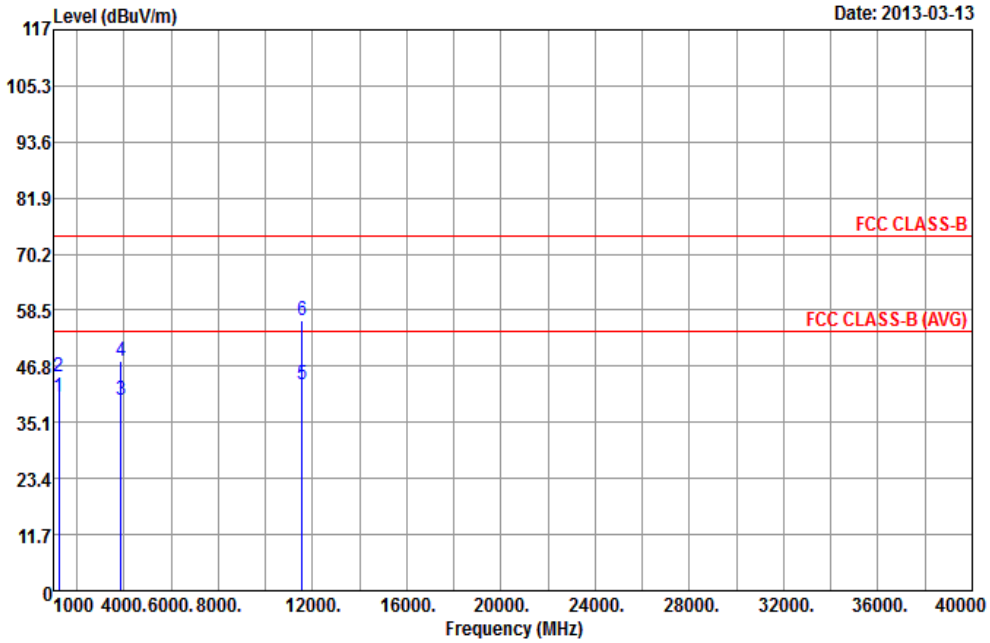
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F1
N_{TX}	1	**Polarization**	H



	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	1228.00	48.56	-5.44	54.00	54.99	27.95	3.18	37.56	---	---	Average
2	1228.00	50.35	-23.65	74.00	56.78	27.95	3.18	37.56	---	---	Peak
3	3830.00	37.95	-16.05	54.00	33.85	33.16	5.88	34.94	---	---	Average
4	3830.00	46.13	-27.87	74.00	42.03	33.16	5.88	34.94	---	---	Peak
5	11490.00	41.88	-12.12	54.00	27.94	38.49	10.35	34.90	---	---	Average
6	11490.00	55.36	-18.64	74.00	41.42	38.49	10.35	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

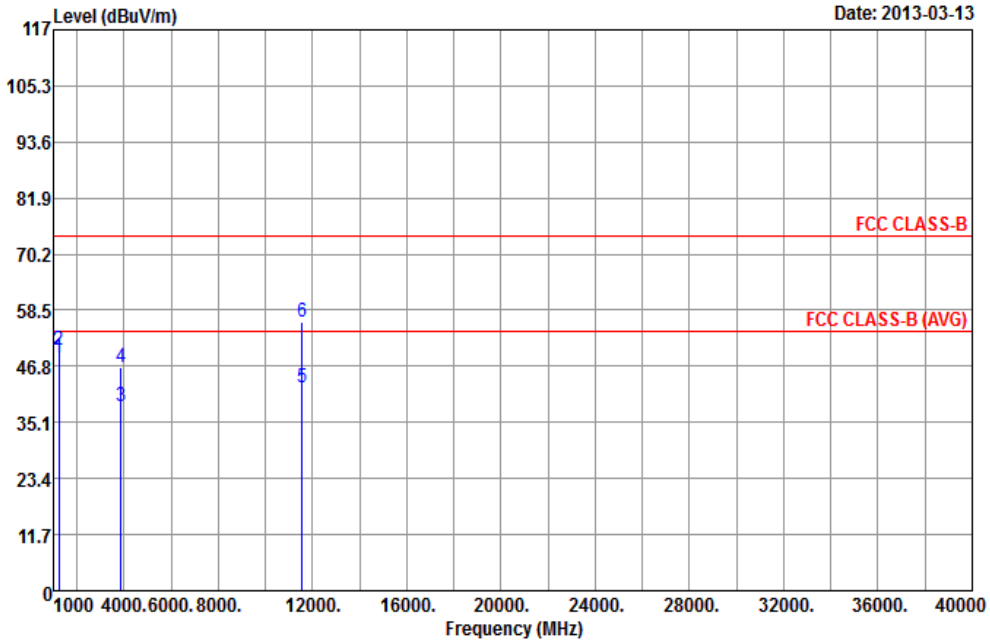
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F2
N_{TX}	1	**Polarization**	V



	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	1228.00	40.29	-13.71	54.00	46.72	27.95	3.18	37.56	---	---	Average
2	1228.00	44.81	-29.19	74.00	51.24	27.95	3.18	37.56	---	---	Peak
3	3856.00	39.68	-14.32	54.00	35.48	33.20	5.89	34.89	---	---	Average
4	3856.00	47.95	-26.05	74.00	43.75	33.20	5.89	34.89	---	---	Peak
5	11570.00	42.93	-11.07	54.00	28.88	38.56	10.39	34.90	---	---	Average
6	11570.00	56.45	-17.55	74.00	42.40	38.56	10.39	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

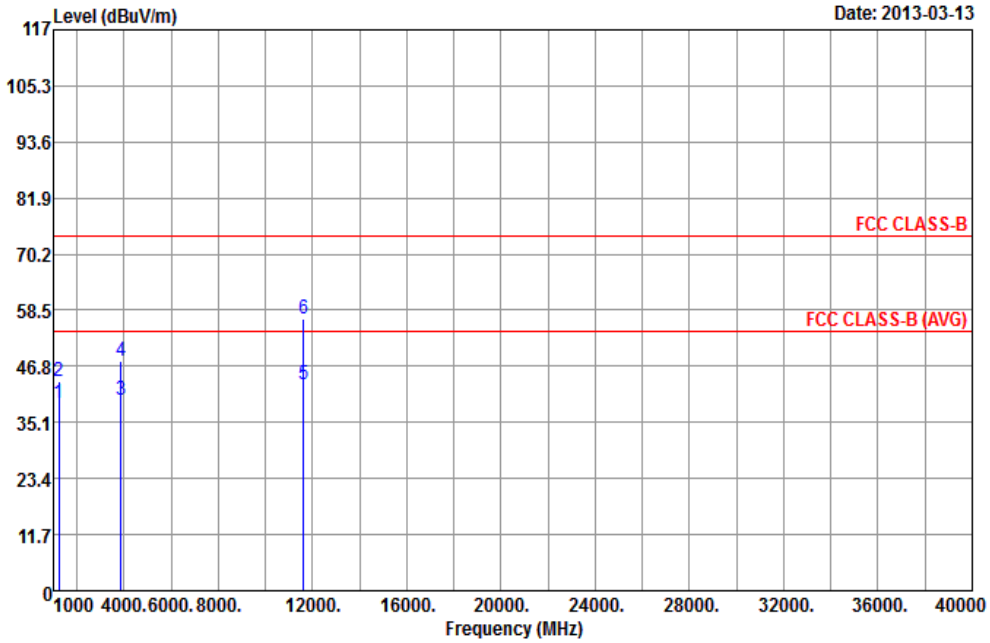
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F2
N_{TX}	1	**Polarization**	H



	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	1228.00	48.56	-5.44	54.00	54.99	27.95	3.18	37.56	---	---	Average
2	1228.00	50.35	-23.65	74.00	56.78	27.95	3.18	37.56	---	---	Peak
3	3856.00	38.43	-15.57	54.00	34.23	33.20	5.89	34.89	---	---	Average
4	3856.00	46.55	-27.45	74.00	42.35	33.20	5.89	34.89	---	---	Peak
5	11570.00	42.34	-11.66	54.00	28.29	38.56	10.39	34.90	---	---	Average
6	11570.00	55.96	-18.04	74.00	41.91	38.56	10.39	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

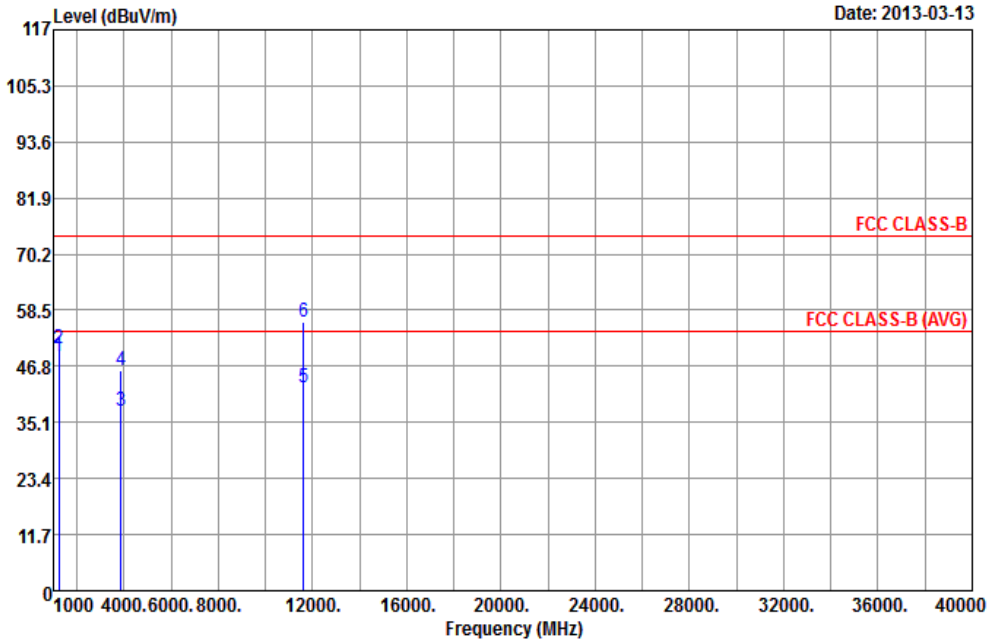
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F3
N_{TX}	1	**Polarization**	V



	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	1228.00	39.25	-14.75	54.00	45.68	27.95	3.18	37.56	---	---	Average
2	1228.00	43.64	-30.36	74.00	50.07	27.95	3.18	37.56	---	---	Peak
3	3870.00	39.82	-14.18	54.00	35.56	33.22	5.90	34.86	---	---	Average
4	3870.00	47.96	-26.04	74.00	43.70	33.22	5.90	34.86	---	---	Peak
5	11610.00	43.15	-10.85	54.00	29.05	38.59	10.41	34.90	---	---	Average
6	11610.00	56.62	-17.38	74.00	42.52	38.59	10.41	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT-20	**Test Freq. (FX)**	F3
N_{TX}	1	**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	1228.00	48.86	-5.14	54.00	55.29	27.95	3.18	37.56	---	---	Average
2	1228.00	50.45	-23.55	74.00	56.88	27.95	3.18	37.56	---	---	Peak
3	3870.00	37.52	-16.48	54.00	33.26	33.22	5.90	34.86	---	---	Average
4	3870.00	45.95	-28.05	74.00	41.69	33.22	5.90	34.86	---	---	Peak
5	11610.00	42.23	-11.77	54.00	28.13	38.59	10.41	34.90	---	---	Average
6	11610.00	55.91	-18.09	74.00	41.81	38.59	10.41	34.90	---	---	Peak

Note 1: “>30dB” means spurious emission levels that exceed the level of 30 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)
Note 4: 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 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 30 dB relative to the maximum measured in-band level.

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9 kHz ~ 2.75 GHz	Nov. 22, 2012	Conduction (CO04-HY)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz – 30MHz	Jan. 21, 2013	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9 kHz ~ 30 MHz	Apr. 20, 2012	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	7.61183201e+012	9kHz ~ 30MHz	Nov. 09, 2012	Conduction (CO04-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP 30	100023/030	9KHz ~ 30GHz	Apr. 27, 2012	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Jun. 19, 2012	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100℃	Nov. 21, 2012	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jun. 26, 2012	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	Sep. 08, 2012	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	Sep. 08, 2012	Conducted (TH01-HY)
RF Cable-2m	HUBER+SUHNER	SUCOFLEX_104	SN 345675/4	1GHz ~ 26.5GHz	NA	Conducted (TH01-HY)
RF Cable-3m	HUBER+SUHNER	SUCOFLEX_104	SN 345669/4	1GHz ~ 26.5GHz	NA	Conducted (TH01-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 02, 2012	Conducted (TH01-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP	100055	9Kz – 40GHz	Jun. 06, 2012	Radiation (03CH05-HY)
Receiver	R&S	ESIB26	100337	20Hz – 26.5GHz	Jun.21, 2012	Radiation (03CH05-HY)
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH05-HY	30 MHz - 1 GHz 3m	N/A	Radiation (03CH05-HY)
Amplifier	COM-POWER	PA-103	161050	1 MHz ~ 1 GHz	Mar. 20, 2012	Radiation (03CH05-HY)
Amplifier	Agilent	8449B	3008A02665	1GHz – 26.5 GHz	Aug. 28, 2012	Radiation (03CH05-HY)
Horn Antenna	ETS-LINDGREN	3117	66584	1GHz~18GHz	Aug. 09, 2012	Radiation (03CH05-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170517	18G~40G	Jan. 14, 2013	Radiation (03CH05-HY)
RF Cable-R03m	Jye Bao	RG142	03CH05-HY	30 MHz - 1 GHz	Oct. 14, 2012	Radiation (03CH05-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX104	03CH05-HY	1GHz~40GHz	Oct. 14, 2012	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30 MHz - 1 GHz	Oct. 06, 2012	Radiation (03CH05-HY)
Turn Table	HD	HD100	420/611	0 - 360 degree	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	HD100	240/666	1 m - 4 m	N/A	Radiation (03CH05-HY)

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