

# FCC Test Report

**Equipment** : 2x2 802.11a/b/g/n +BT Module(SiP)  
**Brand Name** : Qualcomm Atheros  
**Model No.** : QCA6234  
**FCC ID** : PPD-QCA6234  
**Standard** : 47 CFR FCC Part 15.247  
**Operating Band** : 5725 MHz – 5850 MHz  
**FCC Classification** : DTS  
**Applicant** : Dell Inc.  
**Manufacturer** : One Dell Way, Round Rock, Texas 78682, USA

The product sample received on Sep. 04, 2013 and completely tested on Sep. 13, 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





# Table of Contents

- 1 GENERAL DESCRIPTION .....5**
- 1.1 Information.....5
- 1.2 Support Equipment.....6
- 1.3 Testing Applied Standards .....6
- 1.4 Testing Location Information .....6
- 1.5 Measurement Uncertainty .....6
- 2 TEST CONFIGURATION OF EUT .....7**
- 2.1 The Worst Case Measurement Configuration.....7
- 2.2 Test Setup Diagram .....8
- 3 TRANSMITTER TEST RESULT .....9**
- 3.1 RF Output Power.....9
- 3.2 Transmitter Bandedge Emissions .....12
- 3.3 Transmitter Unwanted Emissions.....15
- 4 TEST EQUIPMENT AND CALIBRATION DATA .....42**

**APPENDIX A. TEST PHOTOS**

**APPENDIX B. PHOTOGRAPHS OF EUT**



### Summary of Test Result

Conformance Test Specifications					
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result
1.1.1	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.247(b)	RF Output Power (Maximum Conducted (Average) Output Power)	Power [dBm]:13.33	Power [dBm]:30	Complied
3.2	15.247(c)	Transmitter Bandedge Emissions	Non-Restricted Bands: 5722.37MHz: 29.97dB	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied
3.3	15.247(c)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 1m]: 17473.780MHz 68.15 (Margin 15.39dB) – PK 60.11 (Margin 3.43dB) – AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
5725-5850	a	5720-5825	144-165 [6]	2	13.20
5725-5850	n (HT20)	5720-5825	144-165 [6]	2	13.33
5725-5850	n (HT40)	5710-5795	142-159 [3]	2	13.28

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.  
 Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

### 1.1.2 Antenna Information

Antenna Category	
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input checked="" type="checkbox"/>	Temporary RF connector provided
<input type="checkbox"/>	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.

Antenna General Information			
No.	Ant. Cat.	Ant. Type	Gain (dBi)
1	Integral	PIFA	1.07
2	Integral	PIFA	-0.25

### 1.1.3 EUT Operational Condition

Supply Voltage	<input checked="" type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC	
Type of DC Source	<input type="checkbox"/> Internal DC supply	<input checked="" type="checkbox"/> External DC adapter	<input checked="" type="checkbox"/> Li-on Battery

## 1.2 Support Equipment

Support Equipment- Radiated Emission Test			
No.	Equipment	Brand Name	Model Name
1	Notebook	DELL	E5520
2	AC Adaptor (For Tablet PC use)	DVE	HA24NM130
3	Tablet PC (Built in Qualcomm Atheros module)	DELL	T06G.../T06G001 ("." Can be 0-9, A-Z or blank)

## 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			
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test Condition	Test Site No.	Test Engineer	Test Environment
Radiated Emission	03CH03-HY	Eddie	23.7°C / 54.5%




## 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))

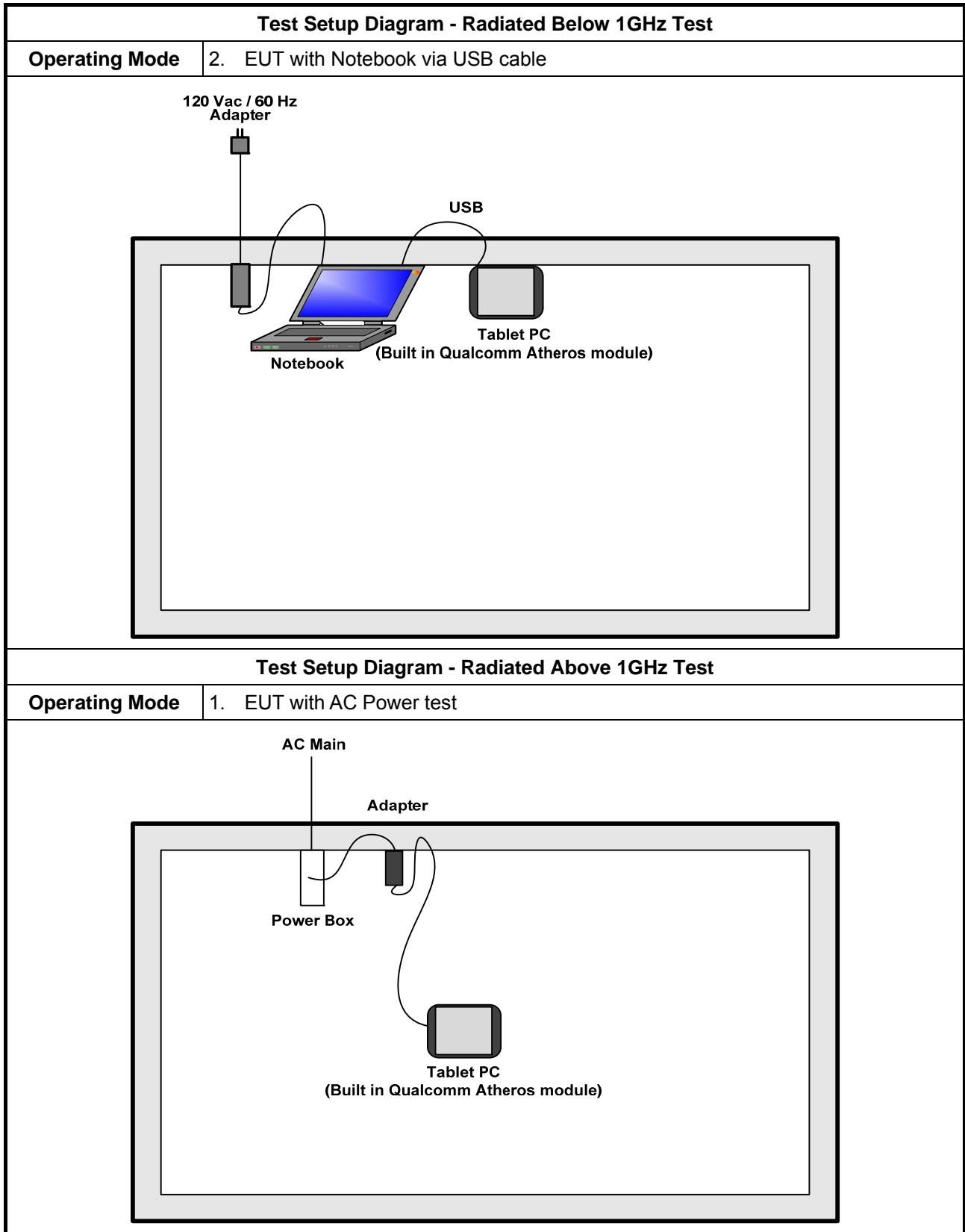
Measurement Uncertainty			
Test Item		Uncertainty	Limit
All emissions, radiated	30 – 1000 MHz	±2.56 dB	N/A
	1 – 18 GHz	±3.59 dB	N/A
	18 – 40 GHz	±3.82 dB	N/A
	40 – 200 GHz	N/A	N/A
Duty Cycle		±1.42 %	N/A

## 2 Test Configuration of EUT

### 2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
<b>Tests Item</b>	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions		
<b>Test Condition</b>	Radiated measurement		
<b>User Position</b>	<input type="checkbox"/> EUT will be placed in fixed position.		
	<input checked="" type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is X.		
	<input type="checkbox"/> 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.		
<b>Operating Mode &lt; 1GHz</b>	<input checked="" type="checkbox"/> 1. EUT with AC Power test		
	<input checked="" type="checkbox"/> 2. EUT with Notebook via USB cable		
	For operating mode 2 is the worst case and it was record in this test report.		
<b>Operating Mode &gt; 1GHz</b>	<input checked="" type="checkbox"/> 1. EUT with AC Power test		
<b>Modulation Mode</b>	11a, HT20, HT40		
<b>Orthogonal Planes of EUT</b>	<b>X Plane</b>	<b>Y Plane</b>	<b>Z Plane</b>
			

## 2.2 Test Setup Diagram







### 3 Transmitter Test Result

#### 3.1 RF Output Power

##### 3.1.1 RF Output Power Limit

RF Output Power Limit	
<b>Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit</b>	
<input checked="" type="checkbox"/>	5725-5850 MHz Band:
<input checked="" type="checkbox"/>	If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
<input checked="" type="checkbox"/>	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
<input type="checkbox"/>	Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30$ dBm
<b>e.i.r.p. Power Limit:</b>	
<input checked="" type="checkbox"/>	5725-5850 MHz Band
<input checked="" type="checkbox"/>	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
<input type="checkbox"/>	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.	

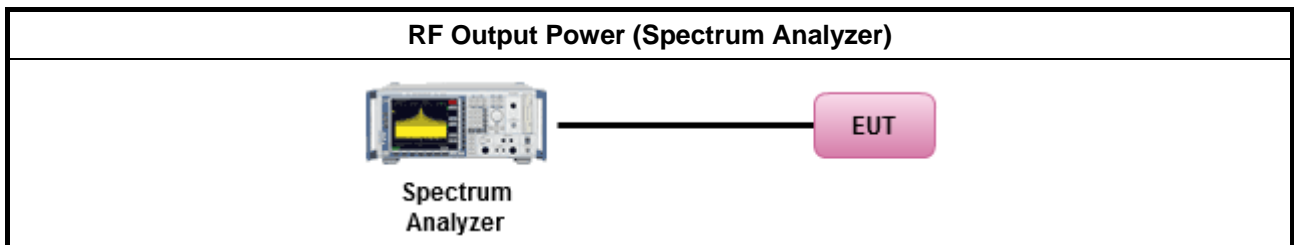
##### 3.1.2 Measuring Instruments

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

### 3.1.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	Maximum Peak Conducted Output Power
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.2 Option 2 (integrated band power method).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.1.3 Option 2 (peak power meter for VBW ≥ DTS BW)
<input checked="" type="checkbox"/>	Maximum Conducted Output Power
	[duty cycle ≥ 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	RF power meter and average over on/off periods with duty factor or gated trigger
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter).
<input checked="" type="checkbox"/>	For conducted measurement.
<input checked="" type="checkbox"/>	The EUT supports single transmit chain and measurements performed on this transmit chain.
<input type="checkbox"/>	The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

### 3.1.4 Test Setup



### 3.1.5 Directional Gain for Power Measurement

Directional Gain (DG) Result				
Transmit Chains No.	1	2	-	-
Maximum G <sub>ANT</sub> (dBi)	1.07	-0.25	-	-
Modulation Mode	N <sub>TX</sub>	N <sub>SS</sub> (Min.)	Array Gain (dB)	Power DG (dBi) Note <sup>3</sup>
11a,6-54Mbps	2	2	-	0.46
HT20, M8-M15	2	2	0	0.46
HT40, M8-M15	2	2	0	0.46

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:  
Any transmit signals are correlated, Directional Gain = G<sub>ANT</sub> + 10 log(N<sub>TX</sub>)  
All transmit signals are completely uncorrelated, Directional Gain = G<sub>ANT</sub>

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:  
Any transmit signals are correlated, Directional Gain = 10 log[(10<sup>G<sub>1</sub>/20</sup> + ... + 10<sup>G<sub>N</sub>/20</sup>)<sup>2</sup> / N<sub>TX</sub>]  
All transmit signals are completely uncorrelated, Directional Gain = 10 log[(10<sup>G<sub>1</sub>/10</sup> + ... + 10<sup>G<sub>N</sub>/10</sup>) / N<sub>TX</sub>]

Note 3: For Spatial Multiplexing, Directional Gain (DG) = G<sub>ANT</sub> + 10 log(N<sub>TX</sub>/N<sub>SS</sub>),  
where N<sub>SS</sub> = the number of independent spatial streams data.

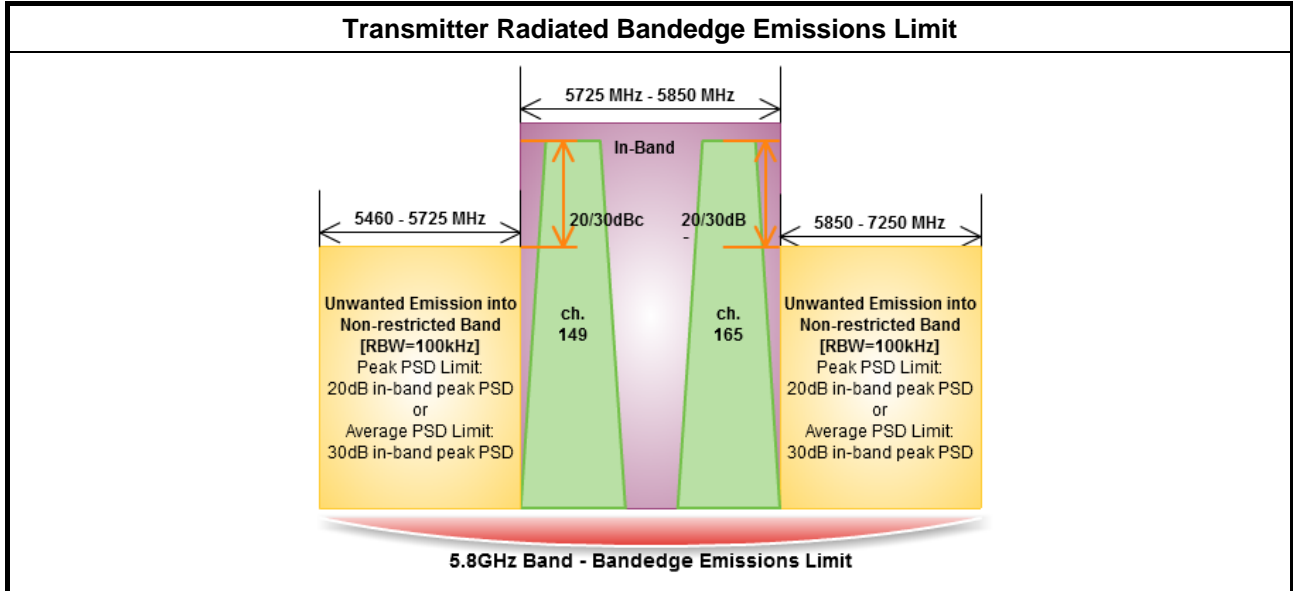
Note 4: For CDD transmissions, directional gain is calculated as power measurements:  
Directional Gain (DG) = G<sub>ANT</sub> + Array Gain, where Array Gain is as follows:  
Array Gain = 0 dB (i.e., no array gain) for N<sub>TX</sub> ≤ 4;  
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N<sub>TX</sub>;

### 3.1.6 Test Result of Maximum Conducted Output Power

Maximum Conducted Output Power Result									
Condition			RF Output Power (dBm)						
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11a	2	5720	10.22	10.16	13.20	30.00	0.46	13.66	36.00
11a	2	5745	10.49	8.74	12.71	30.00	0.46	13.17	36.00
11a	2	5785	10.84	9.34	13.16	30.00	0.46	13.62	36.00
11a	2	5825	10.82	8.13	12.69	30.00	0.46	13.15	36.00
HT20	2	5720	10.10	9.85	12.99	30.00	0.46	13.45	36.00
HT20	2	5745	10.45	8.50	12.59	30.00	0.46	13.05	36.00
HT20	2	5785	10.61	9.06	12.91	30.00	0.46	13.37	36.00
HT20	2	5825	11.35	8.97	13.33	30.00	0.46	13.79	36.00
HT40	2	5710	9.46	9.15	12.32	30.00	0.46	12.78	36.00
HT40	2	5755	10.70	8.60	12.79	30.00	0.46	13.25	36.00
HT40	2	5795	11.00	9.40	13.28	30.00	0.46	13.74	36.00
<b>Result</b>			<b>Complied</b>						

### 3.2 Transmitter Bandedge Emissions

#### 3.2.1 Transmitter Radiated Bandedge Emissions Limit



#### 3.2.2 Measuring Instruments

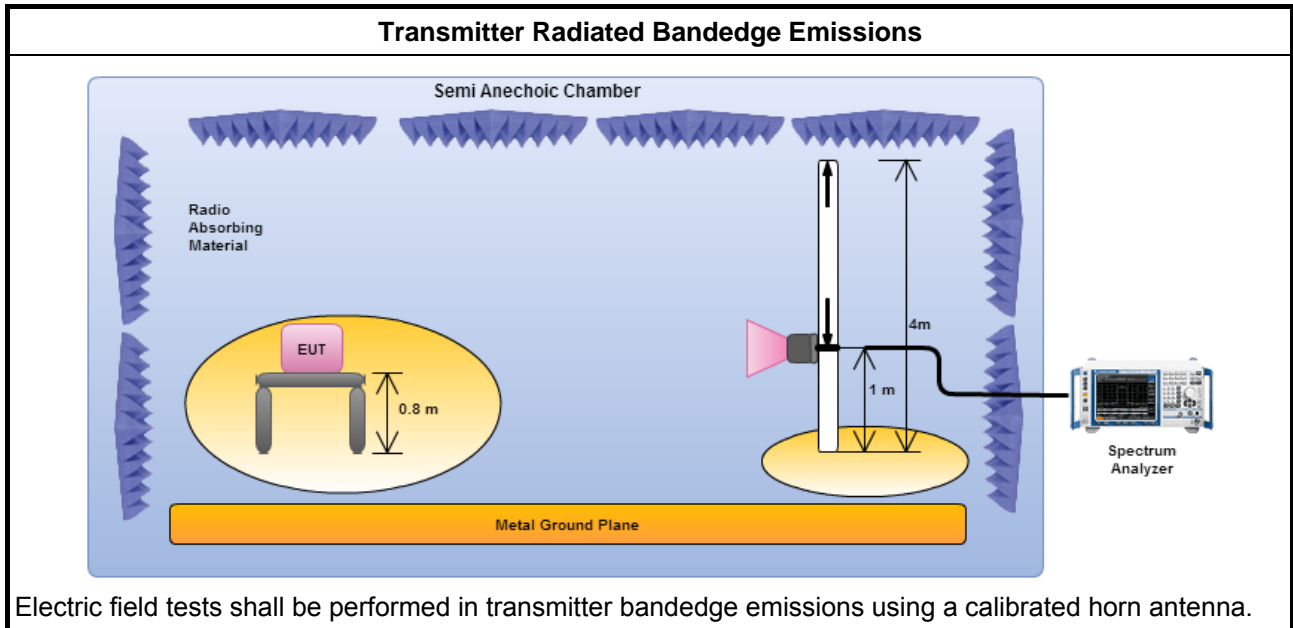
Refer a test equipment and calibration data table in this test report.



3.2.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	For the transmitter unwanted emissions shall be measured using following options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq$ 98%)
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq$ 1/T).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit.
<input checked="" type="checkbox"/>	For the transmitter bandedge emissions shall be measured using following options below:
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.
<input checked="" type="checkbox"/>	For radiated measurement, refer as FCC KDB 558074, clause 12.2.7.
<input checked="" type="checkbox"/>	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 bandedge are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit.

### 3.2.4 Test Setup



### 3.2.5 Transmitter Radiated Bandedge Emissions

5710-5850MHz Transmitter Radiated Bandedge Emissions								
Modulation	N <sub>TX</sub>	Test Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Pol.
11a	2	5720	110.21	5714.840	61.29	48.92	20	V
11a	2	5745	107.60	5724.34	68.46	39.14	20	V
11a	2	5825	105.66	5855.21	61.27	44.39	20	V
HT20, M8-15	2	5720	109.37	5713.400	61.20	48.17	20	V
HT20, M8-15	2	5745	107.10	5725.00	69.19	37.91	20	V
HT20, M8-15	2	5825	105.12	5856.31	62.27	42.85	20	V
HT40, M8-15	2	5710	106.56	5704.76	62.22	44.34	20	V
HT40, M8-15	2	5755	105.01	5722.37	75.04	29.97	20	V
HT40, M8-15	2	5795	105.49	5789.73	60.63	44.86	20	V

Note 1: Measurement worst emissions of receive antenna polarization

### 3.3 Transmitter Unwanted Emissions

#### 3.3.1 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.

#### 3.3.2 Measuring Instruments

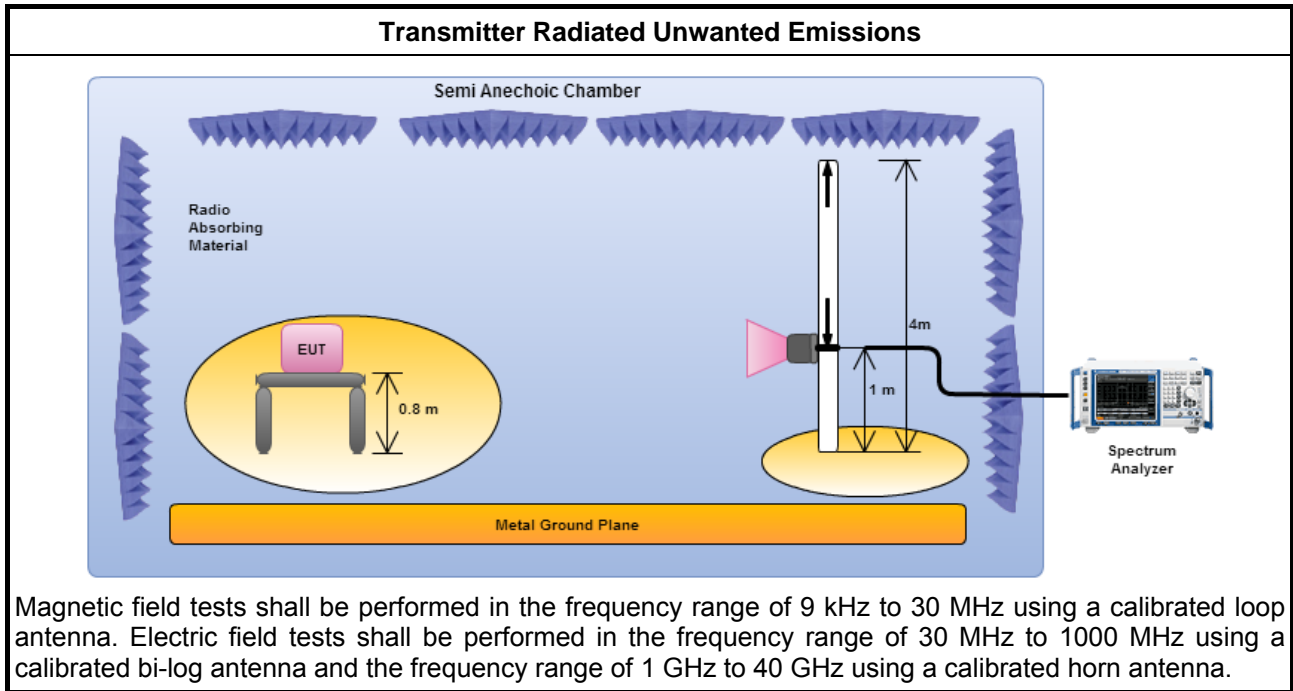
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
<input checked="" type="checkbox"/>	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).
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	Measurements in the frequency range above 18 GHz - 25GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit.
<input checked="" type="checkbox"/>	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
<input checked="" type="checkbox"/>	For the transmitter unwanted emissions shall be measured using following options below:
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq$ 98%)
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
<input type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq$ 1/T).
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit.
<input checked="" type="checkbox"/>	Refer as FCC KDB 558074, clause 12.2.3 measurement procedure Quasi-Peak limit.
<input checked="" type="checkbox"/>	For radiated measurement, refer as FCC KDB 558074, clause 12.2.7.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.



### 3.3.4 Test Setup



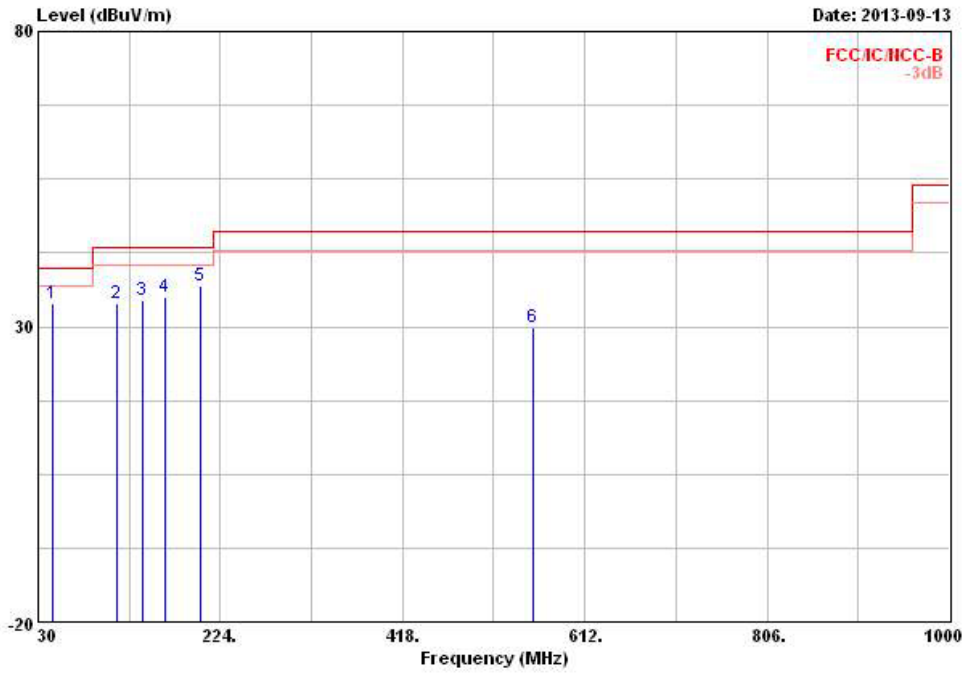
### 3.3.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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



3.3.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	2	Polarization	V
Operating Function	EUT with Notebook via USB cable		

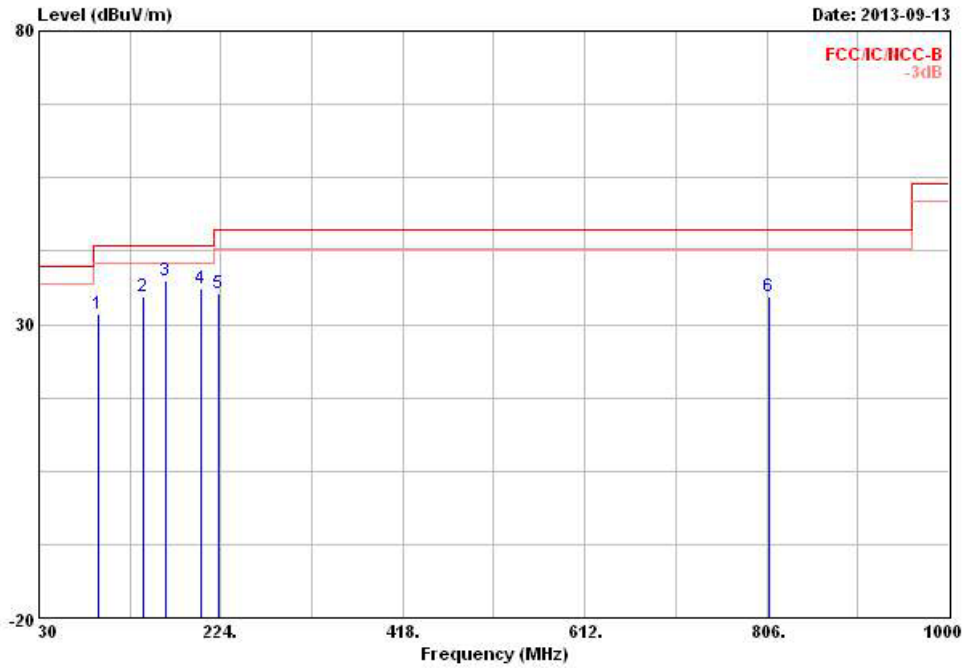


	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table				
Freq	Level	Limit	Level	Loss	Factor	Pos	Pos				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB				
1 @	44.550	33.94	-6.06	40.00	50.81	9.76	0.96	27.59	Peak	---	---
2	113.420	34.04	-9.46	43.50	47.71	12.09	1.57	27.33	Peak	---	---
3	141.550	34.49	-9.01	43.50	48.97	10.98	1.76	27.22	Peak	---	---
4	164.830	34.97	-8.53	43.50	50.45	9.79	1.86	27.13	Peak	---	---
5 @	203.630	37.01	-6.49	43.50	52.62	9.28	2.10	26.99	Peak	---	---
6	556.710	29.74	-16.26	46.00	35.54	18.60	3.54	27.94	Peak	---	---

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)

Operating Mode	2	Polarization	H
Operating Function	EUT with Notebook via USB cable		

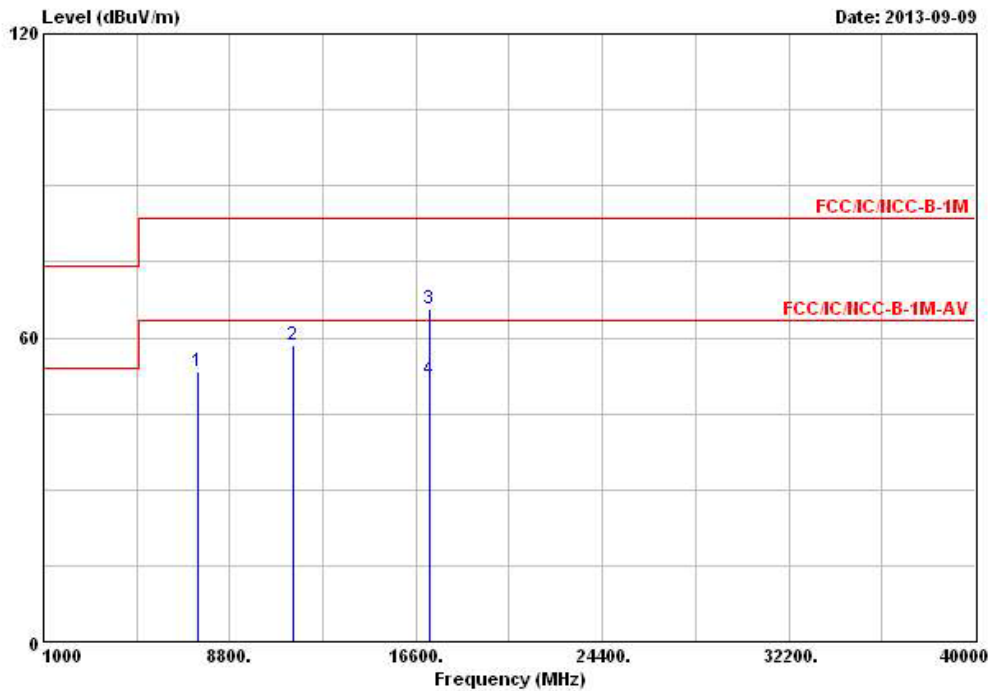


	Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table		
Freq	Level	Limit	Level	Factor	Loss	Factor	Remark	Pos	Pos		
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1	94.020	31.65	-11.85	43.50	47.56	10.10	1.40	27.41	Peak	---	---
2	141.550	34.66	-8.84	43.50	49.14	10.98	1.76	27.22	Peak	---	---
3 @	164.830	37.43	-6.07	43.50	52.91	9.79	1.86	27.13	Peak	---	---
4	203.630	36.06	-7.44	43.50	51.67	9.28	2.10	26.99	Peak	---	---
5	222.060	35.20	-10.80	46.00	50.46	9.48	2.18	26.92	Peak	---	---
6	808.910	34.76	-11.24	46.00	38.31	19.90	4.33	27.78	Peak	---	---

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)

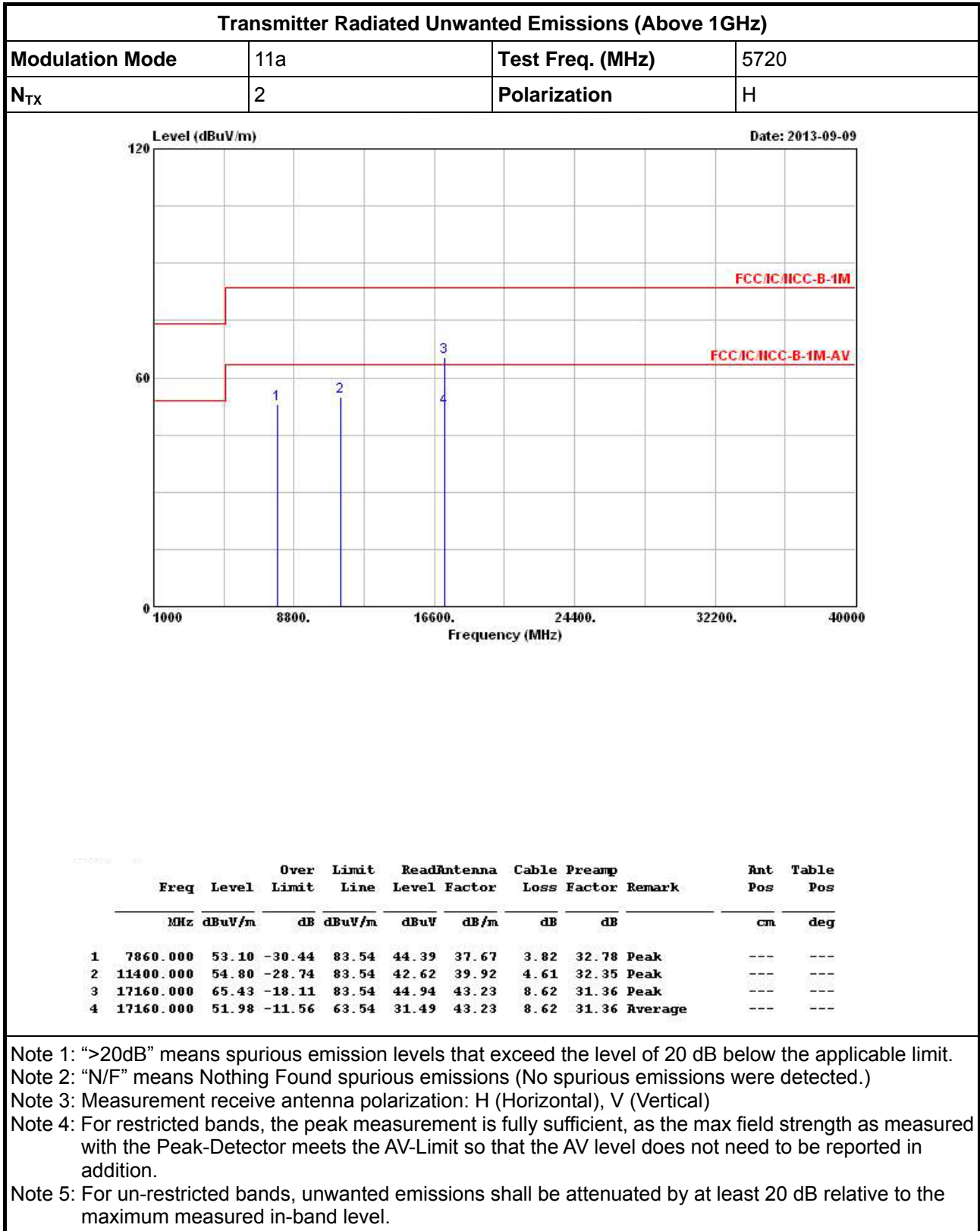
3.3.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	Test Freq. (MHz)	5720
N <sub>TX</sub>	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7436.000	53.32	-30.22	83.54	44.62	37.23	4.17	32.70	Peak	---	---
2	11440.000	58.69	-24.85	83.54	46.43	39.98	4.62	32.34	Peak	---	---
3	17160.000	65.78	-17.76	83.54	45.29	43.23	8.62	31.36	Peak	---	---
4	17160.000	51.84	-11.70	63.54	31.35	43.23	8.62	31.36	Average	---	---

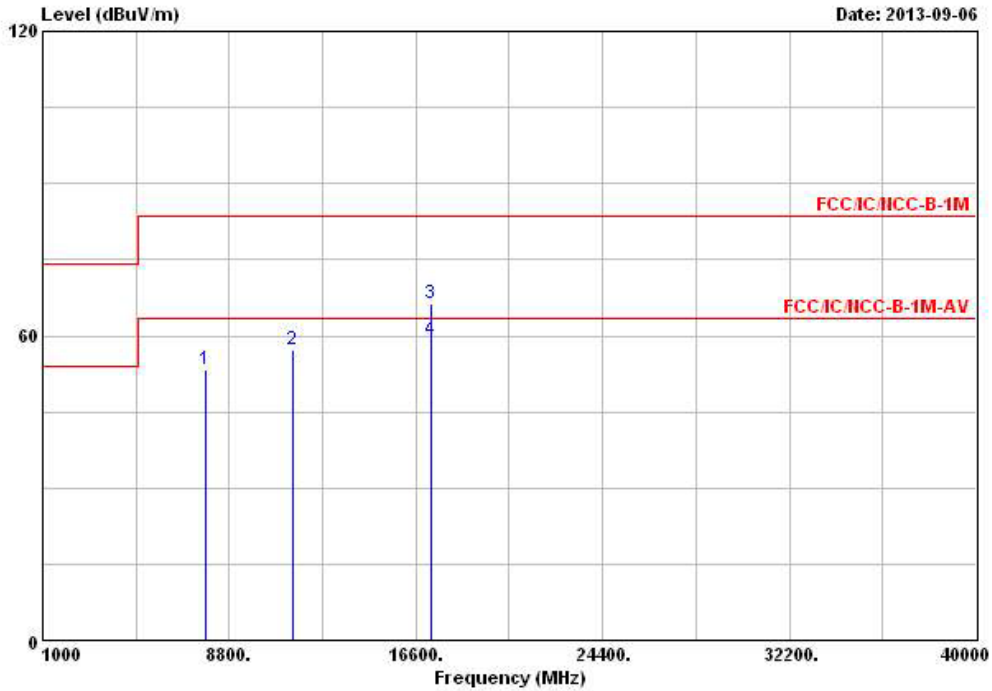
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted 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 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5745
N <sub>TX</sub>	2	Polarization	V



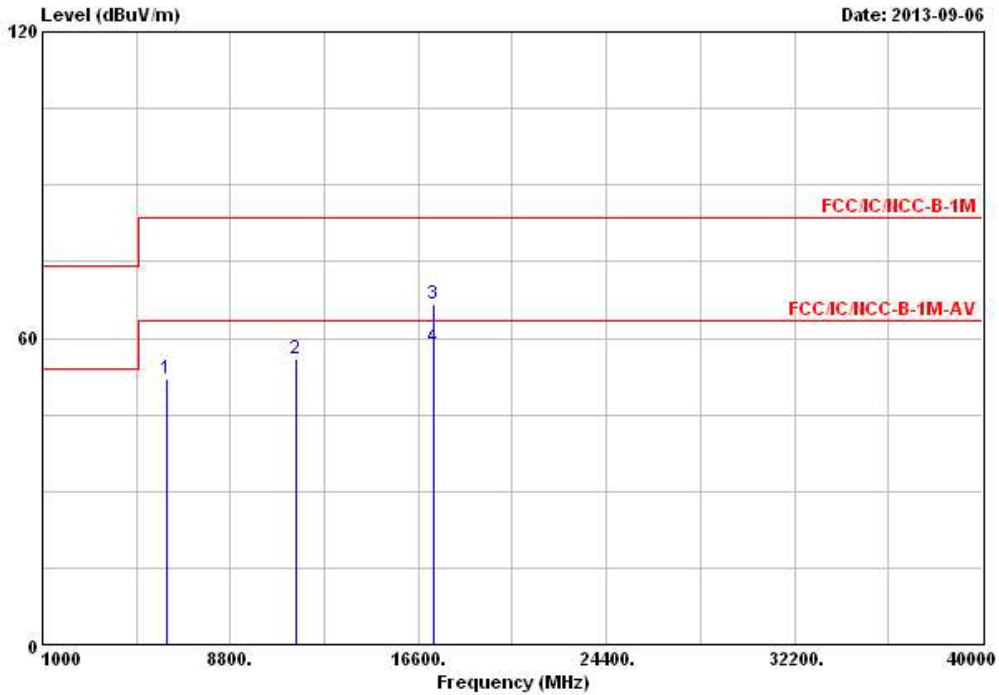
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7836.000	53.35	-30.19	83.54	44.64	37.63	3.85	32.77	Peak	---	---
2	11488.780	57.33	-26.21	83.54	44.97	40.07	4.63	32.34	Peak	---	---
3	17235.000	66.26	-17.28	83.54	45.06	43.81	8.77	31.38	Peak	---	---
4	@17235.000	59.30	-4.24	63.54	38.10	43.81	8.77	31.38	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5745
N <sub>TX</sub>	2	Polarization	H



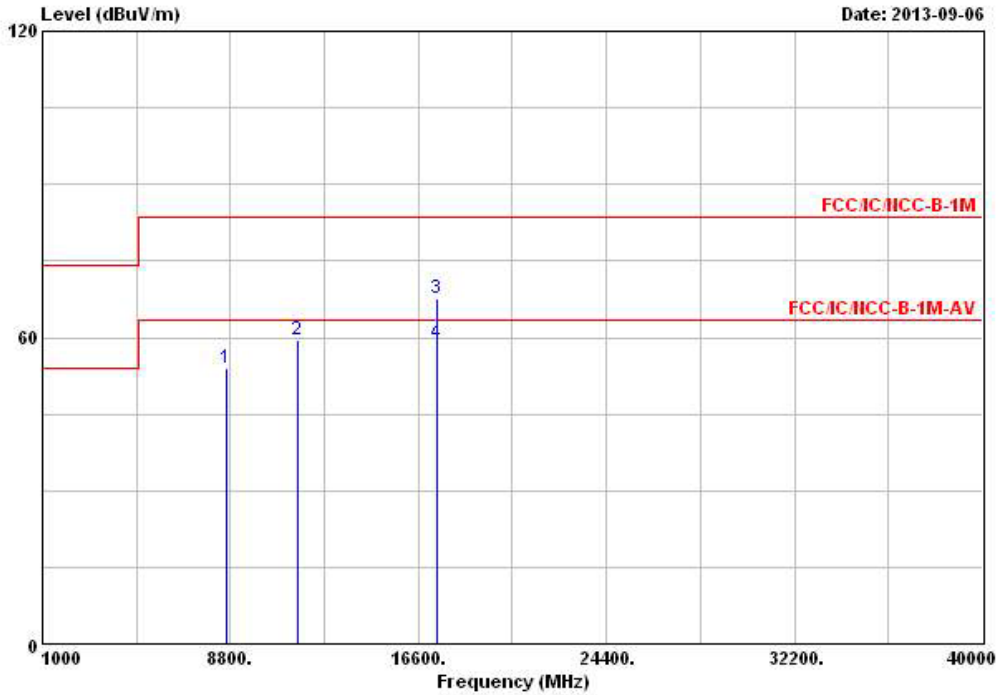
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	6156.000	52.07	-31.47	83.54	45.18	35.12	4.22	32.45	Peak	---	---
2	11490.000	55.89	-27.65	83.54	43.53	40.07	4.63	32.34	Peak	---	---
3	17235.000	66.55	-16.99	83.54	45.35	43.81	8.77	31.38	Peak	---	---
4	17235.000	58.36	-5.18	63.54	37.16	43.81	8.77	31.38	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5785
N <sub>TX</sub>	2	Polarization	V



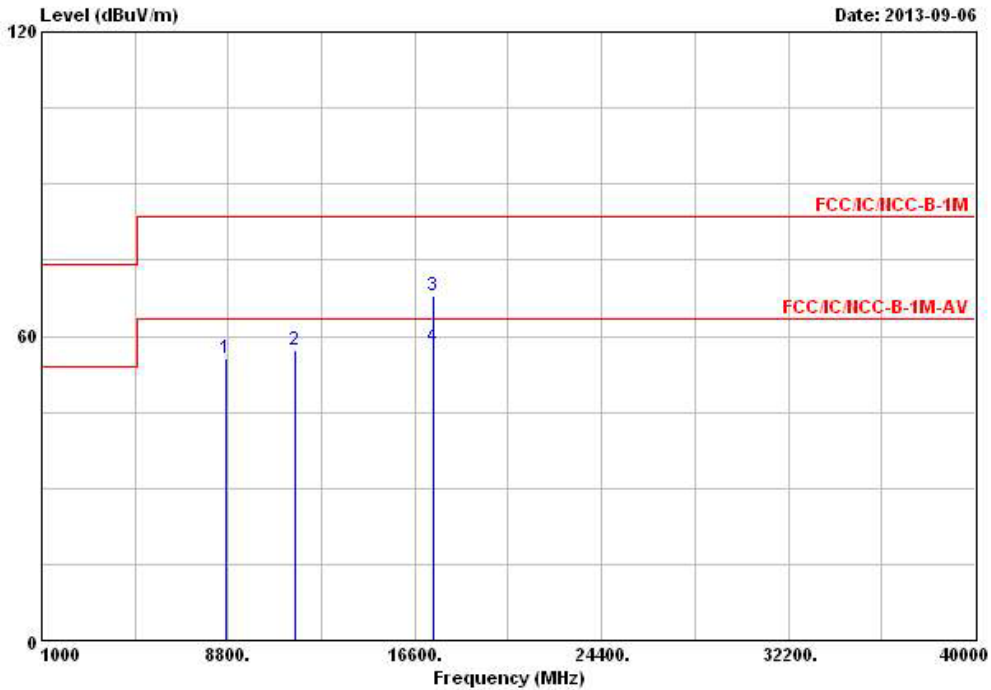
Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8646.000	54.01	-29.53	83.54	43.96	38.52	4.39	32.86 Peak	---	---
2	11569.000	59.42	-24.12	83.54	46.99	40.04	4.74	32.35 Peak	---	---
3	17356.220	67.72	-15.82	83.54	45.33	44.81	8.99	31.41 Peak	---	---
4	17356.220	58.91	-4.63	63.54	36.52	44.81	8.99	31.41 Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	Test Freq. (MHz)	5785
N <sub>TX</sub>	2	Polarization	H

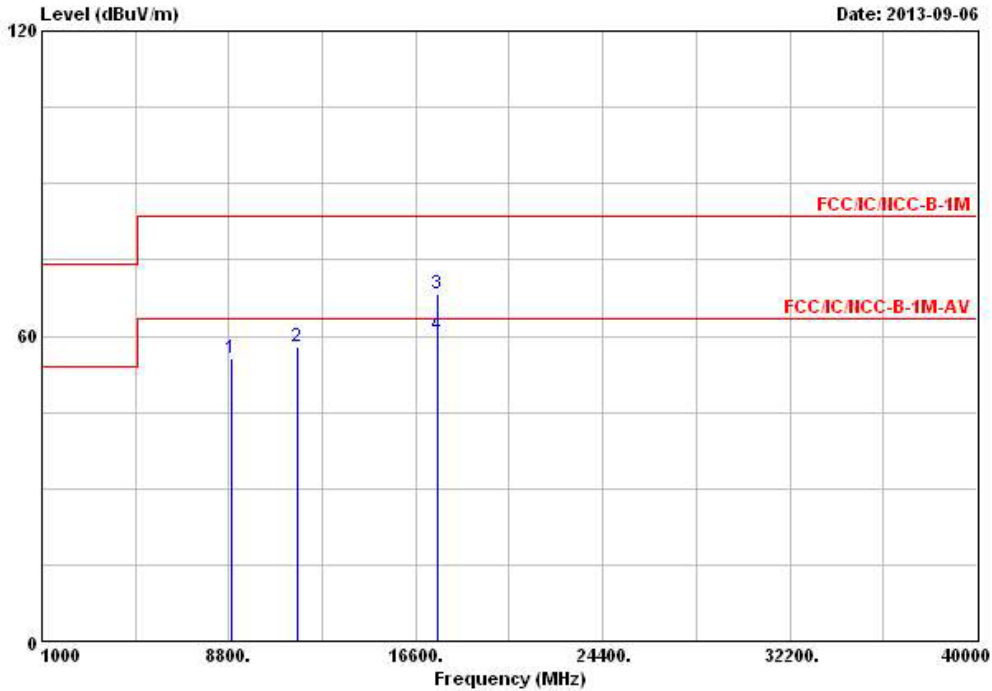


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8700.000	55.55	-27.99	83.54	45.49	38.46	4.48	32.88	Peak	---	---
2	11568.780	57.26	-26.28	83.54	44.83	40.04	4.74	32.35	Peak	---	---
3	17353.780	68.03	-15.51	83.54	45.64	44.81	8.99	31.41	Peak	---	---
4	17353.780	57.93	-5.61	63.54	35.54	44.81	8.99	31.41	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	11a	Test Freq. (MHz)	5825
N <sub>TX</sub>	2	Polarization	V



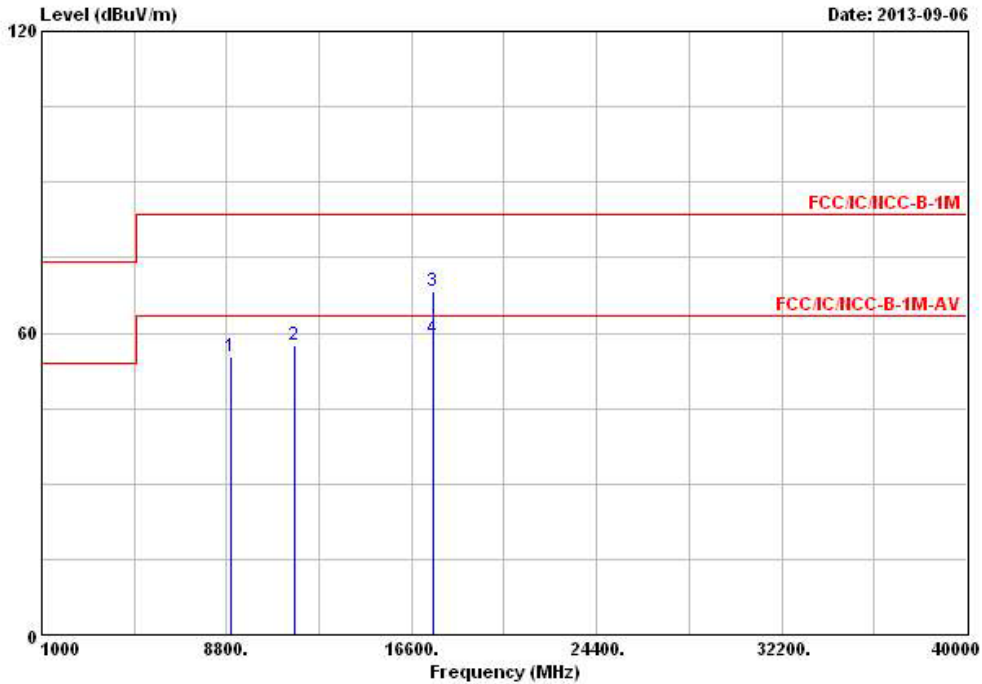
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8934.000	55.65	-27.89	83.54	45.38	38.18	5.04	32.95	Peak	---	---
2	11650.000	57.97	-25.57	83.54	45.49	39.99	4.85	32.36	Peak	---	---
3	17473.780	68.15	-15.39	83.54	44.59	45.81	9.20	31.45	Peak	---	---
4	17473.780	60.11	-3.43	63.54	36.55	45.81	9.20	31.45	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	11a	Test Freq. (MHz)	5825
N <sub>TX</sub>	2	Polarization	H

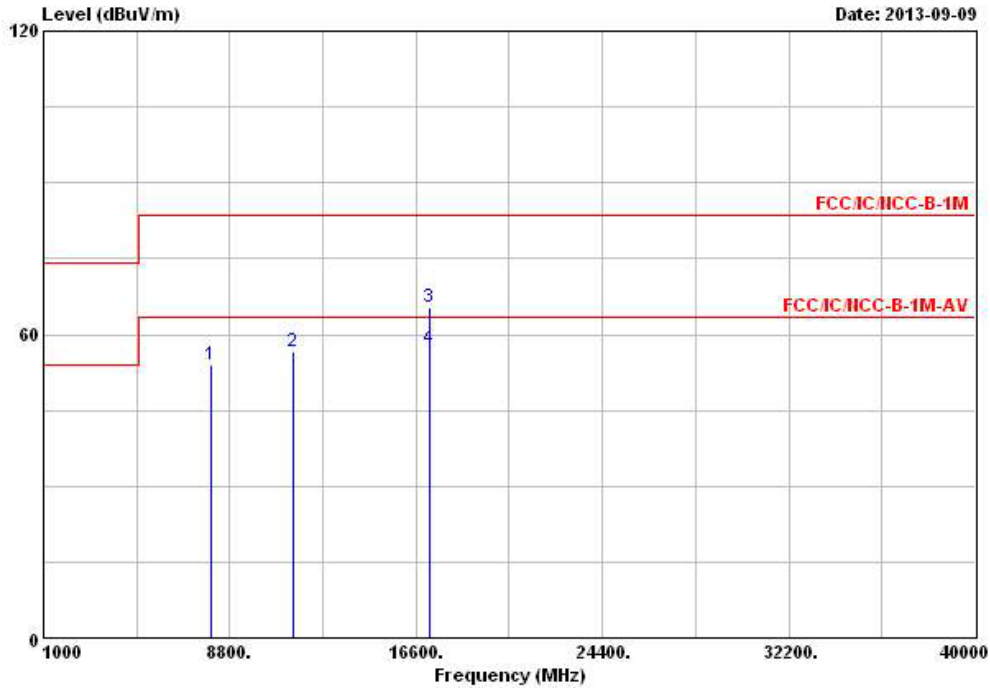


	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	8970.000	55.28	-28.26	83.54	44.97	38.14	5.14	32.97	Peak	---
2	11650.000	57.55	-25.99	83.54	45.07	39.99	4.85	32.36	Peak	---
3	17475.000	68.28	-15.26	83.54	44.72	45.81	9.20	31.45	Peak	---
4	@17475.000	59.02	-4.52	63.54	35.46	45.81	9.20	31.45	Average	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	HT20	Test Freq. (MHz)	5720
N <sub>TX</sub>	2	Polarization	V



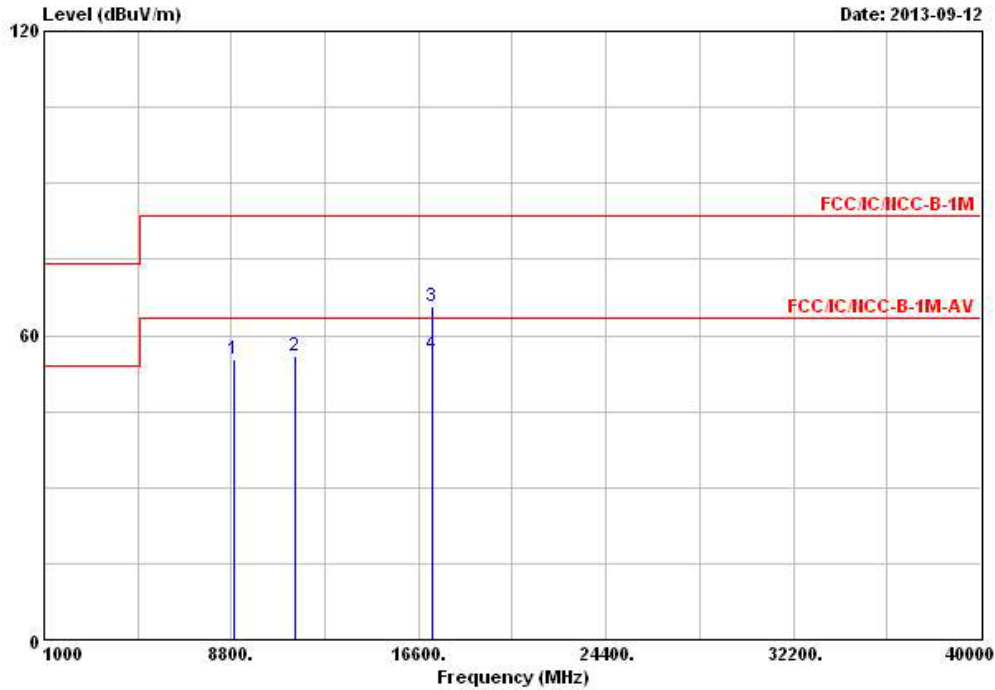
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8028.000	54.06	-29.48	83.54	45.29	37.83	3.74	32.80	Peak	---	---
2	11440.000	56.60	-26.94	83.54	44.34	39.98	4.62	32.34	Peak	---	---
3	17160.000	65.38	-18.16	83.54	44.89	43.23	8.62	31.36	Peak	---	---
4	@17160.000	57.36	-6.18	63.54	36.87	43.23	8.62	31.36	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5720
N <sub>TX</sub>	2	Polarization	H



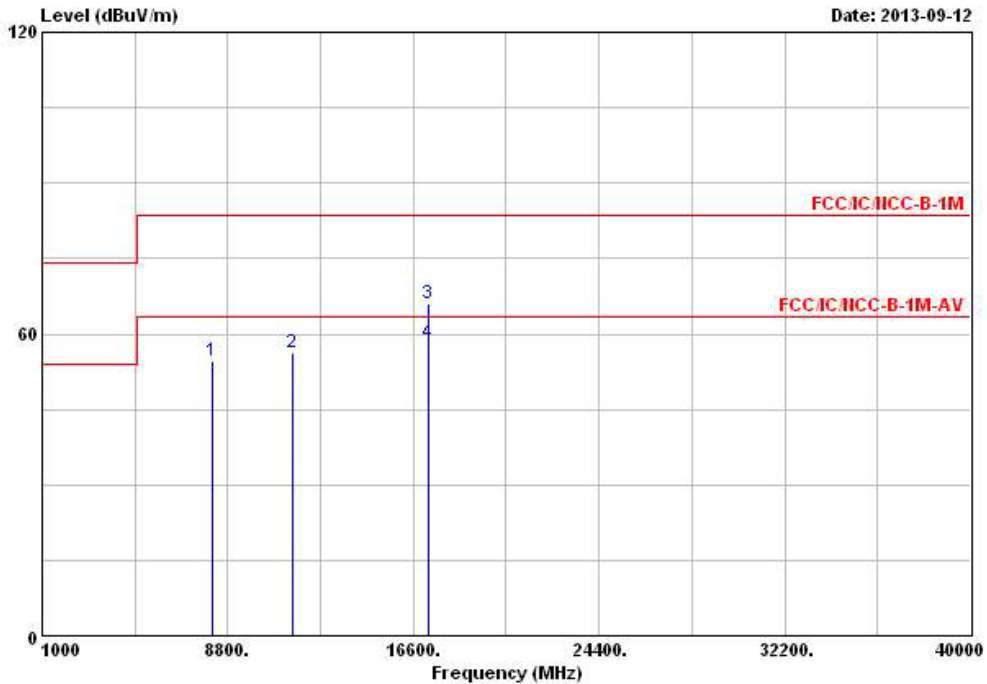
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8940.000	55.38	-28.16	83.54	45.01	38.18	5.14	32.95	Peak	---	---
2	11441.220	55.82	-27.72	83.54	43.56	39.98	4.62	32.34	Peak	---	---
3	17161.220	65.66	-17.88	83.54	45.17	43.23	8.62	31.36	Peak	---	---
4	17161.220	56.33	-7.21	63.54	35.84	43.23	8.62	31.36	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5745
N <sub>TX</sub>	2	Polarization	V



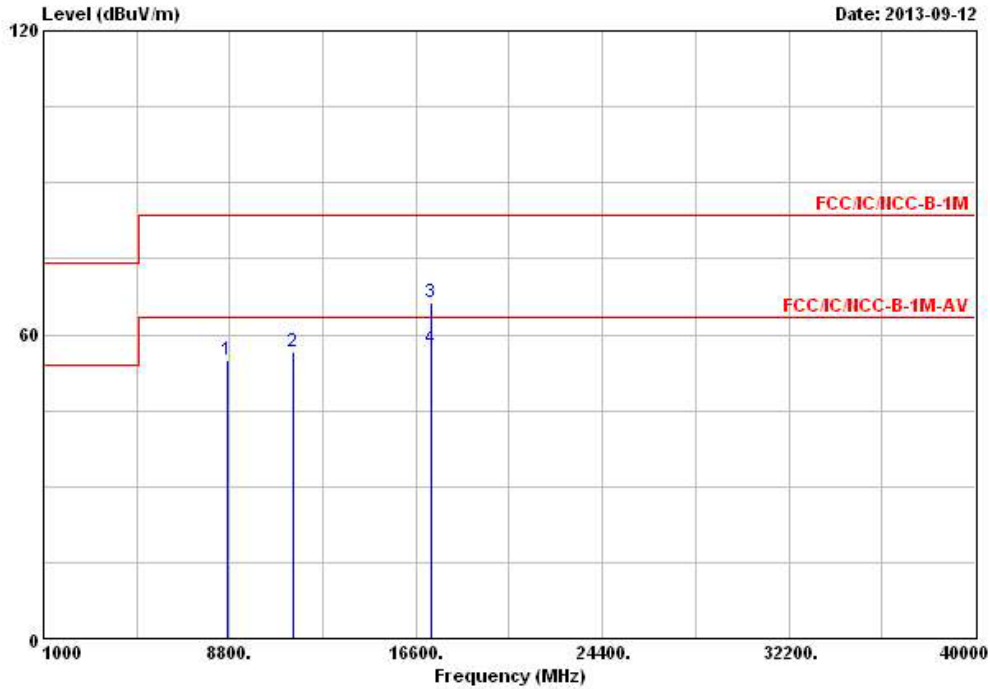
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8178.000	54.57	-28.97	83.54	45.43	38.11	3.83	32.80	Peak	---	---
2	11490.000	56.36	-27.18	83.54	44.00	40.07	4.63	32.34	Peak	---	---
3	17235.000	65.97	-17.57	83.54	44.77	43.81	8.77	31.38	Peak	---	---
4	@17235.000	58.23	-5.31	63.54	37.03	43.81	8.77	31.38	Average	---	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5745
N <sub>TX</sub>	2	Polarization	H



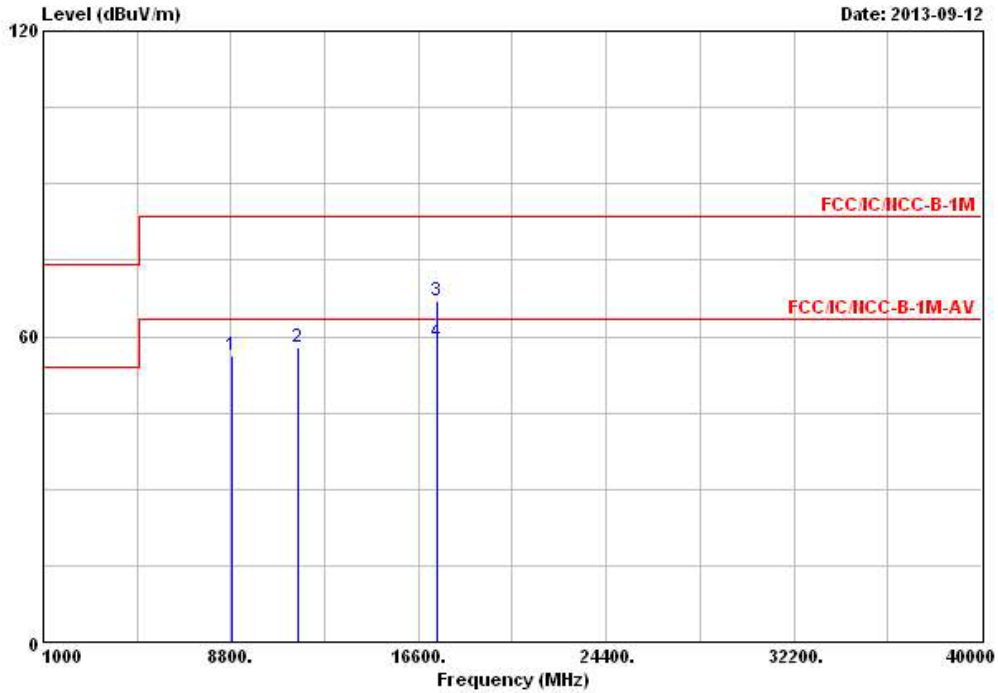
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8676.000	54.82	-28.72	83.54	44.73	38.48	4.48	32.87	Peak	---	---
2	11488.780	56.52	-27.02	83.54	44.16	40.07	4.63	32.34	Peak	---	---
3	17235.000	66.48	-17.06	83.54	45.28	43.81	8.77	31.38	Peak	---	---
4	@17235.000	57.12	-6.42	63.54	35.92	43.81	8.77	31.38	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5785
N <sub>TX</sub>	2	Polarization	V



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8826.000	56.12	-27.42	83.54	45.86	38.32	4.86	32.92	Peak	---	---
2	11570.000	57.84	-25.70	83.54	45.41	40.04	4.74	32.35	Peak	---	---
3	17355.000	66.84	-16.70	83.54	44.45	44.81	8.99	31.41	Peak	---	---
4	17355.000	58.90	-4.64	63.54	36.51	44.81	8.99	31.41	Average	---	---

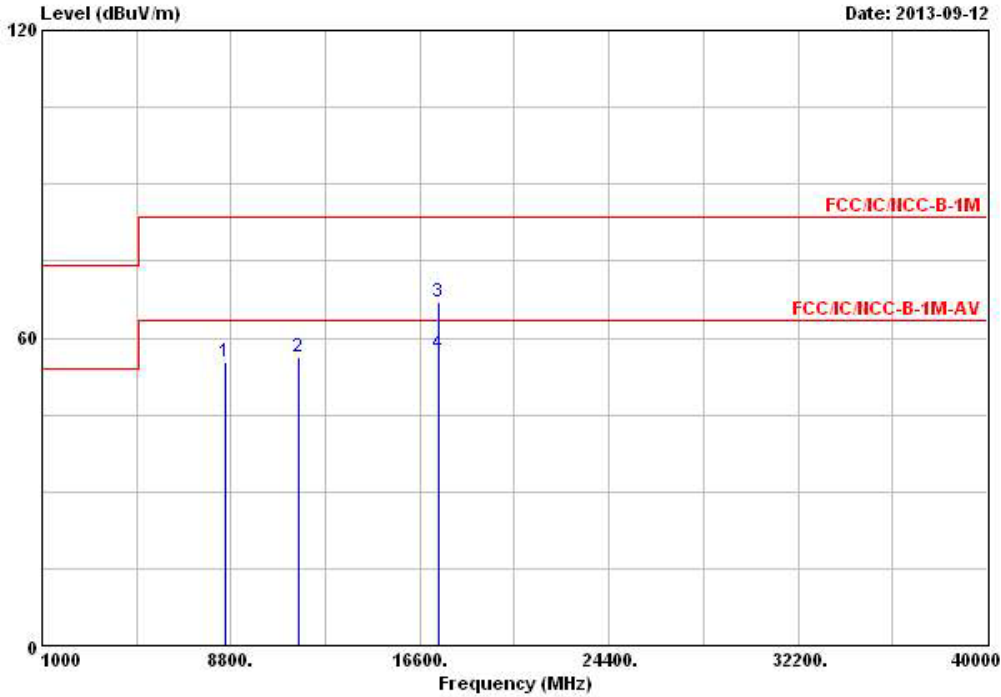
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted 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 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5785
N <sub>TX</sub>	2	Polarization	H



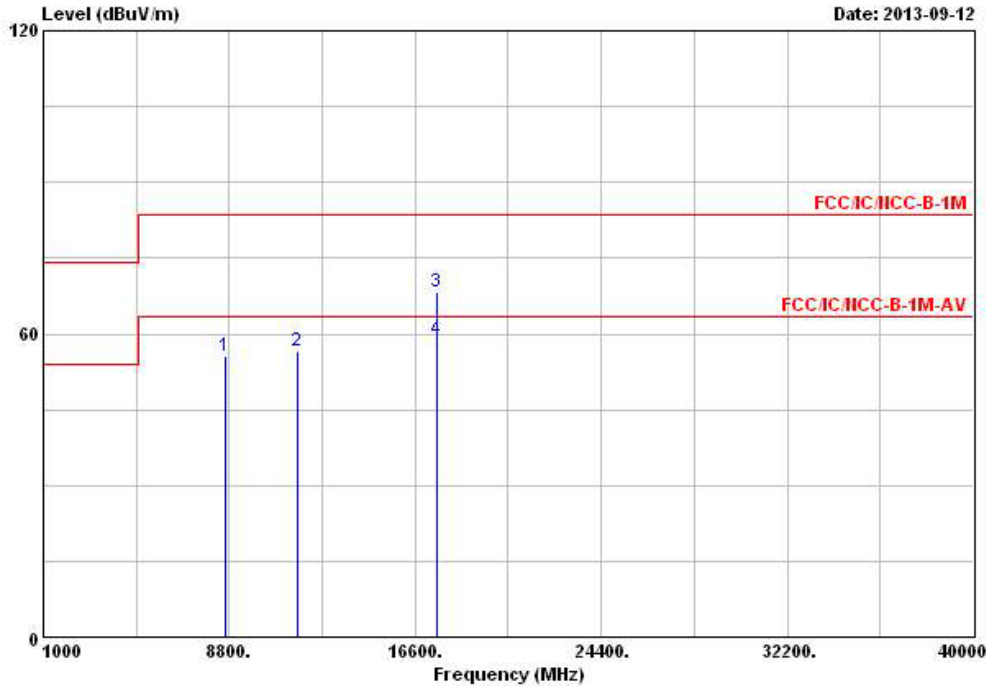
Freq	Level	Over Limit	Limit Line	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8544.000	55.37	-28.17	83.54	45.45	38.64	4.11	32.83	Peak	---
2	11570.000	56.34	-27.20	83.54	43.91	40.04	4.74	32.35	Peak	---
3	17356.220	67.11	-16.43	83.54	44.72	44.81	8.99	31.41	Peak	---
4	17356.220	56.91	-6.63	63.54	34.52	44.81	8.99	31.41	Average	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5825
N <sub>TX</sub>	2	Polarization	V



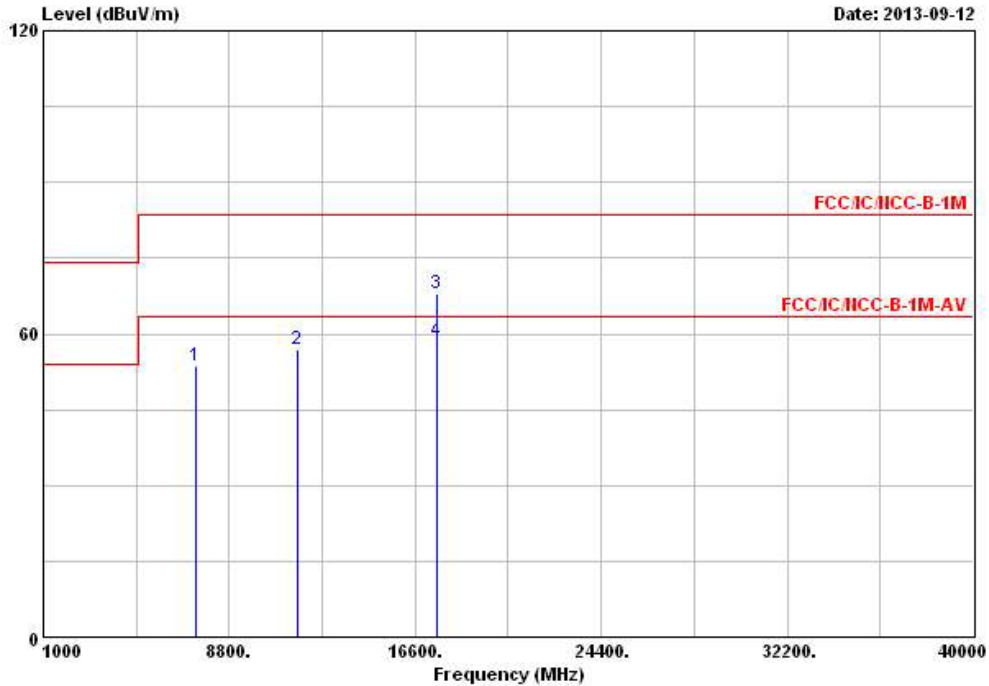
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8658.000	55.75	-27.79	83.54	45.70	38.52	4.39	32.86	Peak	---	---
2	11650.000	56.56	-26.98	83.54	44.08	39.99	4.85	32.36	Peak	---	---
3	17475.000	68.19	-15.35	83.54	44.63	45.81	9.20	31.45	Peak	---	---
4	@17475.000	58.72	-4.82	63.54	35.16	45.81	9.20	31.45	Average	---	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT20	Test Freq. (MHz)	5825
N <sub>TX</sub>	2	Polarization	H



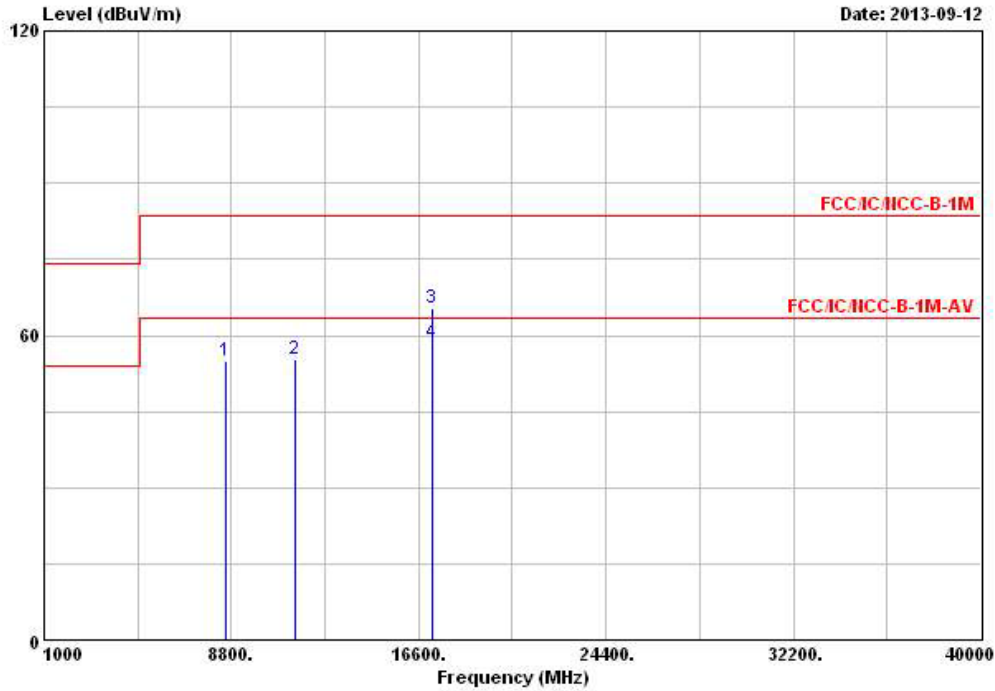
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7386.000	53.75	-29.79	83.54	45.09	37.16	4.19	32.69	Peak	---	---
2	11651.220	57.01	-26.53	83.54	44.54	39.98	4.85	32.36	Peak	---	---
3	17473.780	67.81	-15.73	83.54	44.25	45.81	9.20	31.45	Peak	---	---
4	@17473.780	58.68	-4.86	63.54	35.12	45.81	9.20	31.45	Average	---	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5710
N <sub>TX</sub>	2	Polarization	V



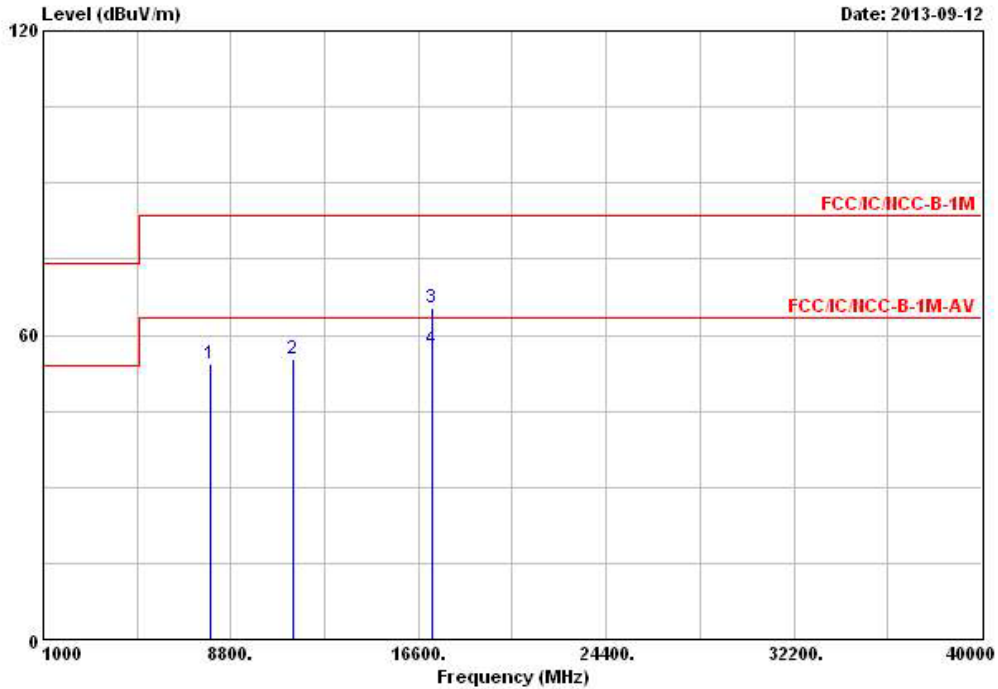
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8550.000	55.11	-28.43	83.54	45.10	38.64	4.20	32.83	Peak	---	---
2	11420.780	55.38	-28.16	83.54	43.16	39.95	4.61	32.34	Peak	---	---
3	17130.220	65.27	-18.27	83.54	45.05	42.95	8.62	31.35	Peak	---	---
4	@17130.220	58.42	-5.12	63.54	38.20	42.95	8.62	31.35	Average	---	---

- 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)
- 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 20 dB relative to the maximum measured in-band level.



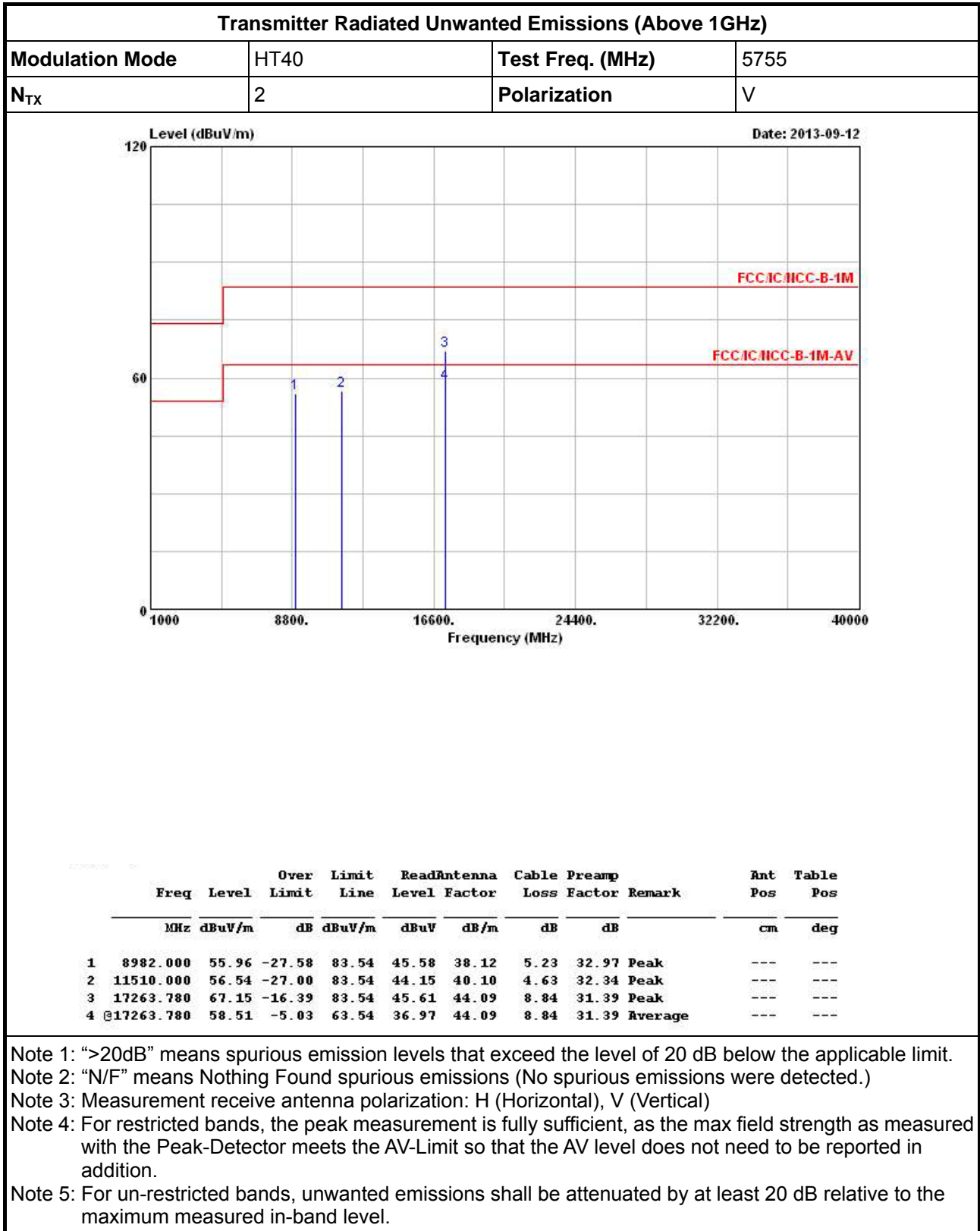
Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5710
N <sub>TX</sub>	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	7974.000	54.25	-29.29	83.54	45.55	37.77	3.72	32.79	Peak	---	---
2	11418.780	55.17	-28.37	83.54	42.95	39.95	4.61	32.34	Peak	---	---
3	17131.220	65.25	-18.29	83.54	45.03	42.95	8.62	31.35	Peak	---	---
4	@17131.220	57.19	-6.35	63.54	36.97	42.95	8.62	31.35	Average	---	---

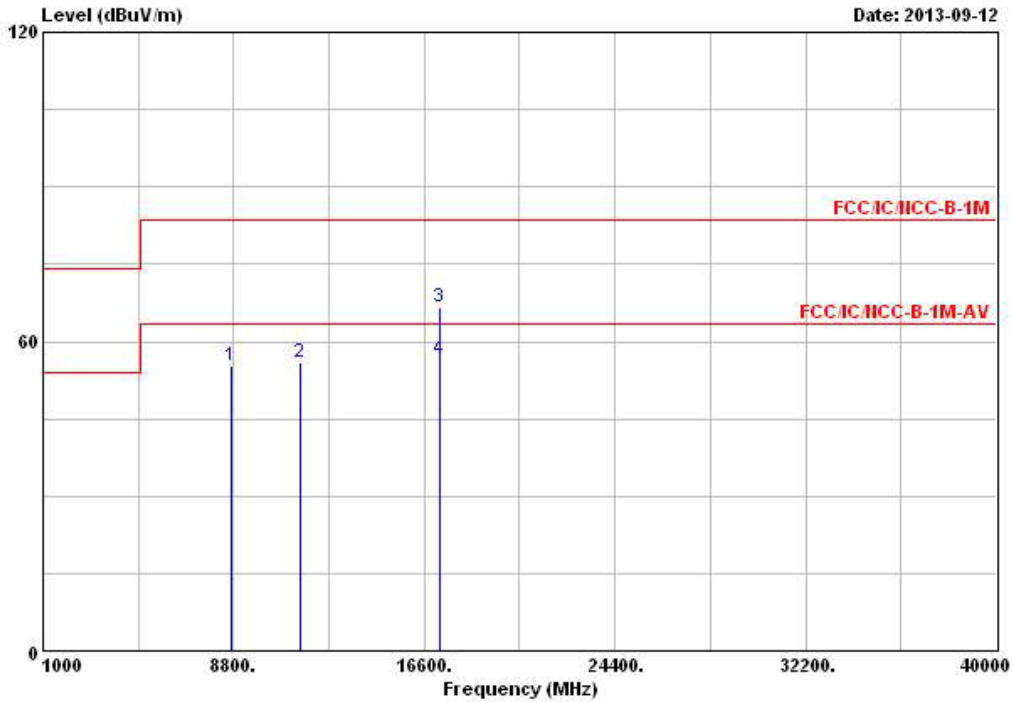
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted 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 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5755
N <sub>TX</sub>	2	Polarization	H



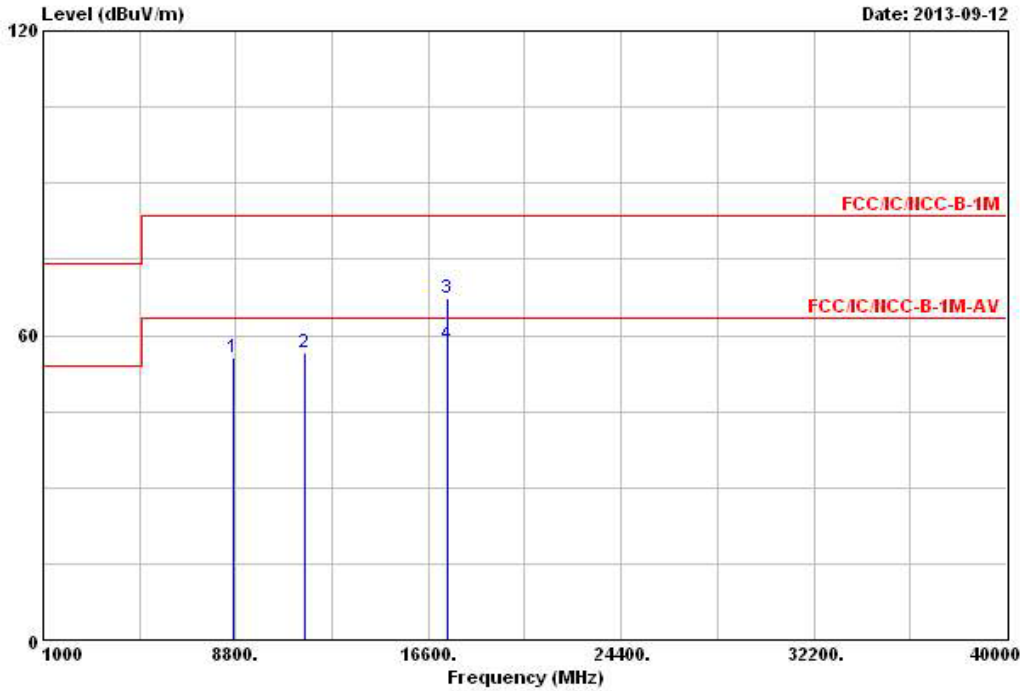
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	8730.000	55.28	-28.26	83.54	45.17	38.42	4.58	32.89	Peak	---	---
2	11511.220	55.92	-27.62	83.54	43.48	40.10	4.68	32.34	Peak	---	---
3	17265.000	66.68	-16.86	83.54	45.14	44.09	8.84	31.39	Peak	---	---
4	17265.000	56.55	-6.99	63.54	35.01	44.09	8.84	31.39	Average	---	---

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)  
 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 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5795
N <sub>TX</sub>	2	Polarization	V



	Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table
Line	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	-27.85	83.54	45.58	38.42	4.58	32.89	Peak	---	---
2	-26.98	83.54	44.09	40.03	4.79	32.35	Peak	---	---
3	-16.32	83.54	44.49	45.10	9.06	31.43	Peak	---	---
4	-5.48	63.54	35.33	45.10	9.06	31.43	Average	---	---

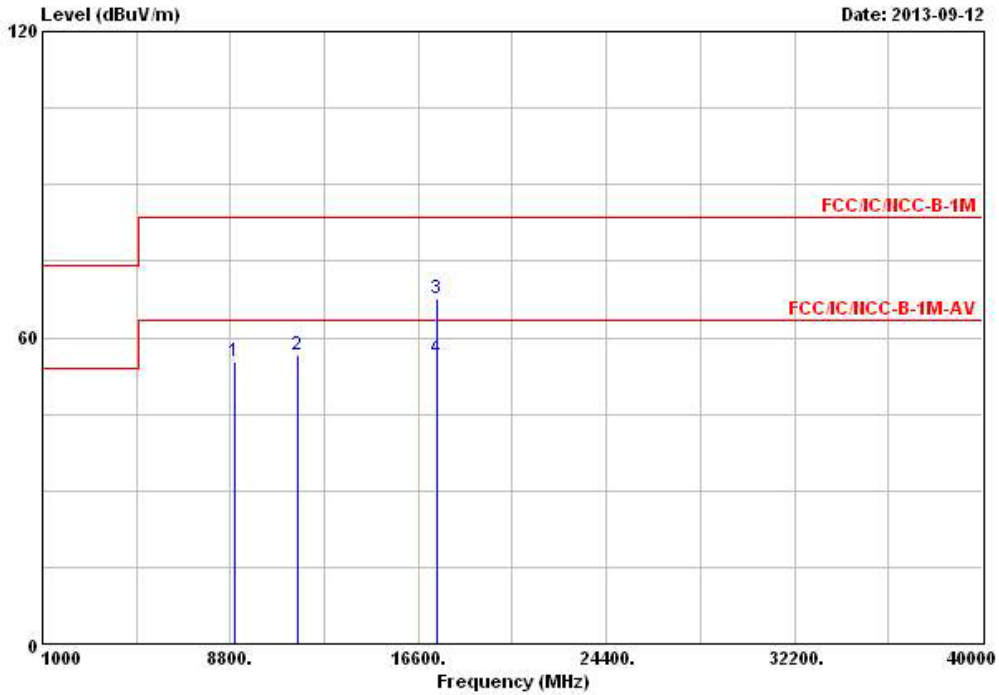
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted 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 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode	HT40	Test Freq. (MHz)	5795
N <sub>TX</sub>	2	Polarization	H



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB		cm	deg
1	8946.000	55.14	-28.40	83.54	44.78	38.18	5.14	32.96	Peak	---	---
2	11590.220	56.51	-27.03	83.54	44.04	40.03	4.79	32.35	Peak	---	---
3	17385.000	67.63	-15.91	83.54	44.90	45.10	9.06	31.43	Peak	---	---
4	17385.000	56.03	-7.51	63.54	33.30	45.10	9.06	31.43	Average	---	---

- 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)
- 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 20 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
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Dec. 01, 2012	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May. 03, 2013	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02364	1GHz ~ 26.5GHz	May. 06, 2013	Radiation (03CH03-HY)
Receiver	R&S	ESU26	1302.6005.26	20Hz ~ 26.5GHz	Apr. 02, 2013	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 22, 2012	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 31, 2013	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz ~ 40GHz	Jan. 08, 2013	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	9MHz ~ 1GHz	Jan. 17, 2013	Radiation (03CH03-HY)
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Jan. 17, 2013	Radiation (03CH03-HY)
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation (03CH03-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EM	EM18G40G	060572	18GHz ~ 40GHz	Jan. 20, 2013	Radiation (03CH03-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz - 30 MHz	Dec. 02, 2012	Radiation (03CH02-HY)

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