TEST REPORT

of

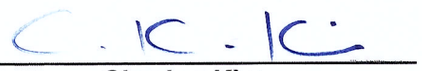
FCC Part 90 Subpart M
FCC ID : ZO9ITT-WAVE-2010

Equipment Under Test	:	DSRCS Roadside Unit
Model Name	:	IT-WAVE-2010
Serial No.	:	N/A
Applicant	:	IT TELECOM co.,Ltd.
Manufacturer	:	IT TELECOM co.,Ltd.
Date of Test(s)	:	2011.06.10 ~ 2011.09.01
Date of Issue	:	2011.09.01

In the configuration tested, the EUT complied with the standards specified above.

Tested By:  **Date** 2011.09.01

Duke Ko

Approved By  **Date** 2011.09.01

Charles Kim

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1. General information

1.1. Testing laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 705, Dongchun-Dong Sooji-Gu, Yongin-Shi, Kyungki-Do, South Korea.
- Wireless Div. 2FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040

www.kr.sgs.com/ee
Telephone : +82 +31 428 5700
FAX : +82 +31 427 2371

1.2. Details of applicant

Applicant	:	IT TELECOM co.,Ltd.
Address	:	#517, TheOvalley, 555-9, Hogye-dong, Dongan-gu, Anyang-si, Gyeonggi-do, Korea
Contact Person	:	Byung Woo Cho
Phone No.	:	+82 +31 479 6541
Fax No.	:	+82 +31 479 6540

1.3. Description of EUT

Kind of Product	DSRCS Roadside Unit
Model Name	IT-WAVE-2010
Serial Number	N/A
Power Supply	DC 24 V
Rated Power	10 dBm
EIRP & Conducted Power	EIRP : 1.73 dBm Conducted : 5.47 dBm
Frequency Range	5 860 ㎒ ~ 5 920 ㎒

1.4. Declaration by the manufacturer

- Class B
- Manufacturer declares operating temperature : -20 ~ 50 degree C

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1.4. Test equipment list

Equipment	Manufacturer	Model	S/N	Cal Due.
Signal Generator	Agilent	E4438C	MY42082477	Mar. 31, 2012
Signal Generator	R & S	SMR40	100272	Jul. 15, 2012
Spectrum Analyzer	R & S	FSV30	100768	Mar. 31, 2012
Spectrum Analyzer	R & S	FSP40	100007	Jul. 14, 2012
High Pass Filter	Wainwright	WHK6.0/18G-10SS	11	Sep. 29, 2011
DC power Supply	Agilent	U8002A	MY49030063	Jan. 05, 2012
Preamplifier	H.P.	8447F	2944A03909	Jul. 04, 2012
Preamplifier	Agilent	8449B	3008A01932	Mar. 31, 2012
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	Jun. 04, 2012
Test Receiver	R & S	ESU26	100109	Feb. 21, 2012
Bilog Antenna	SCHWARZBECK MESSELEKTRONIK	VULB9163	396	Apr. 27, 2013
Horn Antenna	R & S	HF 906	100326	Oct. 08, 2011
Horn Antenna	SCHWARZBECK	BBH 9120D	138	Oct. 13, 2012
Dipole Antenna	SCHWARZBECK	VHAP/UHAP	974/957	Oct. 30, 2011
Antenna Master	EMCO	1050	N.C.R.	N.C.R.
Turn Table	Daeil EMC	DI-1500	N.C.R.	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N.C.R.	N.C.R.

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1.6. Summary of test results

The EUT has been tested according to the following specifications:

APPLIED STANDARD : FCC Part 2, 90		
Section in FCC part	**Test Item**	**Result**
§90.377 (b), §90.379, ASTM E2213-03 8.9.2, 8.9.3	RF Output Power and Spurious Emission	Complied
§90.379, ASTM E2213-03 8.4	Modulation Characteristic	Complied
§90.375 (c)	Conducted Output Power	Complied
§90.379, ASTM E2213-03	Occupied Bandwidth	Complied
§90.379, ASTM E2213-03 8.9.2.1	Transmit Spectrum Mask	Complied
§90.379, ASTM E2213-03 8.9.4	Frequency Tolerance	Complied
1.1307(b)(1)	Maximum Permissible Exposure (Exposure of Humans to RF Fields)	Complied

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1.7. Modulation Characteristics and Conclusion of worst-case

The carrier signal is OFDM. The sub-carriers have the following data rates and modulations:

Compare Conducted output power at middle channel (5 890 ㎒)

Data Rate (Mbits/s)	Modulation	Output Power (dBm)
3	BPSK	5.07
4.5	BPSK	5.01
6	QPSK	3.70
9	QPSK	4.41
12	16-QAM	3.95
18	16-QAM	3.21
24	64-QAM	2.07
27	64-QAM	3.24

Worst case is 3 Mbits/s

1.8. Test report revision

Revision	Report number	Description
0	F690501/RF-RTL004754	Initial
1	F690501/RF-RTL004754-1	Addition : all modulation data for obw, spectral mask

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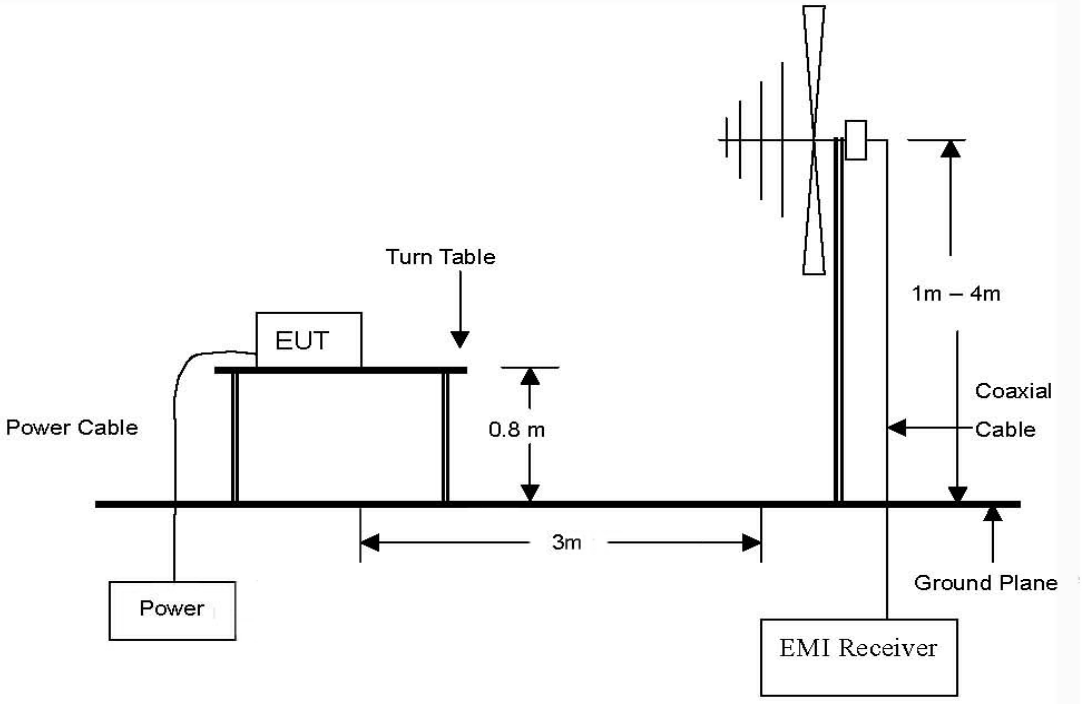
2. RF Output Power and Spurious Emission

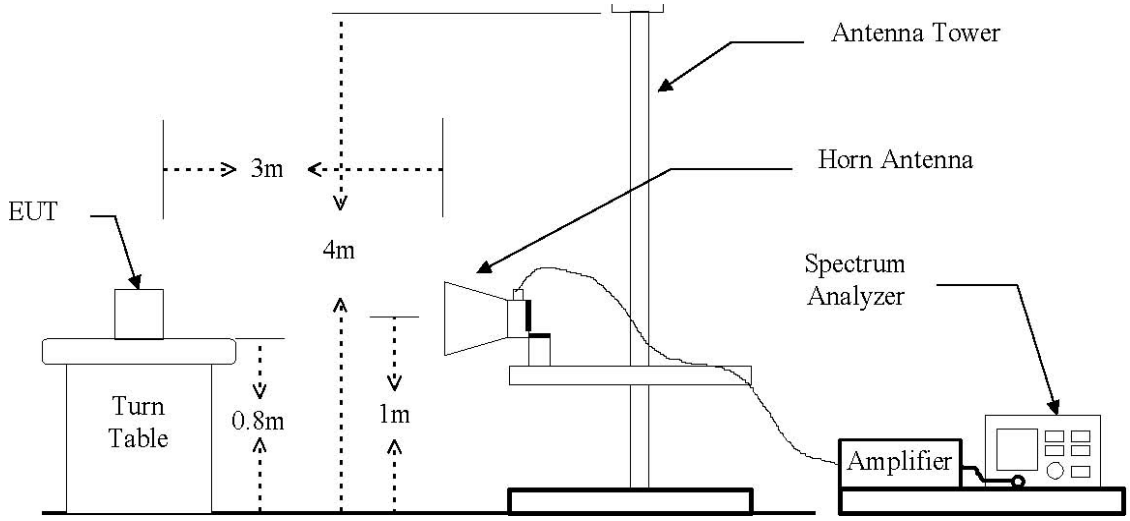
2.1. Test setup

2.1.1. EIRP Output power and Radiated Spurious Emissions

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to 18 ㎓ Emissions.



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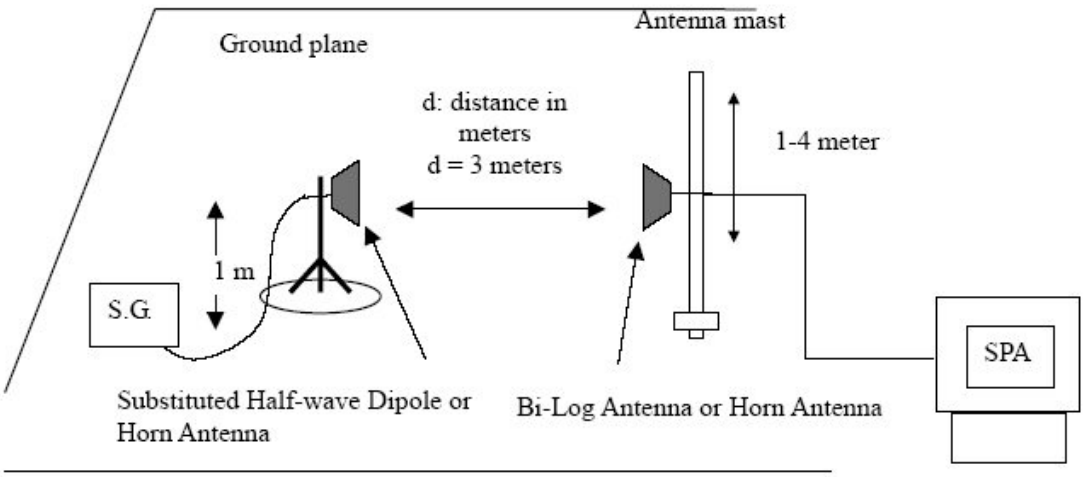
The diagram below shows the test setup for substituted method



2.1.2. Conducted Spurious Emissions

According to ASTM E2213-03 8.9.2.1, The measurements shall be made using a 100 kHz resolution bandwidth and a 30 kHz video bandwidth.

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2.2. Limit

2.2.1 Conducted Output Power and EIRP

FCC §90.377 (b), Frequencies available for assignment to eligible applicants within the 5850–5925 MHz band for RSUs and the maximum EIRP permitted for an RSU with an antenna height not exceeding 8 meters above the roadway bed surface are specified in the table below. Where two EIRP limits are given, the higher limit is permitted only for state or local governmental entities.

Channel No.	Frequency Range (MHz)	Conducted (dBm)	Max, EIRP[1] (dBm)	Channel use
170	5 850 – 5 855			Reserved.
172	5 855 – 5 865	28.8	33	Service Channel.[2]
174	5 865 – 5 875	28.8	33	Service Channel.
175	5 865 – 5 885	10	23	Service Channel.[3]
176	5 875 – 5 885	28.8	33	Service Channel.
178	5 885 – 5 895	28.8	33 / 44.8	Control Channel.
180	5 895 – 5 905	10	23	Service Channel.
181	5 895 – 5 915	10	23	Service Channel.[3]
182	5 905 – 5 915	10	23	Service Channel.
184	5 915 – 5 925	28.8	33 / 40	Service Channel.[4]

[1]An RSU may employ an antenna with a height exceeding 8 meters but not exceeding 15 meters provided the EIRP specified in the table above is reduced by a factor of 20 log(Ht/8) in dB where Ht is the height of the radiation center of the antenna in meters above the roadway bed surface. The EIRP is measured as the maximum EIRP toward the horizon or horizontal, whichever is greater, of the gain associated with the main or center of the transmission beam. The RSU antenna height shall not exceed 15 meters above the roadway bed surface.

[2]Channel 172 is designated for public safety applications involving safety of life and property.

[3]Channel Nos. 174/176 may be combined to create a twenty megahertz channel, designated Channel No. 175. Channels 180/182 may be combined to create a twenty-megahertz channel, designated Channel No. 181.

[4]Channel 184 is designated for public safety applications involving safety of life and property. Only those entities meeting the requirements of §90.373(a) are eligible to hold an authorization to operate on this channel.

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2.2.2. Radiated Spurious Emission

FCC §90.379, ASTM E2213-03 DSRC Standard 8.9.3
Spurious transmissions from compliant devices shall comply with national regulations.

2.2.3. Conducted and EIRP Spurious Emission

FCC §90.379, ASTM E2213-03 DSRC Standard 8.9.2.1
The DSRC transmitted spectrum mask is relative to the device class of operation. The power in the transmitted spectrum for all DSRC devices shall be −25 dBm or less within 100 kHz outside all channel and band edges.

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2.3. Test procedure

2.3.1. EIRP and Radiated Spurious Emission

: Based on ANSI/TIA 603C: 2004

1. On a test site, the EUT shall be placed at 80cm height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. During the measurement of the EUT, the resolution bandwidth was to 1 ㎒ and the video bandwidth was set to 1 ㎒.
5. The transmitter shall be switched on; the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. The EUT was replaced by half-wave dipole or horn antenna connected to a signal generator.
11. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
12. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
13. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
14. The input level to the substitution antenna shall be recorded as power level in ㏈m, corrected for any change of input attenuator setting of the measuring receiver.
15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

2.3.2. Test Procedures for Conducted Spurious Emissions

1. The transmitter output was connected to the spectrum analyzer.
2. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using RBW=30 ㎑, VBW=100 ㎑.

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2.4. Test result for RF radiated output power

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

Frequency (㎒)	Ant. Pol. (H/V)	S.G level (dB m)	Cable loss (dB)	Ant. gain (dB i)	E.I.R.P.	
					(dB m)	(㎽)
5 860	V	-5.20	4.70	12.28	2.38	1.73
5 860	H	-20.47	4.70	12.26	-12.91	0.05
5 870	V	-4.93	4.70	12.27	2.64	1.84
5 870	H	-20.09	4.70	12.26	-12.53	0.06
5 880	V	-6.55	4.71	12.26	1.00	1.26
5 880	H	-21.49	4.71	12.26	-13.94	0.04
5 890	V	-5.30	4.71	12.26	2.25	1.68
5 890	H	-21.34	4.71	12.26	-13.79	0.04
5 900	V	-6.04	4.71	12.25	1.50	1.41
5 900	H	-20.17	4.71	12.26	-12.62	0.05
5 910	V	-4.97	4.72	12.24	2.55	1.80
5 910	H	-20.35	4.72	12.26	-12.81	0.05
5 920	V	-6.09	4.72	12.23	1.42	1.39
5 920	H	-20.06	4.72	12.26	-12.52	0.06

Remark:
1. E.R.P. & E.I.R.P. = [S.G level + Amp.](dBm) - Cable loss(dB) + Ant. gain (dBd/dBi)
2. The E.R.P. & E.I.R.P. was measured in three orthogonal EUT position(x-axis, y-axis and z-axis). Worst case is -axis.

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2.5. Spurious radiated emission

Frequency (㎒)	Ant. Pol. (H/V)	S.G level (㏈m)	Cable loss (㏈)	Ant. gain (㏈i)	E.R.I.P. (㏈m)	Limit (㏈m)	Margin (㏈)
Band edge (5 850 ㎒ & 5 925 ㎒)							
5 850.00	V	-35.14	4.69	12.29	-27.54	-25.00	2.54
5 850.00	H	-36.20	4.69	12.26	-28.63	-25.00	3.63
5 925.00	V	-35.31	4.72	12.23	-27.80	-25.00	2.80
5 925.00	H	-36.14	4.72	12.26	-28.60	-25.00	3.60
Harmonics							
Low Channel (5 860 ㎒)							
Below 1 000.00	-	-	-	-	Not detected	-	-
11 720.13	V	-39.69	6.62	12.02	-34.29	-25.00	9.29
11 720.13	H	-40.13	6.62	12.03	-34.72	-25.00	9.72
Middle Channel (5 890 ㎒)							
Below 1 000.00	-	-	-	-	Not detected	-	-
11 779.52	V	-39.96	6.63	12.09	-34.50	-25.00	9.50
11 779.52	H	-39.64	6.63	12.13	-34.14	-25.00	9.14
High Channel (5 920 ㎒)							
Below 1 000.00	-	-	-	-	Not detected	-	-
11 840.41	V	-38.46	6.65	12.17	-32.94	-25.00	7.94
11 840.41	H	-39.40	6.65	12.22	-33.83	-25.00	8.83

Remark:
1. E.R.P. & E.I.R.P. = S.G level (㏈m) - Cable loss (㏈) + Ant. gain (㏈d/㏈i)
2. No more harmonic above 2nd harmonic for all channel.

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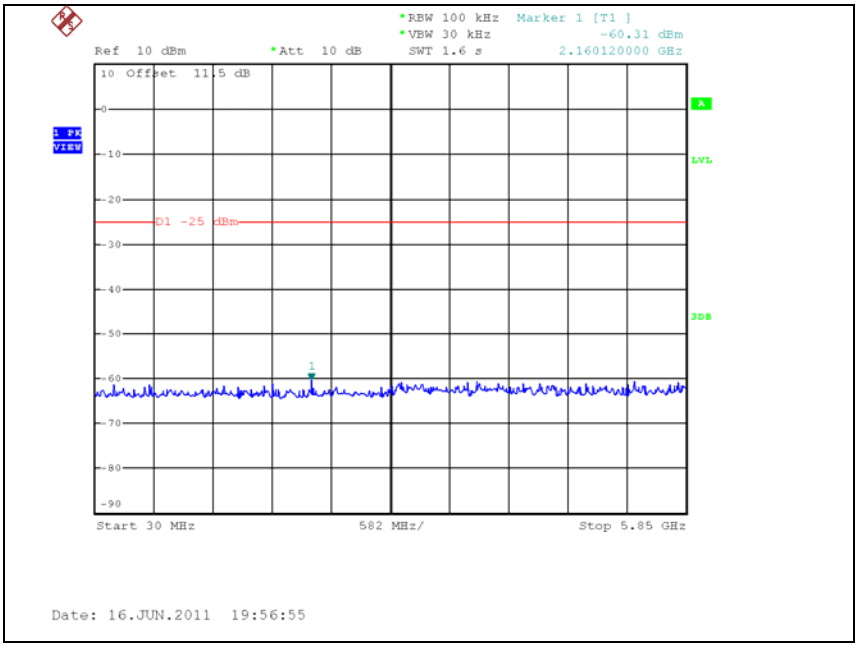
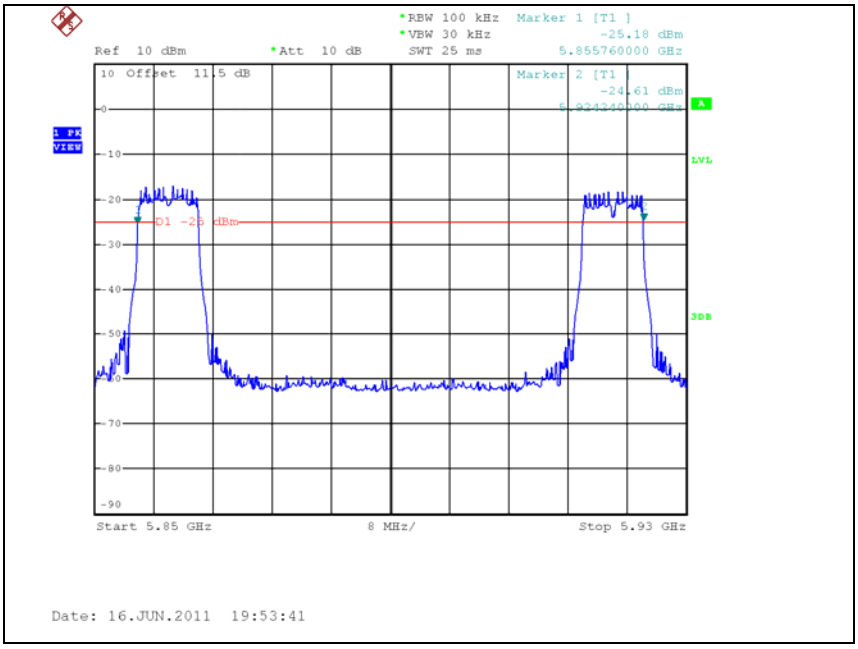
2.6. Conducted Spurious Emissions: Please refer to the test Plots

30 MHz ~ 5.85 GHz



5.85 GHz ~ 5.93 GHz



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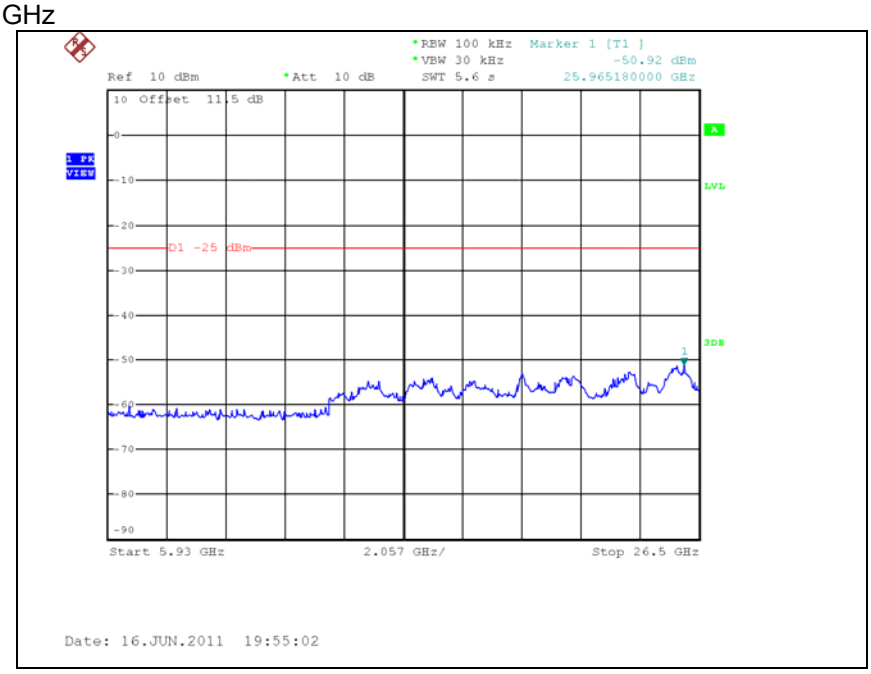
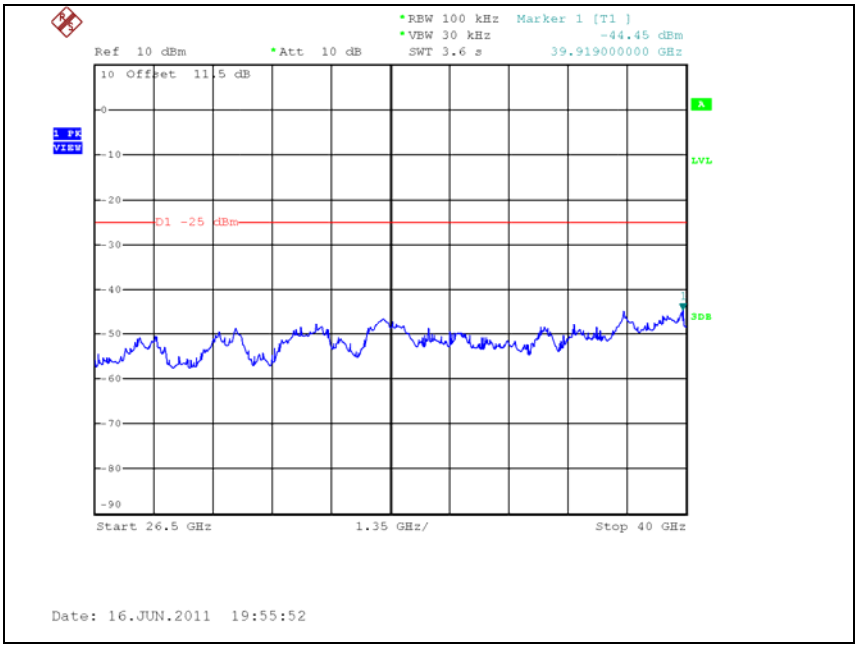
5.93 GHz ~ 26.5 GHz



26.5 GHz ~ 40 GHz



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3. Conducted Output Power

3.1. Limit

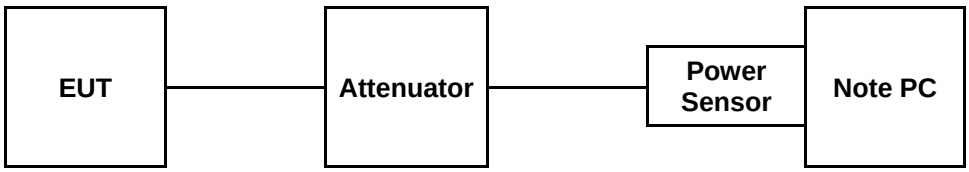
FCC §90.375(c), Licensees must operate each RSU in accordance with the Commission's Rules and the registration data posted on the ULS for such RSU. Licensees must register each RSU for the smallest communication zone needed (for the DSRC-based intelligent transportation systems application) using one of the following four communication zones:

RSU Class	Max. output power (dBm)	Communications zone (meters)
A	0	15
B	10	100
C	20	400
D	28.8 or More	1 000

In addition, there is a additional limitation for channels respectively. Please refer to 2.2.1 EIRP and Conducted output power limit.

3.2. Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.



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3.3. Test Result

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

Channel	Channel Frequency (㎒)	Attenuator + Cable offset (dB)	Peak Power Result (dB m)	Peak Power Limit (dB m)
172	5 860	12.09	5.47	28.8
174	5 870	12.09	5.44	28.8
176	5 880	12.09	5.22	28.8
178	5 890	12.09	5.07	28.8
180	5 900	12.09	5.03	10.0
182	5 910	12.09	5.12	10.0
184	5 920	12.09	5.26	28.8

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4. Occupied Bandwidth

FCC §90.379, ASTM E2213-03 DSRC Standard

4.2. Test Procedure

1. The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
2. The resolution bandwidth of the spectrum analyzer was set.
   Occupied Bandwidth 99 % was tested under

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4.3 Test Results

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

- Mode : BPSK

Channel	Frequency (㎒)	Occupied Bandwidth (㎒)
172	5 860	8.88
178	5 890	8.80
184	5 920	8.64

- Mode : QPSK

Channel	Frequency (㎒)	Occupied Bandwidth (㎒)
172	5 860	8.68
178	5 890	8.68
184	5 920	8.68

- Mode : 16-QAM

Channel	Frequency (㎒)	Occupied Bandwidth (㎒)
172	5 860	8.63
178	5 890	8.63
184	5 920	8.63

- Mode : 64-QAM

Channel	Frequency (㎒)	Occupied Bandwidth (㎒)
172	5 860	8.57
178	5 890	8.57
184	5 920	8.73

Please refer to the following plots.

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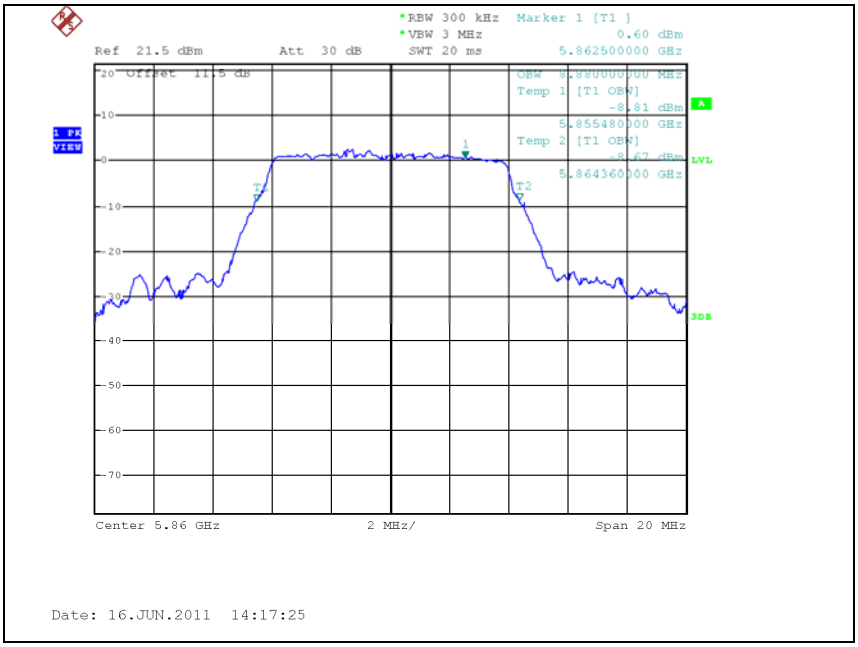
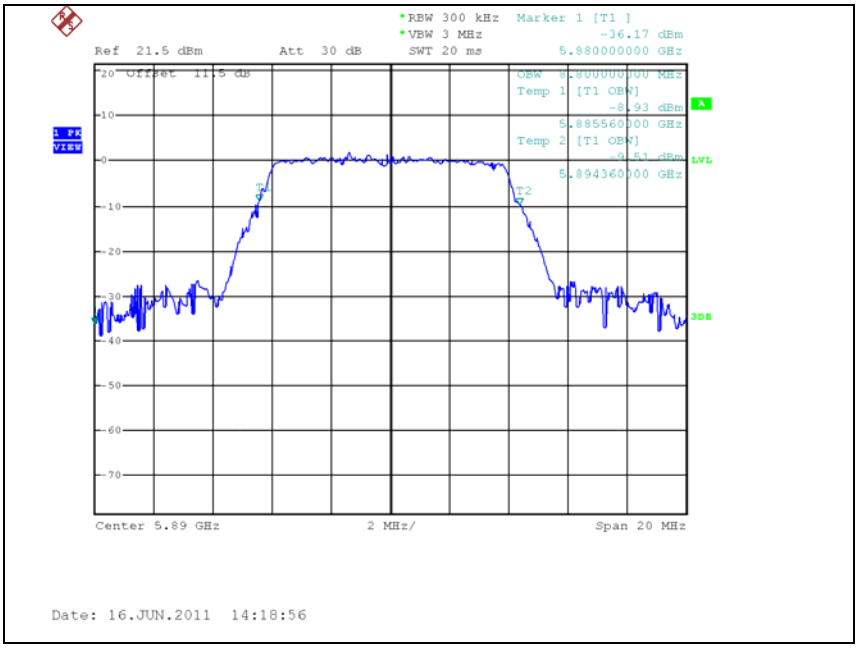
- Mode : BPSK

Low Channel



Middle Channel



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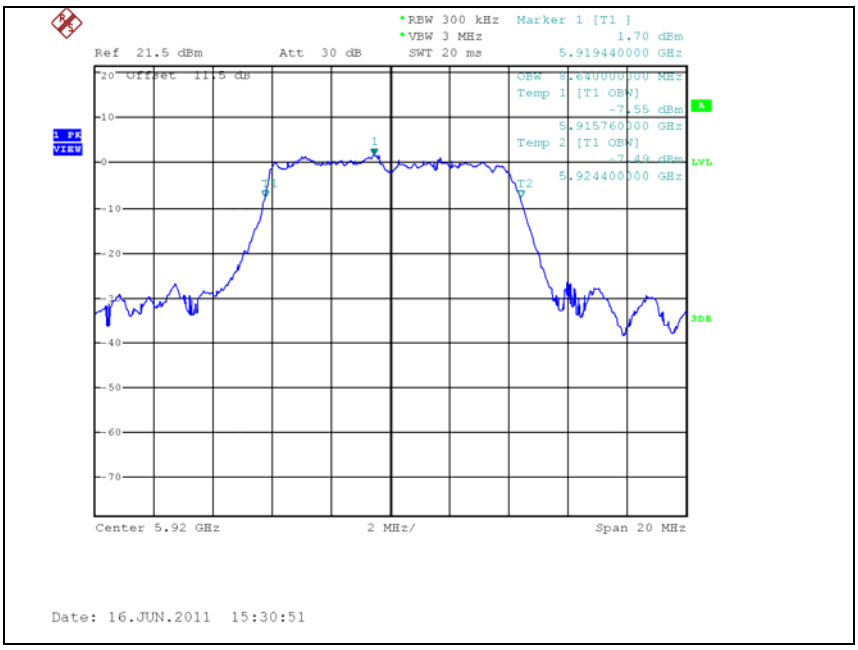
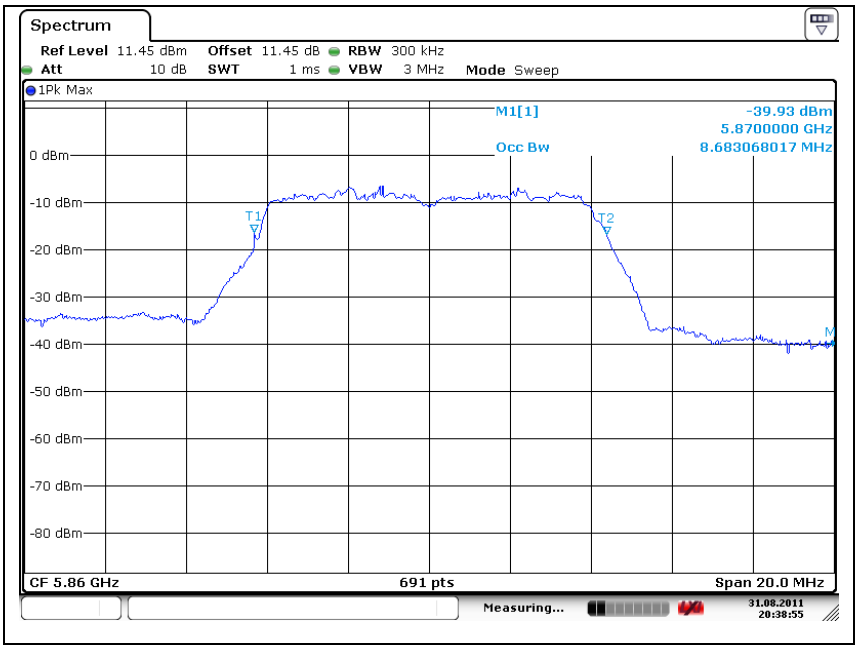
High Channel



- Mode : QPSK

Low Channel



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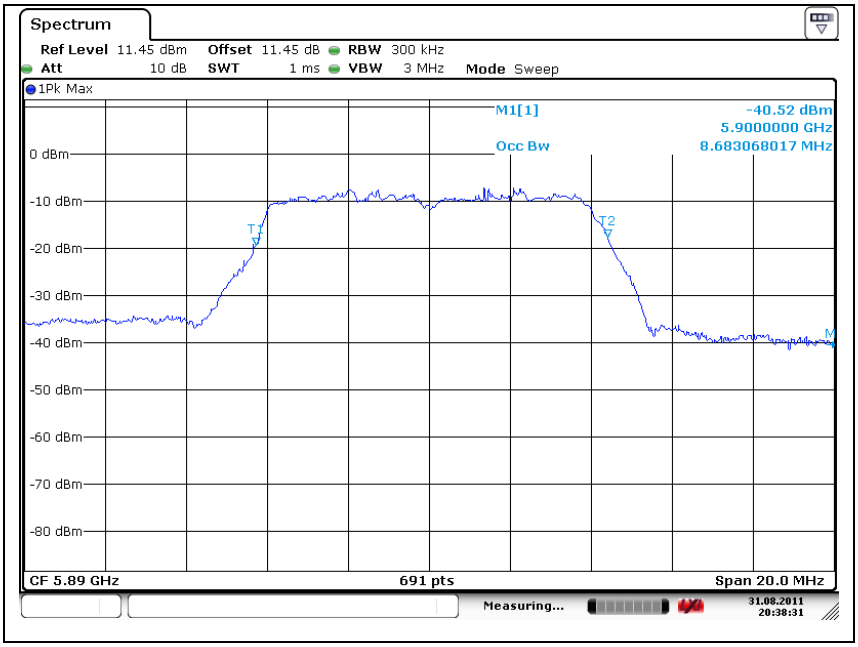
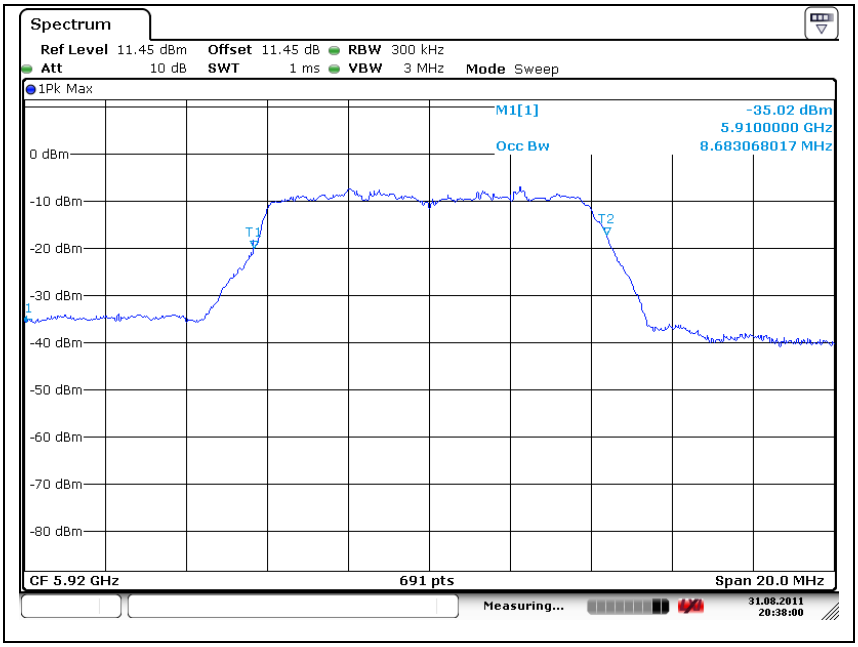
Middle Channel



High Channel



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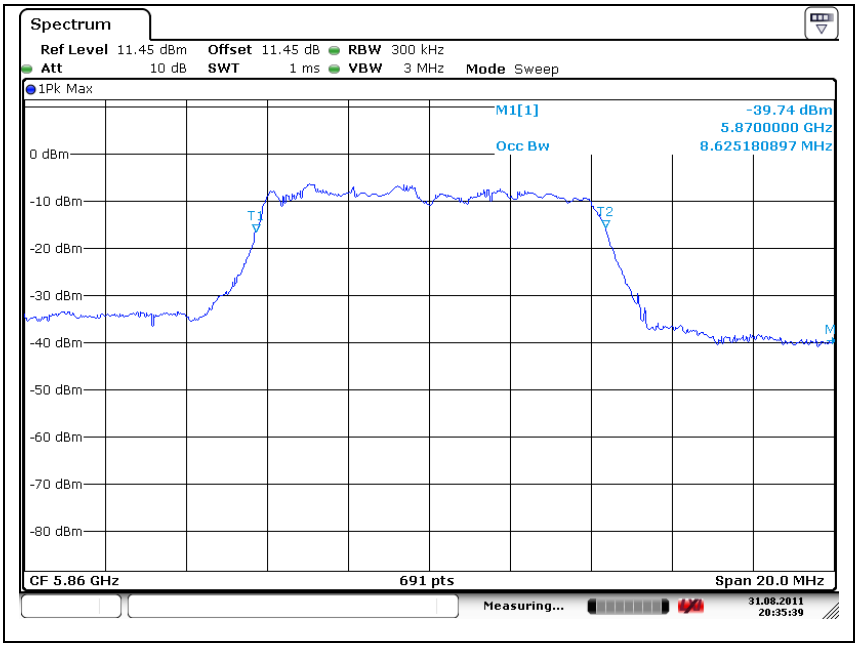
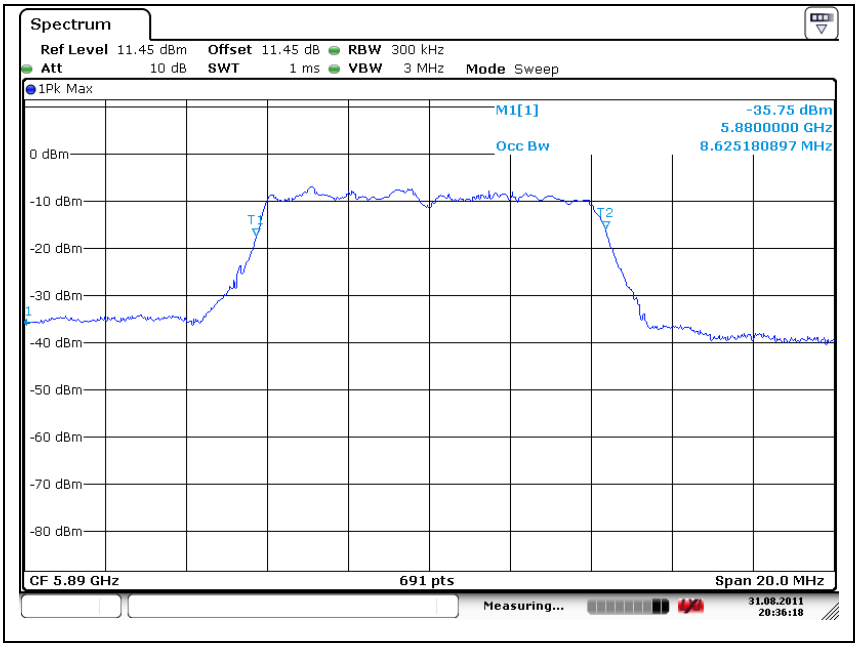
- Mode : 16-QAM

Low Channel



Middle Channel



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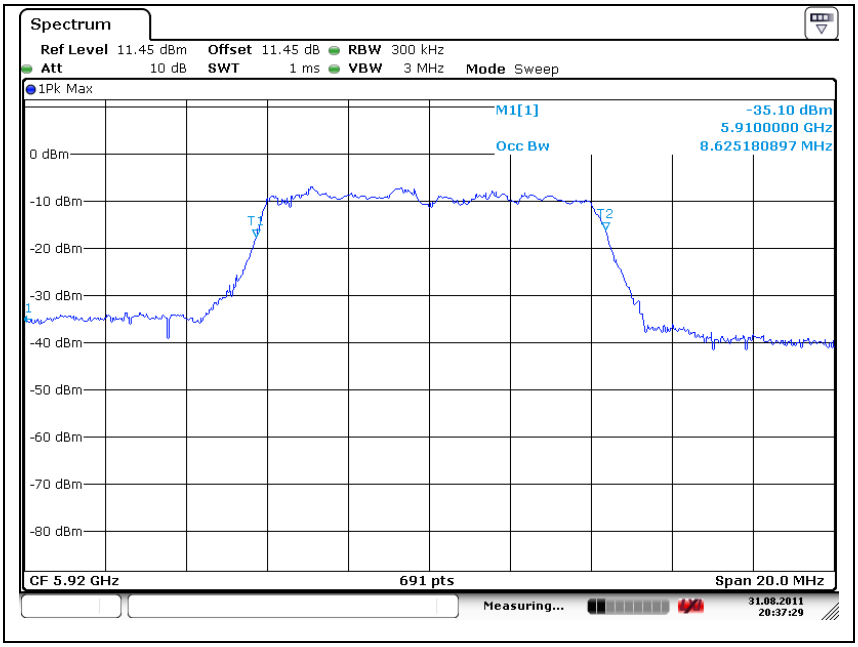
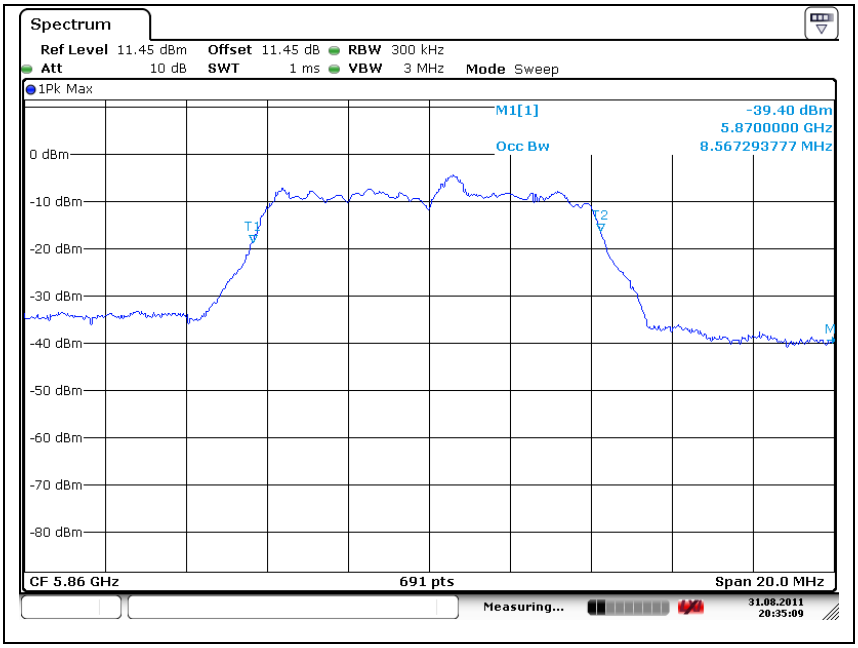
High Channel



- Mode : 64-QAM

Low Channel



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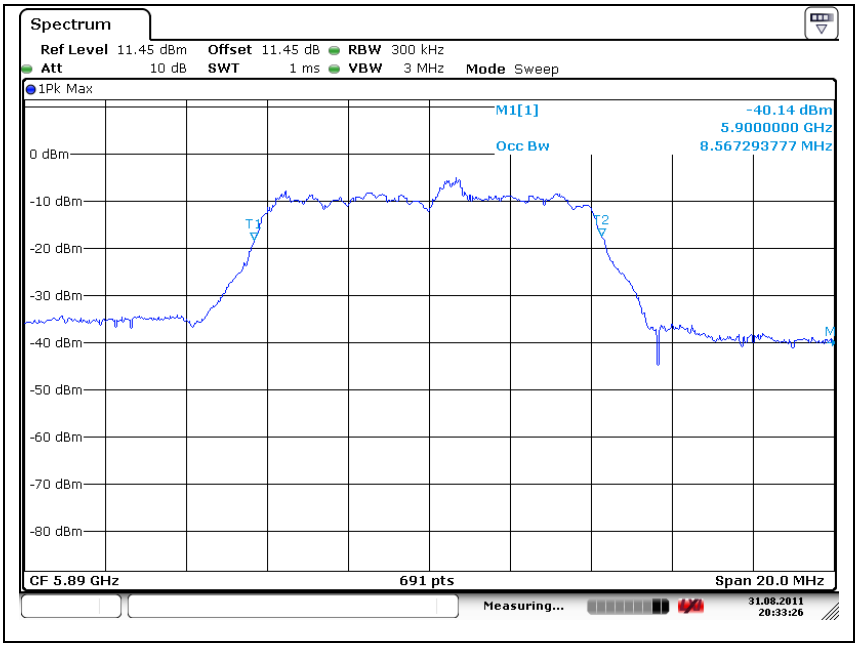
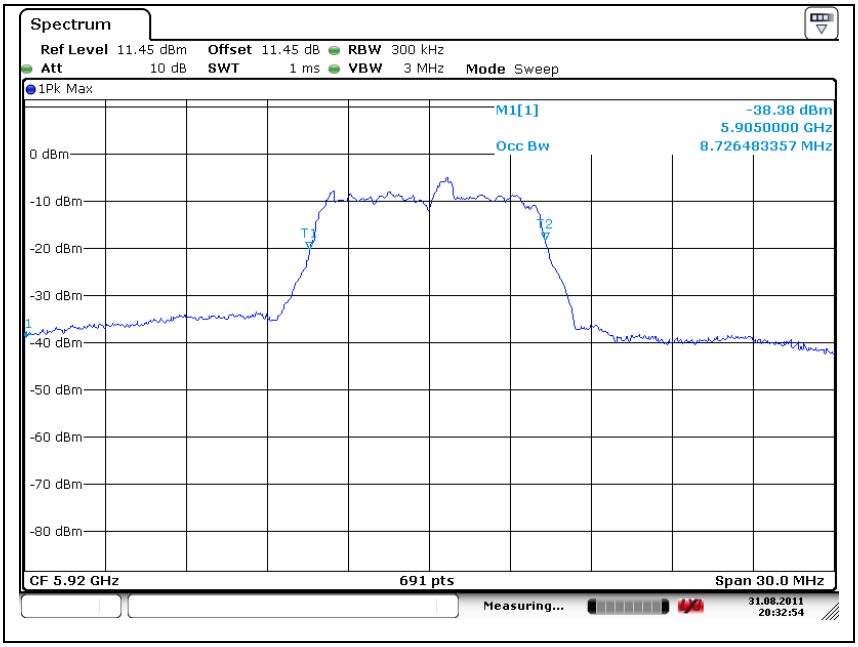
Middle Channel



High Channel



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5. Transmit Spectrum Mask

5.1. Limit

FCC §90.379, ASTM E2213-03 DSRC Standard 8.9.2.1
The transmitted spectral density of the transmitted signal for all devices shall fall within the spectral mask, as detailed in Table.

NOTE—Reduction in Power Spectral Density, dBr.

Class	± 4.5-MHz Offset	± 5.0-MHz Offset	± 5.5-MHz Offset	± 10-MHz Offset	± 15-MHz Offset
Class A	0	-10	-20	-28	-40
Class B	0	-16	-20	-28	-40
Class C	0	-26	-32	-40	-50
Class D	0	-35	-45	-55	-65

5.2. Test Procedure

1. The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.
2. The measurements shall be made using a 100 kHz resolution bandwidth and a 30 kHz video bandwidth.
3. Spurious Emission was tested under

4. The transmitted spectral mask for class B device is shown in Fig 13

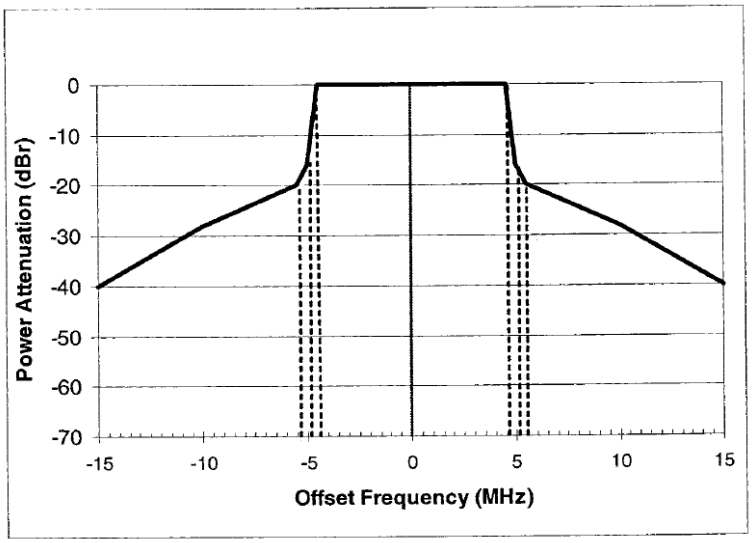

FIG. 13 Class B Transmit Spectrum Mask

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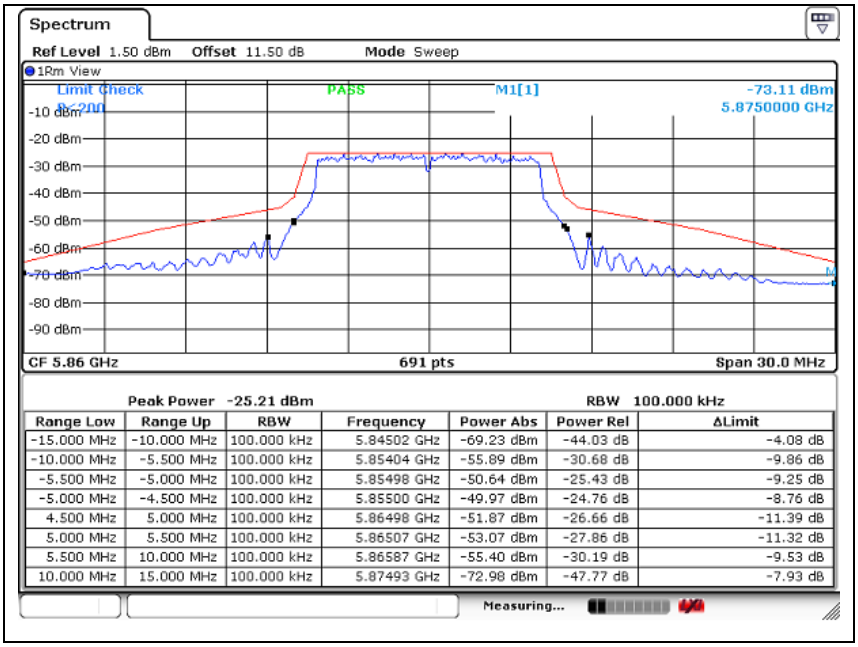
5.3. Test Results

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

Please refer to the following plots.

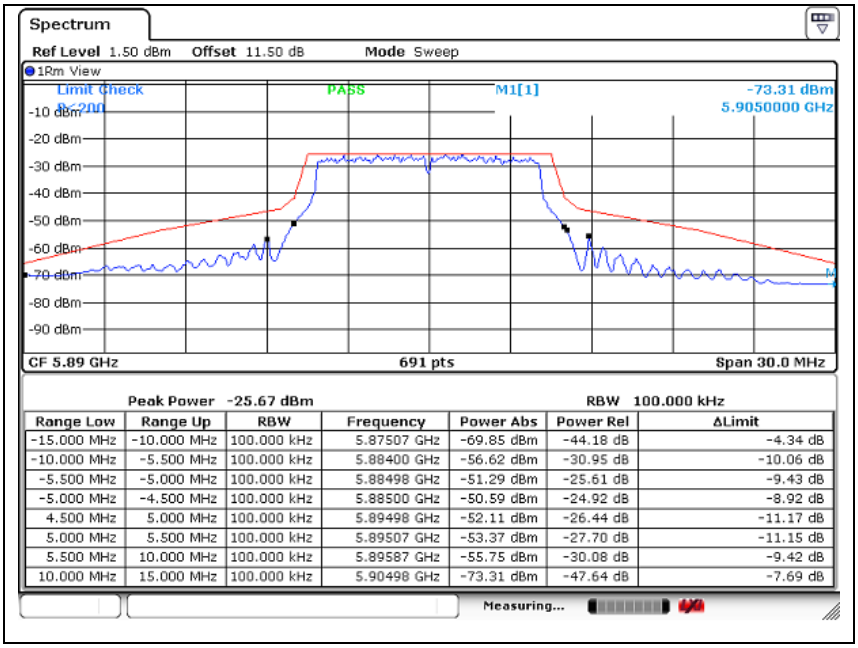
- Mode : BPSK

Low Channel



Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.84502 GHz	-69.23 dBm	-44.03 dB	-4.08 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.85404 GHz	-55.89 dBm	-30.68 dB	-9.86 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.85498 GHz	-50.64 dBm	-25.43 dB	-9.25 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.85500 GHz	-49.97 dBm	-24.76 dB	-8.76 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.86498 GHz	-51.87 dBm	-26.66 dB	-11.39 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.86507 GHz	-53.07 dBm	-27.86 dB	-11.32 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.86587 GHz	-55.40 dBm	-30.19 dB	-9.53 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.87493 GHz	-72.98 dBm	-47.77 dB	-7.93 dB

Middle Channel



Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-15.000 MHz	-10.000 MHz	100.000 kHz	5.87507 GHz	-69.85 dBm	-44.18 dB	-4.34 dB
-10.000 MHz	-5.500 MHz	100.000 kHz	5.88400 GHz	-56.62 dBm	-30.95 dB	-10.06 dB
-5.500 MHz	-5.000 MHz	100.000 kHz	5.88498 GHz	-51.29 dBm	-25.61 dB	-9.43 dB
-5.000 MHz	-4.500 MHz	100.000 kHz	5.88500 GHz	-50.59 dBm	-24.92 dB	-8.92 dB
4.500 MHz	5.000 MHz	100.000 kHz	5.89498 GHz	-52.11 dBm	-26.44 dB	-11.17 dB
5.000 MHz	5.500 MHz	100.000 kHz	5.89507 GHz	-53.37 dBm	-27.70 dB	-11.15 dB
5.500 MHz	10.000 MHz	100.000 kHz	5.89587 GHz	-55.75 dBm	-30.08 dB	-9.42 dB
10.000 MHz	15.000 MHz	100.000 kHz	5.90498 GHz	-73.31 dBm	-47.64 dB	-7.69 dB

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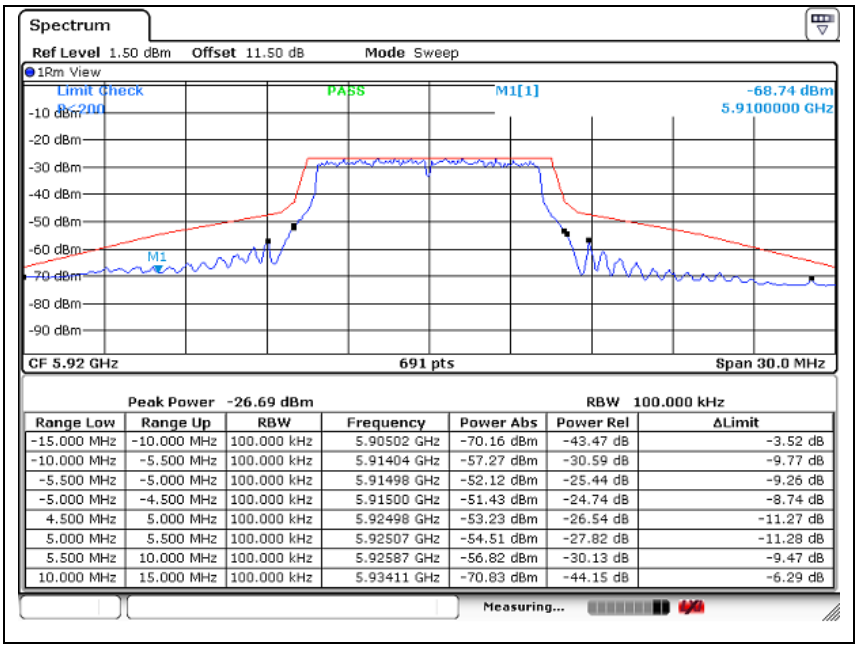
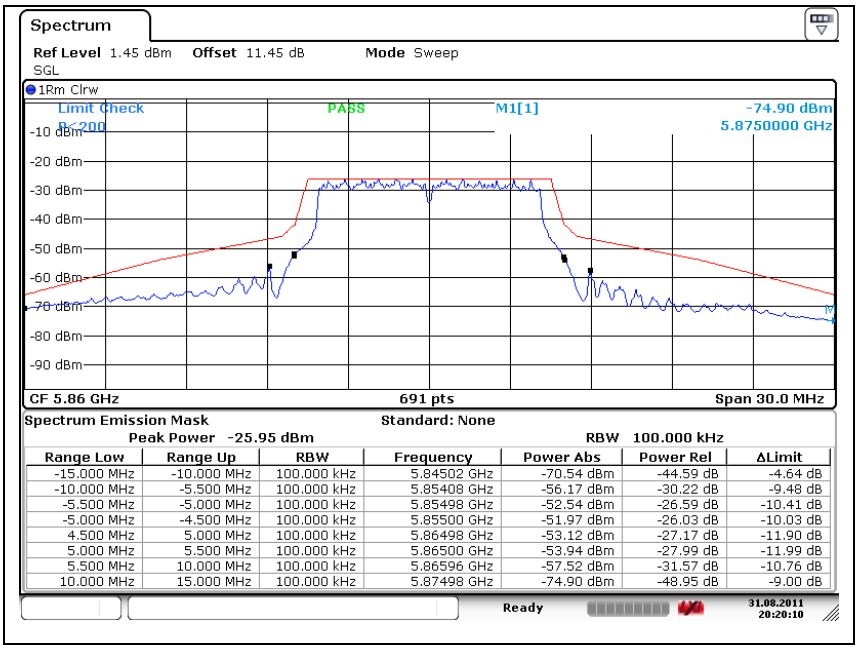
High Channel



- Mode : QPSK

Low Channel



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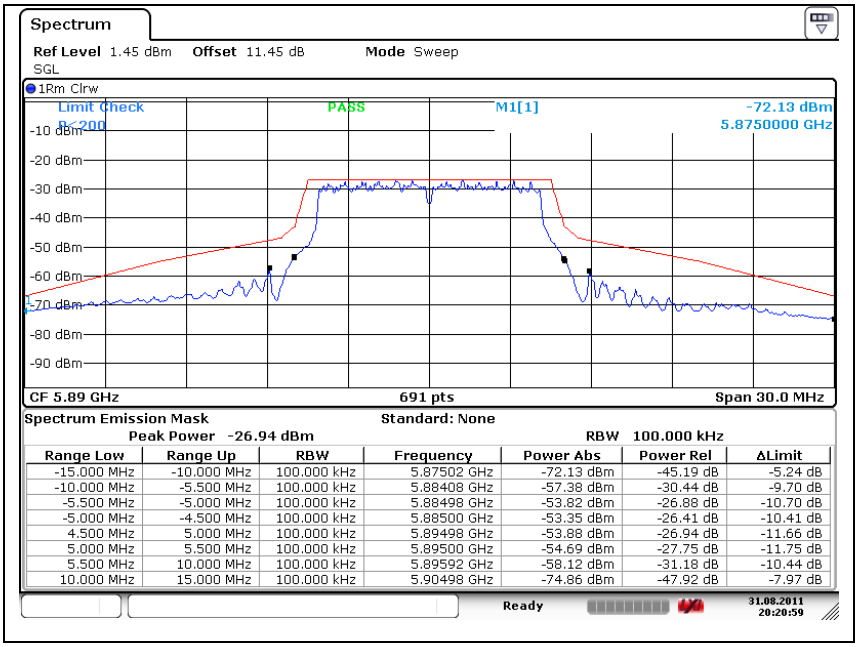
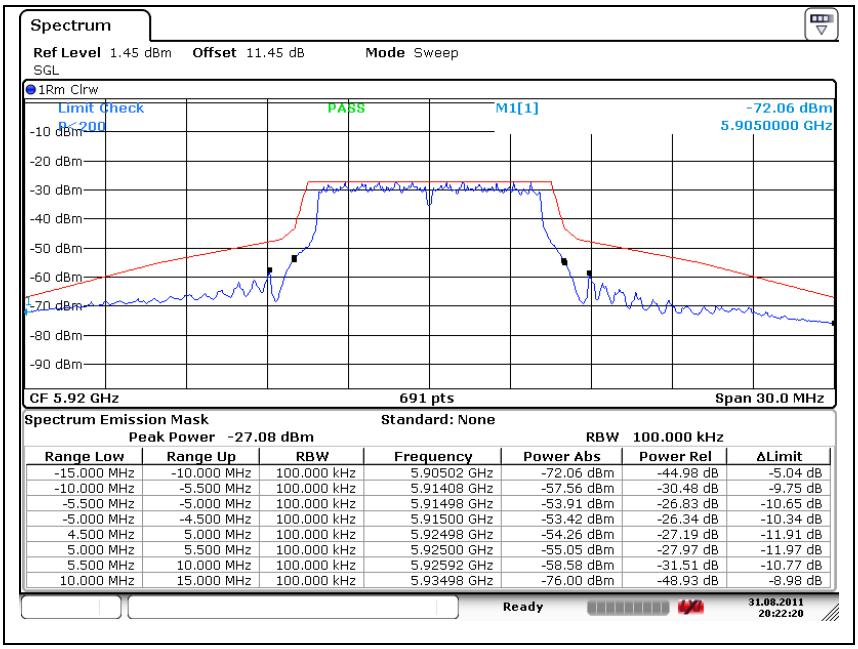
Middle Channel



High Channel



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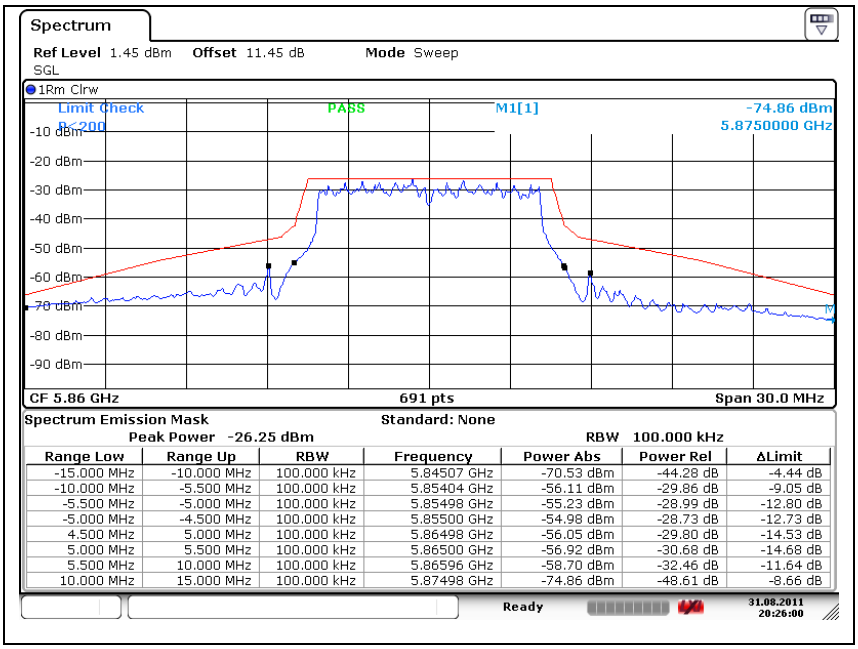
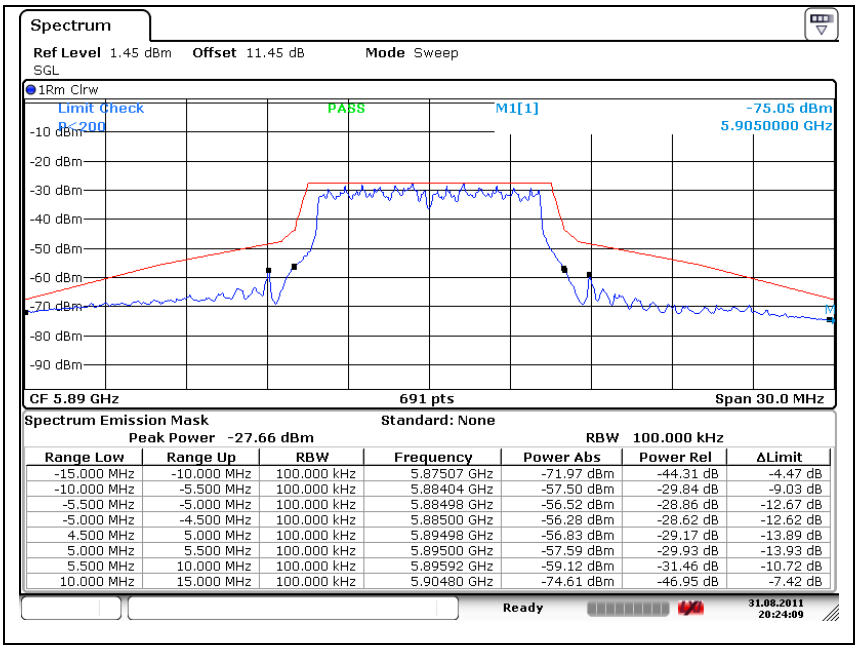
- Mode : 16-QAM

Low Channel



Middle Channel



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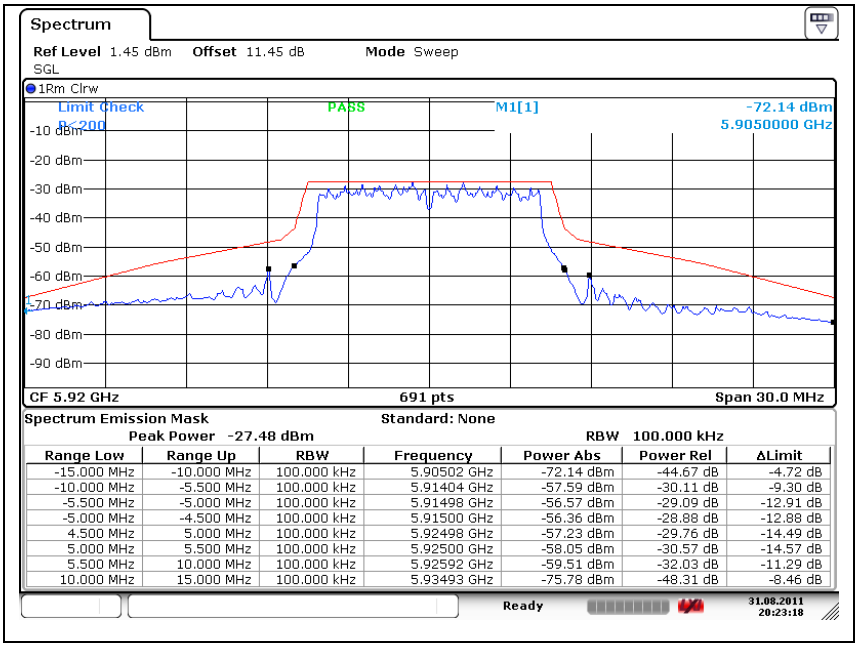
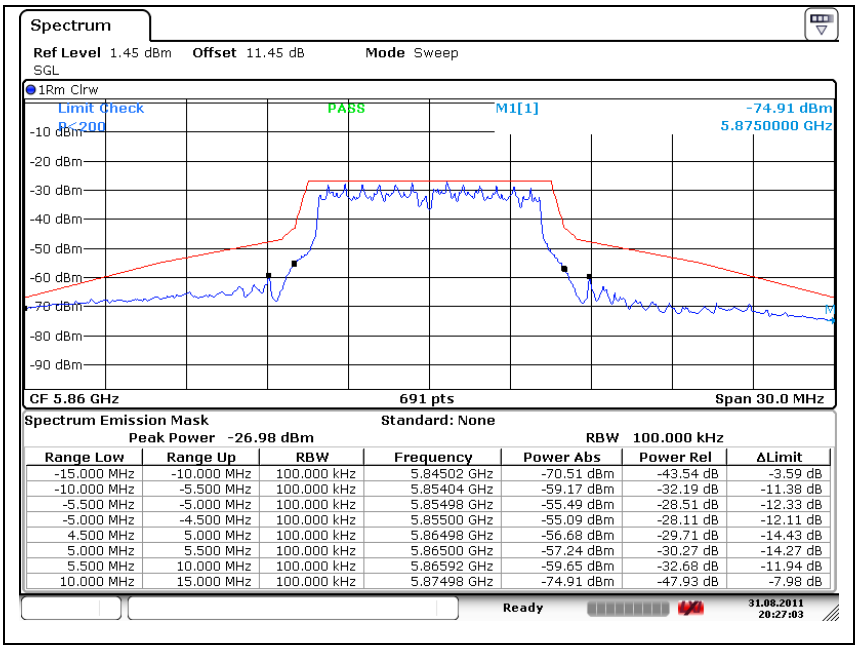
High Channel



- Mode : 64-QAM

Low Channel



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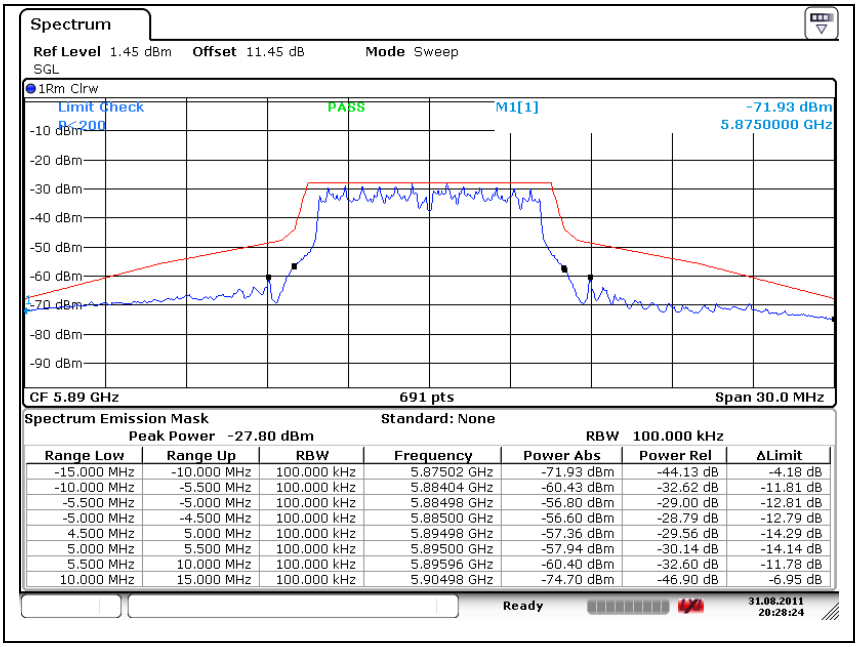
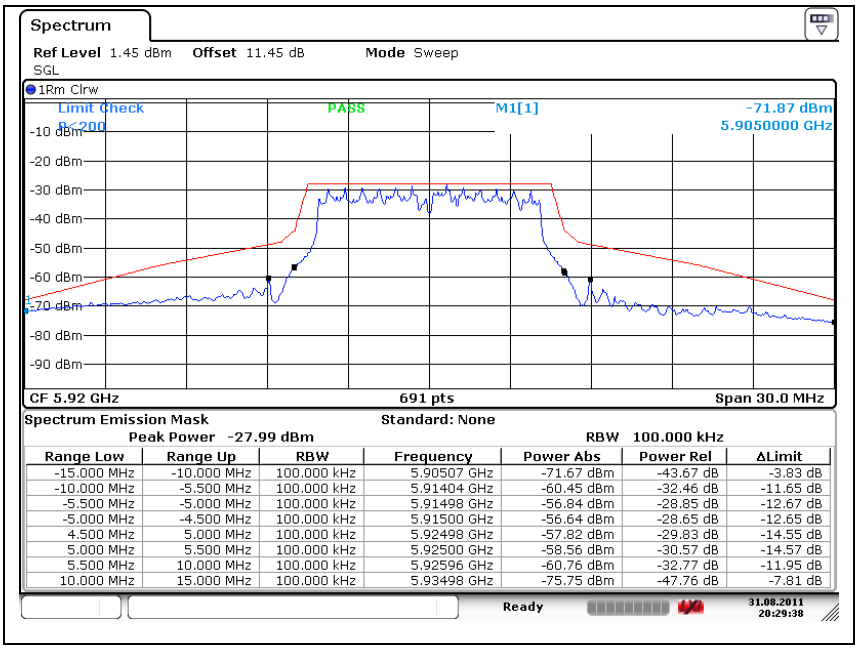
Middle Channel



High Channel



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6. Frequency Tolerance

6.1. Limit

FCC §2.1055, §90.379, ASTM E2213-03 DSRC Standard 8.9.4
The transmitted center frequency tolerance shall be ±10 ppm maximum for RSUs and ±10 ppm maximum for OBUs.

6.2. Test Procedure

1. Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a frequency counter via feed-through attenuators.
2. The EUT was placed inside the temperature chamber.
3. After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the counter.

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6.3. Test Results

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

Expected Frequency (㎒)	Power Supplied (Vdc)	Frequency Measure with Time Elapse	
		Frequency Error (㎑)	ppm
5 860	24	11.96	2.04
5 870		13.24	2.26
5 880		13.24	2.25
5 890		14.03	2.38
5 900		12.42	2.11
5 910		11.59	1.96
5 920		11.63	1.96

Extreme test at middle channel (5 890 ㎒)

Frequency Stability versus Temperature			
Environment Temperature (℃)	Power Supplied (Vdc)	Frequency Measure with Time Elapse	
		Frequency Error (㎑)	ppm
50	24	32.13	5.46
40		21.13	3.59
30		17.95	3.05
24		14.03	2.38
10		12.45	2.11
0		18.81	3.19
-10		27.50	4.67
-20		32.13	5.46
Frequency Stability versus power Supply			
Environment Temperature (℃)	Power Supplied (Vdc)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
24	27.6	14.15	2.40
	20.4	14.21	2.41

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7. RF Exposure Evaluation

7.1. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (㎒)	Electric Field Strength(V/m)	Magnetic Field Strength (A/m)	Power Density (㎽/㎠)	Average Time
(A) Limits for Occupational /Control Exposures				
300 – 1 500	--	--	F/300	6
1 500 – 100 000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300 – 1 500	--	--	F/1500	6
1 500 – 100 000	**--**	**--**	**1**	**30**

7.1.1. Friis transmission formula: Pd = (Pout*G)/(4*pi*R^2)

Where Pd = power density in ㎽/㎠

Pout = output power to antenna in ㎽

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in ㎝

Pd the limit of MPE, 1 ㎽/㎠. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

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7.1.2. Test Result of RF Exposure Evaluation

Test Item : RF Exposure Evaluation Data
Test Mode : Normal Operation

7.1.3. Output Power into Antenna & RF Exposure Evaluation Distance

Channel	Channel Frequency (㎒)	Output Average Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 ㎝ (㎽/㎠)	LIMITS (㎽/㎠)
Low	5 860	-10.85	8	0.000 103	1
Middle	5 890	-11.70	8	0.000 085	1
High	5 920	-11.68	8	0.000 085	1

Note :
1. The power density Pd (5th column) at a distance of 20 ㎝ calculated from the friis transmission formula is far below the limit of 1 ㎽/㎠ .

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