



RADIO TEST REPORT

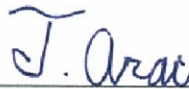
Test Report No.: 10315698S-F

Applicant : FUJIFILM Corporation
Type of Equipment : Flat Panel Sensor
Model No. : DR-ID1201SE
FCC ID : W2Z-01000006
Test regulation : FCC Part15 Subpart E: 2014
Test result : Complied

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.

Date of test: May 7 to September 16, 2014

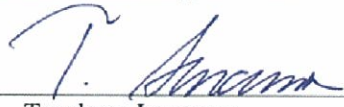
Representative test engineer:



Tatsuya Arai
Engineer

Consumer Technology Division

Approved by :



Toyokazu Imamura
Leader

Consumer Technology Division



- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

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13-EM-F0429

REVISION HISTORY

Original Test Report No.: 10315698S-F

[illegible]

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SECTION 1: Customer information

Company Name : FUJIFILM Corporation
Address : 2-26-30 Nishiazabu Minatoku Tokyo 106-8620, Japan
Telephone Number : 81-3-6271-1975
Facsimile Number : 81-3-6271-1189
Contact Person : Mitsuyuki Komiya

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of equipment : Flat Panel Sensor
Model No. : DR-ID1201SE
Serial No. : Refer to Clause 4.2
Rating : DC 8V (Battery)
Country of Mass-production : Japan
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No modification by the test lab.
Receipt Date of Sample : April 30 and August 4, 2014

2.2 Product description

Model: DR-ID1201SE (referred to as the EUT in this report) is Flat Panel Sensor.

General specification:

Clock frequency(ies) in the system : 40MHz

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Radio specification:

Radio Type : Transceiver
Method of Frequency Generation : Synthesizer
Power Supply (inner) : DC3.3V

	IEEE802.11b	IEEE802.11g	IEEE802.11a	IEEE802.11n (20M band)	IEEE802.11n (40M band)
Frequency of operation *1)	2412-2462MHz	2412-2462MHz	5180-5320MHz 5500-5700MHz 5745-5825MHz	2412-2462MHz 5180-5320MHz 5500-5700MHz 5745-5825MHz	2422-2452MHz 5190-5310MHz 5510-5670MHz 5755-5795MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)		
Channel spacing	5MHz		20MHz	<u>2.4GHz band</u> 5MHz <u>5GHz band</u> 20MHz	<u>2.4GHz band</u> 5MHz <u>5GHz band</u> 40MHz

Antenna	Antenna #1 (Bottom)	Antenna #0 (Side)
Antenna quantity	2 pcs. (*. Separation distance between the antenna 1 and the antenna: 417mm) 11b,g,a: One selected Tx antenna operation. 11n(20HT),n(40HT): One selected Tx antenna operation (MCS0~7) / Two Tx antenna operation (MCS8~13)	
Antenna model	113Y120035A (cable length: 300mm)	113Y1200036A (cable length: 575mm)
Antenna type / connector type	Monopole antenna / Connector; PCB side: U.FL, Antenna side: soldered	
Antenna gain (max.peak) (excluding cable loss)	-5.1 dBi (2.4GHz), -1.3 dBi (5GHz)	-6.9 dBi (2.4GHz) -1.8 dBi (5GHz)

*1) Refer to the test reports: 10315698S-E for FCC 15.247.

* The EUT does not perform simultaneous transmission of 2.4GHz and 5GHz Wireless LAN.

FCC 15.31 (e)

The EUT is a battery-operated device and test was performed with the full-charged battery.
Therefore, the EUT complies with the requirement.

FCC 15.203

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore the EUT complies with the requirement.

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart E: 2014, final revised on August 15, 2014 and effective October 14, 2014
Title : FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices
Section 15.207 Conducted limits
Section 15.209 Radiated emission limits, general requirements
Section 15.407 General technical requirements

* The revision on August 15, 2014 does not affect the test specification applied to the EUT.

3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.4:2009 7. AC powerline conducted emission measurements	FCC 15.407 (b)(6) & 15.207	-	N/A *2)	-	-
6dB, 26dB & 20dB emission bandwidth	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3) FCC 15.215 (c)	Conducted	N/A	See data	-
Maximum conducted output power	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	N/A		Complied
Peak power spectral density	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	N/A		Complied
Spurious emission & Restricted band edges	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.109, 15.407 (b), 15.205 & 15.209	Radiated	N/A	2.5dB Freq.: 175.006MHz Detector: Quasi-Peak Polarization: Horizontal Mode: Tx 5580MHz, IEEE 802.11n (HT20), MIMO	Complied
Dynamic frequency selection	FCC 06-96 APPENDIX	FCC 15.407 (h)	Conducted	*3)	N/A	N/A

*1) These tests were also referred to KDB 789033 (FCC), "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".

*2) The test is not applicable since the radio function does not operate during charging.

*3) Refer to the test report 10315698S-G.

Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

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3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied bandwidth (99%)	ANSI C63.4:2009, RSS-Gen 4.6.1	-	Conducted	-	-
Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422					

* Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Item	Frequency range	No.1 SAC ^{*1} /SR ^{*2} (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.7 dB	3.7 dB	3.6 dB
	30MHz-300MHz	4.9 dB	5.1 dB	4.9 dB
	300MHz-1GHz	5.0 dB	5.2 dB	4.9 dB
	1GHz-15GHz	4.8 dB	4.8 dB	4.9 dB
Radiated emission (Measurement distance: 1m)	15GHz-18GHz	5.6 dB	5.6 dB	5.6 dB
	18GHz-40GHz	4.6 dB	4.3 dB	4.4 dB

*1: SAC=Semi-Anechoic Chamber

*2: SR= Shielded Room is applied besides radiated emission

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Antenna port conducted test

Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB

Spurious emission (Conducted) measurement (below 1GHz) uncertainty for this test was: (±) 1.7dB

Spurious emission (Conducted) measurement (1G-3GHz) uncertainty for this test was: (±) 2.3dB

Spurious emission (Conducted) measurement (3G-18GHz) uncertainty for this test was: (±) 3.0dB

Spurious emission (Conducted) measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.9dB

Bandwidth measurement uncertainty for this test was: (±) 5.4%

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3.5 Test location

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JAB Accreditation No. : RTL02610

	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
☐ No.1 semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.2 semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.3 semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
☐ No.4 semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
☐ No.1 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.2 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.3 shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
☐ No.4 shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
☒ No.5 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.6 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☒ No.1 measurement room	-	2.55 x 4.1 x 2.5	-	-

3.6 Test setup, Test data & Test instruments

Refer to APPENDIX 1 to 3.

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SECTION 4: Operation of E.U.T. during testing

4.1 Operating mode

Test item	Mode	Tested frequency	Worst data rate *1)	Antenna *1)
Radiated emission (below 1GHz) *2)	Transmitting IEEE 802.11n (HT20), MIMO	5580MHz	MCS8, PN9	Side & Bottom
Antenna port conducted test other than Maximum output power	Transmitting IEEE 802.11a	5180MHz, 5220MHz, 5240MHz	6Mbps, PN9	Bottom
		5260MHz, 5300MHz, 5320MHz	6Mbps, PN9	Bottom
		5500MHz, 5580MHz, 5700MHz	6Mbps, PN9	Bottom
		5745MHz, 5785MHz, 5825MHz	6Mbps, PN9	Bottom
	Transmitting IEEE 802.11n (HT20), SISO	5180MHz, 5220MHz, 5240MHz	MCS0, PN9	Bottom
		5260MHz, 5300MHz, 5320MHz	MCS0, PN9	Bottom
		5500MHz, 5580MHz, 5700MHz	MCS0, PN9	Bottom
		5745MHz, 5785MHz, 5825MHz	MCS0, PN9	Bottom
	Transmitting IEEE 802.11n (HT20), MIMO	5180MHz, 5220MHz, 5240MHz	MCS8, PN9	Side
		5260MHz, 5300MHz, 5320MHz	MCS8, PN9	Side
		5500MHz, 5580MHz, 5700MHz	MCS8, PN9	Side
		5745MHz, 5785MHz, 5825MHz	MCS8, PN9	Side
	Transmitting IEEE 802.11n (HT40), SISO	5190MHz, 5230MHz	MCS0, PN9	Side
		5270MHz, 5310MHz	MCS0, PN9	Side
		5510MHz, 5550MHz, 5670MHz	MCS0, PN9	Side
		5755MHz, 5795MHz	MCS0, PN9	Side
	Transmitting IEEE 802.11n (HT40), MIMO	5190MHz, 5230MHz	MCS8, PN9	Side
		5270MHz, 5310MHz	MCS8, PN9	Side
		5510MHz, 5550MHz, 5670MHz	MCS8, PN9	Side
		5755MHz, 5795MHz	MCS8, PN9	Side

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Test item	Mode	Tested frequency	Worst data rate *1)	Antenna *1)
Maximum output power	Transmitting IEEE 802.11a	5180MHz, 5220MHz, 5240MHz	6Mbps, PN9	Bottom
		5260MHz, 5300MHz, 5320MHz	6Mbps, PN9	Bottom
		5500MHz, 5580MHz, 5700MHz	6Mbps, PN9	Bottom
		5745MHz, 5785MHz, 5825MHz	6Mbps, PN9	Bottom
	Transmitting IEEE 802.11n (HT20), SISO	5180MHz, 5220MHz, 5240MHz	MCS0, PN9	Bottom
		5260MHz, 5300MHz, 5320MHz	MCS0, PN9	Bottom
		5500MHz, 5580MHz, 5700MHz	MCS0, PN9	Bottom
		5745MHz, 5785MHz, 5825MHz	MCS0, PN9	Bottom
	Transmitting IEEE 802.11n (HT20), MIMO	5180MHz, 5220MHz, 5240MHz	MCS8, PN9	Side & Bottom
		5260MHz, 5300MHz, 5320MHz	MCS8, PN9	Side & Bottom
		5500MHz, 5580MHz, 5700MHz	MCS8, PN9	Side & Bottom
		5745MHz, 5785MHz, 5825MHz	MCS8, PN9	Side & Bottom
	Transmitting IEEE 802.11n (HT40), SISO	5190MHz, 5230MHz	MCS0, PN9	Side
		5270MHz, 5310MHz	MCS0, PN9	Side
		5510MHz, 5550MHz, 5670MHz	MCS0, PN9	Side
		5755MHz, 5795MHz	MCS0, PN9	Side
	Transmitting IEEE 802.11n (HT40), MIMO	5190MHz, 5230MHz	MCS8, PN9	Side & Bottom
		5270MHz, 5310MHz	MCS8, PN9	Side & Bottom
		5510MHz, 5550MHz, 5670MHz	MCS8, PN9	Side & Bottom
		5755MHz, 5795MHz	MCS8, PN9	Side & Bottom
Radiated emission (above 1GHz) *3)	Transmitting IEEE 802.11n (HT20), MIMO	5180MHz, 5240MHz, 5320MHz	MCS8, PN9	Side & Bottom
		5500MHz, 5580MHz, 5700MHz	MCS8, PN9	Side & Bottom
		5745MHz, 5785MHz, 5825MHz	MCS8, PN9	Side & Bottom
	Transmitting IEEE 802.11n (HT40), MIMO	5190MHz, 5230MHz, 5310MHz	MCS8, PN9	Side & Bottom
		5510MHz, 5550MHz, 5670MHz	MCS8, PN9	Side & Bottom
		5755MHz, 5795MHz	MCS8, PN9	Side & Bottom
*1) The worst condition was determined based on the test result of Maximum Peak Output Power. *2) Test operating mode was determined as follows according to “Section 1 of 6 802.11 a/b/g/n testing- Managing Complex Regulatory Approvals - ”of TCB Council Workshop October 2009. *3) Since 11a and 11n-20 have the same modulation method and no differences in transmitting specification, test was performed on the representative mode that had the highest peak output power.				

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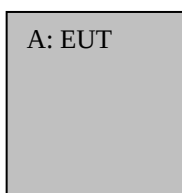
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EUT has the power settings by the software as follows;

Power settings	IEEE 802.11a: 12.5dBm (5180-5320MHz), 15.0dBm (5500-5700MHz) IEEE 802.11n (HT20): 11.0dBm (5180-5320MHz), 13.5dBm (5500-5700MHz) IEEE 802.11n (HT40): 10.0dBm (5190, 5310MHz), 11.0dBm (5230, 5270, 5510-5670MHz)
Software	Atheros Radio Test (ART) - Revision 0.9 BUILD #27 ART_11n - Customer Version (ANWI BUILD)

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

4.2 Configuration and peripherals



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Flat Panel Sensor	DR-ID1201SE	*1)	FUJIFILM	EUT

*1) Antenna port conducted tests: 120001, Radiated emission tests: 120002

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SECTION 5: Radiated emission

5.1 Operating environment

Test place : See test data (APPENDIX 1)
Temperature : See test data (APPENDIX 1)
Humidity : See test data (APPENDIX 1)

5.2 Test configuration

EUT was placed on a polystyrene foam platform of nominal size, 0.5m by 0.5m, raised 0.8m above the conducting ground plane. Photographs of the set up are shown in APPENDIX 3.

5.3 Test conditions

Frequency range : 30MHz - 40GHz
EUT position : Table top

5.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on a semi-anechoic chamber with a ground plane and at a distance of 3m (below 15GHz) / 1m (above 15GHz). Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization. Drawing of the antenna direction is shown in Figure 1.

The radiated emission measurements were made with the following detection.

Frequency	30-1000MHz	1-40GHz	
Detection type	Quasi-Peak	Peak	Average *1)
IF Bandwidth	120kHz	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: *2

*1) The test method was referred to Section H) 6) d) Method VB (Averaging using reduced video bandwidth) of FCC KDB 789033 D01 "Guidelines for Compliance Testing of unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E"

*2) When duty cycle > 98 percent, VBW was set at 10Hz.

When duty cycle < 98 percent, VBW (Average) calculation sheet in APPENDIX 1.

Detector and averaging type set for linear voltage averaging.

Below 1GHz

The result also satisfied with the general limits specified in FCC 15.209 (a).

Above 1GHz

Inside of restricted bands (FCC 15.205): Limit in FCC 15.209 (a)

Outside of the restricted bands:

Limit 68.2dBuV/m(-27dBm e.i.r.p.*) or 78.2dBuV/m(-17dBm e.i.r.p.*) in the Section 15.407(b).

Restricted band edge: Limit in FCC 15.209(a)

Since this limit is severer than the limit of the inside of restricted bands.

*Electric Field Strength to e.i.r.p. conversion

$P [dBm] = E [dBuV/m] - 95.2 [dB]$

$P [dBm] = 10 \times \text{LOG} (\{ (10 \wedge (E [dBuV/m] / 20) * 10 \wedge (-6) * (Distance = 3[m])) \wedge 2 \} / 30) \times 10 \wedge 3) (uV/m):$

P is the e.i.r.p. (Watts)

* Distance Factor for the measurement at 1m: $20 \times \log (3.0m/1.0m) = 9.5dB$

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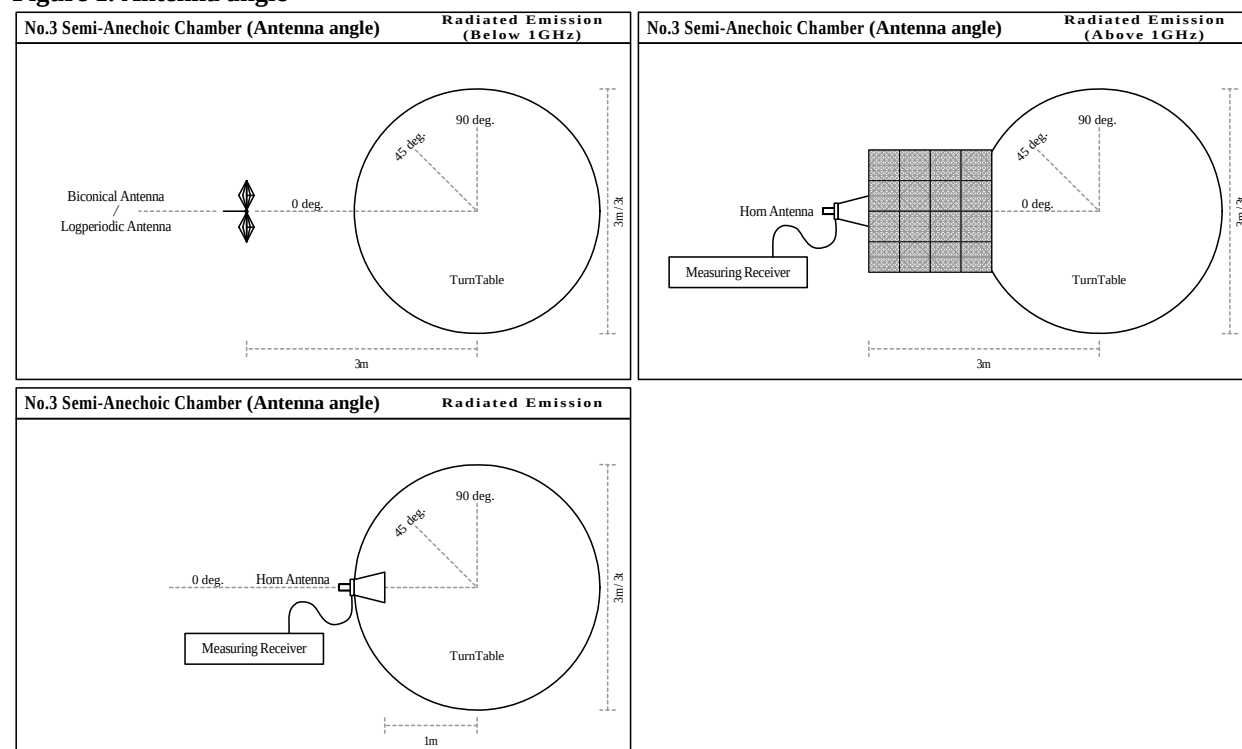
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The carrier levels and noise levels were confirmed at each position of X, Y and Z axes to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Antenna polarization	Carrier	Spurious (30M-1GHz)	Spurious (1-6.4GHz)	Spurious (6.4-15GHz)	Spurious (15-18GHz)	Spurious (18-26.5GHz)	Spurious (26.5-40GHz)
Horizontal	Y	Z	Y	Y	Y	Y	Y
Vertical	Y	Y	Y	Y	Y	Y	Y

Figure 1. Antenna angle



5.5 Band edge

Band edge level at 5150MHz, 5350MHz, 5460MHz and 5725MHz is below the limits of FCC 15.209.
Band edge level at 5470MHz, 5725MHz and 5850MHz is below the limits of FCC 15.407(b).

5.6 Results

Summary of the test results : Pass
* No noise was detected other than listed points.

Refer to APPENDIX 1

SECTION 6: Antenna terminal conducted tests

Test Procedure

The tests were made with below setting connected to the antenna port with the test instrument.

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26dB bandwidth	Enough width to display	Close to 1% of EBW	Greater than RBW	Auto	Peak	Max Hold	Spectrum Analyzer
6dB bandwidth	Enough width to display	100kHz	300kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99% occupied bandwidth	Enough width to display	Close to 1% of Span	Three times of RBW	Auto	Sample	Max Hold	Spectrum Analyzer
20dB bandwidth	Enough width to display	Close 1% to 5% of OBW	Three times of RBW	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum conducted output power *1)	-	-	50MHz	-	-	-	Power Meter method PM
Peak power spectral density *2)	Enough width to display	1MHz 100kHz*3)	3MHz 300kHz	Auto	RMS-Average Power Averaging (100 times)	Clear Write	Spectrum Analyzer method SA-2

*EBW: Emission Bandwidth

*1) Maximum Conducted Output Power was measured based on Method PM of "Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".

*2) PSD was measured based on Method SA-2 of "Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".

*3) FCC standard says that RBW is set to be 500kHz for 5.725-5850GHz, but it is not possible with spectrum analyzer, so $10\log(500\text{kHz}/100\text{kHz})$ was added to the test result.

The test results and limit are rounded off to two decimals place, so some differences might be observed.

Summary of the test results : Pass

Refer to APPENDIX 1

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Contents of APPENDIXES

APPENDIX 1: Data of Radio tests

Bandwidth
Maximum conducted output power
Radiated emission
Peak power density

APPENDIX 2: Test instruments

Test instruments

APPENDIX 3: Photographs of test setup

Radiated emission
Pre-check of worst position

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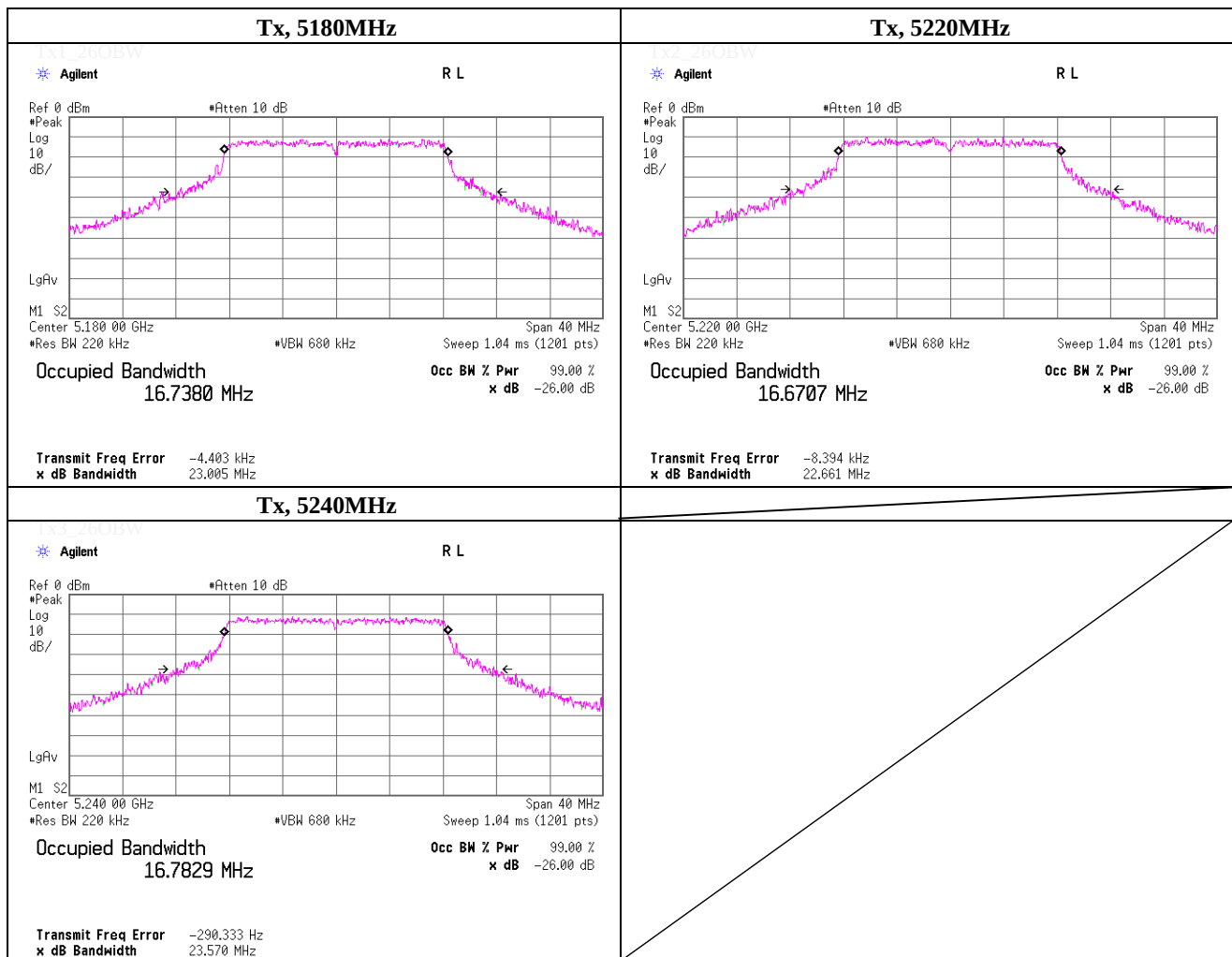
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APPENDIX 1: Data of Radio tests

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5180.0000	23.005	-
5220.0000	22.661	-
5240.0000	23.570	-



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-26dB Bandwidth

Test place

UL Japan, Inc. Shonan EMC Lab.

No.1 Measurement Room

Date

September 5, 2014

Temperature / Humidity

24deg.C , 55%RH

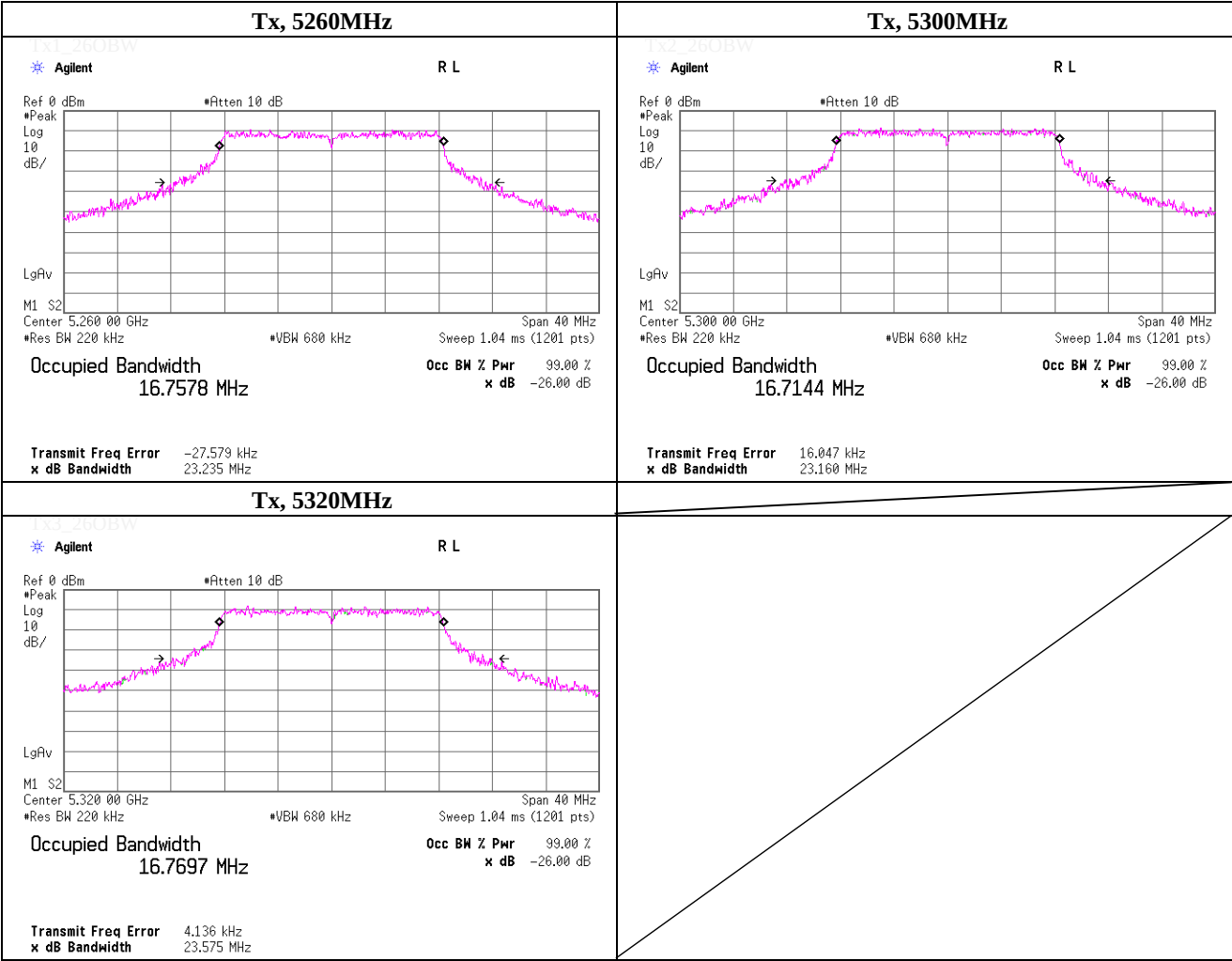
Engineer

Tatsuya Arai

Mode

Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps

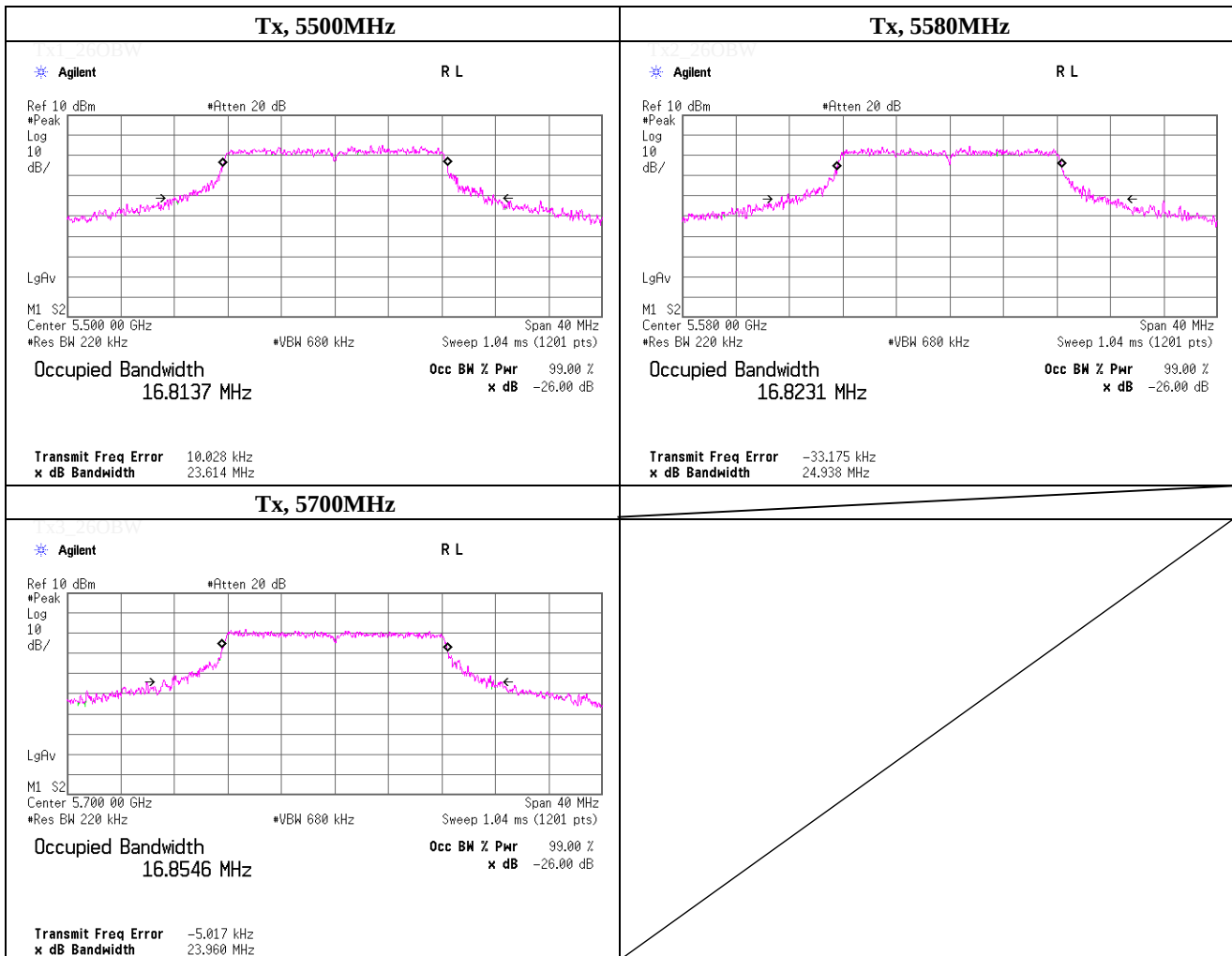
Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5260.0000	23.235	-
5300.0000	23.160	-
5320.0000	23.575	-



-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5500.0000	23.614	-
5580.0000	24.938	-
5700.0000	23.960	-



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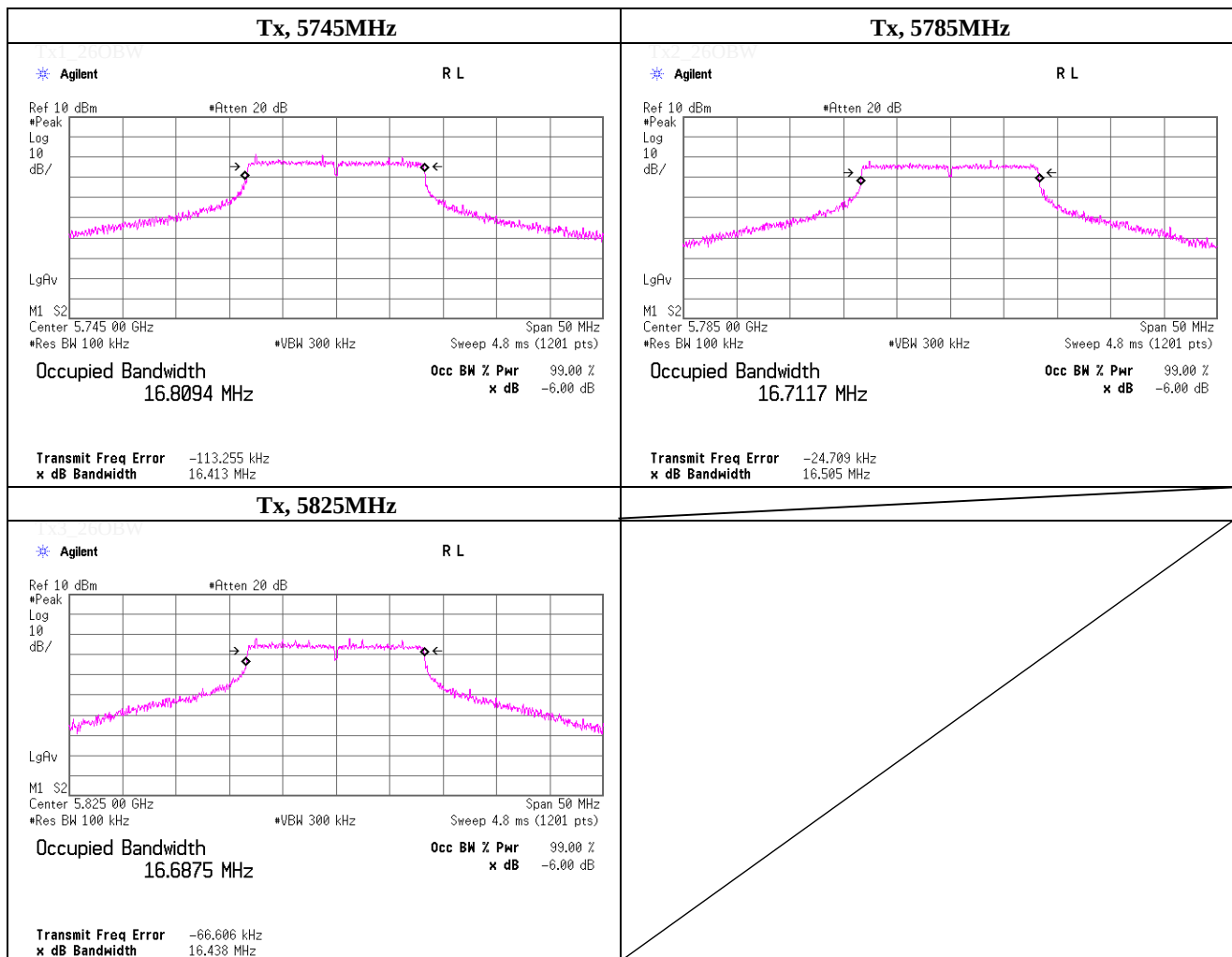
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	16.413	> 0.500
5785.0000	16.505	> 0.500
5825.0000	16.438	> 0.500



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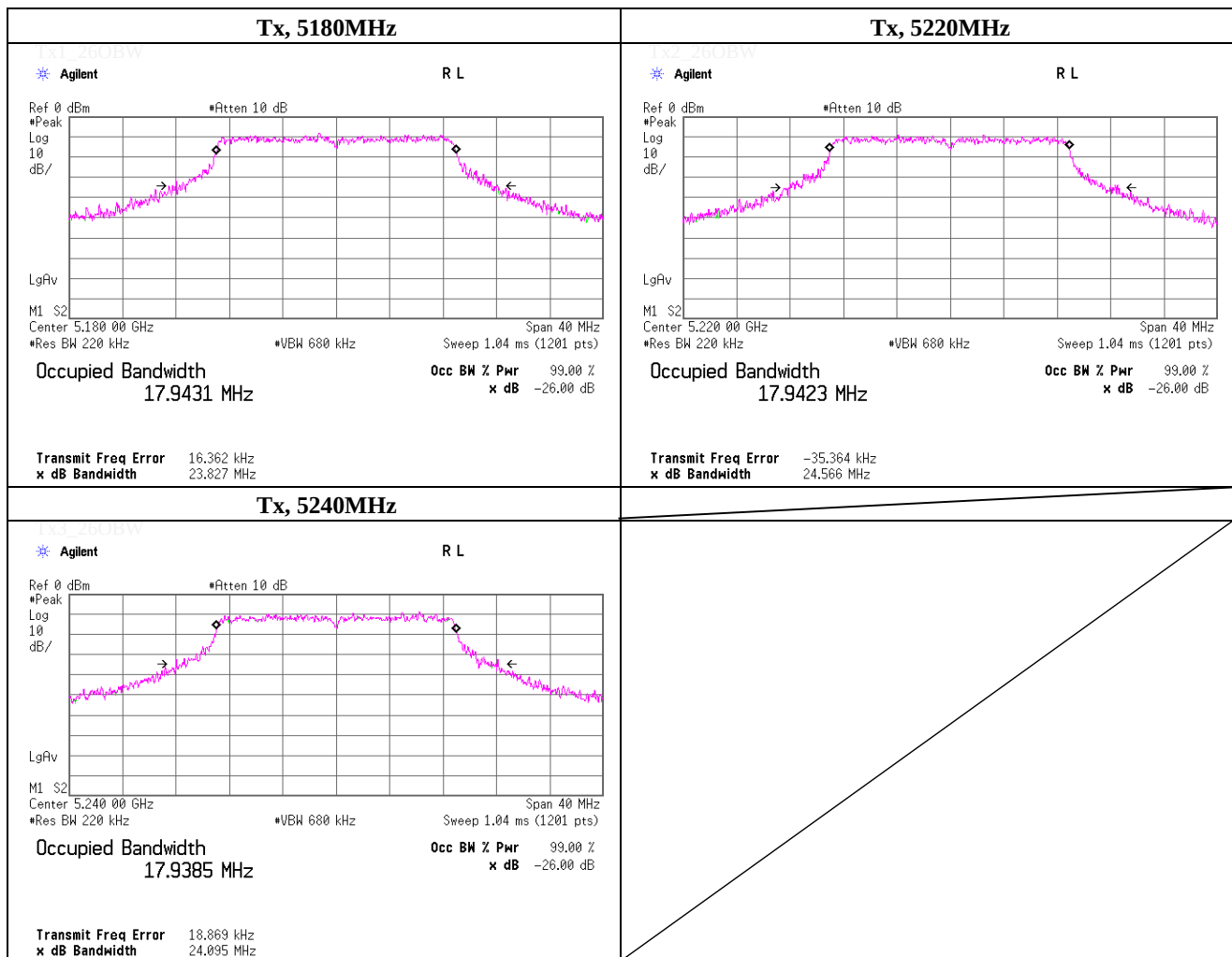
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5180.0000	23.827	-
5220.0000	24.566	-
5240.0000	24.095	-



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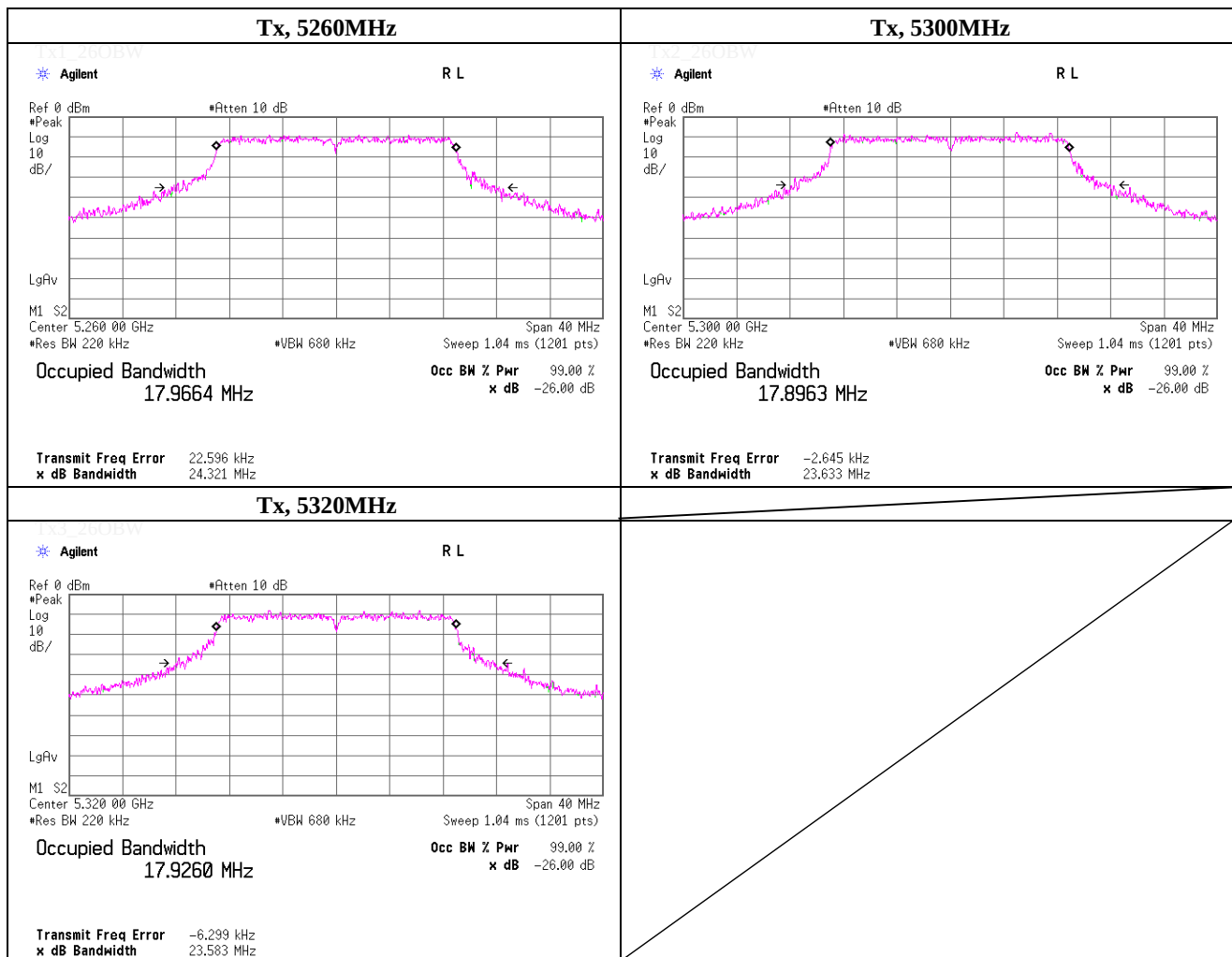
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5260.0000	24.321	-
5300.0000	23.633	-
5320.0000	23.583	-



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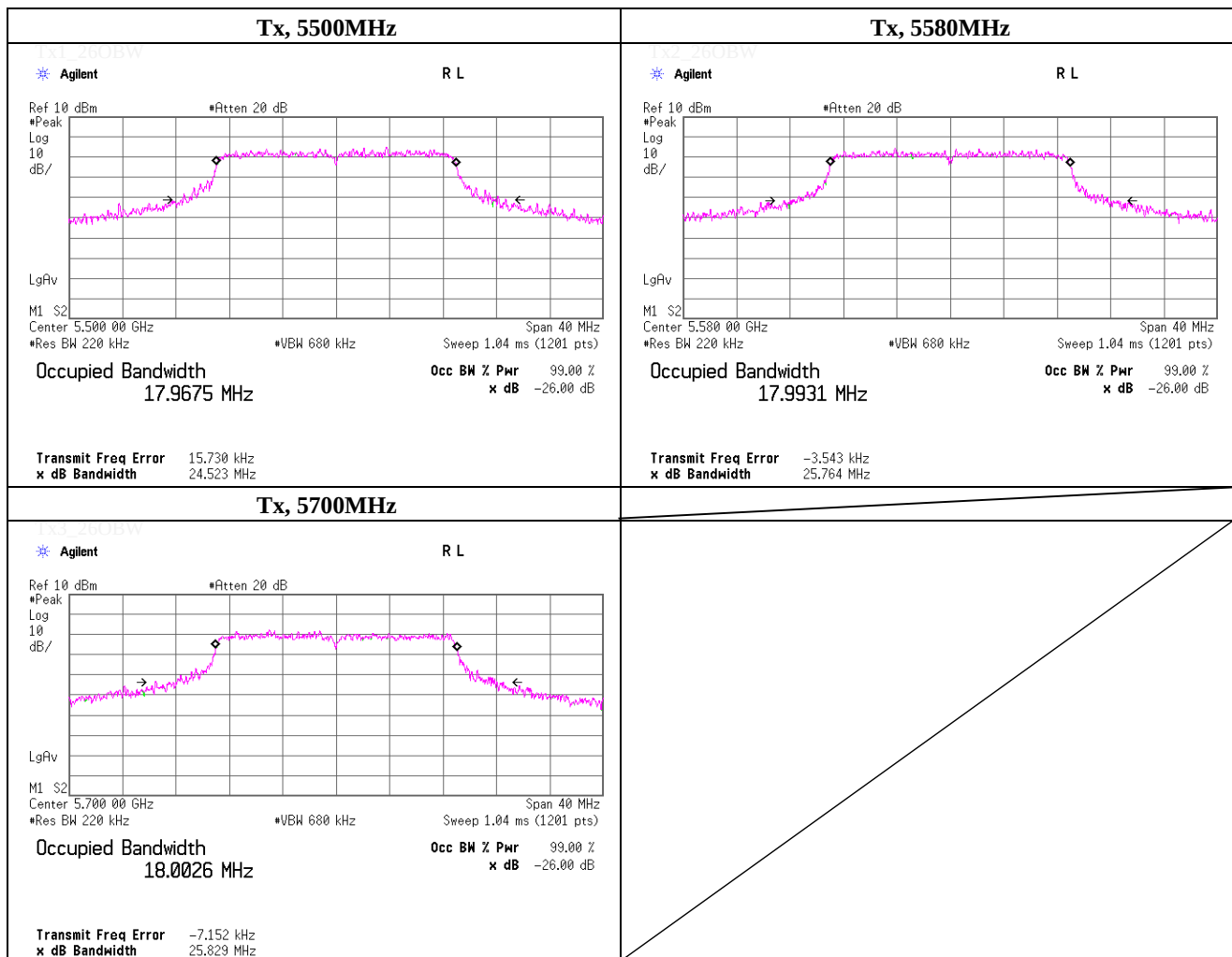
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Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5500.0000	24.523	-
5580.0000	25.764	-
5700.0000	25.829	-

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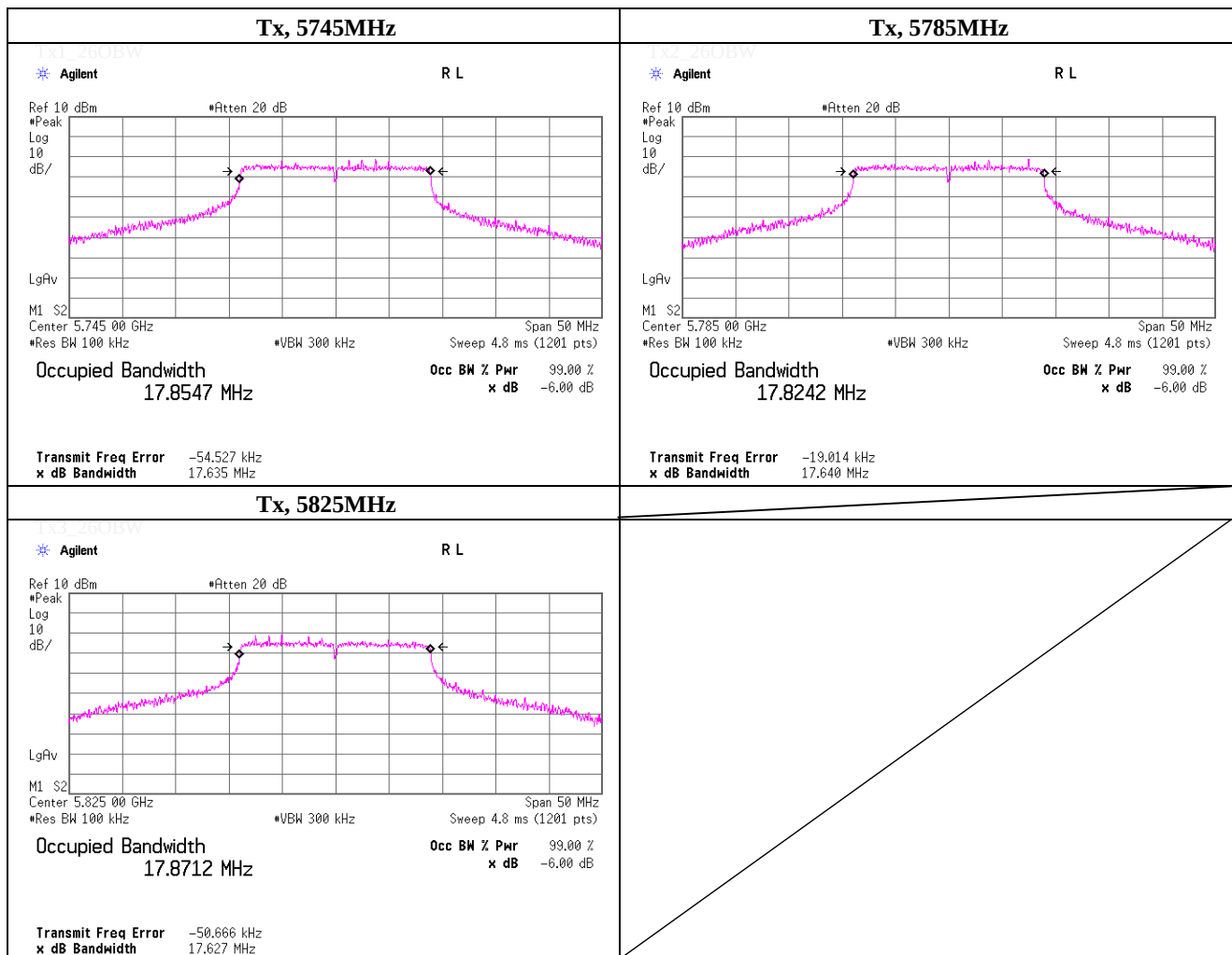
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.635	> 0.500
5785.0000	17.640	> 0.500
5825.0000	17.627	> 0.500



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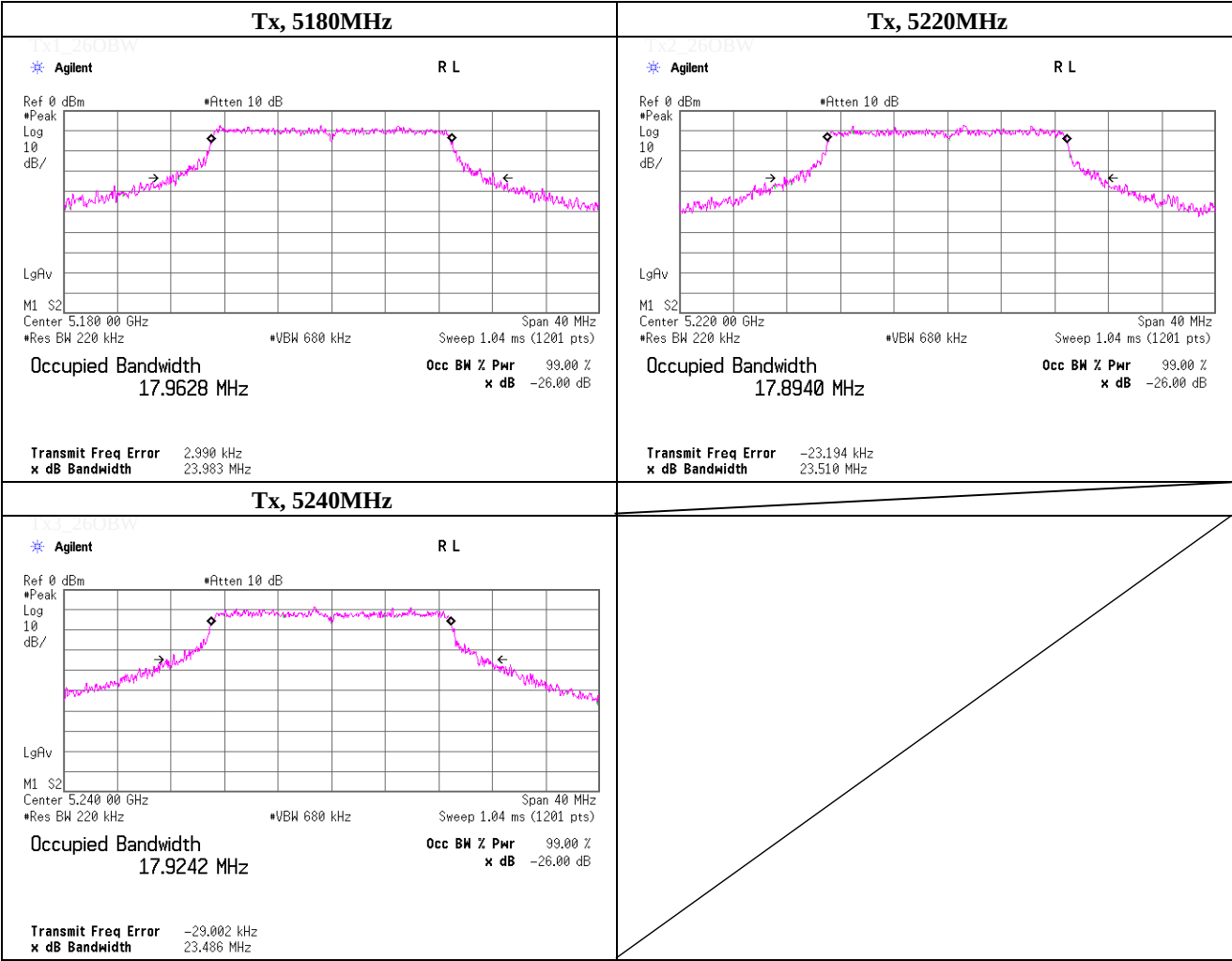
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5180.0000	23.983
5220.0000	23.510
5240.0000	23.486

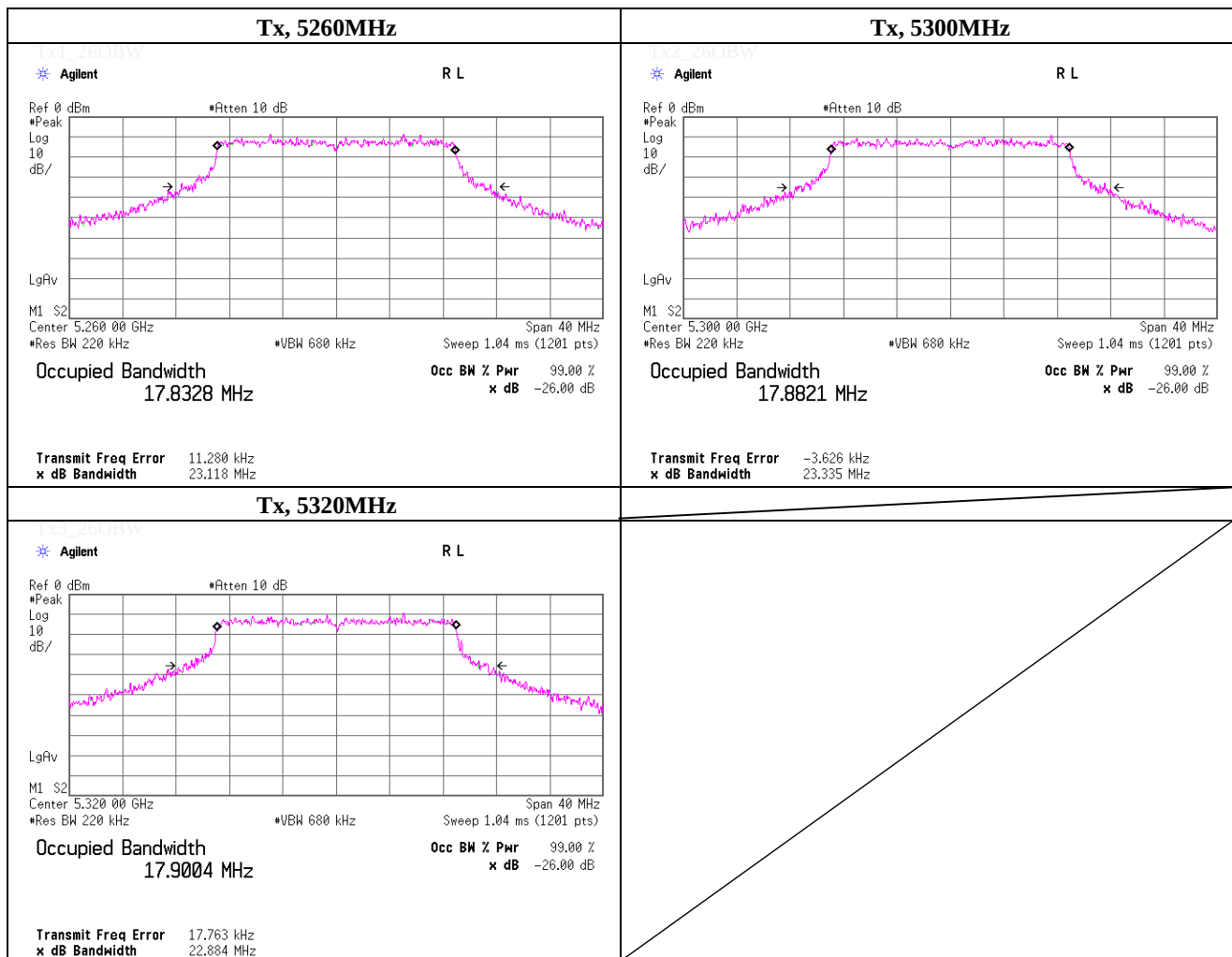


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Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5260.0000	23.118
5300.0000	23.335
5320.0000	22.884

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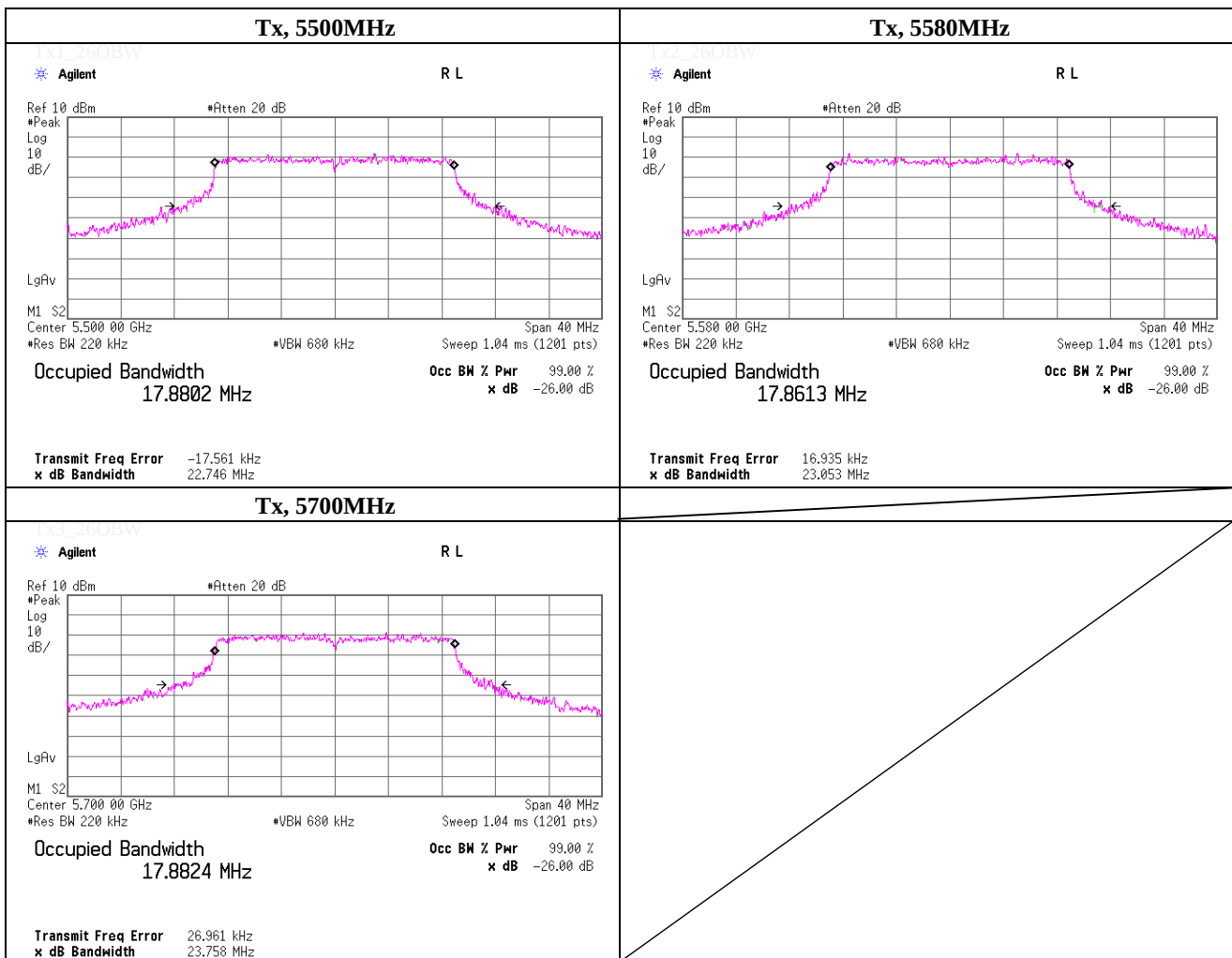
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5500.0000	22.746
5580.0000	23.053
5700.0000	23.758



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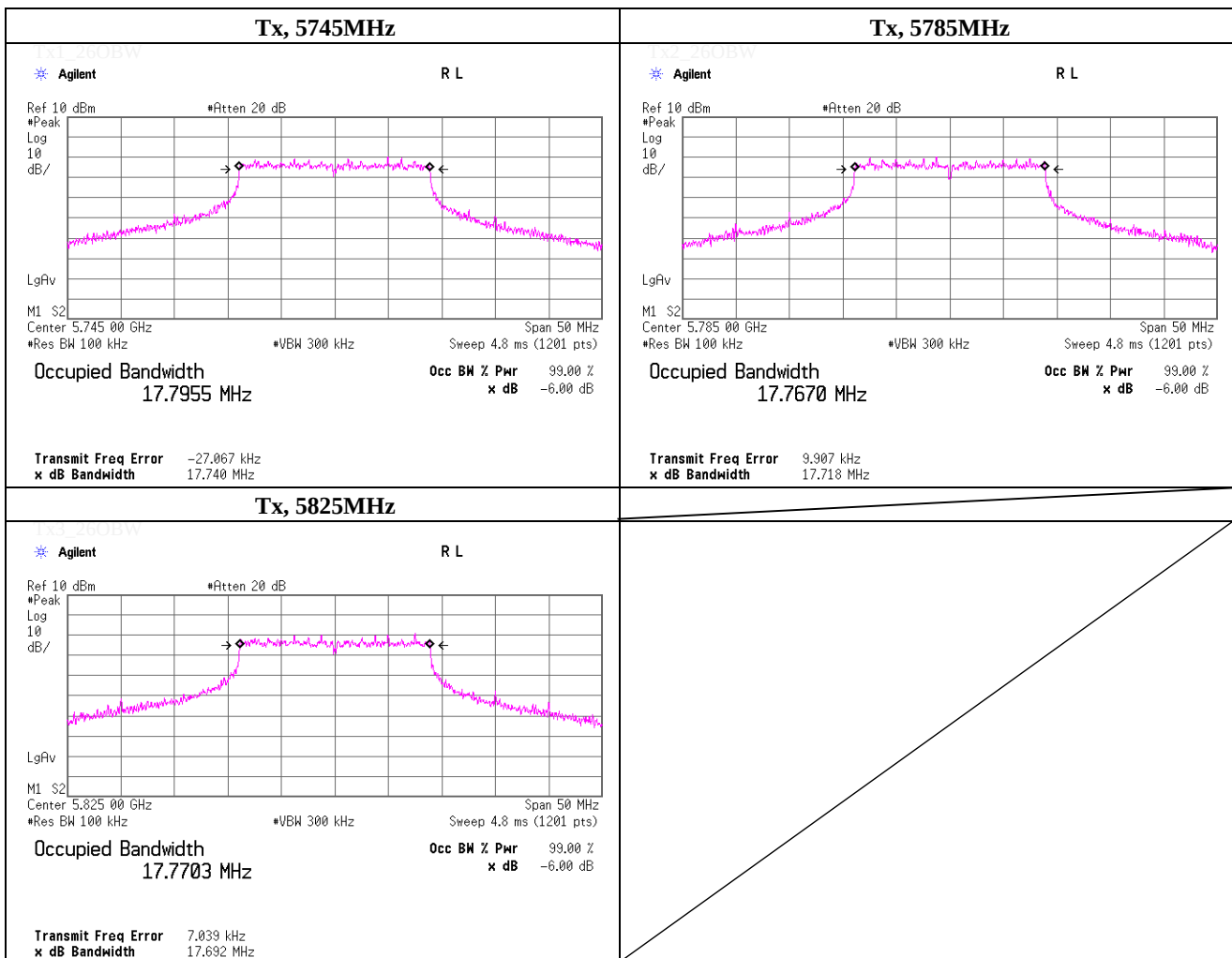
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0, worst data mode 8 (MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.740	> 0.500
5785.0000	17.718	> 0.500
5825.0000	17.692	> 0.500

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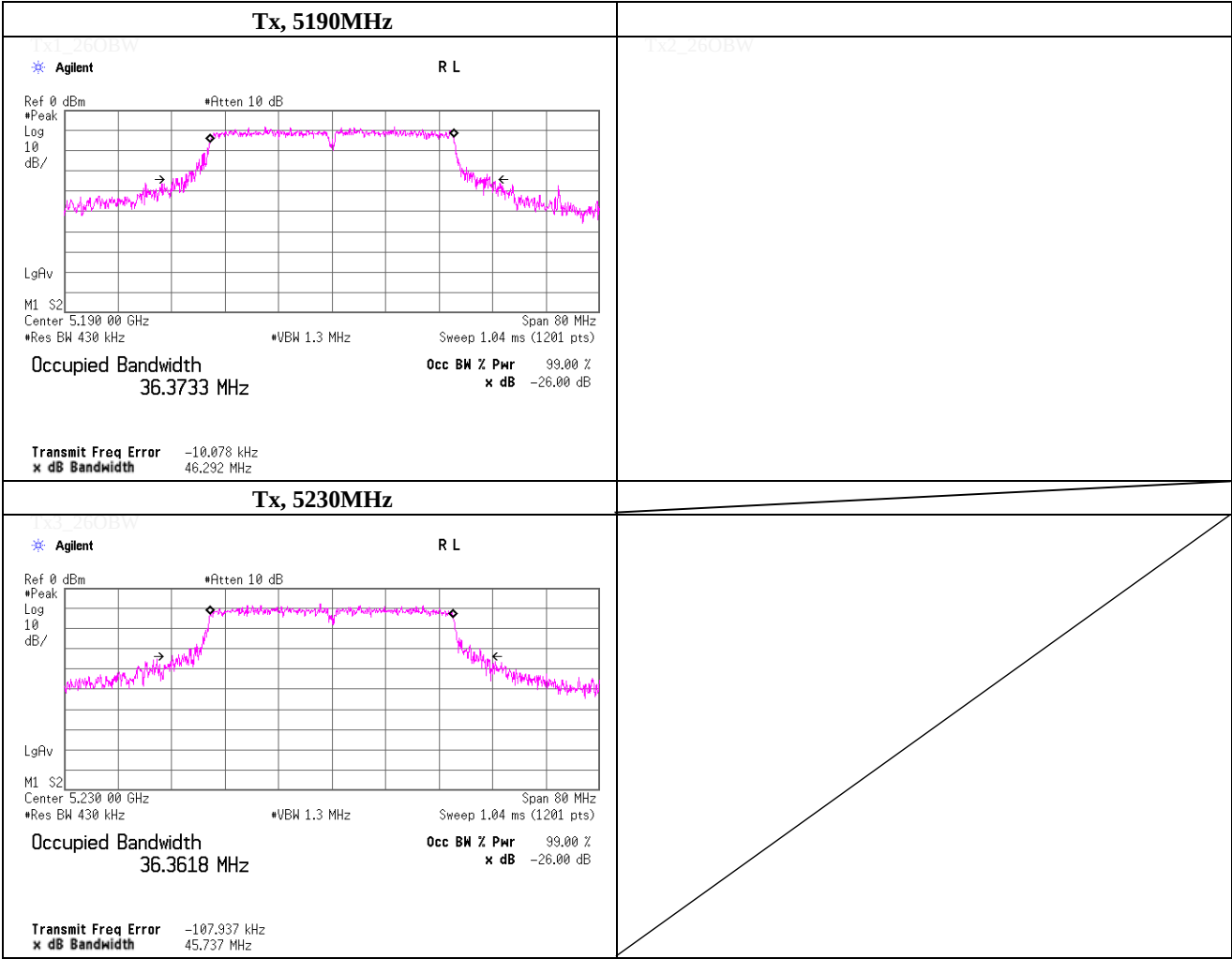
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

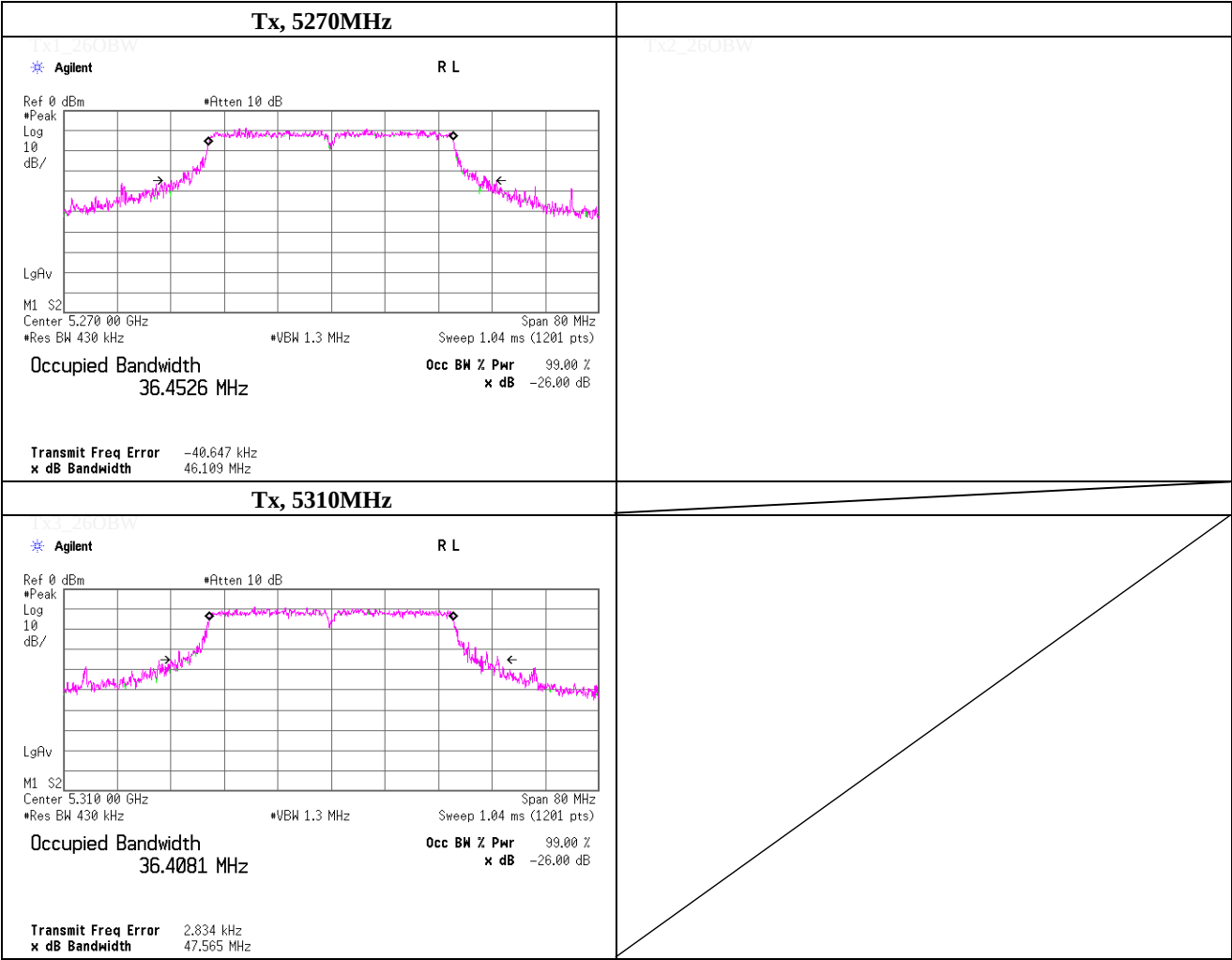
Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5190.0000	46.292	-
5230.0000	45.737	-



-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

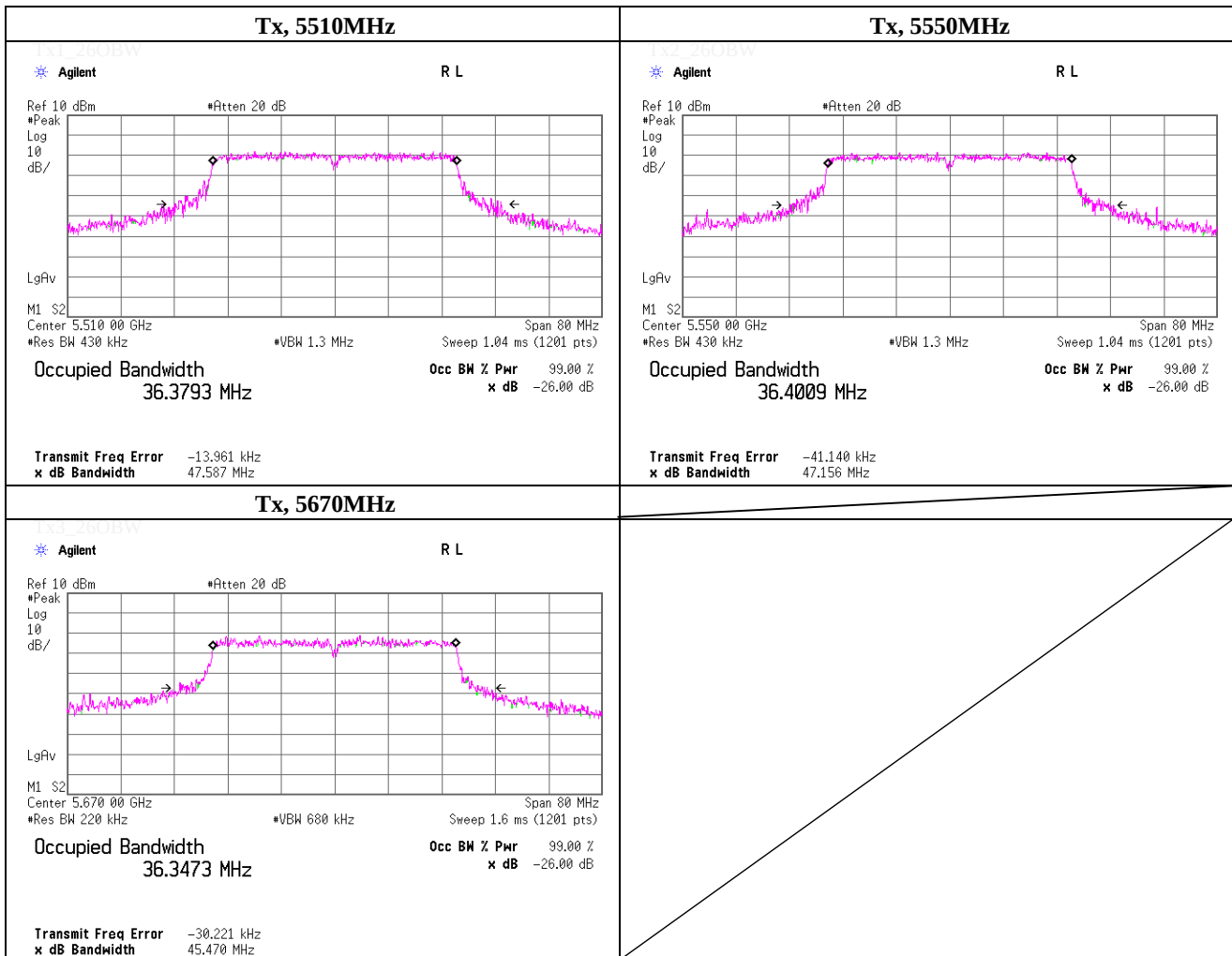
Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5270.0000	46.109	-
5310.0000	47.565	-



-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5510.0000	47.587	-
5550.0000	47.156	-
5670.0000	45.470	-



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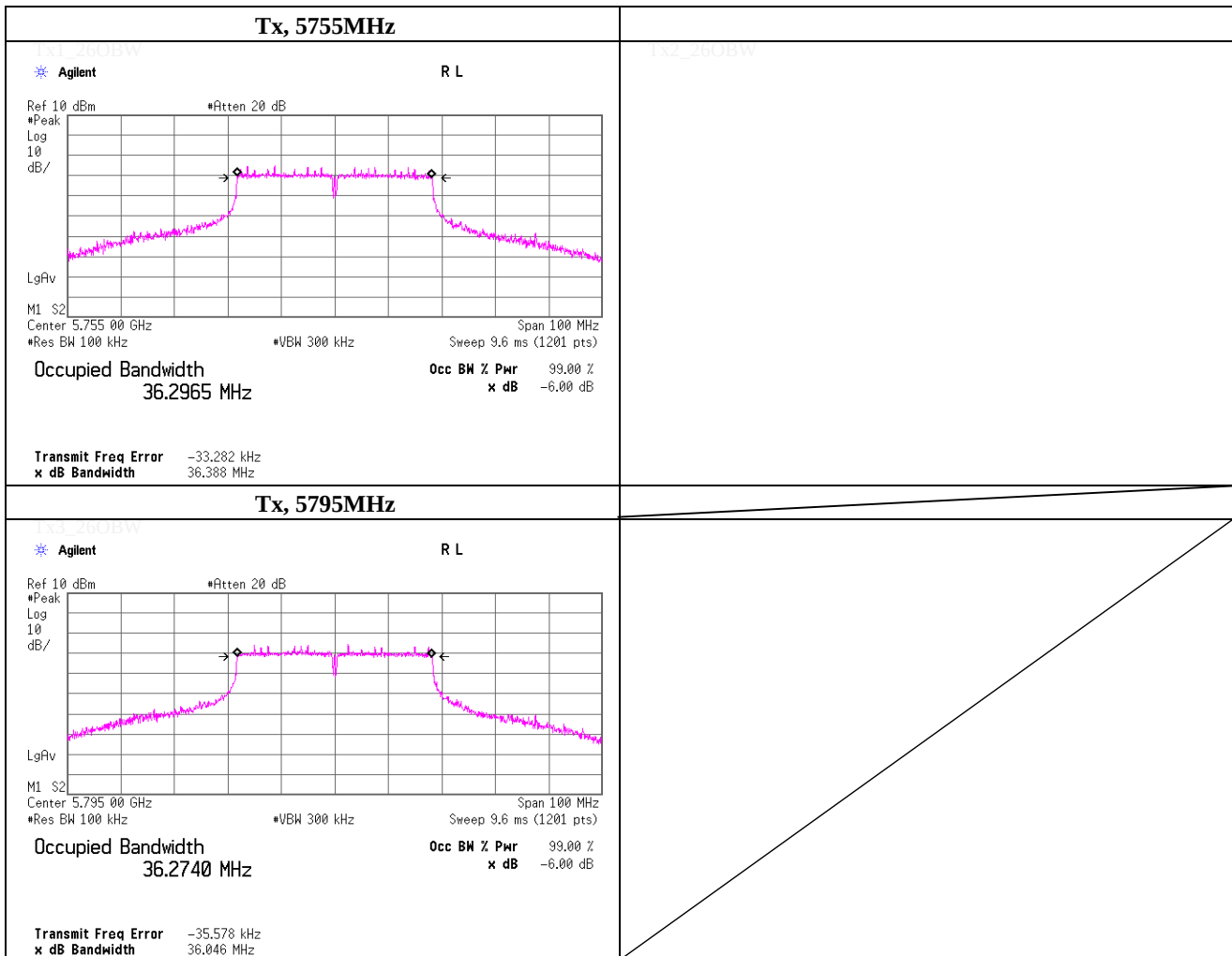
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.388	> 0.500
		> 0.500
5795.0000	36.046	> 0.500



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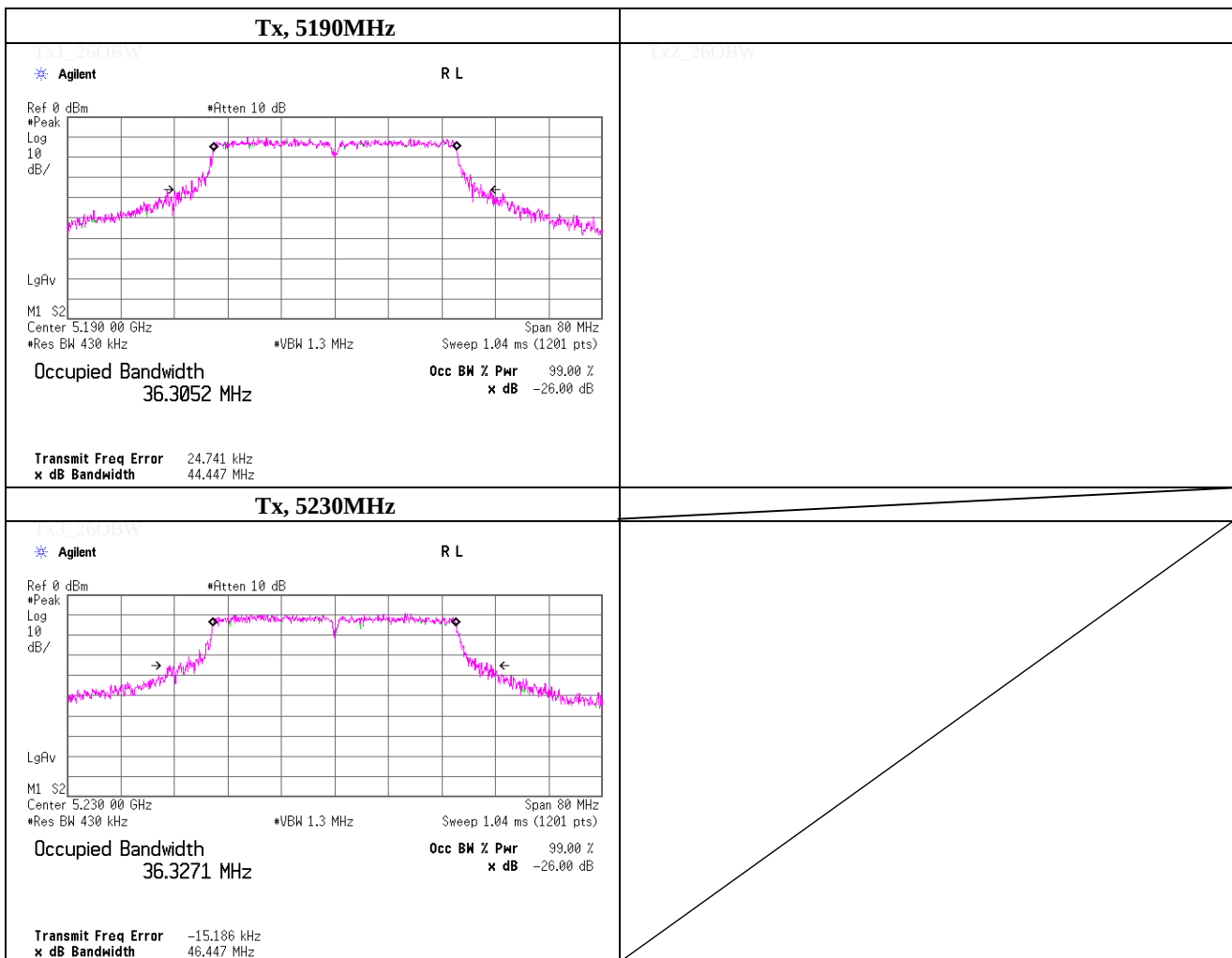
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5190.0000	44.447
5230.0000	46.447

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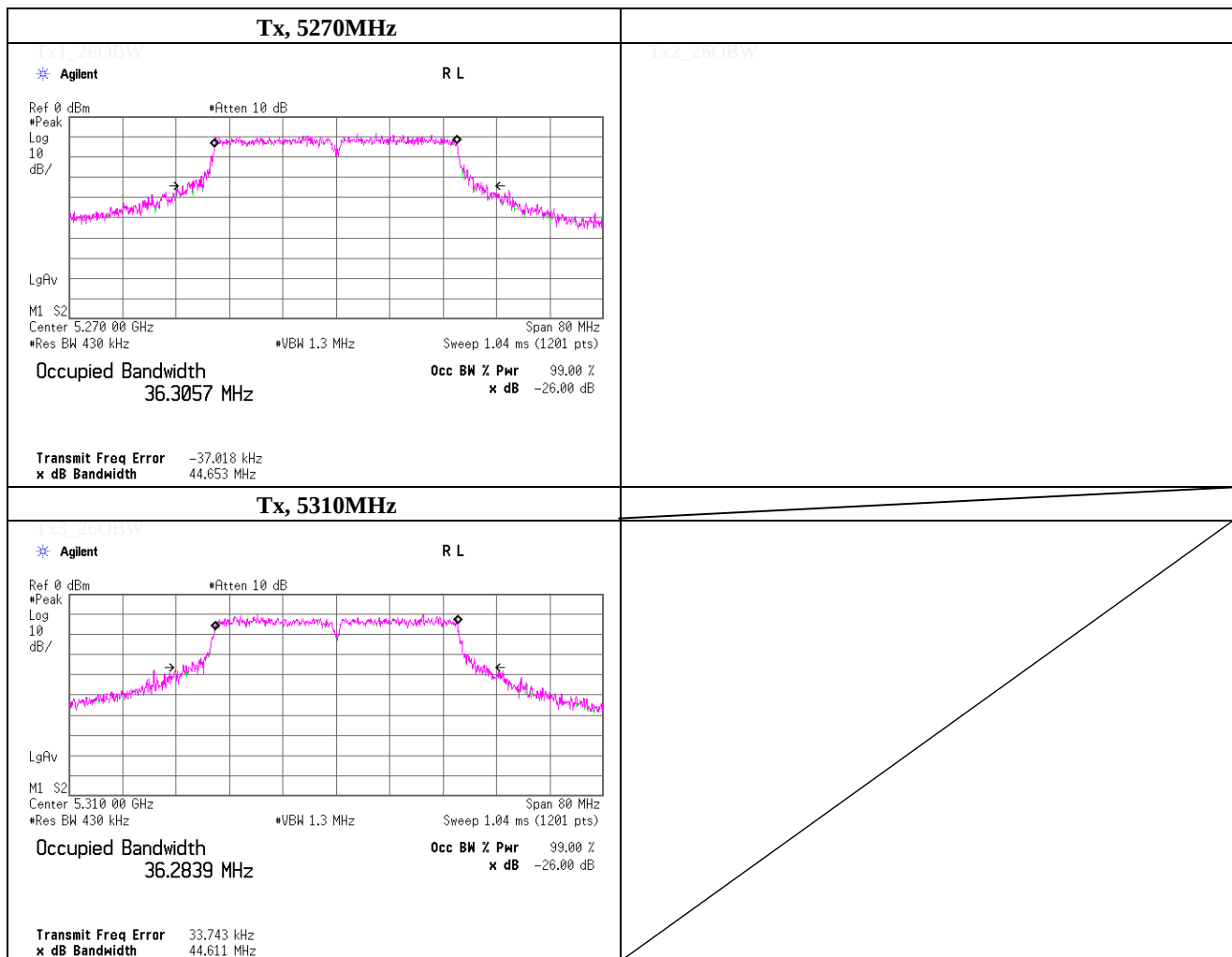
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5270.0000	44.653
5310.0000	44.611

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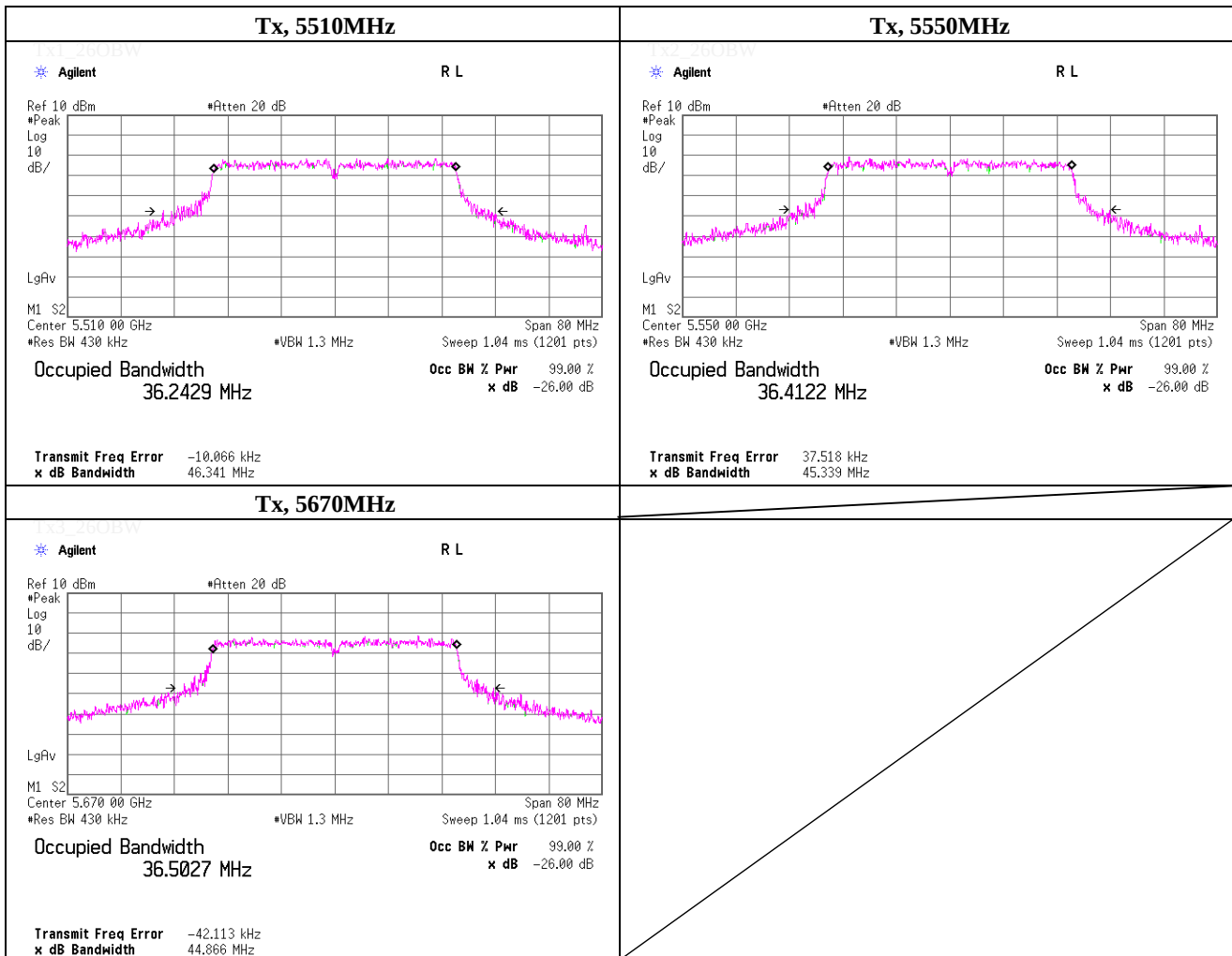
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]
5510.0000	46.341
5550.0000	45.339
5670.0000	44.866

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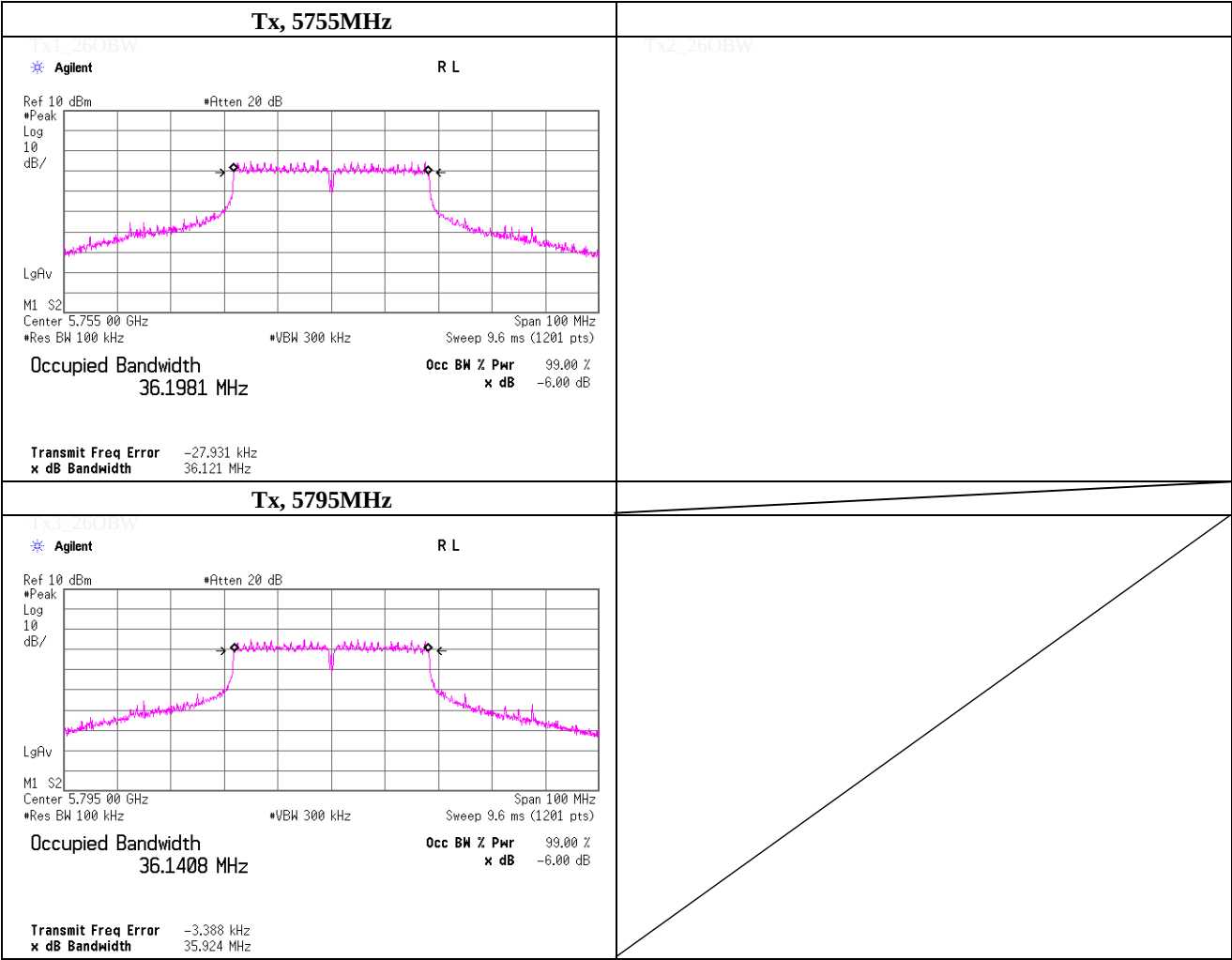
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.121	> 0.500
5795.0000	35.924	> 0.500

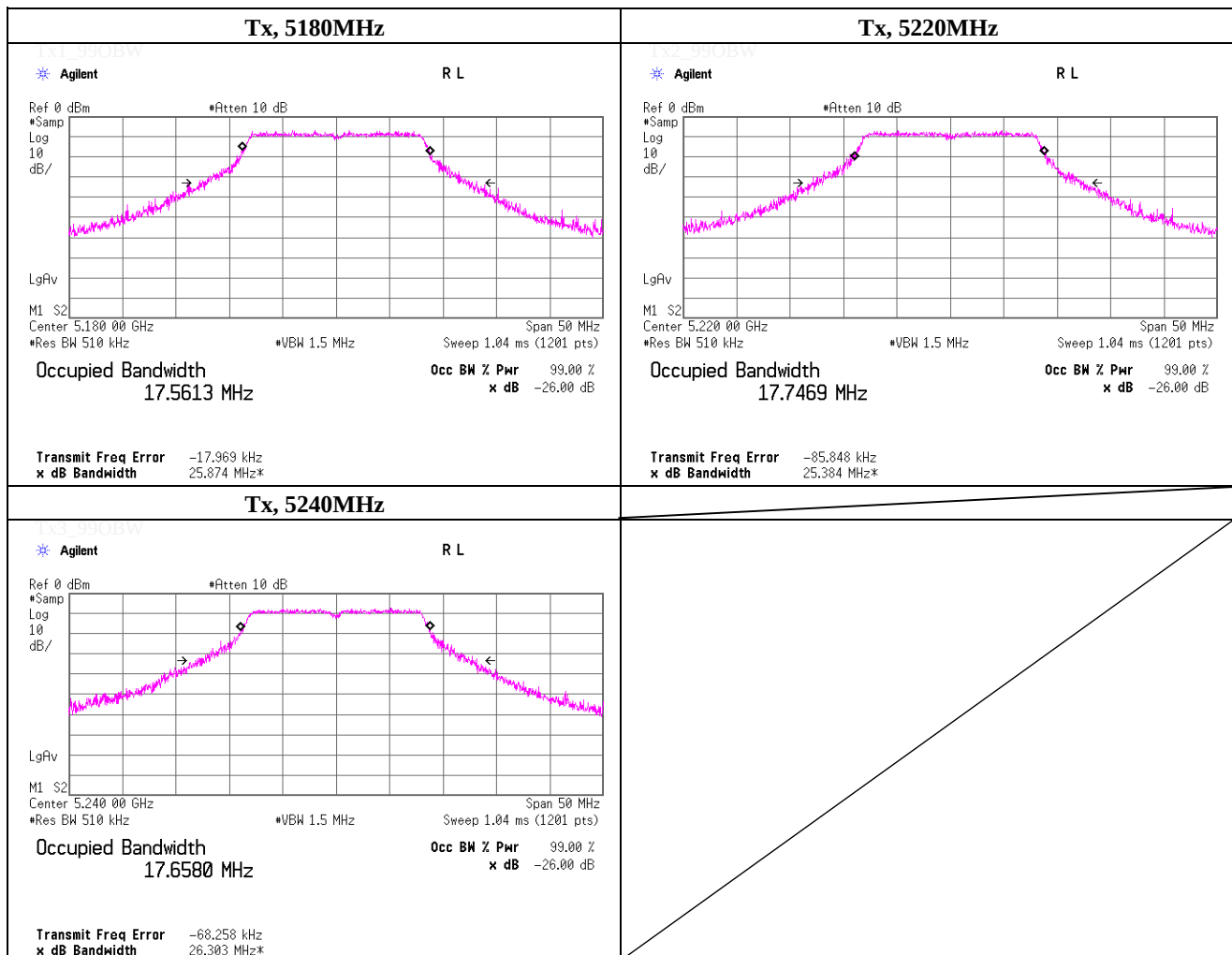


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99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	17.561
5220.0000	17.747
5240.0000	17.658



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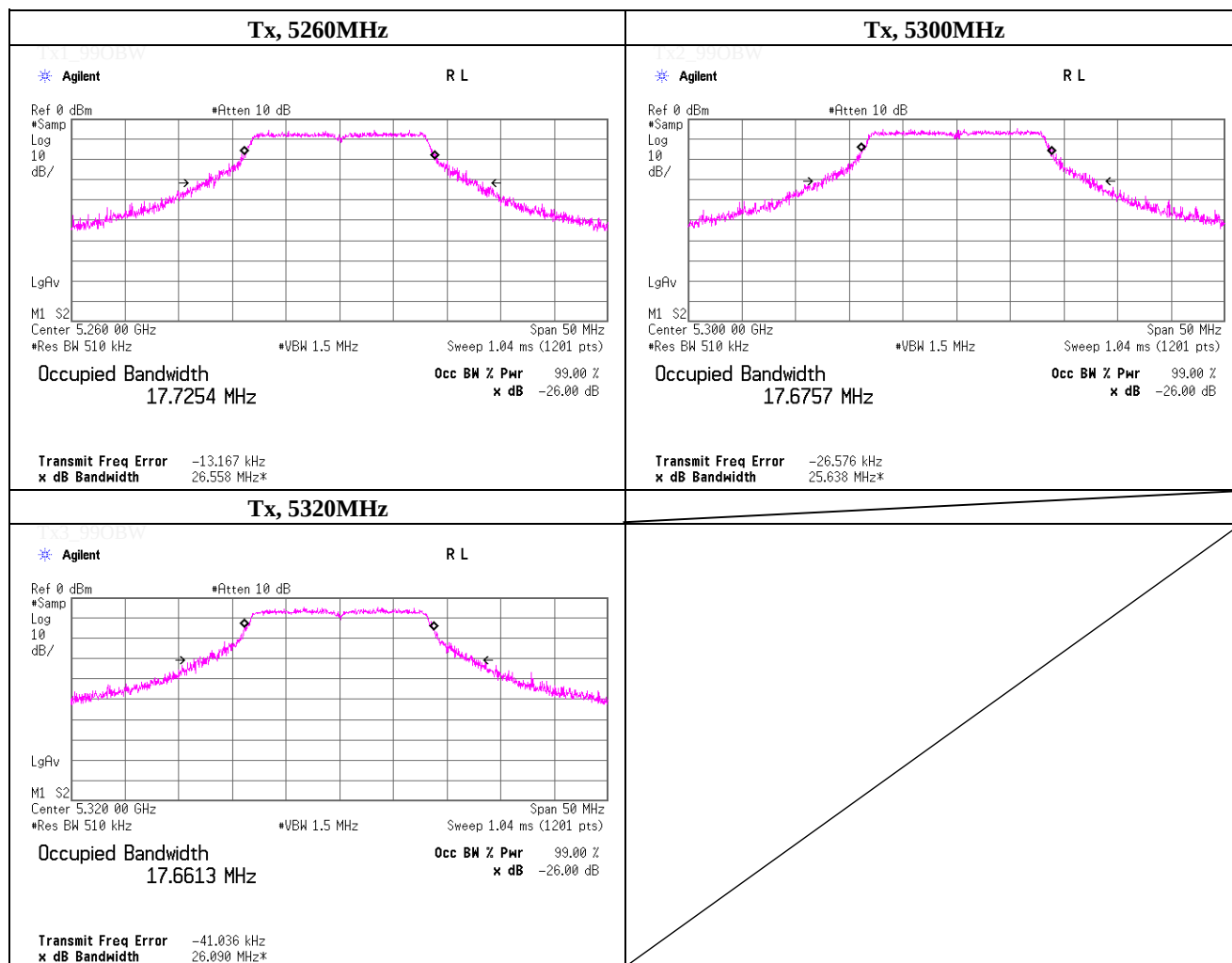
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	17.725
5300.0000	17.676
5320.0000	17.661



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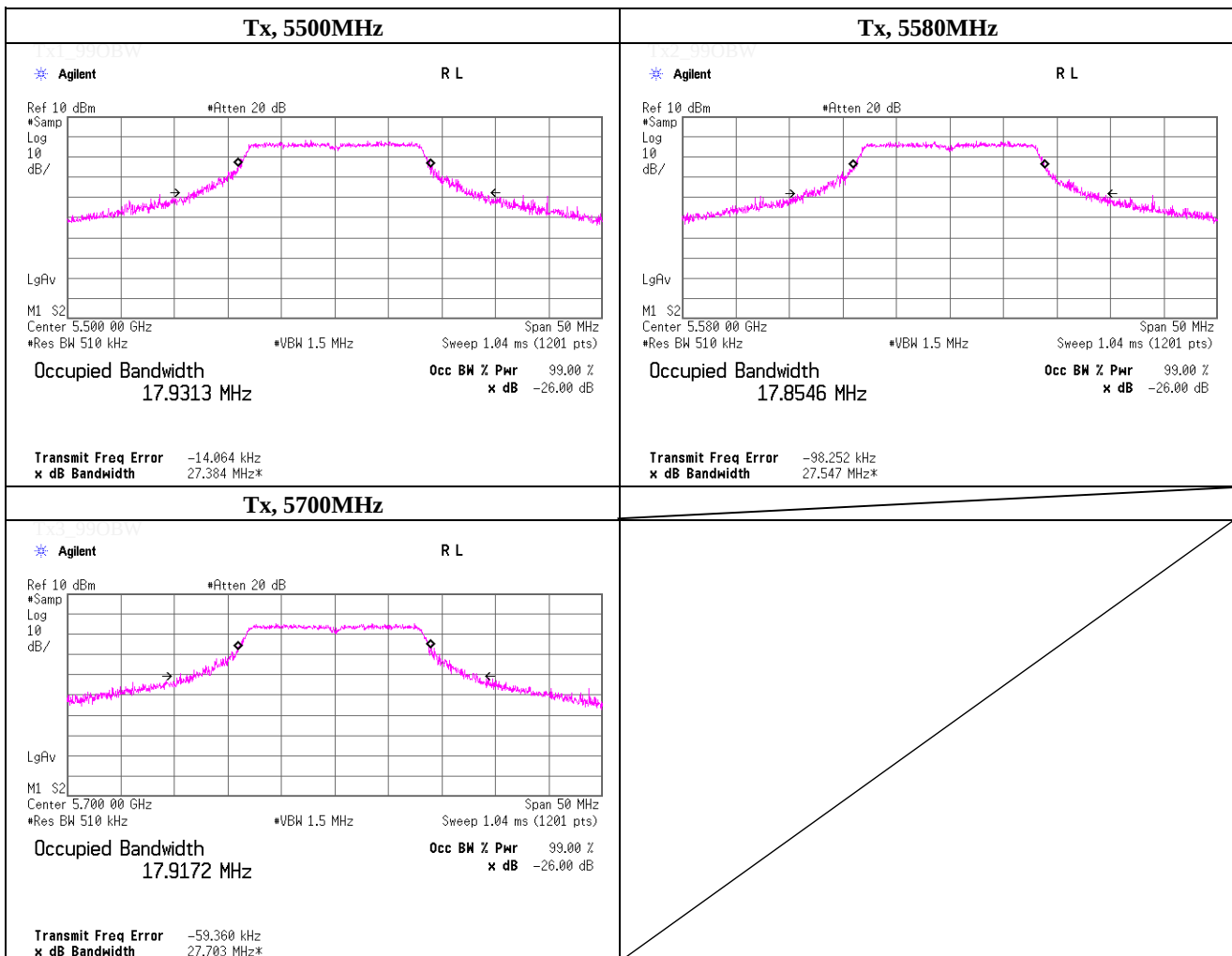
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	17.931
5580.0000	17.855
5700.0000	17.917



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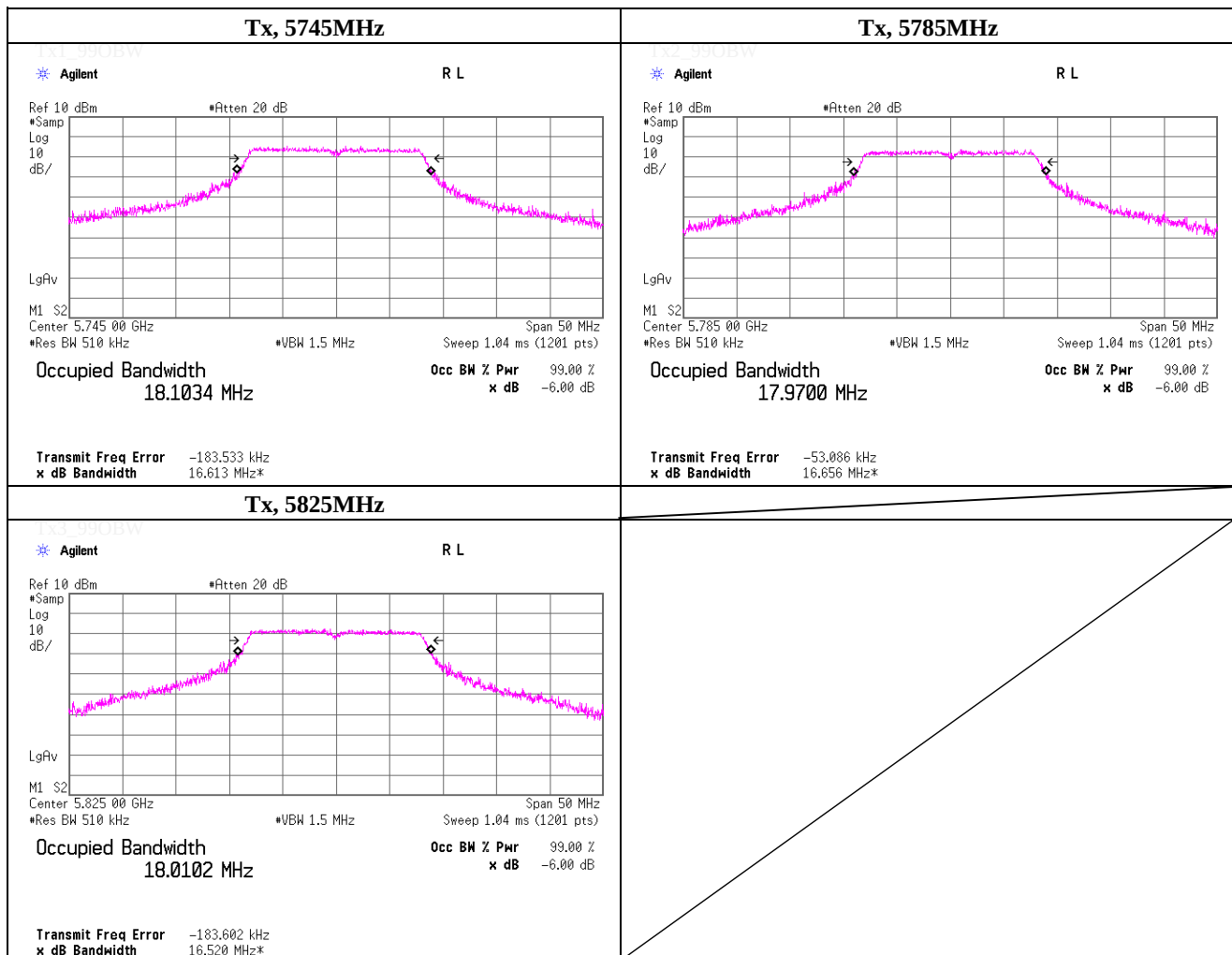
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	18.103
5785.0000	17.970
5825.0000	18.010



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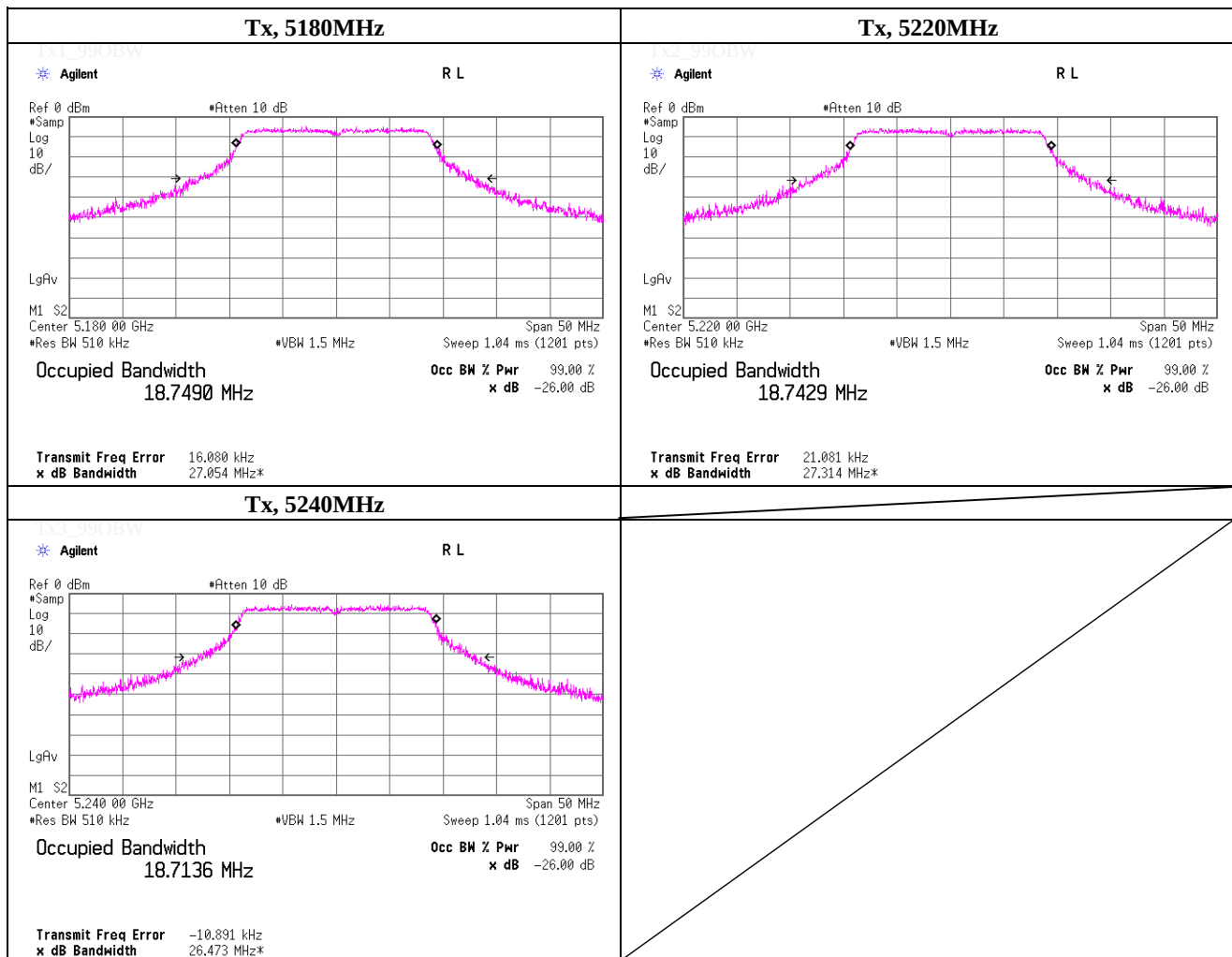
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	18.749
5220.0000	18.743
5240.0000	18.714



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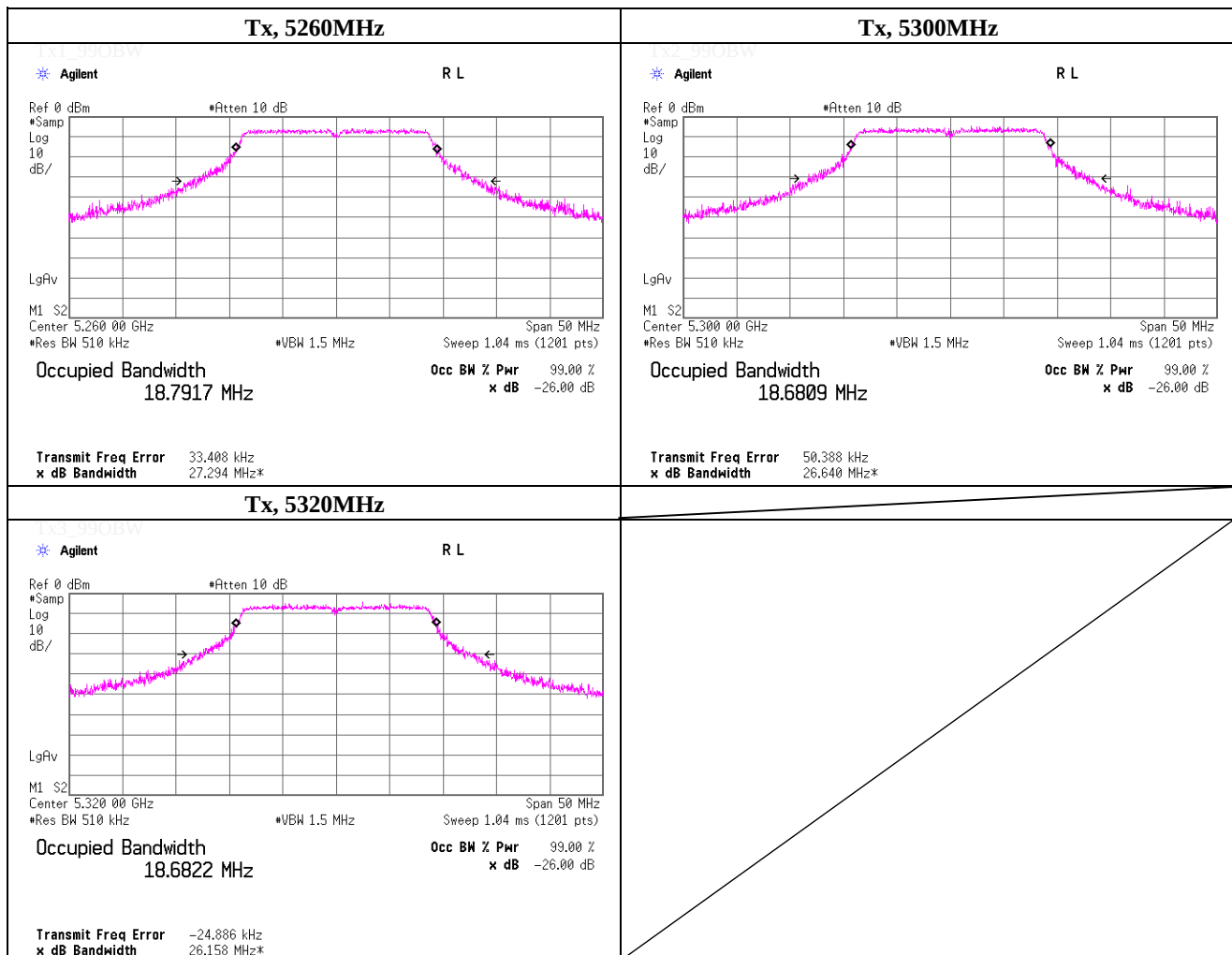
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	18.792
5300.0000	18.681
5320.0000	18.682



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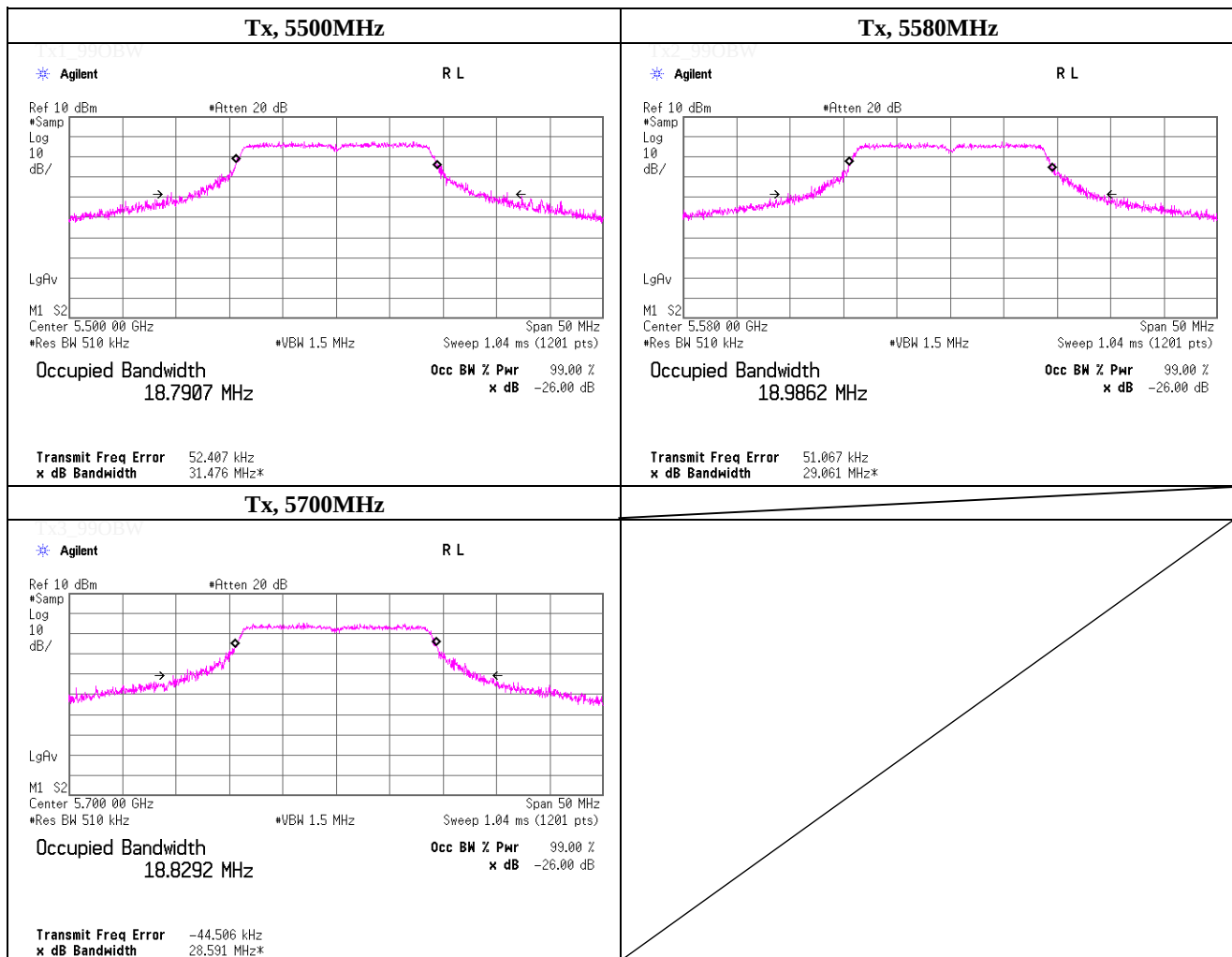
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	18.791
5580.0000	18.986
5700.0000	18.829



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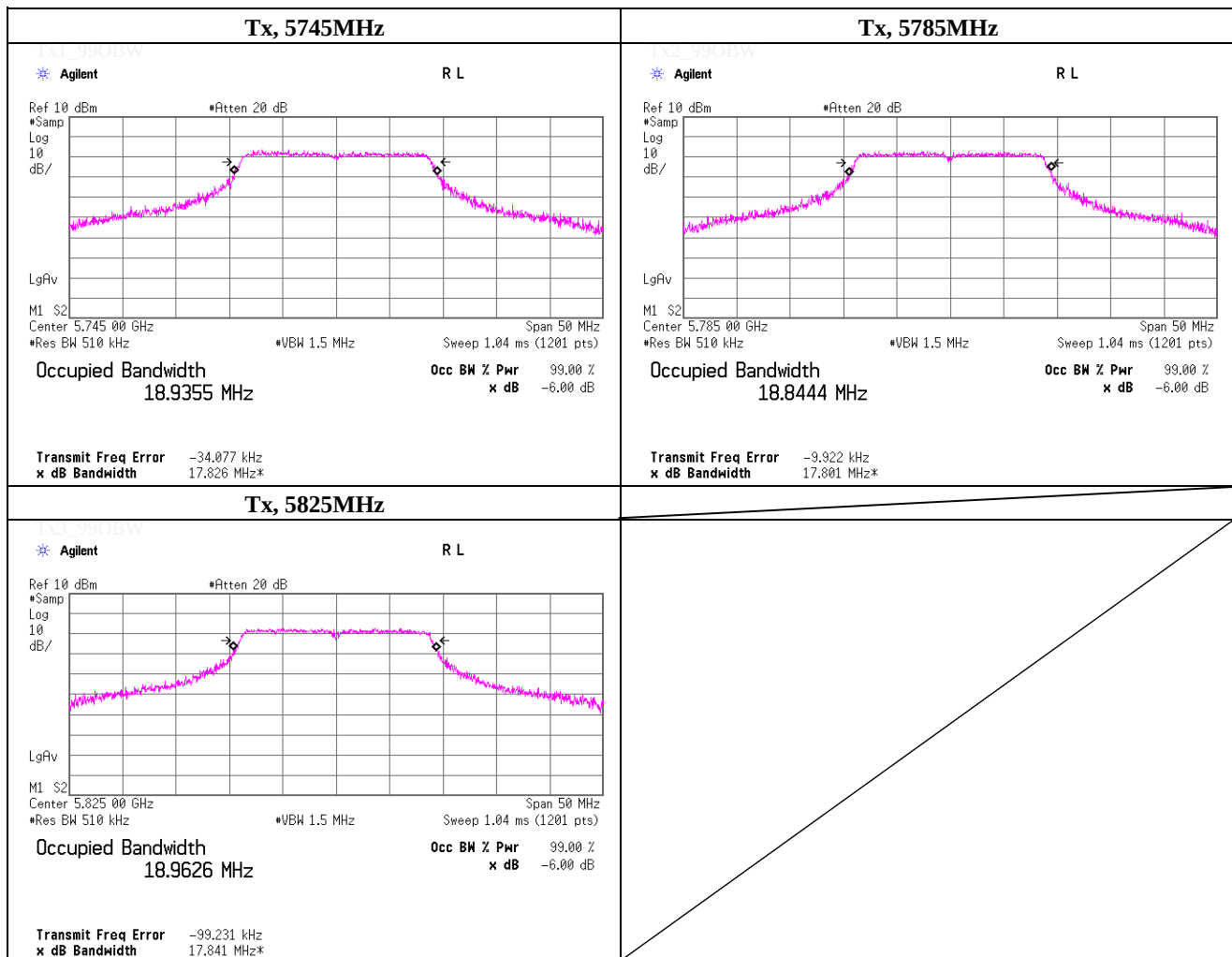
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	18.935
5785.0000	18.844
5825.0000	18.963



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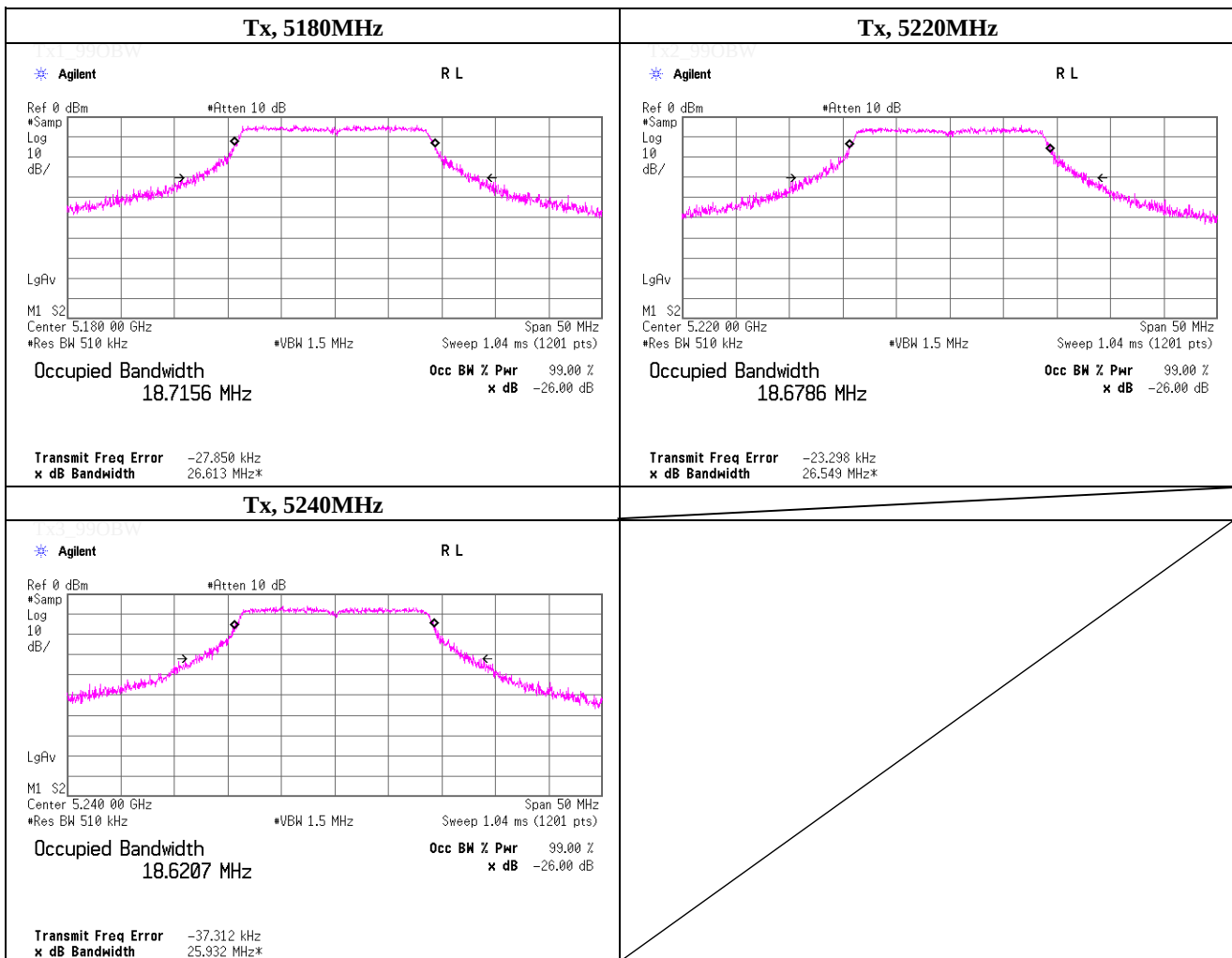
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	18.716
5220.0000	18.679
5240.0000	18.621



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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

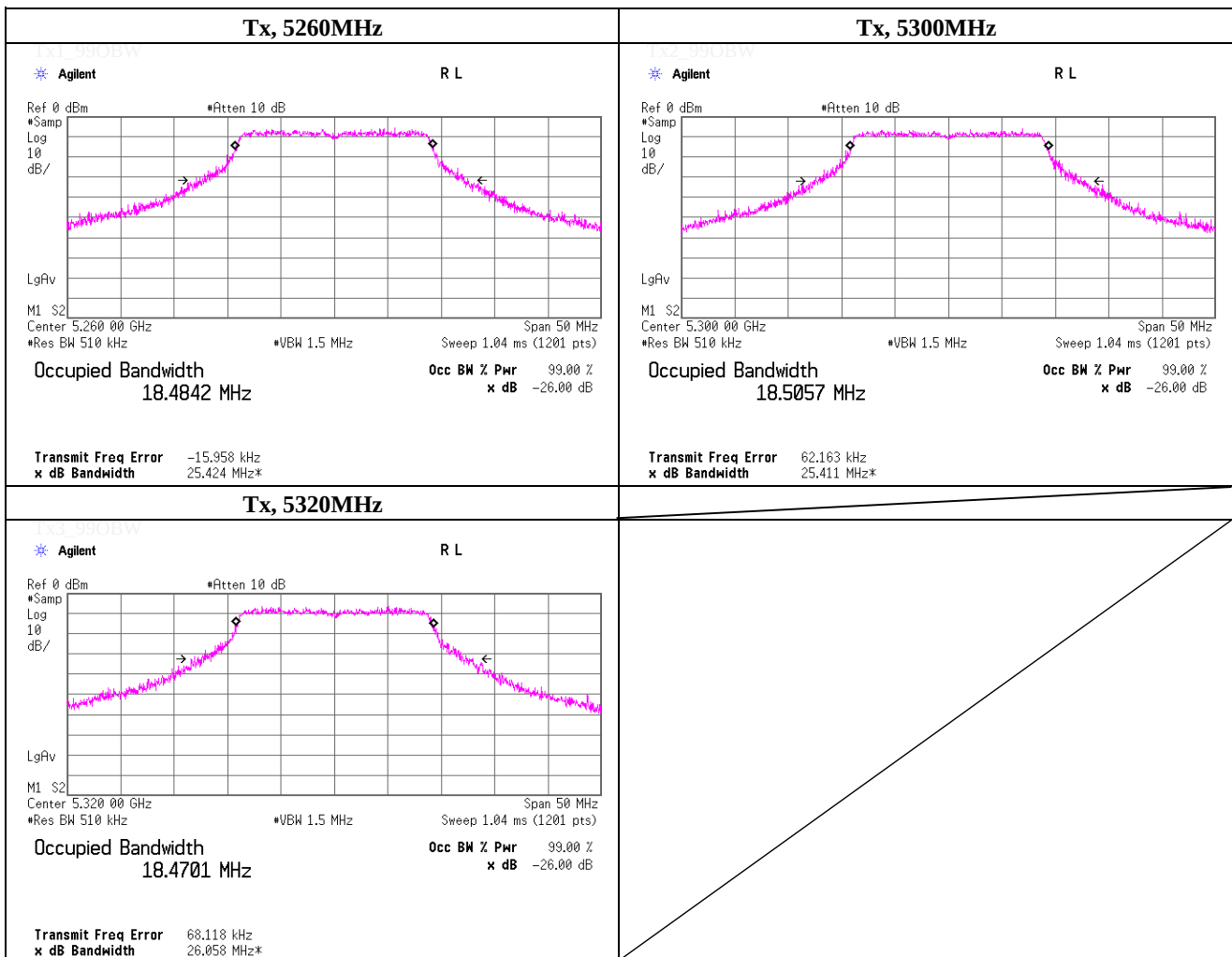
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	18.484
5300.0000	18.506
5320.0000	18.470



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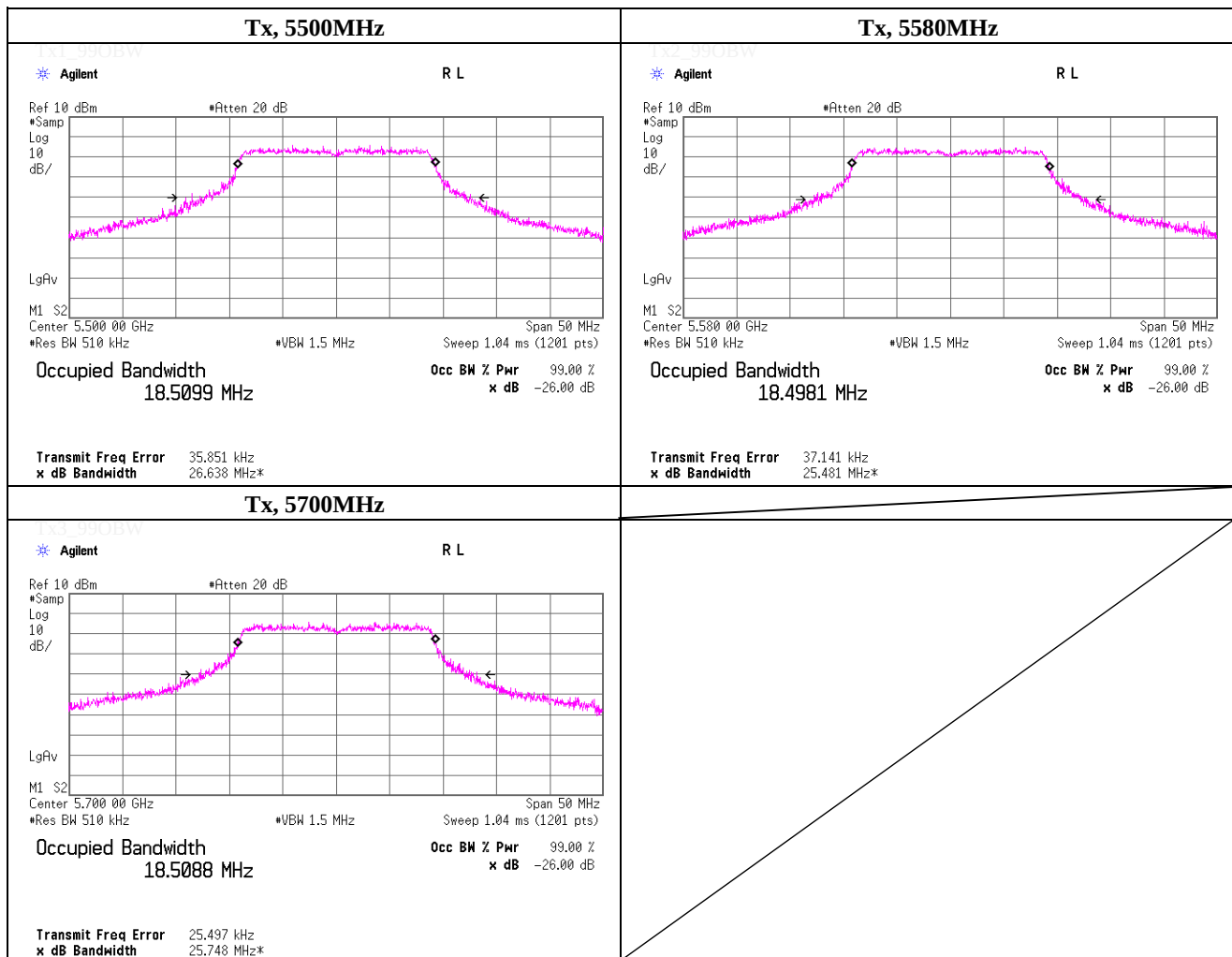
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	18.510
5580.0000	18.498
5700.0000	18.509



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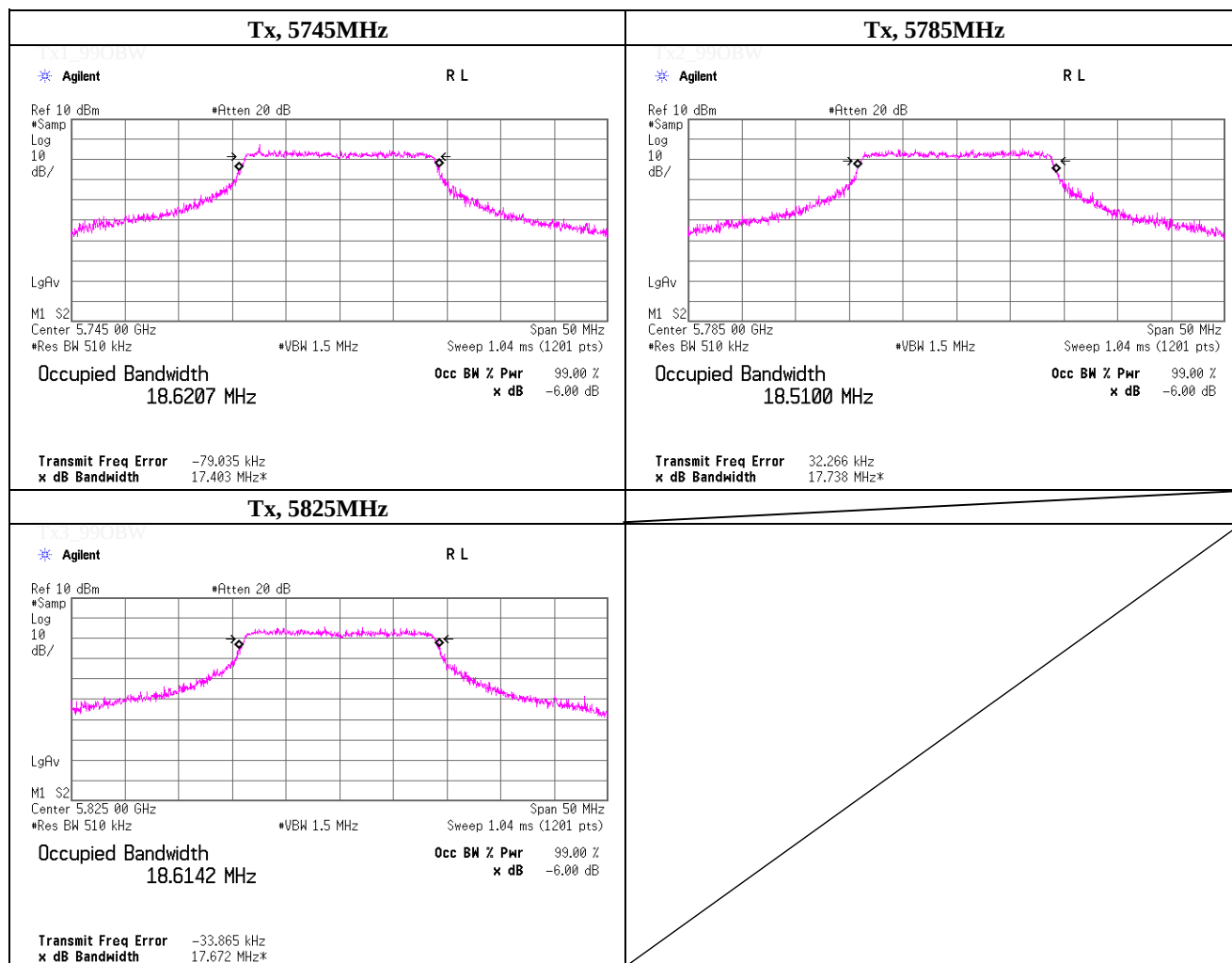
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0, worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	18.621
5785.0000	18.510
5825.0000	18.614



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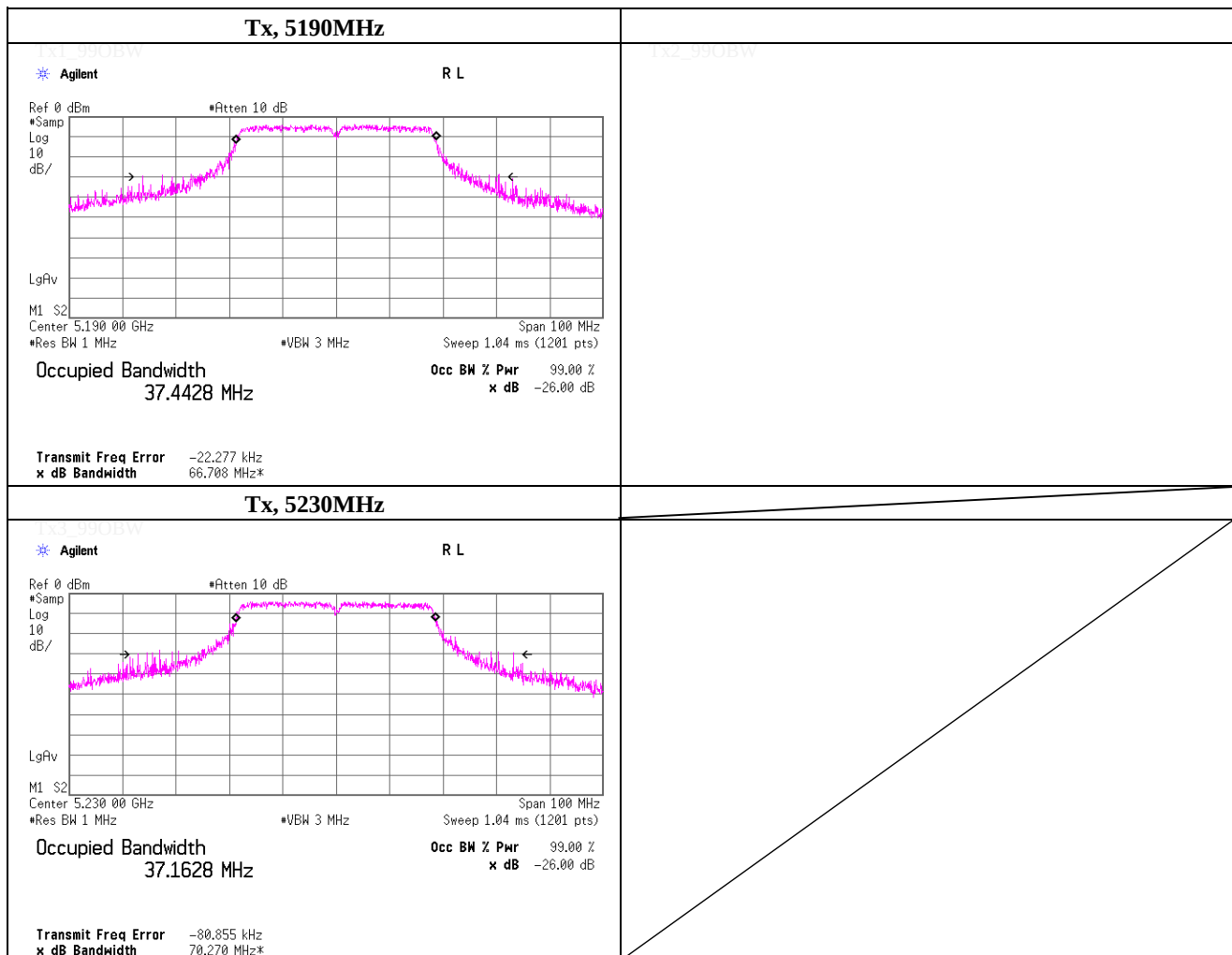
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5190.0000	37.443
5230.0000	37.163



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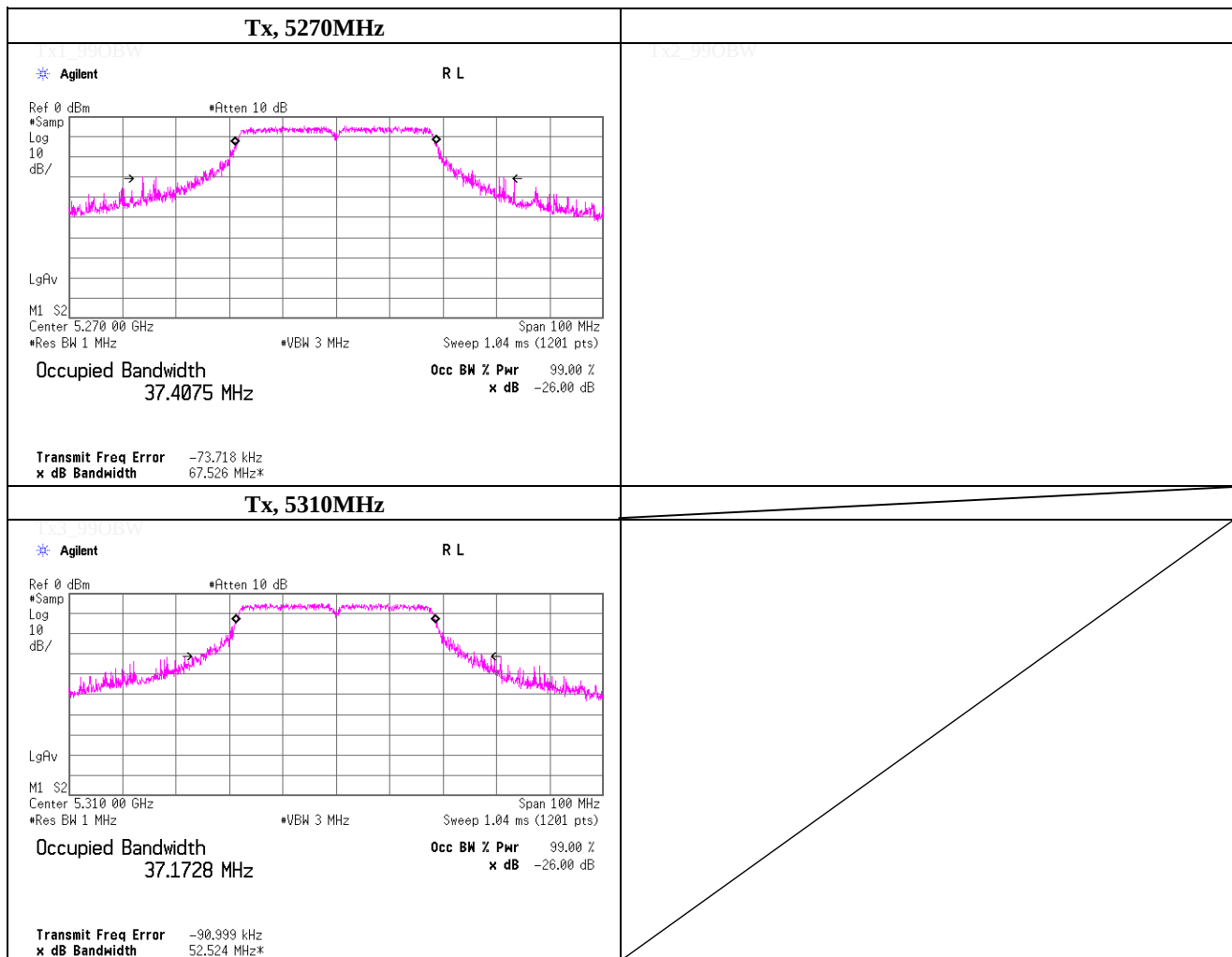
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5270.0000	37.408
5310.0000	37.173



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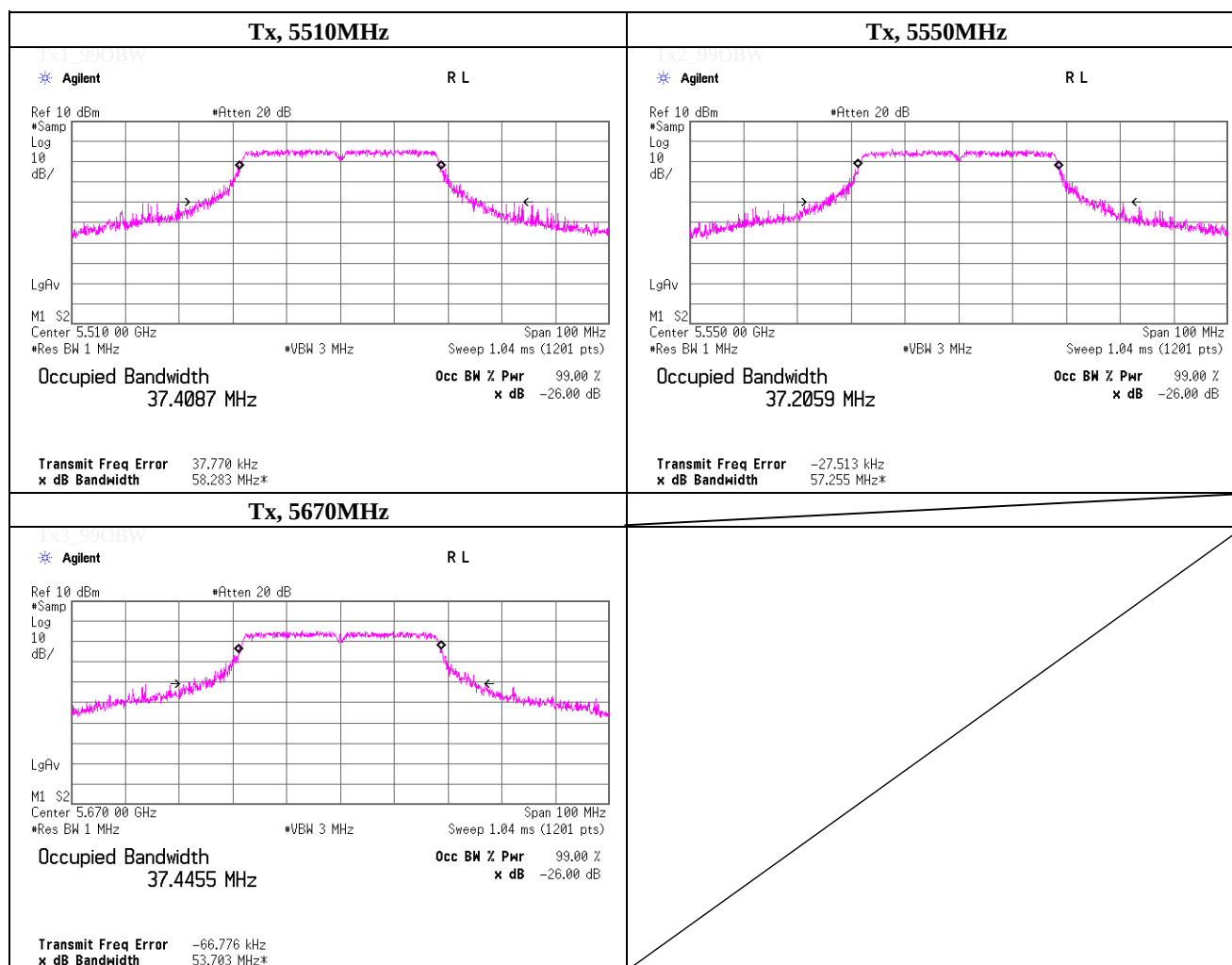
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5510.0000	37.409
5550.0000	37.206
5670.0000	37.446



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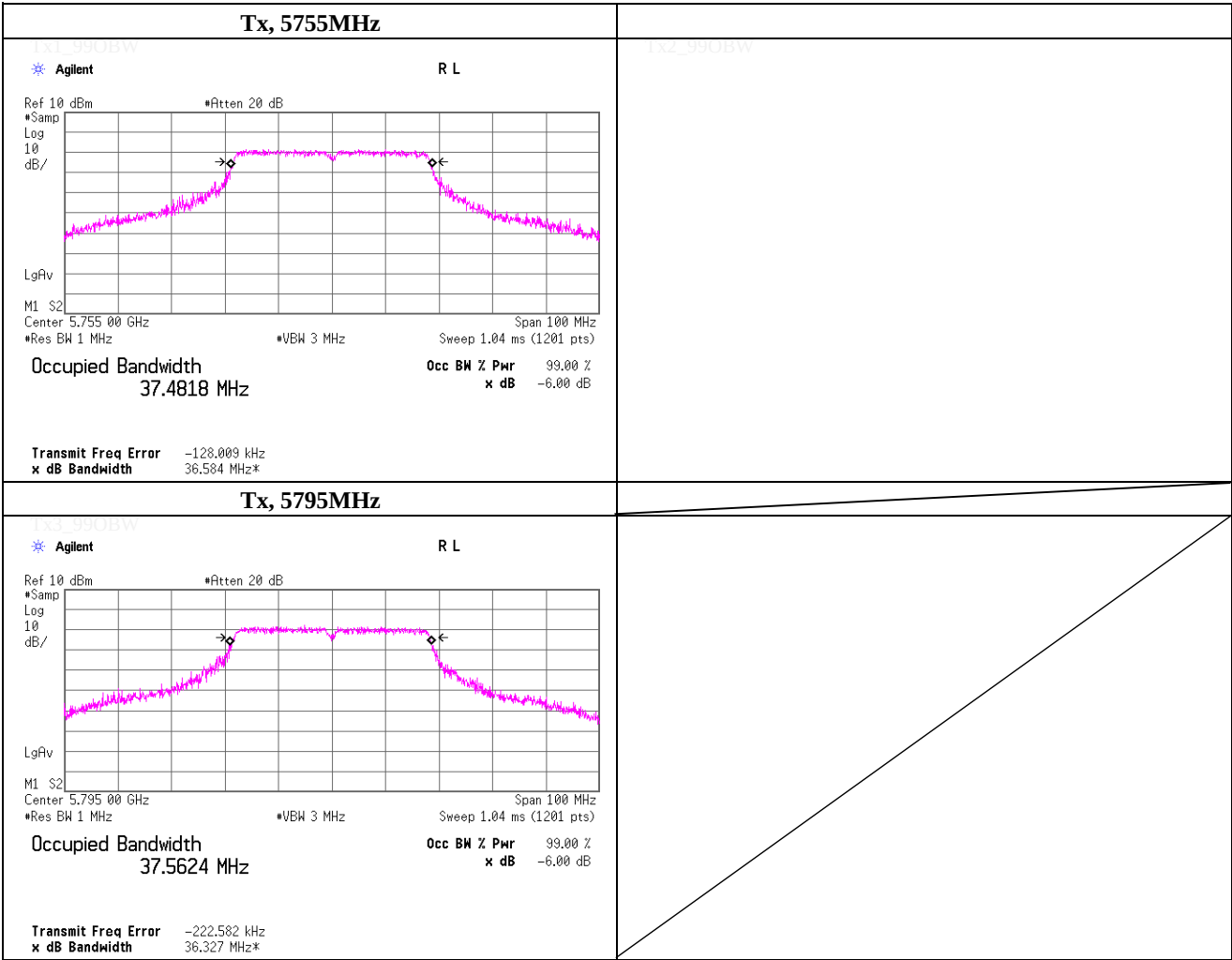
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

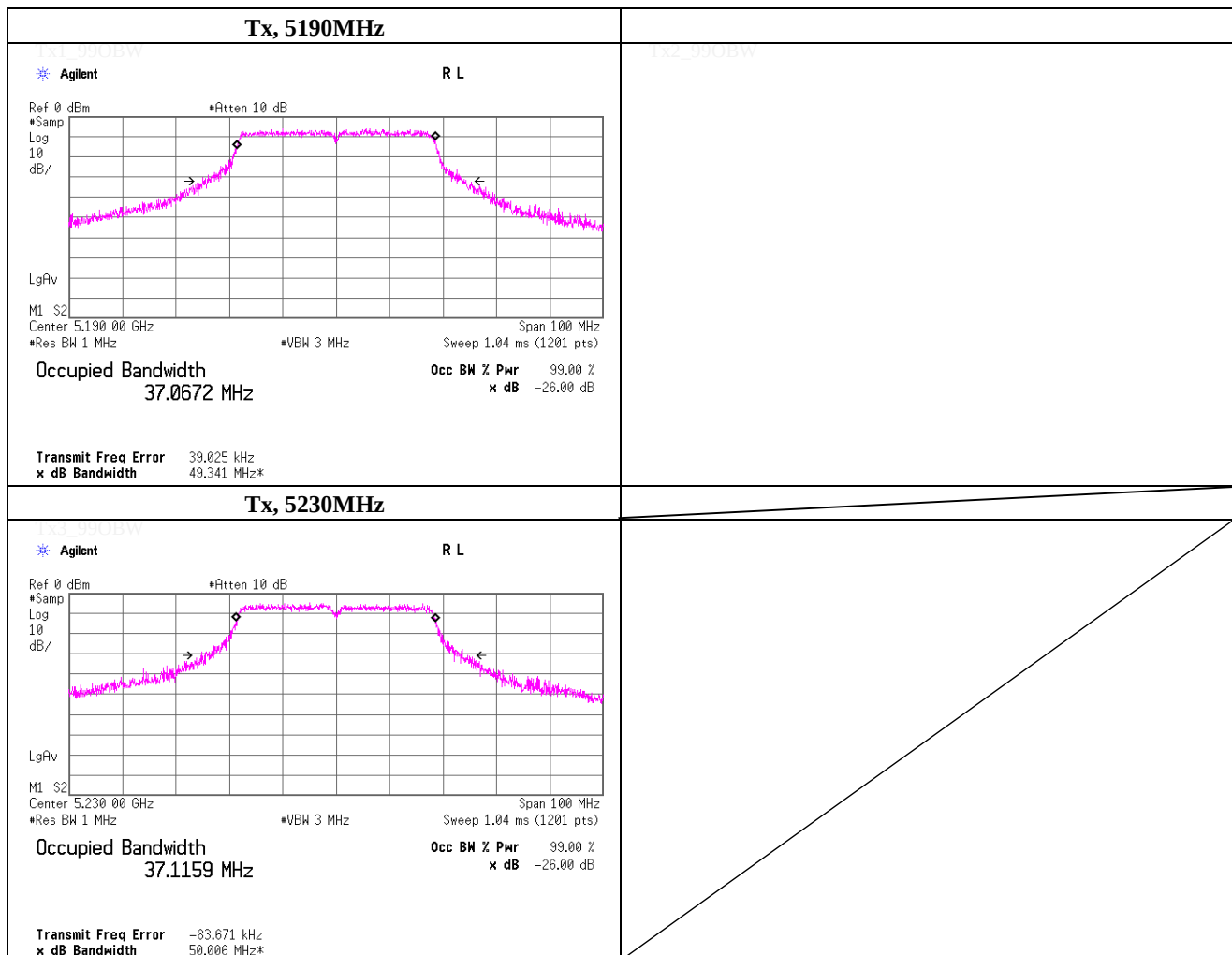
Freq. [MHz]	99% Occupied Bandwidth [MHz]
5755.0000	37.482
5795.0000	37.562



99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5190.0000	37.067
5230.0000	37.116



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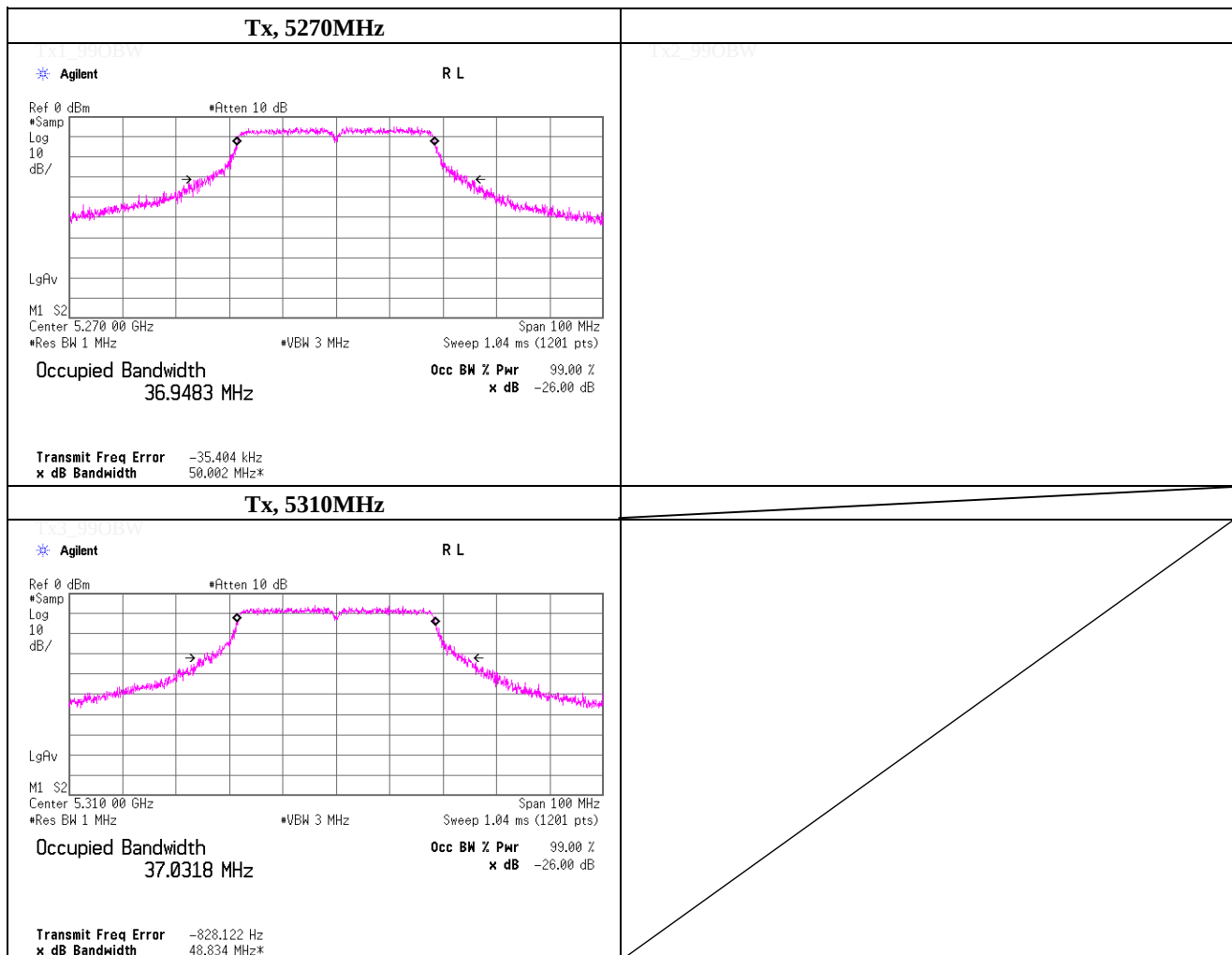
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5270.0000	36.948
5310.0000	37.032



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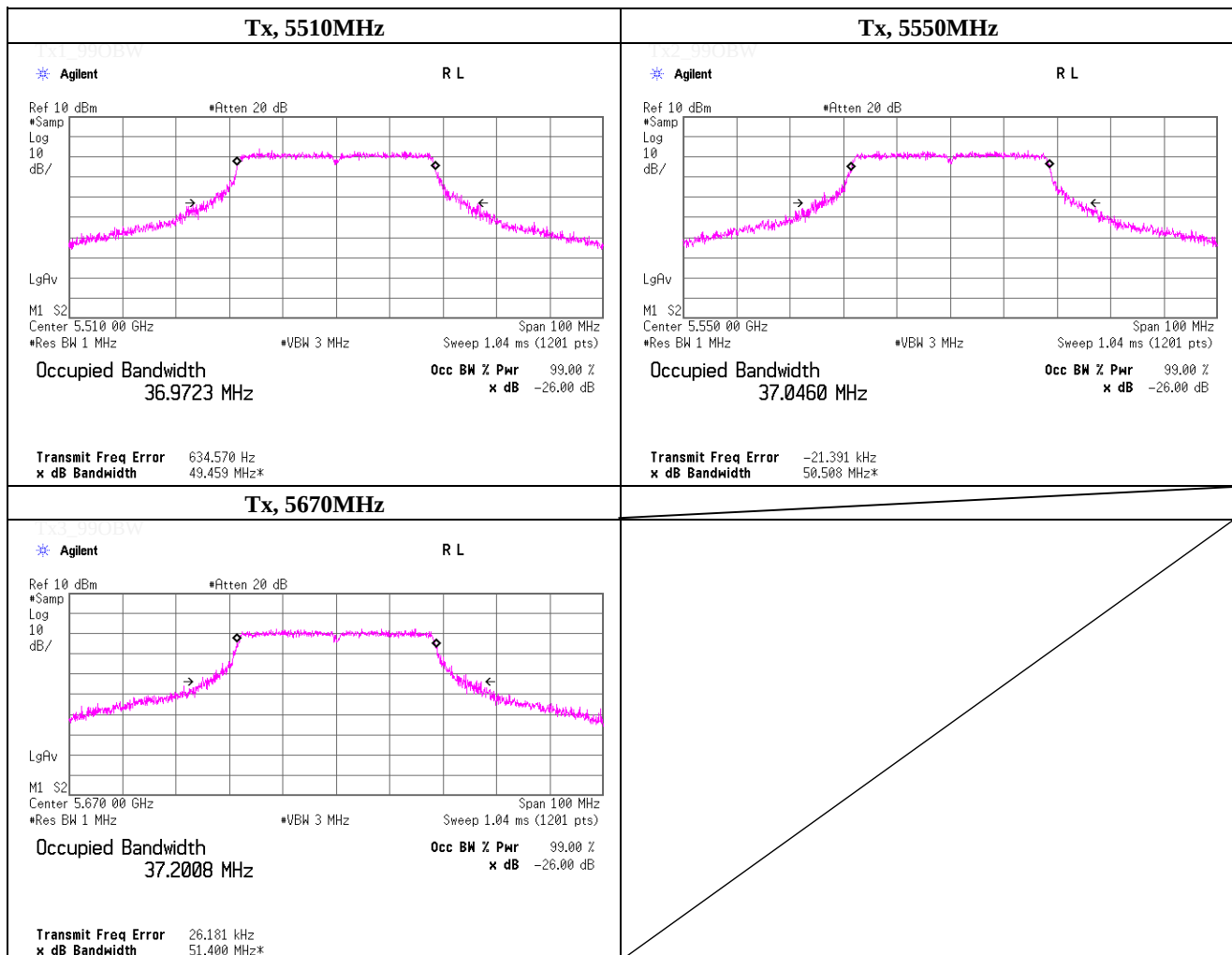
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5510.0000	36.972
5550.0000	37.046
5670.0000	37.201



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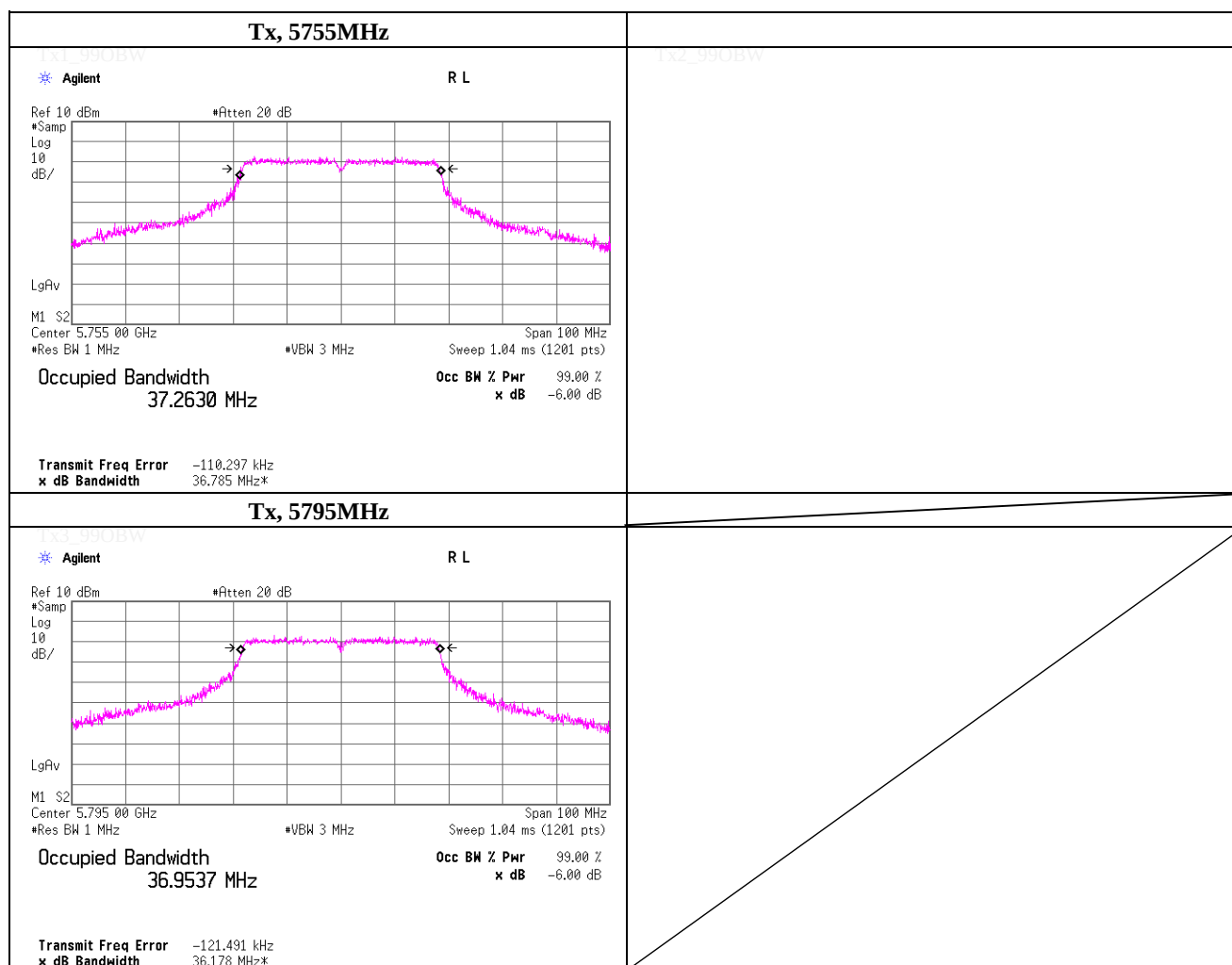
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5755.0000	37.263
5795.0000	36.954



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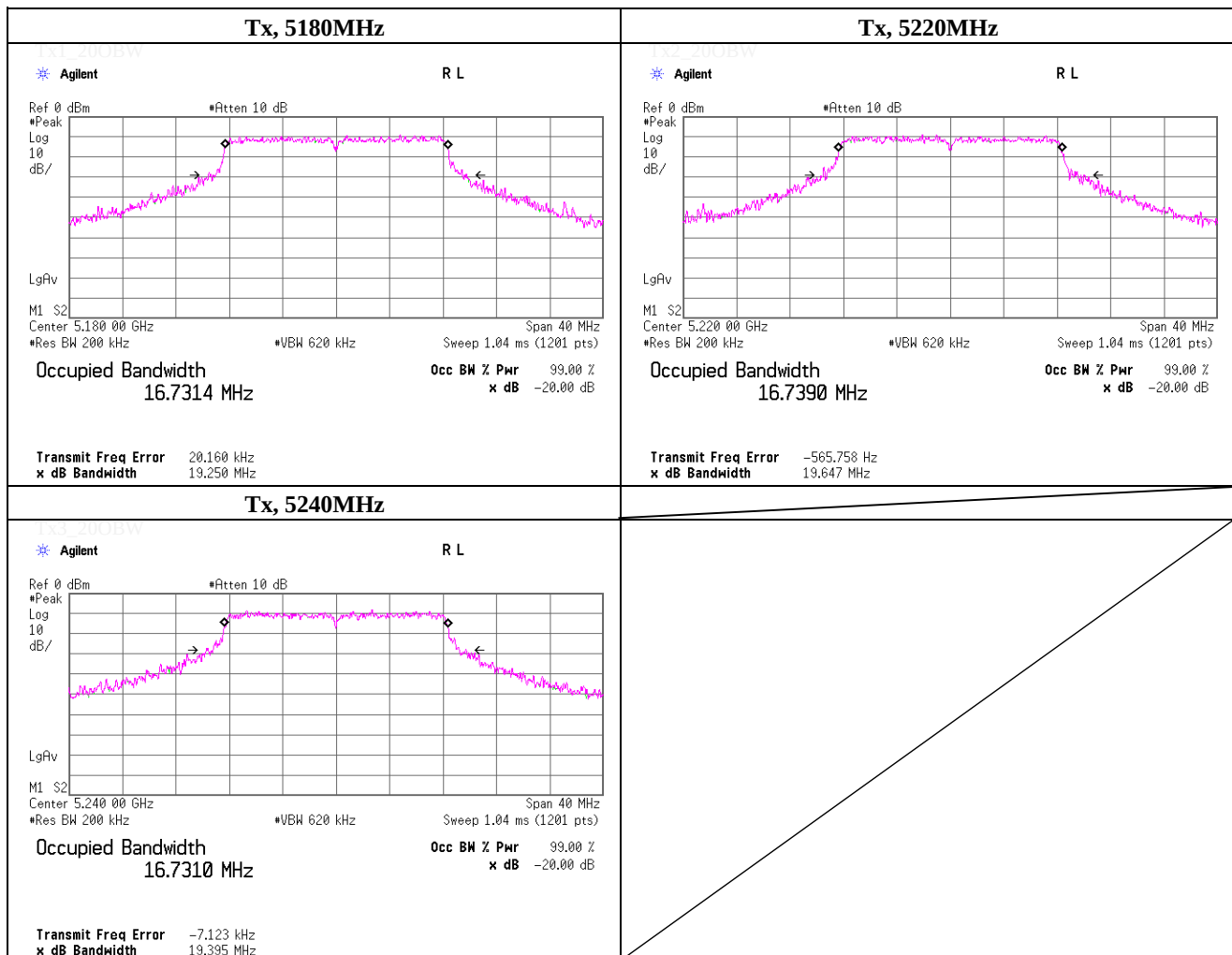
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.250
5220.0000	19.647
5240.0000	19.395



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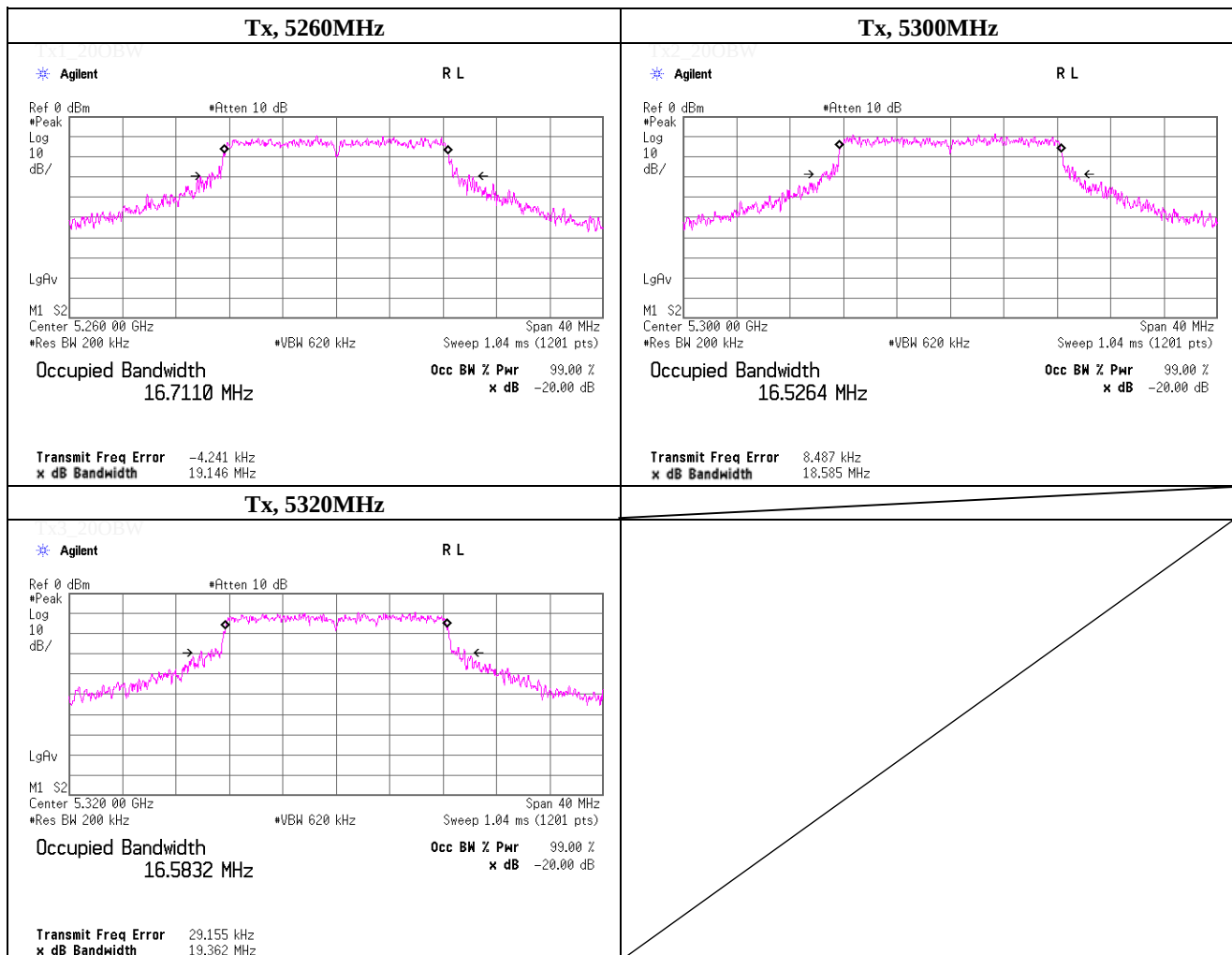
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.146
5300.0000	18.585
5320.0000	19.362



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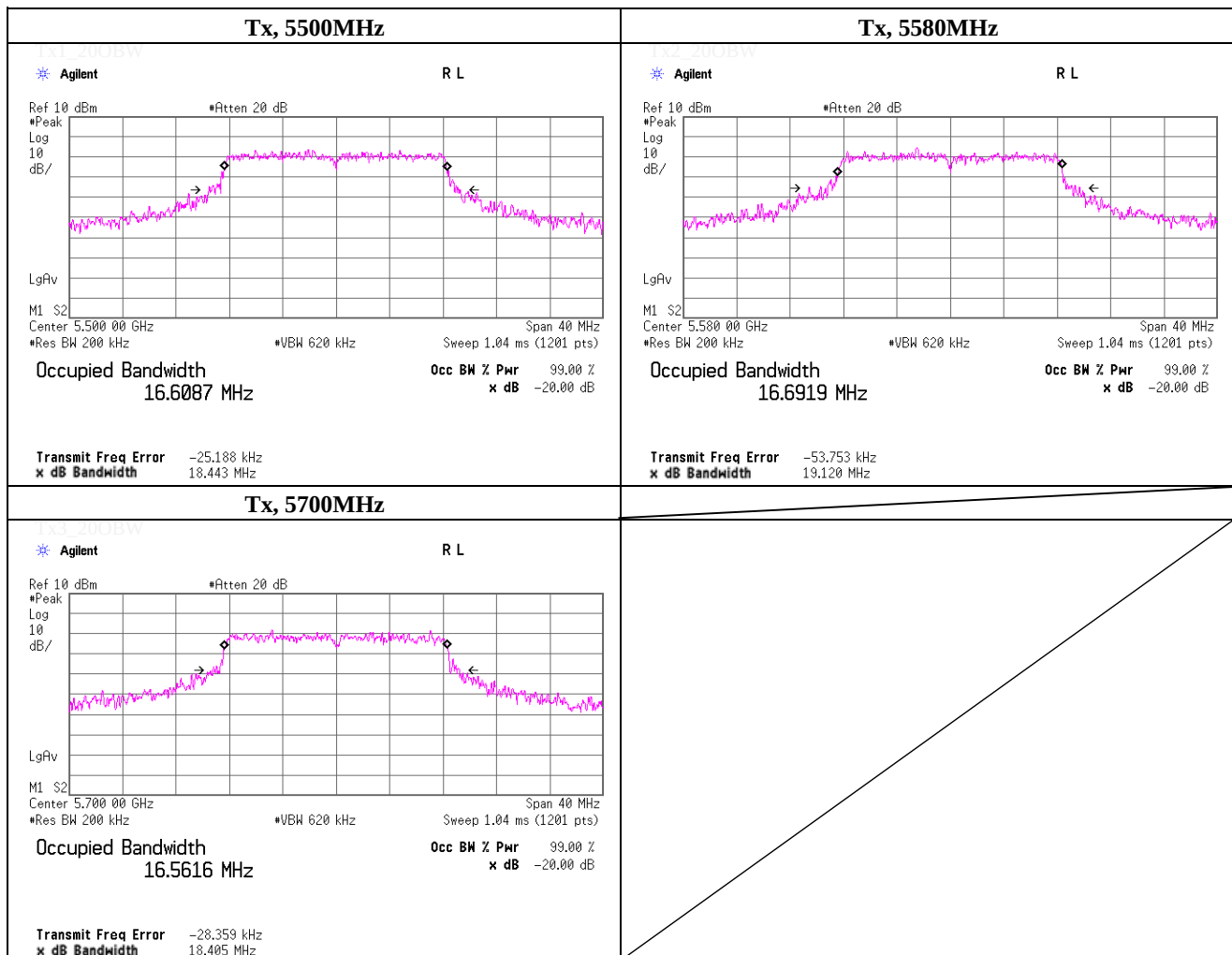
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	18.443
5580.0000	19.120
5700.0000	18.405



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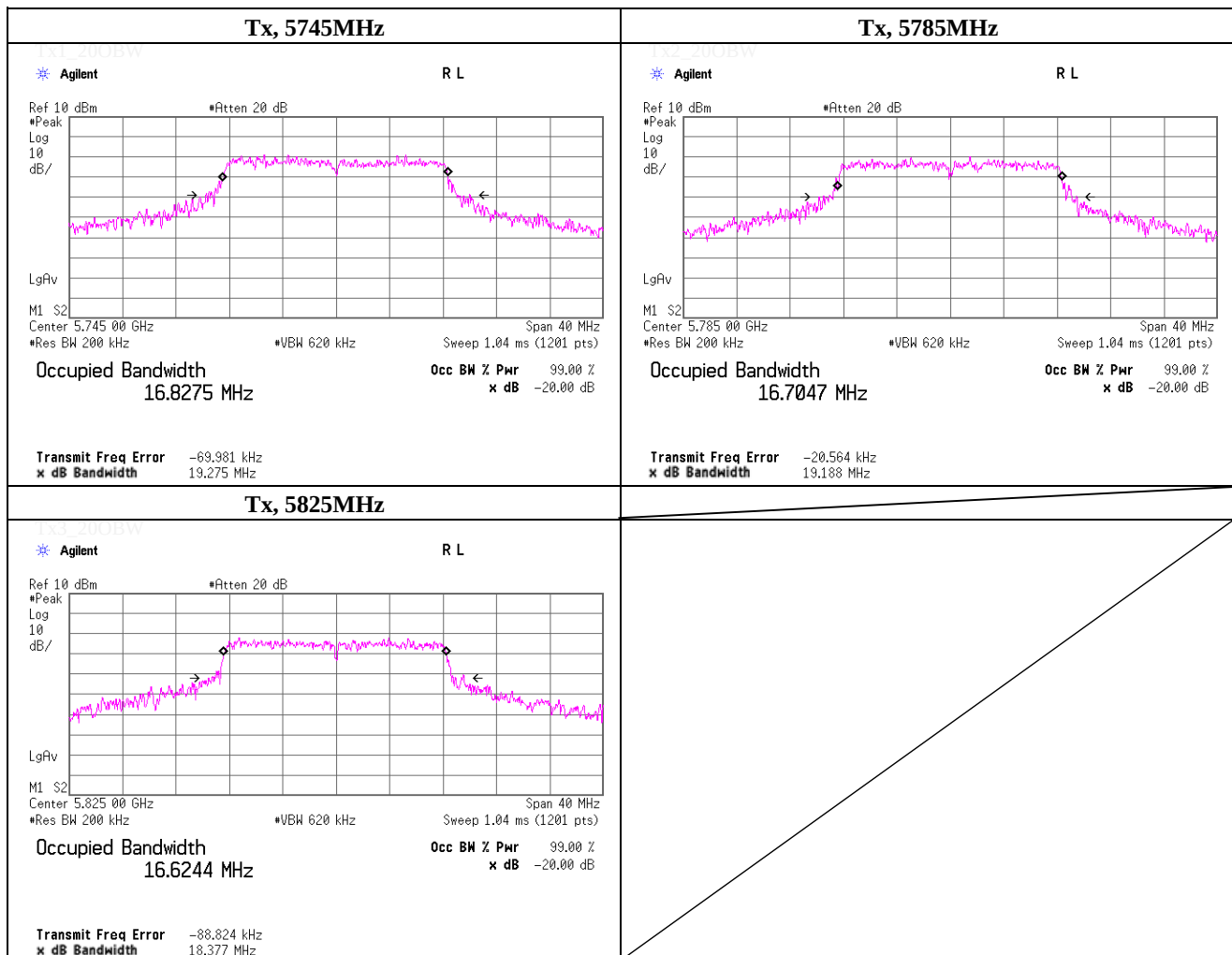
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	19.275
5785.0000	19.188
5825.0000	18.377



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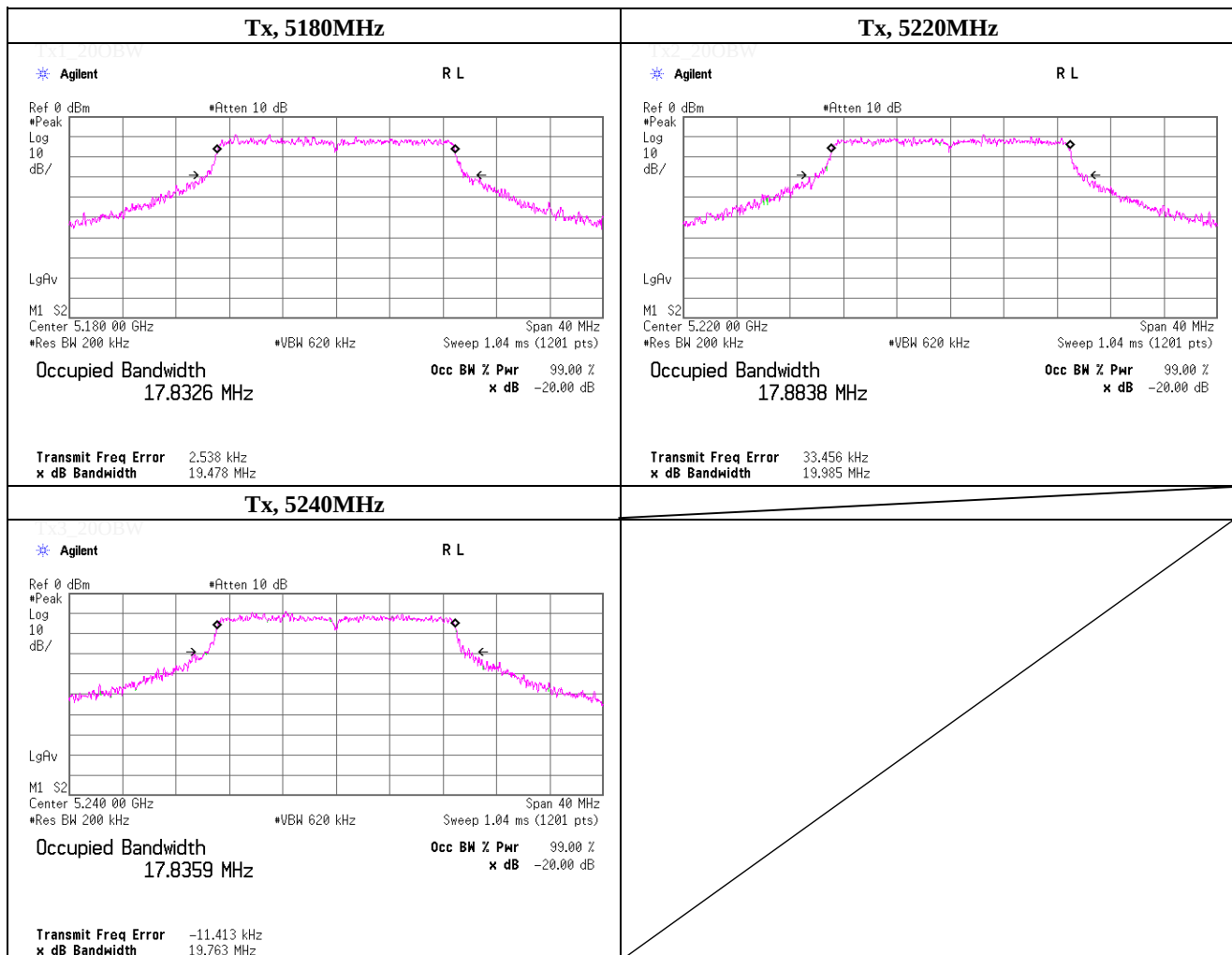
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.478
5220.0000	19.985
5240.0000	19.763



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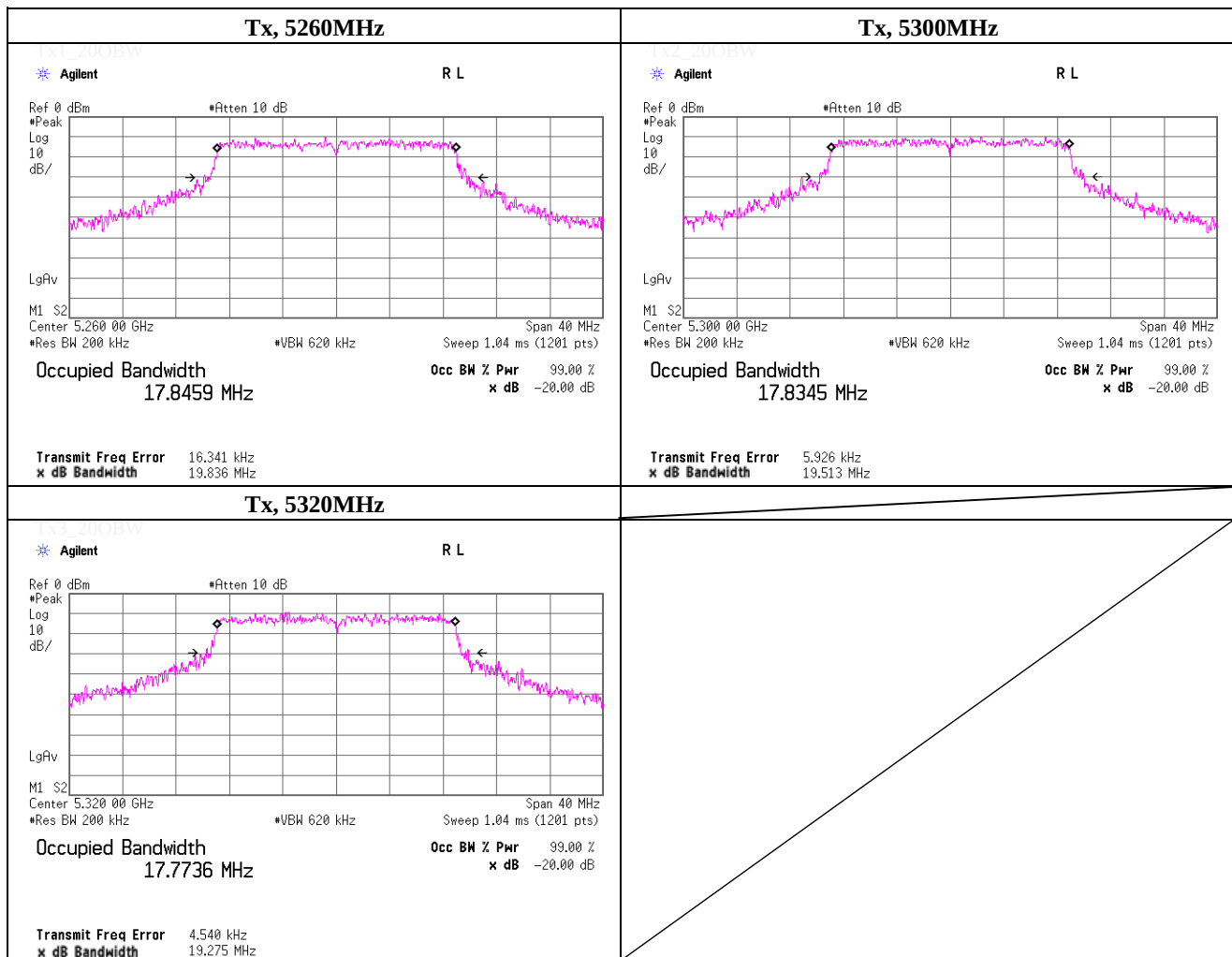
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.836
5300.0000	19.513
5320.0000	19.275



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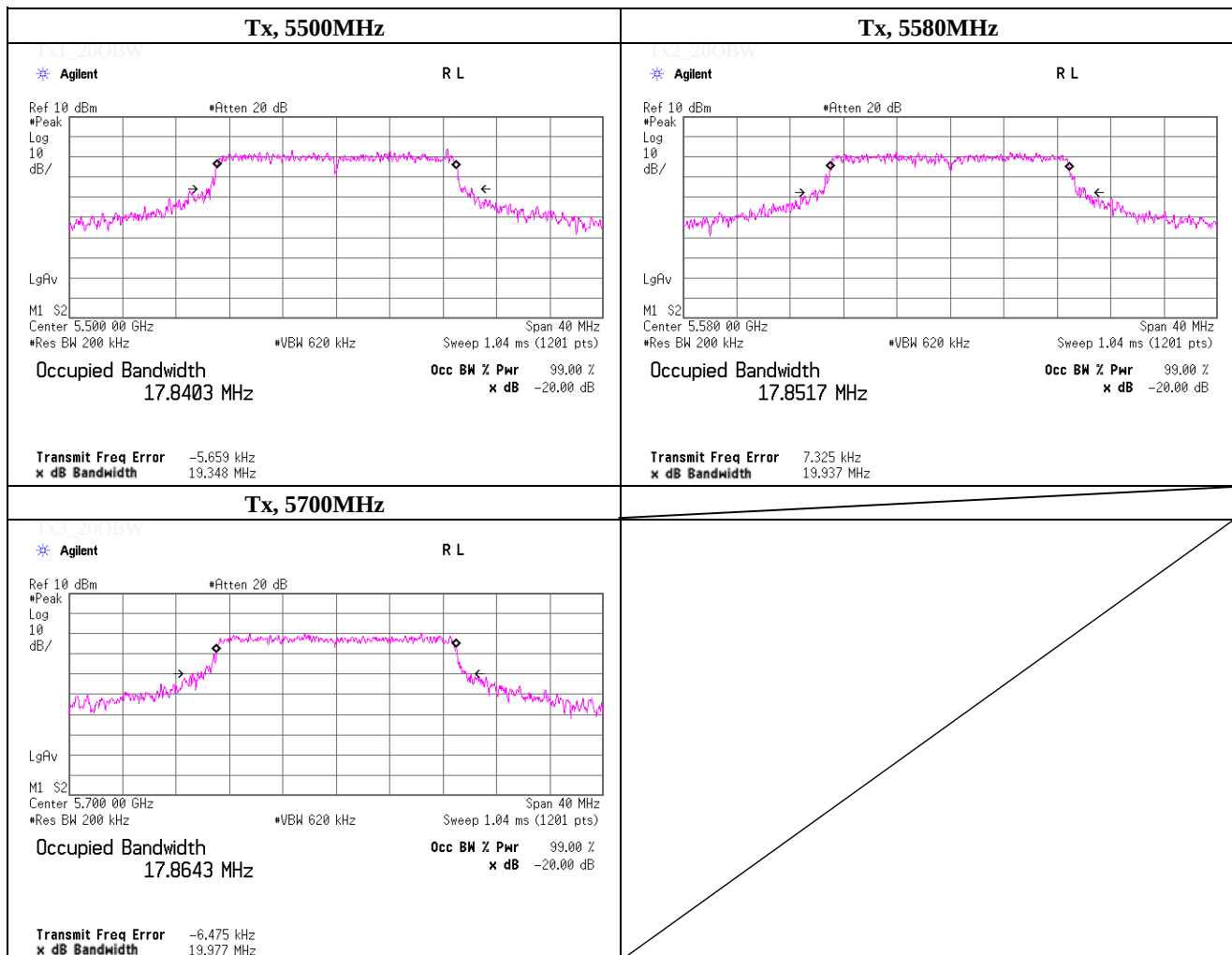
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.348
5580.0000	19.937
5700.0000	19.977



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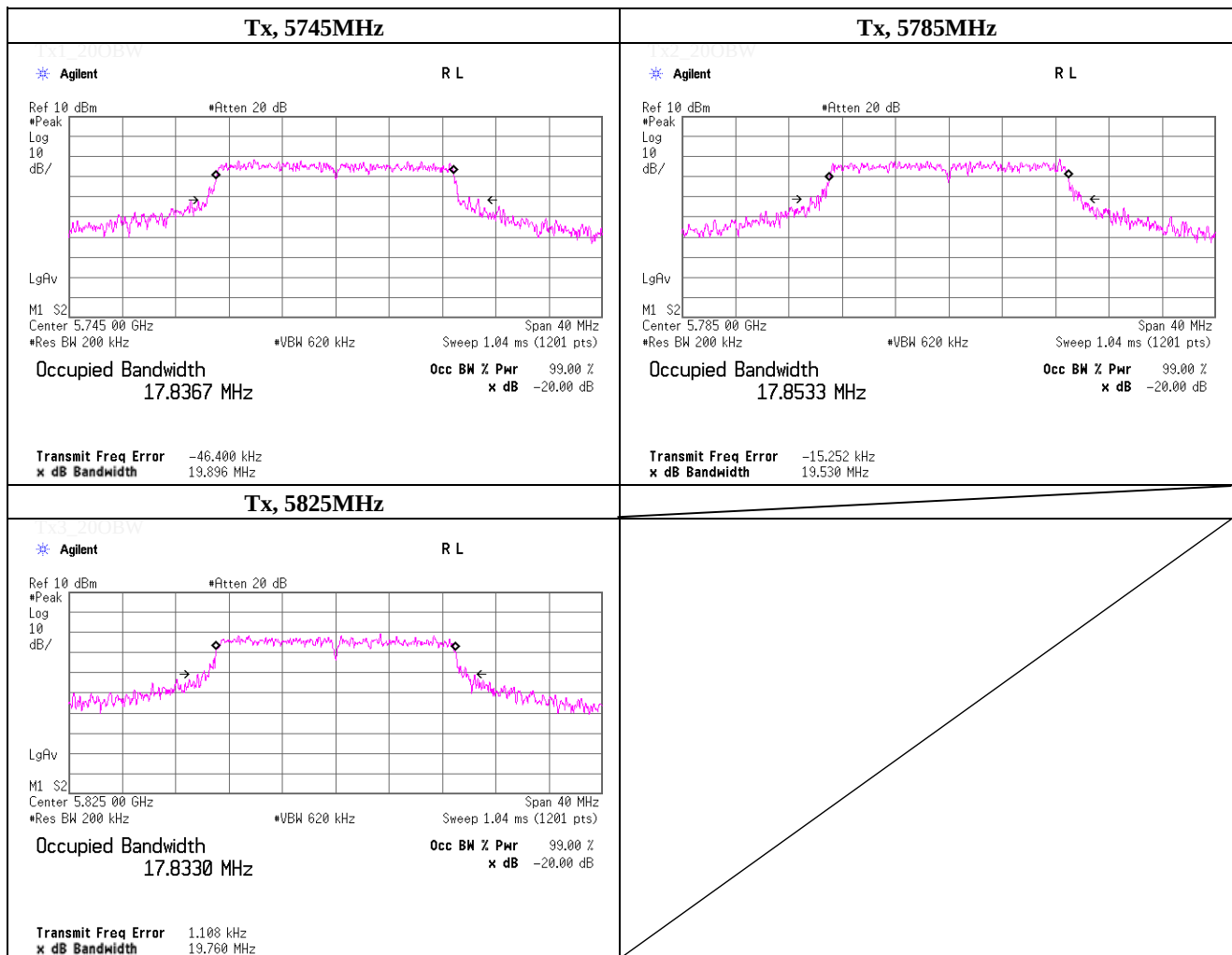
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	19.896
5785.0000	19.530
5825.0000	19.760



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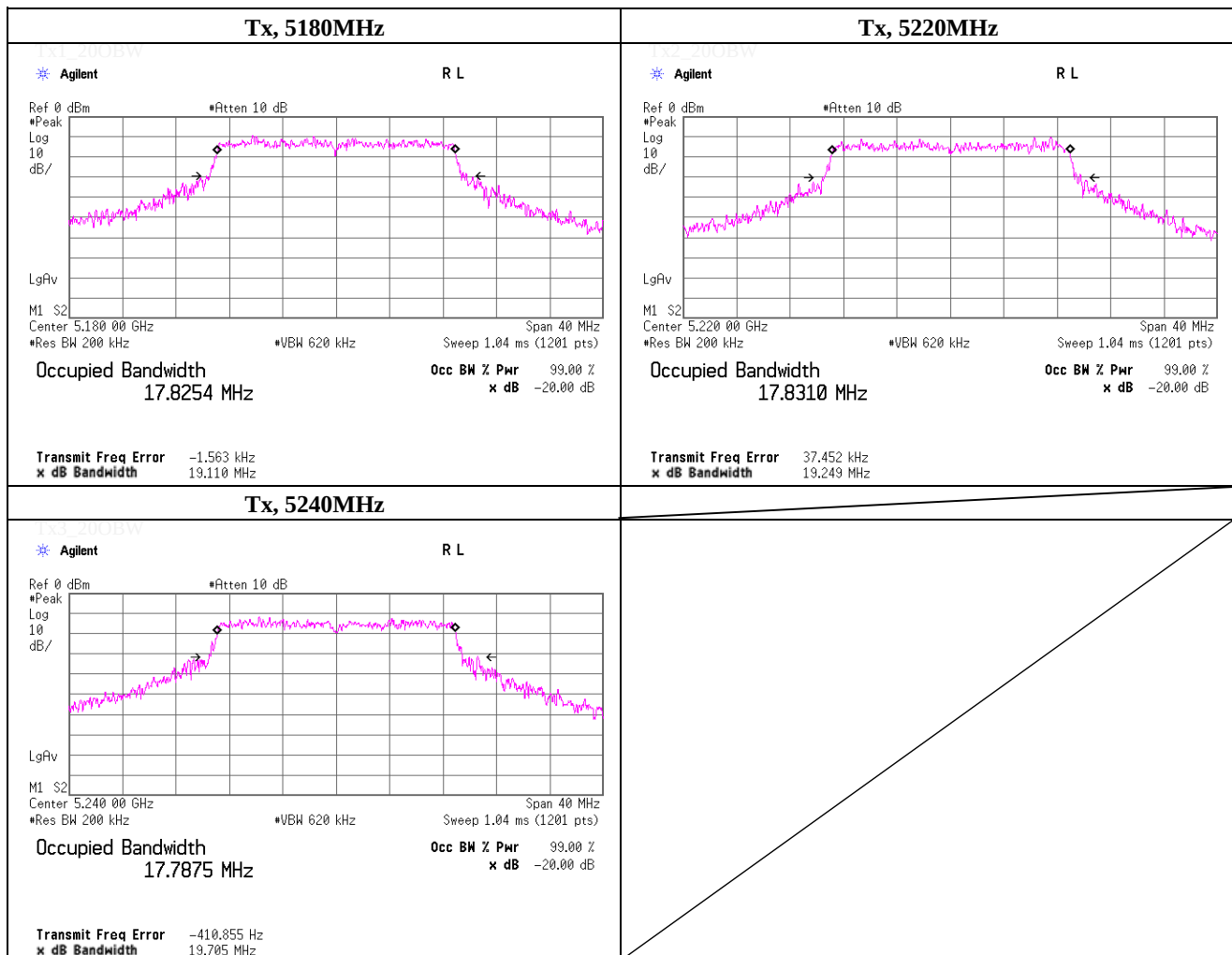
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.110
5220.0000	19.249
5240.0000	19.705



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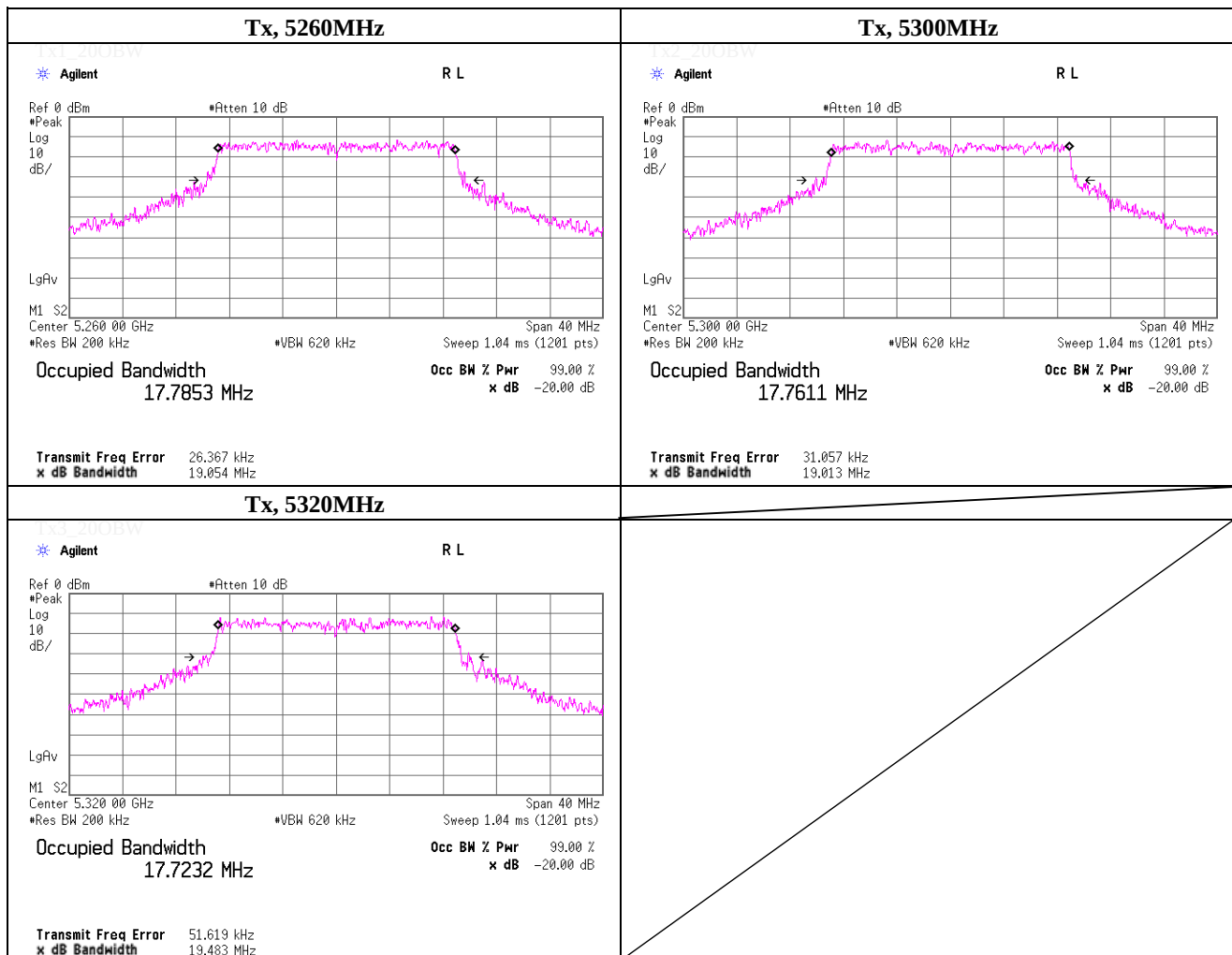
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.054
5300.0000	19.013
5320.0000	19.483



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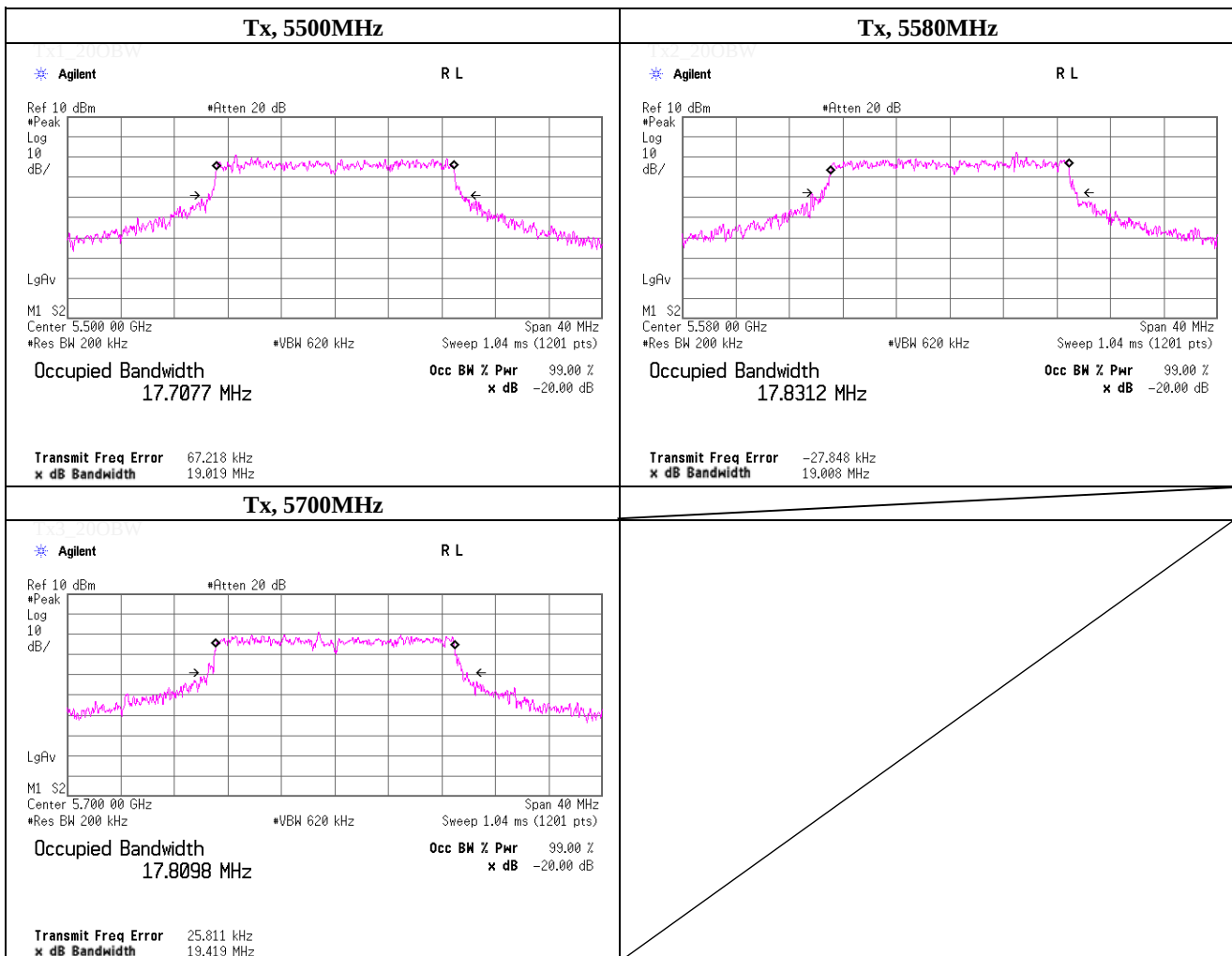
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.019
5580.0000	19.008
5700.0000	19.419



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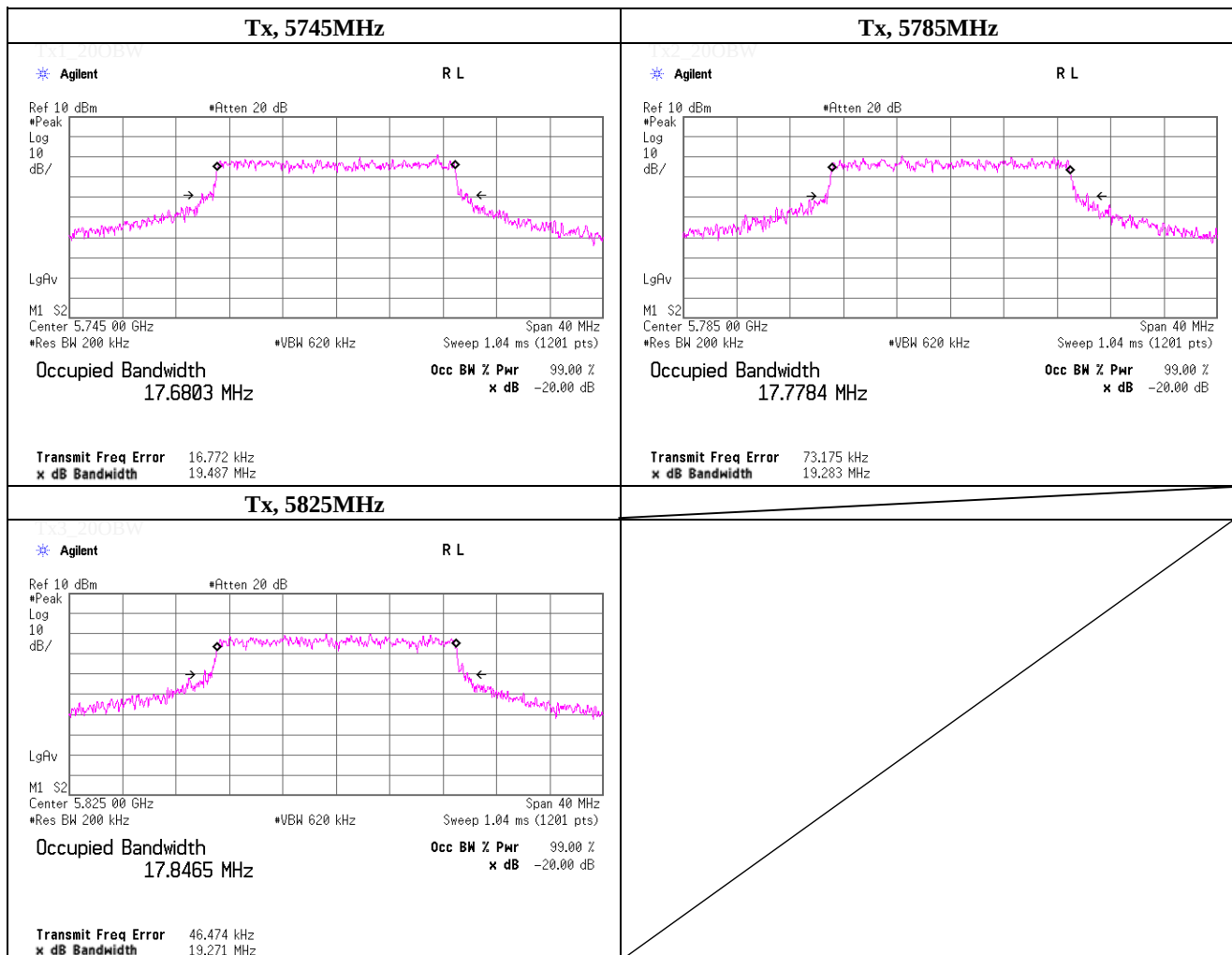
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0, worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	19.487
5785.0000	19.283
5825.0000	19.271



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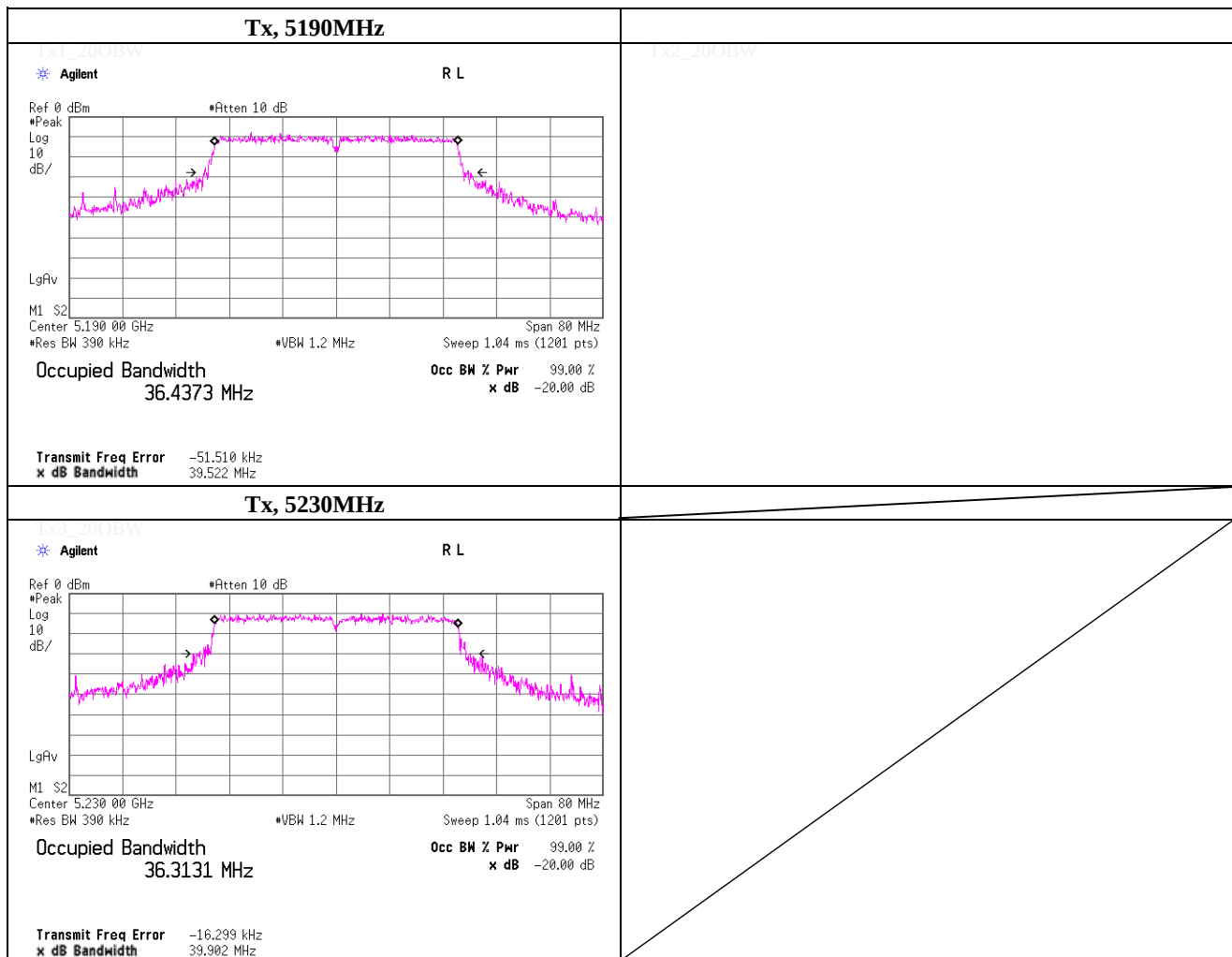
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5190.0000	39.522
5230.0000	39.902



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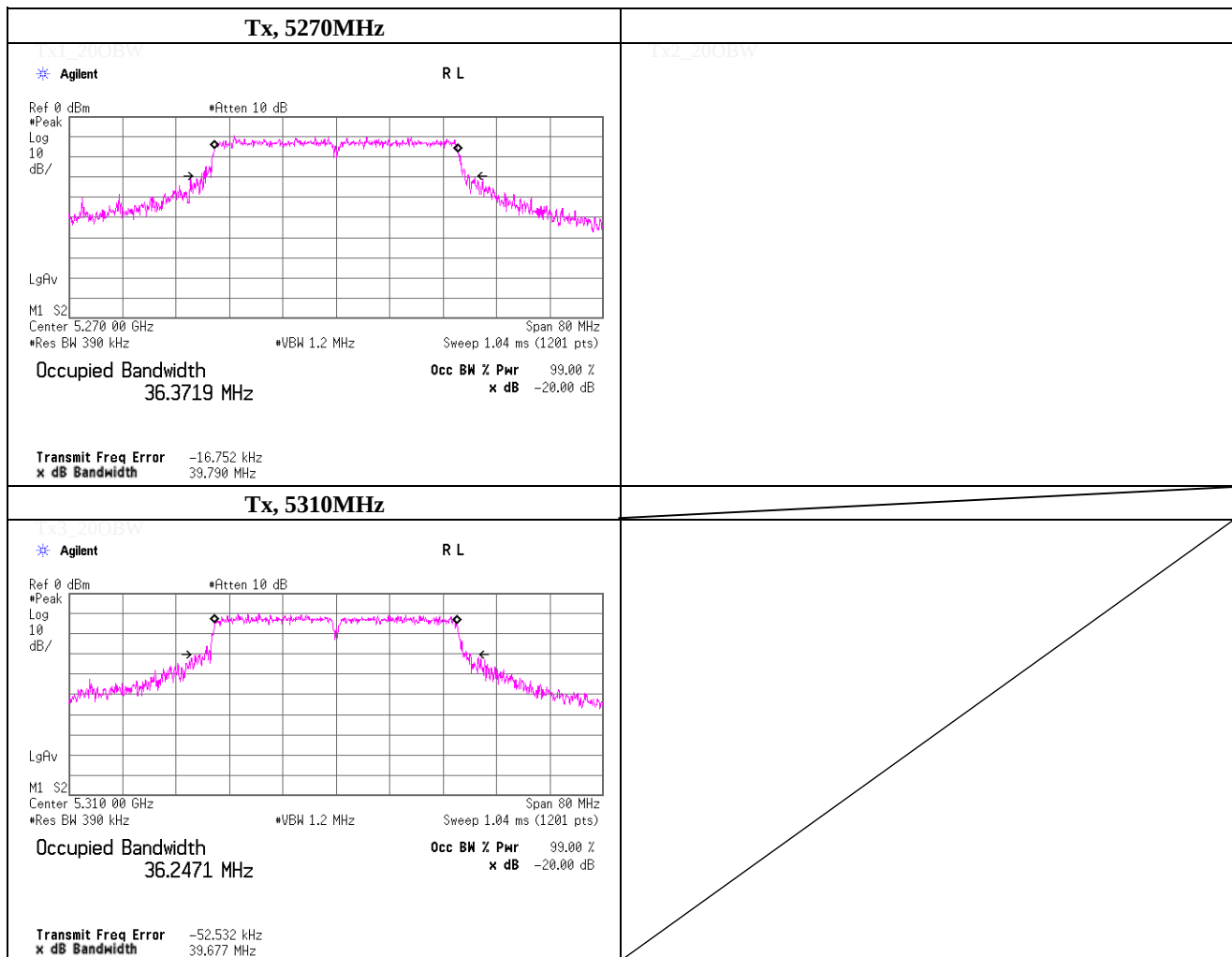
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5270.0000	39.790
5310.0000	39.677



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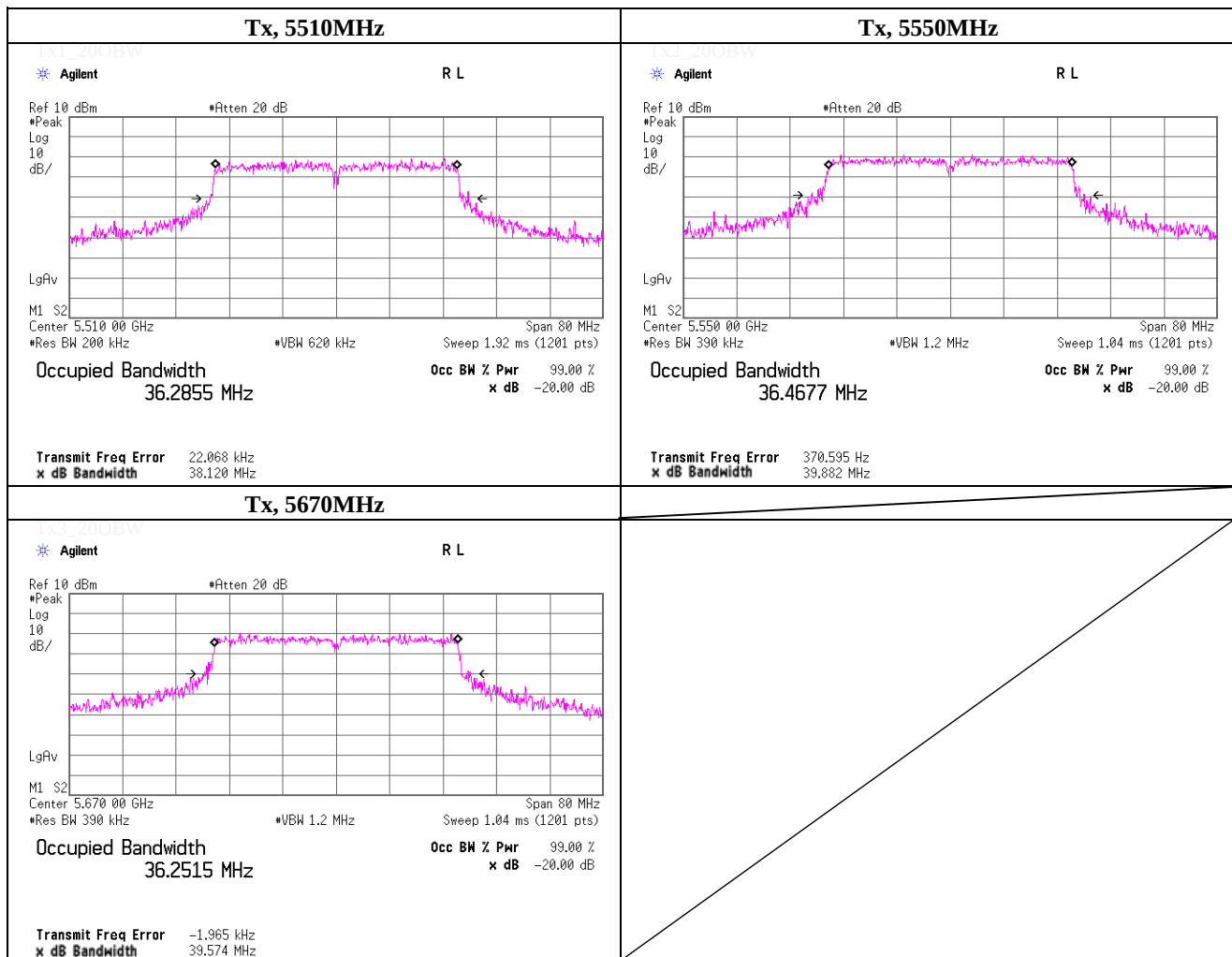
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5510.0000	38.120
5550.0000	39.882
5670.0000	39.574



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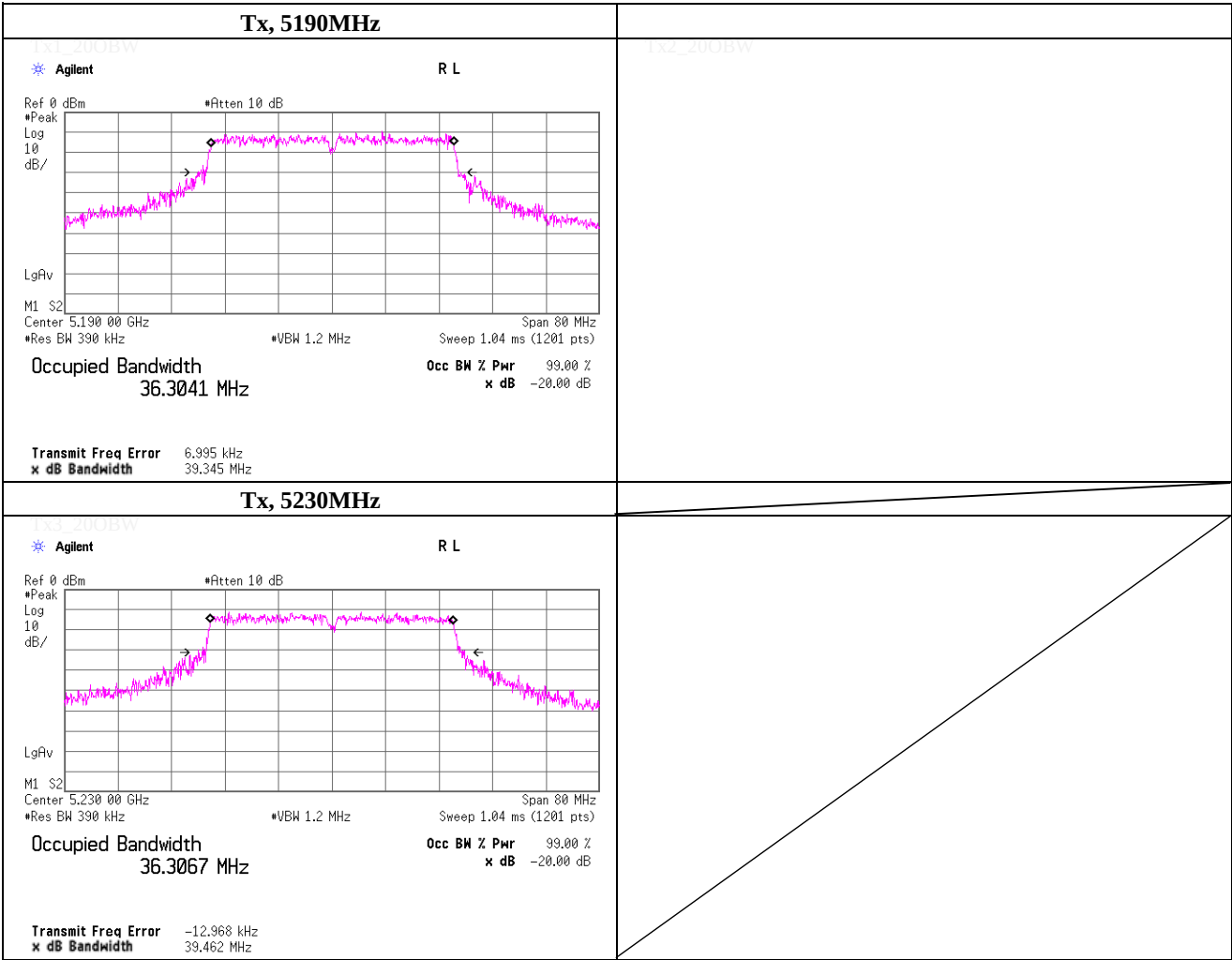
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

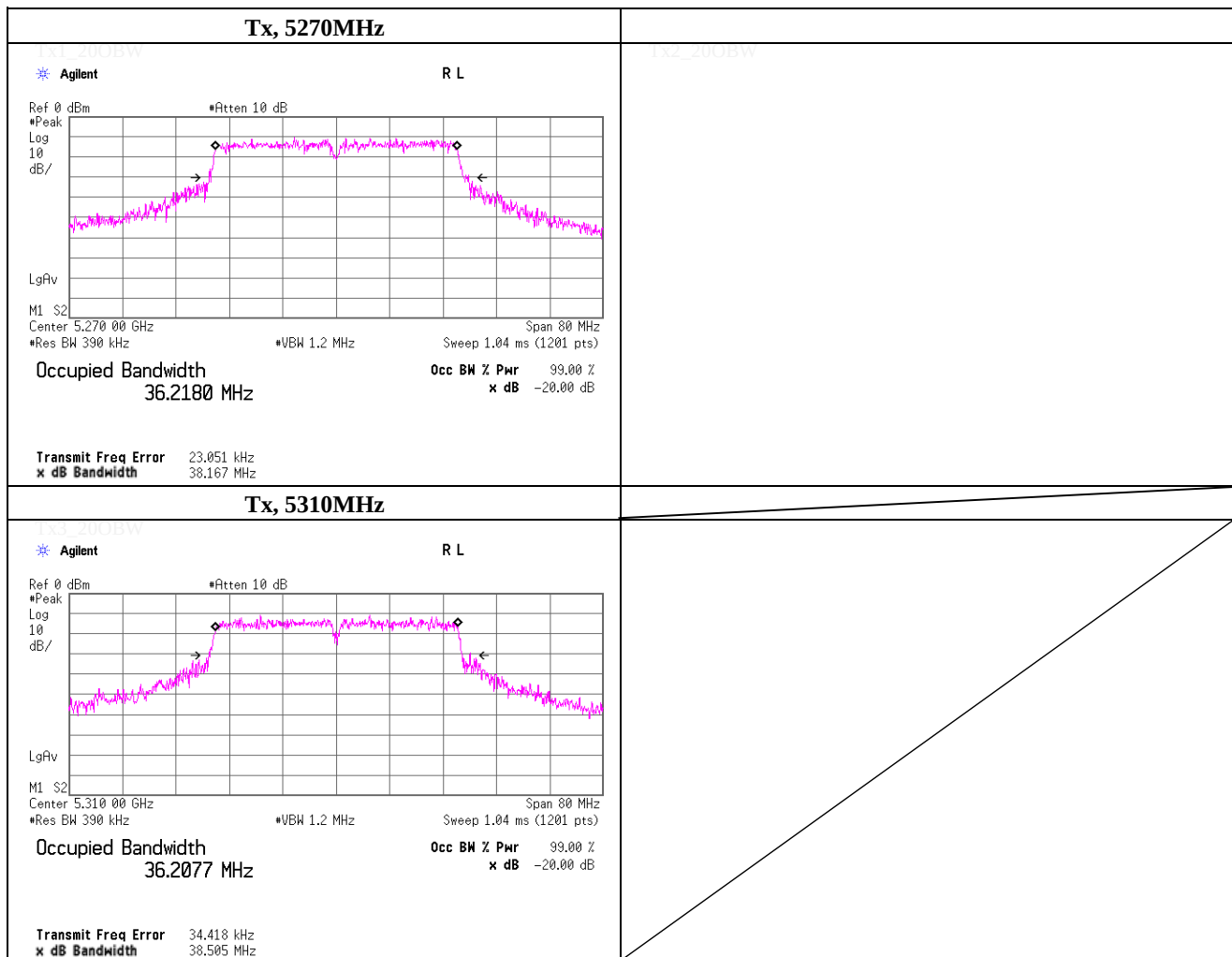
Freq. [MHz]	-20dB Bandwidth [MHz]
5190.0000	39.345
5230.0000	39.462



-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5270.0000	38.167
5310.0000	38.505



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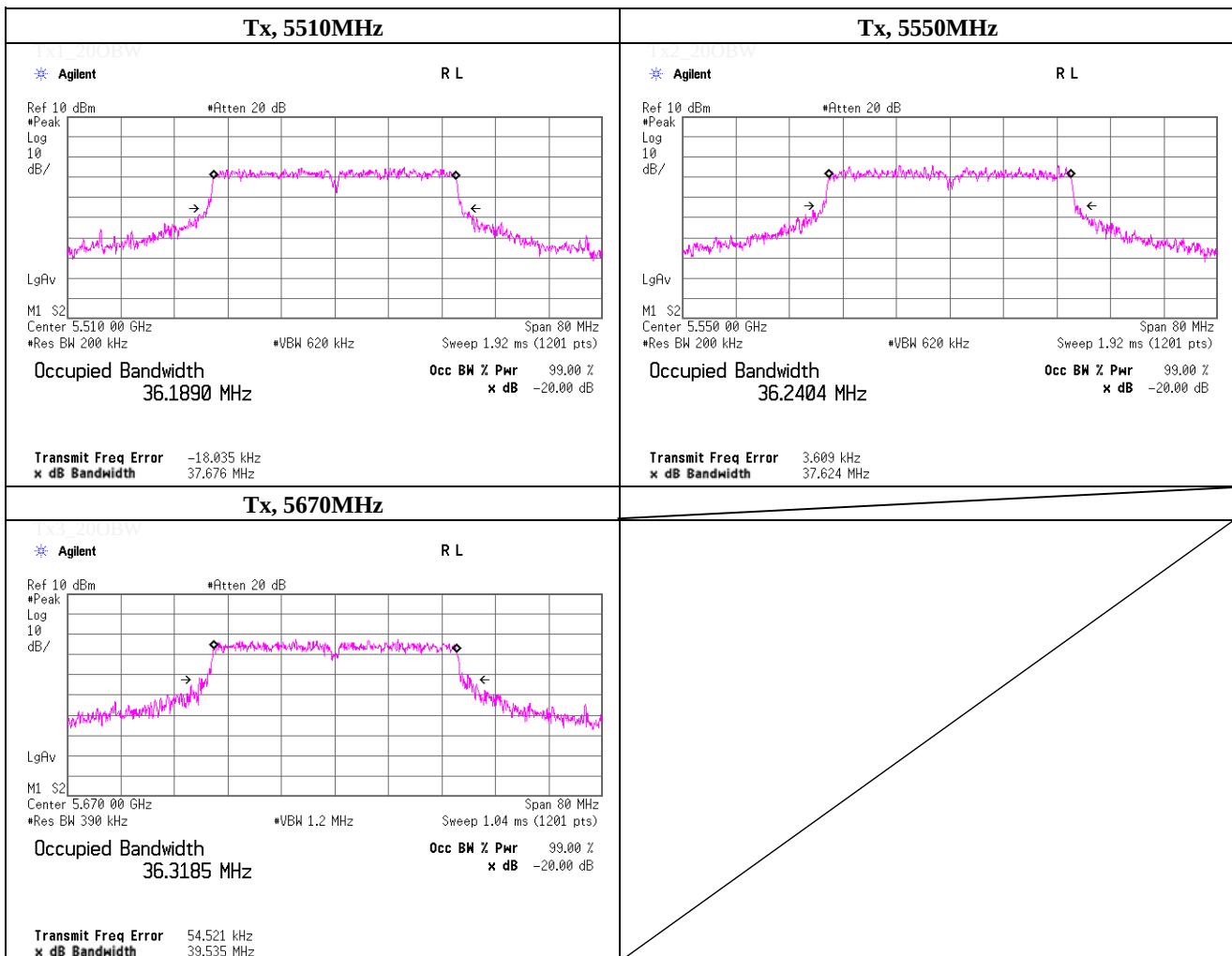
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5510.0000	37.676
5550.0000	37.624
5670.0000	39.535



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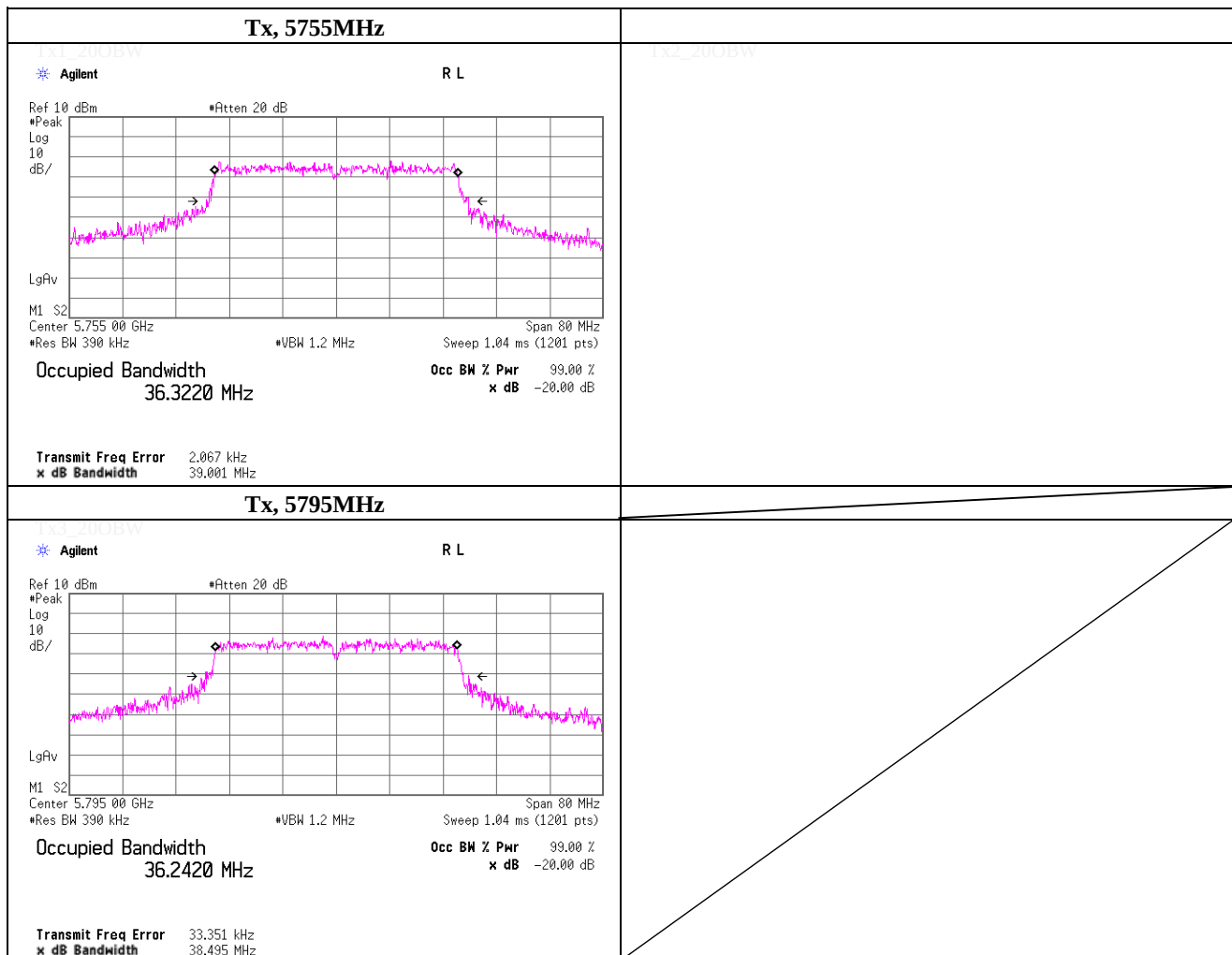
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5755.0000	39.001
5795.0000	38.495



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE802.11a, PN9, worst antenna : 1 (Bottom) worst data mode : 6 Mbps

mobile/portable client device

Antena terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5180.0	-0.20	3.16	9.82	0.02		12.80	19.05	23.98	250.00	11.18
Mid	5220.0	0.17	3.16	9.81	0.02		13.16	20.70	23.98	250.00	10.82
High	5240.0	-0.35	3.25	9.81	0.02		12.73	18.75	23.98	250.00	11.25

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5180.0	-0.20	3.16	9.82	0.02	-1.30	11.50	14.13	-	-	-
Mid	5220.0	0.17	3.16	9.81	0.02	-1.30	11.86	15.35	-	-	-
High	5240.0	-0.35	3.25	9.81	0.02	-1.30	11.43	13.90	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE802.11a, PN9, worst antenna : 1 (Bottom) worst data mode : 6 Mbps

mobile/portable client device

Antena terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5260.0	-0.27	3.29	9.80	0.02		12.84	19.23	23.98	250.00	11.14
Mid	5300.0	0.25	3.30	9.80	0.02		13.37	21.73	23.98	250.00	10.61
High	5320.0	-0.04	3.39	9.79	0.02		13.16	20.70	23.98	250.00	10.82

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5260.0	-0.27	3.29	9.80	0.02	-1.30	11.54	14.26	-	-	-
Mid	5300.0	0.25	3.30	9.80	0.02	-1.30	12.07	16.11	-	-	-
High	5320.0	-0.04	3.39	9.79	0.02	-1.30	11.86	15.35	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE802.11a, PN9, worst antenna : 1 worst data mode : 6 Mbps

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5500.0	1.97	3.45	9.76	0.02		15.20	33.11	23.98	250.00	8.78
Mid	5580.0	2.26	3.46	9.78	0.02		15.52	35.65	23.98	250.00	8.46
High	5700.0	2.18	3.29	9.80	0.02		15.29	33.81	23.98	250.00	8.69

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5500.0	1.97	3.45	9.76	0.02	-1.30	13.87	24.38	-	-	-
Mid	5580.0	2.26	3.46	9.78	0.02	-1.30	14.22	26.42	-	-	-
High	5700.0	2.18	3.29	9.80	0.02	-1.30	13.99	25.06	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

[Pre check]

Antenna 0 (Side)

	Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
0	6	5500.0	1.94	3.47	9.76	0.02	15.19
0	9	5500.0	1.83	3.47	9.76	0.03	15.09
0	12	5500.0	1.85	3.47	9.76	0.04	15.12
0	18	5500.0	1.86	3.47	9.76	0.06	15.15
0	24	5500.0	1.82	3.47	9.76	0.08	15.13
0	36	5500.0	1.83	3.47	9.76	0.11	15.17
0	48	5500.0	1.79	3.47	9.76	0.15	15.17
0	54	5500.0	0.90	3.47	9.76	0.17	14.30

Antenna 1 (Bottom)

	Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]
1	6	5500.0	1.97	3.45	9.76	0.02	15.20
1	9	5500.0	1.91	3.45	9.76	0.03	15.15
1	12	5500.0	1.83	3.45	9.76	0.04	15.08
1	18	5500.0	1.89	3.45	9.76	0.06	15.16
1	24	5500.0	1.84	3.45	9.76	0.08	15.13
1	36	5500.0	1.73	3.45	9.76	0.11	15.05
1	48	5500.0	1.82	3.45	9.76	0.15	15.18
1	54	5500.0	0.90	3.45	9.76	0.17	14.28

Worst

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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11a, antenna port 0 (Side), (Tx 5180MHz)



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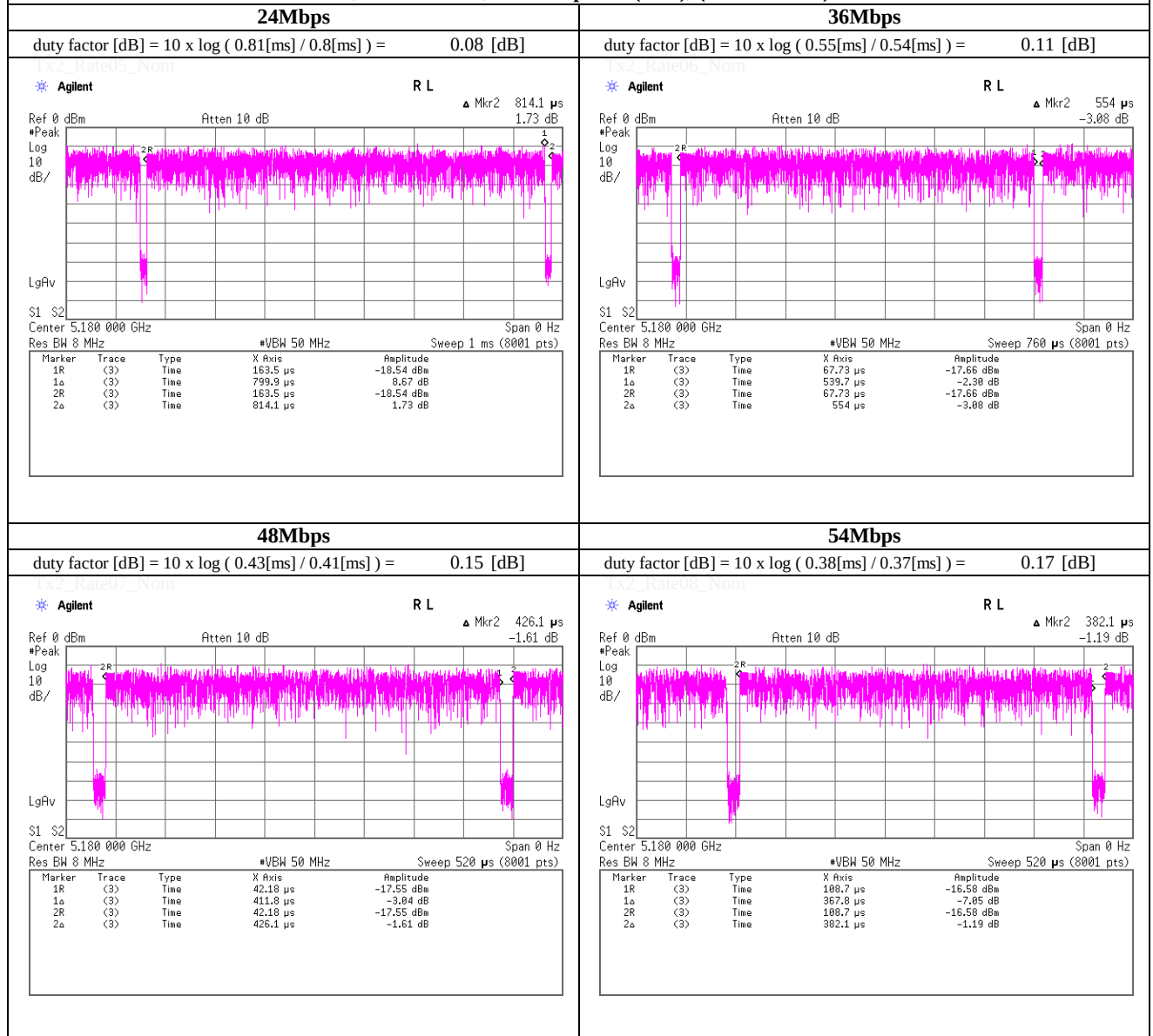
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11a, antenna port 0 (Side), (Tx 5180MHz)



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE802.11a, PN9, worst antenna : 1 (Bottom) worst data mode : 6 Mbps

mobile/portable client device

Antena terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5745.0	2.03	3.31	9.81	0.02		15.17	32.89	30.00	1000.00	14.83
Mid	5785.0	1.75	3.31	9.82	0.02		14.90	30.90	30.00	1000.00	15.10
High	5825.0	1.96	3.35	9.83	0.02		15.16	32.81	30.00	1000.00	14.84

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5745.0	2.03	3.31	9.81	0.02	-1.30	13.87	24.38	-	-	-
Mid	5785.0	1.75	3.31	9.82	0.02	-1.30	13.60	22.91	-	-	-
High	5825.0	1.96	3.35	9.83	0.02	-1.30	13.86	24.32	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna : 1 (Bottom) worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5180.0	-1.32	3.16	9.82	0.02		11.68	14.72	23.98	250.00	12.30
Mid	5220.0	-1.48	3.16	9.81	0.02		11.51	14.16	23.98	250.00	12.47
High	5240.0	-1.38	3.25	9.81	0.02		11.70	14.79	23.98	250.00	12.28

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5180.0	-1.32	3.16	9.82	0.02	-1.30	10.38	10.91	-	-	-
Mid	5220.0	-1.48	3.16	9.81	0.02	-1.30	10.21	10.50	-	-	-
High	5240.0	-1.38	3.25	9.81	0.02	-1.30	10.40	10.96	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

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 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna : 1 (Bottom) worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5260.0	-1.48	3.29	9.80	0.02		11.63	14.55	23.98	250.00	12.35
Mid	5300.0	-1.27	3.30	9.80	0.02		11.85	15.31	23.98	250.00	12.13
High	5320.0	-1.29	3.39	9.79	0.02		11.91	15.52	23.98	250.00	12.07

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5260.0	-1.48	3.29	9.80	0.02	-1.30	10.33	10.79	-	-	-
Mid	5300.0	-1.27	3.30	9.80	0.02	-1.30	10.55	11.35	-	-	-
High	5320.0	-1.29	3.39	9.79	0.02	-1.30	10.61	11.51	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
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 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna : 1 worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5500.0	0.73	3.45	9.76	0.02		13.96	24.89	23.98	250.00	10.02
Mid	5580.0	0.97	3.46	9.78	0.02		14.23	26.49	23.98	250.00	9.75
High	5700.0	1.10	3.29	9.80	0.02		14.21	26.36	23.98	250.00	9.77

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5500.0	0.73	3.45	9.76	0.02	-1.30	12.66	18.45	-	-	-
Mid	5580.0	0.97	3.46	9.78	0.02	-1.30	12.93	19.63	-	-	-
High	5700.0	1.10	3.29	9.80	0.02	-1.30	12.91	19.54	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

[Pre check]

Antenna 0 (Side)

	Mode	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]
0	0	5500.0	0.68	3.47	9.76	0.02	13.93
0	1	5500.0	0.60	3.47	9.76	0.04	13.87
0	2	5500.0	0.56	3.47	9.76	0.06	13.85
0	3	5500.0	0.53	3.47	9.76	0.08	13.84
0	4	5500.0	0.50	3.47	9.76	0.12	13.85
0	5	5500.0	-0.21	3.47	9.76	0.16	13.18
0	6	5500.0	-1.97	3.47	9.76	0.17	11.43
0	7	5500.0	-3.99	3.47	9.76	0.19	9.43

Antenna 1 (Bottom)

	Mode	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]
1	0	5500.0	0.73	3.45	9.76	0.02	13.96
1	1	5500.0	0.61	3.45	9.76	0.04	13.86
1	2	5500.0	0.62	3.45	9.76	0.06	13.89
1	3	5500.0	0.59	3.45	9.76	0.08	13.88
1	4	5500.0	0.57	3.45	9.76	0.12	13.90
1	5	5500.0	-0.67	3.45	9.76	0.16	12.70
1	6	5500.0	-2.82	3.45	9.76	0.17	10.56
1	7	5500.0	-4.70	3.45	9.76	0.19	8.70

Worst

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Shonan EMC Lab.

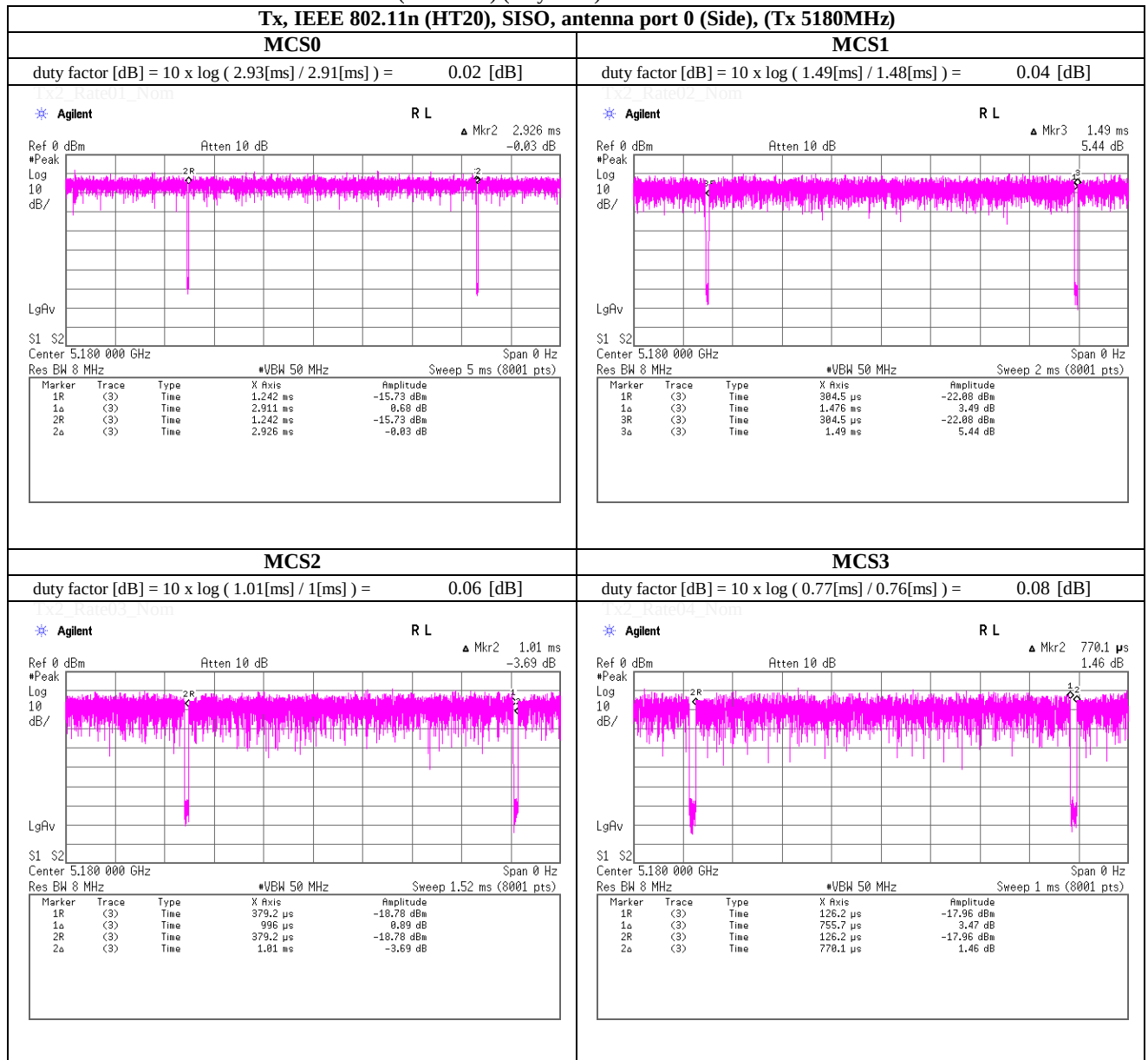
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)



UL Japan, Inc.

Shonan EMC Lab.

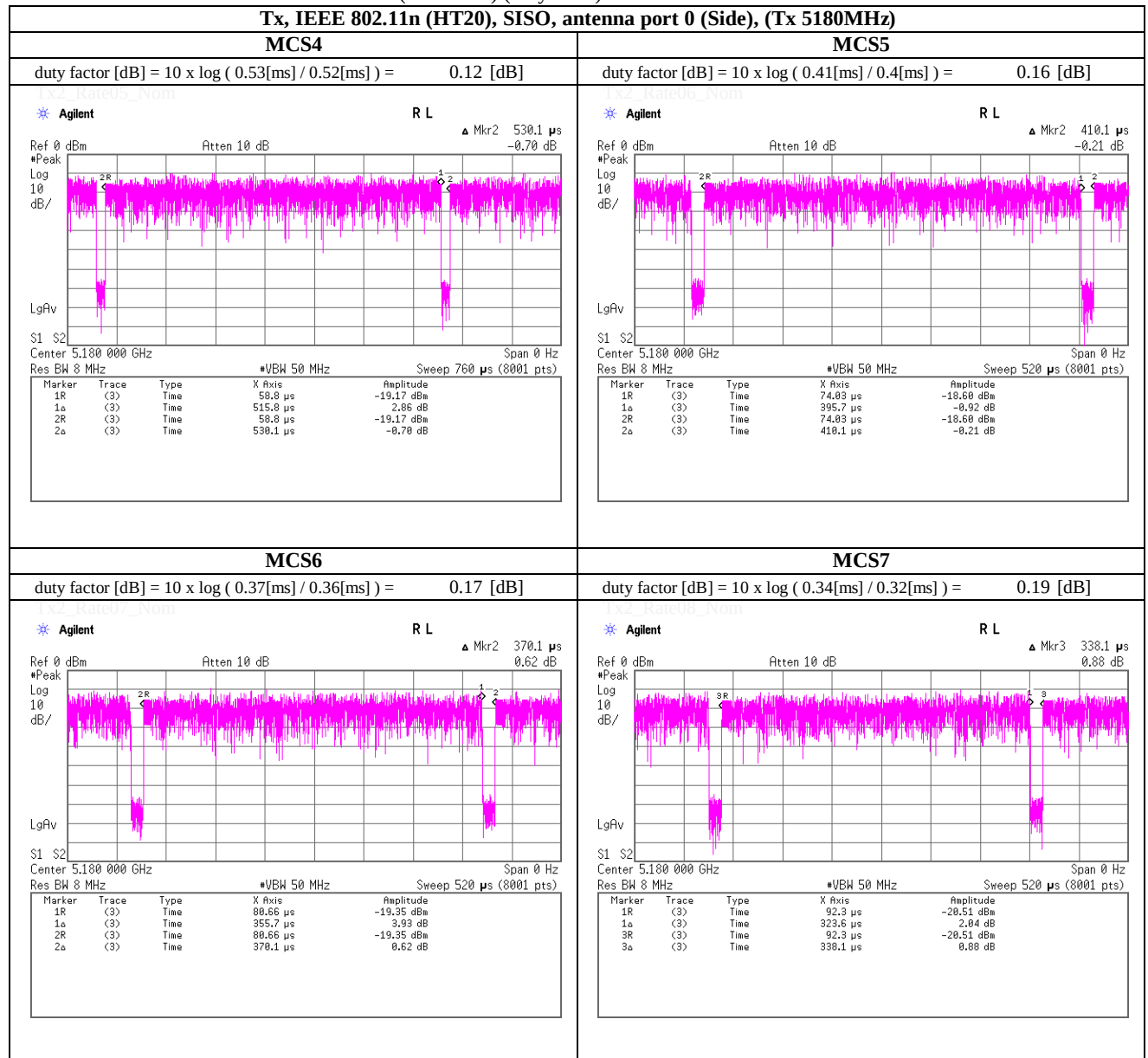
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna : 1 (Bottom) worst data mode : 0 (MCS)

mobile/portable client device

Antena terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5745.0	0.50	3.31	9.81	0.02		13.64	23.12	30.00	1000.00	16.36
Mid	5785.0	0.05	3.31	9.82	0.02		13.20	20.89	30.00	1000.00	16.80
High	5825.0	0.14	3.35	9.83	0.02		13.34	21.58	30.00	1000.00	16.66

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5745.0	0.50	3.31	9.81	0.02	-1.30	12.34	17.14	-	-	-
Mid	5785.0	0.05	3.31	9.82	0.02	-1.30	11.90	15.49	-	-	-
High	5825.0	0.14	3.35	9.83	0.02	-1.30	12.04	16.00	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9,		
		worst data mode :	8 (MCS)

mobile/portable client device

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5180.0	14.31	26.98	12.78	18.97	23.98	250.00	-	-	9.67	-
Mid	5220.0	14.57	28.61	13.02	20.05	23.98	250.00	-	-	9.41	-
High	5240.0	14.86	30.61	13.31	21.41	23.98	250.00	-	-	9.12	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5180.0	-1.92	3.13	9.82	0.04	11.07	12.79	-1.80	9.27	8.45
Mid	5220.0	-1.42	3.14	9.81	0.04	11.57	14.35	-1.80	9.77	9.48
High	5240.0	-1.07	3.23	9.81	0.04	12.01	15.89	-1.80	10.21	10.50

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5180.0	-1.50	3.16	9.82	0.04	11.52	14.19	-1.30	10.22	10.52
Mid	5220.0	-1.47	3.16	9.81	0.04	11.54	14.26	-1.30	10.24	10.57
High	5240.0	-1.42	3.25	9.81	0.04	11.68	14.72	-1.30	10.38	10.91

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5260.0	14.83	30.43	13.28	21.29	23.98	250.00	-	-	9.15	-
Mid	5300.0	14.88	30.73	13.33	21.54	23.98	250.00	-	-	9.10	-
High	5320.0	14.84	30.45	13.29	21.33	23.98	250.00	-	-	9.14	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5260.0	-1.13	3.26	9.80	0.04	11.97	15.74	-1.80	10.17	10.40
Mid	5300.0	-1.25	3.27	9.80	0.04	11.86	15.35	-1.80	10.06	10.14
High	5320.0	-1.31	3.35	9.79	0.04	11.87	15.38	-1.80	10.07	10.16

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5260.0	-1.46	3.29	9.80	0.04	11.67	14.69	-1.30	10.37	10.89
Mid	5300.0	-1.27	3.30	9.80	0.04	11.87	15.38	-1.30	10.57	11.40
High	5320.0	-1.44	3.39	9.79	0.04	11.78	15.07	-1.30	10.48	11.17

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
 (e.i.r.p.) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5500.0	16.97	49.79	15.42	34.86	23.98	250.00	-	-	7.01	-
Mid	5580.0	17.10	51.30	15.56	35.99	23.98	250.00	-	-	6.88	-
High	5700.0	16.94	49.44	15.40	34.64	23.98	250.00	-	-	7.04	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5500.0	0.78	3.47	9.76	0.04	14.05	25.41	-1.80	12.25	16.79
Mid	5580.0	0.71	3.48	9.78	0.04	14.01	25.18	-1.80	12.21	16.63
High	5700.0	0.83	3.30	9.80	0.04	13.97	24.95	-1.80	12.17	16.48

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5500.0	0.62	3.45	9.76	0.04	13.87	24.38	-1.30	12.57	18.07
Mid	5580.0	0.89	3.46	9.78	0.04	14.17	26.12	-1.30	12.87	19.36
High	5700.0	0.76	3.29	9.80	0.04	13.89	24.49	-1.30	12.59	18.16

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode (MCS)	Freq. [MHz]	Duty factor [dB]	Antenna 0 (Side)			Antenna 1 (Bottom)			Antenna 0 (Side) + 1 (Bottom)	
			Reading [dBm]	Result [dBm]	[mW]	Reading [dBm]	Result [dBm]	[mW]	[dBm]	[mW]
8	5500.0	0.04	0.78	14.05	25.41	0.62	13.87	24.38	16.97	49.79
9	5500.0	0.08	0.67	13.98	25.00	0.45	13.74	23.66	16.87	48.66
10	5500.0	0.12	0.60	13.95	24.83	0.42	13.75	23.71	16.86	48.55
11	5500.0	0.15	0.60	13.98	25.00	0.47	13.83	24.15	16.92	49.16
12	5500.0	0.22	0.58	14.03	25.29	0.36	13.79	23.93	16.92	49.23
13	5500.0	0.28	-0.32	13.19	20.84	-1.04	12.45	17.58	15.85	38.42
14	5500.0	0.31	-2.12	11.43	13.88	-3.02	10.50	11.22	14.00	25.10
15	5500.0	0.33	-4.12	9.44	8.79	-4.76	8.78	7.55	12.13	16.34

Worst

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Duty factor

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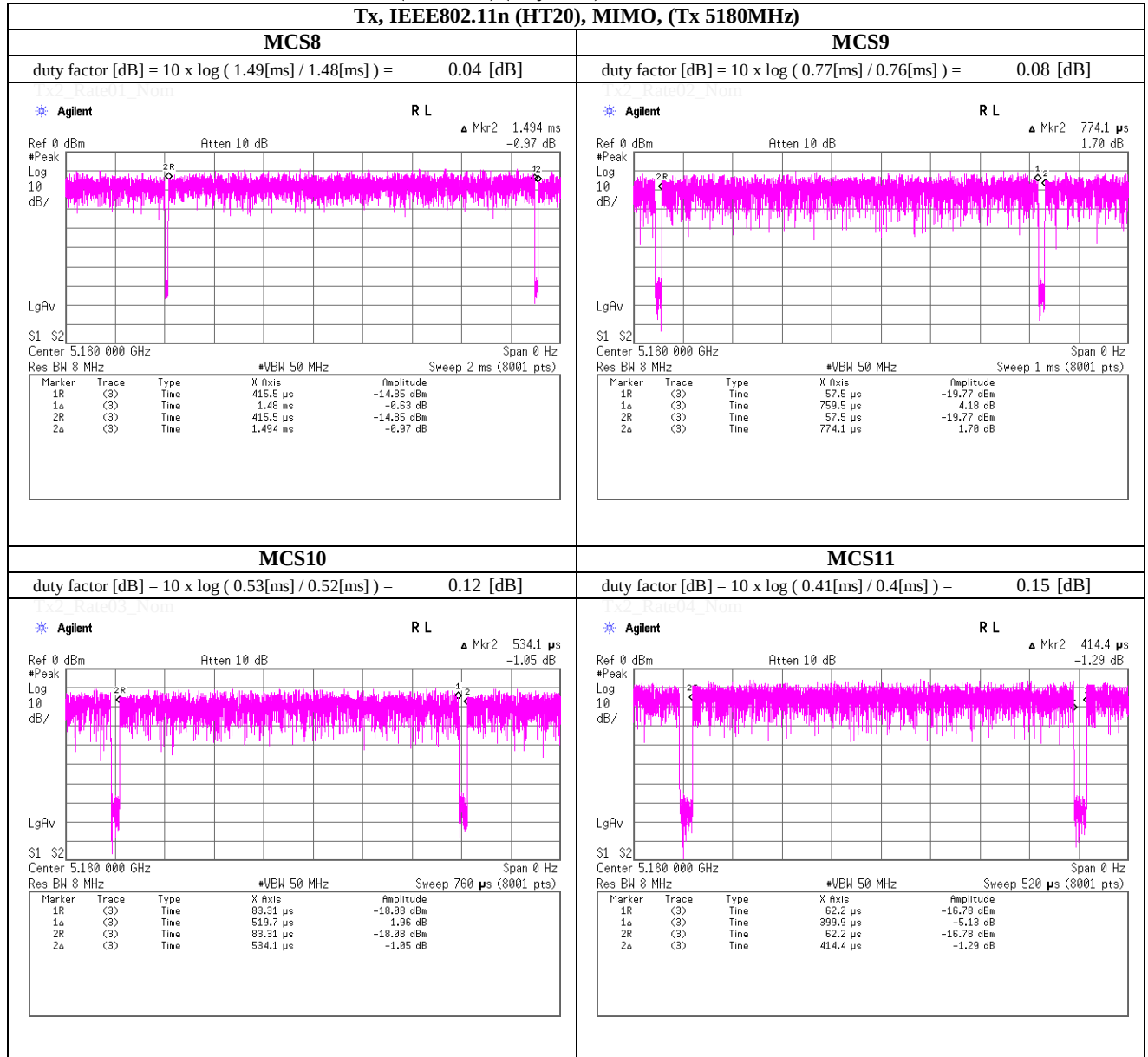
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT20), MIMO, (Tx 5180MHz)



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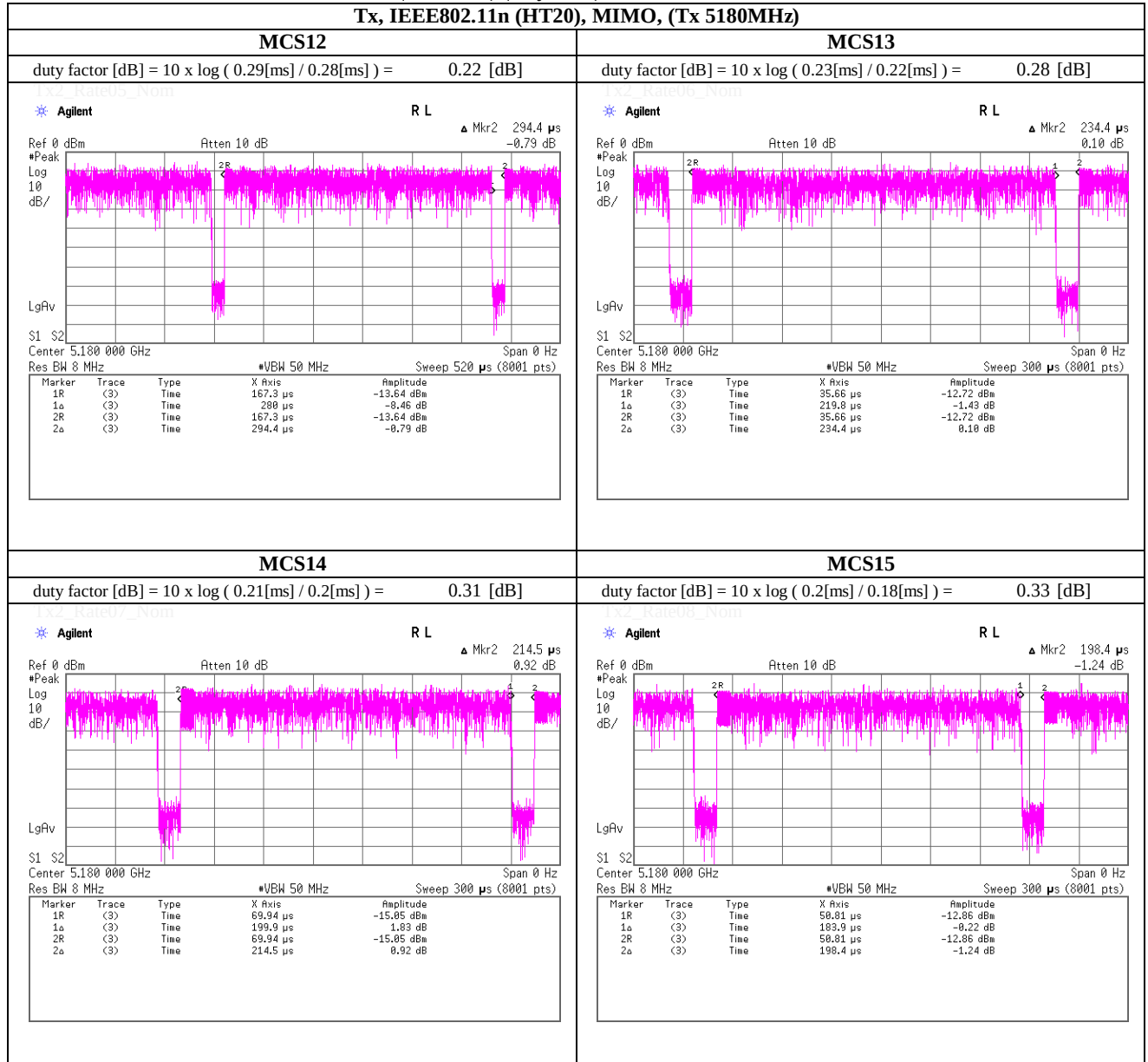
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT20), MIMO, (Tx 5180MHz)



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5745.0	16.81	47.93	15.25	33.50	30.00	1000.00	-	-	13.19	-
Mid	5785.0	16.68	46.53	15.11	32.45	30.00	1000.00	-	-	13.32	-
High	5825.0	16.78	47.64	15.21	33.22	30.00	1000.00	-	-	13.22	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5745.0	0.85	3.32	9.81	0.04	14.02	25.23	-1.80	12.22	16.67
Mid	5785.0	0.86	3.32	9.82	0.04	14.04	25.35	-1.80	12.24	16.75
High	5825.0	0.93	3.36	9.83	0.04	14.16	26.06	-1.80	12.36	17.22

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5745.0	0.40	3.31	9.81	0.04	13.56	22.70	-1.30	12.26	16.83
Mid	5785.0	0.09	3.31	9.82	0.04	13.26	21.18	-1.30	11.96	15.70
High	5825.0	0.12	3.35	9.83	0.04	13.34	21.58	-1.30	12.04	16.00

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
 (e.i.r.p.) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna : 0 (Side) worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result		Limit		Margin
						[dBm]	[mW]	[dBm]	[mW]	
Low	5190.0	-2.70	3.13	9.82	0.05	10.30	10.72	23.98	250.00	13.68
High	5230.0	-1.03	3.14	9.81	0.05	11.97	15.74	23.98	250.00	12.01

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5190.0	-2.70	3.13	9.82	0.05	-1.80	8.50	7.08	-	-	-
High	5230.0	-1.03	3.14	9.81	0.05	-1.80	10.17	10.40	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

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mobile/portable client device

Antena terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5270.0	-1.30	3.26	9.80	0.05		11.81	15.17	23.98	250.00	12.17
High	5310.0	-2.34	3.27	9.79	0.05		10.77	11.94	23.98	250.00	13.21

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5270.0	-1.30	3.26	9.80	0.05	-1.80	10.01	10.02	-	-	-
High	5310.0	-2.34	3.27	9.79	0.05	-1.80	8.97	7.89	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
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 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna : 0 worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5510.0	-1.52	3.47	9.76	0.05		11.76	15.00	23.98	250.00	12.22
Mid	5550.0	-1.47	3.48	9.77	0.05		11.83	15.24	23.98	250.00	12.15
High	5670.0	-1.67	3.39	9.79	0.05		11.56	14.32	23.98	250.00	12.42

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5510.0	-1.52	3.47	9.76	0.05	-1.80	9.96	9.91	-	-	-
Mid	5550.0	-1.47	3.48	9.77	0.05	-1.80	10.03	10.07	-	-	-
High	5670.0	-1.67	3.39	9.79	0.05	-1.80	9.76	9.46	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

[Pre check]

Antenna 0 (Side)

	Mode	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]
0	0	5510.0	-1.52	3.47	9.76	0.05	11.76
0	1	5510.0	-1.65	3.47	9.76	0.08	11.66
0	2	5510.0	-1.71	3.47	9.76	0.12	11.64
0	3	5510.0	-1.73	3.47	9.76	0.16	11.66
0	4	5510.0	-1.75	3.47	9.76	0.22	11.70
0	5	5510.0	-1.79	3.47	9.76	0.28	11.72
0	6	5510.0	-2.70	3.47	9.76	0.31	10.84
0	7	5510.0	-4.72	3.47	9.76	0.34	8.85

Worst

Antenna 1 (Bottom)

	Mode	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]
1	0	5510.0	-1.97	3.45	9.76	0.05	11.29
1	1	5510.0	-2.06	3.45	9.76	0.08	11.23
1	2	5510.0	-2.08	3.45	9.76	0.12	11.25
1	3	5510.0	-2.15	3.45	9.76	0.16	11.22
1	4	5510.0	-2.16	3.45	9.76	0.22	11.27
1	5	5510.0	-2.29	3.45	9.76	0.28	11.20
1	6	5510.0	-3.49	3.45	9.76	0.31	10.03
1	7	5510.0	-5.07	3.45	9.76	0.34	8.48

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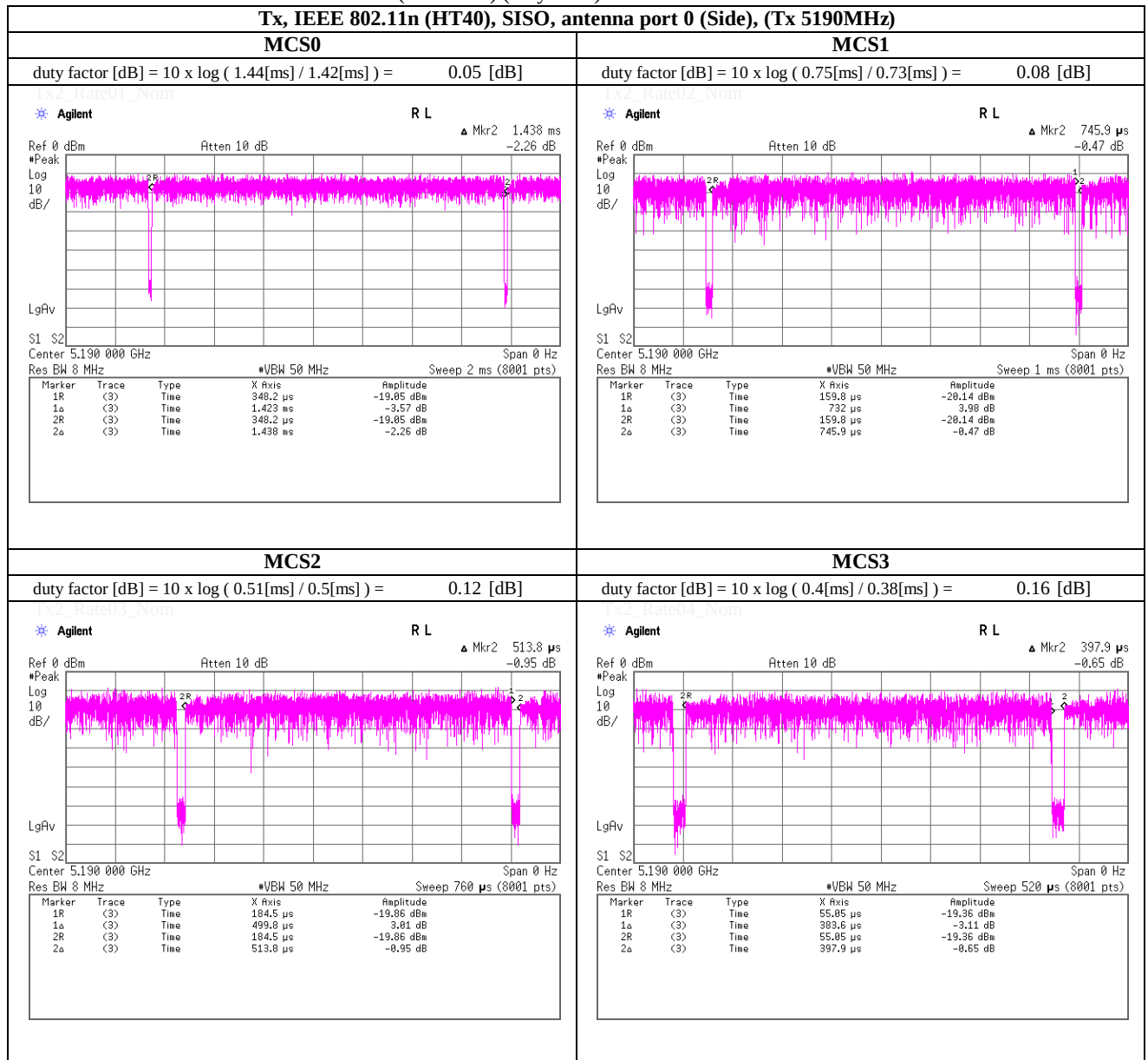
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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)



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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date May 7, 2014 May 8, 2014 May 9, 2014
 Temperature / Humidity 26deg.C , 39%RH 26deg.C , 37%RH 27deg.C , 40%RH
 Engineer Tatsuya Arai Hikaru Shirasawa Shinichi Takano
 Mode Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna : 0 (Side) worst data mode : 0 (MCS)

mobile/portable client device

Antenna terminal power

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result		Limit		Margin [dB]
							[dBm]	[mW]	[dBm]	[mW]	
Low	5755.0	-1.57	3.32	9.81	0.05		11.61	14.49	30.00	1000.00	18.39
High	5795.0	-1.84	3.32	9.82	0.05		11.35	13.65	30.00	1000.00	18.65

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss

EIRP

(* P/M: Power Meter with power sensor, AV: Average)

Reference Data

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result		Limit		Margin [dB]
							(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	(e.i.r.p.) [dBm]	(e.i.r.p.) [mW]	
Low	5755.0	-1.57	3.32	9.81	0.05	-1.80	9.81	9.57	-	-	-
High	5795.0	-1.84	3.32	9.82	0.05	-1.80	9.55	9.02	-	-	-

Sample Calculation: Result = Reading + Cable Loss + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode : 8 (MCS)		

mobile/portable client device

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5190.0	13.56	22.68	12.02	15.93	23.98	250.00	-	-	10.42	-
High	5230.0	14.77	29.96	13.21	20.94	23.98	250.00	-	-	9.21	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5190.0	-2.62	3.13	9.82	0.08	10.41	10.99	-1.80	8.61	7.26
High	5230.0	-1.08	3.14	9.81	0.08	11.95	15.67	-1.80	10.15	10.35

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5190.0	-2.38	3.16	9.82	0.08	10.68	11.69	-1.30	9.38	8.67
High	5230.0	-1.51	3.17	9.81	0.08	11.55	14.29	-1.30	10.25	10.59

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
(e.i.r.p.) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5270.0	14.70	29.53	13.15	20.67	23.98	250.00	-	-	9.28	-
High	5310.0	13.83	24.16	12.28	16.92	23.98	250.00	-	-	10.15	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5270.0	-1.34	3.26	9.80	0.08	11.80	15.14	-1.80	10.00	10.00
High	5310.0	-2.24	3.27	9.79	0.08	10.90	12.30	-1.80	9.10	8.13

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5270.0	-1.59	3.29	9.80	0.08	11.58	14.39	-1.30	10.28	10.67
High	5310.0	-2.43	3.30	9.79	0.08	10.74	11.86	-1.30	9.44	8.79

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
(e.i.r.p.) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5510.0	14.53	28.41	12.98	19.84	23.98	250.00	-	-	9.44	-
Mid	5550.0	14.66	29.24	13.10	20.44	23.98	250.00	-	-	9.32	-
High	5670.0	14.65	29.15	13.10	20.42	23.98	250.00	-	-	9.33	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5510.0	-1.51	3.47	9.76	0.08	11.80	15.14	-1.80	10.00	10.00
Mid	5550.0	-1.49	3.48	9.77	0.08	11.84	15.28	-1.80	10.04	10.09
High	5670.0	-1.60	3.39	9.79	0.08	11.66	14.66	-1.80	9.86	9.68

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5510.0	-2.06	3.45	9.76	0.08	11.23	13.27	-1.30	9.93	9.84
Mid	5550.0	-1.86	3.46	9.77	0.08	11.45	13.96	-1.30	10.15	10.35
High	5670.0	-1.64	3.38	9.79	0.08	11.61	14.49	-1.30	10.31	10.74

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
(e.i.r.p) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

[Pre check]

Mode (MCS)	Freq. [MHz]	Duty factor [dB]	Antenna 0 (Side)			Antenna 1 (Bottom)			Antenna 0 (Side) + 1 (Bottom)	
			Reading [dBm]	Result [dBm]	[mW]	Reading [dBm]	Result [dBm]	[mW]	[dBm]	[mW]
8	5510.0	0.08	-1.51	11.80	15.14	-2.06	11.23	13.27	14.53	28.41
9	5510.0	0.15	-1.68	11.70	14.79	-2.19	11.17	13.09	14.45	27.88
10	5510.0	0.22	-1.70	11.75	14.96	-2.22	11.21	13.21	14.50	28.17
11	5510.0	0.27	-1.72	11.78	15.07	-2.28	11.20	13.18	14.51	28.25
12	5510.0	0.38	-1.86	11.75	14.96	-2.44	11.15	13.03	14.47	27.99
13	5510.0	0.45	-1.93	11.75	14.96	-2.49	11.17	13.09	14.48	28.05
14	5510.0	0.48	-2.89	10.82	12.08	-3.69	10.00	10.00	13.44	22.08
15	5510.0	0.51	-4.72	9.02	7.98	-5.35	8.37	6.87	11.72	14.85

Worst

Sample Calculation: Result = Duty factor + Reading

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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), MIMO, (Tx 5190MHz)



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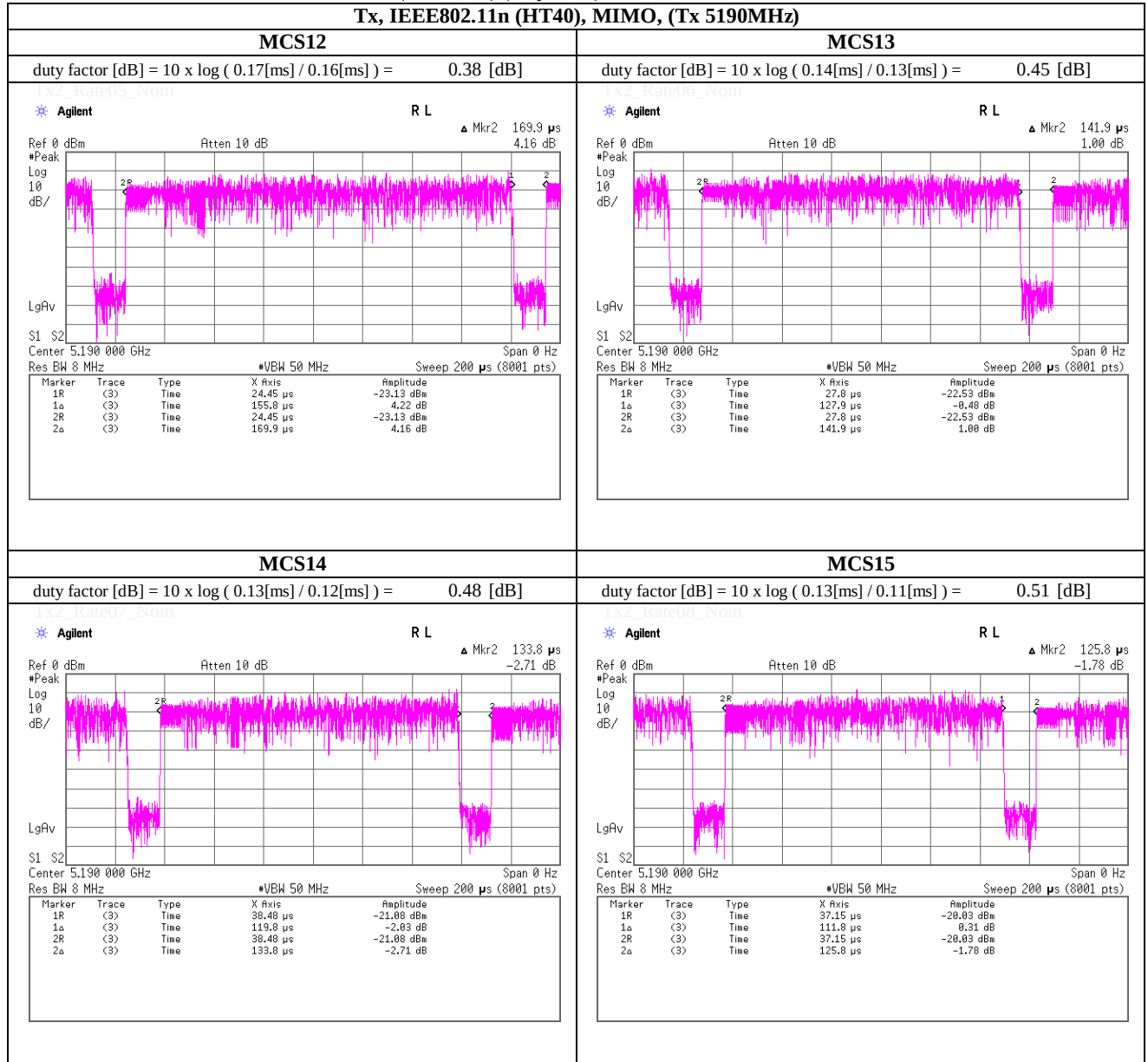
Telephone : +81 463 50 6400

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Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n (HT40), MIMO, (Tx 5190MHz)



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room	
Date	May 7, 2014	May 8, 2014	May 9, 2014
Temperature / Humidity	26deg.C , 39%RH	26deg.C , 37%RH	27deg.C , 40%RH
Engineer	Tatsuya Arai	Hikaru Shirasawa	Shinichi Takano
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9,		worst data mode : 8 (MCS)

Antenna 0 (Side) + 1 (Bottom)

Ch	Freq. [MHz]	Result (Cond.)		Result (e.i.r.p.)		Limit (Cond.)		Limit (e.i.r.p.)		Margin (Cond.) (e.i.r.p.)	
		[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[dBm]
Low	5755.0	14.33	27.12	12.77	18.93	30.00	1000.00	-	-	15.67	-
High	5795.0	13.90	24.56	12.33	17.11	30.00	1000.00	-	-	16.10	-

Sample Calculation: Result [mW] = Antenna 0 (Side) Result [mW] + Antenna 1 (Bottom) Result [mW]

Antenna 0 (Side)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5755.0	-1.57	3.32	9.81	0.08	11.64	14.59	-1.80	9.84	9.64
High	5795.0	-1.87	3.32	9.82	0.08	11.35	13.65	-1.80	9.55	9.02

Antenna 1 (Bottom)

(* P/M: Power Meter with power sensor, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result (Cond.)		Antenna Gain [dBi]	Result (e.i.r.p.)	
						[dBm]	[mW]		[dBm]	[mW]
Low	5755.0	-2.22	3.31	9.81	0.08	10.98	12.53	-1.30	9.68	9.29
High	5795.0	-2.83	3.31	9.82	0.08	10.38	10.91	-1.30	9.08	8.09

Sample Calculation: (Cond.) Result = Reading + Cable Loss + Atten. Loss + Duty factor
 (e.i.r.p.) Result = Reading + Cable Loss + Atten. Loss + Duty factor + Antenna Gain

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Revised date : December 9, 2014

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.	No.3 Semi Anechoic Chamber
Date	September 13, 2014 September 15, 2014 September 16, 2014	
Temperature / Humidity	25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH	
Engineer	Tomochika Sato Kenichi Adachi Takahiro Suzuki	
Mode	Tx, 5180 MHz	
	Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8	

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5150.000	PK	46.0	31.5	15.1	39.3	53.3	73.9	20.6	100	0	
H	15540.000	PK	45.4	39.6	0.6	40.6	45.0	73.9	28.9	100	0	
H	5150.000	AV	34.1	31.5	15.1	39.3	41.4	53.9	12.5	100	0	VBW10Hz
H	15540.000	AV	34.0	39.6	0.6	40.6	33.6	53.9	20.3	100	0	VBW10Hz
V	5150.000	PK	45.3	31.5	15.1	39.3	52.6	73.9	21.3	100	0	
V	15540.000	PK	45.3	39.6	0.6	40.6	44.9	73.9	29.0	100	0	
V	5150.000	AV	33.8	31.5	15.1	39.3	41.1	53.9	12.8	100	0	VBW10Hz
V	15540.000	AV	33.9	39.6	0.6	40.6	33.5	53.9	20.4	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	10360.000	PK	45.50	39.30	7.90	39.50	53.20	-42.03	-27.00	15.03	100	0	
V	10360.000	PK	45.40	39.30	7.90	39.50	53.10	-42.13	-27.00	15.13	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 14, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 55%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5240 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.988	PK	50.4	26.6	13.6	41.1	49.5	73.9	24.4	100	183	
H	15720.000	PK	45.6	38.9	0.6	40.6	44.5	73.9	29.4	100	0	
H	2499.988	AV	43.9	26.6	13.6	41.1	43.0	53.9	10.9	100	183	VBW10Hz
H	15720.000	AV	33.9	38.9	0.6	40.6	32.8	53.9	21.1	100	0	VBW10Hz
V	2499.988	PK	46.9	26.6	13.6	41.1	46.0	73.9	27.9	148	184	
V	15720.000	PK	45.7	38.9	0.6	40.6	44.6	73.9	29.3	100	0	
V	2499.988	AV	36.4	26.6	13.6	41.1	35.5	53.9	18.4	148	184	VBW10Hz
V	15720.000	AV	34.0	38.9	0.6	40.6	32.9	53.9	21.0	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	10480.000	PK	45.30	39.50	8.00	39.40	53.40	-41.83	-27.00	14.83	100	0	
V	10480.000	PK	45.20	39.50	8.00	39.40	53.30	-41.93	-27.00	14.93	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm]) = $10 \cdot \log \left(\left(\left(10^{\left(\text{Electric Field Strength [dBuV/m]} / 20 \right)} \cdot 10^{-6} \right) \cdot \text{Distance:3[m]} \right)^2 / 30 \right) \cdot 10^3$

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5320 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5350.000	PK	44.1	31.6	15.2	39.0	51.9	73.9	22.0	100	0	
H	10640.000	PK	44.4	39.7	8.1	39.4	52.8	73.9	21.1	100	0	
H	15960.000	PK	44.2	38.0	0.8	40.7	42.3	73.9	31.6	100	0	
H	5350.000	AV	33.4	31.6	15.2	39.0	41.2	53.9	12.7	100	0	
H	10640.000	AV	33.1	39.7	8.1	39.4	41.5	53.9	12.4	100	0	VBW10Hz
H	15960.000	AV	33.0	38.0	0.8	40.7	31.1	53.9	22.8	100	0	VBW10Hz
V	5350.000	PK	44.6	31.6	15.2	39.0	52.4	73.9	21.5	100	0	
V	10640.000	PK	44.5	39.7	8.1	39.4	52.9	73.9	21.0	100	0	
V	15960.000	PK	44.1	38.0	0.8	40.7	42.2	73.9	31.7	100	0	
V	5350.000	AV	33.6	31.6	15.2	39.0	41.4	53.9	12.5	100	0	
V	10640.000	AV	33.2	39.7	8.1	39.4	41.6	53.9	12.3	100	0	VBW10Hz
V	15960.000	AV	32.9	38.0	0.8	40.7	31.0	53.9	22.9	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5500 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5460.000	PK	45.2	31.6	15.3	38.9	53.2	73.9	20.7	100	0	VBW10Hz
H	11000.000	PK	45.0	40.2	8.2	39.4	54.0	73.9	19.9	100	0	
H	5460.000	AV	33.8	31.6	15.3	38.9	41.8	53.9	12.1	100	0	
H	11000.000	AV	33.3	40.2	8.2	39.4	42.3	53.9	11.6	100	0	
V	5460.000	PK	44.9	31.6	15.3	38.9	52.9	73.9	21.0	100	0	VBW10Hz
V	11000.000	PK	44.9	40.2	8.2	39.4	53.9	73.9	20.0	100	0	
V	5460.000	AV	33.4	31.6	15.3	38.9	41.4	53.9	12.5	100	0	
V	11000.000	AV	33.2	40.2	8.2	39.4	42.2	53.9	11.7	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5470.000	PK	49.80	31.60	15.30	38.90	57.80	-37.43	-27.00	10.43	145	180	
H	16500.000	PK	43.60	39.20	1.00	40.50	43.30	-51.93	-27.00	24.93	100	0	
V	5470.000	PK	49.40	31.60	15.30	38.90	57.40	-37.83	-27.00	10.83	100	193	
V	16500.000	PK	43.70	39.20	1.00	40.50	43.40	-51.83	-27.00	24.83	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 9, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 22deg.C , 54%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Akira Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5580 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(below 1GHz and above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	175.006	QP	49.7	15.7	7.7	32.1	41.0	43.5	2.5	177	358	
H	225.005	QP	49.4	16.7	8.0	32.0	42.1	46.0	3.9	140	4	
H	275.006	QP	44.8	17.9	8.3	32.0	39.0	46.0	7.0	128	360	
H	325.007	QP	49.6	14.4	8.5	32.0	40.5	46.0	5.5	100	312	
H	375.008	QP	43.2	15.7	8.7	32.0	35.6	46.0	10.4	100	359	
H	11160.000	PK	45.0	40.1	8.2	39.3	54.0	73.9	19.9	100	0	
H	11160.000	AV	33.1	40.1	8.2	39.3	42.1	53.9	11.8	100	0	VBW10Hz
V	125.001	QP	43.1	13.4	7.2	32.1	31.6	43.5	11.9	100	359	
V	175.003	QP	46.5	15.7	7.7	32.1	37.8	43.5	5.7	100	1	
V	225.004	QP	42.9	16.7	8.0	32.0	35.6	46.0	10.4	268	358	
V	11160.000	PK	45.1	40.1	8.2	39.3	54.1	73.9	19.8	100	0	
V	11160.000	AV	33.2	40.1	8.2	39.3	42.2	53.9	11.7	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$ **(Calculation) (above 1GHz Outside of the restricted band)**

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	16740.000	PK	43.60	39.90	1.00	40.20	44.30	-50.93	-27.00	23.93	100	0	
V	16740.000	PK	43.50	39.90	1.00	40.20	44.20	-51.03	-27.00	24.03	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5700 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5725.000	PK	45.2	32.2	15.5	38.9	54.0	73.9	19.9	100	0	
H	11400.000	PK	45.2	39.9	8.3	39.2	54.2	73.9	19.7	100	0	
H	5725.000	AV	35.1	32.2	15.5	38.9	43.9	53.9	10.0	100	0	VBW10Hz
H	11400.000	AV	33.3	39.9	8.3	39.2	42.3	53.9	11.6	100	0	VBW10Hz
V	5725.000	PK	45.9	32.2	15.5	38.9	54.7	73.9	19.2	100	0	
V	11400.000	PK	45.1	39.9	8.3	39.2	54.1	73.9	19.8	100	0	
V	5725.000	AV	35.5	32.2	15.5	38.9	44.3	53.9	9.6	100	0	VBW10Hz
V	11400.000	AV	33.2	39.9	8.3	39.2	42.2	53.9	11.7	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	17100.000	PK	44.30	41.30	1.10	39.70	47.00	-48.23	-27.00	21.23	100	0	
V	17100.000	PK	44.40	41.30	1.10	39.70	47.10	-48.13	-27.00	21.13	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$ **UL Japan, Inc.****Shonan EMC Lab.**

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Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 14, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 55%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5745 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.989	PK	49.8	26.6	13.6	41.1	48.9	73.9	25.0	100	184	
H	11490.000	PK	44.5	39.9	8.4	39.2	53.6	73.9	20.3	100	0	
H	2499.989	AV	41.9	26.6	13.6	41.1	41.0	53.9	12.9	100	184	VBW10Hz
H	11490.000	AV	33.2	39.9	8.4	39.2	42.3	53.9	11.6	100	0	VBW10Hz
V	2499.989	PK	46.5	26.6	13.6	41.1	45.6	73.9	28.3	151	189	
V	11490.000	PK	44.6	39.9	8.4	39.2	53.7	73.9	20.2	100	0	
V	2499.989	AV	35.3	26.6	13.6	41.1	34.4	53.9	19.5	151	189	VBW10Hz
V	11490.000	AV	33.1	39.9	8.4	39.2	42.2	53.9	11.7	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$ **(Calculation) (above 1GHz Outside of the restricted band)**

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5715.000	PK	45.80	32.10	15.50	38.90	54.50	-40.73	-27.00	13.73	146	183	
H	5725.000	PK	55.40	32.20	15.50	38.90	64.20	-31.03	-17.00	14.03	146	183	
H	17235.000	PK	44.20	42.20	1.10	39.60	47.90	-47.33	-27.00	20.33	100	0	
V	5715.000	PK	45.60	32.10	15.50	38.90	54.30	-40.93	-27.00	13.93	100	193	
V	5725.000	PK	55.30	32.20	15.50	38.90	64.10	-31.13	-17.00	14.13	100	193	
V	17235.000	PK	44.10	42.20	1.10	39.60	47.80	-47.43	-27.00	20.43	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 14, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 55%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5785 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.988	PK	50.0	26.6	13.6	41.1	49.1	73.9	24.8	100	184	
H	11570.000	PK	44.7	39.8	8.4	39.3	53.6	73.9	20.3	100	0	
H	2499.988	AV	43.8	26.6	13.6	41.1	42.9	53.9	11.0	100	184	VBW10Hz
H	11570.000	AV	33.6	39.8	8.4	39.3	42.5	53.9	11.4	100	0	VBW10Hz
V	2499.988	PK	46.2	26.6	13.6	41.1	45.3	73.9	28.6	149	187	
V	11570.000	PK	44.6	39.8	8.4	39.3	53.5	73.9	20.4	100	0	
V	2499.988	AV	35.2	26.6	13.6	41.1	34.3	53.9	19.6	149	187	VBW10Hz
V	11570.000	AV	33.5	39.8	8.4	39.3	42.4	53.9	11.5	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$ **(Calculation) (above 1GHz Outside of the restricted band)**

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	17355.000	PK	43.40	43.00	1.20	39.50	48.10	-47.13	-27.00	20.13	100	0	
V	17355.000	PK	43.50	43.00	1.20	39.50	48.20	-47.03	-27.00	20.03	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 14, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 55%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5825 MHz
 Tx, IEEE802.11n (HT20), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.989	PK	49.9	26.6	13.6	41.1	49.0	73.9	24.9	100	182	
H	11650.000	PK	45.0	39.7	8.4	39.3	53.8	73.9	20.1	100	0	
H	2499.989	AV	43.7	26.6	13.6	41.1	42.8	53.9	11.1	100	182	VBW10Hz
H	11650.000	AV	32.9	39.7	8.4	39.3	41.7	53.9	12.2	100	0	VBW10Hz
V	2499.989	PK	46.5	26.6	13.6	41.1	45.6	73.9	28.3	148	190	
V	11650.000	PK	44.9	39.7	8.4	39.3	53.7	73.9	20.2	100	0	
V	2499.989	AV	35.3	26.6	13.6	41.1	34.4	53.9	19.5	148	190	VBW10Hz
V	11650.000	AV	32.8	39.7	8.4	39.3	41.6	53.9	12.3	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5850.000	PK	48.70	32.40	15.60	38.90	57.80	-37.43	-17.00	20.43	152	185	
H	5860.000	PK	45.70	32.50	15.60	38.90	54.90	-40.33	-27.00	13.33	152	185	
H	17475.000	PK	43.60	43.80	1.20	39.40	49.20	-46.03	-27.00	19.03	100	0	
V	5850.000	PK	48.30	32.40	15.60	38.90	57.40	-37.83	-17.00	20.83	100	194	
V	5860.000	PK	45.60	32.50	15.60	38.90	54.80	-40.43	-27.00	13.43	100	194	
V	17475.000	PK	43.50	43.80	1.20	39.40	49.10	-46.13	-27.00	19.13	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5190 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5150.000	PK	46.0	31.5	15.1	39.3	53.3	73.9	20.6	100	0	
H	15570.000	PK	45.7	39.5	0.6	40.6	45.2	73.9	28.7	100	0	
H	5150.000	AV	34.8	31.5	15.1	39.3	42.1	53.9	11.8	100	0	VBW10Hz
H	15570.000	AV	35.5	39.5	0.6	40.6	35.0	53.9	18.9	100	0	VBW10Hz
V	5150.000	PK	45.6	31.5	15.1	39.3	52.9	73.9	21.0	100	0	
V	15570.000	PK	45.2	39.5	0.6	40.6	44.7	73.9	29.2	100	0	
V	5150.000	AV	35.2	31.5	15.1	39.3	42.5	53.9	11.4	100	0	VBW10Hz
V	15570.000	AV	35.4	39.5	0.6	40.6	34.9	53.9	19.0	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	10380.000	PK	44.70	39.30	7.90	39.50	52.40	-42.83	-27.00	15.83	100	0	
V	10380.000	PK	44.60	39.30	7.90	39.50	52.30	-42.93	-27.00	15.93	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 14, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 55%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5230 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.988	PK	50.1	26.6	13.6	41.1	49.2	73.9	24.7	100	181	
H	15690.000	PK	45.8	39.0	0.6	40.6	44.8	73.9	29.1	100	0	
H	2499.988	AV	43.7	26.6	13.6	41.1	42.8	53.9	11.1	100	181	VBW10Hz
H	15690.000	AV	35.3	39.0	0.6	40.6	34.3	53.9	19.6	100	0	VBW10Hz
V	2499.988	PK	46.8	26.6	13.6	41.1	45.9	73.9	28.0	149	189	
V	15690.000	PK	45.5	39.0	0.6	40.6	44.5	73.9	29.4	100	0	
V	2499.988	AV	36.1	26.6	13.6	41.1	35.2	53.9	18.7	149	189	VBW10Hz
V	15690.000	AV	35.2	39.0	0.6	40.6	34.2	53.9	19.7	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	10460.000	PK	45.1	39.5	8.0	39.4	53.20	-42.03	-27.00	15.03	100	0	
V	10460.000	PK	45.2	39.5	8.0	39.4	53.30	-41.93	-27.00	14.93	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5310 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5350.000	PK	44.9	31.5	15.1	39.1	52.4	73.9	21.5	100	0	
H	10620.000	PK	44.3	39.7	8.0	39.4	52.6	73.9	21.3	100	0	
H	15930.000	PK	45.8	38.1	0.8	40.7	44.0	73.9	29.9	100	0	
H	5350.000	AV	33.2	31.5	15.1	39.1	40.7	53.9	13.2	100	0	VBW10Hz
H	10620.000	AV	33.1	39.7	8.0	39.4	41.4	53.9	12.5	100	0	VBW10Hz
H	15930.000	PK	34.5	38.1	0.8	40.7	32.7	53.9	21.2	100	0	VBW10Hz
V	5350.000	PK	45.3	31.5	15.1	39.1	52.8	73.9	21.1	100	0	
V	10620.000	PK	44.2	39.7	8.0	39.4	52.5	73.9	21.4	100	0	
V	15930.000	PK	45.5	38.1	0.8	40.7	43.7	73.9	30.2	100	0	
V	5350.000	AV	34.0	31.5	15.1	39.1	41.5	53.9	12.4	100	0	VBW10Hz
V	10620.000	AV	33.2	39.7	8.0	39.4	41.5	53.9	12.4	100	0	VBW10Hz
V	15930.000	PK	34.5	38.1	0.8	40.7	32.7	53.9	21.2	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$ **UL Japan, Inc.****Shonan EMC Lab.**

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Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5510 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5460.000	PK	44.9	31.6	15.3	38.9	52.9	73.9	21.0	100	0	
H	11020.000	PK	43.8	40.2	8.2	39.4	52.8	73.9	21.1	100	0	
H	5460.000	AV	35.2	31.6	15.3	38.9	43.2	53.9	10.7	100	0	VBW10Hz
H	11020.000	AV	32.8	40.2	8.2	39.4	41.8	53.9	12.1	100	0	VBW10Hz
V	5460.000	PK	45.3	31.6	15.3	38.9	53.3	73.9	20.6	100	0	
V	11020.000	PK	43.9	40.2	8.2	39.4	52.9	73.9	21.0	100	0	
V	5460.000	AV	35.0	31.6	15.3	38.9	43.0	53.9	10.9	100	0	VBW10Hz
V	11020.000	AV	32.9	40.2	8.2	39.4	41.9	53.9	12.0	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5470.000	PK	50.20	31.60	15.30	38.80	58.30	-36.93	-27.00	9.93	148	181	
H	16530.000	PK	45.70	39.30	1.00	40.50	45.50	-49.73	-27.00	22.73	100	0	
V	5470.000	PK	49.90	31.60	15.30	38.80	58.00	-37.23	-27.00	10.23	100	192	
V	16530.000	PK	46.20	39.30	1.00	40.50	46.00	-49.23	-27.00	22.23	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5550 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	11100.000	PK	44.3	40.1	8.2	39.4	53.2	73.9	20.7	100	0	VBW10Hz
H	11100.000	AV	33.1	40.1	8.2	39.4	42.0	53.9	11.9	100	0	
V	11100.000	PK	44.2	40.1	8.2	39.4	53.1	73.9	20.8	100	0	VBW10Hz
V	11100.000	AV	33.0	40.1	8.2	39.4	41.9	53.9	12.0	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	16650.000	PK	45.30	39.70	1.00	40.30	45.70	-49.53	-27.00	22.53	100	0	
V	16650.000	PK	44.90	39.70	1.00	40.30	45.30	-49.93	-27.00	22.93	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 13, 2014 September 15, 2014 September 16, 2014
 Temperature / Humidity 25deg.C , 59%RH 24deg.C , 56%RH 24deg.C , 56%RH
 Engineer Tomochika Sato Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5670 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	11340.000	PK	44.6	40.0	8.3	39.3	53.6	73.9	20.3	100	0	VBW10Hz
H	11340.000	AV	33.3	40.0	8.3	39.3	42.3	53.9	11.6	100	0	
V	11340.000	PK	44.7	40.0	8.3	39.3	53.7	73.9	20.2	100	0	VBW10Hz
V	11340.000	AV	33.4	40.0	8.3	39.3	42.4	53.9	11.5	100	0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$ **(Calculation) (above 1GHz Outside of the restricted band)**

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5725.000	PK	45.00	32.20	15.50	38.90	53.80	-41.43	-27.00	14.43	100	0	
H	17010.000	PK	45.40	40.70	1.10	39.80	47.40	-47.83	-27.00	20.83	100	0	
V	5725.000	PK	44.20	32.20	15.50	38.90	53.00	-42.23	-27.00	15.23	100	0	
V	17010.000	PK	45.70	40.70	1.10	39.80	47.70	-47.53	-27.00	20.53	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz $20\log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 15, 2014 September 16, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 56%RH 25deg.C , 55%RH 25deg.C , 55%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5755 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.988	PK	50.1	26.6	13.6	41.1	49.2	73.9	24.7	100	186	
H	11510.000	PK	44.5	39.9	8.4	39.2	53.6	73.9	20.3	100	0	
H	2499.988	AV	44.3	26.6	13.6	41.1	43.4	53.9	10.5	100	186	VBW10Hz
H	11510.000	AV	33.5	39.9	8.4	39.2	42.6	53.9	11.3	100	0	VBW10Hz
V	2499.988	PK	47.1	26.6	13.6	41.1	46.2	73.9	27.7	142	184	
V	11510.000	PK	44.4	39.9	8.4	39.2	53.5	73.9	20.4	100	0	
V	2499.988	AV	35.6	26.6	13.6	41.1	34.7	53.9	19.2	142	184	VBW10Hz
V	11510.000	AV	33.4	39.9	8.4	39.2	42.5	53.9	11.4	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5715.000	PK	51.20	32.10	15.50	38.90	59.90	-35.33	-27.00	8.33	147	180	
H	5725.000	PK	53.80	32.20	15.50	38.90	62.60	-32.63	-17.00	15.63	147	180	
H	17265.000	PK	44.70	42.40	1.10	39.60	48.60	-46.63	-27.00	19.63	100	0	
V	5715.000	PK	51.00	32.10	15.50	38.90	59.70	-35.53	-27.00	8.53	100	196	
V	5725.000	PK	52.40	32.20	15.50	38.90	61.20	-34.03	-17.00	17.03	100	196	
V	17265.000	PK	45.00	42.40	1.10	39.60	48.90	-46.33	-27.00	19.33	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Revised date : December 9, 2014

Radiated Emission

Test place UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
 Date September 15, 2014 September 16, 2014 September 16, 2014
 Temperature / Humidity 24deg.C , 56%RH 25deg.C , 55%RH 25deg.C , 55%RH
 Engineer Kenichi Adachi Kenichi Adachi Takahiro Suzuki
 Mode Tx, 5795 MHz
 Tx, IEEE802.11n (HT40), PN9, antenna port 0+1, MCS8

(above 1GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	2499.989	PK	49.9	26.6	13.6	41.1	49.0	73.9	24.9	100	184	
H	11590.000	PK	44.5	39.8	8.4	39.3	53.4	73.9	20.5	100	0	
H	2499.989	AV	44.0	26.6	13.6	41.1	43.1	53.9	10.8	100	184	VBW10Hz
H	11590.000	AV	33.5	39.8	8.4	39.3	42.4	53.9	11.5	100	0	VBW10Hz
V	2499.989	PK	46.8	26.6	13.6	41.1	45.9	73.9	28.0	144	186	
V	11590.000	PK	44.6	39.8	8.4	39.3	53.5	73.9	20.4	100	0	
V	2499.989	AV	35.4	26.6	13.6	41.1	34.5	53.9	19.4	144	186	VBW10Hz
V	11590.000	AV	33.6	39.8	8.4	39.3	42.5	53.9	11.4	100	0	VBW10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(Calculation) (above 1GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
H	5850.000	PK	36.50	32.40	15.60	38.90	45.60	-49.63	-27.00	22.63	149	179	
H	5860.000	PK	36.40	32.50	15.60	38.90	45.60	-49.63	-27.00	22.63	149	179	
H	17385.000	PK	45.00	43.20	1.20	39.50	49.90	-45.33	-27.00	18.33	100	0	
V	5850.000	PK	36.40	32.40	15.60	38.90	45.50	-49.73	-27.00	22.73	100	194	
V	5860.000	PK	36.30	32.50	15.60	38.90	45.50	-49.73	-27.00	22.73	100	194	
V	17385.000	PK	44.80	43.20	1.20	39.50	49.70	-45.53	-27.00	18.53	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amplifier)

Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) *10^3)

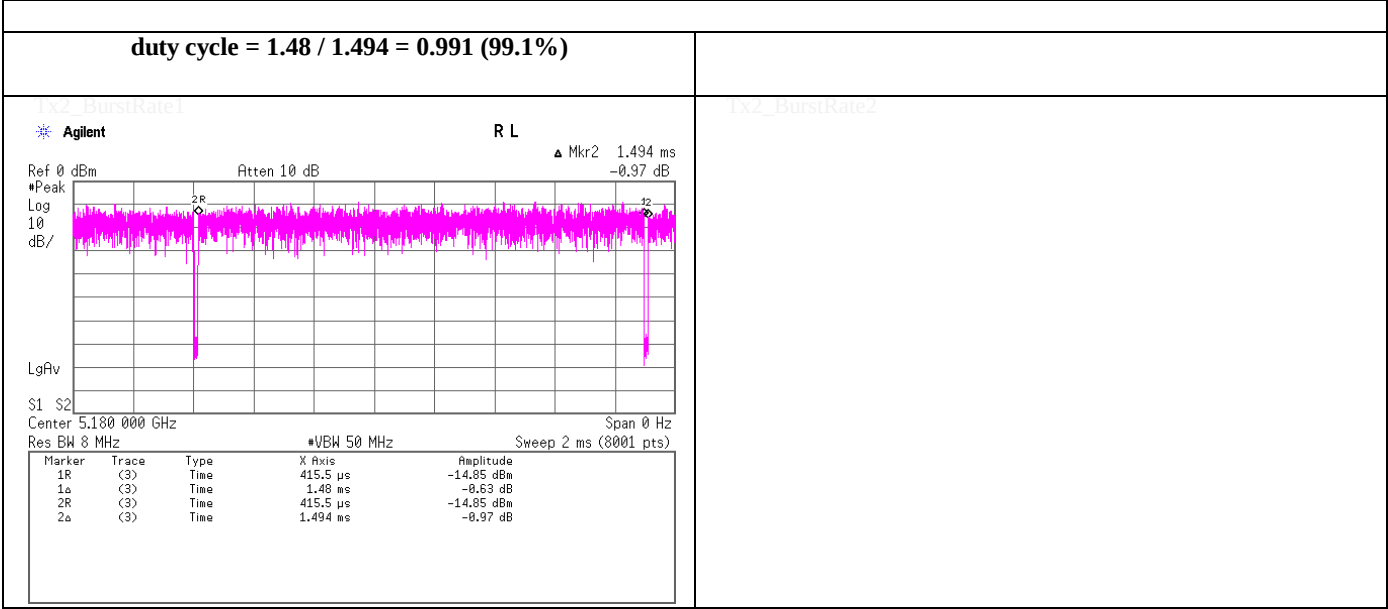
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

Burst rate confirmation

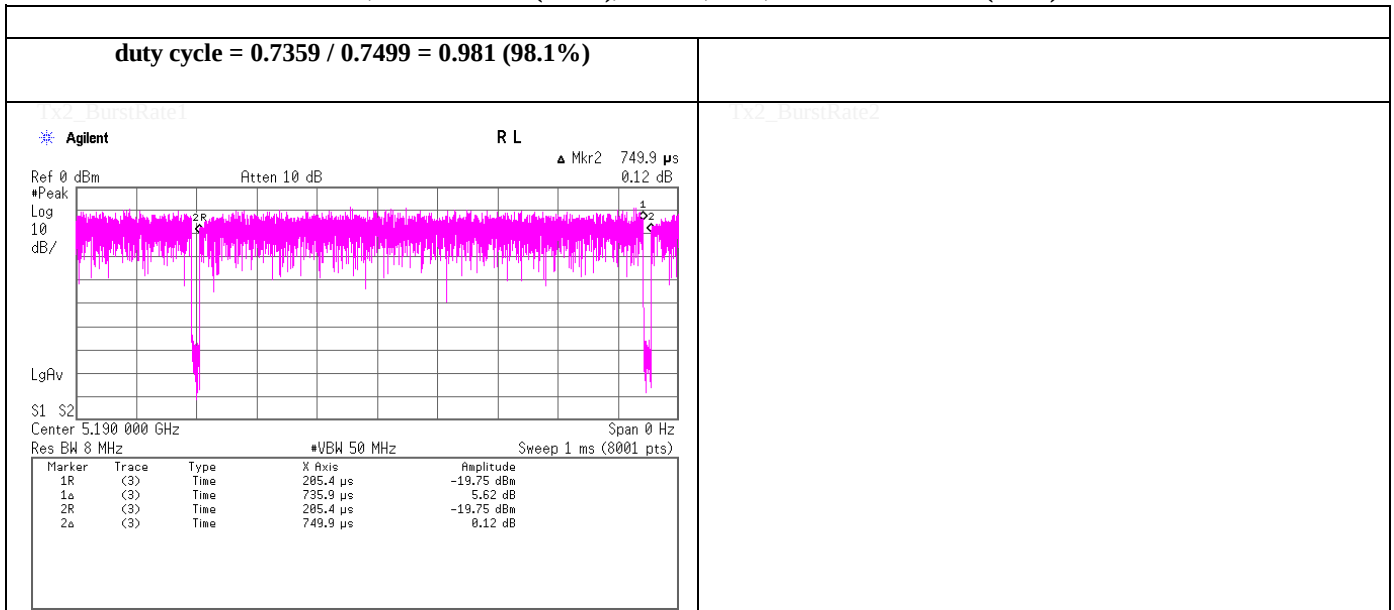
Tx, IEEE802.11n (HT20), MIMO, PN9, worst data mode 8 (MCS)



Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 7, 2014	
Temperature / Humidity	26deg.C , 39%RH	
Engineer	Tatsuya Arai	

Burst rate confirmation

Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode 8 (MCS)



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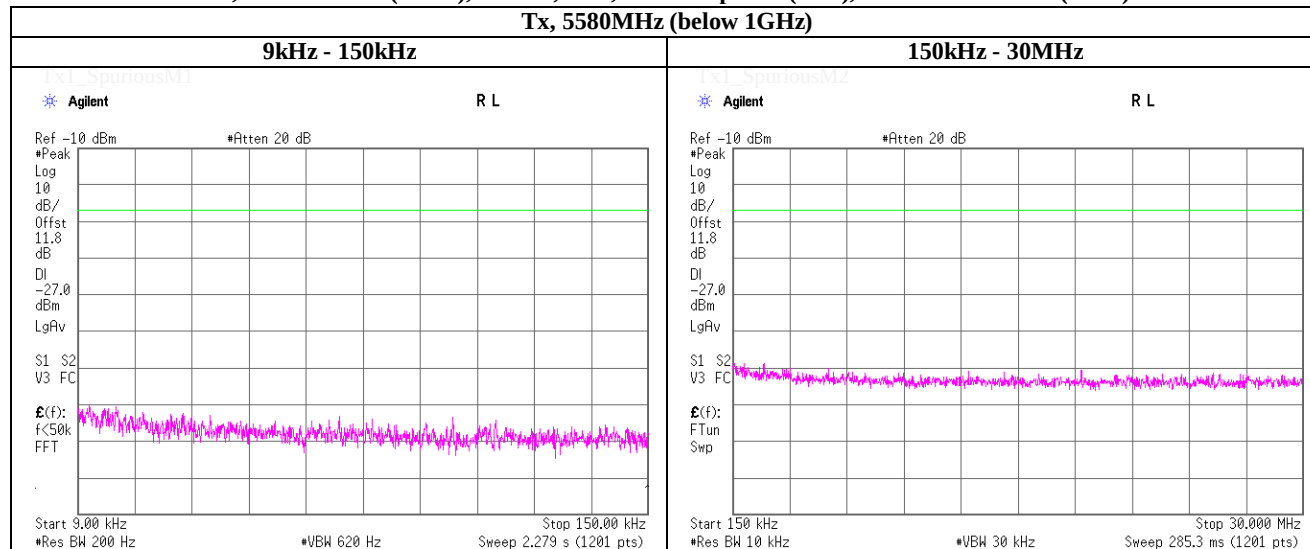
Facsimile : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date September 5, 2014
 Temperature / Humidity 24deg.C , 55%RH
 Engineer Tatsuya Arai

(Reference) Spurious emission (Conducted)

Tx, IEEE802.11n (HT20), MIMO, PN9, Antenna port 0 (Side), worst data mode 8 (MCS)

Tx, 5580MHz (below 1GHz)



FREQ	Regulation	Cable	Atten.	Antenna	10log	Offset
[MHz]	[dBm]	Loss	Loss	Gain	(N _{ANT})	[dB]
		[dB]	[dB]	[dBi]	[dB]	
30.00	-27.00	0.22	9.84	-1.30	3.01	11.77

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Peak Power Spectral Density

(Method: SA-2)

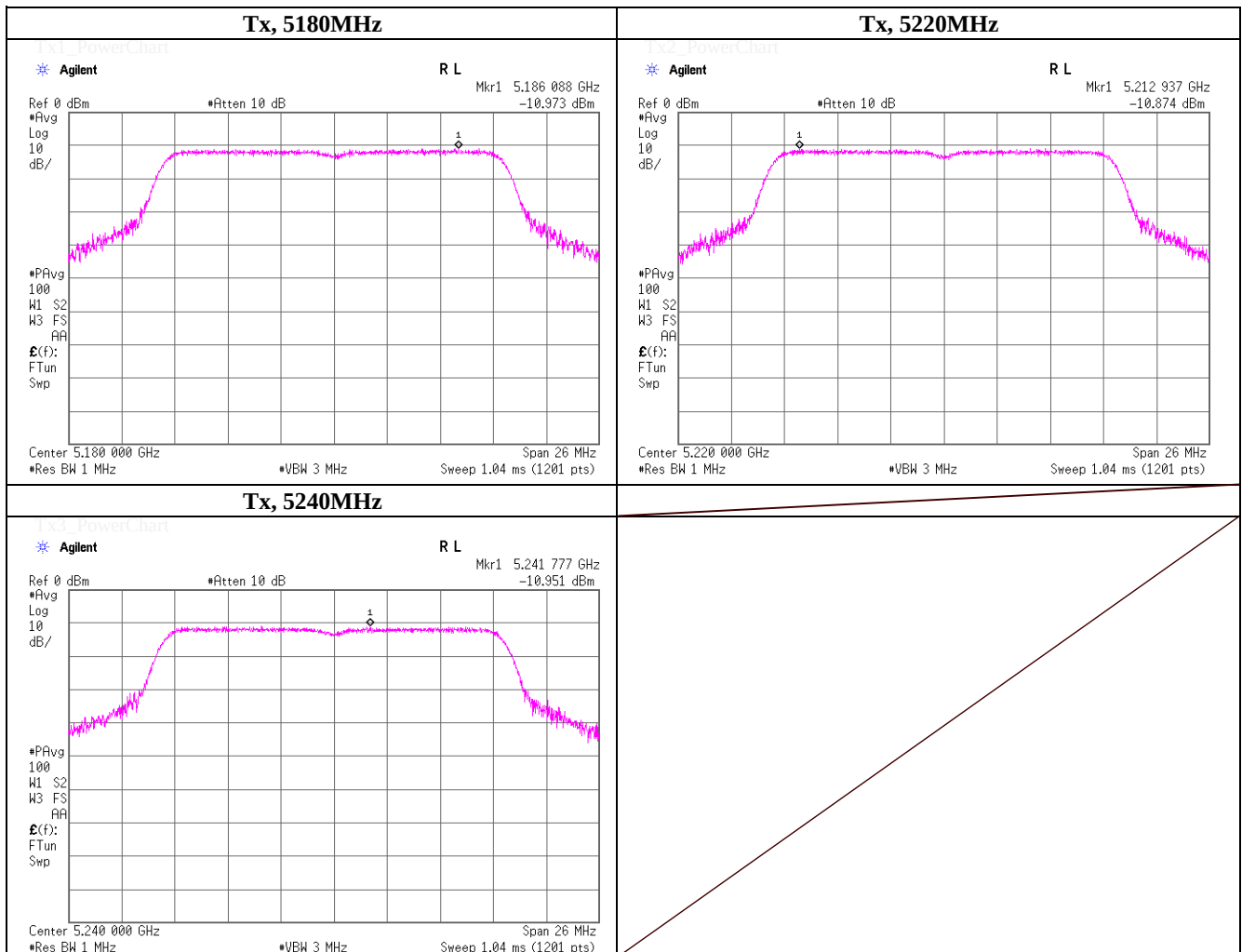
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5180.0000	5186.09	-10.97	3.07	9.89	0.02		2.01	11.00	8.99
5220.0000	5212.94	-10.87	3.08	9.89	0.02		2.12	11.00	8.88
5240.0000	5241.78	-10.95	3.17	9.89	0.02		2.13	11.00	8.87

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

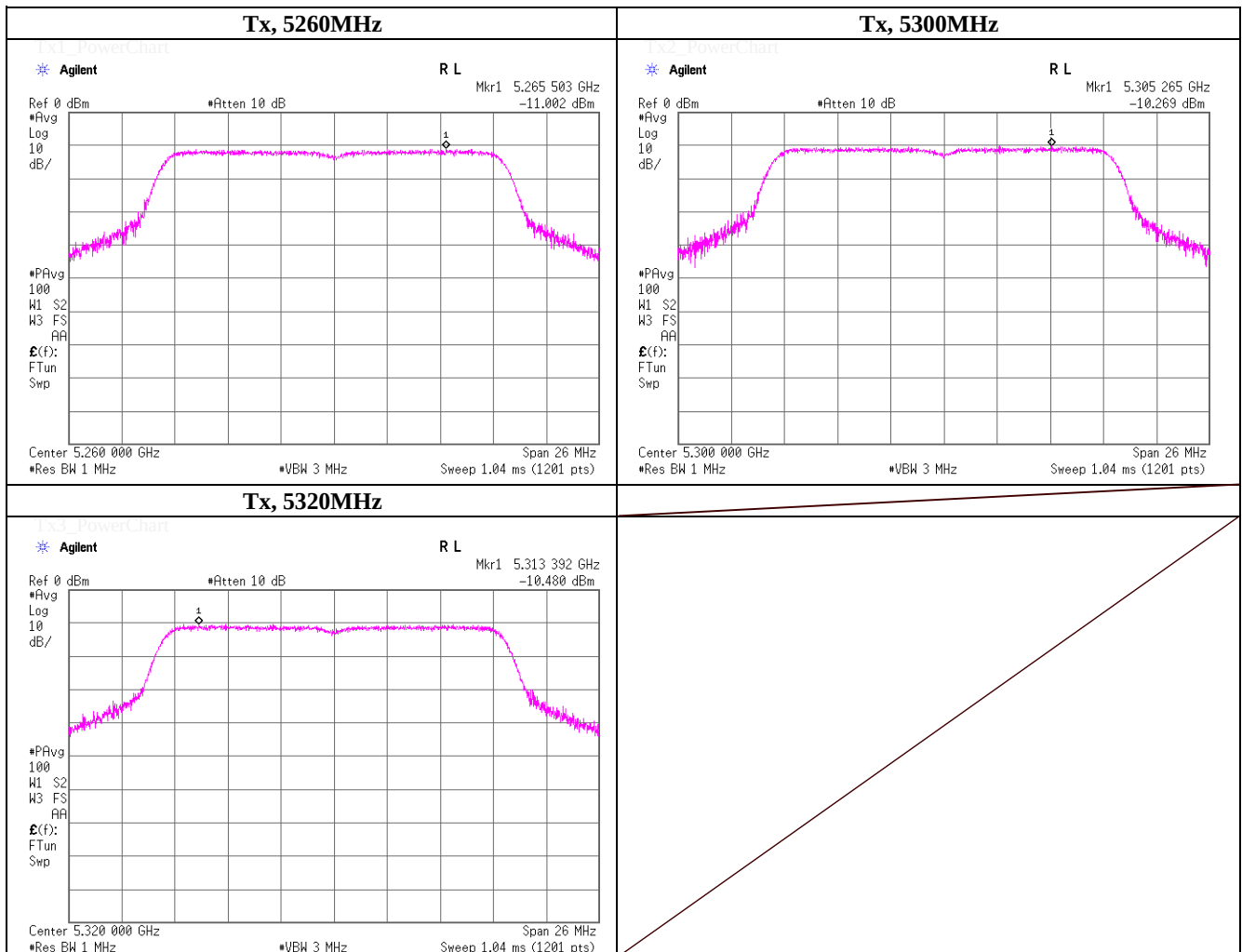
Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
 Date September 5, 2014
 Temperature / Humidity 24deg.C , 55%RH
 Engineer Tatsuya Arai
 Mode Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5260.0000	5265.50	-11.00	3.20	9.88	0.02		2.10	11.00	8.90
5300.0000	5305.27	-10.27	3.21	9.88	0.02		2.84	11.00	8.16
5320.0000	5313.39	-10.48	3.29	9.88	0.02		2.71	11.00	8.29

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

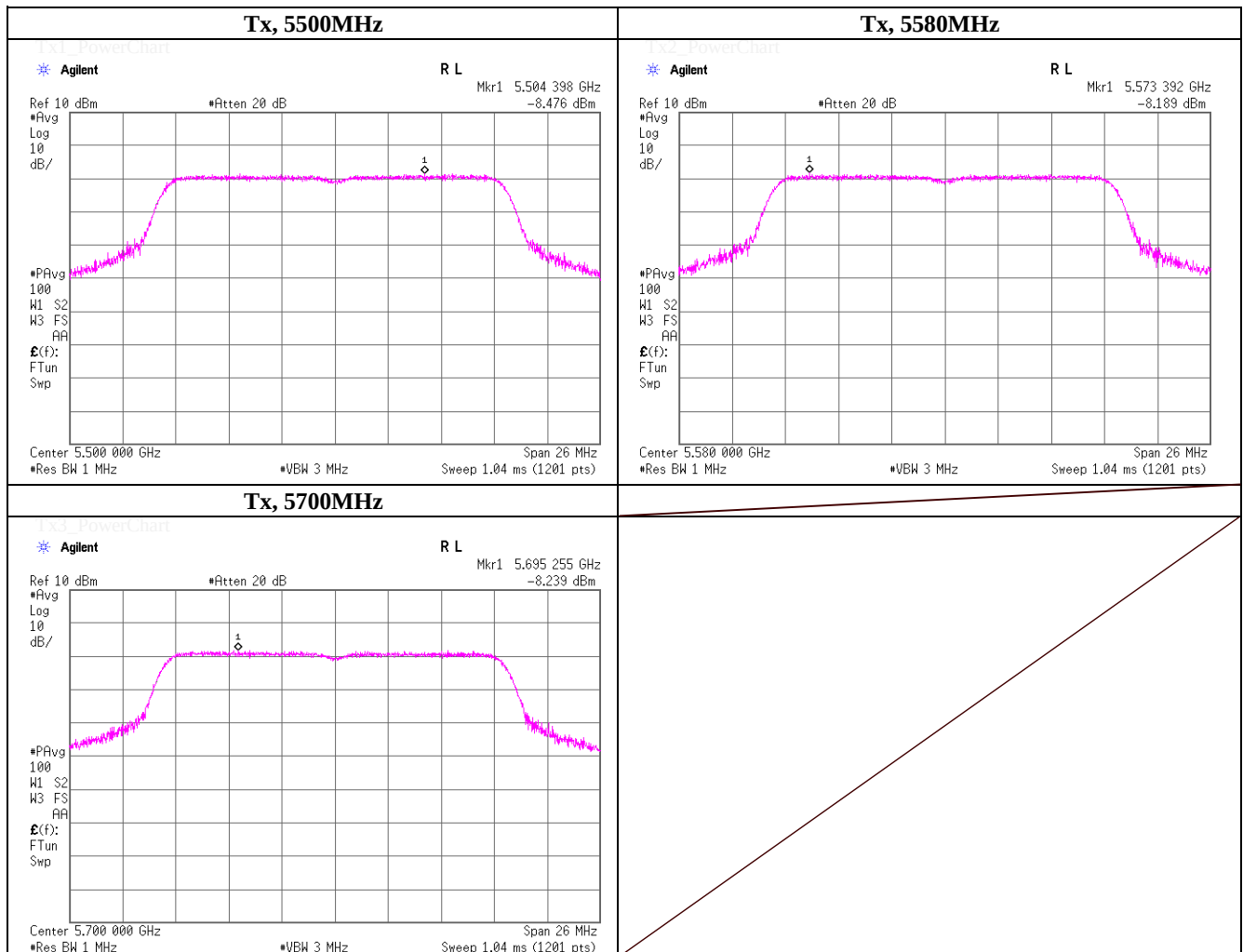
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 6Mbps	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5500.0000	5504.40	-8.48	3.41	9.85	0.02		4.80	11.00	6.20
5580.0000	5573.39	-8.19	3.42	9.86	0.02		5.11	11.00	5.89
5700.0000	5695.26	-8.24	3.24	9.89	0.02		4.91	11.00	6.09

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

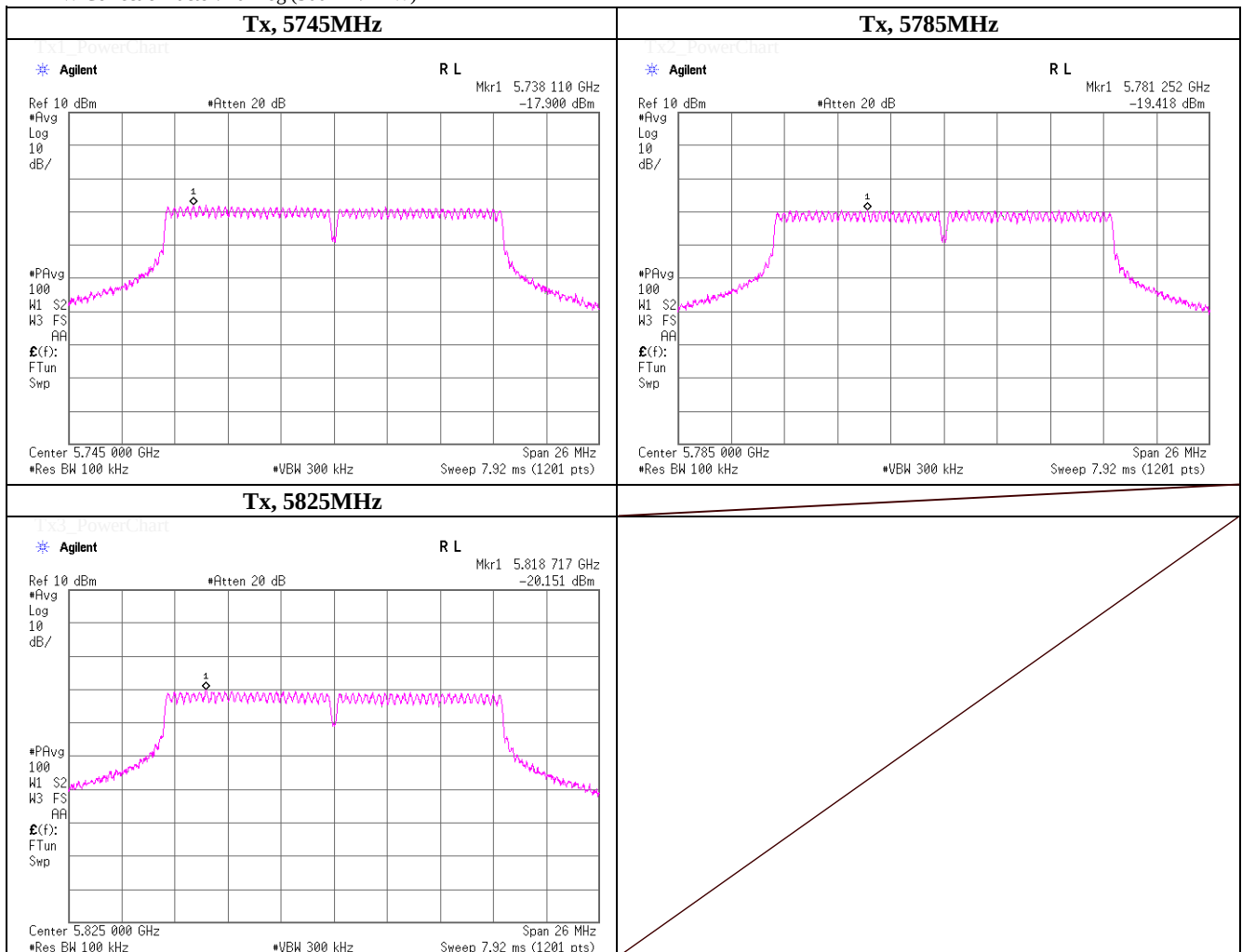
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1 (Bottom), worst data mode 6Mbps	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5738.11	-17.90	3.26	9.89	0.02	6.99	2.26	30.00	27.74
5785.0000	5781.25	-19.42	3.27	9.90	0.02	6.99	0.76	30.00	29.24
5825.0000	5818.72	-20.15	3.30	9.91	0.02	6.99	0.07	30.00	29.93

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: $10 \cdot \log(500\text{kHz}/\text{RBW})$ 

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Peak Power Spectral Density

(Method: SA-2)

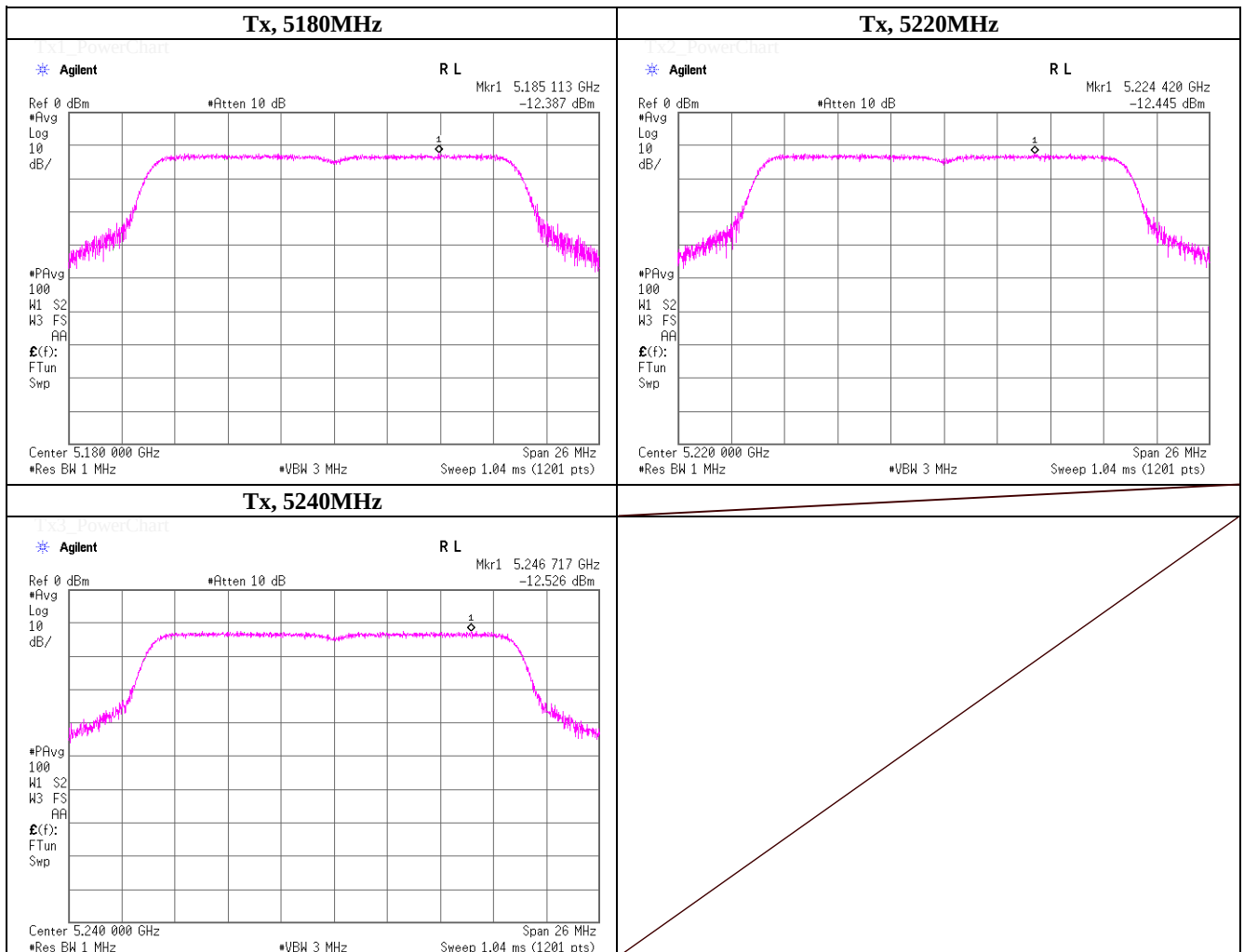
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5180.0000	5185.11	-12.39	3.07	9.89	0.02		0.59	11.00	10.41
5220.0000	5224.42	-12.45	3.08	9.89	0.02		0.55	11.00	10.46
5240.0000	5246.72	-12.53	3.17	9.89	0.02		0.55	11.00	10.45

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

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Peak Power Spectral Density

(Method: SA-2)

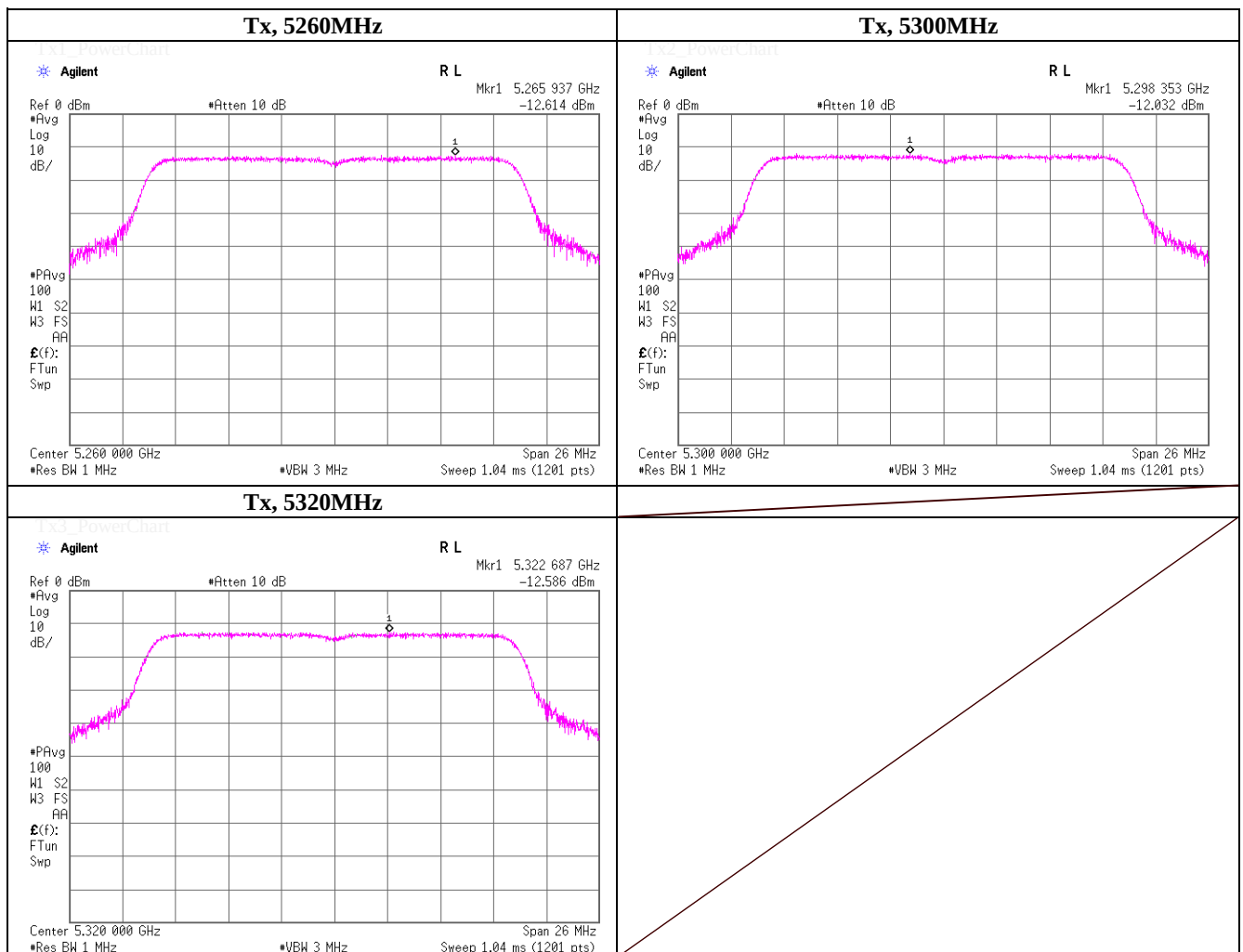
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5260.0000	5265.94	-12.61	3.20	9.88	0.02		0.49	11.00	10.51
5300.0000	5298.35	-12.03	3.21	9.88	0.02		1.08	11.00	9.92
5320.0000	5322.69	-12.59	3.29	9.88	0.02		0.60	11.00	10.40

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

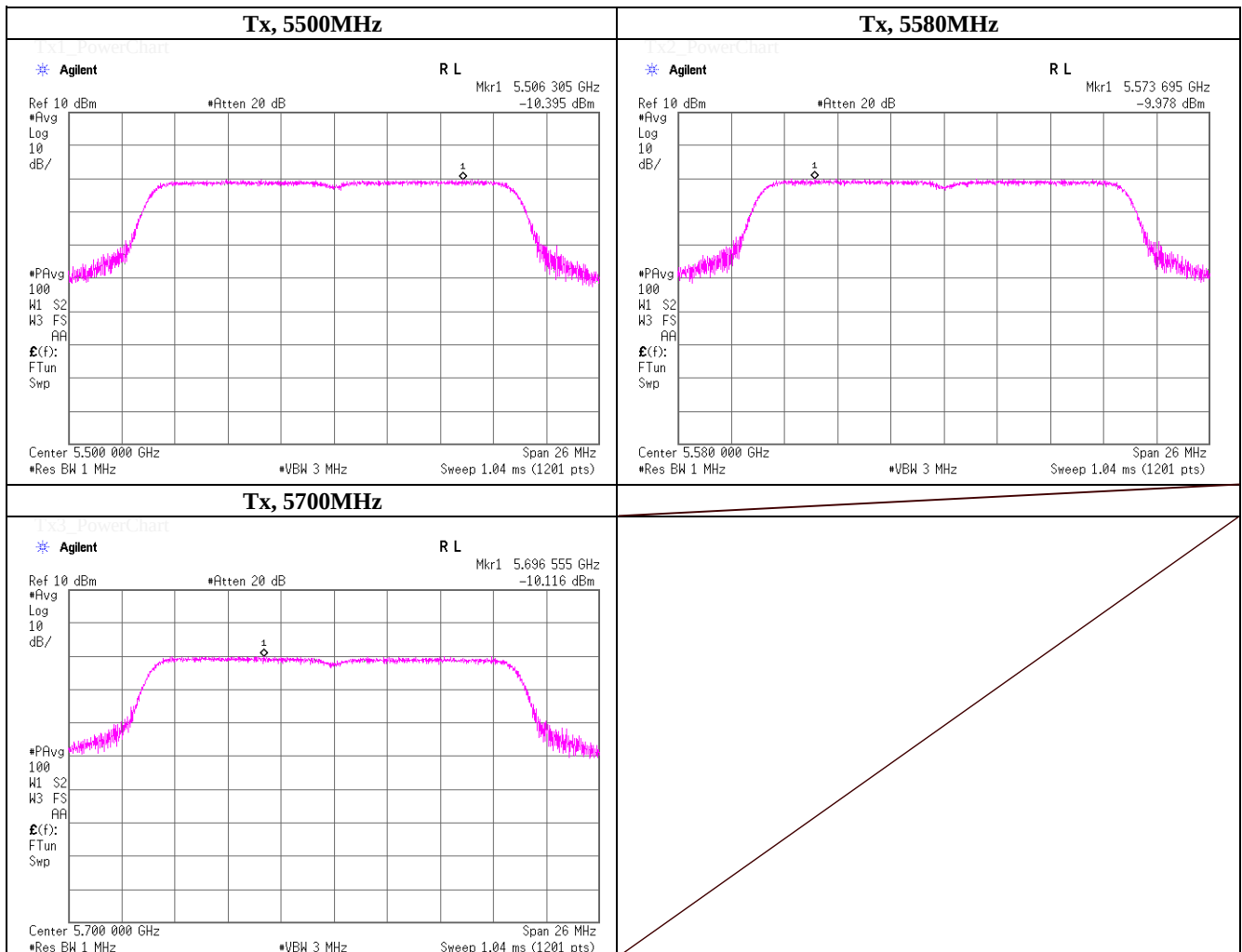
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1, worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5500.0000	5506.31	-10.40	3.41	9.85	0.02		2.89	11.00	8.12
5580.0000	5573.70	-9.98	3.42	9.86	0.02		3.32	11.00	7.68
5700.0000	5696.56	-10.12	3.24	9.89	0.02		3.03	11.00	7.97

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

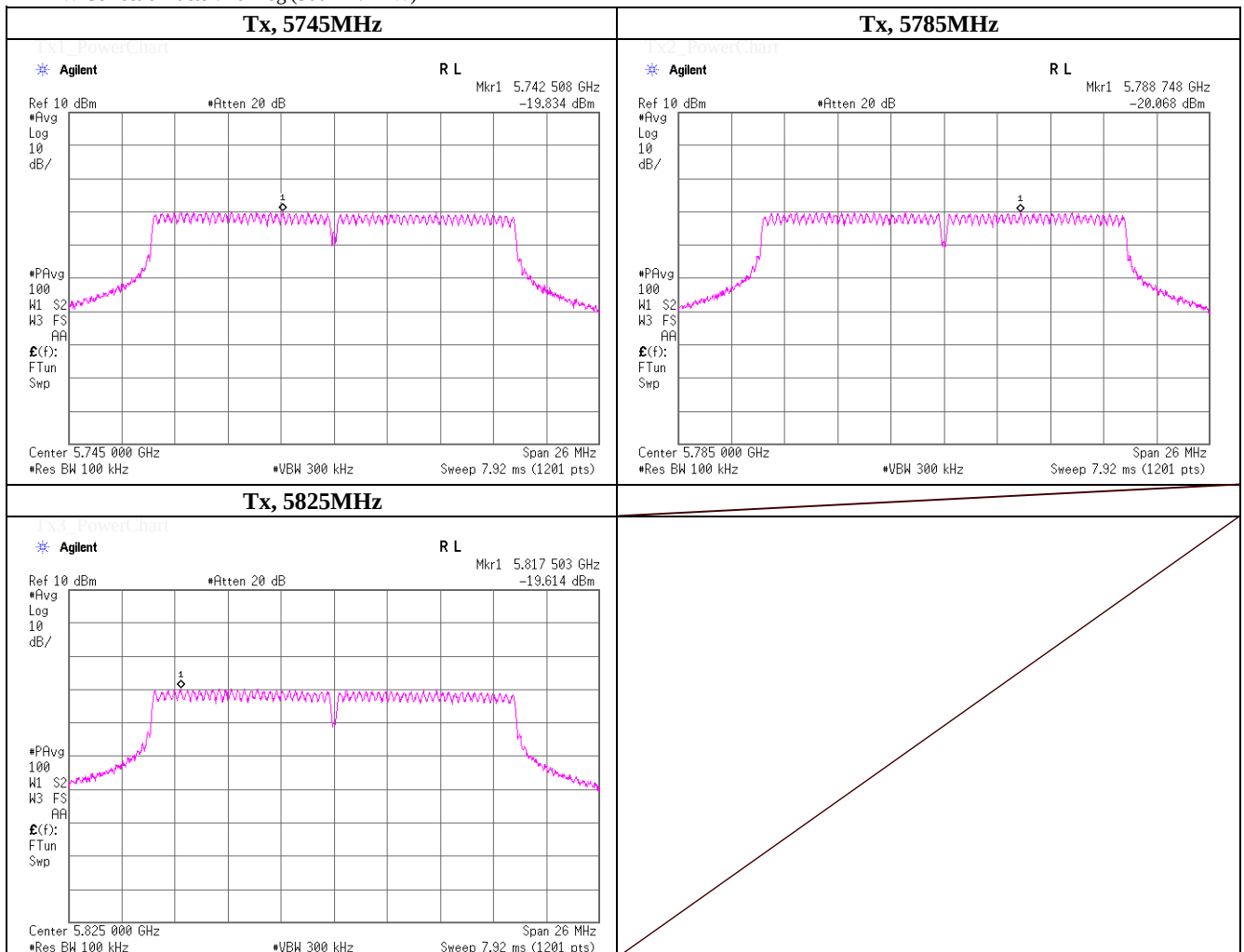
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT20), SISO, PN9, worst antenna port 1 (Bottom), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5742.51	-19.83	3.26	9.89	0.02	6.99	0.33	30.00	29.67
5785.0000	5788.75	-20.07	3.27	9.90	0.02	6.99	0.11	30.00	29.89
5825.0000	5817.50	-19.61	3.30	9.91	0.02	6.99	0.61	30.00	29.39

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: $10 \cdot \log(500\text{kHz}/\text{RBW})$ 

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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, worst data mode 8 (MCS)	

mobile/portable client device**Antenna 0 (Side)**

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0000	5185.18	-12.17	3.07	9.89	0.04		3.01	3.84	11.00	7.16
5220.0000	5212.81	-12.37	3.08	9.89	0.04		3.01	3.65	11.00	7.35
5240.0000	5233.65	-12.13	3.17	9.89	0.04		3.01	3.98	11.00	7.02

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0000	5172.55	-12.12	3.07	9.89	0.04		3.01	3.89	11.00	7.11
5220.0000	5212.29	-12.14	3.08	9.89	0.04		3.01	3.88	11.00	7.12
5240.0000	5246.76	-12.41	3.17	9.89	0.04		3.01	3.70	11.00	7.30

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

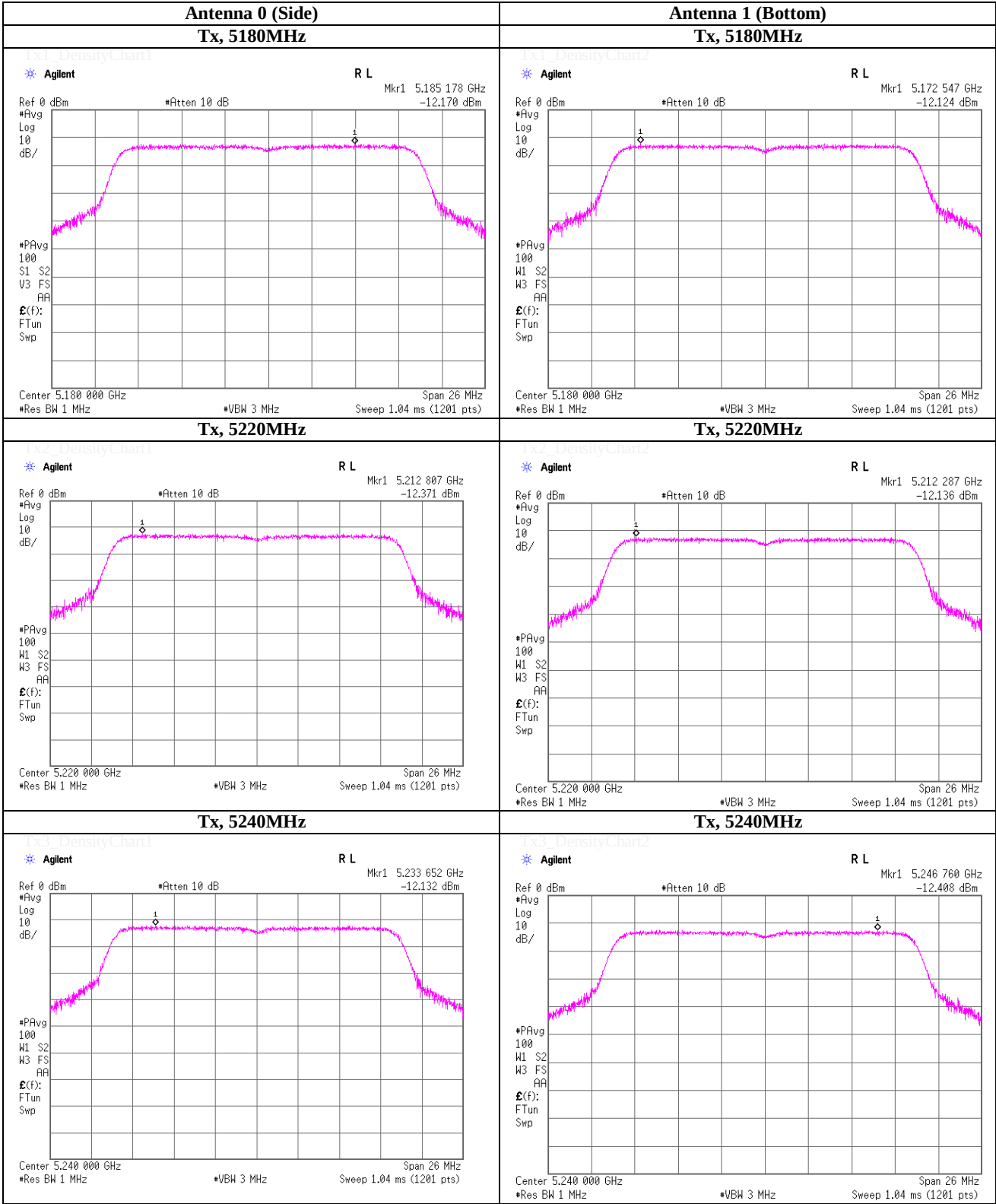
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Power Spectral Density



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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5260.0000	5254.45	-11.49	3.20	9.88	0.04		3.01	4.64	11.00	6.36
5300.0000	5304.53	-11.59	3.21	9.88	0.04		3.01	4.55	11.00	6.45
5320.0000	5315.84	-11.76	3.29	9.88	0.04		3.01	4.46	11.00	6.54

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5260.0000	5258.87	-11.90	3.20	9.88	0.04		3.01	4.23	11.00	6.77
5300.0000	5302.38	-11.37	3.21	9.88	0.04		3.01	4.77	11.00	6.23
5320.0000	5315.30	-11.41	3.29	9.88	0.04		3.01	4.81	11.00	6.19

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

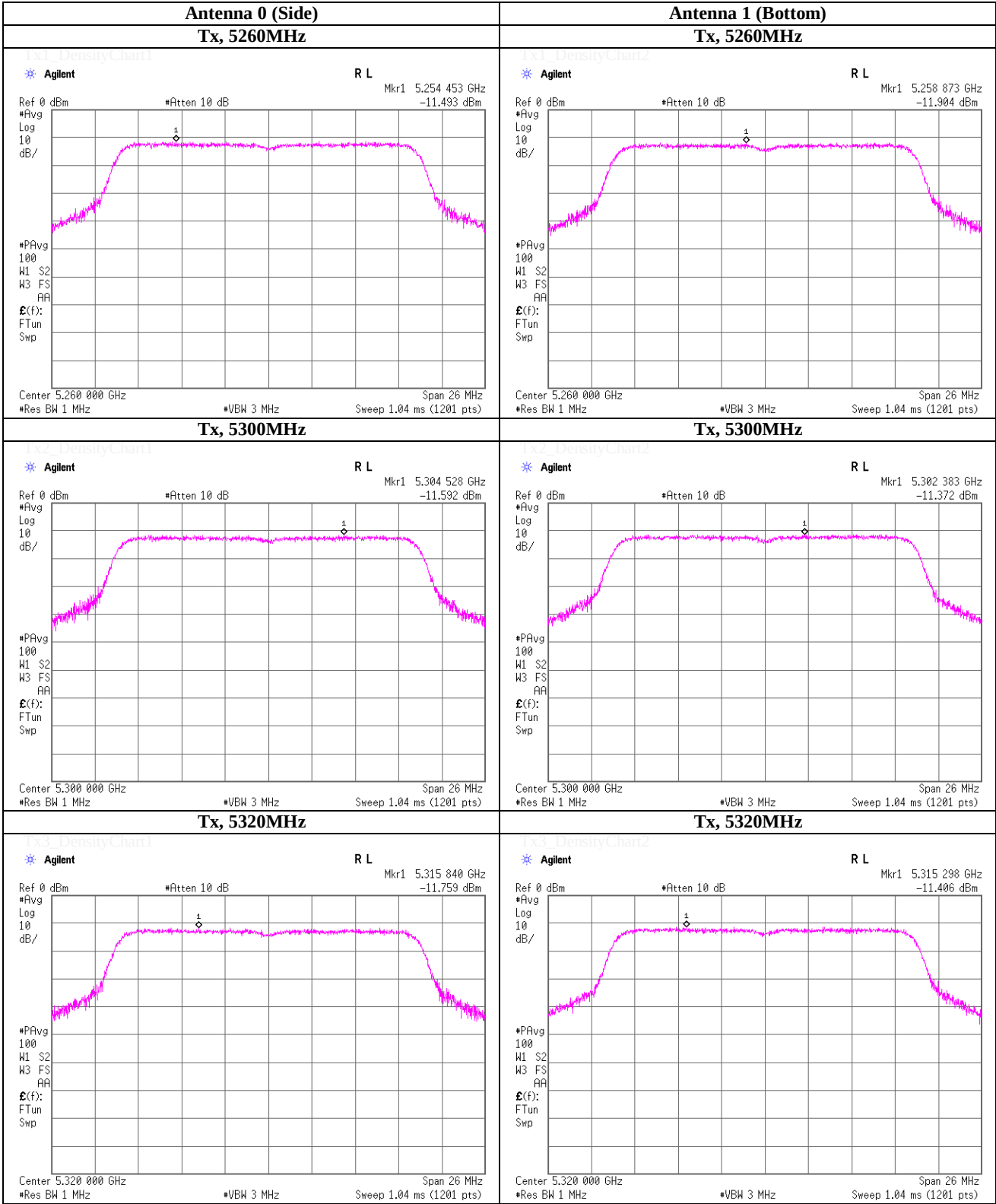
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Power Spectral Density



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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5500.0000	5505.05	-10.86	3.41	9.85	0.04		3.01	5.45	11.00	5.55
5580.0000	5586.57	-10.13	3.42	9.86	0.04		3.01	6.21	11.00	4.79
5700.0000	5694.95	-9.61	3.24	9.89	0.04		3.01	6.57	11.00	4.43

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5500.0000	5505.48	-10.11	3.41	9.85	0.04		3.01	6.20	11.00	4.80
5580.0000	5578.46	-10.02	3.42	9.86	0.04		3.01	6.31	11.00	4.69
5700.0000	5695.00	-9.54	3.24	9.89	0.04		3.01	6.64	11.00	4.36

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

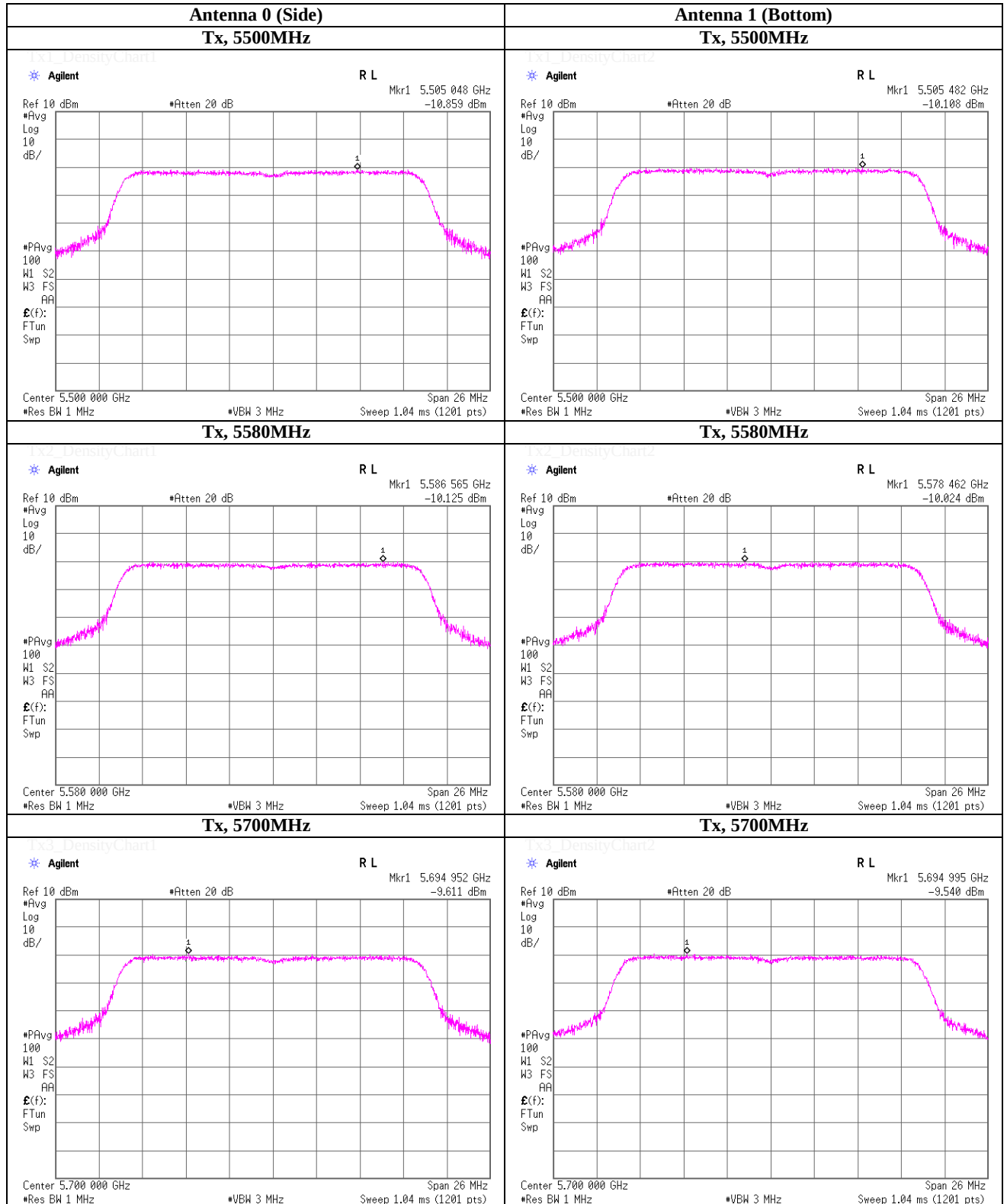
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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT20), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	10log (N _{ANT})* [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5737.53	-19.11	3.26	9.89	0.04	6.99	3.01	4.08	30.00	25.92
5785.0000	5785.02	-16.79	3.27	9.90	0.04	6.99	3.01	6.43	30.00	23.57
5825.0000	5830.03	-18.99	3.30	9.91	0.04	6.99	3.01	4.26	30.00	25.74

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + RBW Correction factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	10log (N _{ANT})* [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5741.27	-19.28	3.26	9.89	0.04	6.99	3.01	3.92	30.00	26.08
5785.0000	5783.79	-19.60	3.27	9.90	0.04	6.99	3.01	3.61	30.00	26.39
5825.0000	5821.30	-19.58	3.30	9.91	0.04	6.99	3.01	3.67	30.00	26.33

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + RBW Correction factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

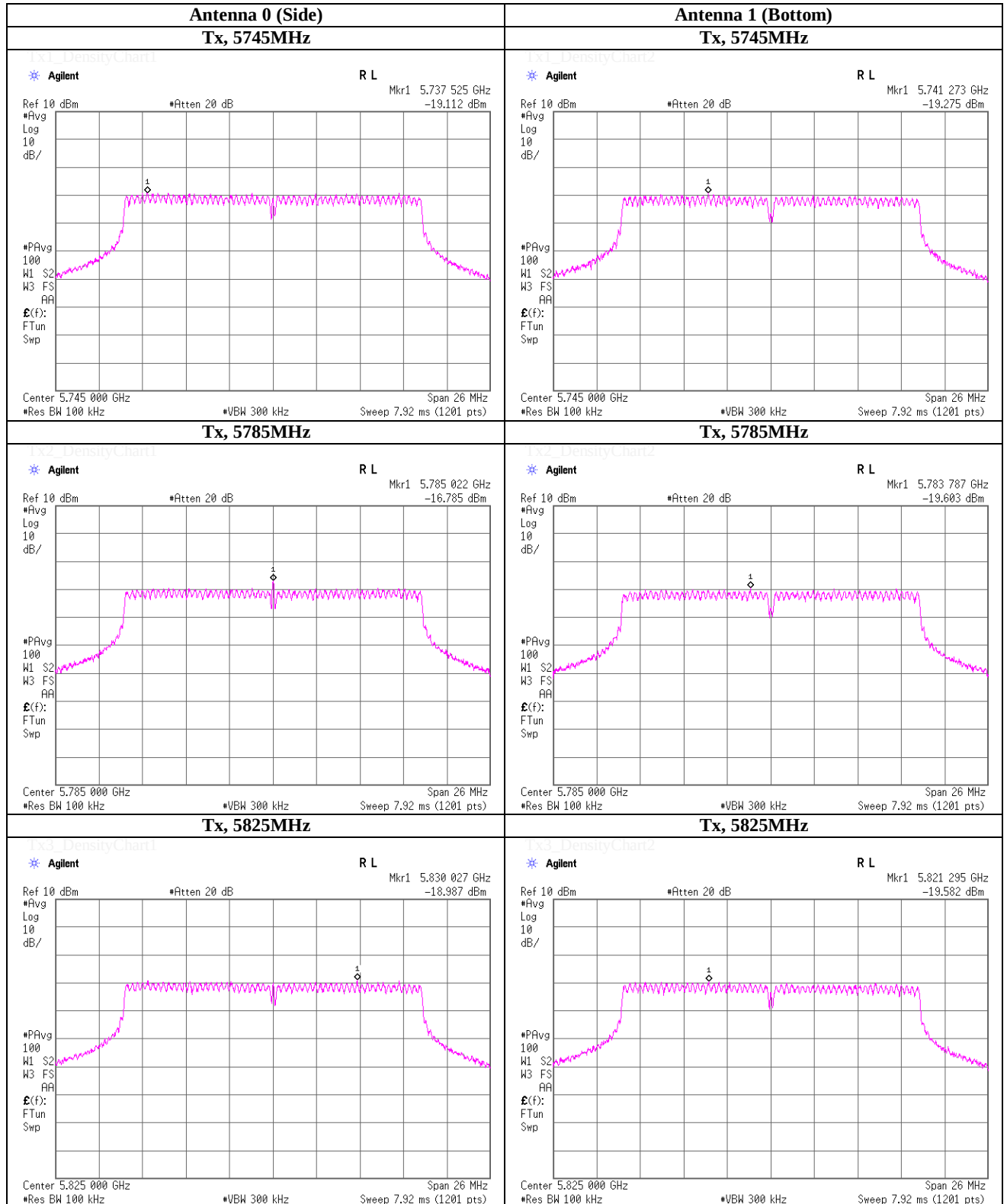
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Power Spectral Density



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Peak Power Spectral Density

(Method: SA-2)

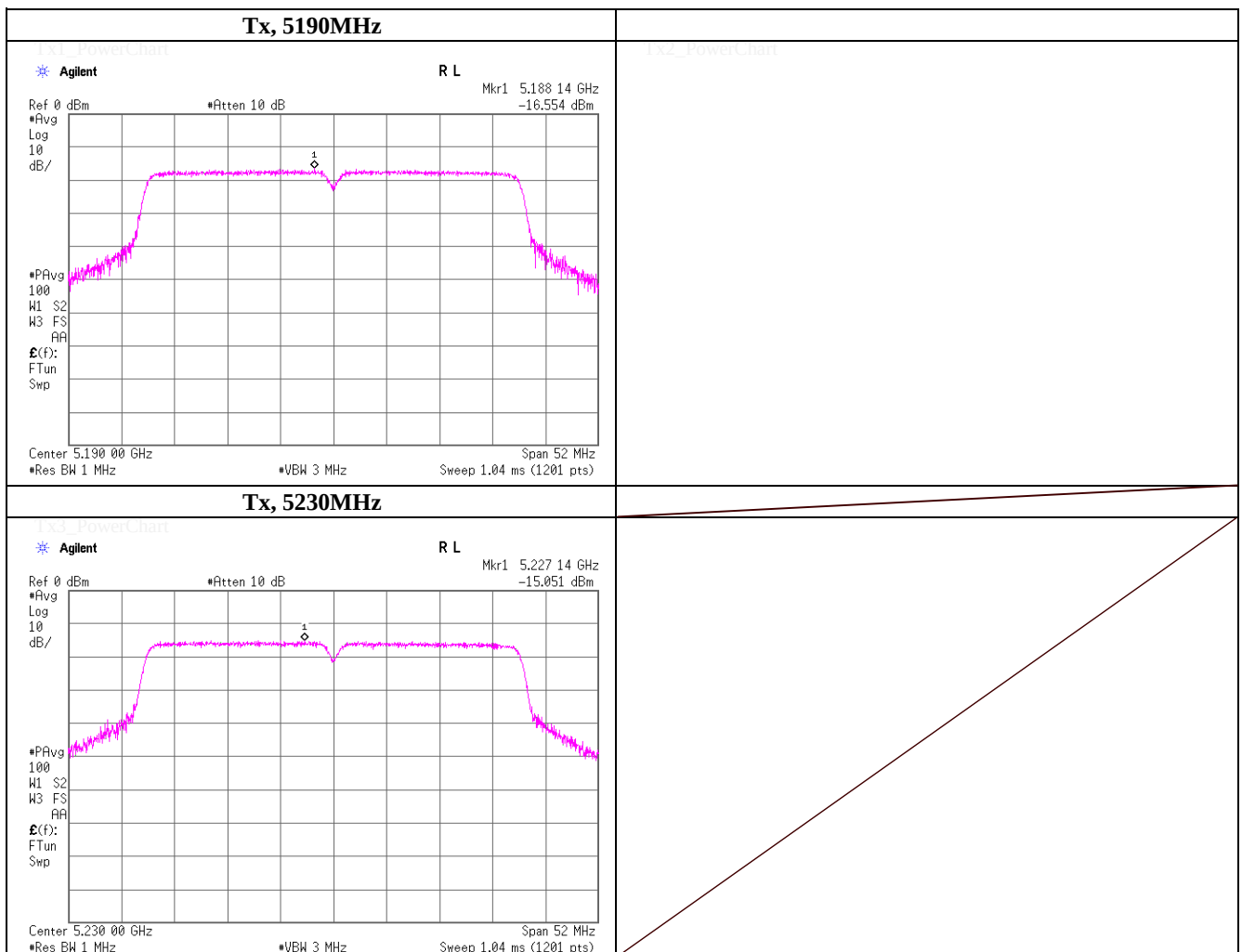
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5190.0000	5188.14	-16.55	3.07	9.89	0.05		-3.54	11.00	14.54
							-	11.00	-
5230.0000	5227.14	-15.05	3.08	9.89	0.05		-2.03	11.00	13.03

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

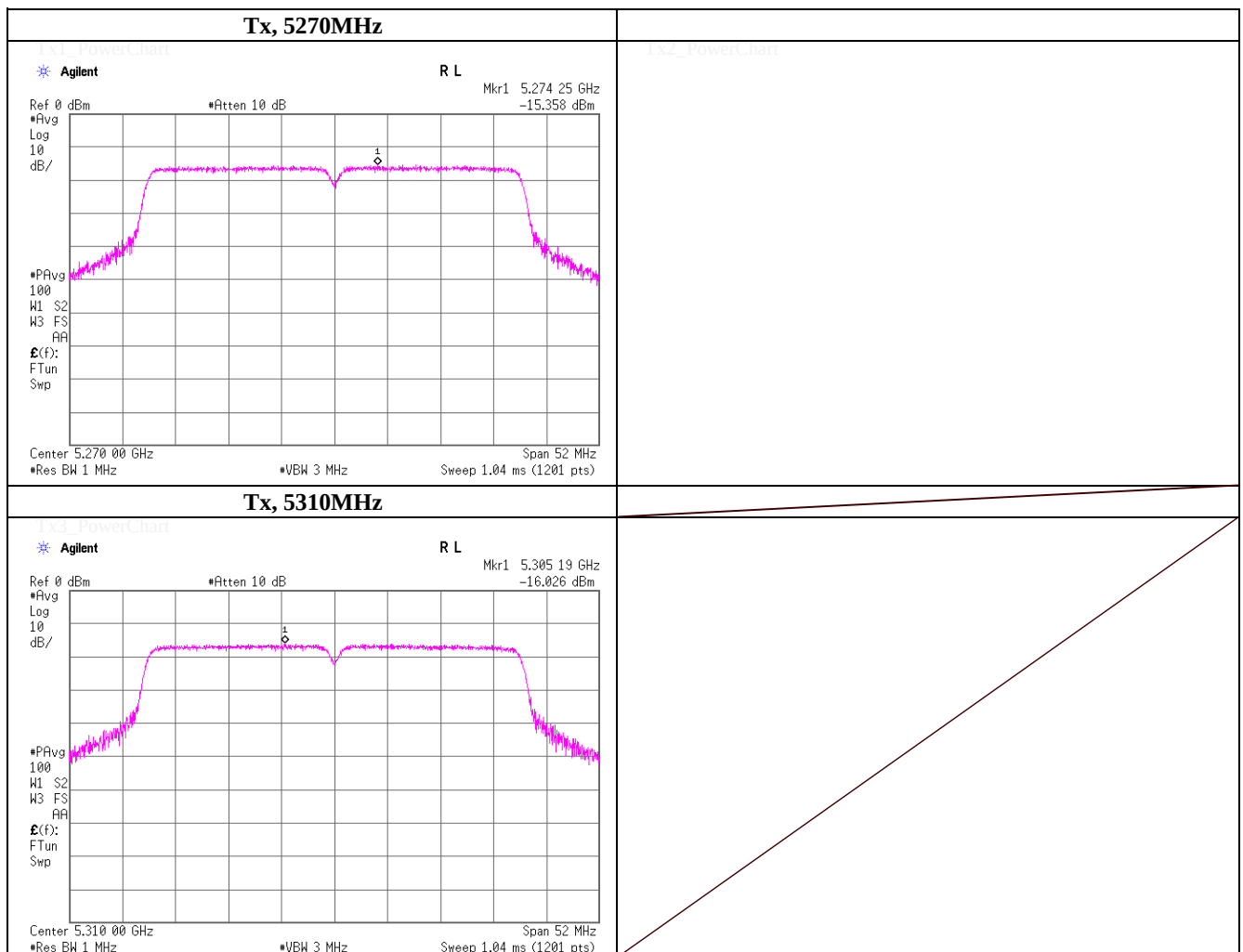
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5270.0000	5274.25	-15.36	3.20	9.88	0.05		-2.23	11.00	13.23
							-	11.00	-
5310.0000	5305.19	-16.03	3.21	9.88	0.05		-2.89	11.00	13.89

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor

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Peak Power Spectral Density

(Method: SA-2)

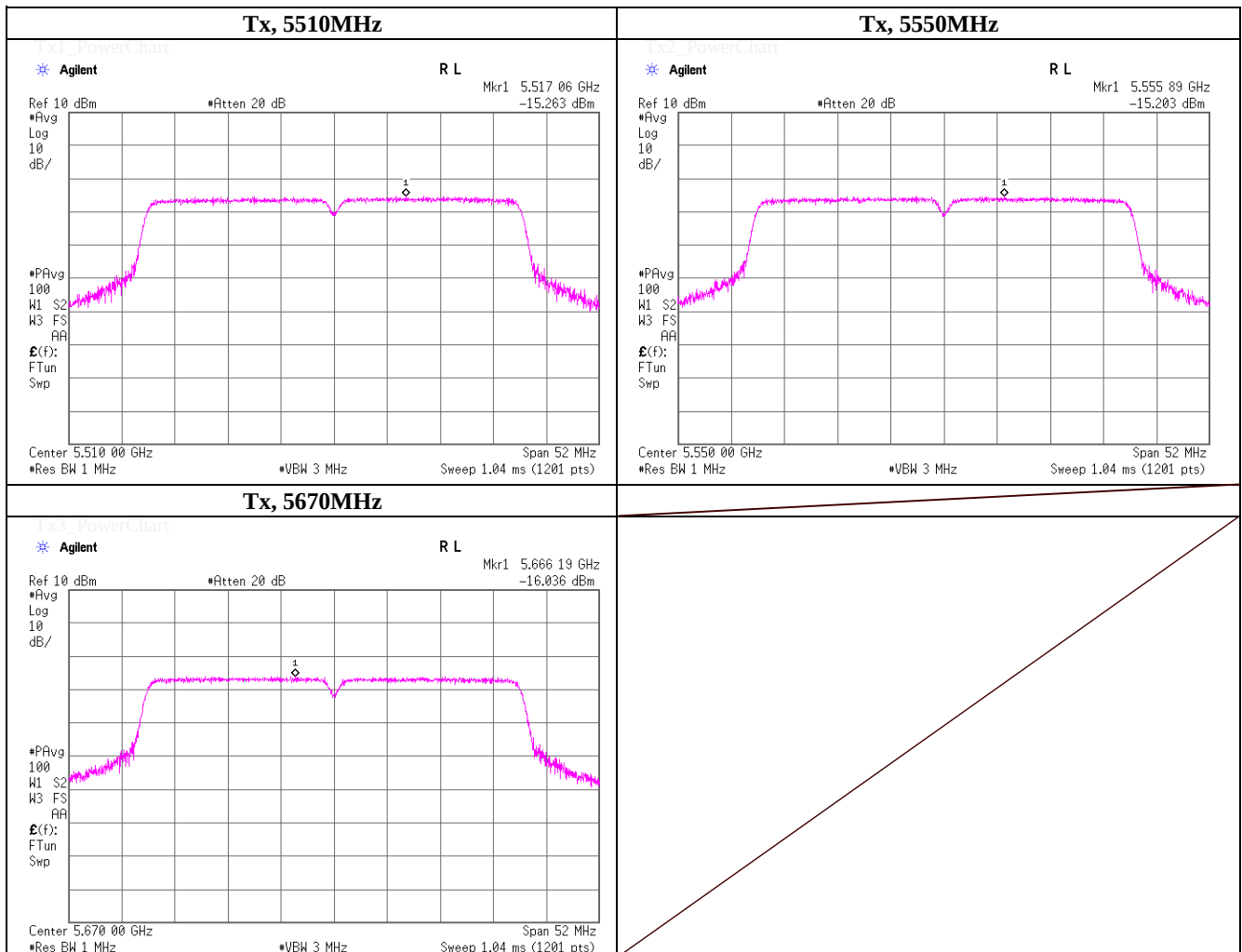
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0, worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5510.0000	5517.06	-15.26	3.41	9.85	0.05		-1.95	11.00	12.95
5550.0000	5555.89	-15.20	3.42	9.86	0.05		-1.87	11.00	12.87
5670.0000	5666.19	-16.04	3.34	9.88	0.05		-2.77	11.00	13.77

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor



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Peak Power Spectral Density

(Method: SA-2)

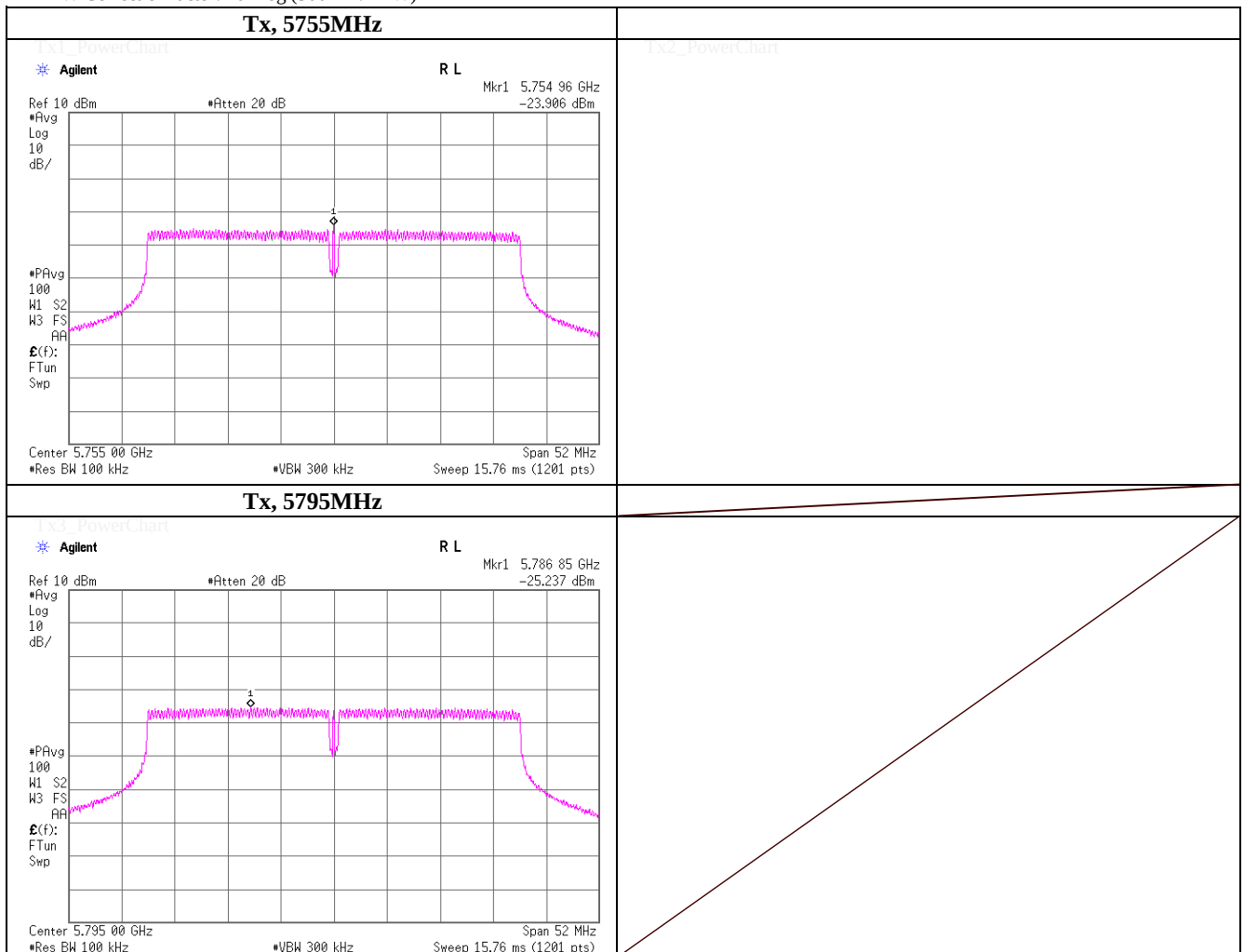
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE 802.11n (HT40), SISO, PN9, worst antenna port 0 (Side), worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5755.0000	5754.96	-23.91	3.26	9.90	0.05	6.99	-3.71	30.00	33.71
						6.99	-	30.00	-
5795.0000	5786.85	-25.24	3.27	9.90	0.05	6.99	-5.03	30.00	35.03

Sample Calculation:

Result = Reading + Cable Loss + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: $10 \cdot \log(500\text{kHz}/\text{RBW})$ 

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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode 8 (MCS)	

mobile/portable client device**Antenna 0 (Side)**

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0000	5198.71	-16.59	3.07	9.89	0.08		3.01	-0.54	11.00	11.54
								-	11.00	-
5230.0000	5220.38	-14.87	3.08	9.89	0.08		3.01	1.19	11.00	9.81

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0000	5185.10	-16.20	3.07	9.89	0.08		3.01	-0.15	11.00	11.15
								-	11.00	-
5230.0000	5225.28	-14.87	3.08	9.89	0.08		3.01	1.19	11.00	9.81

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

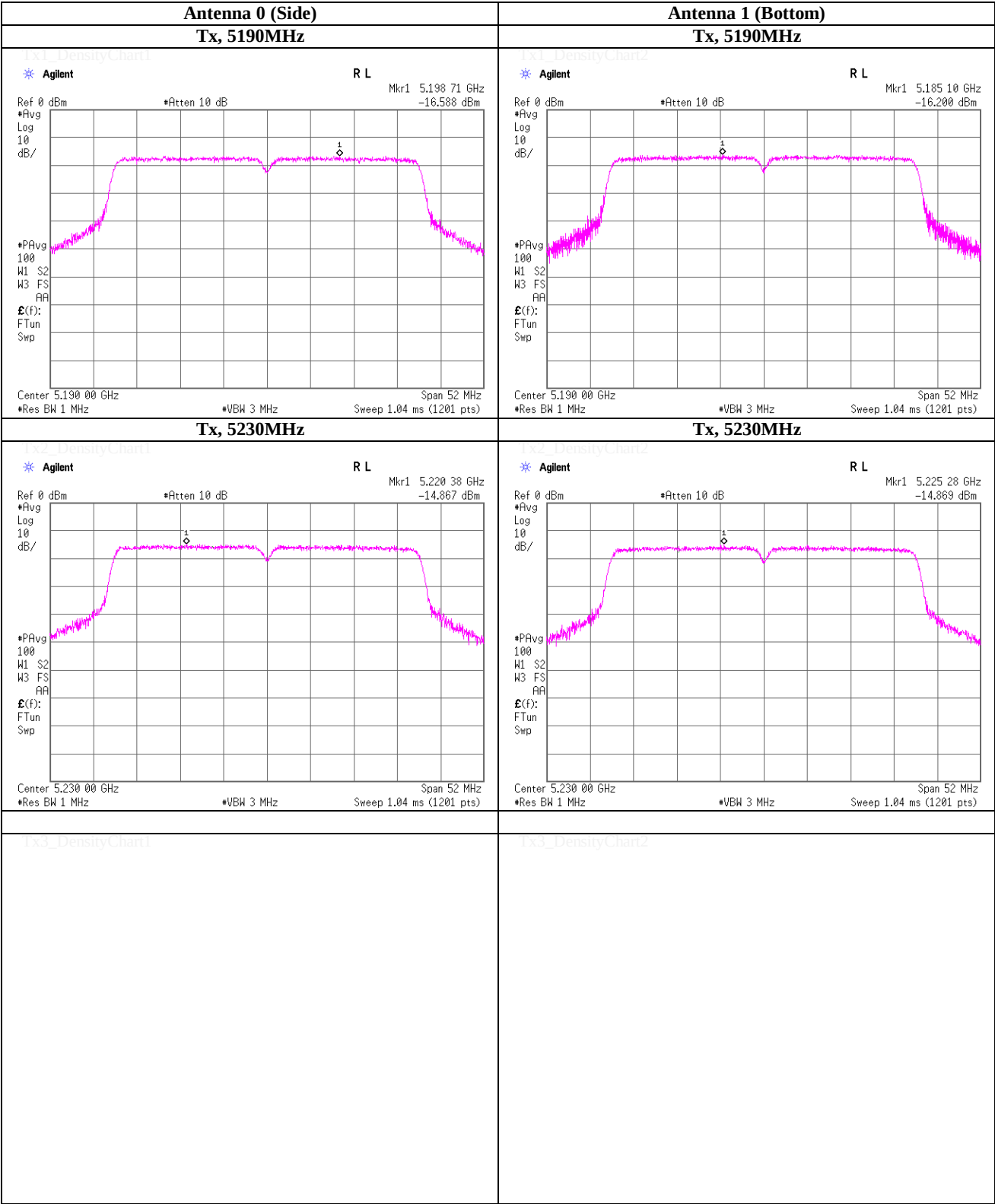
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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5270.0000	5275.94	-14.23	3.20	9.88	0.08		3.01	1.94	11.00	9.06
								-	11.00	-
5310.0000	5306.62	-15.07	3.21	9.88	0.08		3.01	1.11	11.00	9.89

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5270.0000	5277.19	-14.96	3.20	9.88	0.08		3.01	1.21	11.00	9.79
								-	11.00	-
5310.0000	5318.28	-14.50	3.21	9.88	0.08		3.01	1.68	11.00	9.32

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

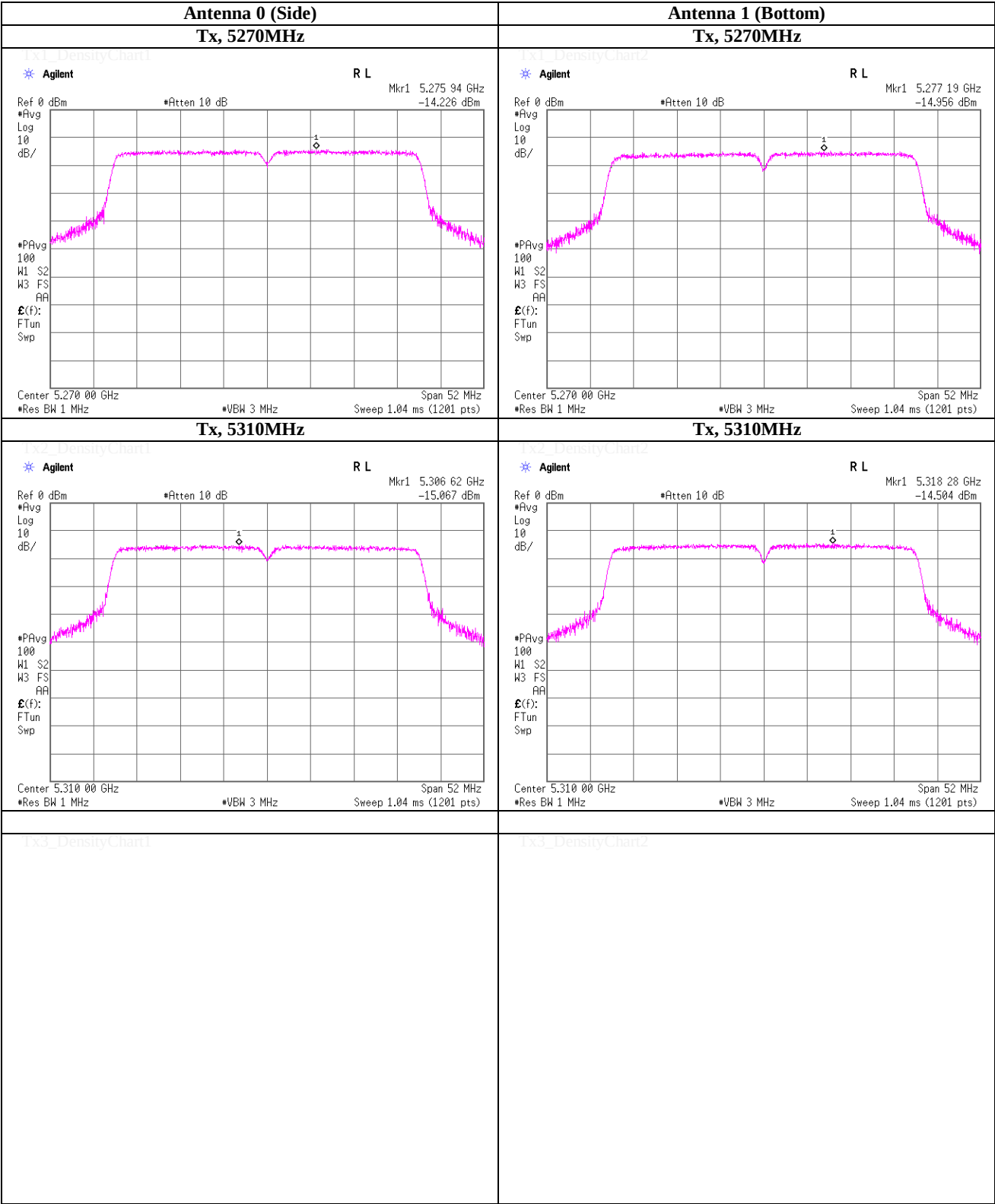
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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5510.0000	5515.46	-15.34	3.41	9.85	0.08		3.01	1.01	11.00	9.99
5550.0000	5553.68	-15.11	3.42	9.86	0.08		3.01	1.26	11.00	9.74
5670.0000	5667.57	-15.82	3.34	9.88	0.08		3.01	0.49	11.00	10.51

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]		10log (N _{ANT})* [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5510.0000	5518.97	-15.76	3.41	9.85	0.08		3.01	0.59	11.00	10.41
5550.0000	5544.71	-15.68	3.42	9.86	0.08		3.01	0.69	11.00	10.31
5670.0000	5658.65	-15.93	3.34	9.88	0.08		3.01	0.38	11.00	10.62

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

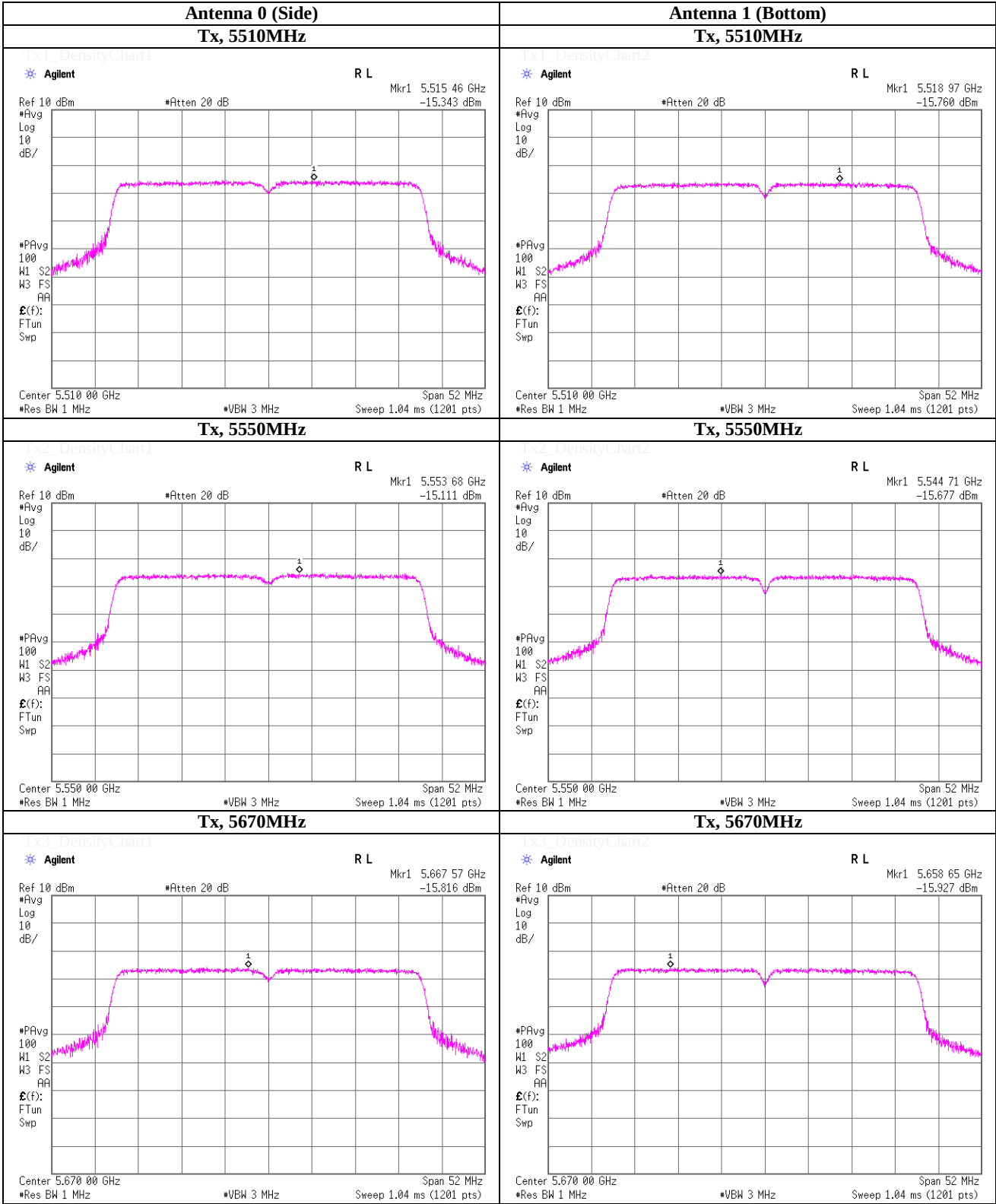
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Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	September 5, 2014	
Temperature / Humidity	24deg.C , 55%RH	
Engineer	Tatsuya Arai	
Mode	Tx, IEEE802.11n (HT40), MIMO, PN9, worst data mode 8 (MCS)	

Antenna 0 (Side)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	10log (N _{ANT})* [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5755.0000	5755.00	-23.23	3.26	9.90	0.08	6.99	3.01	0.01	30.00	29.99
5795.0000	5790.02	-24.69	3.27	9.90	0.08	6.99	3.01	-1.43	30.00	31.43

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + RBW Correction factor + 10log(NANT)

Antenna 1 (Bottom)

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	10log (N _{ANT})* [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5755.0000	5758.73	-25.63	3.26	9.90	0.08	6.99	3.01	-2.39	30.00	32.39
5795.0000	5783.73	-25.83	3.27	9.90	0.08	6.99	3.01	-2.58	30.00	32.58

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss + Duty factor + RBW Correction factor + 10log(NANT)

*) This test was measured based on Method In-Band Power Spectral Density (PSD) Measurements E) 2) c) of

"Guidance for Summing Emission Measurements from Multiple Outputs of a Transmitter or from Multiple Transmitters (KDB662911 D1)"

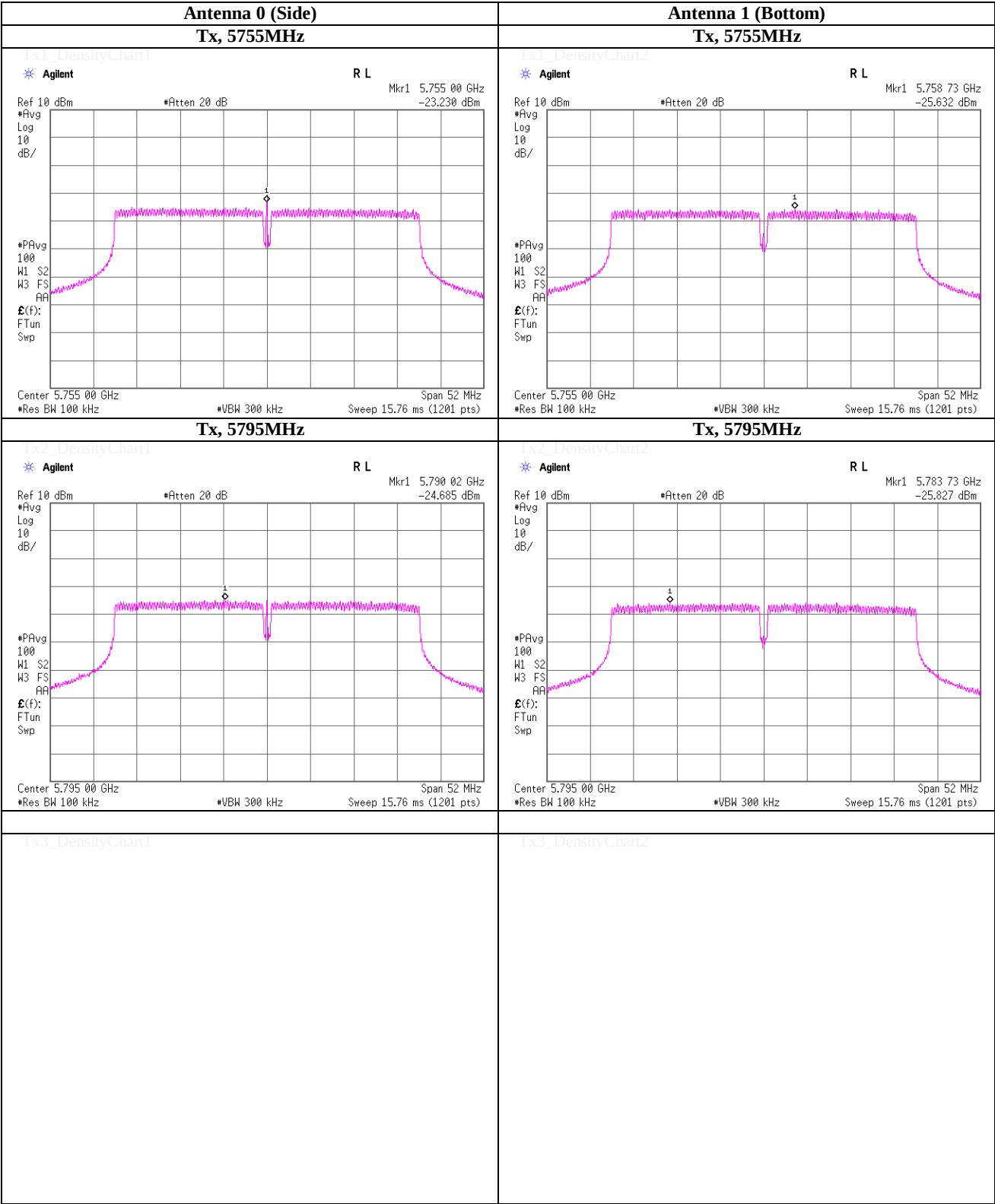
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APPENDIX 2

Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SOS-13	Humidity Indicator	Custom	CTH-202	Q.C.17	AT	2014/04/22 * 12
SCC-G14	Coaxial Cable	Suhner	SUCOFLEX 102	31600/2	AT	2014/03/13 * 12
SAT10-10	Attenuator	Weinschel Corp.	54A-10	37584	AT	2014/04/22 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2014/04/08 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2014/04/08 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT	2014/03/17 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2014/07/14 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2014/08/12 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2014/06/24 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2013/11/22 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2013/11/22 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2014/05/23 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2014/05/15 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2014/03/04 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2014/02/21 * 12
SJM-15	Measure	ASKUL	-	-	RE	-
COTS-SEMI-I	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE	-
SCC-G15	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	RE	2014/03/13 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2014/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2014/03/14 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2014/03/15 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2014/03/14 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2014/03/14 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2014/02/14 * 12
SAT6-06	Attenuator	JFW	50HF-006N	-	RE	2014/02/17 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2013/10/26 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2014/04/25 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2013/10/26 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE	2014/03/04 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

RE: Radiated emission,

AT: Antenna terminal conducted test