FCC PART 15
TEST REPORT
No.I21Z61036-IOT08

for

TCL Communication Ltd.

Vodafone Gigacube

HH500V

With

FCC ID: 2ACCJB157

Hardware Version: HH500_MB_C

Software Version: HH500V_VDF_V2.0.0B01

Issued Date: 2021-08-21

Note:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I21Z61036-IOT08	Rev.0	1st edition	2021-08-02
I21Z61036-IOT08	Rev.1	Add the modulation type of OFDMA. Add the information of attenuator. Update the calibration of SA FSQ40 and FSV40. Update the CDD/Beamingforming statement. Clarify the antenna of measurement results of radiated band edges.	2021-08-21

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1. TEST LATORATORY

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Conducted testing Location: CTTL(Gaolizhang Road)

Address: Cuihu Cloud Center, No.1, Gaolizhang Road, Wenquan, Haidian District, Beijing, China

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

1.3. Testing Environment

Normal Temperature: 15-35℃

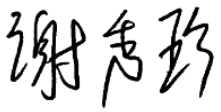
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2021-05-31

Testing End Date: 2021-08-20

1.5. Signature



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2. CLIENT INFORMATION

2.1 Applicant Information

Company Name:	TCL Communication Ltd.
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City:	Hong Kong
Postal Code:	/
Country:	China
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

2.2 Manufacturer Information

Company Name:	TCL Communication Ltd.
Address:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
City:	Hong Kong
Postal Code:	/
Country:	China
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARYEQUIPMENT(AE)

3.1. About EUT

Description	Vodafone Gigacube
Model name	HH500V
FCC ID	2ACCJB157
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM/ OFDMA
Antenna	Integral Antenna
Voltage	12V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	350364240200093	HH500_MB_C	HH500V_VDF_V2.0.0B01
EUT2	350364240200069	HH500_MB_C	HH500V_VDF_V2.0.0B01
EUT3	350364240200077	HH500_MB_C	HH500V_VDF_V2.0.0B01
EUT4	350364240200085	HH500_MB_C	HH500V_VDF_V2.0.0B01

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Charger	/	/
AE2	Charger	/	/

AE1

Model	CYSE36-120300E
Manufacturer	Jiangsu Chenyang Electron Co.,Ltd

AE2

Model	CYSE36-120300UK
Manufacturer	Jiangsu Chenyang Electron Co.,Ltd

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of Vodafone Gigacube with integrated antenna.
Manual and specifications of the EUT were provided to fulfil the test.
Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. REFERENCE DOCUMENTS

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2018
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019
KDB-662911 D01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g. MIMO Smart Antenna etc)	2013

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	**P**
Peak Power Spectral Density	15.407	/	**P**
Occupied 26dB Bandwidth	15.403	/	**P**
Band edge compliance (Radiated)	15.209	/	**P**
Transmitter spurious emissions (Radiated)	15.407	/	**P**
AC Powerline Conducted Emission (150kHz- 30MHz)	15.407	/	**P**
Frequency Stability	15.407	/	**P**
99% Occupied bandwidth	/	/	**P**
Transmit Power Control	15.407	/	**NA**

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26℃
Voltage	12V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2022-05-24
2	Test Receiver	ESCI	100766	Rohde & Schwarz	1 year	2022-02-23
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	1 year	2022-05-30
4	Shielding Room	S81	/	ETS-Lindgren	/	/
5	Attenuator	10dB/2W	/	Rosenberger	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100235	R&S	1 year	2022-02-23
2	BiLog Antenna	VULB9163	483	Schwarzbeck	1 year	2021-08-27
3	Dual-Ridge Waveguide Horn Antenna	3115	6914	ETS-Lindgren	1 year	2022-02-03
4	Loop Antenna	HFH2-Z2	829324/007	R&S	1 year	2021-12-10

8. Measurement Uncertainty

8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3 Occupied Channel Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5 Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
30MHz ≤ f ≤ 2GHz	1.22
2GHz ≤ f ≤3.6GHz	1.22
3.6GHz ≤ f ≤8GHz	1.22
8GHz ≤ f ≤12.75GHz	1.51
12.75GHz ≤ f ≤26GHz	1.51
26GHz ≤ f ≤40GHz	1.59

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.40
1GHz ≤ f ≤18GHz	4.32
18GHz ≤ f ≤40GHz	5.26

8.6 AC Power-line Conducted Emission

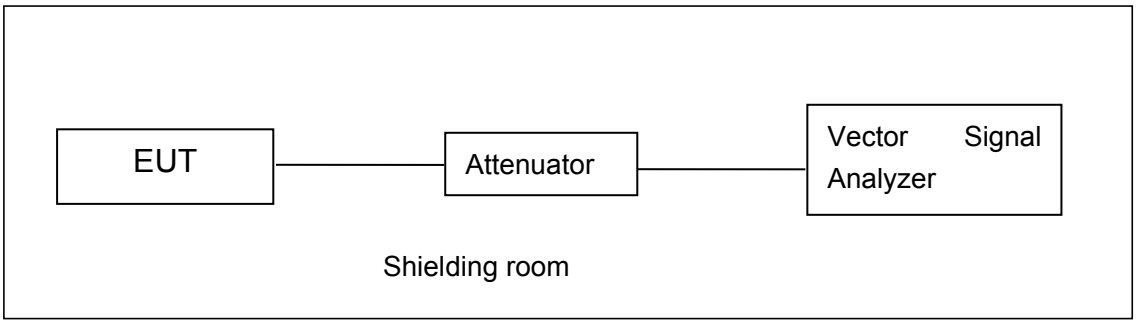
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

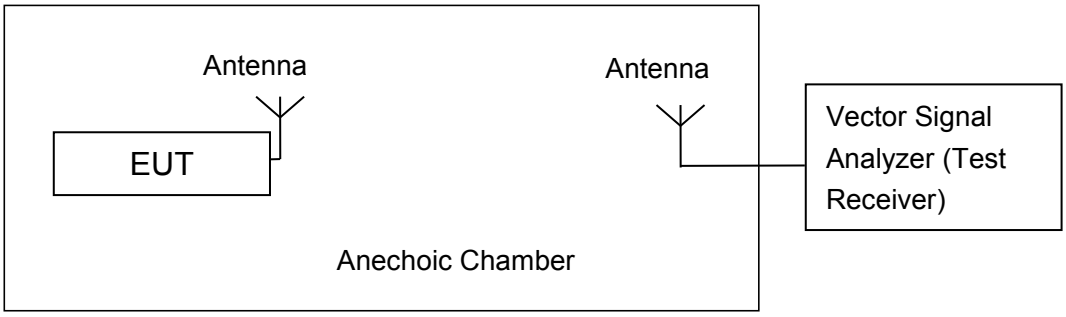
A.1.1. Conducted Measurements

1). Connect the EUT to the test system correctly.
2). Set the EUT to the required work mode.
3). Set the EUT to the required channel.
4). Set the spectrum analyzer to start measurement.
5). Record the values. Vector Signal Analyzer



A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,
Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;
Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to KDB 789033
The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

A.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit
FCC CRF Part 15.407(a)	5150MHz~5250MHz	1W
	5250MHz~5350MHz	250mw
	5470MHz~5725MHz	250mw

Limit use the less value, and B is the 26dB bandwidth.

The measurementmethod SA-2 is made according to KDB 789033

The following data rates are selected as the worst condition; as the maximum power is got with these data rate. The following cases are performed with this condition.

W1

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS0	MCS0	MCS0	MCS0	MCS11	MCS0	MCS11

W2

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
6Mbps	MCS0	MCS8	MCS0	MCS9	MCS9	MCS0	MCS0	MCS11

W3

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
6Mbps	MCS0	MCS8	MCS0	MCS9	MCS9	MCS0	MCS0	MCS11

W4

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS0	MCS0	MCS0	MCS0	MCS11	MCS11	MCS0

(W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11

(W2&W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode

54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11

(W1&W2&W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11

All duty cycle of Worse case as following:

W1

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS0	MCS0	MCS0	MCS0	MCS11	MCS0	MCS11
50%	90%	89%	94%	89%	89%	85%	64%	50%

W2

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
6Mbps	MCS0	MCS8	MCS0	MCS9	MCS9	MCS0	MCS0	MCS11
93%	89%	87%	90%	90%	90%	85%	64%	49%

W3

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
6Mbps	MCS0	MCS8	MCS0	MCS9	MCS9	MCS0	MCS0	MCS11
93%	89%	87%	90%	90%	90%	85%	64%	49%

W4

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS0	MCS0	MCS0	MCS0	MCS11	MCS11	MCS0
50%	90%	89%	94%	89%	89%	85%	51%	51%

(W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11

50%	90%	90%	90%	90%	90%	85%	51%	49%

(W2&W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11
50%	90%	90%	90%	90%	90%	85%	51%	49%

(W1&W2&W3&W4)

802.11a mode	802.11n-HT20 mode	802.11ac-HT20 mode	802.11n-HT40 mode	802.11ac-HT40 mode	802.11ac-HT80 mode	802.11ax-HE20 mode	802.11ax-HE40 mode	802.11ax-HE80 mode
54Mbps	MCS7	MCS8	MCS7	MCS9	MCS9	MCS11	MCS11	MCS11
50%	90%	90%	90%	90%	90%	85%	51%	49%

802.11ax-HE20: tp-26x9_20MHz

802.11ax-HE40: tp-52x2_106_242_40MHz

802.11ax-HE80: tp-106_26_106_106_26_106_106_26_106_106_26_106_13+13n_80MHz

802.11a support CDD; 802.11n/ac/ax supports CDD and Beamforming.

Tx Paths	Antenna Gain(dBi)	Beamforming DG(dBi)	CDD DG(dBi)	
			Power	PSD
2	2.7	5.71	2.7	5.71
3	2.7	7.47	2.7	7.47
4	2.7	8.72	2.7	8.72

Measurement Results:

	Result(dBm)				
	Ant	W1	W2	W3	W4
	Rate	54Mbps	6Mbps	6Mbps	54Mbps
802.11a	5180	12.69	12.72	16.22	10.30
	5200	12.95	12.99	16.30	10.64
	5240	12.70	12.51	16.22	10.75
	5260	12.88	13.44	16.41	11.41
	5280	12.72	13.37	16.19	11.45

	5320	12.55	13.14	15.83	11.47
	5500	14.24	12.50	15.70	10.79
	5580	13.98	12.07	16.31	11.04
	5700	14.42	12.90	17.11	10.95

802.11n-HT20	Result(dBm)				
	Ant	W1	W2	W3	W4
	Rate	MCS7	MCS0	MCS0	MCS7
	5180	12.47	12.73	13.61	12.85
	5200	12.71	12.97	13.67	13.20
	5240	12.48	12.49	13.60	13.13
	5260	12.66	13.45	13.74	13.99
	5280	12.59	13.36	13.55	13.98
	5320	12.34	13.14	13.22	13.99
	5500	14.07	12.48	13.08	13.36
	5580	13.84	12.09	13.68	13.59
	5700	14.26	12.91	14.48	13.52

802.11ac-HT20	Result(dBm)				
	Ant	W1	W2	W3	W4
	Rate	MCS0	MCS8	MCS8	MCS0
	5180	11.09	11.72	12.55	11.64
	5200	11.36	12.01	12.63	11.90
	5240	11.15	11.66	12.57	11.95
	5260	11.26	12.48	12.77	12.60
	5280	11.18	12.38	12.59	12.64
	5320	10.96	12.12	12.16	12.64
	5500	12.68	11.54	11.94	12.05

	5580	12.42	11.20	12.69	12.28
	5700	12.81	12.09	13.48	12.12

	Result(dBm)			
	Ant	W1	W2	W3	W4
	Rate	MCS11	MCS0	MCS0	MCS11
802.11ax-HE20	5189	15.18	16.75	17.00	17.02
	5200	15.49	16.01	16.99	17.55
	5240	15.74	15.33	16.80	17.87
	5260	16.37	16.36	17.04	18.59
	5280	16.54	16.28	16.84	18.48
	5320	16.91	16.26	16.41	18.41
	5500	17.01	17.45	15.36	18.98
	5580	17.37	17.91	15.95	19.42
	5700	17.81	18.16	17.79	17.70

	Result(dBm)			
	Antl	W1	W2	W3	W4
	Rate	MCS0	MCS0	MCS0	MCS0
802.11n-HT40	5190	11.64	12.90	13.70	13.03
	5230	12.19	13.02	13.79	13.03
	5270	11.63	13.58	13.87	13.93
	5310	11.46	13.37	13.39	14.17
	5510	13.28	12.72	13.34	13.31
	5550	13.71	13.31	13.97	13.54
	5670	12.87	12.52	13.62	13.00

	Result(dBm)				
802.11ac-HT40	Ant	W1	W2	W3	W4
	Rate	MCS0	MCS9	MCS9	MCS0
	5190	12.00	12.07	12.93	12.62
	5230	11.85	11.80	12.93	12.35
	5270	11.76	12.51	12.92	12.75
	5310	11.56	12.36	12.52	12.98
	5510	13.39	11.64	12.28	12.22
	5550	13.81	12.14	13.03	12.21
	5670	12.95	11.56	12.75	11.95

	Result(dBm)				
802.11ax-HE40	Ant	W1	W2	W3	W4
	Rate	MCS0	MCS0	MCS0	MCS11
	5190	15.54	16.21	17.11	17.51
	5230	16.03	15.87	17.16	18.09
	5270	16.48	16.52	17.15	18.60
	5310	16.81	16.51	16.60	16.88
	5510	17.04	17.72	15.69	19.44
	5550	17.24	18.45	16.17	19.49
	5670	17.08	17.84	15.54	17.65

	Result(dBm)				
802.11ac-HT80	Ant	W1	W2	W3	W4
	Rate	MCS0	MCS9	MCS9	MCS0
	5210	11.90	12.13	12.82	12.25
	5290	11.64	12.57	12.53	12.85

	5530	11.43	12.73	12.59	12.42
	5610	11.62	12.18	12.72	12.75

802.11ax-HE80	Result(dBm)				
	Ant	W1	W2	W3	W4
	Rate	MCS11	MCS11	MCS11	MCS0
	5210	15.98	16.06	17.05	17.81
	5290	16.65	16.52	16.71	18.71
	5530	17.28	18.09	15.98	19.38
	5610	17.57	18.33	16.38	19.09

802.11a	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	54Mbps	54Mbps	54Mbps
	5180	12.10	15.33	14.51
	5200	12.25	15.57	14.74
	5240	12.17	15.51	14.74
	5260	12.59	16.23	15.25
	5280	12.56	16.01	15.27
	5320	12.38	15.71	15.03
	5500	11.74	15.19	14.92
	5580	12.72	15.76	15.23
	5700	13.26	16.24	15.62

802.11n-HT20	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS7	MCS7	MCS7
	5180	12.73	14.59	14.09

	5200	12.99	14.84	14.61
	5240	12.89	14.54	14.33
	5260	13.36	15.27	15.18
	5280	13.28	15.15	15.01
	5320	13.15	15.13	14.51
	5500	12.51	14.42	14.91
	5580	13.26	14.99	14.96
	5700	13.87	15.60	15.69

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS8	MCS8	MCS8
802.11ac-HT20	5180	12.64	14.51	13.76
	5200	12.85	14.79	13.67
	5240	12.79	14.51	13.58
	5260	13.24	14.92	14.45
	5280	13.15	14.83	14.05
	5320	13.02	14.70	13.88
	5500	12.49	14.57	14.13
	5580	13.32	14.90	13.88
	5700	13.60	15.18	14.84

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS11	MCS11	MCS11
802.11ax-HE20	5180	18.19	18.80	17.90
	5200	18.36	19.06	18.11
	5240	18.49	18.75	17.82

	5260	18.99	18.01	16.88
	5280	18.88	17.72	16.93
	5320	18.55	17.55	16.99
	5500	18.83	16.95	16.63
	5580	19.25	15.69	15.71
	5700	17.66	15.69	15.07

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS7	MCS7	MCS7
802.11n-HT40	5190	12.86	13.66	13.95
	5230	13.17	15.03	14.19
	5270	13.35	15.34	14.55
	5310	13.38	15.32	14.33
	5510	12.75	14.80	14.32
	5550	13.13	15.17	14.86
	5670	12.78	14.54	14.29

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS9	MCS9	MCS9
802.11ac-HT40	5190	13.21	15.14	16.47
	5230	13.16	15.06	14.21
	5270	13.38	15.35	14.56
	5310	13.37	15.28	14.64
	5510	12.74	14.81	14.51
	5550	13.18	15.30	14.91
	5670	12.70	14.80	14.28

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS11	MCS11	MCS11
802.11ax-HE40	5190	18.35	18.99	18.30
	5230	18.72	19.17	18.48
	5270	19.04	19.71	18.97
	5310	18.99	19.74	19.00
	5510	19.34	19.67	18.96
	5550	19.39	20.19	19.61
	5670	16.92	19.04	19.01

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS9	MCS9	MCS9
802.11ac-HT80	5210	12.56	14.63	14.33
	5290	12.91	15.04	14.68
	5530	12.62	14.29	14.64
	5610	12.77	14.51	14.86

	Result(dBm)			
	Ant	W3&W4	W2&W3&W4	W1&W2&W3&W4
	Rate	MCS11	MCS11	MCS11
802.11ax-HE80	5210	18.64	19.32	18.35
	5290	19.13	19.84	18.85
	5530	19.34	19.15	18.78
	5610	18.99	19.93	19.76

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	17
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

The output power measurement method Section F is made according to KDB 789033

Measurement Results:

SISO-W3

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	2.04	P
	5200 MHz	2.15	P
	5240 MHz	2.13	P
	5260 MHz	2.27	P
	5280 MHz	2.08	P
	5320 MHz	1.67	P
	5500 MHz	1.59	P
	5580 MHz	2.16	P
	5700 MHz	2.94	P
802.11n HT20	5180 MHz	1.85	P
	5200 MHz	1.96	P
	5240 MHz	1.92	P
	5260 MHz	2.08	P
	5280 MHz	1.89	P
	5320 MHz	1.54	P
	5500 MHz	1.44	P
	5580 MHz	2.00	P
	5700 MHz	2.83	P
802.11n HT40	5190 MHz	-0.87	P
	5230 MHz	-0.79	P
	5270 MHz	-0.76	P
	5310 MHz	-1.16	P
	5510 MHz	-1.31	P
	5550 MHz	-0.57	P
	5670 MHz	-0.88	P
802.11ac HT80	5210MHz	-5.24	P
	5290MHz	-5.70	P
	5530MHz	-5.44	P
	5610MHz	-5.84	P

SISO-W4

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11ax-HE20	5180 MHz	7.14	P
	5200 MHz	7.23	P
	5240 MHz	7.57	P
	5260 MHz	8.04	P
	5280 MHz	8.13	P
	5320 MHz	7.91	P
	5500 MHz	8.54	P
	5580 MHz	8.89	P
	5700 MHz	6.84	P
802.11ax-HE40	5190 MHz	3.07	P
	5230 MHz	2.93	P
	5270 MHz	3.93	P
	5310 MHz	4.16	P
	5510 MHz	3.74	P
	5550 MHz	4.21	P
	5670 MHz	2.18	P
802.11ax-HE80	5210MHz	-1.26	P
	5290MHz	-0.36	P
	5530MHz	0.09	P
	5610MHz	0.59	P

The largest point of 802.11a/ac20/n20/ac40/n40/ac80 is W3; 802.11ax-HE20/40 is W4.

(W3&W4)

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	2.06	P
	5200 MHz	2.18	P
	5240 MHz	2.27	P
	5260 MHz	2.77	P
	5280 MHz	2.81	P
	5320 MHz	2.76	P
	5500 MHz	2.56	P
	5580 MHz	3.69	P
	5700 MHz	3.31	P
802.11n-HT20	5180 MHz	1.46	P
	5200 MHz	1.69	P
	5240 MHz	1.64	P
	5260 MHz	2.14	P

	5280 MHz	2.12	P
	5320 MHz	1.99	P
	5500 MHz	2.02	P
	5580 MHz	3.05	P
	5700 MHz	2.64	P
802.11ac-HT40	5190 MHz	-1.31	P
	5230 MHz	-1.03	P
	5270 MHz	-0.82	P
	5310 MHz	-0.74	P
	5510 MHz	-0.74	P
	5550 MHz	-0.04	P
	5670 MHz	-0.70	P
802.11ac-HT80	5210MHz	-4.74	P
	5290MHz	-4.33	P
	5530MHz	-4.10	P
	5610MHz	-4.27	P
802.11ax-HE20	5180 MHz	8.26	P
	5200 MHz	8.51	P
	5240 MHz	8.81	P
	5260 MHz	9.33	P
	5280 MHz	9.31	P
	5320 MHz	9.15	P
	5500 MHz	9.54	P
	5580 MHz	9.65	P
	5700 MHz	8.63	P
802.11ax-HE40	5190 MHz	4.21	P
	5230 MHz	4.84	P
	5270 MHz	4.87	P
	5310 MHz	5.10	P
	5510 MHz	5.42	P
	5550 MHz	4.96	P
	5670 MHz	4.41	P
802.11ax-HE80	5210MHz	-0.04	P
	5290MHz	0.72	P
	5530MHz	0.83	P
	5610MHz	2.22	P

(W2&W3&W4)

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	4.22	P
	5200 MHz	4.39	P

	5240 MHz	4.54	P
	5260 MHz	5.31	P
	5280 MHz	5.25	P
	5320 MHz	4.84	P
	5500 MHz	5.13	P
	5580 MHz	5.81	P
	5700 MHz	5.36	P
802.11n-HT20	5180 MHz	4.16	P
	5200 MHz	4.40	P
	5240 MHz	4.35	P
	5260 MHz	5.01	P
	5280 MHz	4.93	P
	5320 MHz	4.98	P
	5500 MHz	5.11	P
	5580 MHz	5.65	P
	5700 MHz	5.65	P
802.11ac-HT40	5190 MHz	1.49	P
	5230 MHz	1.67	P
	5270 MHz	1.99	P
	5310 MHz	1.95	P
	5510 MHz	2.34	P
	5550 MHz	2.91	P
	5670 MHz	1.96	P
802.11ac HT80	5210MHz	-1.82	P
	5290MHz	-1.41	P
	5530MHz	-1.37	P
	5610MHz	-1.21	P
802.11ax-HE20	5180 MHz	8.27	P
	5200 MHz	8.28	P
	5240 MHz	8.50	P
	5260 MHz	7.52	P
	5280 MHz	7.73	P
	5320 MHz	7.66	P
	5500 MHz	7.39	P
	5580 MHz	7.21	P
	5700 MHz	7.27	P
802.11ax-HE40	5190 MHz	3.92	P
	5230 MHz	4.46	P
	5270 MHz	5.37	P
	5310 MHz	5.70	P
	5510 MHz	6.19	P
	5550 MHz	6.04	P