

# 1 CO-LOCATION

## **Specification of Platform Information**

The EUT (FCC ID: U2M-PCE3203AH) will be installed in below hosts

Brand Name	Model Name	Product Name	Description
			The platform contains wireless modules as below configurations
Google	GFRG200	Platform	<ol> <li>FCC ID: U2M-PCE3203AH + FCC ID: NKRDAXA-GO1</li> <li>FCC ID: U2M-PCE3203AH + FCC ID: U2M-PCE4553AH</li> </ol>
			The platform contains wireless modules as below configurations
Google	GFRG210	Platform	<ol> <li>FCC ID: U2M-PCE3203AH + FCC ID: NKRDAXA-GO1</li> <li>FCC ID: U2M-PCE3203AH + FCC ID: U2M-PCE4553AH</li> </ol>

Note: The platform supports simultaneous transmission and separation distance of simultaneous transmitting antennas is less than 20 cm thus evaluation of co-location is required.

## **Specification of the Wireless Certified Modules**

FCC ID	NKRDAXA-GO1
Product Name	802.11ac 3*3 PCIe module
Brand Name	WNC
Model Name	DAXA-GO1
Operating Frequency	802.11a/n/ac: 5180 MHz ~ 5240 MHz / 5745 ~ 5825 MHz
Modulaton Type	802.11a/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM/ 256QAM)

FCC ID	U2M-PCE4553AH
Product Name	802.11 3T3R a/n/ac module
Brand Name	Senao
Model Name	PCE4553AH
Operating Frequency	802.11a/n/ac: 5180 MHz ~ 5240 MHz / 5745 ~ 5825 MHz
Modulaton Type	802.11a/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM/ 256QAM)



## Antenna Details of Specific Platform

Ant No	Model	Туро	adal Type Connector			Operating Frequencies (MHz) / Antenna Gain (dBi)			
Ant. NO.	WOder	Type	Connector	5150~5250	5250~5350	5470~5725	5725-5850		
1	1002299	Printed	UFL	3.88	3.5	4.33	4.2		
2	1002300	Printed	UFL	2.62	3.16	2.46	4.02		
3	1002301	Printed	UFL	4.16	4.23	3.65	3.43		

Note: Above antennas are certified with wireless modules, FCC ID: NKRDAXA-GO1.

Ant No	Model Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
Ant. NO.	WOUEI	туре	Connector	5150~5250	5250~5350	5470~5725	5725-5850
1	Ant 2 (1002299)	PCB Dipole	UFL	3.875	3.4965	4.3331	4.2025
2	Ant 4 (1002300)	PCB Dipole	UFL	2.6248	3.1641	2.4641	4.0181
3	Ant 6 (1002301)	PCB Dipole	UFL	4.1618	4.2337	3.6489	3.4374

Note: Above antennas are certified with wireless modules, FCC ID: U2M-PCE4553AH.

## Accessories of Specific Platform

	Accessories				
No.	Equipment	Description			
1	AC adapter	Brand Name: Google Model Name: PB-1600-29 Power Rating: I/P: 100-120Vac, 50-60Hz, 2.0A O/P: 12Vdc, 5A DC 1.75m non-shielded cable w/o core			
2	AC adapter	Brand Name: Google Model Name: OTD018 Power Rating: I/P: 100-120Vac, 50-60Hz, 2.0A O/P: 12Vdc, 5A DC 1.75m non-shielded cable w/o core			



#### 2 **TEST CONFIGURATION**

#### 2.1 **Testing Condition**

Test Item	Test Site	Ambient Condition	Tested By	
Radiated Emissions	03CH03-HY	25°C / 62%	Mark Liao	
FCC site registration	No.: 636805			

IC site registration No.: 4086B-1  $\geq$ 

## 2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Channel	Data Rate	Test Configuration
Radiated Emissions	2.4G 11g + 5G 11ac VHT40	CH6 + CH159	6Mbps + MCS 0	1, 2, 3, 4
Noto:				

- 1. 2 AC adapters are used for this device. After pre-test, AC adapter 2 was the worst case and was selected for final testing.
- 2. The selected channel is the maximum power channel of each Wi-Fi module.

3. Test Configurations are listed as follows:

Test Configuration 1: Platform GFRG200: 2.4G(FCC ID: U2M-PCE3203AH) + 5G(FCC ID: NKRDAXA-GO1) Test Configuration 2: Platform GFRG200: 2.4G(FCC ID: U2M-PCE3203AH) + 5G(FCC ID: U2M-PCE4553AH) Test Configuration 3: Platform GFRG210: 2.4G(FCC ID: U2M-PCE3203AH) + 5G(FCC ID: NKRDAXA-GO1) Test Configuration 4: Platform GFRG210: 2.4G(FCC ID: U2M-PCE3203AH) + 5G(FCC ID: U2M-PCE4553AH)



## 3 TEST RESULTS

### 3.1 Transmitter Unwanted Emissions

### 3.1.1 Transmitter Unwanted Emissions Limit

Restricted Band Emissions Limit				
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)	
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300	
0.490~1.705	24000/F(kHz)	33.8 - 23	30	
1.705~30.0	30	29	30	
30~88	100	40	3	
88~216	150	43.5	3	
216~960	200	46	3	
Above 960	500	54	3	

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Un-restricted Band Emissions Limit			
RF output power procedure	Limit (dB)		
Peak output power procedure	20		
Average output power procedure	30		
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within			

any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

#### 3.1.2 Measuring Instruments

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



#### 3.1.3 Test Procedures

	Test Method		
$\boxtimes$	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).		
$\boxtimes$	For the transmitter unwanted emissions shall be measured using following options below:		
	Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.		
	Refer as KDB 558074, clause 12.2.3 measurement procedure peak limit.		
$\boxtimes$	For radiated measurement, refer as ANSI C63.10,		
	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.		
	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.		
	Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.		

### 3.1.4 Test Setup



Note: Test distance is 3m.



Transmitter Conducted Unwanted Emissions		
	EUT	
Spectrum Analyzer		

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

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



#### **Transmitter Radiated Unwanted Emissions Test Configuration** 1 Polarization Н 2.4GHz 11g CH6 + 5GHz 11ac VHT40 CH159 **Operating Function** 90 Level (dBuV/m) Date: 2014-11-28 81.0 72.0 63.0 FCC CLASS-B 54.0 5 45.0 3 6 36.0 27.0 18.0 9.0 0<u>\_</u>30 100. 200. 300. 400. 500. 600. 700. 800. 900. 1000 Frequency (MHz) Limit Read Antenna Cable Preamp A/Pos T/Pos 0ver Freq Level Limit Line Level Factor Loss Factor Remark -----MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 165.65 42.31 -1.19 43.50 59.19 13.79 0.74 31.41 ---**OP** ---Peak 2 197.81 41.06 -2.44 43.50 60.23 11.42 0.79 31.38 --- ---3 318.09 39.05 -6.95 46.00 54.70 14.60 1.06 31.31 --- ---Peak 500.45 44.79 -1.21 46.00 56.20 18.41 1.40 31.22 ---4 ----QP QP 625.01 44.77 -1.23 46.00 53.98 20.40 1.57 31.18 5 ------875.84 39.15 -6.85 46.00 44.91 23.51 1.87 31.14 6 ------ Peak Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

## 3.1.6 Results of Radiated Emissions (Below 1GHz)



			Tran	smitter	Radiate	ed Unw	anted E	missic	ons			
Test Conf	figuration	1				Pola	arizatior	n		V		
Operating	g Function	n 2	2.4GHz 1	1g CH6	+ 5GH	z 11ac	VHT40 (	CH159				
	Level	(dBuV/m)									Date: 201	4-11-28
	90											
	81.0											
	72.0											
	63.0										FCC CL	ASS-B
	54.0	1				4		5				
	45.0		-2		3			ĭ	6			
	36.0											
	27.0											
	18.0											
	9.0											
	030	100.	200.	300.	400.	500. Frequenc	600. y (MHz)	7(	00.	800.	900.	1000
				Over	limit	Road	Antenna	Cable	Preamn		T/Pos	
		Freq	Level	Limit	Line	Level	Factor	Loss	Factor	A) 1 US	1/103	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
	1	165.19	42.42	-1.08	43.50	59.30	13.80	0.73	31.41			QP
	2	199.75	40.22	-3.28	43.50	59.40	11.40	0.80	31.38			Peak
	3	375.32	36.67	-9.33	46.00	50.90	15.91	1.18	31.32			Peak
	4	499.99	44.96	-1.04	46.00	56.38	18.40	1.40	31.22			<u>QP</u> Beek
	6	750 71	39 52	-2.95	46.00	46 58	20.41	1.57	31 11			Peak
	Ū	/ 50.71	55.52	-0.40	40.00	40.00	22.50	1.75	51.11			1 Cak
Note 1: ">	20dB" mea	ans spur	ious emi	ssion le	vels tha	at excee	ed the lev	vel of 2	0 dB be	elow the	e applio	cable limit.
Note 2: "N	l/F" means	Nothing	Found	spuriou	s emissi	ions (N	o spuriou	us emis	sions w	vere de	etected.	)
Note 3: M	easuremer	nt receiv	e antenr	a polar	zation:	H (Hori	zontal), '	v (Verti	cal)			



		Tran	smitter	Radiate	ed Unv	anted E	missio	ons			
Test Configuration	n 2	2			Pol	arizatior	1		Н		
<b>Operating Functio</b>	n 2	2.4GHz 1	1g CH6	6 + 5GH	z 11ac	VHT40 C	CH159				
Level	l (dBuV/m)									Date: 20	14-11-28
90											
72.0											
63.0											
54.0										FCC C	LASS-B
54.0	1				3		4				
40.0				2				5		6	
30.0											
27.0											
18.0											
9.0											
0 <sup>'30</sup>	100.	200.	300.	400.	500.	600.	7	00.	800.	900.	1000
					Frequenc	;y (MHz)					
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	 dB/m	dB	dB	 cm	deg	
1	165.80	42.41	-1.09	43.50	59.30	13.78	0.74	31.41			OP
2	375.32	39.39	-6.61	46.00	53.62	15.91	1.18	31.32			Peak
3	500.01	44.39	-1.61	46.00	55.81	18.40	1.40	31.22			QP
4	625.01	44.92	-1.08	46.00	54.13	20.40	1.57	31.18			QP
5	750.71	39.80	-6.20	46.00	46.86	22.30	1.75	31.11			Peak
6	875.84	37.36	-8.64	46.00	43.12	23.51	1.87	31.14			Peak
Note 1: ">20dP" ma	ane enur	ious omi	ecion la	wole the	t avaa	ad the les	val of 2		low th		cable limit
Note 2: "NI/E" mean	e Nothing	ious elli	SSIULI IE	e omieci					iow in ore do	toctod	
Note 2: Massureme	ant receiv	antenr	a nolar	o ciliioo. ization:	H (Hori	zontal) \	/ (\/arti	cal)	ele ue		•)
INDIE J. MEASUIEITIE		e anteni	ia puidi	ı∠au011.		2011ai),	vveili	caij			



		Trans	smitter	Radiate	ed Unw	anted E	missic	ons			
Test Configuration	2	2			Pola	arization			V		
Operating Function	2	2.4GHz 1	1g CH6	6 + 5GH	z 11ac	VHT40 C	CH159				
on Level (d	BuV/m)									Date: 20	14-11-28
90											
81.0											
(2.0											
63.0										FCC C	LASS-B
54.0	1				3		4				
45.0				2				5		6	
36.0											
27.0											
18.0											
9.0											
<sup>0</sup> 30 10	)0.	200.	300.	400.	500. Frequenc	600. sy (MHz)	7(	00.	800.	900.	1000
			Over	limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	.,	.,	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	165.66	42.43	-1.07	43.50	59.31	13.79	0.74	31.41			QP
2	375.32	38.69	-7.31	46.00	52.92	15.91	1.18	31.32			Peak
3	500.01	44.78	-1.22	46.00	56.20	18.40	1.40	31.22			QP
4	025.50	30 00	-3.09	46.00	52.11	20.41	1.5/	31.18			Peak
5	875 84	35 20	-0.01	46.00	47.05	22.50	1.75	31 14			Peak
0	075.04	55.20	-10.00	40.00	40.00	23.31	1.07	51.14			I Cak
Note 1: ">20dB" mear Note 2: "N/F" means I	าร spur Nothinc	ious emi Found :	ssion le spuriou	evels that s emissi	at excee ions (N	ed the lev	vel of 2 is emis	0 dB be sions w	elow the	e appli tected	cable limit
					· · ·						,



			Tran	smitter	Radiate	ed Unw	anted E	missic	ons			
Test Conf	iguration		3			Pola	arization	Ì		Н		
Operating	Functior	n :	2.4GHz 1	1g CH6	6 + 5GH	z 11ac	VHT40 C	CH159				
	Level	(dRuV/m)									Date: 201	14-11-28
	90											
	81.0											
	63.0											
	54.0										FCC CI	LASS-B
	45.0	1 1	,			5						
	36.0			4							• 	
	27.0											
	18.0											
	9.0											
	0											
	30	100.	200.	300.	400.	500. Frequenc	600. у (MHz)	7	JU.	800.	900.	1000
				0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
		Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
	1	125.00	5 42.46	-1.04	43.50	61.08	12.21	0.63	31.46			Peak
	2	169.20	9 42.17	-1.33	43.50	59.12	13.72	0.74	31.41			QP
	3	205.5	/ 40.68	-2.82	43.50	59.79	11.46	0.81	31.38			Peak
	5	500.0	2 40.24	-1.12	46.00	56.30	14.30	1.40	31.22			OP
	6	875.84	4 40.41	-5.59	46.00	46.17	23.51	1.87	31.14			Peak
Note 1: ">2	20dB" mea	ans spu	rious emi	ssion le	vels that	at excee	ed the lev	/el of 2	0 dB be	low the	e appli	cable limit.
Note 2: "N			g ⊢ound : ∕e antenr	spuriou	s emissi ization:	IONS (NO H (Hari	o spuriou	IS EMIS	sions w	ere de	tected	.)
NOLE 3. IVIE	asureme	nt receiv	e anteni	ia pulai	ı∠au0∏.	חטרו) דו	zonial), v	v (veili	uaij			



				Trans	smitter	Rad	liate	ed Unv	wanted	Er	nissio	ns			
Test Con	figuration		3					Ро	larizatio	on			V		
Operating	g Functior	1	2.4	4GHz 1	1g CH6	6 + 5	GH	z 11ac	VHT40	) C	H159				
					_										
	Lovel	dBu\//m	,											Date: 201	4.11.28
	90		,												
	81.0			_											
	72.0														
	63.0													FCC CI	ASS-B
	54.0		2					5							
	45.0	<u>2</u>	Ĭ	4								6			
	30.0														
	19.0														
	0.0														
	5.0														
	30	100.	2	200.	300.	40	0.	500 Frequen	. 60 cy (MHz)	00.	70	0.	800.	900.	1000
					0ver	Lin	nit	Read	Anten	na	Cable	Preamp	A/Pos	T/Pos	
		Fre	q	Level	Limit	Lir	ne	Leve!	L Factor	r	Loss	Factor	•		Remark
	1	MHZ	ол <sup>(</sup>	dBuV/m	dB dB	dBul	//m 00	dBuV	dB/m 2 1/1 70	9	d B d B	dB 31 69	CM	deg	OP
	2	125.	04 06	38.92	-4.58	43.	.50	57.54	14.7	1	0.63	31.46			Peak
	3	169.	71	42.46	-1.04	43.	50	59.42	2 13.7	1	0.74	31.41			QP
	4	207.	51	39.75	-3.75	43.	.50	58.83	3 11.48	8	0.81	31.37			Peak
	5	500.	45	43.20	-2.80	46.	.00	54.61	18.4	1	1.40	31.22			Peak
	6	750.	71	40.66	-5.34	46.	.00	47.72	2 22.30	0	1.75	31.11			Peak
Note 1· ">	20dR" me	ans en	uric		ssion la	مررماد	the	at exce	ed the I		el of 2	0 dB b	elow th	e annli	cable limit
Note 2: "N	J/F" means	Nothi	na I	Found s	souriou	s em	issi	ions (N	lo snuri	0116	s emis	sions	vere de	etected	
Note 3: M	easureme	nt rece	ive	antenn	a polar	izatio	on:	H (Hoi	izontal)	, V	(Verti	cal)			',
								(		<i>,                                    </i>	· · • · •	,			



	Tran	smitter	Radiate	ed Unw	anted E	missic	ons			
Test Configuration	4			Pola	arization	1		Н		
Operating Function	2.4GHz <sup>2</sup>	11g CH6	+ 5GH	z 11ac	VHT40 C	CH159				
Level (dBuV/n	1)							1	Date: 201	14-11-28
90										
81.0										
72.0										
63.0									FCC CL	ASS-B
54.0				5						
45.0		3	4			6				
36.0										
27.0										
18.0										
9.0										
<sup>0</sup> 30 100.	200.	300.	400.	500.	600.	70	00.	800.	900.	1000
				Frequenc	y (MHz)					
		0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
Fre	eq Level	Limit	Line	Level	Factor	Loss	Factor			Remark
MH2 1 125	. dBuV/m	dB	dBuV/m		dB/m 12 21	dB Q C 2	dB	CM	deg	Deals
2 170	00 41.17	-2.55	43.50	59.79	12.21	0.05	31.40			OP
3 321.	97 37.34	-8.66	46.00	52.90	14.68	1.07	31.31			Peak
4 375.	32 36.18	-9.82	46.00	50.41	15.91	1.18	31.32			Peak
5 500.	02 44.78	-1.22	46.00	56.20	18.40	1.40	31.22			QP
6 625.	58 40.13	-5.87	46.00	49.33	20.41	1.57	31.18			Peak
Note 1: ">20dB" means sp	purious em	ission le	vels tha	t excee	ed the lev	vel of 2	0 <sub>.</sub> dB be	low the	e applio	cable limit.
Note 2: "N/F" means Noth	ing ⊦ound	spurious	s emissi	ons (N	o spuriou	us emis	sions w	ere de	tected.	.)
Note 3: Measurement rec	eive antenr	na polar	zation:	H (Hori	zontal), \	v (Verti	cal)			



		Tran	smitter	Radiate	ed Unw	anted E	missio	ons			
Test Configuratio	n	4			Pola	arization			V		
Operating Function	on	2.4GHz 1	1g CH6	6 + 5GH	z 11ac	VHT40 C	CH159		•		
Leve	l (dBuV/m)									Date: 201	4-11-28
90											
81.0											
62.0											
54.0										FCC CI	ASS-B
54.0		2			5						
45.0	2	1		4				6			
36.0											
27.0											
18.0											
9.0											
030	100.	200.	300.	400.	500.	600.	7	00.	800.	900.	1000
					Frequenc	:y (MHz)					
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Free	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	 MH-7	dBuV/m		dBuV/m	dBuV	 dB/m	dB	dB			
1	42 6	3 32 56	-7 44	40 00	49 25	14 66	0 34	31 69		ueg	OP
2	125.0	)6 37.48	-6.02	43.50	56.10	12.21	0.63	31.46			Peak
3	169.8	3 42.04	-1.46	43.50	59.01	13.70	0.74	31.41			OP
4	375.3	32 38.10	-7.90	46.00	52.33	15.91	1.18	31.32			Peak
5	500.4	44.33	-1.67	46.00	55.74	18.41	1.40	31.22			Peak
6	750.7	1 37.61	-8.39	46.00	44.67	22.30	1.75	31.11			Peak
Note 1: ">20dB" me	eans spi	urious emi	ssion le	evels that	at excee	ed the lev	/el of 2	0 dB be	elow the	e appli	cable limi
Note 2: "N/F" mean	is Nothir	ng Found	spuriou	s emissi	ions (N	o spuriou	us emis	sions v	vere de	tected.	.)
Note 3: Measureme	ent recei	ive antenr	na polar	ization:	H (Hori	zontal), \	V (Verti	cal)			





### 3.1.7 Results for Radiated Emissions (Above 1GHz)

SPORTON INTERNATIONAL INC. TEL : 886-3-327-3456 FAX : 886-3-327-0973



Test Configur	atio	n		1					Po	ola	rizatio	n			V		
Operating Fu	nctio	on		2.4	GHz 1	1g CH6	i + 5	GH	z 11a	c V	/HT40	CH15	9				
11	7 Leve	el (dB	uV/m)													Date: 201	4-11-28
105	3																
03	6																
93.																	
01.	9												_			FCC CL	ASS-B
70.	2																
58.	5	2			4								-		FCO	CLASS-E	3 (AVG)
46.	8				3								-				
35.	1	-[+						<u> </u>									
23.	4	++											-				
11.	7	-++											-				
	0	1 400	0.600	0.80	00	12000	160	000	200	00	2400	0	280	00 3	2000	36000	40000
	1000		0.000	0.00		12000.		100.	Freque	ncy	(MHz)		200		2000.	50000.	40000
						0ver	Lir	mit	Read		Antenna	a Cabi	le	Preamp	A/Pos	T/Pos	
			Freq		Level	Limit	Li	ne	Leve	21	Factor	Los	5	Factor			Remark
		-															
			MHz	d	BuV/m	dB	dBu\	V/m	dBu\	/	dB/m	dB		dB	cm	deg	
:	1	33	58.0	0	34.99	-19.01	54	.00	35.3	86	28.19	5.	72	34.28			Average
:	2	33	58.0	0	48.86	-25.14	74	.00	49.2	23	28.19	5.	72	34.28			Peak
	3	82	32.0	0	38.94	-15.06	54	.00	28.1	8	36.75	8.9	90	34.89			Average
4	4	82	32.0	0	52.43	-21.57	74	.00	41.6	57	36.75	8.9	90	34.89			Peak
lote 1: ">20dF	3" m	eans	s spu	urio	us emi	ssion le	vels	s tha	t exc	eed	d the le	vel of	20	) dB be	low th	e applic	able lin
lote 2: "N/F" n	near	ns N	othir	ng F	ound	spuriou	s err	nissi	ons (	No	spurio	us en	niss	sions w	ere de	etected.	)







				Trans	smitter	Rac	liate	ed Ur	wa	anted E	Emissi	ons				
Test Configura	ation		2					Po	ola	rizatio	n			V		
Operating Fun	ctio	n	2.	4GHz 1	1g CH6	6 + 5	GH	z 11a	c ∖	/HT40 (	CH159	)				
	l evel	(dRuV/m													Date: 201	4-11-28
117		(uzutili	<u> </u>													
105.3																
93.6												-				
81.9															FCC CL	ASS-B
70.2																
58.5		2	-	4										FCO	CLASS-E	<del>(AVG)</del>
46.8		í		3												
35.1																
23.4																
11.7			<u> </u>													
0	1000	4000.60	00.8	000.	12000.	160	)00.	200	00.	2400	)0. 2	8000.	3	2000.	36000.	40000
							I	Freque	ncy	(MHz)						
					0ver	Lir	nit	Read	ł	Antenna	a Cabl	e Pr	eamp	A/Pos	T/Pos	
		Fre	q	Level	Limit	Li	ne	Leve	21	Factor	Loss	Fa	tor			Remark
									,							
1		MHZ	00		dB 22.02	dBu	//m	dBu	/	dB/m	dB E 7		18	cm	deg	Avenage
1		3358	00	AA 16	-22.92	74	00	AA 9	+5	28.19	5.7	2 34	20			Poak
3		8232.	00	39.40	-14.60	54	.00	28.6	54	36.75	8.9	3 34	.89			Average
4		8232.	00	52.15	-21.85	74	.00	41.3	39	36.75	8.9	34	.89			Peak
Note 1: ">20dB	" me	ans sp	ouric	ous emi	ssion le	evels	tha	t exc	ee	d the le	vel of	20 d	B be	low th	e applio	able limit.
Note 2: "N/F" m	eans	s Noth	ing	Found	spuriou	s en	nissi	ons (	No	spurio	us em	ssio	ns w	ere de	etected.	)
Note 3: Measur	eme	nt rece	eive	antenr	na polar	Izati	on: l	H (Ho	oriz	ontal),	V (Ver	tical	)			



			Tran	smitter	Radi	ated U	าพ	anted E	missic	ons				
Test Configura	ation		3			P	ola	rization			Н			
Operating Fun	ctior	۱	2.4GHz 1	11g CH6	6 + 50	Hz 11a	IC \	/HT40 C	CH159					
	Level	(dBuV/m)										Date: 2	014-11-28	
117														
105.3														
93.6														
81.9												FCC	CLASS-B	
70.2														
58.5		2	4								FC	CLASS	6-B (AVG)	
46.8			3											
35.1														
23.4	l													
11.7														
0	1000	4000.600	0.8000.	12000.	1600	0. 20	000	24000	). 28	000. 3	32000.	3600	0. 40000	
						Freque	ency	(MHz)						
				0ver	Limi	t Rea	d	Antenna	Cable	Preamp	A/Pos	T/Po	5	
		Freq	Level	Limit	Line	e Lev	el	Factor	Loss	Factor			Remark	
		MHz	dBuV/m	dB	dBuV/	/m dBu	V	dB/m	dB	dB	cm	de	g	
1		3358.0	0 34.89	-19.11	54.6	0 35.	26	28.19	5.72	34.28			Average	
2		3358.0	48.32	-25.68	74.6	0 48.	69	28.19	5.72	34.28			Peak	
3		8232.0	0 38.63	-15.3/	54.6	00 27.	87	36.75	8.90	34.89			Average	
4	ł	8232.0	52.38	-21.62	74.6	41.	bΖ	36.75	8.90	34.89			Реак	
										. IF :				
Note 1: ">20dB	″ mea	ans spi	irious em	ission le	evels t	hat exc	ee	d the lev	/el of 2	0 dB be	elow th	e app	licable limi	ıt.
Note 2: "N/F" m	leans	Nothir	ng ⊢ound	spuriou	s emi	ssions	NC	spuriou	is emis	SIONS W	/ere de	etecte	з.)	
Note 3: Measur	eme	nt recei	ve antenr	na polar	izatio	n: H (H	oriz	zontal), \	v (Verti	cal)				



		Tran	smitter	Radiat	ed Unv	anted E	missic	ons			
Test Configuratio	n	3			Pola	arizatior	1		V		
Operating Function	on	2.4GHz 1	I1g CH6	6 + 5G⊦	lz 11ac	VHT40 C	CH159		•		
										D-4 204	4 44 20
117	el (dBuV/m)									Date: 201	4-11-28
105.3											
93.6											
81.9										ECC CI	ACCD
70.2											-A33-D
58.5									FCC	CLASS-	B (AVG)
46.8	2										
35.1	1	3									
23.4											
23.4											
11./											
01000	0 4000.600	0.8000.	12000.	16000.	20000	). 2400	0. 28	000. 3	2000.	36000.	40000
					Frequenc	:y (MHz)					
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	3358.0	0 34.72	-19.28	54.00	35.09	28.19	5.72	34.28			Average
2	3358.0	0 48.11	-25.89	74.00	48.48	28.19	5.72	34.28			Peak
3	8232.0	0 38.74	-15.26	54.00	27.98	36.75	8.90	34.89			Average
4	8232.0	0 52.11	-21.89	74.00	41.35	36.75	8.90	34.89			Реак
	eane en	Irious em	ission la	wele th	at exce	nd the lev	vel of 2	0 dR be	low th	e annli	rahle limit
lote 2: "NI/F" mean	ne Nothin		souriou	s emies	ions (N			sions w	iow in ioro da	stactad	
ote 2. IN/F IIIedi	ont rooci	ya anton		ization:	NI) CIIO コート	o spunol					.)
ole 5. measureme	entrecel	ve anteni	ia polar	ization:		zomal),	v (veiti	ual)			



Test Configuration       4       Polarization       H         Operating Function       2.4GHz 11g CH6 + 5GHz 11ac VHT40 CH159	
Operating Function 2.4GHz 11g CH6 + 5GHz 11ac VHT40 CH159	
Level (dBuV/m) Date: 20	14-11-28
105.3	
93.6	
81.9 FCC C	LASS-B
70.2	
58.5 4 FCC CLASS	- <del>B (AVG)</del>
46.8	
35.1	
23.4	
11.7	
<sup>0</sup> 1000 4000.6000.8000. 12000. 16000. 20000. 24000. 28000. 32000. 36000	. 40000
Frequency (MHz)	
Over Limit Read Antenna Cable Preamp A/Pos T/Pos	
Freq Level Limit Line Level Factor Loss Factor	Remark
MHZ dbuv/m db dbuv/m dbuv db/m db db cm deg	Avenage
2 3358 00 45 87 -28 13 74 00 46 24 28 19 5 72 34 28	Pook
3 8232.00 38.70 -15.30 54.00 27.94 36.75 8.90 34.89	Average
4 8232.00 51.65 -22.35 74.00 40.89 36.75 8.90 34.89	Peak
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the appl Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected	icable limit. I.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)	



		Tran	smitter	Radiat	ed Unv	vanted E	missic	ons			
Test Configuration		4 Polarization						V			
Operating Function		2.4GHz 11g CH6 + 5GHz 11ac VHT40 CH159									
	1		-								
										-	
117	l (dBuV/m)		1							Date: 201	4-11-28
105.3											
93.6											
81.9											
70.2										FCC CL	ASS-B
50.5											
58.5	2	4							FCC	CLASS-	S (AVG)
46.8	Ĩ I	3									
35.1											
23.4											
11.7											
0 1000			40000	40000			0 00			20000	
1000	4000.6000	.8000.	12000.	10000.	Frequence	). 2400 :y (MHz)	0. 28	UUU. J	2000.	30000.	40000
			0ver	Limit	Read	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	3358.00	30.92	-23.08	54.00	31.29	28.19	5.72	34.28			Average
2	3358.00	44.39	-29.61	74.00	44.76	28.19	5.72	34.28			Peak
3	8232.00	39.04	-14.96	54.00	28.28	36.75	8.90	34.89			Average
4	8232.00	52.13	-21.87	74.00	41.37	36.75	8.90	34.89			Peak
Note 1: ">20dB" me Note 2: "N/F" mean Note 3: Measureme	eans spur s Nothing ent receiv	rious em g Found re antenr	ission le spuriou na polar	evels the s emiss ization:	at excee sions (N H (Hori	ed the le o spurio zontal), '	vel of 2 us emis V (Verti	0 dB be sions w cal)	elow th	e applic etected.	cable limit )



# 4 TEST EQUIPMENT AND CALIBRATION DATA

Test Item	Radiated Emissions								
Test Site	966 chamber1 / (03CH03-HY)								
Tested Date	Nov. 28, 2014								
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until				
Spectrum	R&S	FSP40	100004	Mar. 27, 2014	Mar. 26, 2015				
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	Sep. 20, 2014	Sep. 19, 2015				
Horn Antenna 1G-18G	EMCO	3115	6741	Jun. 11, 2014	Jun. 10, 2015				
Horn Antenna 18G-40G	SCHWARZBECK	BBHA9170	BBHA9170154	Jan. 10, 2014	Jan. 09, 2015				
Amplifier	HP	8447D	2944A08033	May 05, 2014	May 04, 2015				
Amplifier	Agilent	8449B	3008A02120	Sep. 01, 2014	Aug. 31, 2015				
RF Cable-R03m	Jye Bao	RG142	CB021	Nov. 15, 2014	Nov. 14, 2015				
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	Dec. 11, 2013	Dec. 10, 2014				
Note: Calibration Interval of instruments listed above is one year.									

Loop Antenna	TESEQ	HLA 6120	31244	Dec. 02, 2012	Dec. 01, 2014			
Amplifier	EM	EM18G40G	060604	Oct. 17, 2013	Oct. 16, 2015			
Note: Calibration Interval of instruments listed above is two year.								