



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 22, 2015 ~ Oct. 27, 2015		
Test Mode	Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi		

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5142.31	64.59	74.00	-9.41	59.42	6.13	34.04	35.00	Peak	170	350	VERTICAL
2	5143.27	52.97	54.00	-1.03	47.80	6.13	34.04	35.00	Average	170	350	VERTICAL
3	5203.75	95.17			89.89	6.16	34.12	35.00	Average	170	350	VERTICAL
4	5225.39	105.48			100.13	6.18	34.17	35.00	Peak	170	350	VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5697.00	66.94	68.20	-1.26	61.21	5.77	34.47	34.51	352	188	Peak	HORIZONTAL
2	5722.00	67.96	78.20	-10.24	62.11	5.79	34.57	34.51	352	188	Peak	HORIZONTAL
3	5799.00	107.14			101.05	5.84	34.78	34.53	352	188	Peak	HORIZONTAL
4	5799.00	97.07			90.98	5.84	34.78	34.53	352	188	Average	HORIZONTAL
5	5855.00	66.39	78.20	-11.81	60.06	5.88	34.99	34.54	352	188	Peak	HORIZONTAL
6	5876.00	64.81	68.20	-3.39	58.42	5.89	35.04	34.54	352	188	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11a CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	52.95	54.00	-1.05	47.78	6.13	34.04	35.00	Average	183	232	VERTICAL
2	5150.00	66.42	74.00	-7.58	61.25	6.13	34.04	35.00	Peak	183	232	VERTICAL
3	5182.03	119.80			114.56	6.15	34.09	35.00	Peak	183	232	VERTICAL
4	5182.89	108.74			103.50	6.15	34.09	35.00	Average	183	232	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5148.77	64.92	74.00	-9.08	59.75	6.13	34.04	35.00	Peak	202	44	VERTICAL
2	5150.00	52.68	54.00	-1.32	47.51	6.13	34.04	35.00	Average	202	44	VERTICAL
3	5193.92	122.58			117.30	6.16	34.12	35.00	Peak	202	44	VERTICAL
4	5194.79	111.70			106.42	6.16	34.12	35.00	Average	202	44	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5140.58	59.32	74.00	-14.68	54.15	6.13	34.04	35.00	Peak	204	315	VERTICAL
2	5142.75	47.77	54.00	-6.23	42.60	6.13	34.04	35.00	Average	204	315	VERTICAL
3	5237.83	112.52			107.17	6.18	34.17	35.00	Average	204	315	VERTICAL
4	5237.83	122.19			116.84	6.18	34.17	35.00	Peak	204	315	VERTICAL
5	5359.12	47.30	54.00	-6.70	41.68	6.26	34.36	35.00	Average	204	315	VERTICAL
6	5377.35	61.02	74.00	-12.98	55.35	6.27	34.39	34.99	Peak	204	315	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11a CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5712.00	66.76	68.20	-1.44	60.71	6.44	34.64	35.03	Peak	196	135	VERTICAL
2	5724.16	73.74	78.20	-4.46	67.68	6.45	34.64	35.03	Peak	196	135	VERTICAL
3	5749.92	120.87			114.81	6.45	34.65	35.04	Peak	196	135	VERTICAL
4	5750.21	109.95			103.89	6.45	34.65	35.04	Average	196	135	VERTICAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5715.00	66.87	68.20	-1.33	60.82	6.44	34.64	35.03	Peak	207	136	VERTICAL
2	5725.00	71.00	78.20	-7.20	64.94	6.45	34.64	35.03	Peak	207	136	VERTICAL
3	5790.21	113.84			107.76	6.47	34.66	35.05	Average	207	136	VERTICAL
4	5790.21	124.24			118.16	6.47	34.66	35.05	Peak	207	136	VERTICAL
5	5850.00	71.52	78.20	-6.68	65.42	6.49	34.67	35.06	Peak	207	136	VERTICAL
6	5867.24	65.51	68.20	-2.69	59.41	6.50	34.67	35.07	Peak	207	136	VERTICAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5830.21	109.65			103.56	6.48	34.67	35.06	Average	199	135	VERTICAL
2	5830.79	120.44			114.35	6.48	34.67	35.06	Peak	199	135	VERTICAL
3	5851.05	76.86	78.20	-1.34	70.76	6.49	34.67	35.06	Peak	199	135	VERTICAL
4	5870.44	62.65	68.20	-5.55	56.55	6.50	34.67	35.07	Peak	199	135	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 36

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.90	65.93	74.00	-8.07	60.76	6.13	34.04	35.00	Peak	225	88 VERTICAL
2	5150.00	52.18	54.00	-1.82	47.01	6.13	34.04	35.00	Average	225	88 VERTICAL
3	5184.05	120.25			115.01	6.15	34.09	35.00	Peak	225	88 VERTICAL
4	5185.21	108.51			103.27	6.15	34.09	35.00	Average	225	88 VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5145.88	52.80	54.00	-1.20	47.63	6.13	34.04	35.00	Average	236	87 VERTICAL
2	5146.74	66.39	74.00	-7.61	61.22	6.13	34.04	35.00	Peak	236	87 VERTICAL
3	5205.21	111.73			106.45	6.16	34.12	35.00	Average	236	87 VERTICAL
4	5205.50	123.08			117.80	6.16	34.12	35.00	Peak	236	87 VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.26	47.15	54.00	-6.85	41.98	6.13	34.04	35.00	Average	210	30 VERTICAL
2	5150.00	59.42	74.00	-14.58	54.25	6.13	34.04	35.00	Peak	210	30 VERTICAL
3	5231.75	110.63			105.28	6.18	34.17	35.00	Average	210	30 VERTICAL
4	5232.62	119.60			114.25	6.18	34.17	35.00	Peak	210	30 VERTICAL
5	5351.74	60.22	74.00	-13.78	54.60	6.26	34.36	35.00	Peak	210	30 VERTICAL
6	5352.60	47.34	54.00	-6.66	41.72	6.26	34.36	35.00	Average	210	30 VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5710.41	66.60	74.00	-7.40	60.55	6.44	34.64	35.03	Peak	200	135	VERTICAL
2	5710.70	51.77	54.00	-2.23	45.72	6.44	34.64	35.03	Average	200	135	VERTICAL
3	5723.15	73.64	78.20	-4.56	67.58	6.45	34.64	35.03	Peak	200	135	VERTICAL
4	5750.21	108.90			102.84	6.45	34.65	35.04	Average	200	135	VERTICAL
5	5750.21	120.60			114.54	6.45	34.65	35.04	Peak	200	135	VERTICAL

Item 4, 5 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5711.92	67.15	68.20	-1.05	61.10	6.44	34.64	35.03	Peak	202	279	VERTICAL
2	5722.05	72.68	78.20	-5.52	66.62	6.45	34.64	35.03	Peak	202	279	VERTICAL
3	5790.79	112.33			106.25	6.47	34.66	35.05	Average	202	279	VERTICAL
4	5792.24	123.88			117.80	6.47	34.66	35.05	Peak	202	279	VERTICAL
5	5850.85	72.54	78.20	-5.66	66.44	6.49	34.67	35.06	Peak	202	279	VERTICAL
6	5860.00	65.78	68.20	-2.42	59.68	6.50	34.67	35.07	Peak	202	279	VERTICAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5830.64	109.39			103.30	6.48	34.67	35.06	Average	208	135	VERTICAL
2	5831.10	119.24			113.15	6.48	34.67	35.06	Peak	208	135	VERTICAL
3	5850.00	76.96	78.20	-1.24	70.86	6.49	34.67	35.06	Peak	208	135	VERTICAL
4	5873.48	63.73	68.20	-4.47	57.62	6.50	34.68	35.07	Peak	208	135	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5148.90	64.05	74.00	-9.95	58.88	6.13	34.04	35.00	Peak	203	44	VERTICAL
2	5150.00	52.13	54.00	-1.87	46.96	6.13	34.04	35.00	Average	203	44	VERTICAL
3	5184.21	103.50			98.26	6.15	34.09	35.00	Average	203	44	VERTICAL
4	5184.79	113.01			107.77	6.15	34.09	35.00	Peak	203	44	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5148.96	52.22	54.00	-1.78	47.05	6.13	34.04	35.00	Average	205	315	VERTICAL
2	5148.96	63.97	74.00	-10.03	58.80	6.13	34.04	35.00	Peak	205	315	VERTICAL
3	5227.83	108.47			103.12	6.18	34.17	35.00	Average	205	315	VERTICAL
4	5229.28	118.19			112.84	6.18	34.17	35.00	Peak	205	315	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 151

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5711.58	66.43	68.20	-1.77	60.38	6.44	34.64	35.03	Peak	202	135	VERTICAL
2	5719.11	69.55	78.20	-8.65	63.49	6.45	34.64	35.03	Peak	202	135	VERTICAL
3	5760.50	114.43			108.37	6.46	34.65	35.05	Peak	202	135	VERTICAL
4	5760.79	104.72			98.66	6.46	34.65	35.05	Average	202	135	VERTICAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5700.79	65.64	68.20	-2.56	59.59	6.44	34.64	35.03	Peak	201	278	VERTICAL
2	5721.63	69.61	78.20	-8.59	63.55	6.45	34.64	35.03	Peak	201	278	VERTICAL
3	5801.51	107.04			100.96	6.47	34.66	35.05	Average	201	278	VERTICAL
4	5802.38	116.44			110.36	6.47	34.66	35.05	Peak	201	278	VERTICAL
5	5859.69	68.87	78.20	-9.33	62.77	6.50	34.67	35.07	Peak	201	278	VERTICAL
6	5860.00	67.01	68.20	-1.19	60.91	6.50	34.67	35.07	Peak	201	278	VERTICAL

Item 3, 4 are the fundamental frequency at 5795 MHz.



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 23, 2015 ~ Oct. 24, 2015		
Test Mode	Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Channel 42

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5147.77	64.85	74.00	-9.15	59.68	6.13	34.04	35.00	Peak	199	42 VERTICAL
2	5150.00	52.34	54.00	-1.66	47.17	6.13	34.04	35.00	Average	199	42 VERTICAL
3	5185.40	106.51			101.27	6.15	34.09	35.00	Peak	199	42 VERTICAL
4	5204.79	97.02			91.74	6.16	34.12	35.00	Average	199	42 VERTICAL
5	5350.72	47.00	54.00	-7.00	41.38	6.26	34.36	35.00	Average	199	42 VERTICAL
6	5384.73	59.70	74.00	-14.30	54.00	6.28	34.41	34.99	Peak	199	42 VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5704.09	66.54	68.20	-1.66	60.49	6.44	34.64	35.03	Peak	207	278 VERTICAL
2	5722.18	67.10	78.20	-11.10	61.04	6.45	34.64	35.03	Peak	207	278 VERTICAL
3	5780.79	97.13			91.06	6.46	34.66	35.05	Average	207	278 VERTICAL
4	5782.24	107.25			101.18	6.46	34.66	35.05	Peak	207	278 VERTICAL
5	5859.28	62.08	78.20	-16.12	55.98	6.50	34.67	35.07	Peak	207	278 VERTICAL
6	5861.83	64.47	68.20	-3.73	58.37	6.50	34.67	35.07	Peak	207	278 VERTICAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11a CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 16, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5145.37	47.57	54.00	-6.43	42.40	6.13	34.04	35.00	Average	297	301	HORIZONTAL
2	5148.70	59.29	74.00	-14.71	54.12	6.13	34.04	35.00	Peak	297	301	HORIZONTAL
3	5183.33	107.69			102.45	6.15	34.09	35.00	Average	297	301	HORIZONTAL
4	5184.63	117.91			112.67	6.15	34.09	35.00	Peak	297	301	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5144.50	51.21	54.00	-2.79	46.04	6.13	34.04	35.00	Average	300	304	HORIZONTAL
2	5144.79	66.72	74.00	-7.28	61.55	6.13	34.04	35.00	Peak	300	304	HORIZONTAL
3	5203.18	111.40			106.12	6.16	34.12	35.00	Average	300	304	HORIZONTAL
4	5204.05	121.87			116.59	6.16	34.12	35.00	Peak	300	304	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5146.09	58.18	74.00	-15.82	53.01	6.13	34.04	35.00	Peak	279	314	VERTICAL
2	5146.96	46.00	54.00	-8.00	40.83	6.13	34.04	35.00	Average	279	314	VERTICAL
3	5242.60	107.83			102.43	6.20	34.20	35.00	Average	279	314	VERTICAL
4	5243.04	118.36			112.96	6.20	34.20	35.00	Peak	279	314	VERTICAL
5	5351.30	58.10	74.00	-15.90	52.48	6.26	34.36	35.00	Peak	279	314	VERTICAL
6	5356.95	46.37	54.00	-7.63	40.75	6.26	34.36	35.00	Average	279	314	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11a CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 17, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5712.11	51.29	54.00	-2.71	45.24	6.44	34.64	35.03	Average	263	61	HORIZONTAL
2	5712.25	65.17	74.00	-8.83	59.12	6.44	34.64	35.03	Peak	263	61	HORIZONTAL
3	5723.12	68.15	78.20	-10.05	62.09	6.45	34.64	35.03	Peak	263	61	HORIZONTAL
4	5750.64	116.91			110.85	6.45	34.65	35.04	Peak	263	61	HORIZONTAL
5	5750.79	105.74			99.68	6.45	34.65	35.04	Average	263	61	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5709.36	62.52	74.00	-11.48	56.47	6.44	34.64	35.03	Peak	245	305	HORIZONTAL
2	5713.26	49.29	54.00	-4.71	43.24	6.44	34.64	35.03	Average	245	305	HORIZONTAL
3	5721.96	69.02	78.20	-9.18	62.96	6.45	34.64	35.03	Peak	245	305	HORIZONTAL
4	5788.47	111.74			105.66	6.47	34.66	35.05	Average	245	305	HORIZONTAL
5	5788.47	122.12			116.04	6.47	34.66	35.05	Peak	245	305	HORIZONTAL
6	5854.34	63.38	78.20	-14.82	57.27	6.50	34.67	35.06	Peak	245	305	HORIZONTAL
7	5866.08	61.06	74.00	-12.94	54.96	6.50	34.67	35.07	Peak	245	305	HORIZONTAL
8	5887.79	47.72	54.00	-6.28	41.60	6.51	34.68	35.07	Average	245	305	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5827.60	119.09			113.00	6.48	34.67	35.06	Peak	232	309	HORIZONTAL
2	5827.89	108.59			102.50	6.48	34.67	35.06	Average	232	309	HORIZONTAL
3	5851.45	74.53	78.20	-3.67	68.43	6.49	34.67	35.06	Peak	232	309	HORIZONTAL
4	5860.87	51.12	54.00	-2.88	45.02	6.50	34.67	35.07	Average	232	309	HORIZONTAL
5	5861.74	66.60	74.00	-7.40	60.50	6.50	34.67	35.07	Peak	232	309	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 16, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5145.66	60.04	74.00	-13.96	54.87	6.13	34.04	35.00	Peak	284	57	HORIZONTAL
2	5150.00	46.20	54.00	-7.80	41.03	6.13	34.04	35.00	Average	284	57	HORIZONTAL
3	5178.26	106.48			101.24	6.15	34.09	35.00	Average	284	57	HORIZONTAL
4	5178.55	117.67			112.43	6.15	34.09	35.00	Peak	284	57	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5138.42	62.92	74.00	-11.08	57.79	6.12	34.01	35.00	Peak	296	58	HORIZONTAL
2	5150.00	50.30	54.00	-3.70	45.13	6.13	34.04	35.00	Average	296	58	HORIZONTAL
3	5198.26	121.34			116.06	6.16	34.12	35.00	Peak	296	58	HORIZONTAL
4	5198.55	110.34			105.06	6.16	34.12	35.00	Average	296	58	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5114.83	59.48	74.00	-14.52	54.39	6.11	33.99	35.01	Peak	291	60	HORIZONTAL
2	5146.53	46.19	54.00	-7.81	41.02	6.13	34.04	35.00	Average	291	60	HORIZONTAL
3	5238.70	121.64			116.29	6.18	34.17	35.00	Peak	291	60	HORIZONTAL
4	5239.13	109.85			104.50	6.18	34.17	35.00	Average	291	60	HORIZONTAL
5	5350.43	46.01	54.00	-7.99	40.39	6.26	34.36	35.00	Average	291	60	HORIZONTAL
6	5352.60	59.30	74.00	-14.70	53.68	6.26	34.36	35.00	Peak	291	60	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 17, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 149

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5707.62	62.97	74.00	-11.03	56.92	6.44	34.64	35.03	Peak	249	306 HORIZONTAL
2	5709.21	48.67	54.00	-5.33	42.62	6.44	34.64	35.03	Average	249	306 HORIZONTAL
3	5724.71	67.50	78.20	-10.70	61.44	6.45	34.64	35.03	Peak	249	306 HORIZONTAL
4	5747.46	105.69			99.63	6.45	34.65	35.04	Average	249	306 HORIZONTAL
5	5747.75	117.64			111.58	6.45	34.65	35.04	Peak	249	306 HORIZONTAL

Item 4, 5 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5713.26	62.56	74.00	-11.44	56.51	6.44	34.64	35.03	Peak	248	303 HORIZONTAL
2	5715.00	48.88	54.00	-5.12	42.83	6.44	34.64	35.03	Average	248	303 HORIZONTAL
3	5724.13	68.26	78.20	-9.94	62.20	6.45	34.64	35.03	Peak	248	303 HORIZONTAL
4	5788.04	110.81			104.73	6.47	34.66	35.05	Average	248	303 HORIZONTAL
5	5788.91	121.77			115.69	6.47	34.66	35.05	Peak	248	303 HORIZONTAL
6	5850.87	63.20	78.20	-15.00	57.10	6.49	34.67	35.06	Peak	248	303 HORIZONTAL
7	5861.74	60.00	74.00	-14.00	53.90	6.50	34.67	35.07	Peak	248	303 HORIZONTAL
8	5886.92	47.29	54.00	-6.71	41.18	6.50	34.68	35.07	Average	248	303 HORIZONTAL

Item 4, 5 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5828.18	107.81			101.72	6.48	34.67	35.06	Average	256	300 HORIZONTAL
2	5828.76	119.30			113.21	6.48	34.67	35.06	Peak	256	300 HORIZONTAL
3	5850.00	75.97	78.20	-2.23	69.87	6.49	34.67	35.06	Peak	256	300 HORIZONTAL
4	5861.74	49.10	54.00	-4.90	43.00	6.50	34.67	35.07	Average	256	300 HORIZONTAL
5	5863.18	64.16	74.00	-9.84	58.06	6.50	34.67	35.07	Peak	256	300 HORIZONTAL

Item 1, 2 are the fundamental frequency at 5825 MHz.



Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 16, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 38

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	49.73	54.00	-4.27	44.56	6.13	34.04	35.00	Average	286	62 HORIZONTAL
2	5150.00	62.31	74.00	-11.69	57.14	6.13	34.04	35.00	Peak	286	62 HORIZONTAL
3	5187.97	100.66			95.42	6.15	34.09	35.00	Average	286	62 HORIZONTAL
4	5188.55	111.07			105.83	6.15	34.09	35.00	Peak	286	62 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.70	49.41	54.00	-4.59	44.24	6.13	34.04	35.00	Average	288	55 HORIZONTAL
2	5149.13	62.30	74.00	-11.70	57.13	6.13	34.04	35.00	Peak	288	55 HORIZONTAL
3	5228.84	104.20			98.85	6.18	34.17	35.00	Average	288	55 HORIZONTAL
4	5228.84	115.15			109.80	6.18	34.17	35.00	Peak	288	55 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 17, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5699.08	64.06	74.00	-9.94	58.02	6.43	34.64	35.03	Peak	242	305	HORIZONTAL
2	5715.00	51.34	54.00	-2.66	45.29	6.44	34.64	35.03	Average	242	305	HORIZONTAL
3	5725.00	69.69	78.20	-8.51	63.63	6.45	34.64	35.03	Peak	242	305	HORIZONTAL
4	5757.89	100.75			94.69	6.46	34.65	35.05	Average	242	305	HORIZONTAL
5	5757.89	111.27			105.21	6.46	34.65	35.05	Peak	242	305	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5755 MHz.

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5715.00	50.38	54.00	-3.62	44.33	6.44	34.64	35.03	Average	243	304	HORIZONTAL
2	5715.00	61.96	74.00	-12.04	55.91	6.44	34.64	35.03	Peak	243	304	HORIZONTAL
3	5717.19	65.44	78.20	-12.76	59.39	6.44	34.64	35.03	Peak	243	304	HORIZONTAL
4	5798.47	103.89			97.81	6.47	34.66	35.05	Average	243	304	HORIZONTAL
5	5799.34	115.09			109.01	6.47	34.66	35.05	Peak	243	304	HORIZONTAL
6	5858.25	65.56	78.20	-12.64	59.46	6.50	34.67	35.07	Peak	243	304	HORIZONTAL
7	5860.00	50.83	54.00	-3.17	44.73	6.50	34.67	35.07	Average	243	304	HORIZONTAL
8	5860.00	64.48	74.00	-9.52	58.38	6.50	34.67	35.07	Peak	243	304	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5795 MHz.

Temperature	25°C	Humidity	55%
Test Engineer	Stim Sung	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3 + Chain 4
Test Date	Oct. 16, 2015 ~ Oct. 17, 2015		
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Channel 42

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.83	50.14	54.00	-3.86	44.97	6.13	34.04	35.00	Average	298	60	HORIZONTAL
2	5147.83	61.74	74.00	-12.26	56.57	6.13	34.04	35.00	Peak	298	60	HORIZONTAL
3	5188.29	94.01			88.77	6.15	34.09	35.00	Average	298	60	HORIZONTAL
4	5189.02	103.96			98.72	6.15	34.09	35.00	Peak	298	60	HORIZONTAL
5	5351.45	46.80	54.00	-7.20	41.18	6.26	34.36	35.00	Average	298	60	HORIZONTAL
6	5352.89	58.32	74.00	-15.68	52.70	6.26	34.36	35.00	Peak	298	60	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5698.94	51.11	54.00	-2.89	45.07	6.43	34.64	35.03	Average	265	300	HORIZONTAL
2	5711.96	65.50	74.00	-8.50	59.45	6.44	34.64	35.03	Peak	265	300	HORIZONTAL
3	5718.92	66.35	78.20	-11.85	60.29	6.45	34.64	35.03	Peak	265	300	HORIZONTAL
4	5778.91	93.41			87.34	6.46	34.66	35.05	Average	265	300	HORIZONTAL
5	5799.31	103.56			97.48	6.47	34.66	35.05	Peak	265	300	HORIZONTAL
6	5858.70	63.80	78.20	-14.40	57.70	6.50	34.67	35.07	Peak	265	300	HORIZONTAL
7	5860.00	51.04	54.00	-2.96	44.94	6.50	34.67	35.07	Average	265	300	HORIZONTAL
8	5860.87	63.43	74.00	-10.57	57.33	6.50	34.67	35.07	Peak	265	300	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5775 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.8. Frequency Stability Measurement

4.8.1. Limit

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

4.8.2. Measuring Instruments and Setting

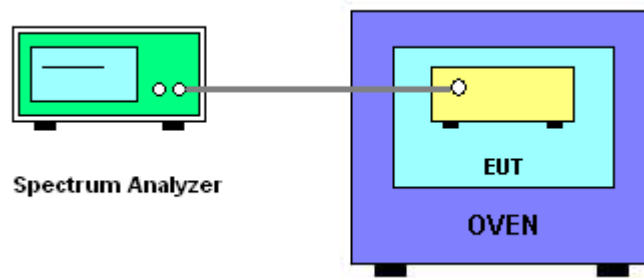
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f) / f_c \times 10^6$ ppm and the limit is less than ± 20 ppm (IEEE 802.11n specification).
6. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
7. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
8. Extreme temperature is $-20^\circ\text{C} \sim 50^\circ\text{C}$.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Oct. 23, 2015 ~ Nov. 10, 2015
Test Mode	Mode 1: EUT 1 + Set 1 Ceiling Mount Omni Antenna / 7 dBi Mode 2: EUT 1 + Set 2 Sector Antenna / 6.5 dBi Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi Mode 5: EUT 1 + Set 5 Sector Antenna / 4.5 dBi Mode 6: EUT 1 + Set 6 Sector Antenna / 4 dBi Mode 7: EUT 1 + Set 9 Dipole Antenna / 4.67 dBi		

Mode: 20 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage (V)	Measurement Frequency (MHz)			
	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5200.0068	5200.0054	5200.0036	5200.0015
110.00	5200.0056	5200.0043	5200.0027	5200.0008
93.50	5200.0042	5200.0031	5200.0019	5199.9997
Max. Deviation (MHz)	0.0068	0.0054	0.0036	0.0015
Max. Deviation (ppm)	1.31	1.04	0.69	0.29
Result	Complies			

Temperature vs. Frequency Stability

Temperature (°C)	Measurement Frequency (MHz)			
	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5200.0110	5200.0097	5200.0080	5200.0056
-10	5200.0095	5200.0083	5200.0067	5200.0048
0	5200.0081	5200.0069	5200.0050	5200.0028
10	5200.0068	5200.0055	5200.0040	5200.0022
20	5200.0056	5200.0043	5200.0027	5200.0008
30	5200.0042	5200.0031	5200.0017	5200.0001
40	5200.0026	5200.0011	5199.9995	5199.9975
50	5200.0009	5199.9997	5199.9982	5199.9955
Max. Deviation (MHz)	0.0110	0.0097	0.0080	0.0056
Max. Deviation (ppm)	2.12	1.87	1.54	1.08
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5785.0025	5785.0011	5784.9993	5784.9972
110.00	5785.0013	5785.0000	5784.9984	5784.9965
93.50	5784.9999	5784.9988	5784.9976	5784.9954
Max. Deviation (MHz)	0.0025	0.0012	0.0024	0.0046
Max. Deviation (ppm)	0.43	0.21	0.41	0.80
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5785.0067	5785.0054	5785.0037	5785.0013
-10	5785.0052	5785.0040	5785.0024	5785.0005
0	5785.0038	5785.0026	5785.0007	5784.9985
10	5785.0025	5785.0012	5784.9997	5784.9979
20	5785.0013	5785.0000	5784.9984	5784.9965
30	5784.9999	5784.9988	5784.9974	5784.9958
40	5784.9983	5784.9968	5784.9952	5784.9932
50	5784.9966	5784.9954	5784.9939	5784.9912
Max. Deviation (MHz)	0.0067	0.0054	0.0061	0.0088
Max. Deviation (ppm)	1.16	0.93	1.05	1.52
Result	Complies			

Mode: 40 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5190.0029	5190.0015	5189.9997	5189.9976
110.00	5190.0017	5190.0004	5189.9988	5189.9969
93.50	5190.0003	5189.9992	5189.9980	5189.9958
Max. Deviation (MHz)	0.0029	0.0015	0.0020	0.0042
Max. Deviation (ppm)	0.56	0.29	0.39	0.81
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5190.0071	5190.0058	5190.0041	5190.0017
-10	5190.0056	5190.0044	5190.0028	5190.0009
0	5190.0042	5190.0030	5190.0011	5189.9989
10	5190.0029	5190.0016	5190.0001	5189.9983
20	5190.0017	5190.0004	5189.9988	5189.9969
30	5190.0003	5189.9992	5189.9978	5189.9962
40	5189.9987	5189.9972	5189.9956	5189.9936
50	5189.9970	5189.9958	5189.9943	5189.9916
Max. Deviation (MHz)	0.0071	0.0058	0.0057	0.0084
Max. Deviation (ppm)	1.37	1.12	1.10	1.62
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5755.0099	5755.0085	5755.0067	5755.0046
110.00	5755.0087	5755.0074	5755.0058	5755.0039
93.50	5755.0073	5755.0062	5755.0050	5755.0028
Max. Deviation (MHz)	0.0099	0.0085	0.0067	0.0046
Max. Deviation (ppm)	1.72	1.48	1.16	0.80
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5755.0141	5755.0128	5755.0111	5755.0087
-10	5755.0126	5755.0114	5755.0098	5755.0079
0	5755.0112	5755.0100	5755.0081	5755.0059
10	5755.0099	5755.0086	5755.0071	5755.0053
20	5755.0087	5755.0074	5755.0058	5755.0039
30	5755.0073	5755.0062	5755.0048	5755.0032
40	5755.0057	5755.0042	5755.0026	5755.0006
50	5755.0040	5755.0028	5755.0013	5754.9986
Max. Deviation (MHz)	0.0141	0.0128	0.0111	0.0087
Max. Deviation (ppm)	2.45	2.22	1.93	1.51
Result	Complies			

Mode: 80 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5210.0042	5210.0028	5210.0010	5209.9989
110.00	5210.0030	5210.0017	5210.0001	5209.9982
93.50	5210.0016	5210.0005	5209.9993	5209.9971
Max. Deviation (MHz)	0.0042	0.0028	0.0010	0.0029
Max. Deviation (ppm)	0.81	0.54	0.19	0.56
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5210.0084	5210.0071	5210.0054	5210.0030
-10	5210.0069	5210.0057	5210.0041	5210.0022
0	5210.0055	5210.0043	5210.0024	5210.0002
10	5210.0042	5210.0029	5210.0014	5209.9996
20	5210.0030	5210.0017	5210.0001	5209.9982
30	5210.0016	5210.0005	5209.9991	5209.9975
40	5210.0000	5209.9985	5209.9969	5209.9949
50	5209.9983	5209.9971	5209.9956	5209.9929
Max. Deviation (MHz)	0.0084	0.0071	0.0054	0.0071
Max. Deviation (ppm)	1.61	1.36	1.04	1.36
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5775.0029	5775.0015	5774.9997	5774.9976
110.00	5775.0017	5775.0004	5774.9988	5774.9969
93.50	5775.0003	5774.9992	5774.9980	5774.9958
Max. Deviation (MHz)	0.0029	0.0015	0.0020	0.0042
Max. Deviation (ppm)	0.50	0.26	0.35	0.73
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5775.0071	5775.0058	5775.0041	5775.0017
-10	5775.0056	5775.0044	5775.0028	5775.0009
0	5775.0042	5775.0030	5775.0011	5774.9989
10	5775.0029	5775.0016	5775.0001	5774.9983
20	5775.0017	5775.0004	5774.9988	5774.9969
30	5775.0003	5774.9992	5774.9978	5774.9962
40	5774.9987	5774.9972	5774.9956	5774.9936
50	5774.9970	5774.9958	5774.9943	5774.9916
Max. Deviation (MHz)	0.0071	0.0058	0.0057	0.0084
Max. Deviation (ppm)	1.23	1.00	0.99	1.45
Result	Complies			

Temperature	25°C	Humidity	50%
Test Engineer	Eddie Weng & Lucas Huang	Test Date	Oct. 20, 2015
Test Mode	Mode 8: EUT 2 + Set 10 PIFA Antenna / Chain1:5.84 dBi, Chain2:5.50 dBi, Chain3:5.84 dBi, Chain4:5.65 dBi		

Mode: 20 MHz / Chain 4

Voltage vs. Frequency Stability

Voltage (V)	Measurement Frequency (MHz)			
	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5200.0559	5200.0545	5200.0527	5200.0506
110.00	5200.0547	5200.0534	5200.0518	5200.0499
93.50	5200.0533	5200.0522	5200.0510	5200.0488
Max. Deviation (MHz)	0.0559	0.0545	0.0527	0.0506
Max. Deviation (ppm)	10.75	10.48	10.13	9.73
Result	Complies			

Temperature vs. Frequency Stability

Temperature (°C)	Measurement Frequency (MHz)			
	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5200.0601	5200.0588	5200.0571	5200.0547
-10	5200.0586	5200.0574	5200.0558	5200.0539
0	5200.0572	5200.0560	5200.0541	5200.0519
10	5200.0559	5200.0546	5200.0531	5200.0513
20	5200.0547	5200.0534	5200.0518	5200.0499
30	5200.0533	5200.0522	5200.0508	5200.0492
40	5200.0517	5200.0502	5200.0486	5200.0466
50	5200.0500	5200.0488	5200.0473	5200.0446
Max. Deviation (MHz)	0.0601	0.0588	0.0571	0.0547
Max. Deviation (ppm)	11.56	11.31	10.98	10.52
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5785.0586	5785.0572	5785.0554	5785.0533
110.00	5785.0574	5785.0561	5785.0545	5785.0526
93.50	5785.0560	5785.0549	5785.0537	5785.0515
Max. Deviation (MHz)	0.0586	0.0572	0.0554	0.0533
Max. Deviation (ppm)	10.13	9.89	9.58	9.21
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5785.0628	5785.0615	5785.0598	5785.0574
-10	5785.0613	5785.0601	5785.0585	5785.0566
0	5785.0599	5785.0587	5785.0568	5785.0546
10	5785.0586	5785.0573	5785.0558	5785.0540
20	5785.0574	5785.0561	5785.0545	5785.0526
30	5785.0560	5785.0549	5785.0535	5785.0519
40	5785.0544	5785.0529	5785.0513	5785.0493
50	5785.0527	5785.0515	5785.0500	5785.0473
Max. Deviation (MHz)	0.0628	0.0615	0.0598	0.0574
Max. Deviation (ppm)	10.86	10.63	10.34	9.92
Result	Complies			

Mode: 40 MHz / Chain 4

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5190.0510	5190.0496	5190.0478	5190.0457
110.00	5190.0498	5190.0485	5190.0469	5190.0450
93.50	5190.0484	5190.0473	5190.0461	5190.0439
Max. Deviation (MHz)	0.0510	0.0496	0.0478	0.0457
Max. Deviation (ppm)	9.83	9.56	9.21	8.81
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5190.0552	5190.0539	5190.0522	5190.0498
-10	5190.0537	5190.0525	5190.0509	5190.0490
0	5190.0523	5190.0511	5190.0492	5190.0470
10	5190.0510	5190.0497	5190.0482	5190.0464
20	5190.0498	5190.0485	5190.0469	5190.0450
30	5190.0484	5190.0473	5190.0459	5190.0443
40	5190.0468	5190.0453	5190.0437	5190.0417
50	5190.0451	5190.0439	5190.0424	5190.0397
Max. Deviation (MHz)	0.0552	0.0539	0.0522	0.0498
Max. Deviation (ppm)	10.64	10.39	10.06	9.60
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5755.0635	5755.0621	5755.0603	5755.0582
110.00	5755.0623	5755.0610	5755.0594	5755.0575
93.50	5755.0609	5755.0598	5755.0586	5755.0564
Max. Deviation (MHz)	0.0635	0.0621	0.0603	0.0582
Max. Deviation (ppm)	11.03	10.79	10.48	10.11
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5755.0677	5755.0664	5755.0647	5755.0623
-10	5755.0662	5755.0650	5755.0634	5755.0615
0	5755.0648	5755.0636	5755.0617	5755.0595
10	5755.0635	5755.0622	5755.0607	5755.0589
20	5755.0623	5755.0610	5755.0594	5755.0575
30	5755.0609	5755.0598	5755.0584	5755.0568
40	5755.0593	5755.0578	5755.0562	5755.0542
50	5755.0576	5755.0564	5755.0549	5755.0522
Max. Deviation (MHz)	0.0677	0.0664	0.0647	0.0623
Max. Deviation (ppm)	11.76	11.54	11.24	10.83
Result	Complies			

Mode: 80 MHz / Chain 4

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5210.0603	5210.0589	5210.0571	5210.0550
110.00	5210.0591	5210.0578	5210.0562	5210.0543
93.50	5210.0577	5210.0566	5210.0554	5210.0532
Max. Deviation (MHz)	0.0603	0.0589	0.0571	0.0550
Max. Deviation (ppm)	11.57	11.31	10.96	10.56
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5210.0645	5210.0632	5210.0615	5210.0591
-10	5210.0630	5210.0618	5210.0602	5210.0583
0	5210.0616	5210.0604	5210.0585	5210.0563
10	5210.0603	5210.0590	5210.0575	5210.0557
20	5210.0591	5210.0578	5210.0562	5210.0543
30	5210.0577	5210.0566	5210.0552	5210.0536
40	5210.0561	5210.0546	5210.0530	5210.0510
50	5210.0544	5210.0532	5210.0517	5210.0490
Max. Deviation (MHz)	0.0645	0.0632	0.0615	0.0591
Max. Deviation (ppm)	12.38	12.13	11.80	11.34
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5775.0427	5775.0413	5775.0395	5775.0374
110.00	5775.0415	5775.0402	5775.0386	5775.0367
93.50	5775.0401	5775.0390	5775.0378	5775.0356
Max. Deviation (MHz)	0.0427	0.0413	0.0395	0.0374
Max. Deviation (ppm)	7.39	7.15	6.84	6.48
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5775.0469	5775.0456	5775.0439	5775.0415
-10	5775.0454	5775.0442	5775.0426	5775.0407
0	5775.0440	5775.0428	5775.0409	5775.0387
10	5775.0427	5775.0414	5775.0399	5775.0381
20	5775.0415	5775.0402	5775.0386	5775.0367
30	5775.0401	5775.0390	5775.0376	5775.0360
40	5775.0385	5775.0370	5775.0354	5775.0334
50	5775.0368	5775.0356	5775.0341	5775.0314
Max. Deviation (MHz)	0.0469	0.0456	0.0439	0.0415
Max. Deviation (ppm)	8.12	7.90	7.60	7.19
Result	Complies			

4.9. Antenna Requirements

4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 22, 2015	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 02, 2014	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 02, 2014	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	Dec. 03, 2014	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 06, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 21, 2015	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

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

“*” Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%