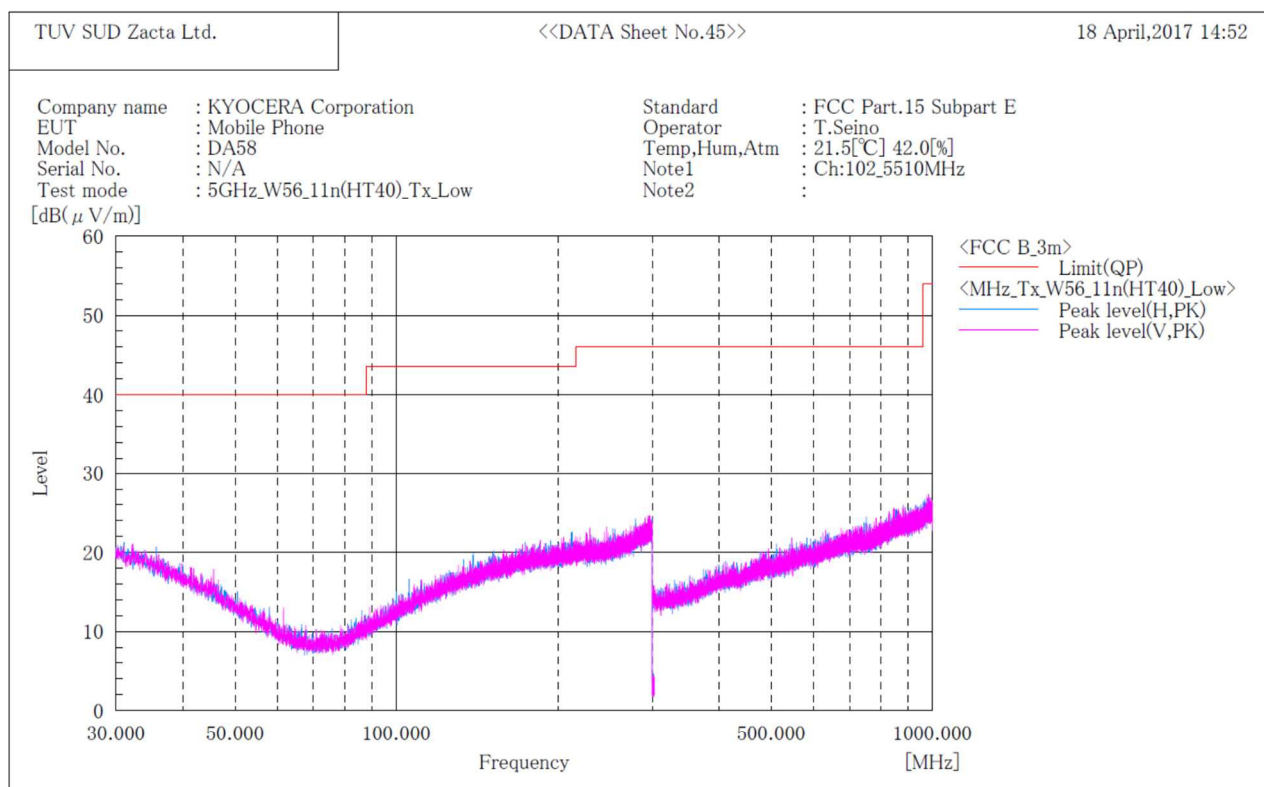


[11n(HT40)]
W56 / Channel Low
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

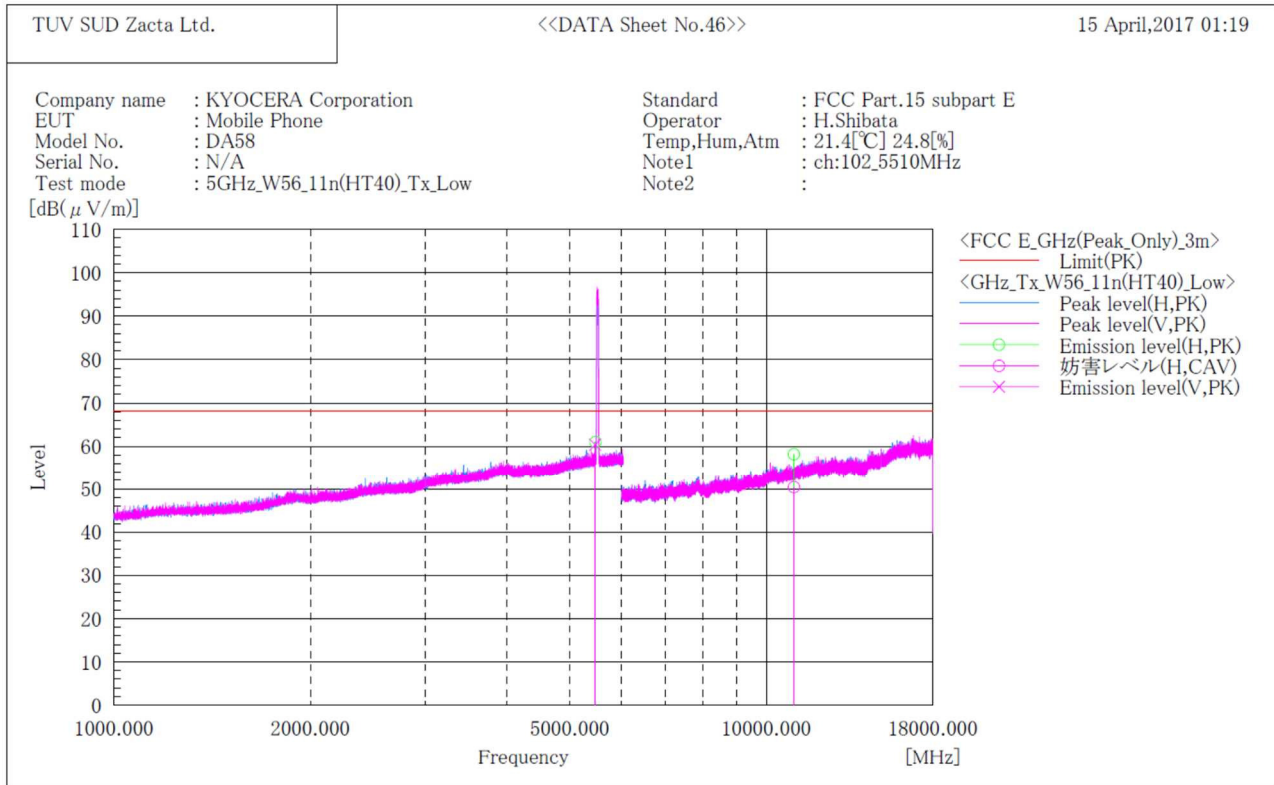
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT40)]
W56 / Channel Low
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

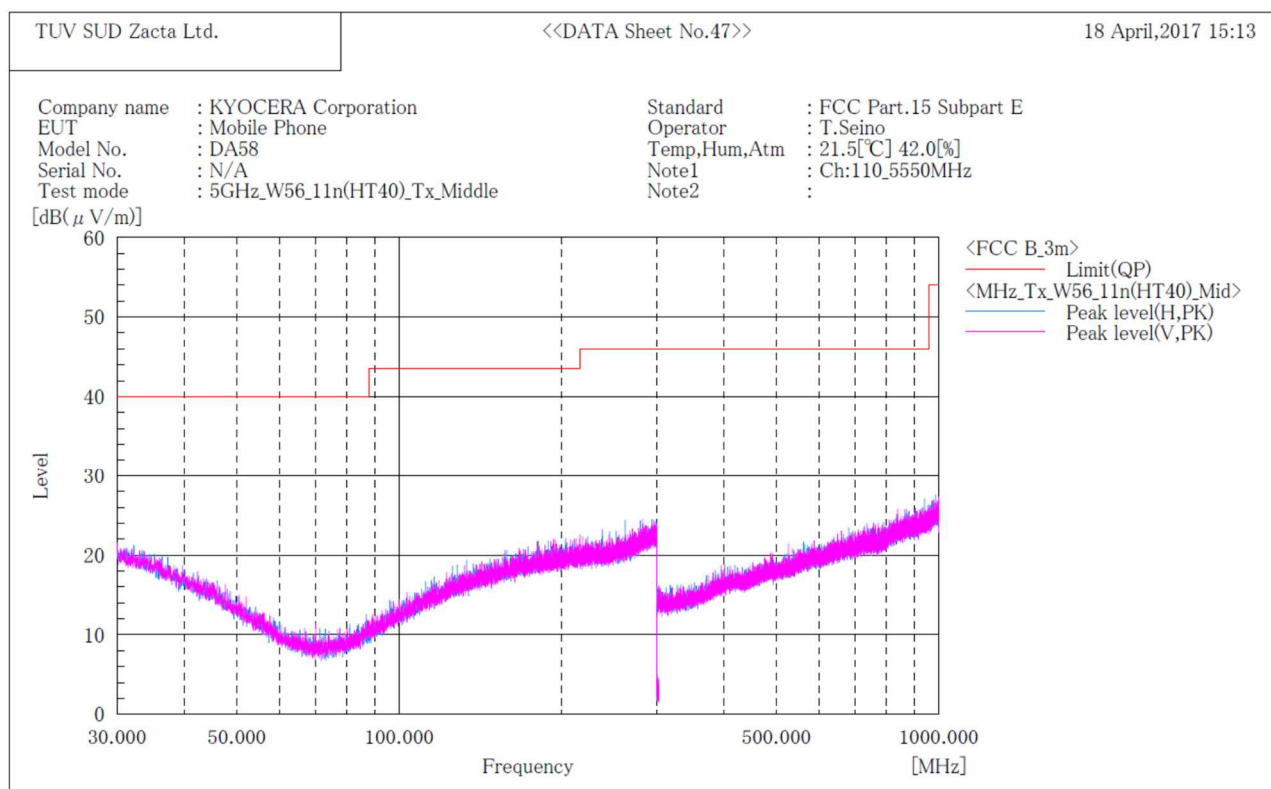
No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	5468.021	H	50.8	-----	10.2	61.0	-----	68.2	7.2	-----	117.0	223.0
2	5461.783	V	50.2	-----	10.2	60.4	-----	68.2	7.8	-----	163.0	190.0
3	11020.000	H	47.1	39.3	11.1	58.2	50.4	74.0	15.8	3.6	150.0	191.0

Note:

- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11n(HT40)]
W56 / Channel Middle
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

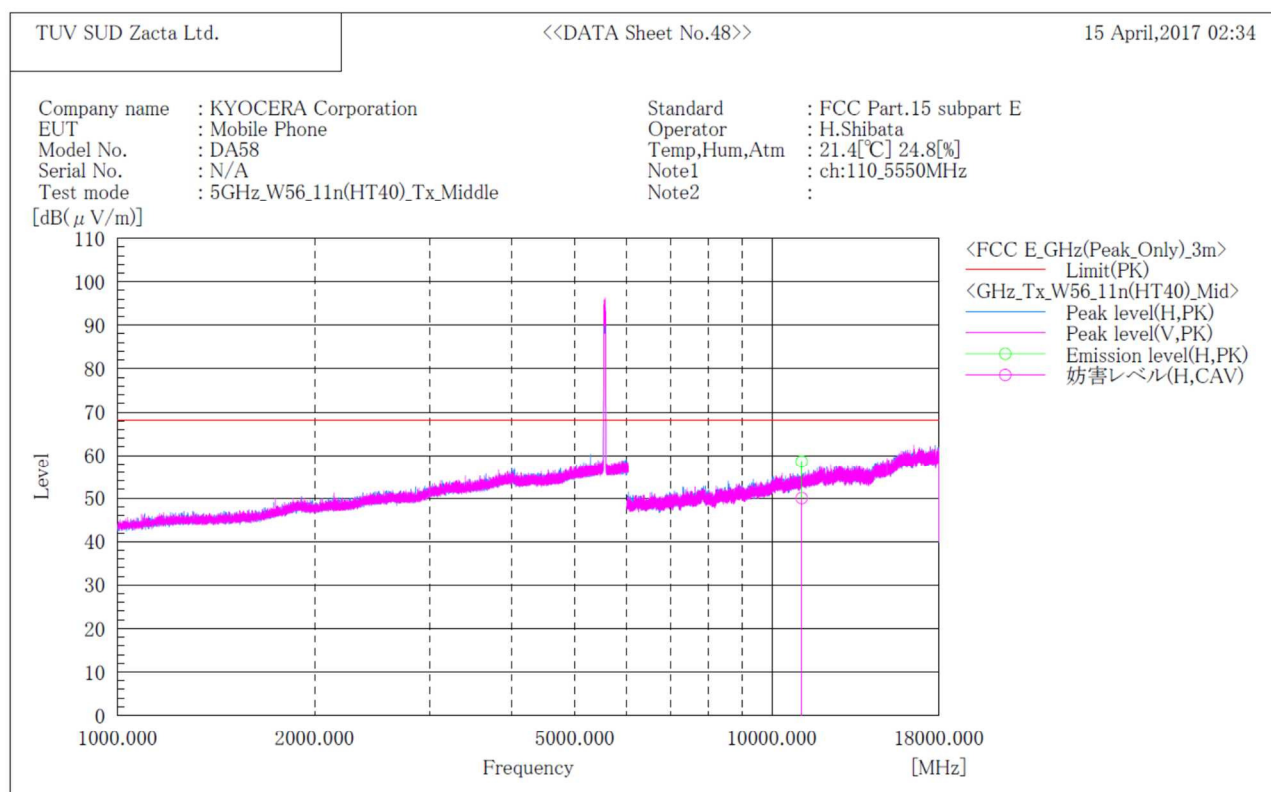
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT40)]
W56 / Channel Middle
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	11100.000	H	47.4	38.8	11.2	58.6	50.0	74.0	15.4	4.0	169.0	188.0

Note:

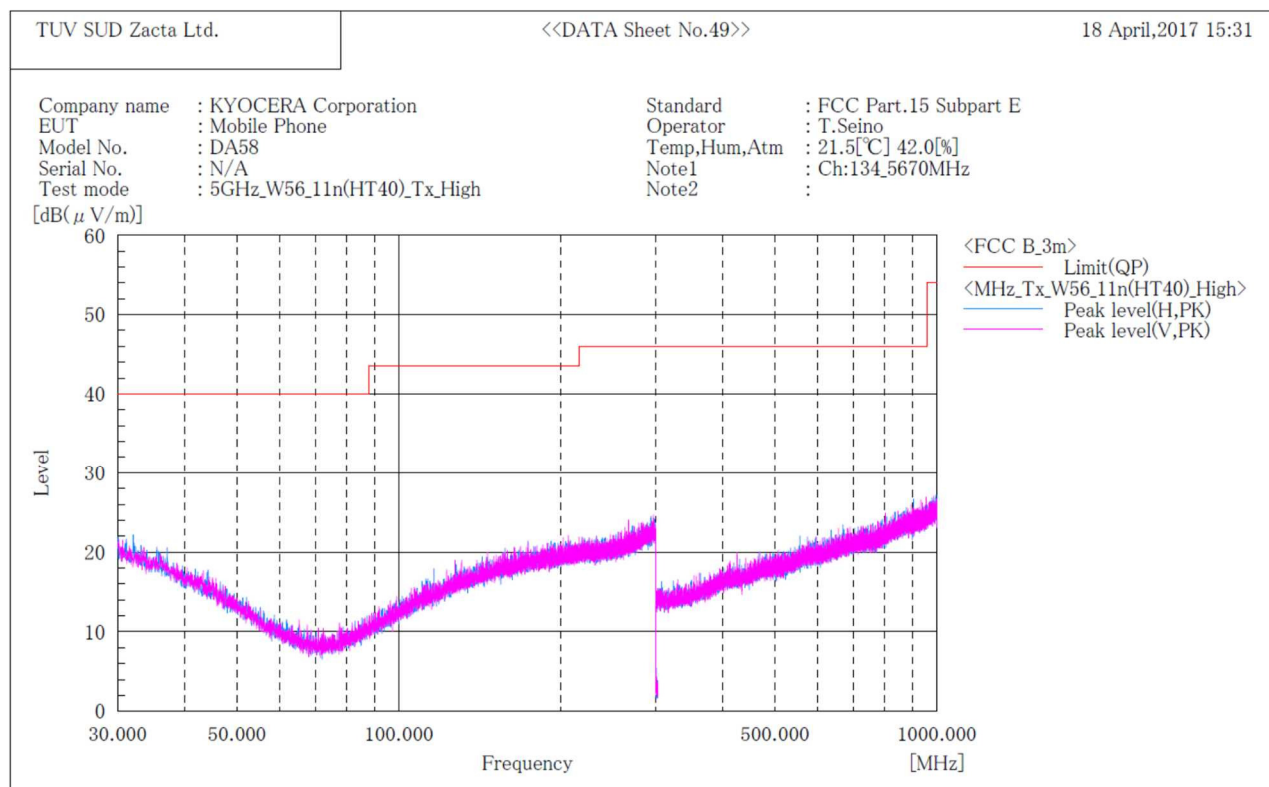
- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.



Zacta

[11n(HT40)]
W56 / Channel High
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

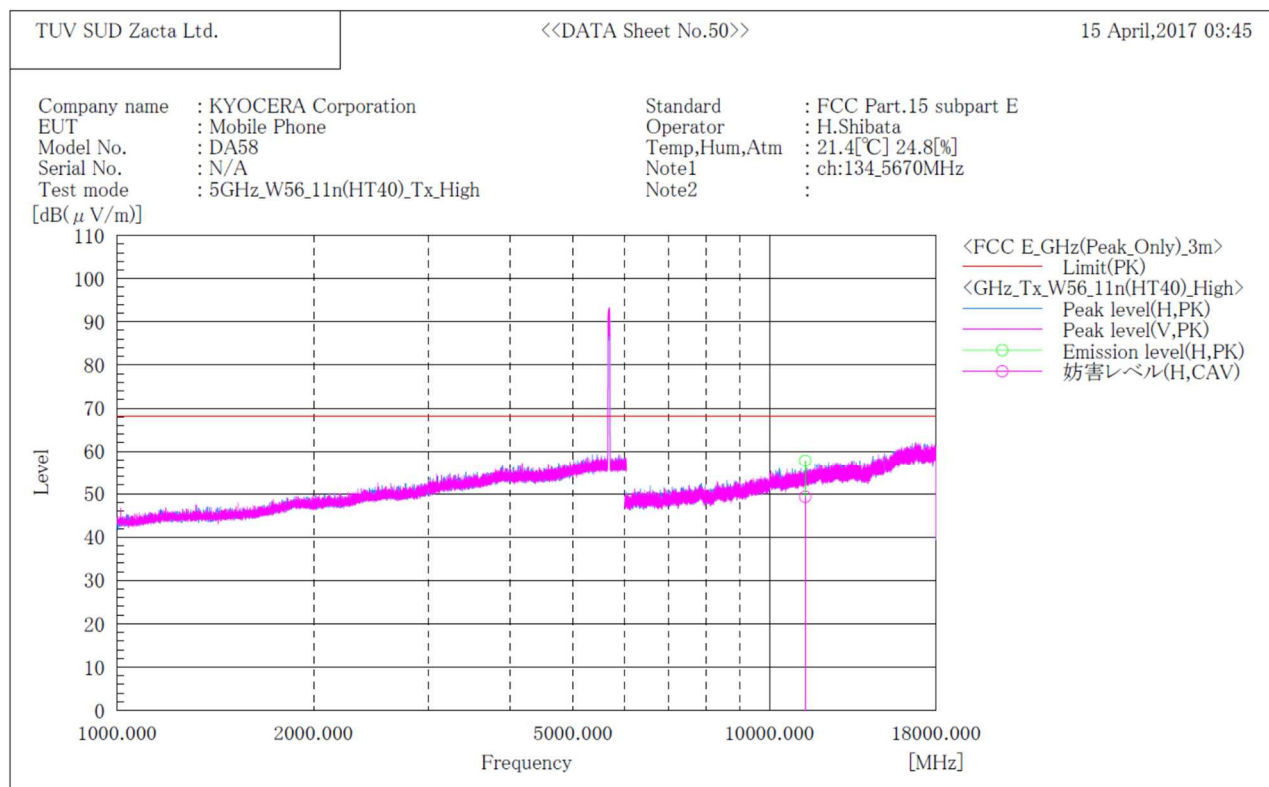
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT40)]
W56 / Channel High
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency	(P)	Reading PK	Reading CAV	c. f	Result PK	Result CAV	Limit PK	Margin PK	Margin CAV	Height	Angle
	[MHz]		[dB(μV)]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[dB]	[cm]	[°]
1	11340.000	H	46.4	37.9	11.4	57.8	49.3	74.0	16.2	4.7	168.0	184.0

Note:

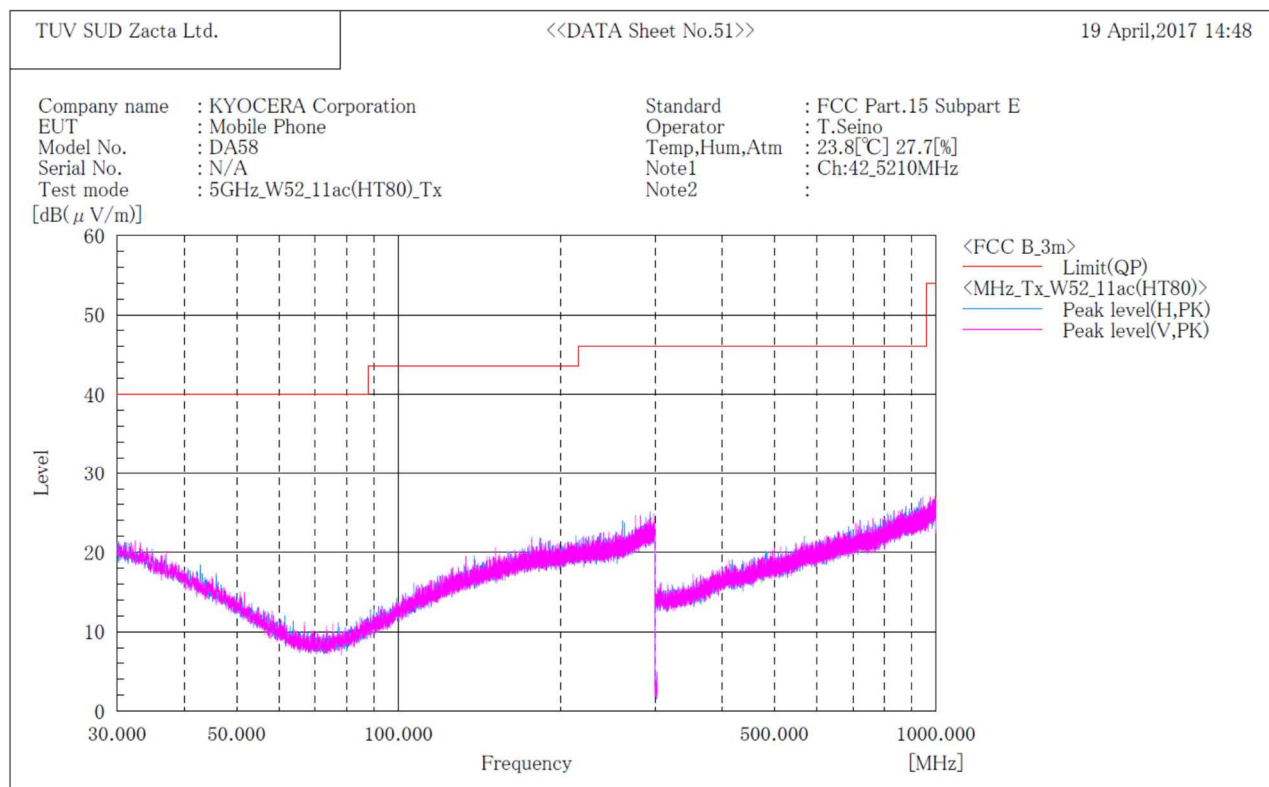
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.



Zacta

[11n(HT80)]
W52
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

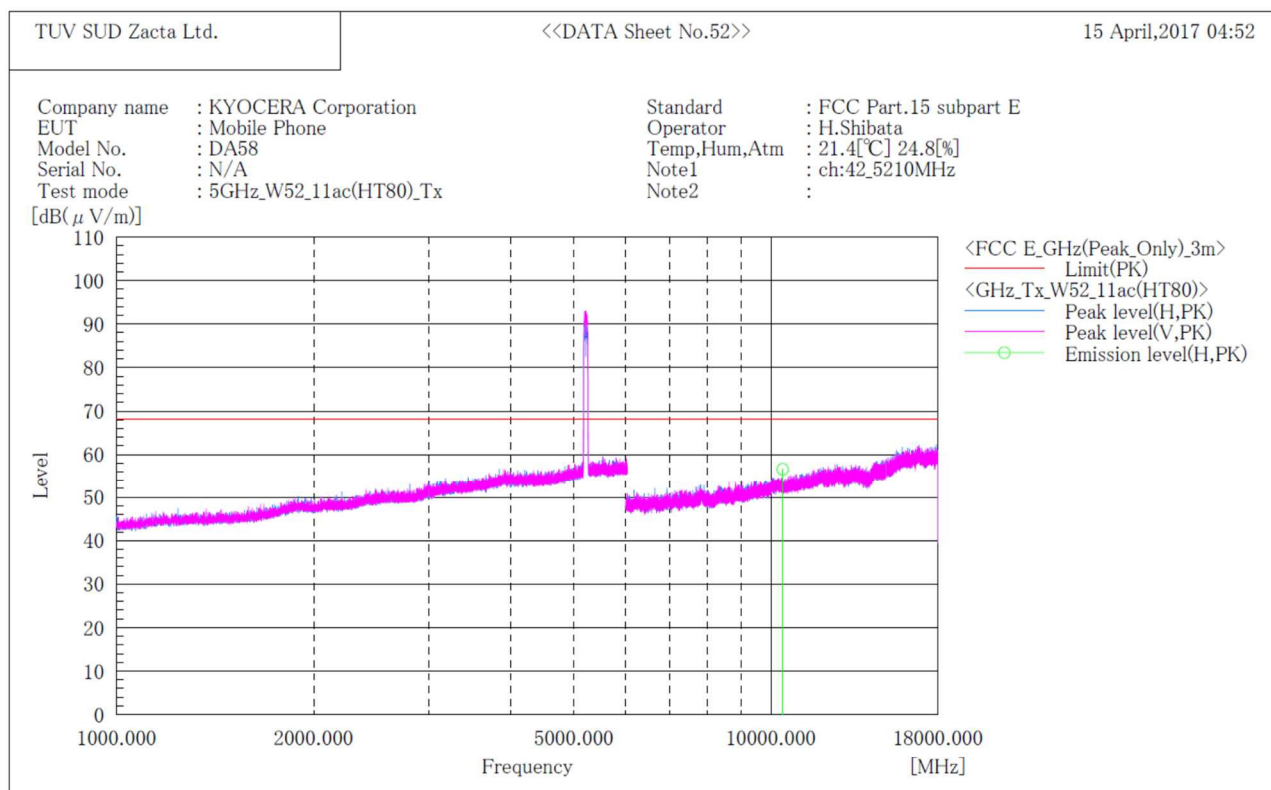
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT80)]
W52
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

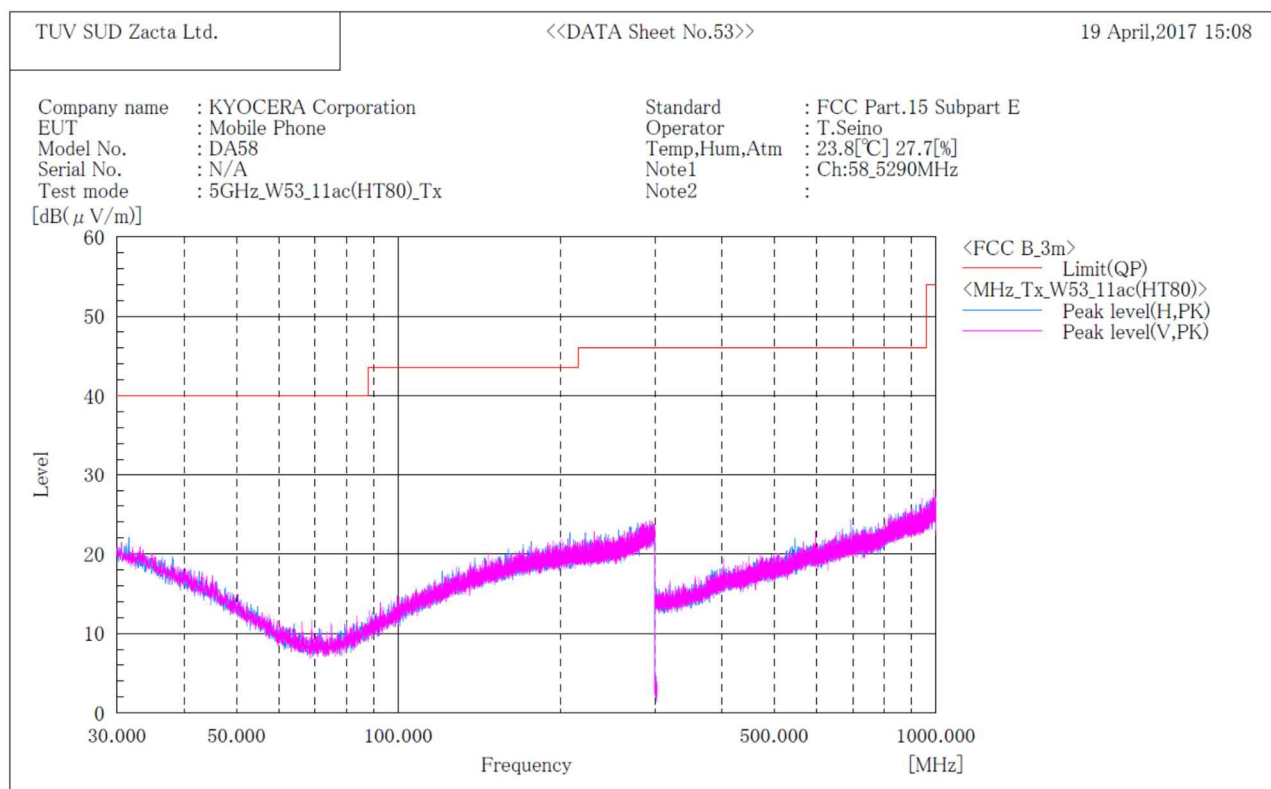
No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]
1	10420.000	H	46.2	10.4	56.6	68.2	11.6	133.0	187.0

Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11n(HT80)]
W53
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

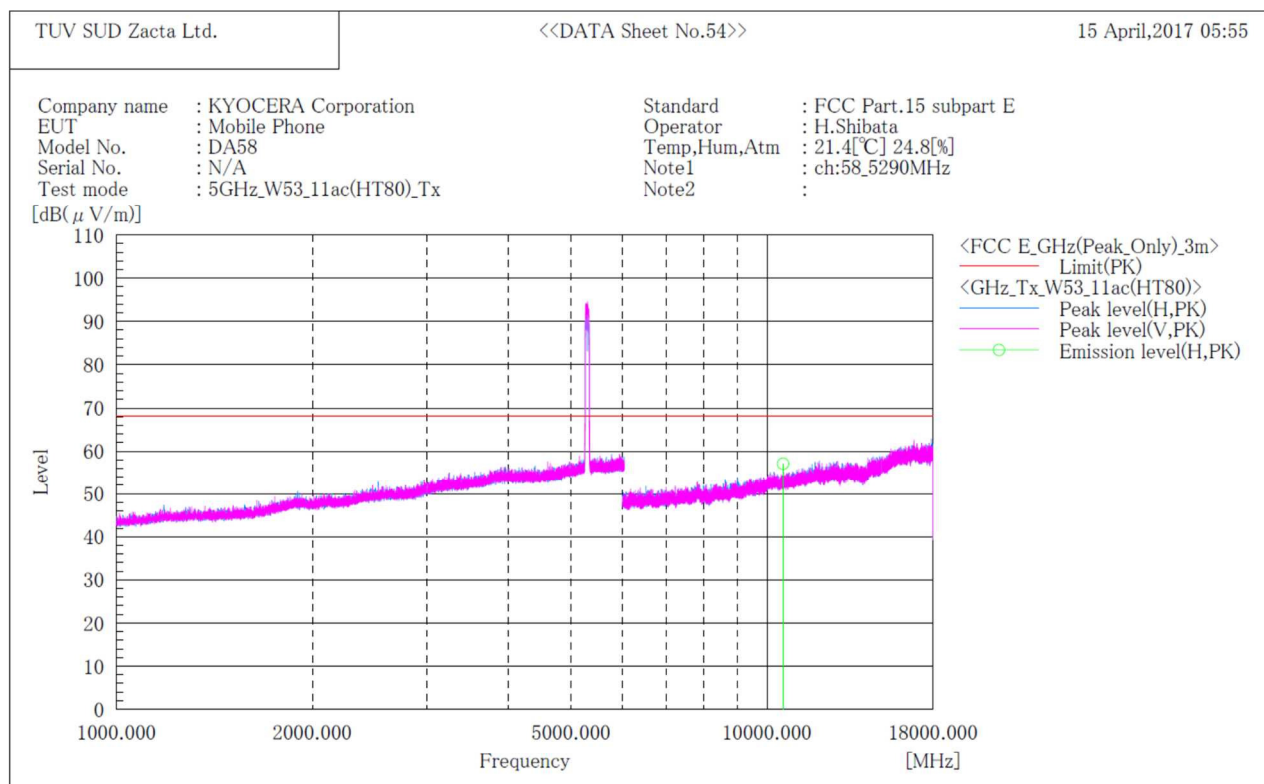
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT80)]
W53
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]
1	10580.000	H	46.6	10.5	57.1	68.2	11.1	155.0	159.0

Note:

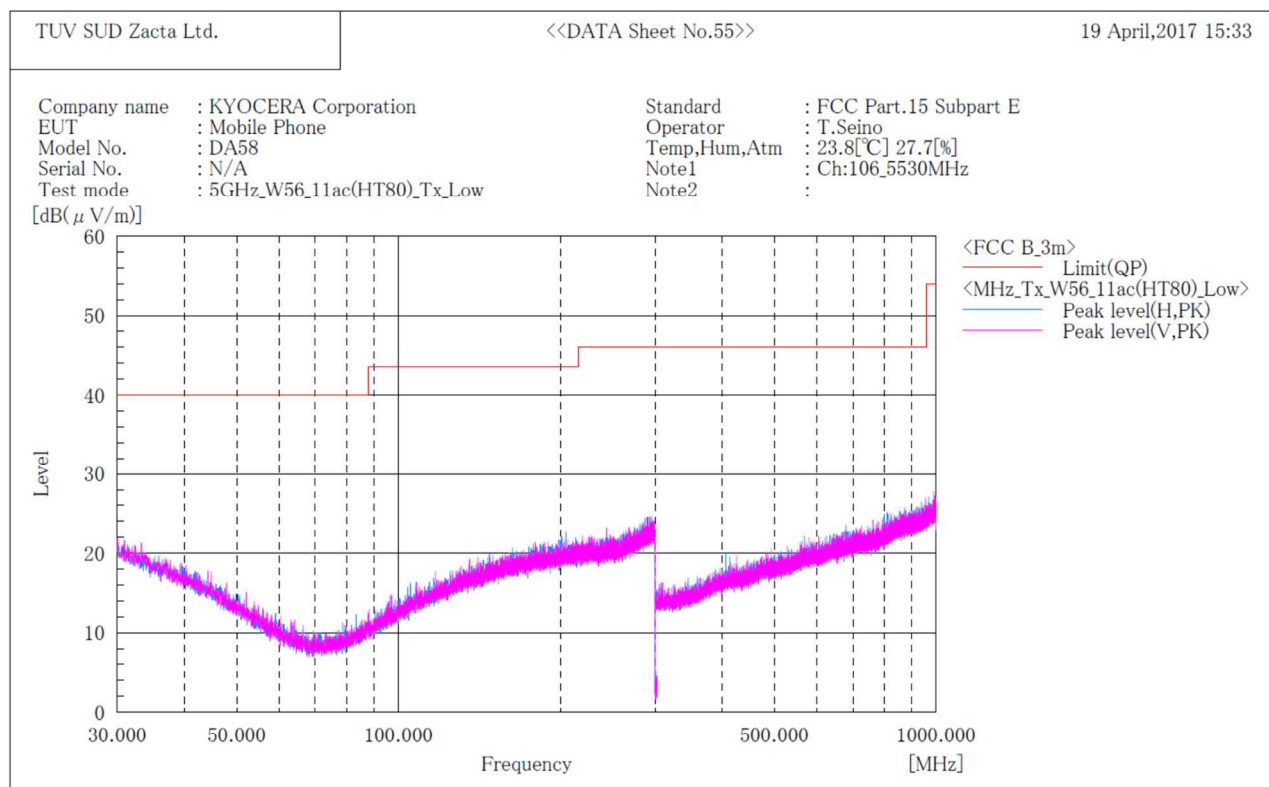
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.



Zacta

[11n(HT80)]
W56 / Channel Low
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

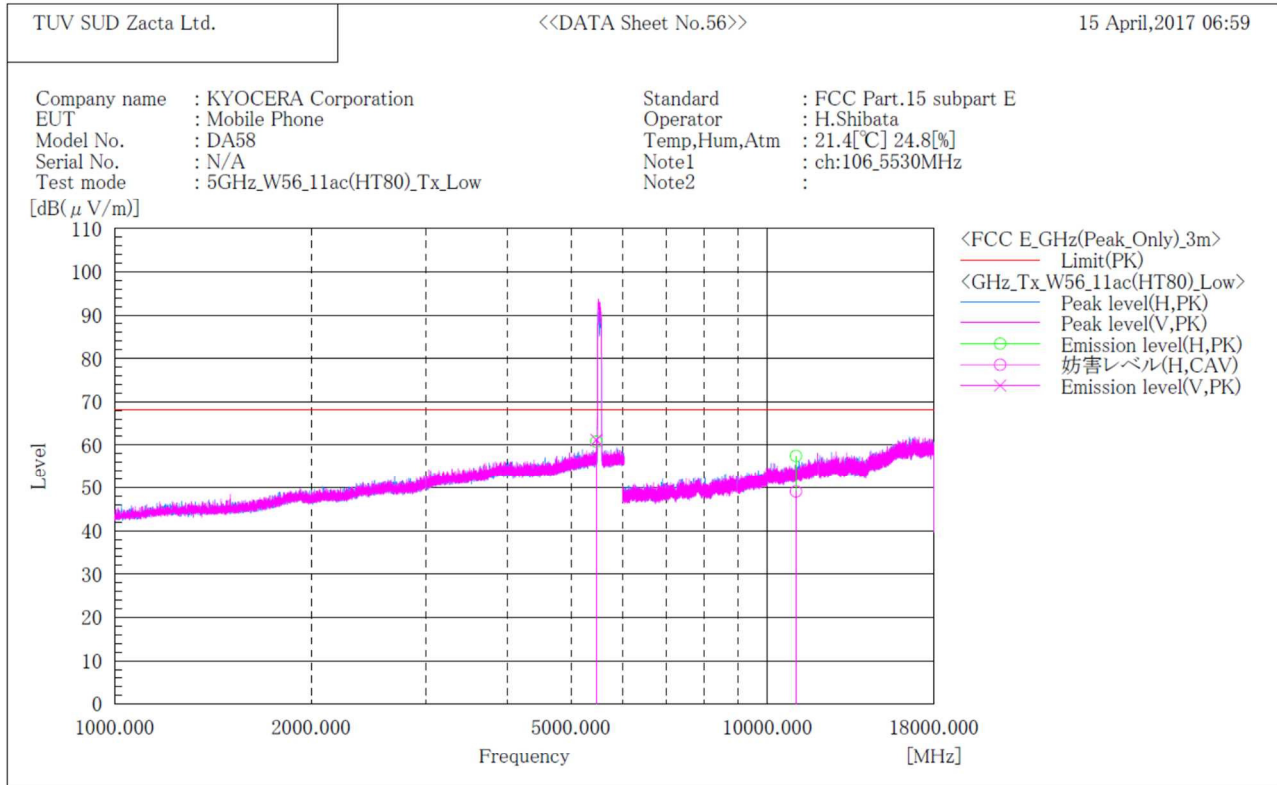
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Zacta

[11n(HT80)]
W56 / Channel Low
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	5467.600	H	50.6	-----	10.2	60.8	-----	68.2	7.4	-----	125.0	225.0
2	5469.600	V	51.0	-----	10.2	61.2	-----	68.2	7.0	-----	147.0	195.0
3	11060.000	H	46.3	37.9	11.2	57.5	49.1	74.0	16.5	4.9	162.0	188.0

Note:

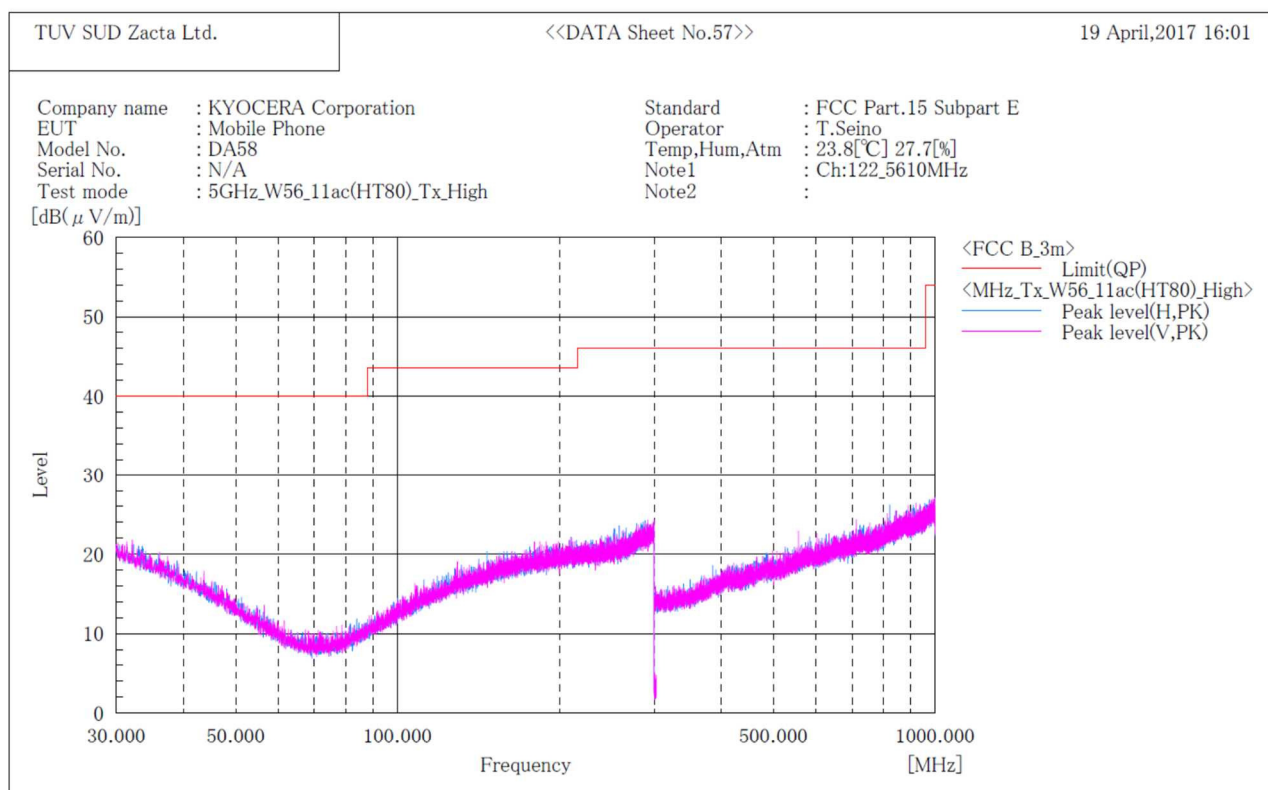
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.



Zacta

[11n(HT80)]
W56 / Channel High
BELOW 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

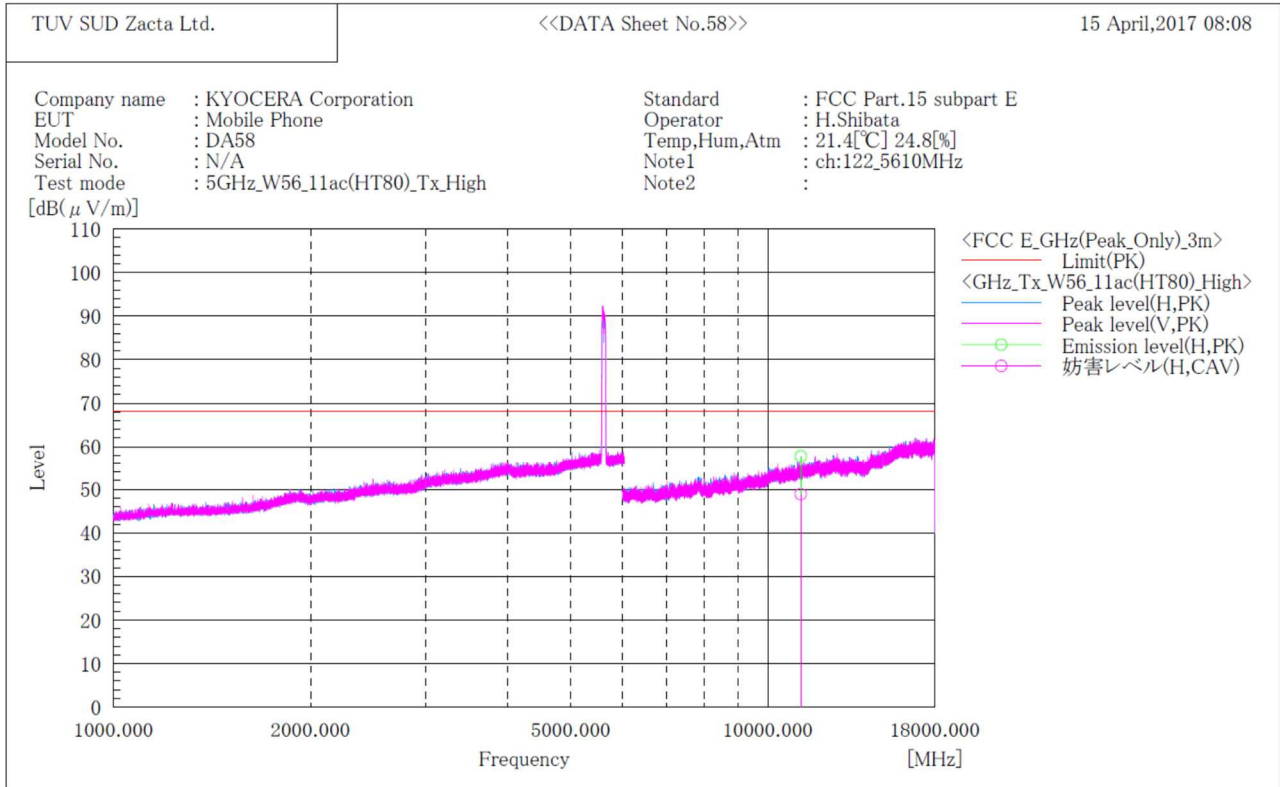
No.	Frequency	(P)	c.f	Height	Angle	Remark
	[MHz]		[dB(1/m)]	[cm]	[°]	

Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11n(HT80)]
W56 / Channel High
ABOVE 1GHz

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]
1	11220.000	H	46.5	37.6	11.3	57.8	48.9	74.0	16.2	5.1	140.0	184.0

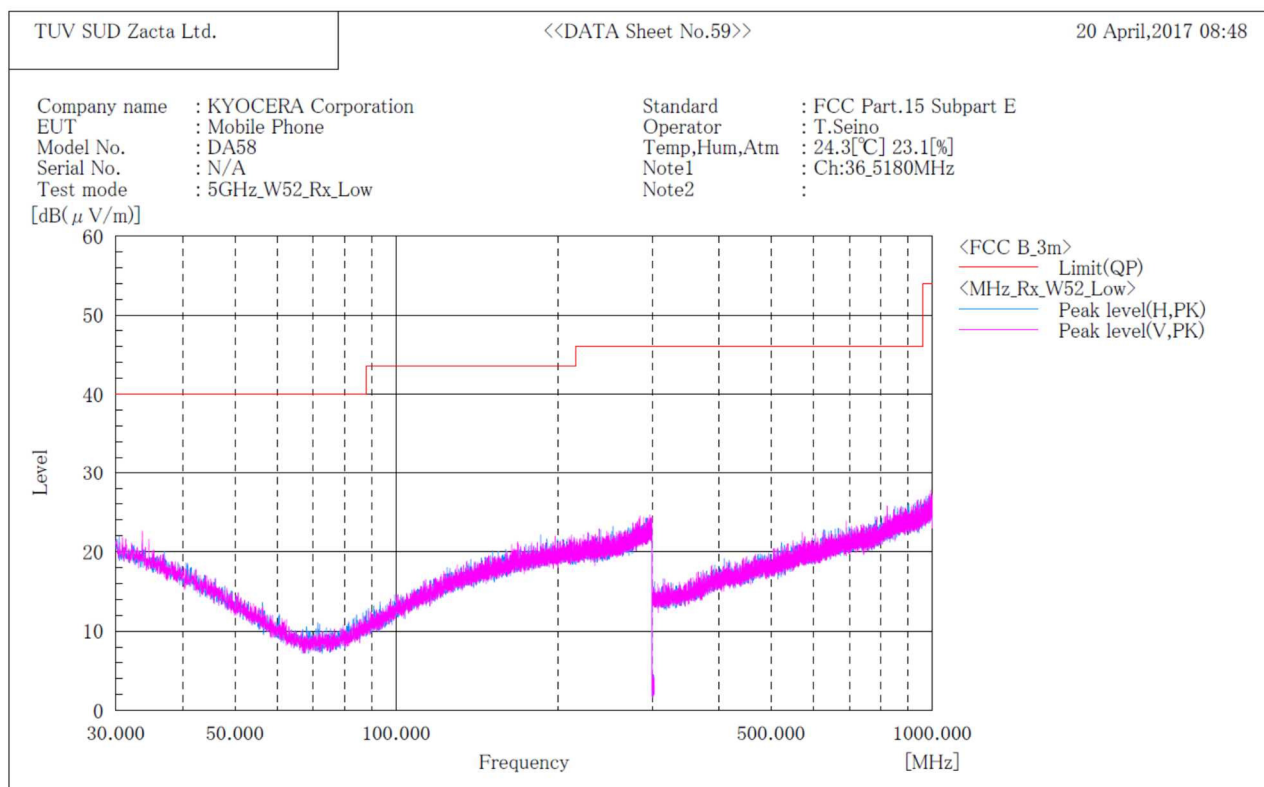
Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable - Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

7.4.4.2 Receive mode

W52 / Channel Low BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

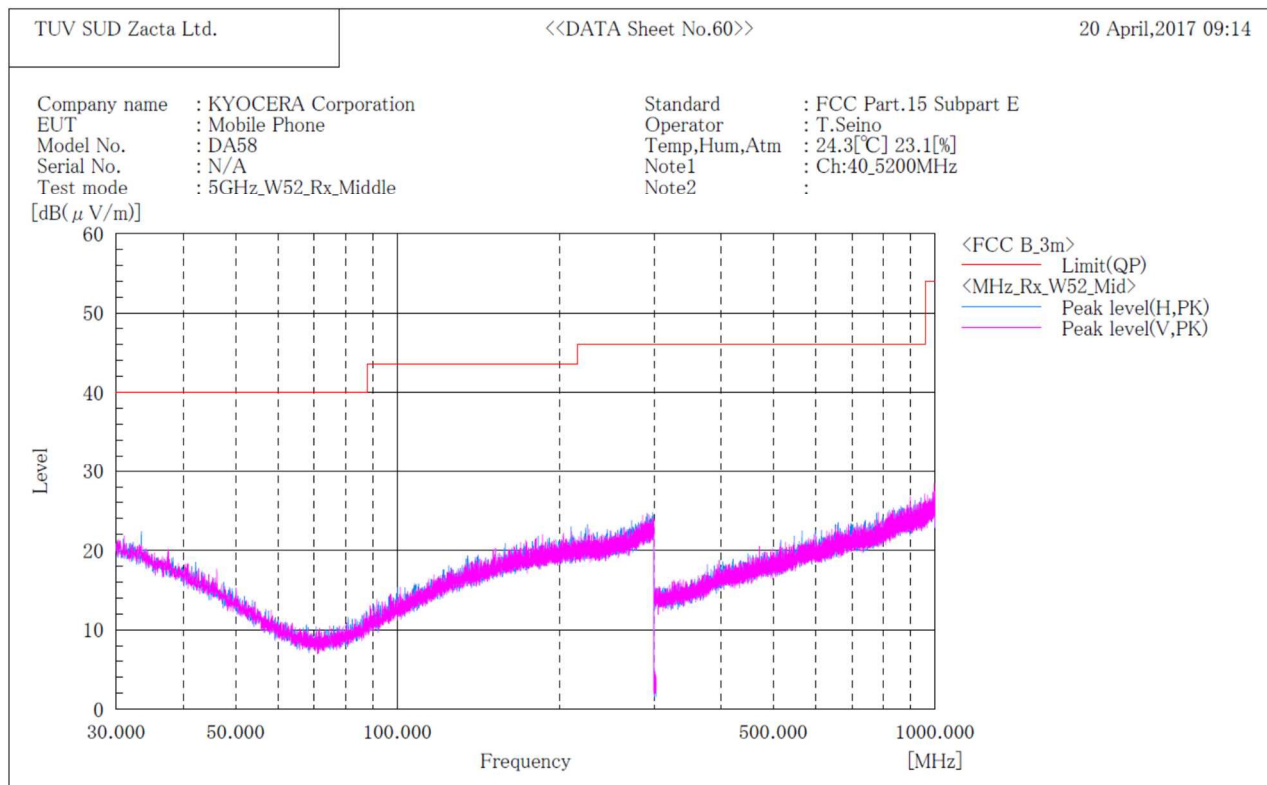
No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

W52 / Channel Middle BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

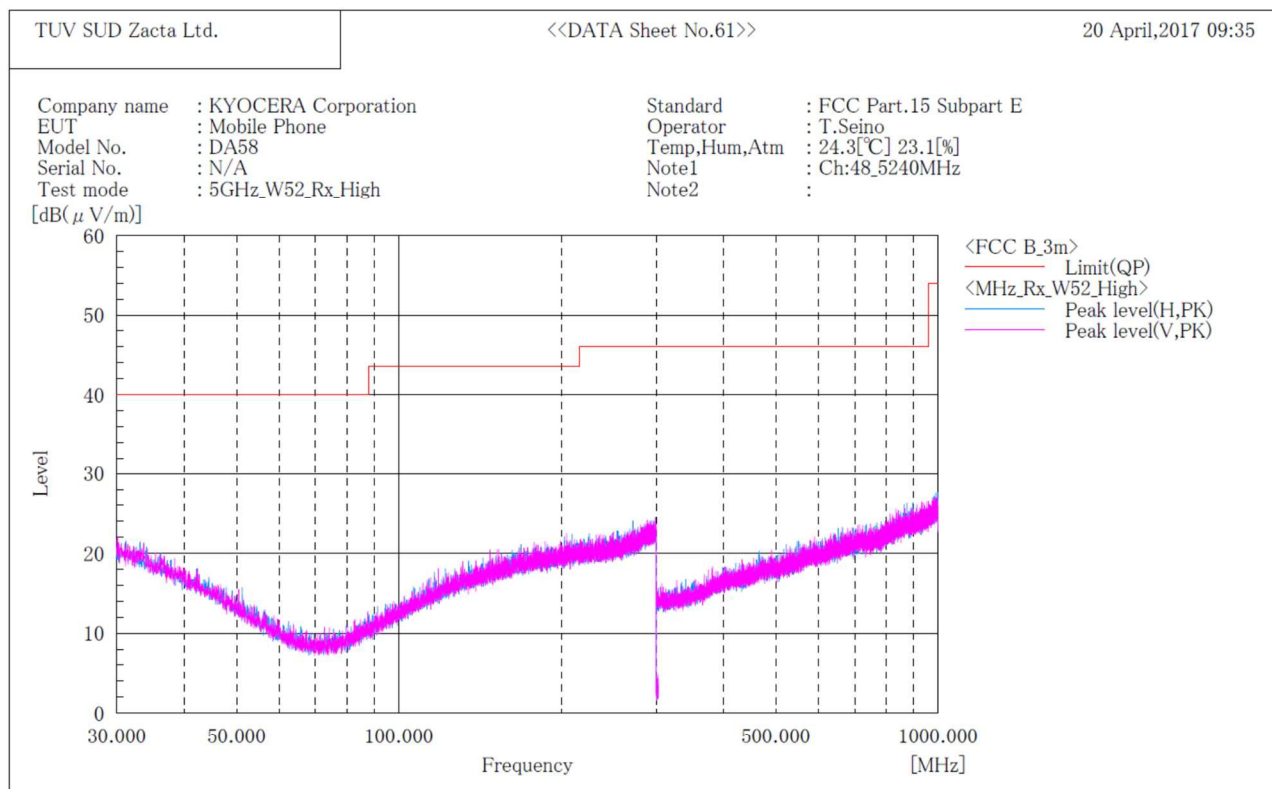
- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.



Zacta

W52 / Channel High BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

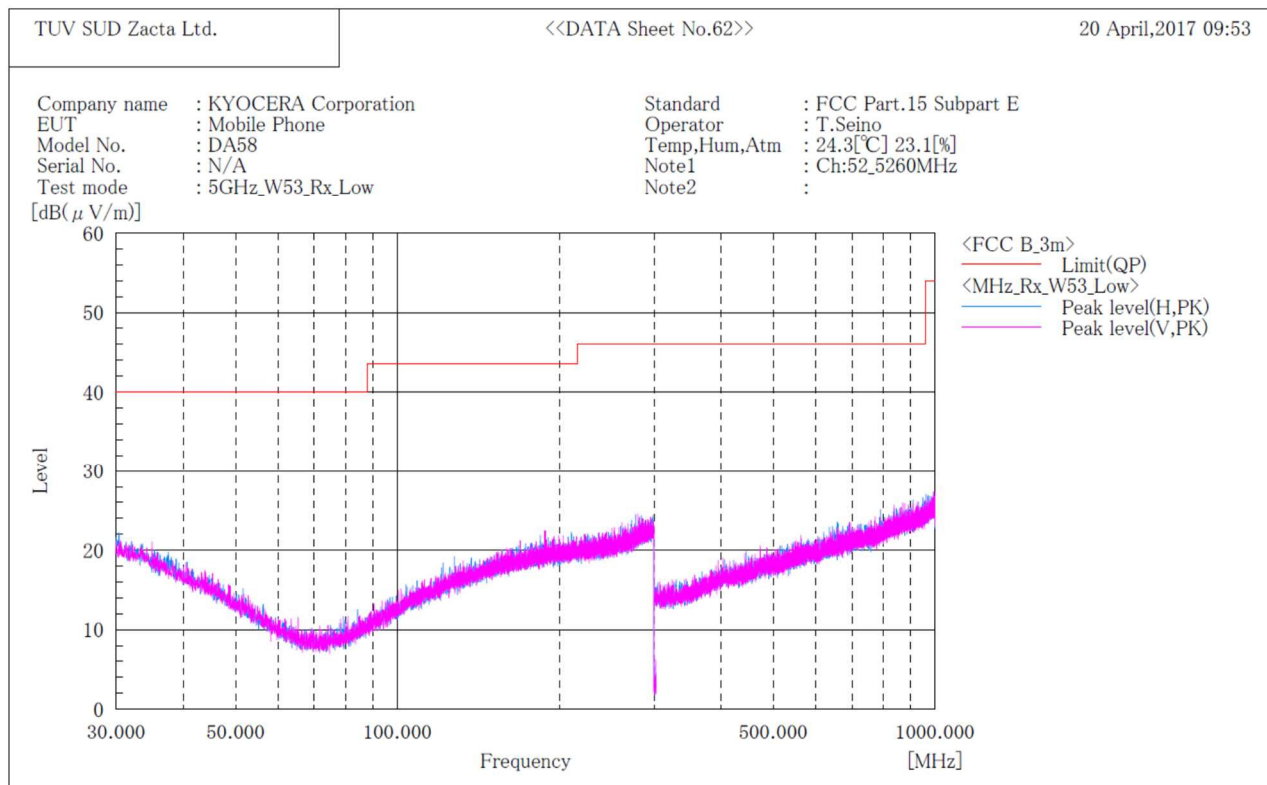
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.



Zacta

W53 / Channel Low BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

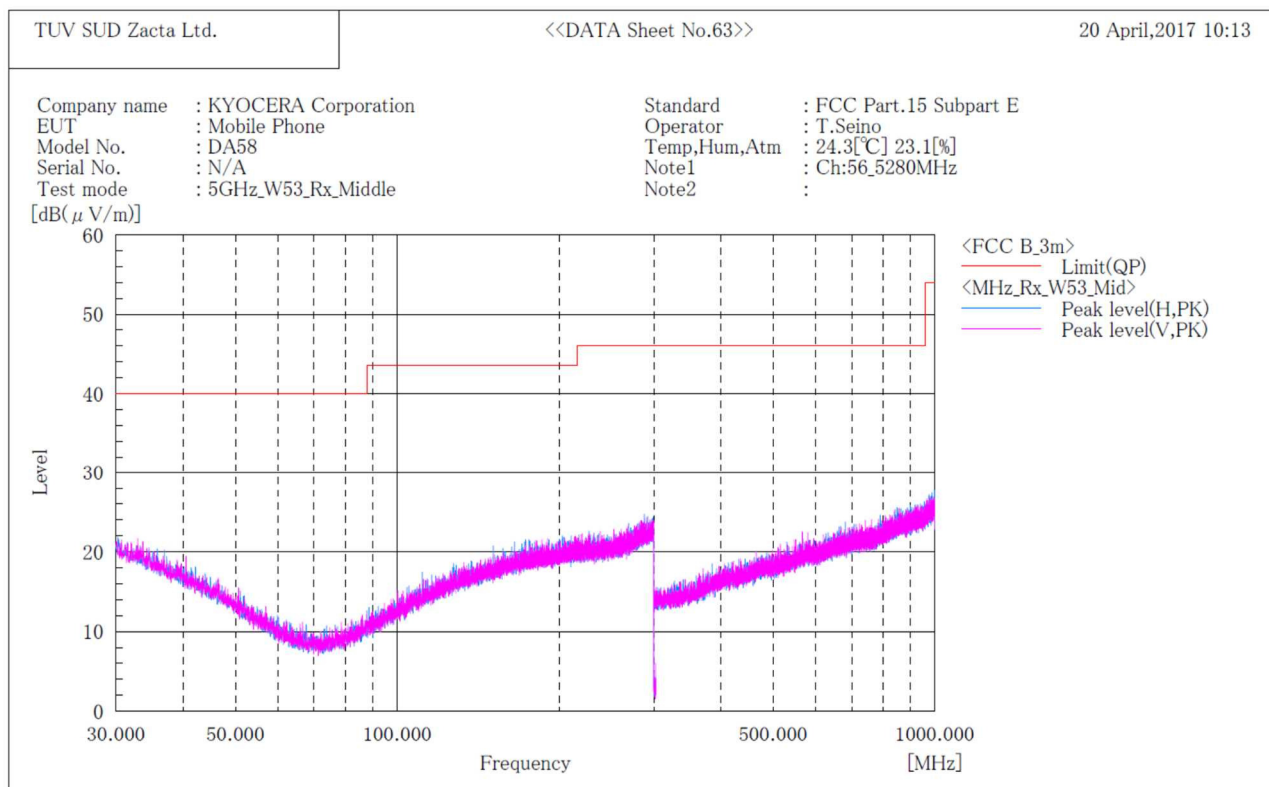
No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

W53 / Channel Middle BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

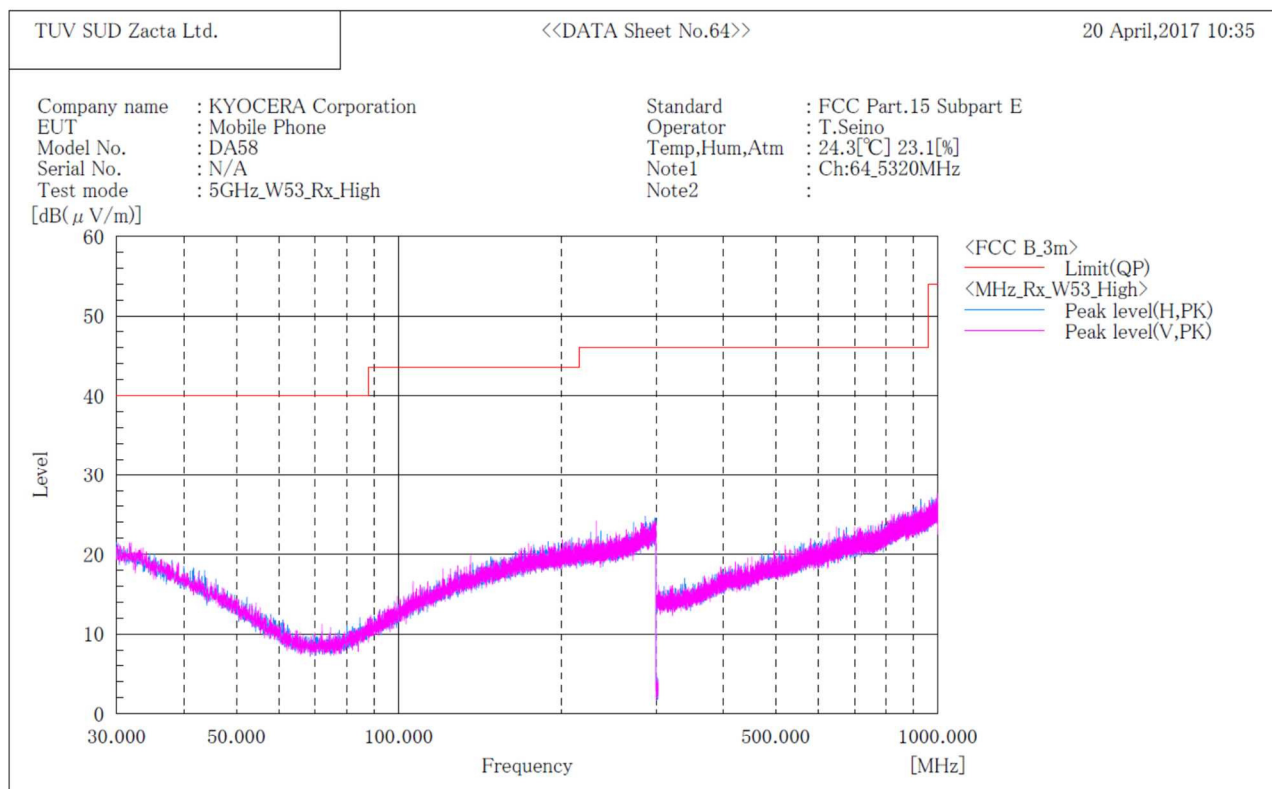
- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.



Zacta

W53 / Channel High BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

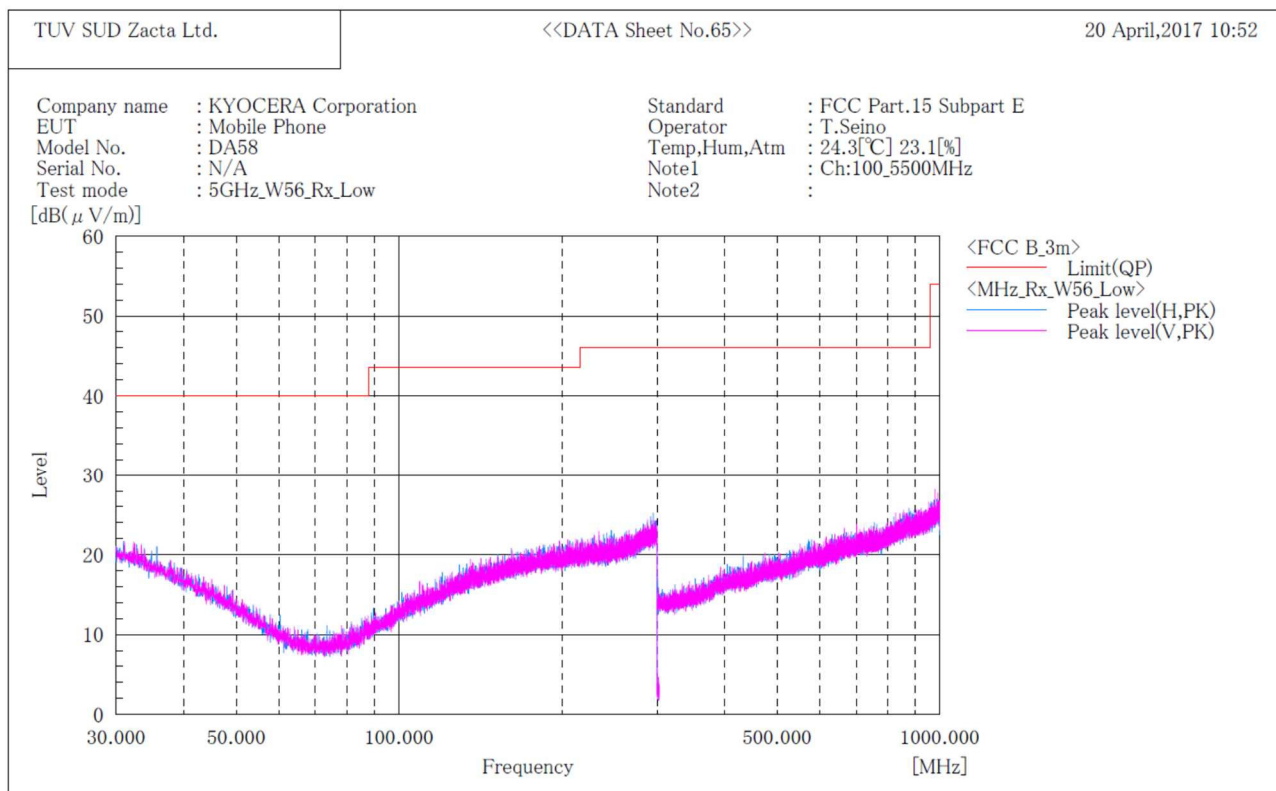
No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

W56 / Channel Low BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

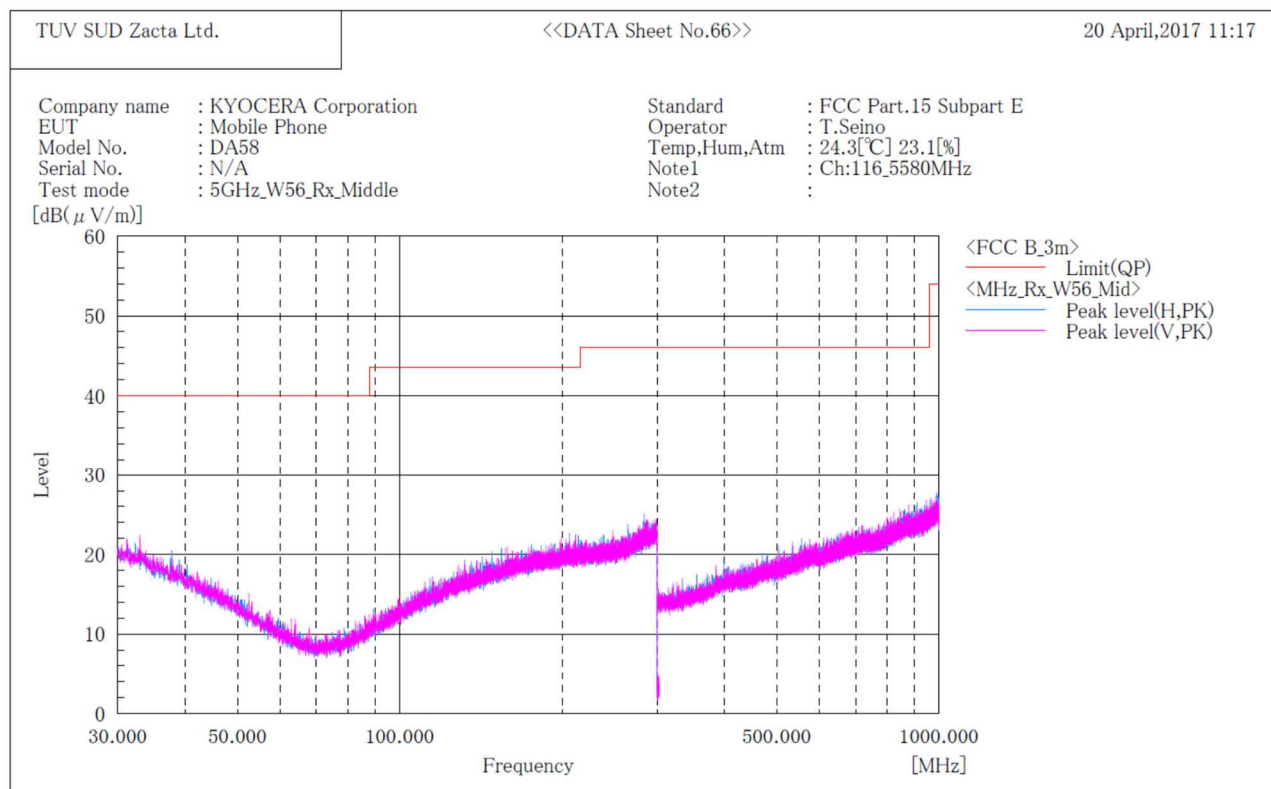
No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

W56 / Channel Middle BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

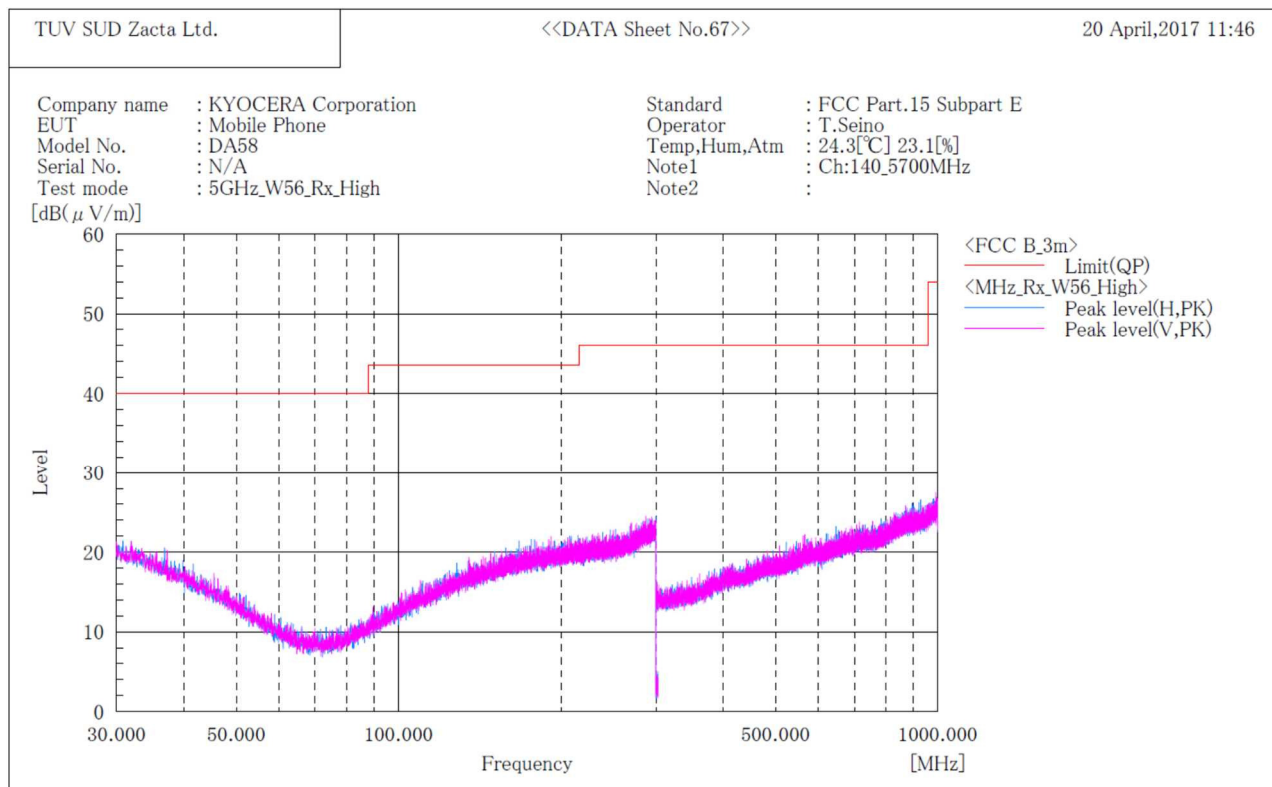
- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.



Zacta

W56 / Channel High BELOW 1GHz

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency (P)	c.f	Height	Angle	Remark
	[MHz]	[dB(1/m)]	[cm]	[°]	

Note:

- Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
- No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 40GHz at the 3 meters distance.

8. Frequency Stability

8.1 Measurement procedure [FCC 15.407(g)]

The EUT was placed inside of a constant temperature chamber as the temperature in the chamber was varied between -30°C and $+60^{\circ}\text{C}$. The temperature was incremented by 10°C intervals and the unit was allowed to stabilize at each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

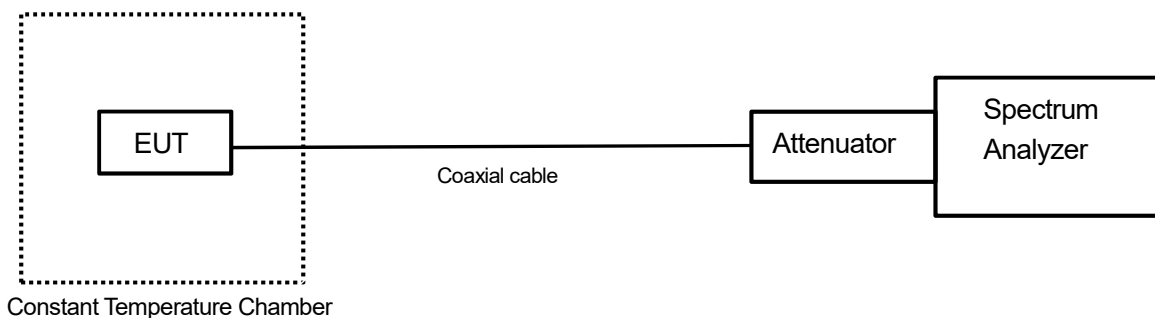
The EUT was set to operate with the following conditions.

- 5.2GHz Band, 5.3GHz Band, 5.6GHz Band

The test mode of EUT is as follows.

- Tx mode

- Test configuration



8.2 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified.

8.3 Measurement result

Date : March 23, 2017
 Temperature : 23.6 [°C]
 Humidity : 49.0 [%]
 Test place : Shielded room No.4

Test engineer :
 Tadahiho Seino

[Channel: 36 (5180MHz)]

Power Supply	Temperature	Measurements	Frequency	Measurements	Frequency	Measurements	Frequency	Measurements	Frequency
[V]	[°C]	Frequency (startup)	Tolerance (startup)	Frequency (2mins)	Tolerance (2mins)	Frequency (5mins)	Tolerance (5mins)	Frequency (10mins)	Tolerance (10mins)
[V]	[°C]	[Hz]	[ppm]	[Hz]	[ppm]	[Hz]	[ppm]	[Hz]	[ppm]
3.80	25(Ref.)	5180025609	0.00000000	5180021171	-0.85675252	5180034058	1.63107302	5180020981	-0.89343188
	60	5180032490	1.32837181	5180031745	1.18455013	5180019860	-1.10984007	5180018062	-1.45694260
	50	5180007047	-3.58337997	5180020035	-1.07605646	5180021569	-0.77991892	5180016747	-1.71080235
	40	5180012186	-2.59129993	5180022722	-0.55733315	5180011704	-2.68434966	5180010547	-2.90770763
	30	5180029278	0.70829766	5180012392	-2.55153179	5180013925	-2.25558730	5180028089	0.47876211
	20	5180035124	1.83686351	5180039218	2.62720709	5180034248	1.66775237	5180043922	3.53531071
	10	5180049033	4.52198537	5180042383	3.23820793	5180042180	3.19901893	5180038469	2.48261321
	0	5180042237	3.21002274	5180043248	3.40519552	5180047034	4.13607994	5180047542	4.23414895
	-10	5180034747	1.76408394	5180032873	1.40230967	5180031225	1.08416452	5180035551	1.91929553
	-20	5180024752	-0.16544320	5180028666	0.59015152	5180025886	0.05347464	5180023456	-0.41563501
	-30	5180015289	-1.99226814	5180015012	-2.04574278	5180022275	-0.64362616	5180021440	-0.80482228
3.42	25	5180028726	0.60173448	5180025010	-0.11563649	5180024209	-0.27026893	5180025759	0.02895739
4.18	25	5180023689	-0.37065454	5180020995	-0.89072919	5180027511	0.36717965	5180025811	0.03899595

[Channel: 64 (5320MHz)]

Power Supply	Temperature	Measurements	Frequency	Measurements	Frequency	Measurements	Frequency	Measurements	Frequency
[V]	[°C]	Frequency (startup)	Tolerance (startup)	Frequency (2mins)	Tolerance (2mins)	Frequency (5mins)	Tolerance (5mins)	Frequency (10mins)	Tolerance (10mins)
[V]	[°C]	[Hz]	[ppm]	[Hz]	[ppm]	[Hz]	[ppm]	[Hz]	[ppm]
3.80	25(Ref.)	5320020498	0.00000000	5320014345	-1.15657449	5320032018	2.16540519	5320011773	-1.64003127
	60	5320034193	2.57423820	5320027184	1.25676207	5320037282	3.15487506	5320015515	-0.93665053
	50	5320023757	0.61259162	5320026774	1.17969470	5320013351	-1.34341588	5320013166	-1.37819018
	40	5320024848	0.81766602	5320014592	-1.11014610	5320023719	0.60544880	5320014010	-1.21954417
	30	5320026480	1.12443176	5320026972	1.21691260	5320020701	0.03815775	5320010052	-1.96352627
	20	5320035200	2.76352319	5320038848	3.44923483	5320033478	2.43984022	5320043154	4.25863021
	10	5320042189	4.07723993	5320034797	2.68777160	5320044819	4.57159893	5320046879	4.95881548
	0	5320033713	2.48401299	5320037531	3.20167939	5320033386	2.42254706	5320034422	2.61728315
	-10	5320040126	3.68945947	5320044239	4.46257679	5320039583	3.58739219	5320038181	3.32385937
	-20	5320043385	4.30205109	5320038338	3.35337054	5320031137	1.99980432	5320031960	2.15450298
	-30	5320030384	1.85826352	5320023284	0.52368219	5320012462	-1.51052050	5320011182	-1.75112107
3.42	25	5320023439	0.55281742	5320020903	0.07612753	5320022251	0.32951001	5320022809	0.43439682
4.18	25	5320021262	0.14360847	5320013713	-1.27537103	5320017965	-0.47612599	5320027525	1.32085957

[Channel: 140 (5700MHz)]

Power Supply [V]	Temperature [°C]	Measurements Frequency (startup) [Hz]	Frequency Tolerance (startup) [ppm]	Measurements Frequency (2mins) [Hz]	Frequency Tolerance (2mins) [ppm]	Measurements Frequency (5mins) [Hz]	Frequency Tolerance (5mins) [ppm]	Measurements Frequency (10mins) [Hz]	Frequency Tolerance (10mins) [ppm]
3.80	25(Ref.)	5700021566	0.00000000	5700028428	1.20385509	5700021277	-0.05070156	5700026400	0.84806697
	60	5700035680	2.47613098	5700036090	2.54806053	5700029964	1.47332776	5700028606	1.23508305
	50	5700034285	2.23139507	5700040472	3.31682956	5700041977	3.58086364	5700048174	4.66805251
	40	5700016118	-0.95578586	5700029445	1.38227547	5700031311	1.70964265	5700018330	-0.56771715
	30	5700021113	-0.07947338	5700024547	0.52298048	5700033986	2.17893912	5700016880	-0.82210215
	20	5700038018	2.88630487	5700036048	2.54069214	5700043368	3.82489781	5700034385	2.24893886
	10	5700052337	5.39840063	5700047969	4.63208774	5700046561	4.38507113	5700046906	4.44559722
	0	5700052388	5.40734796	5700058297	6.44401071	5700063892	7.42558594	5700062517	7.18435878
	-10	5700057280	6.26559033	5700056094	6.05752094	5700053366	5.57892626	5700057437	6.29313408
	-20	5700037721	2.83419980	5700037684	2.82770860	5700042598	3.68981060	5700034072	2.19402679
	-30	5700019262	-0.40420900	5700021684	0.02070168	5700016875	-0.82297934	5700021512	-0.00947365
3.42	25	5700035342	2.41683296	5700042273	3.63279327	5700028882	1.28350392	5700038983	3.05560247
4.18	25	5700026741	0.90789130	5700026517	0.86859320	5700017540	-0.70631312	5700028402	1.19929371

9. AC Power Line Conducted Emissions

9.1 Measurement procedure [FCC 15.207]

Test was applied by following conditions.

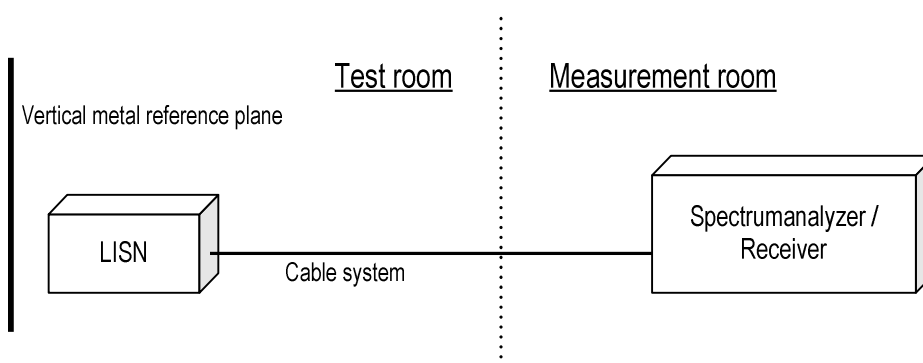
Test method	: ANSI C63.10
Frequency range	: 0.15MHz to 30MHz
Test place	: 3m Semi-anechoic chamber
EUT was placed on	: FRP table / (W)2.0m × (D)1.0m × (H)0.8m
Vertical Metal Reference Plane	: (W)2.0m × (H)2.0m 0.4m away from EUT
Test receiver setting	
- Detector	: Quasi-peak, Average
- Bandwidth	: 9kHz

EUT and peripherals are connected to 50Ω/50μH Line Impedance Stabilization Network (LISN) which are connected to reference ground plane, and are placed 80cm away from EUT. Excess of AC power cable is bundled in center.

LISN for peripheral is terminated in 50Ω.

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Maximum emission configuration is determined by manipulating the EUT, peripherals, interconnecting cables. Then, emission measurements are performed with test receiver in above setting to each current-carrying conductor of the mains port. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits.

- Test configuration



9.2 Calculation method

Emission level = Reading + (LISN. factor + Cable system loss)

Margin = Limit – Emission level

9.3 Limit

Frequency [MHz]	Limit	
	QP [dBuV]	AV [dBuV]
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

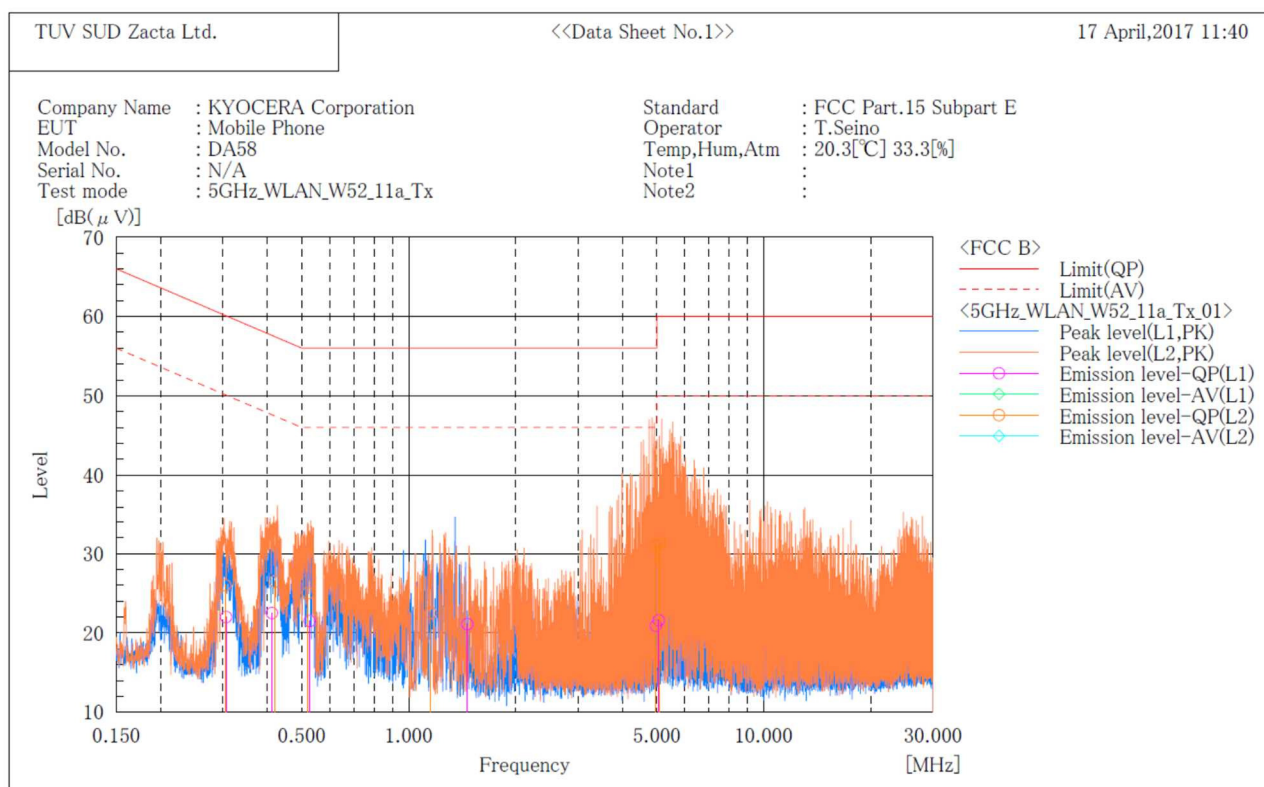
*: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

Date : April 17, 2017
 Temperature : 20.3 [°C]
 Humidity : 33.3 [%]
 Test place : 3m Semi-anechoic chamber

Test engineer :
 Tadahiro Seino

9.4 Test data

***** CONDUCTED EMISSION at MAINS PORT *****
 [3m Semi-anechoic chamber]



Final Result

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.306	11.7	-2.8	10.3	22.0	7.5	60.1	50.1	38.1	42.6
2	0.412	12.2	-2.9	10.3	22.5	7.4	57.6	47.6	35.1	40.2
3	0.526	11.2	-3.4	10.3	21.5	6.9	56.0	46.0	34.5	39.1
4	1.463	10.8	-3.8	10.3	21.1	6.5	56.0	46.0	34.9	39.5
5	4.970	10.4	-4.3	10.5	20.9	6.2	56.0	46.0	35.1	39.8
6	5.064	11.1	-4.2	10.5	21.6	6.3	60.0	50.0	38.4	43.7

--- L2 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.304	15.7	-2.0	10.3	26.0	8.3	60.1	50.1	34.1	41.8
2	0.420	16.2	-2.2	10.3	26.5	8.1	57.4	47.4	30.9	39.3
3	0.520	14.7	-2.5	10.3	25.0	7.8	56.0	46.0	31.0	38.2
4	1.152	12.2	-3.3	10.3	22.5	7.0	56.0	46.0	33.5	39.0
5	4.966	20.5	-2.5	10.5	31.0	8.0	56.0	46.0	25.0	38.0
6	5.087	20.8	-2.3	10.5	31.3	8.2	60.0	50.0	28.7	41.8

***** CONDUCTED EMISSION at MAINS PORT *****
[3m Semi-anechoic chamber]

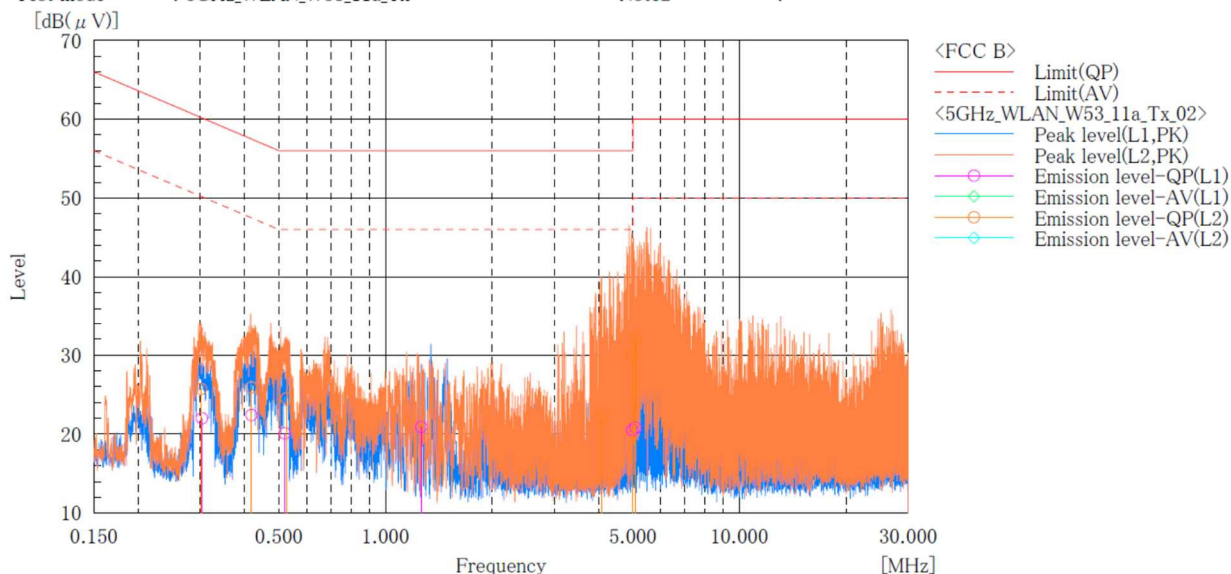
TUV SUD Zacta Ltd.

<<Data Sheet No.2>>

17 April,2017 13:30

Company Name : KYOCERA Corporation
EUT : Mobile Phone
Model No. : DA58
Serial No. : N/A
Test mode : 5GHz_WLAN_W53_11a_Tx

Standard : FCC Part.15 Subpart E
Operator : T.Seino
Temp,Hum,Atm : 20.3[°C] 33.3[%]
Note1 :
Note2 :



Final Result

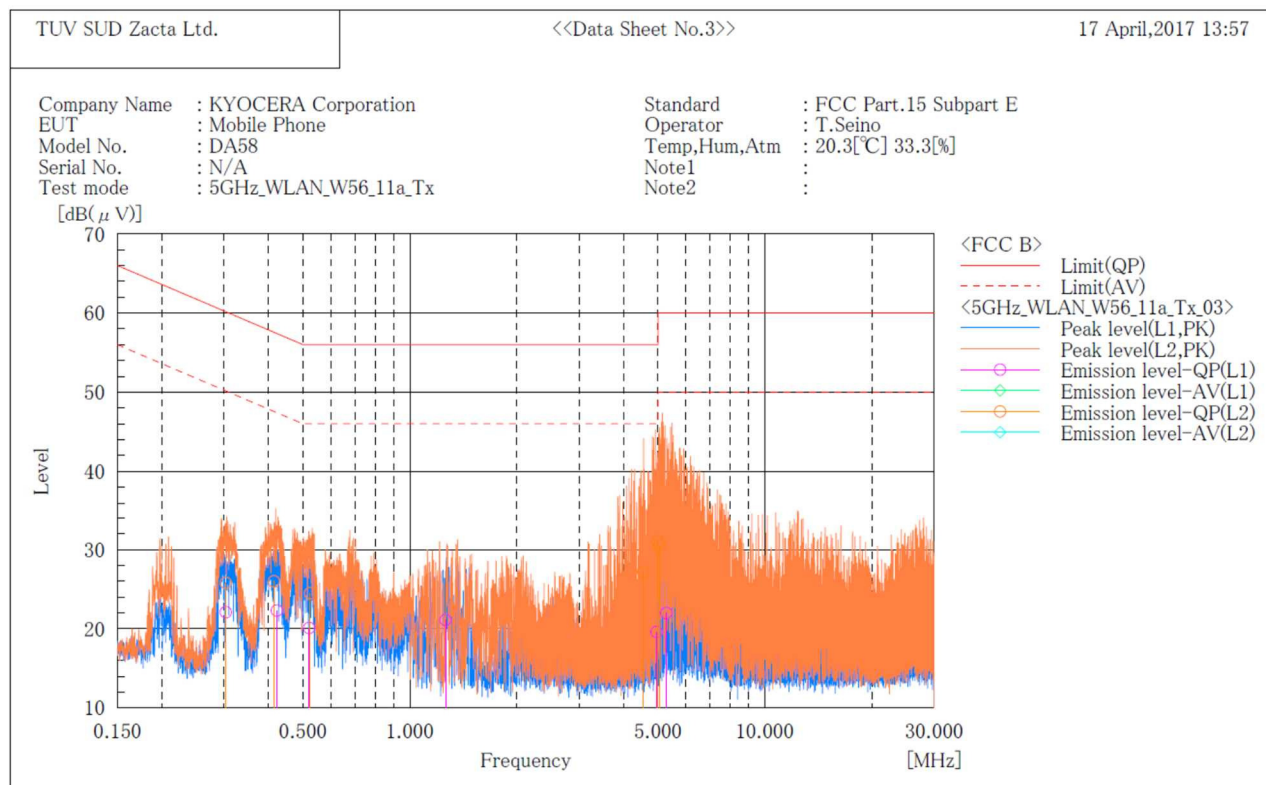
--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.303	11.7	-2.5	10.3	22.0	7.8	60.2	50.2	38.2	42.4
2	0.418	12.1	-2.8	10.3	22.4	7.5	57.5	47.5	35.1	40.0
3	0.519	9.8	-3.3	10.3	20.1	7.0	56.0	46.0	35.9	39.0
4	1.262	10.6	-3.3	10.3	20.9	7.0	56.0	46.0	35.1	39.0
5	4.981	10.0	-4.1	10.5	20.5	6.4	56.0	46.0	35.5	39.6
6	5.081	10.3	-4.1	10.5	20.8	6.4	60.0	50.0	39.2	43.6

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.301	15.4	-1.6	10.3	25.7	8.7	60.2	50.2	34.5	41.5
2	0.418	15.6	-1.9	10.3	25.9	8.4	57.5	47.5	31.6	39.1
3	0.525	14.2	-2.6	10.3	24.5	7.7	56.0	46.0	31.5	38.3
4	4.092	11.8	-4.4	10.5	22.3	6.1	56.0	46.0	33.7	39.9
5	4.988	19.5	-2.1	10.5	30.0	8.4	56.0	46.0	26.0	37.6
6	5.090	21.6	-1.8	10.5	32.1	8.7	60.0	50.0	27.9	41.3

***** CONDUCTED EMISSION at MAINS PORT *****
 [3m Semi-anechoic chamber]



Final Result

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.303	11.8	-2.4	10.3	22.1	7.9	60.2	50.2	38.1	42.3
2	0.422	12.0	-2.8	10.3	22.3	7.5	57.4	47.4	35.1	39.9
3	0.520	9.8	-3.3	10.3	20.1	7.0	56.0	46.0	35.9	39.0
4	1.260	10.8	-3.4	10.3	21.1	6.9	56.0	46.0	34.9	39.1
5	4.954	9.1	-4.3	10.5	19.6	6.2	56.0	46.0	36.4	39.8
6	5.276	11.5	-3.8	10.5	22.0	6.7	60.0	50.0	38.0	43.3

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.303	15.5	-1.5	10.3	25.8	8.8	60.2	50.2	34.4	41.4
2	0.414	15.7	-1.7	10.3	26.0	8.6	57.6	47.6	31.6	39.0
3	0.524	14.2	-2.6	10.3	24.5	7.7	56.0	46.0	31.5	38.3
4	4.541	16.7	-3.4	10.5	27.2	7.1	56.0	46.0	28.8	38.9
5	4.988	20.5	-2.0	10.5	31.0	8.5	56.0	46.0	25.0	37.5
6	5.049	20.0	-2.2	10.5	30.5	8.3	60.0	50.0	29.5	41.7

10. Duty Cycle

10.1 Measurement procedure

[KDB 789033 D02, Section B, Zero-Span Spectrum Analyzer Method]

The duty cycle is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;

- RBW=8MHz, VBW=8MHz, Span=0Hz, Sweep=Auto, Detector=Peak, Trace mode=Single

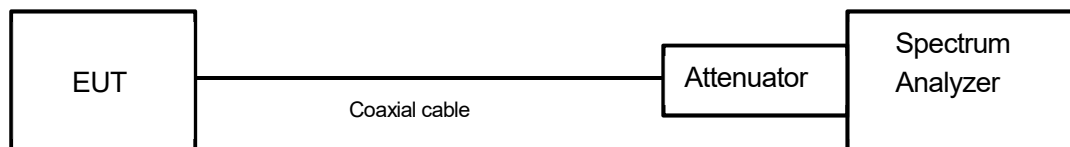
The EUT was set to operate with following conditions.

- 5.2GHz Band, 5.3GHz Band, 5.6GHz Band

The test mode of EUT is as follows.

- Tx mode

- Test configuration



10.2 Limit

None

10.3 Measurement result

Date : March 22, 2017

Temperature : 23.8 [°C]

Humidity : 48.2 [%]

Test place : Shielded room No.4

Tested by :

Tadahiro Seino

Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time(ms)	On+Off Time(ms)	X	1/T		
802.11a	36	5180	1.364	1.372	0.994	733.1	0.025	0.051
	40	5200						
	58	5240						
	52	5260	1.364	1.372	0.994	733.1	0.025	0.051
	56	5280						
	64	5320						
	100	5500	1.364	1.372	0.994	733.1	0.025	0.051
	116	5580						
	140	5700						

Note: X = On time / (On + Off time)

Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time(ms)	On+Off Time(ms)	X	1/T		
802.11n (20MHz)	36	5180	1.274	1.284	0.992	784.9	0.034	0.068
	40	5200						
	58	5240						
	52	5260	1.276	1.284	0.994	783.7	0.027	0.054
	56	5280						
	64	5320						
	100	5500	1.274	1.284	0.992	784.9	0.034	0.068
	116	5580						
	140	5700						

Note: X = On time / (On + Off time)

Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time(ms)	On+Off Time(ms)	X	1/T		
802.11n (40MHz)	38	5190	0.635	0.646	0.983	1574.8	0.075	0.149
	46	5230						
	54	5270	0.634	0.645	0.983	1577.3	0.075	0.149
	62	5310						
	102	5510	0.634	0.646	0.981	1577.3	0.081	0.163
	110	5550						
	134	5670						

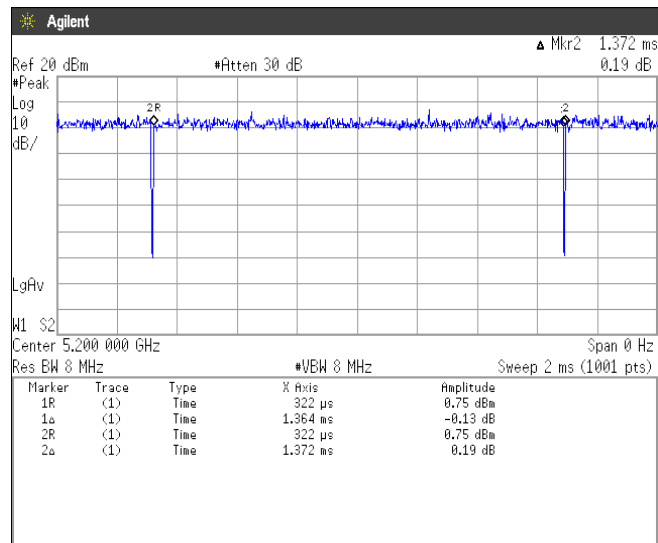
Note: X = On time / (On + Off time)

Mode	Channel	Frequency (MHz)	Duty Cycle				DCF (dB) 10log(1/x)	DCF (dB) 20log(1/x)
			On Time(ms)	On+Off Time(ms)	X	1/T		
802.11ac (80MHz)	42	5210	0.2475	0.2580	0.959	4040.4	0.180	0.361
	58	5290	0.2480	0.2580	0.961	4032.3	0.172	0.343
	106	5530	0.2470	0.2580	0.957	4048.6	0.189	0.378
	122	5610	0.2475	0.2575	0.961	4040.4	0.172	0.344

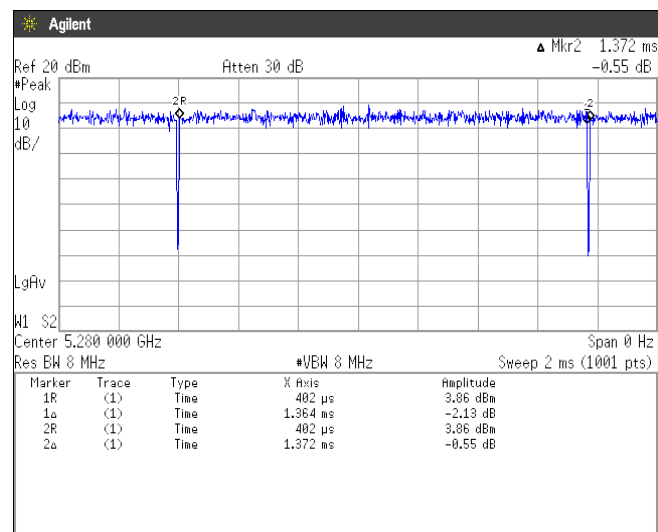
Note: X = On time / (On + Off time)

10.4 Trace data [IEEE802.11a]

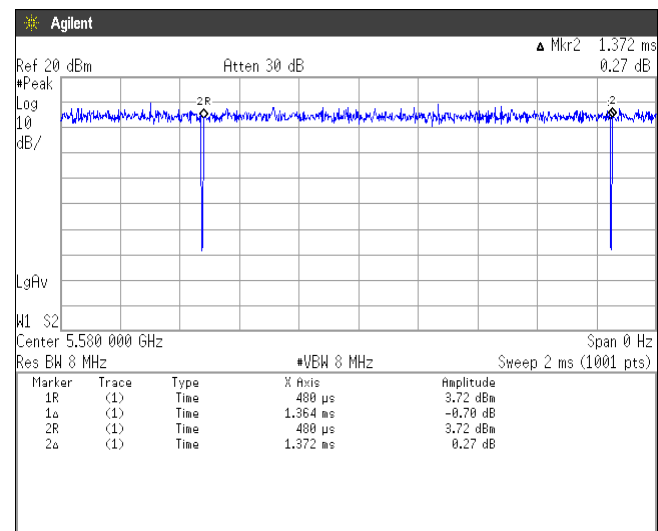
Channel: 40



Channel: 56

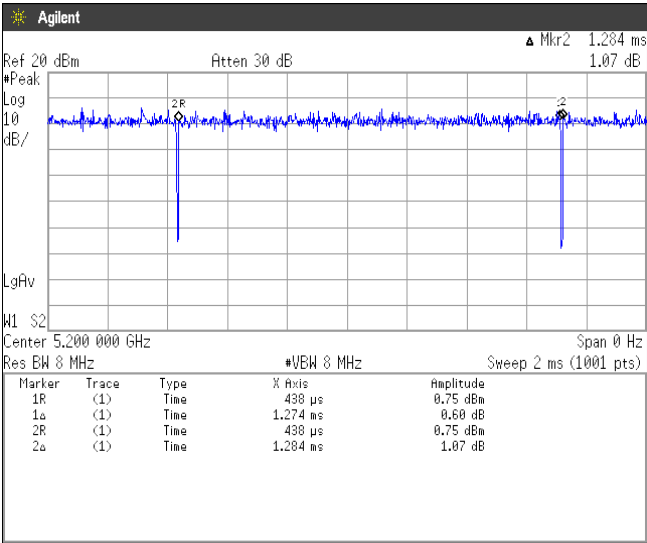


Channel: 116

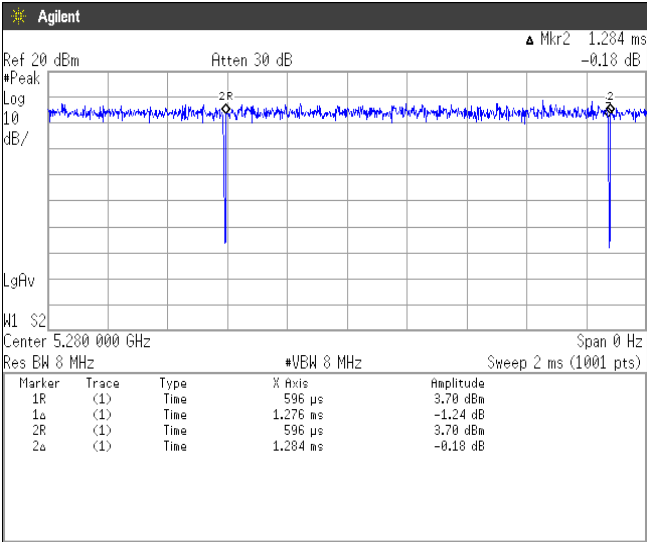


[IEEE802.11n (HT20)]

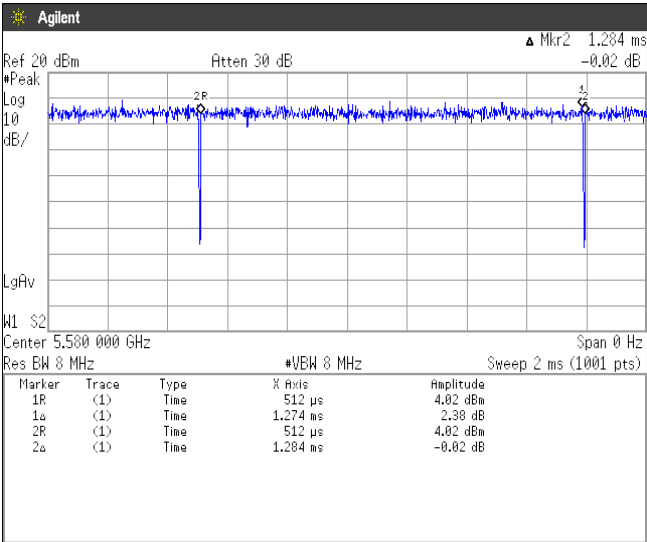
Channel: 40



Channel: 56

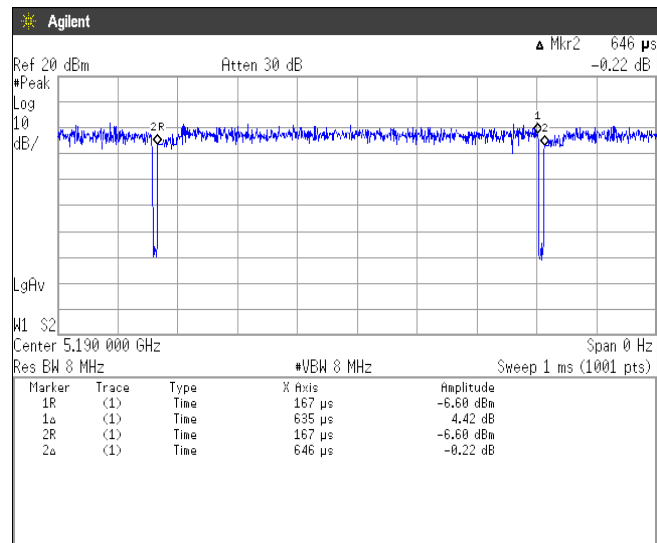


Channel: 116

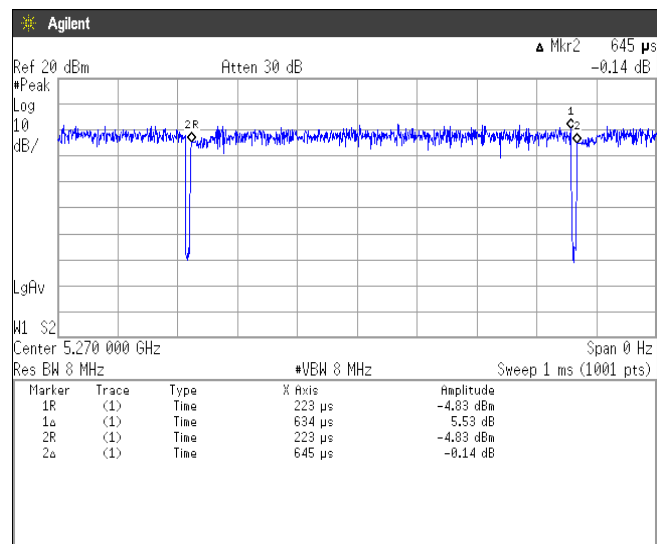


[IEEE802.11n (HT40)]

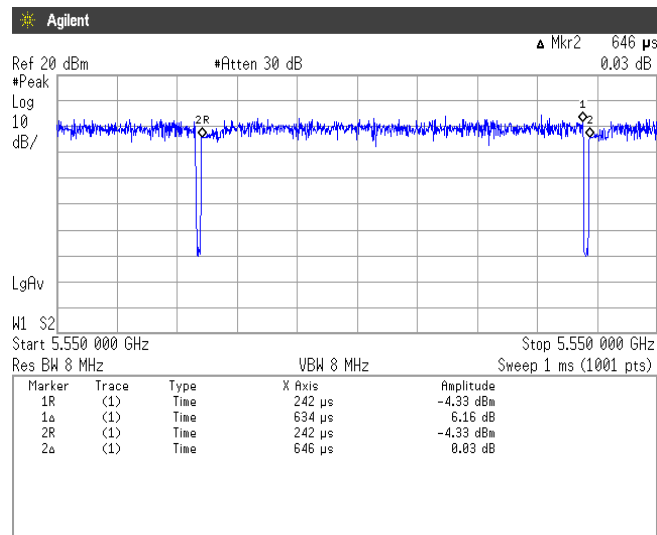
Channel: 38



Channel: 54

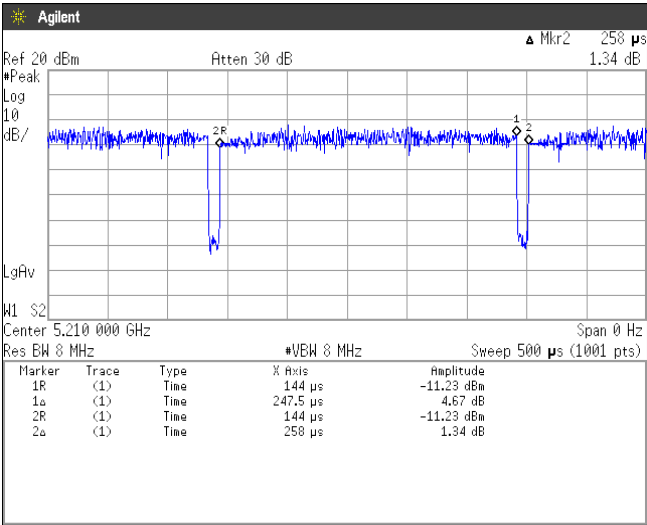


Channel: 110



[IEEE802.11ac (HT80)]

Channel: 42



Channel: 58

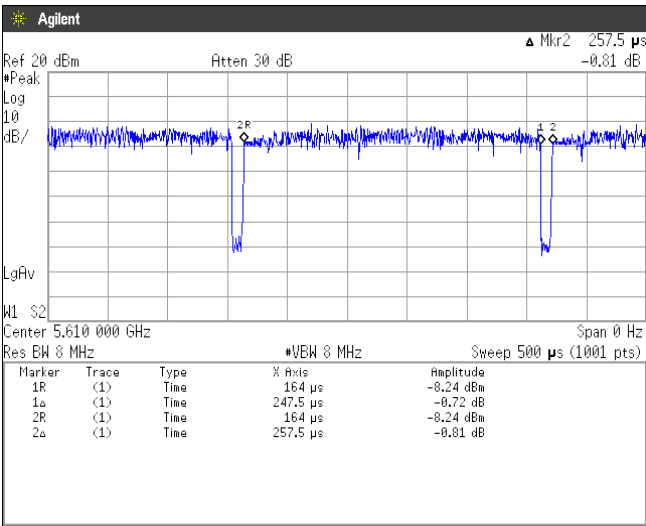


[IEEE802.11ac (HT80)]

Channel: 106



Channel: 122



11. Antenna requirement

According to FCC section 15.203, 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 antenna is a special antenna mounted inside of the EUT. Therefore, the EUT complies with the antenna requirement of FCC section 15.203.

12. Uncertainty of measurement

Expanded uncertainties stated are calculated with a coverage Factor $k=2$.

Please note that these results are not taken into account when determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission at mains port	$\pm 3.0\text{dB}$
Radiated emission (9kHz – 30MHz)	$\pm 4.4\text{dB}$
Radiated emission (30MHz – 1000MHz)	$\pm 4.5\text{dB}$
Radiated emission (1000MHz – 26GHz)	$\pm 3.9\text{dB}$

13. Laboratory Information

1. Location

Name: Yonezawa Testing Center
 Address: 5-4149-7, Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan
 Phone: +81-238-28-2881
 Fax: +81-238-28-2888

2. Accreditation and Registration

- 1) NVLAP
LAB CODE: 200306-0
- 2) VLAC
Accreditation No.: VLAC-013
- 3) BSMI
Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

4) Industry Canada

Site number	Facility	Expiration date
4224A-4	3m Semi-anechoic chamber	2017-12-03
4224A-5	10m Semi-anechoic chamber No.1	2017-12-03
4224A-6	10m Semi-anechoic chamber No.2	2019-12-14

5) VCCI Council

Registration number	Expiration date
A-0166	2017-07-03

Appendix A. Test equipment

Antenna port conducted test

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum analyzer	Agilent Technologies	E4440A	US40420937	Jul. 31, 2017	Jul. 15, 2016
Microwave cable	RS	YH-13S5	N/A(S403)	May 31, 2017	May 24, 2016
Attenuator	Weinschel	56-10	J4993	Nov. 30, 2017	Nov. 1, 2016
Temperature and humidity chamber	ESPEC	PL1KP	14007261	Jan. 31, 2018	Jan. 20, 2017

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100764	Aug. 31, 2017	Aug. 19, 2016
Spectrum analyzer	Agilent Technologies	E4440A	US40420937	Jul. 31, 2017	Jul. 15, 2016
Preamplifier	ANRITSU	MH648A	M96057	Feb. 28, 2018	Feb. 1, 2017
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	892246/010	Feb. 28, 2018	Feb. 17, 2017
Attenuator	TDC	TAT-43B-06	N/A(S209)	May 31, 2017	May 10, 2016
Biconical antenna	Schwarzbeck	VHA9103/BBA9106	2155	Jun. 30, 2017	Jun. 2, 2016
Log periodic antenna	Schwarzbeck	UHALP9108A	0560	Jun. 30, 2017	Jun. 2, 2016
Attenuator	TME	CFA-01NPJ-6	N/A(S275)	Feb. 28, 2018	Feb. 3, 2017
Attenuator	TME	CFA-01NPJ-3	N/A(S272)	Feb. 28, 2018	Feb. 2, 2017
Preamplifier	TSJ	MLA-100M18-B02-40	1929118	Feb. 28, 2018	Feb. 3, 2017
Attenuator	AEROFLEX	26A-10	081217-08	May 31, 2017	May 24, 2016
Double ridged guide antenna	EMCO	3115	5205	Mar. 31, 2017	Mar. 3, 2016
Double ridged guide antenna	EMCO	3115	5205	Mar. 31, 2018	Mar. 15, 2017
Double ridged guide antenna	ETS LINDGREN	3117	00052315	Feb. 28, 2018	Feb. 23, 2017
Attenuator	Agilent Technologies	8491B	MY39268633	Feb. 28, 2018	Feb. 2, 2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170189	Jun. 30, 2017	Jun. 16, 2016
Preamplifier	TSJ	MLA-1840-B03-35	1240332	Jun. 30, 2017	Jun. 16, 2016
Notch filter	Micro-Tronics	BRM50716	006	Jul. 31, 2017	Jul. 20, 2016
Microwave cable	SUHNER	SUCOFLEX104/9m	MY30037/4	Feb. 28, 2018	Feb. 3, 2017
		SUCOFLEX104/1m	my24610/4	Feb. 28, 2018	Feb. 3, 2017
		SUCOFLEX104/8m	SN MY30031/4	Feb. 28, 2018	Feb. 2, 2017
		SUCOFLEX104/1.5m	322086/4	May 31, 2017	May 10, 2016
		SUCOFLEX104/1.5m	317226/4	May 31, 2017	May 10, 2016
		SUCOFLEX104/7m	41625/6	Feb. 28, 2018	Feb. 3, 2017
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.6.0	N/A	N/A
Absorber	RIKEN	PFP30	N/A	N/A	N/A
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-NSA)	May 31, 2017	May 11, 2016
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-SVSWR)	May 31, 2017	May 12, 2016

Conducted emission at mains port

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100764	Aug. 31, 2017	Aug. 19, 2016
Attenuator	HUBER+SUHNER	6810.01.A	N/A (S411)	Feb. 28, 2018	Feb. 2, 2017
Line impedance stabilization network for EUT	Kyoritsu Electrical Works, Ltd.	KNW-407F	8-2003-1	Mar. 31, 2018	Mar. 13, 2017
Coaxial cable	FUJIKURA	5D-2W/4m	N/A (S350)	Feb. 28, 2018	Feb. 2, 2017
Coaxial cable	FUJIKURA	5D-2W/1m	N/A (S193)	Feb. 28, 2018	Feb. 3, 2017
Coaxial cable	SUHNER	RG214/U/10m	N/A (S194)	Feb. 28, 2018	Feb. 3, 2017
PC	DELL	DIMENSION	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/CE-AJ	0611193/V5.4.11	N/A	N/A

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.