

# **FCC Test Report**

Report No.: AGC08260230401FE03

**FCC ID** : 2BAWX-TXREXP

**APPLICATION PURPOSE**: Original Equipment

**PRODUCT DESIGNATION**: LABEL PRINTER

**BRAND NAME** : POSTEK

**MODEL NAME** : Please see the page 6

**CLIENT** : Postek Electronics Co., Ltd.

**DATE OF ISSUE** : Jun. 04, 2023

STANDARD(S)

TEST PROCEDURE(S) : FCC Part 15 Rules

**REPORT VERSION** : V1.1

Attestation of Global Compliance (Shenzhen) Co., Ltd



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# REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 29, 2023	Invalid	Initial Release
V1.1	1 <sup>st</sup>	Jun. 04, 2023	Valid	Revise Report



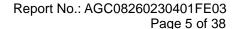
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# 1. VERIFICATION OF CONFORMITY

Applicant	Postek Electronics Co., Ltd.	
Address	Wisdom Plaza, Block B, Tower 2, 18th Floor Qiaoxiang Road, Nanshan District, Shen Zhen, Guang Dong, China	
Manufacturer	Postek Electronics Co., Ltd.	
Address	Wisdom Plaza, Block B, Tower 2, 18th Floor Qiaoxiang Road, Nanshan District, Shen Zhen, Guang Dong, China	
Factory	Dongguan Ceracuit Precision Technologies Co., Ltd.	
Address	Jewelry Culture Industrial Park, Building 4, Block A3, 6th Floor Huanchang North Road, Changping Town, Dongguan City	
Product Designation	LABEL PRINTER	
Brand Name	POSTEK	
Test Model	TX3r Exp	
Series Model	Please see the page 6	
Difference description	All the series models are the same as the test model except for the model names, the appearance colors of label printers, the precision of the print head, the memory configurations and The built-in control software functions.	
Date of receipt of test item	Apr. 18, 2023	
Date of test	Apr. 21, 2023 to May 26, 2023	
Deviation	None	
Condition of Test Sample	Normal	
Test Result	Pass	
Report Template	AGCRT-US-BR/RF	

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.249.

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	Bibo Zhang (Project Engineer)	Jun. 04, 2023
Reviewed By	Calin Lin	
	Calvin Liu (Reviewer)	Jun. 04, 2023
Approved By	Max Zhang	
	Max Zhang (Authorized Officer)	Jun. 04, 2023



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2. GENERAL INFORMATION

# 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Attriagor toothirous accompanion of Eo F to accompany to the wing				
Operation Frequency	902~928MHZ			
Maximum field strength	90.96dBuV/m(average)@3m			
Modulation	DSB-ASK			
Number of channels	50 Channels			
Antenna Gain	-22.57dBi			
Antenna Designation	PCB Antenna (Met 15.203 Antenna requirement)			
Hardware Version	OX V1.06			
Software Version	V1.4.46			
Power Supply	AC120V			

Test Model	TX3r Exp
Series Model	TC200i Exp, TC300i Exp, TC600i, TC600i Exp, TX2er, TX2r Exp, TX3er, TX6er, TX6r Exp, TX200r, TX300r, TX600r, X2000 Exp, X3000, X3000 Exp, X4000, X4000 Exp, X6000 Exp, X8000, X8000 Exp, MR200+, MR200+ Exp, MR300+ Exp, MR600+, MR600+ Exp, MR200i, MR200i Exp, MR300i Exp, MR600i Exp, MR243 Exp, MR343 Exp, MR666 Exp, MR-200t, MR-200t Exp, MR-300t Exp, MR-600t, MR-600t Exp, MR2000, MR2000 Exp, MR3000 Exp, MR6000, MR6000 Exp, MR2k, MR2k Exp, MR3k Exp, MR6k, RT200+, RT200+ Exp, RT300+ Exp, RT600+, RT600+ Exp, RT200i Exp, RT300i Exp, RT600i, RT600i Exp, RT243, RT243 Exp, RT343 Exp, RT643, RT666, RT-200e Exp, RT-300e Exp, RT-600e, RT-600e Exp, RT2208, RT3308, RT6608, RT220c, RT300c, RT600c



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#### 2.2. TABLE OF CARRIER FREQUENCY

Frequency Band	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
	01	902.75	18	911.25	35	919.75
	02	903.25	19	911.75	36	920.25
	03	903.75	20	912.25	37	920.75
	04	904.25	21	912.75	38	921.25
	05	904.75	22	913.25	39	921.75
	05	905.25	23	913.75	40	922.25
	07	905.75	24	914.25	41	922.75
	08	906.25	25	914.75	42	923.25
902~928MHZ	09	906.75	26	915.25	43	923.75
	10	907.25	27	915.75	44	924.25
	11	907.75	28	916.25	45	924.75
	12	908.25	29	916.75	46	925.25
	13	908.75	30	917.25	47	925.75
	14	909.25	31	917.75	48	926.25
	15	909.75	32	918.25	49	926.75
	16	910.25	33	918.75	50	927.25
	17	910.75	54	919.25		



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# 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %



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# 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel GFSK(902.75MHz)
2	Middle channel GFSK(915.25 MHz)
3	High channel GFSK(927.75 MHz)
Note:	

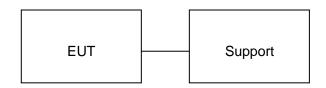
- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.



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# 5. SYSTEM TEST CONFIGURATION

# **5.1. CONFIGURATION OF EUT SYSTEM**

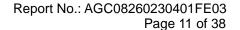


#### **5.2 EQUIPMENT USED IN TESTED SYSTEM**

Item	Equipment	Model No.	ID or Specification	Remark
1	LABEL PRINTER	TX3r Exp	2BAWX-TXREXP	EUT
2	Redmi notebook PC	XMA2002-AB	N/A	AE
3	Mouse	EMS-537A	N/A	AE

# **5.3. SUMMARY OF TEST RESULTS**

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.249&15.209	Radiated Emission	Compliant
§15.249	Band Edges	Compliant
§15.215	20dB bandwidth	Compliant
§15.207	Conducted Emission	Compliant





# 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

#### **TEST EQUIPMENT OF CONDUCTED EMISSION TEST**

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Aug. 04, 2022	Aug. 03, 2023
LISN	R&S	ESH2-Z5	100086	Jun. 08, 2022	Jun. 07, 2023
Test software	FARA	EZ-EMC (Ver. AGC- CON03A1)	N/A	N/A	N/A

# **TEST EQUIPMENT OF RADIATED EMISSION TEST**

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Feb. 18, 2023	Feb. 17, 2024
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Aug. 04, 2022	Aug. 03, 2023
2.4GHz Fliter	EM Electronics	N/A	N/A	Mar. 18, 2022	Mar. 19, 2024
Attenuator	ZHINAN	E-002	N/A	Aug. 04, 2022	Aug. 03, 2024
Horn antenna	SCHWARZBECK	BBHA 9170	768	Oct. 31, 2021	Oct. 30, 2023
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Apr. 23, 2023	Apr. 22, 2024
Double-Ridged Waveguide Horn	ETS	3117	00154520	Sep. 06, 2021	Sep. 05, 2023
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 01, 2022	Sep. 02, 2024
ANTENNA	SCHWARZBECK	VULB9168	VULB9168-494	Jan. 05, 2023	Jan. 04, 2025
Test software	FARA	EZ-EMC (Ver RA-03A)	N/A	N/A	N/A



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# 7. RADIATED EMISSION

#### 7.1TEST LIMIT

#### Standard FCC15.249

Fundamental Frequency	Field Strength of Fundamental	Field Strength of Harmonics
	(millivolts/meter)	(microvolts/meter)
900-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

#### Standard FCC 15.209

Frequency	Distance	Field Strengths Limit		
(MHz)	Meters	μ <b>V/m</b>	dB(μV)/m	
0.009 ~ 0.490	300	2400/F(kHz)		
0.490 ~ 1.705	30	24000/F(kHz)		
1.705 ~ 30	30	30		
30 ~ 88	3	100	40.0	
88 ~ 216	3	150	43.5	
216 ~ 960	3	200	46.0	
960 ~ 1000	3	500	54.0	
Above 1000	3	Other:74.0 dB(µV)/m (Peak) 54.0 dB(µV)/m (Average)		

Remark:

- (1) Emission level dB  $\mu$  V = 20 log Emission level  $\mu$  V/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



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#### 7.2. MEASUREMENT PROCEDURE

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use minimum resolution bandwidth of 1 MHz. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.



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The following table is the setting of spectrum analyzer and receiver.

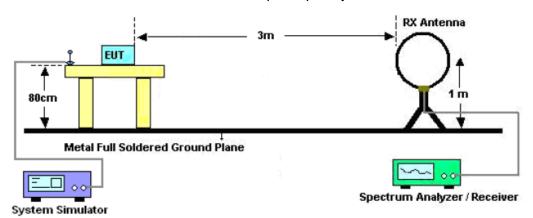
Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
	1GHz~26.5GHz
Start ~Stop Frequency	RBW 2.4MHz/ VBW 8MHz for Peak,
	RBW 2.4MHz/10Hz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

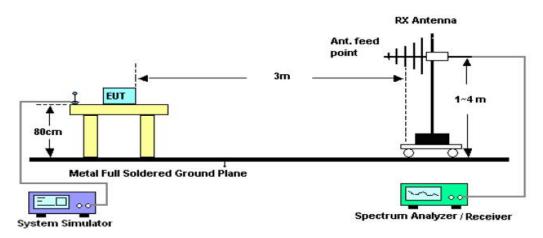


#### 7.3. TEST SETUP

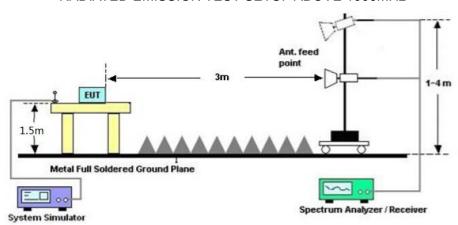
# Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



# RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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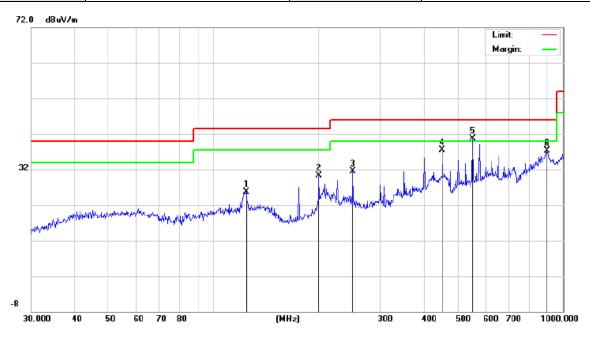
#### 7.4. TEST RESULT

# **RADIATED EMISSION BELOW 30MHZ**

No emission found between lowest internal used/generated frequencies to 30MHz.

#### **RADIATED EMISSION 30MHz-1GHZ**

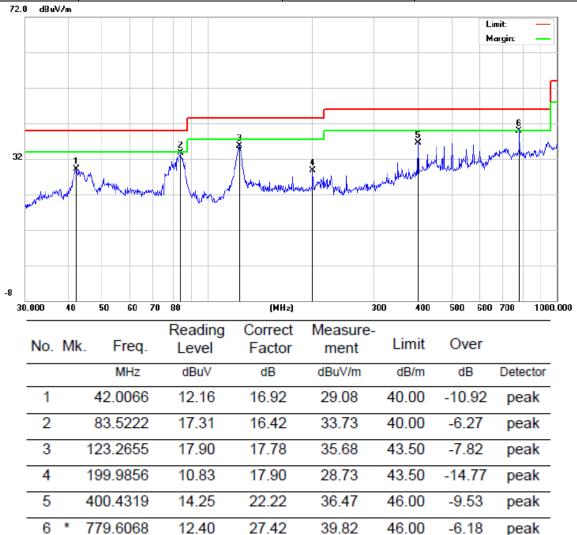
EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	<b>20</b> ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization :	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB	dBuV/m	dB/m	dB	Detector
1		123.6985	10.25	15.55	25.80	43.50	-17.70	peak
2		199.9856	14.72	15.50	30.22	43.50	-13.28	peak
3		250.3012	14.49	17.06	31.55	46.00	-14.45	peak
4		451.1350	12.73	24.82	37.55	46.00	-8.45	peak
5	*	550.9480	17.22	23.39	40.61	46.00	-5.39	peak
6		900.1474	5.59	31.78	37.37	46.00	-8.63	peak



EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization:	Vertical



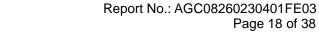
#### **RESULT: PASS**

# Note:

Factor=Antenna Factor + Cable loss, Margin=Result-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

The mode 1 is the worst case, and only the data of the worst case recorded in this test report.



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FIELD STRENGTH OF FUNDAMENTAL

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	AC120V
Test Modulation :	GFSK	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
902.75	106.85	-9.61	97.24	114.00	-16.76	peak
902.75	100.57	-9.61	90.96	94.00	-3.04	AVG
915.25	99.87	-9.61	90.26	114.00	-23.74	peak
915.25	92.10	-9.61	82.49	94.00	-11.51	AVG
927.25	92.98	-9.61	83.37	114.00	-30.63	peak
927.25	79.83	-9.61	70.22	94.00	-23.78	AVG
Remark:						
Factor = Ante	nna Factor + C	able Loss – Pr	e-amplifier.			·

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Modulation :	GFSK	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
902.75	106.33	-9.61	96.72	114.00	-17.28	peak
902.75	100.15	-9.61	90.54	94.00	-3.46	AVG
915.25	99.25	-9.61	89.64	114.00	-24.36	peak
915.25	93.09	-9.61	83.48	94.00	-10.52	AVG
927.25	92.17	-9.61	82.56	114.00	-31.44	peak
927.25	84.50	-9.61	74.89	94.00	-19.11	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



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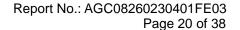
#### **RADIATED EMISSION ABOVE 1GHZ**

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
1805.5	49.64	3.76	53.40	74.00	-20.60	peak
1805.5	42.11	3.76	45.87	54.00	-8.13	AVG
2708.25	44.18	8.17	52.35	74.00	-21.65	peak
2708.25	35.56	8.17	43.73	54.00	-10.27	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	<b>20</b> ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
1805.5	47.51	3.76	51.27	74.00	-22.73	peak
1805.5	39.64	3.76	43.40	54.00	-10.60	AVG
2708.25	41.05	8.17	49.22	74.00	-24.78	peak
2708.25	34.25	8.17	42.42	54.00	-11.58	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



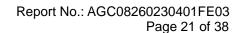


EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 2	Polarization:	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
1830.5	47.23	3.78	51.01	74.00	-22.99	peak
1830.5	41.25	3.78	45.03	54.00	-8.97	AVG
2745.75	43.59	8.23	51.82	74.00	-22.18	peak
2745.75 36.25 8.23 44.48 54.00 -9.52 AVG						
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	<b>20</b> ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 2	Polarization:	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
1830.5	47.62	3.78	51.40	74.00	-22.60	peak
1830.5	39.25	3.78	43.03	54.00	-10.97	AVG
2745.75	43.15	8.23	51.38	74.00	-22.62	peak
2745.75	35.48	8.23	43.71	54.00	-10.29	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						





Test Mode :

Mode 3

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 3	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
1830.5	47.64	3.81	51.45	74.00	-22.55	peak
1830.5	39.64	3.81	48.78	54.00	-5.22	AVG
2745.75	42.15	8.27	50.74	74.00	-23.26	peak
2745.75 38.64 8.27 46.58 54.00 -7.42 AVG						
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type	
1830.5	48.67	3.81	52.48	74.00	-21.52	peak	
1830.5	39.66	3.81	43.47	54.00	-10.53	AVG	
2745.75	44.21	8.27	52.48	74.00	-21.52	peak	
2745.75	35.18	8.27	43.45	54.00	-10.55	AVG	
Remark:							
Factor = Ante	nna Factor + C	able Loss – Pr	e-amplifier.				

Polarization:

Vertical

**Note:** Other emissions from 8G to 25 GHz are considered as ambient noise. No recording in the test report.

Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

The GFSK modulation was the worst case and only the data of worst recorded in this report



#### 8. BAND EDGE EMISSION

#### **8.1TEST LIMIT**

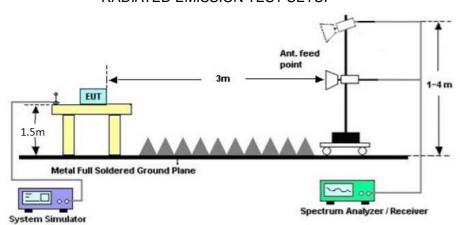
	Limit of the Fiel	d Strength (dBμV/m)
Frequency Band	Peak	Average
f≤902MHz	74	54
f≥928MHz	74	54

#### **8.2. MEASUREMENT PROCEDURE**

- 1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
- 2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO
- (b) AVERAGE: RBW=1MHz; VBW=1/on time(1KHz) / Sweep=AUTO
- 3. Other procedures refer to clause 7.2.

#### 8.3 TEST SETUP

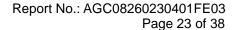
#### RADIATED EMISSION TEST SETUP



#### **8.4 TEST RESULT**

#### Note:

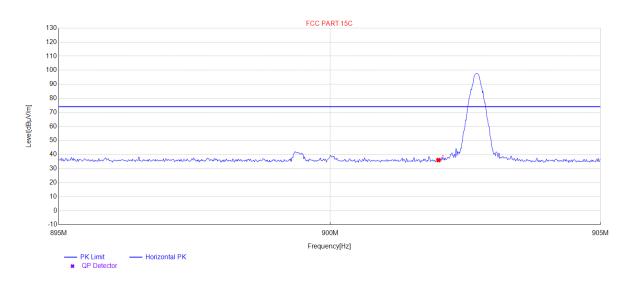
- 1. Factor=Antenna Factor + Cable loss Amplifier gain. Field Strength=Factor + Reading level
- 2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB( $\mu$ V) to represent the Amplitude. Use the F dB( $\mu$ V/m) to represent the Field Strength. So A=F.





EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization :	Horizontal

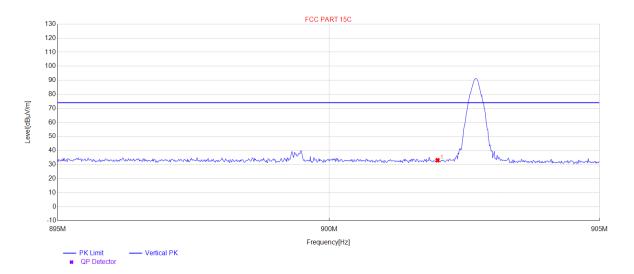
# Peak Value



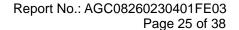
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	902	36.01	31.57	74.00	37.99	150	356	Horizontal



# Average Value



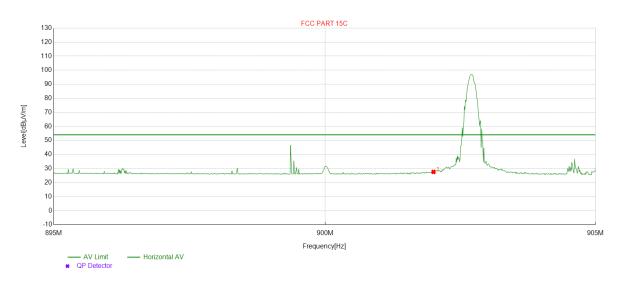
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	902	33.06	28.29	74.00	40.94	150	177	Vertical





EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 1	Polarization :	Vertical

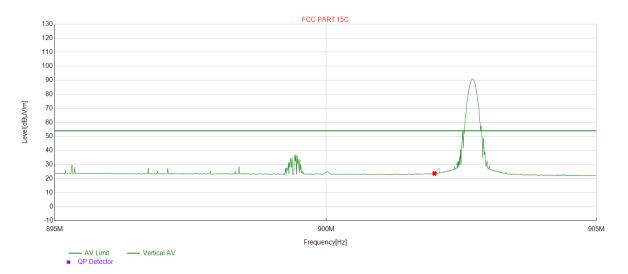
# Peak Value



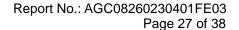
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	902	27.60	31.57	54.00	26.40	150	324	Horizontal



# Average Value



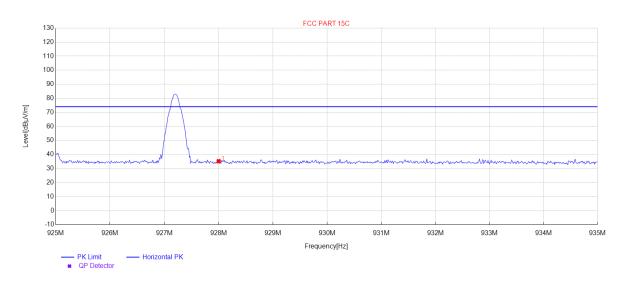
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	902	23.67	28.29	54.00	30.33	150	281	Vertical





EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 3	Polarization :	Horizontal

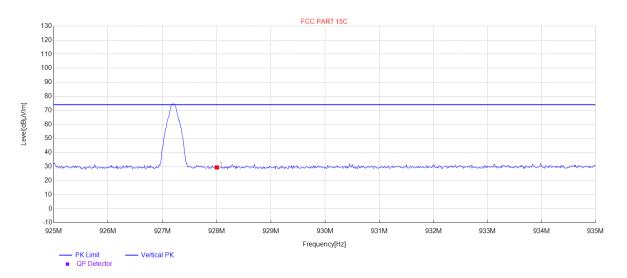
# Peak Value



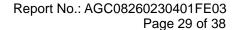
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	928	35.21	30.56	74.00	38.79	150	207	Horizontal



# Average Value



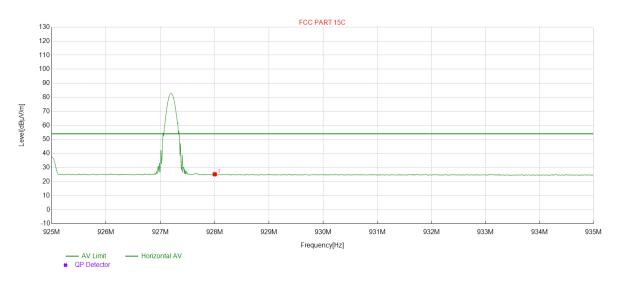
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	928	29.38	25.52	74.00	44.62	150	4	Vertical





EUT:	LABEL PRINTER	Model Name. :	TX3r Exp
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	AC120V
Test Mode :	Mode 3	Polarization :	Vertical

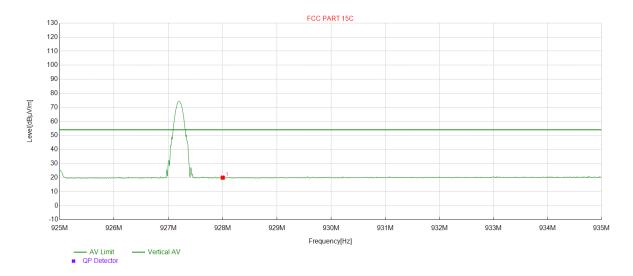
# Peak Value



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	928	25.21	30.56	54.00	28.79	150	17	Horizontal



# Average Value



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	928	19.94	25.52	54.00	34.06	150	39	Vertical

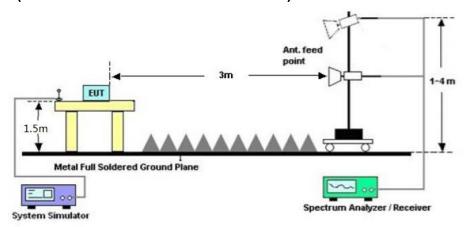


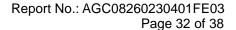
# 9. 20DB BANDWIDTH

# 9.1. MEASUREMENT PROCEDURE

- 1. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 2. Set SPA Centre Frequency = Operation Frequency, RBW= 30 KHz, VBW ≥ 3 × RBW.
- 3. Set SPA Trace 1 Max hold, then View.

# 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)





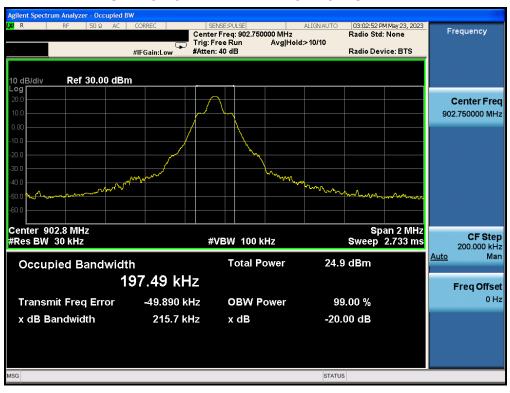


#### 9.3. MEASUREMENT RESULTS

TEST ITEM	20DB BANDWIDTH
TEST MODULATION	GFSK

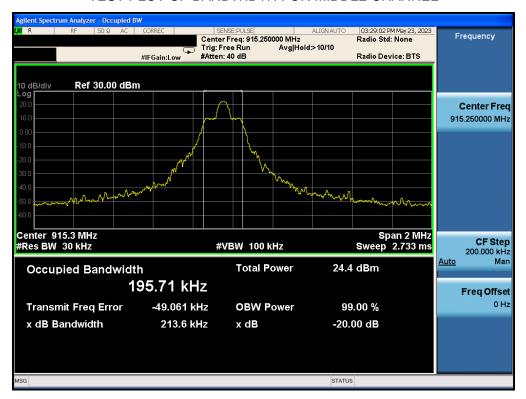
Test Data (MHz)	Criteria	
Low Channel	0.2157	PASS
Middle Channel	0.2136	PASS
High Channel	0.2151	PASS

#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

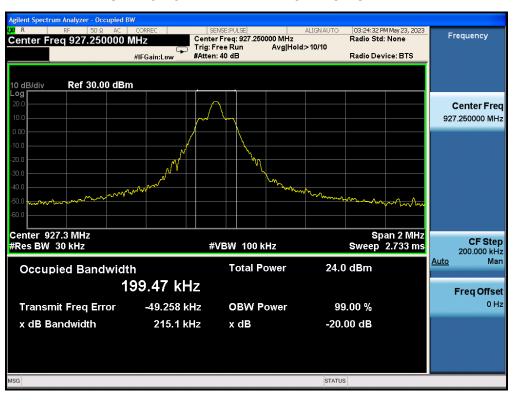




#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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# 10. FCC LINE CONDUCTED EMISSION TEST

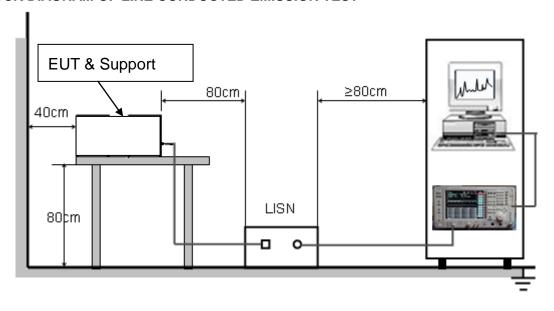
# 10.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Francisco	Maximum RF Line Voltage				
Frequency	Q.P.( dBuV)	Average( dBuV)			
150kHz~500kHz	66-56	56-46			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

# Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

# 10.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





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#### 10.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipments received AC120VV/60Hz power from a LISN, if any.
- 5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

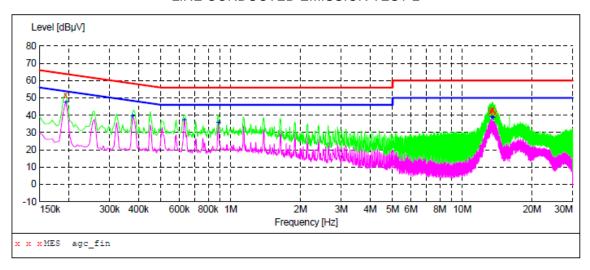
# 10.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.



#### 10.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

# LINE CONDUCTED EMISSION TEST-L



# MEASUREMENT RESULT: "agc fin'

2023/4/24 Frequen M		Transd dB	Limit dBµV	Margin dB	Detector	Line
0.1940	00 51.60	6.2	64	12.3	QP	L1
13.1940	00 41.60	6.9	60	18.4	QP	L1
13.3140	00 42.50	6.9	60	17.5	QP	L1
13.4780	00 43.30	6.9	60	16.7	QP	L1
13.5780	00 43.30	6.9	60	16.7	QP	L1
13.8500	00 41.00	6.9	60	19.0	QP	L1

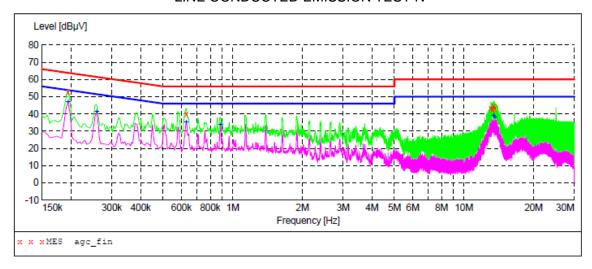
# MEASUREMENT RESULT: "agc fin2"

2023/4/24	16:	18		
Frequen	су	Level	Transd	Limit
M	Hz	dBu∇	dB	dBuV

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.194000	47.20	6.2	54	6.7	AV	L1
0.378000	39.10	6.2	48	9.2	AV	L1
0.630000	36.80	6.3	46	9.2	AV	L1
0.886000	35.40	6.3	46	10.6	AV	L1
13.462000	39.00	6.9	50	11.0	AV	L1
13.574000	38.30	6.9	50	11.7	AV	L1



# LINE CONDUCTED EMISSION TEST-N



# MEASUREMENT RESULT: "agc\_fin"

2023/4/24	16:21					
Frequen	cy Level	Transd	Limit	Margin	Detector	Line
M	Hz dBµV	dB	dΒμ∇	dB		
0.1940	00 52.40	6.2	64	11.5	QP	N
0.6300	00 39.80	6.3	56	16.2	QP	N
13.0620	00 43.00	6.9	60	17.0	QP	N
13.3180	00 42.60	6.9	60	17.4	QP	N
13.4660	00 44.70	6.9	60	15.3	QP	N
13.5820	00 43.10	6.9	60	16.9	QP	N

# MEASUREMENT RESULT: "agc fin2"

2023/4/24 16	:21					
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.194000	46.90	6.2	54	7.0	AV	N
0.258000	41.00	6.2	52	10.5	AV	N
0.630000	34.90	6.3	46	11.1	AV	N
0.886000	33.80	6.3	46	12.2	AV	N
13.462000	38.80	6.9	50	11.2	AV	N
13.574000	37.90	6.9	50	12.1	AV	N

#### **RESULT: PASS**

Note: The mode 1 is the worst case, and only the data of the worst case recorded in this test report.



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# **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

Refer to the Report No.: AGC08260230401AP02

# APPENDIX B: PHOTOGRAPHS OF THE EUT

Refer to the Report No.: AGC08260230401AP03

----END OF REPORT----



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- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
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- 3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
- 4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
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- 8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
- 9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.