



Test Report No.:
FCCSZ2025-0005-RF4

RF Test Report

FCC ID : 2AOWK-5021

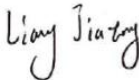
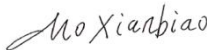
NAME OF SAMPLE : Smart Phone

APPLICANT : Shenzhen Gotron Electronic CO.,LTD.

CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant	Name: Shenzhen Gotron Electronic CO.,LTD. Address: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China		
Manufacturer	Name: Shenzhen Gotron Electronic CO.,LTD. Address: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China		
Equipment Under Test	Name: Smart Phone Model/Type: GQ5021 Additional Model: Armor X32 Pro, Armor X32 Ultra, Armor X32E, Armor X32S, Armor X32 Lite, Armor X32s, Armor X32s Pro Serial NO.: N/A Brand: ulefone Sample NO.: 2-1		
Date of Receipt.	2025.01.08	Date of Testing	2025.01.08-2025.03.27
Test Specification		Test Result	
FCC Part 15, Subpart C, Section 15.225		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: 2025.03.27		
Compiled by:  <u>Liang Jiatong</u> Name Signature	Reviewed by:  <u>Mo Xianbiao</u> Name Signature	Approved by:  <u>Dong Sanbi</u> Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



TABLE OF CONTENTS

1	SUMMARY OF TEST RESULTS	5
1.1	LIST OF TEST AND MEASUREMENT INSTRUMENTS	6
1.2	MEASUREMENT UNCERTAINTY	7
1.3	TEST LOCATION	7
2	GENERAL INFORMATION	8
2.1	GENERAL PRODUCT INFORMATION	8
2.2	DESCRIPTION OF ACCESSORIES	8
2.3	OTHER INFORMATION	8
2.4	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	9
2.5	GENERAL DESCRIPTION OF APPLIED STANDARDS	11
2.6	DESCRIPTION OF SUPPORT UNITS	11
3	TEST TYPES AND RESULTS	12
3.1	CONDUCTED EMISSION MEASUREMENT	12
3.2	RADIATED EMISSIONS	15
3.3	FREQUENCY TOLERANCE	25
3.4	20dB BANDWIDTH	27
3.5	ANTENNA REQUIREMENT	29
4	PHOTOGRAPHS OF TEST SETUP	30
5	PHOTOGRAPHS OF THE EUT	31



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0005-RF4	Original release	2025.03.27



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C Section 15.225			
FCC STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.225 (a)&(b)&(c)	The field strength of Fundamental Emission	PASS	Meet the requirement of limit.
15.225 (d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.225 (e)	Frequency tolerance	PASS	Meet the requirement of limit.
15.215 (c)	20dB Bandwidth	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Antenna Port Conducted Test					
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	1 year	2025.5.22
#4Shielding room	MORI	443	N/A	3 year	2026.5.16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168588	1 year	2025.5.24
Analog signal Generator(100kHz~12.75GHz)	Rohde&Schwarz	SMB 100A	181882	1 year	2025.4.27
Vector signal Generator(8kHz~6GHz)	Rohde&Schwarz	SMBV 100B	101846	1 year	2025.4.28
DC power supply	Rohde&Schwarz	HMC8041-G	101203	1 year	2025.4.29
RF control unit(2/3/4/5G)	Tonscend	JS0806-1	CS0300027	1 year	2025.4.28
Automatic filter bank(2/3/4G)	Tonscend	JS0806-F	CS0300028	1 year	2025.4.28
Automatic filter bank(5G)	Tonscend	JS0806-F-5G NR	N/A	1 year	2025.4.28
Temperature and humidity meter	UNI-T	A10T	C193561464	1 year	2025.4.27
Radio Communication Analyzer	Anritsu	MT8821C	6272374548	1 year	2026.1.07
Constant temperature humidity chamber	TEELONG	TL-HW-225B	20220518-01	1 year	2025.5.24
Radio Communication Test Station	Anritsu	MT8000A	6272354169	1 year	2026.1.07
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Radiation Spurious(Below 1GHz)					
EMI Test Receiver	Rohde&Schwarz	ESR 26	101718	1 year	2025/5/24
Antenna(30MHz~1000MHz)	SCHWARZBECK	VULB 9168	1510	1 year	2026/1/12
3m anechoic chamber	MORI	966	CS0200019	3 year	2026/5/18
LISN (single-phase)	Rohde&Schwarz	ESH3-Z6	102152/102156	1 year	2025/4/27
Preamplifier(10kHz-1GHz)	Rohde&Schwarz	SCU-01F	100298	1 year	2025/4/28
Conducted Emission					
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.24
limiter (10 dB)	Rohde&Schwarz	ESH3-Z2	102824	1 year	2025.5.15
ISN network	Rohde&Schwarz	ENV 81	100401	1 year	2025.4.28
ISN network	Rohde&Schwarz	ENV 81 Cat6	101896	1 year	2025.4.28
#1Shielding room	MORI	854	N/A	3 year	2026.5.16
LISN	SCHWARZBECK	NSLK 8129	5021	1 year	2025.4.27
Temperature and humidity meter	/	C193561430	C193561430	1 year	2025.4.27
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.24



1.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	Item	Measurement Uncertainty
1	Radiated emission 9kHz-30MHz	+/-5.6 dB
2	Radiated emission 30MHz-1GHz	+/-4.6 dB
3	Occupied Bandwidth	+/-1.86%
4	Conducted emission test	+/-2.7 dB
Remark: 95% Confidence Levels, k=2.		

1.3 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

Address: No. 1301-14&16, Guangguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code: 518110 Tel: 0755-23763060-8805
Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn
FCC(Test firm designation number: CN1363)
IC(Test firm CAB identifier number: CN0137)
CNAS(Test firm designation number: L16091)



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Smart Phone
BRAND	ulefone
MODEL	GQ5021
ADDITIONAL MODEL	Armor X32 Pro, Armor X32 Ultra, Armor X32E, Armor X32S, Armor X32 Lite, Armor X32s, Armor X32s Pro
POWER SUPPLY	Battery Model: 5021Rechargeable Li-ion Battery Limited Charge Voltage: 4.45V Nominal Voltage: 3.87V Rated Capacity: 5500mAh/21.285Wh 1ICP7/57/74
MODULATION TYPE	ASK
OPERATING FREQUENCY	13.56MHz
NUMBER OF CHANNEL	1
ANTENNA TYPE (Remark 4)	Loop antenna
I/O PORTS	Refer to user' s manual
CABLE SUPPLIED	N/A
Remark: 1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report. 3. EUT photo refer to the report (Report NO.: FCCSZ2025-0005-EUT). 4. Only differences are the model no and appearance silkprint	

2.2 DESCRIPTION OF ACCESSORIES

AC Adapter	
Model No.:	QZ-0180AA2H
Input:	100-240V~50/60Hz 0.5A
Output:	5.0V ---3.0A 15.0W or 9.0V ---2.22A 20.0W Max or 12.0V ---1.67A 20.0W Max.

2.3 OTHER INFORMATION

The EUT only have one channel.

CHANNEL	FREQUENCY (MHz)
1	13.56



2.4 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports

The worst case was found when positioned on X axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE	FT	PLC	BW	
A	√	√	√	√	NFC Link

Where RE: Radiated Emission

FT: Frequency tolerance

PLC: Power Line Conducted Emission

BW: 20dB Bandwidth

RADIATED EMISSION TEST:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

FREQUENCY TOLERANCE:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X



POWER LINE CONDUCTED EMISSION TEST:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CONDITION
A	NFC Link

20dB BANDWIDTH:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE (SYSTEM)	TESTED BY
RE	24.6deg. C, 53%RH	DC 3.87V	Wang Zhiming
FT	25.4deg. C, 57%RH	DC 3.87V	Liu Yuan
PLC	25.4deg. C, 55%RH	DC 3.87V	Zhou Ye
BW	25.1deg. C, 50%RH	DC 3.87V	Liu Yuan



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC PART 15, Subpart C. Section 15.225
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards

2.6 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment							
NO	Description	Brand	Model No.		Serial Number	Supplied by	
1	N/A	N/A	N/A		N/A	Lab	
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	Power cord	1	1	Yes	NO	N/A	Lab

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 Limit

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

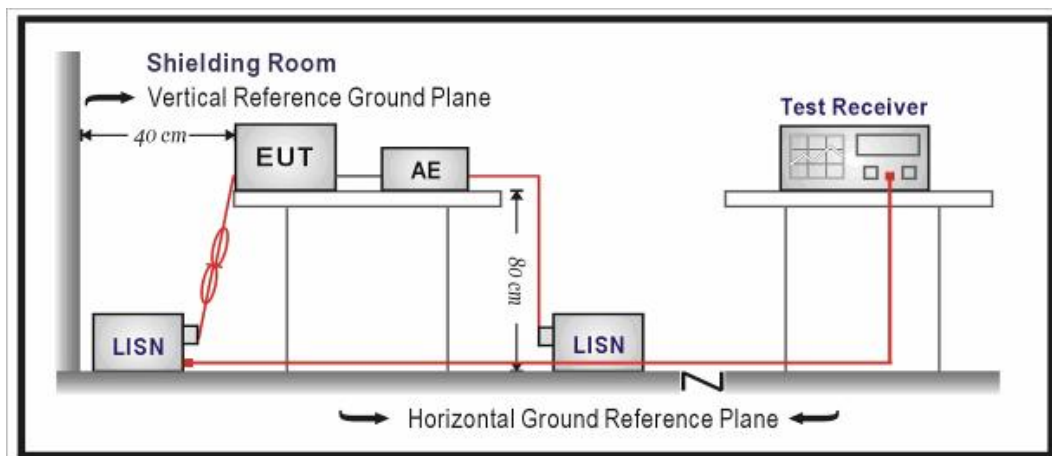
NOTE: 1. The lower limit shall apply at the transition frequencies.

NOTE: 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3.1.2 Measurement procedure

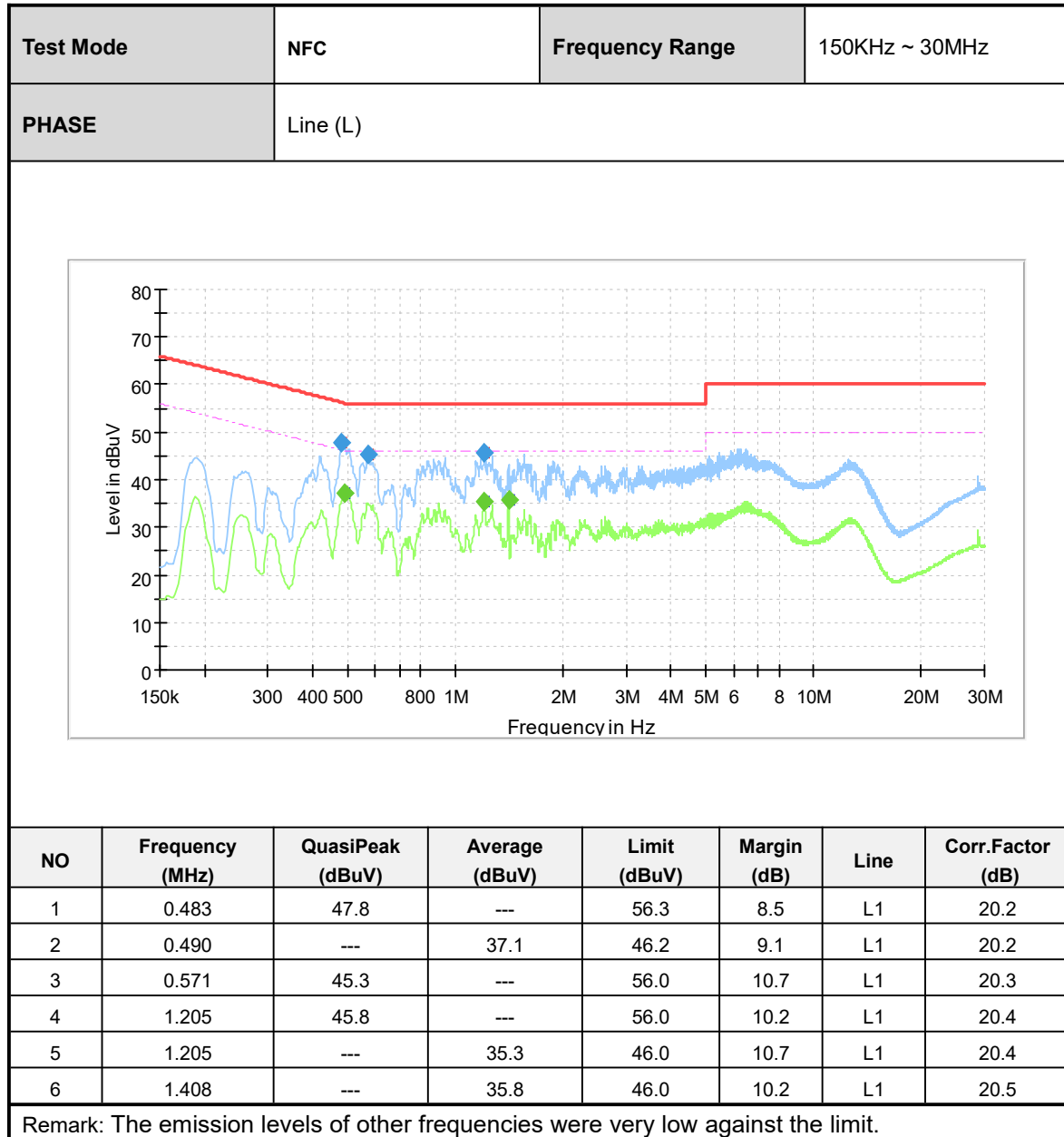
- The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the Test photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. The equipment under test shall be placed on a support of non-metallic material, the height of which shall be 1.5m above the ground,
- The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

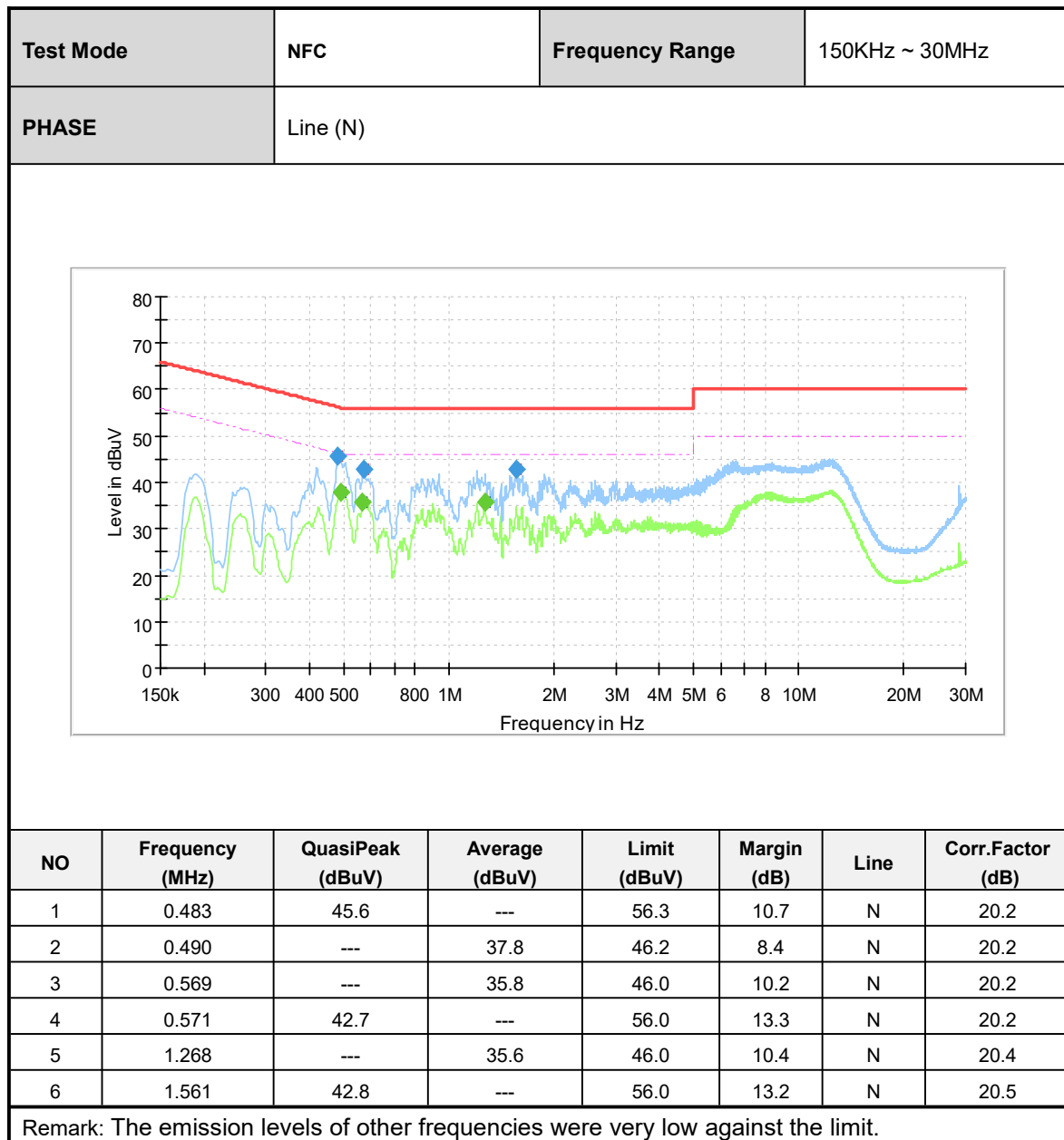
3.1.3 Test setup





3.1.4 Test results







3.2 RADIATED EMISSIONS

3.2.1 Limits

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

FREQUENCIES (MHz)	FIELD STRENGTH (Microvolts/Meter)	MEASUREMENT DISTANCE (Meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE: 1. The lower limit shall apply at the transition frequencies.
NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

3.2.2 Measurement procedure

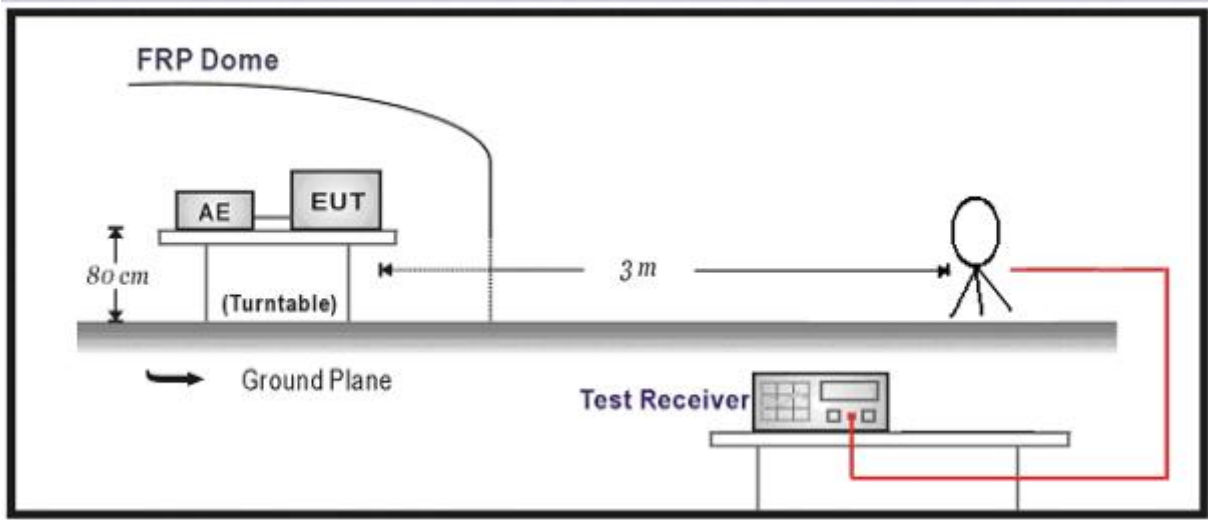
- The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- For below 1GHz was used bilog antenna, and above 1GHz was used horn antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables. For battery operated equipment, the equipment tests shall be performed using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

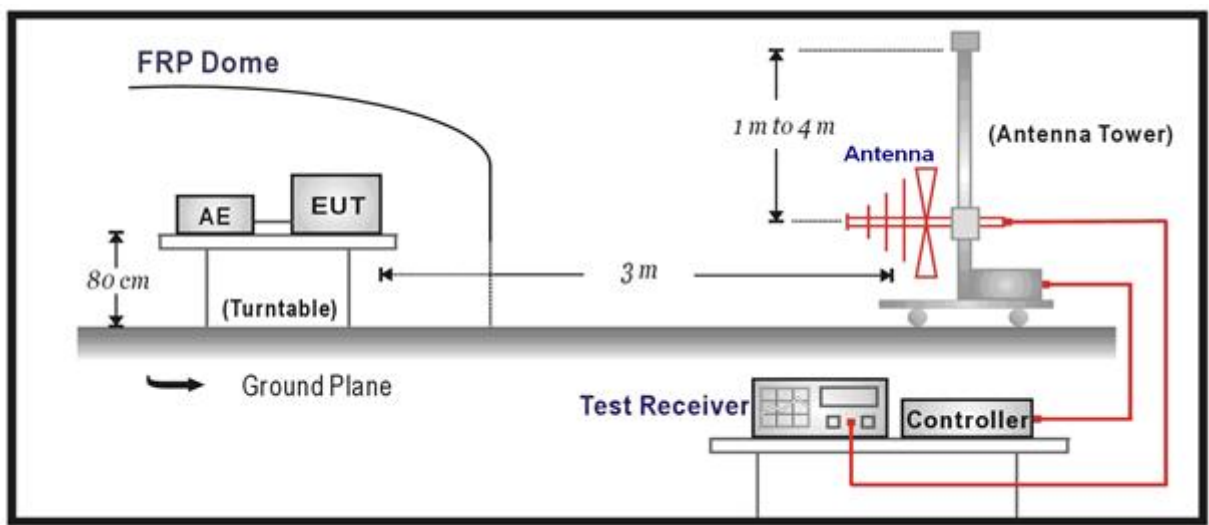
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

3.2.3 Test setup

Below 30MHz Test Setup:



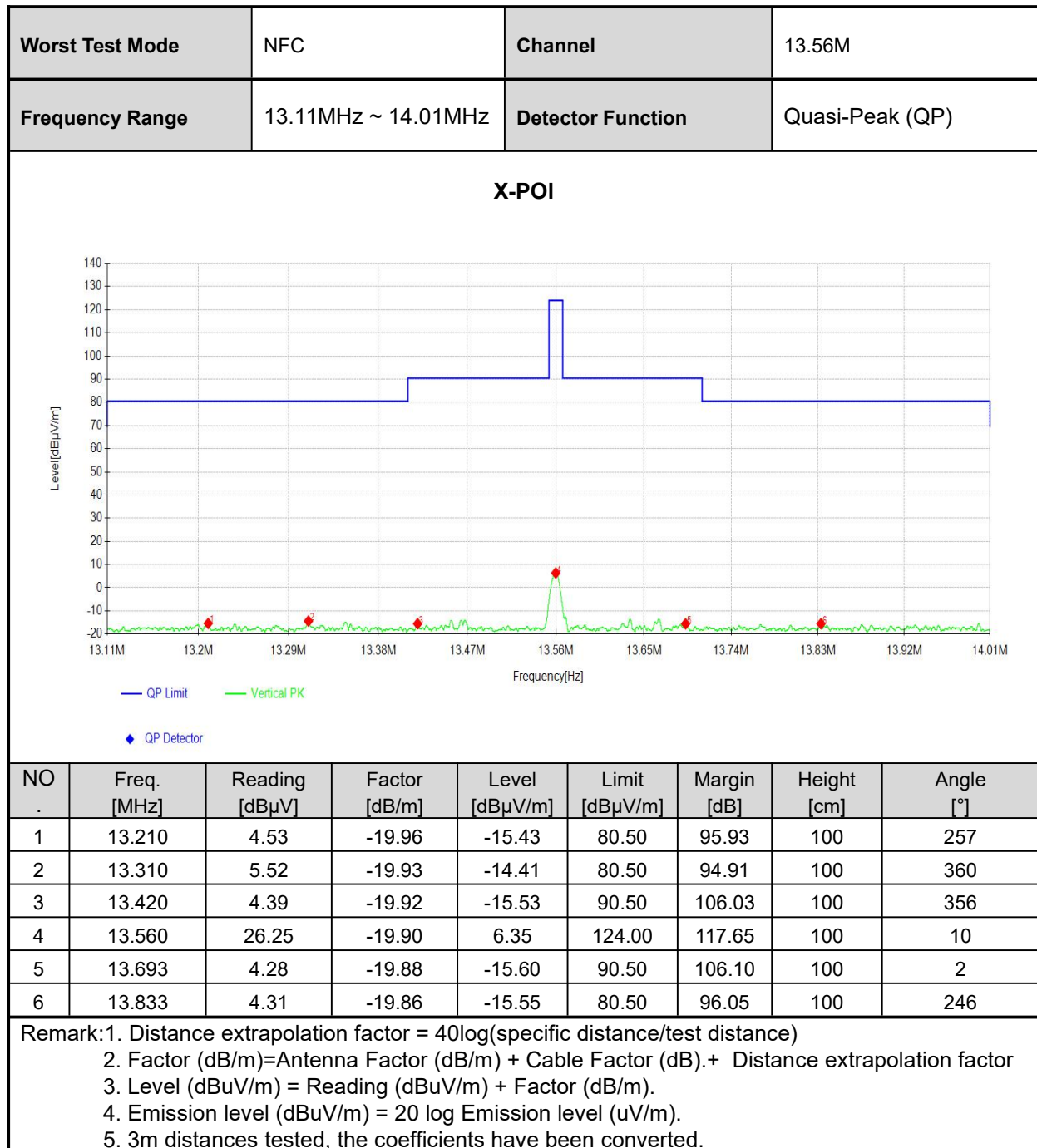
Below 1GHz Test Setup:





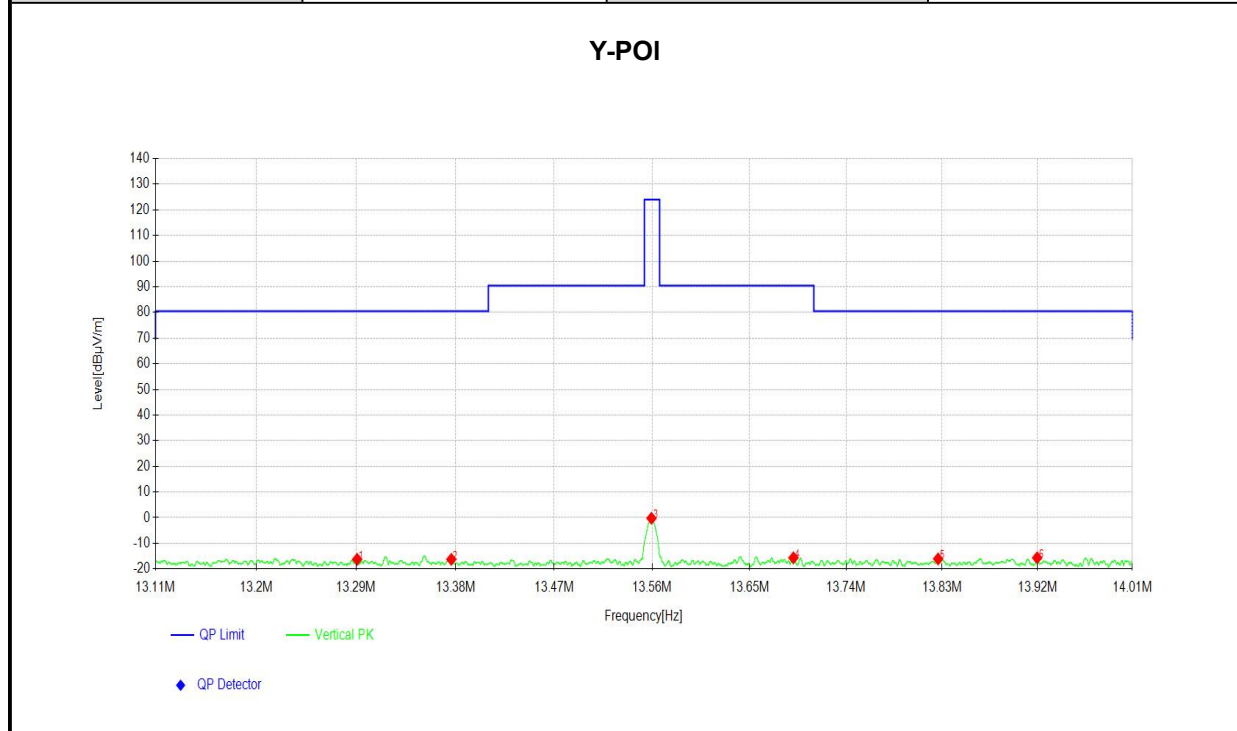
3.2.4 Test results

Result of The field strength of Fundamental Emission



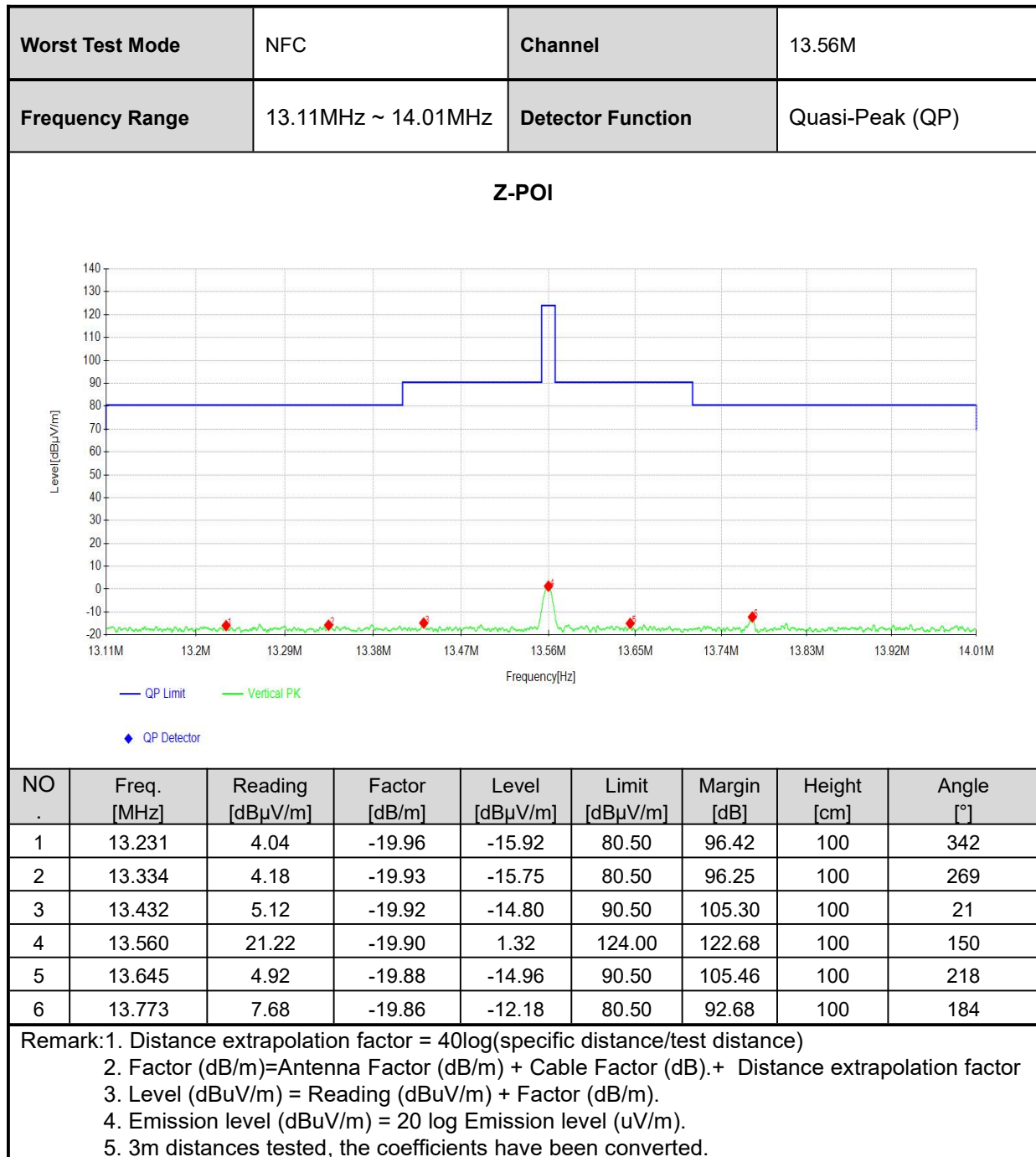


Worst Test Mode	NFC	Channel	13.56M
Frequency Range	13.11MHz ~ 14.01MHz	Detector Function	Quasi-Peak (QP)



NO	Freq. [MHz]	Reading [dBμV/m]	Factor [dB/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	13.291	3.70	-19.94	-16.24	80.50	96.74	100	80
2	13.376	3.67	-19.92	-16.25	80.50	96.75	100	339
3	13.560	19.68	-19.90	-0.22	124.00	124.22	100	339
4	13.691	4.21	-19.88	-15.67	90.50	106.17	100	92
5	13.826	3.78	-19.86	-16.08	80.50	96.58	100	182
6	13.920	4.18	-19.83	-15.65	80.50	96.15	100	354

Remark: 1. Distance extrapolation factor = $40\log(\text{specific distance}/\text{test distance})$
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Distance extrapolation factor
3. Level (dBμV/m) = Reading (dBμV/m) + Factor (dB/m).
4. Emission level (dBμV/m) = $20 \log$ Emission level (uV/m).
5. 3m distances tested, the coefficients have been converted.

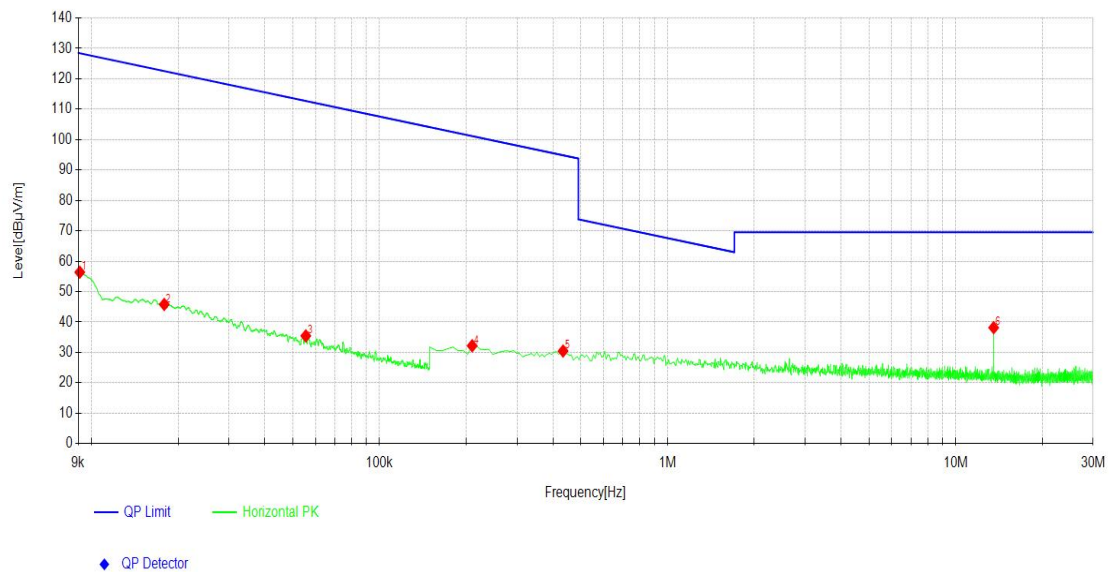




Result of Radiated Emissions(9kHz~30MHz)

Worst Test Mode	NFC	Channel	13.56M
Frequency Range	9kHz ~ 30MHz	Detector Function	Quasi-Peak (QP)

X-POI



NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	0.009	35.89	20.52	56.41	128.42	72.01	150	236
2	0.018	25.33	20.48	45.81	122.55	76.74	150	255
3	0.055	14.47	21.00	35.47	112.72	77.25	150	0
4	0.210	11.92	20.28	32.20	101.17	68.97	150	336
5	0.434	9.73	20.75	30.48	94.86	64.38	150	292
6	13.556	17.65	20.51	38.16	69.54	31.38	150	236

Remark: 1. Distance extrapolation factor = $40\log(\text{specific distance}/\text{test distance})$
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Distance extrapolation factor
3. Level (dBμV/m) = Reading (dBμV/m) + Factor (dB/m).
4. Emission level (dBμV/m) = $20 \log$ Emission level (μV/m).
5. Conversion factor to 3m has been added to the factor.



Worst Test Mode	NFC	Channel	13.56M
Frequency Range	9kHz ~ 30MHz	Detector Function	Quasi-Peak (QP)

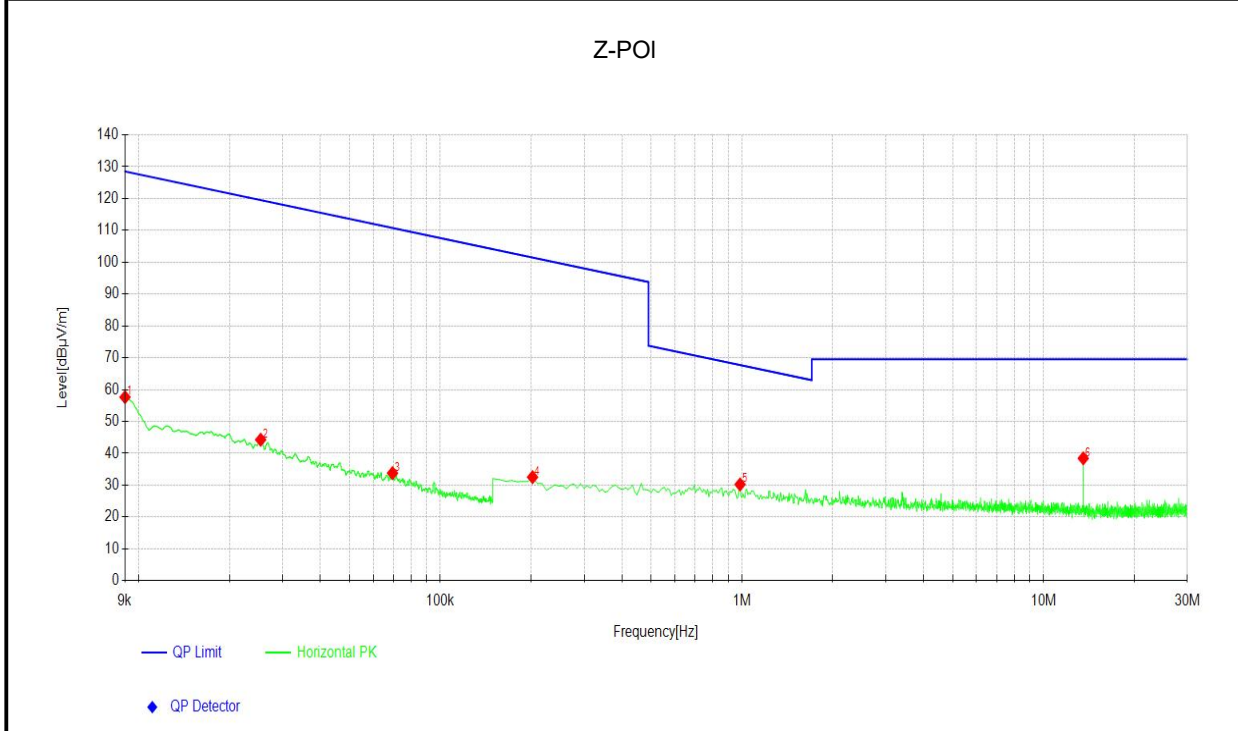


NO.	Freq. [MHz]	Reading [dBμV/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]
1	0.009	36.99	20.52	57.51	128.52	71.01	150	339
2	0.031	21.15	20.44	41.59	117.75	76.16	150	264
3	0.082	9.84	21.09	30.93	109.36	78.43	150	343
4	0.269	10.46	20.41	30.87	98.99	68.12	150	73
5	1.217	7.74	20.89	28.63	65.91	37.28	150	279
6	13.556	17.59	20.51	38.10	69.54	31.44	150	259

Remark: 1. Distance extrapolation factor = $40 \log(\text{specific distance}/\text{test distance})$
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Distance extrapolation factor
3. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB/m).
4. Emission level (dBuV/m) = $20 \log$ Emission level (uV/m).
5. Conversion factor to 3m has been added to the factor.



Worst Test Mode	NFC	Channel	13.56M
Frequency Range	9kHz ~ 30MHz	Detector Function	Quasi-Peak (QP)



NO.	Freq. [MHz]	Reading [dBuV/m]	Factor [dB]	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]
1	0.009	37.12	20.52	57.64	128.52	70.88	150	121
2	0.025	23.83	20.45	44.28	119.52	75.24	150	307
3	0.069	12.11	21.69	33.80	110.78	76.98	150	157
4	0.202	12.28	20.25	32.53	101.48	68.95	150	41
5	0.986	9.35	20.89	30.24	67.74	37.50	150	264
6	13.556	17.92	20.51	38.43	69.54	31.11	150	256

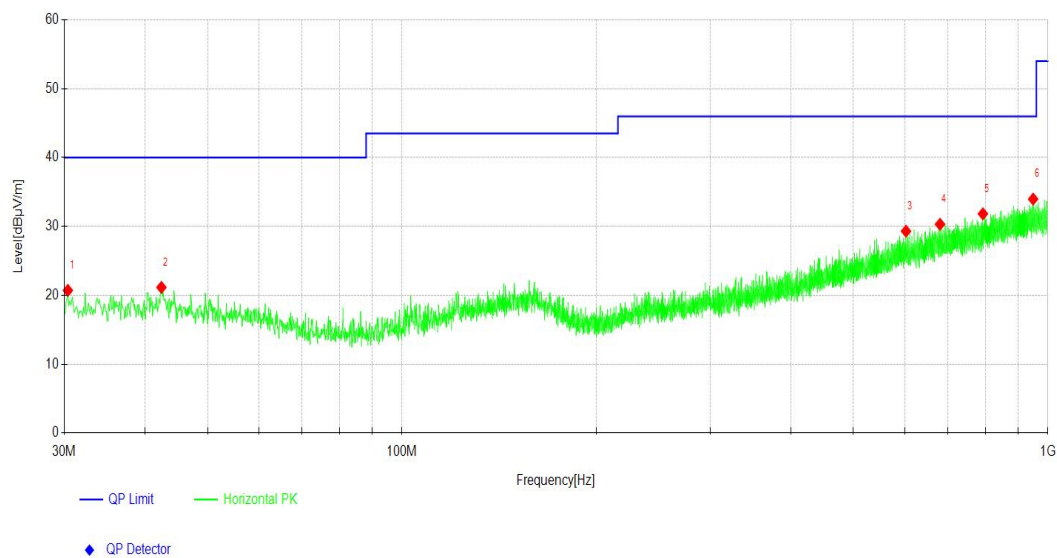
Remark: 1. Distance extrapolation factor = $40 \log(\text{specific distance}/\text{test distance})$
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Distance extrapolation factor
3. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB/m).
4. Emission level (dBuV/m) = $20 \log$ Emission level (uV/m).
5. Conversion factor to 3m has been added to the factor.



Result of Radiated Emissions(30MHz~1GHz)

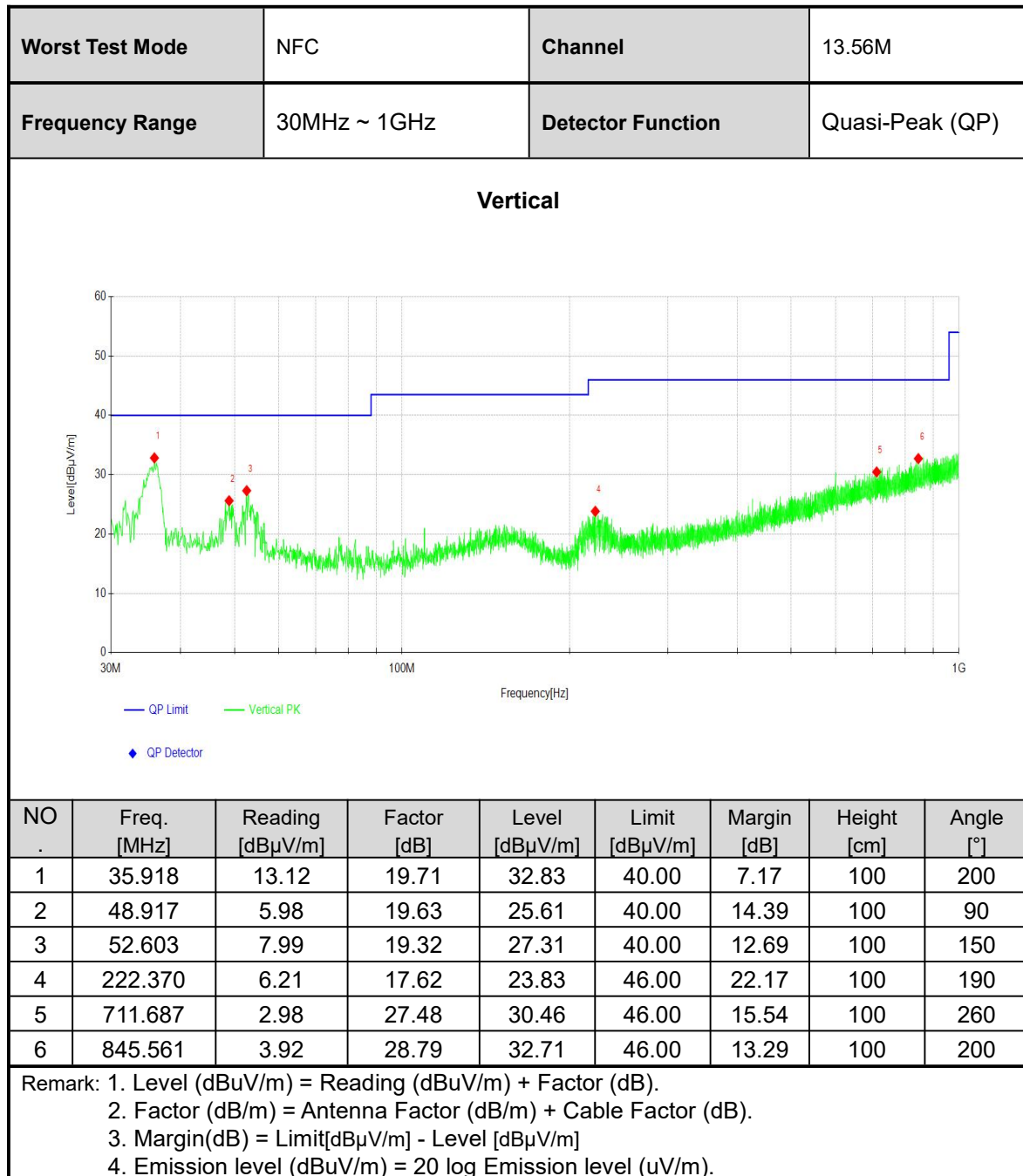
Worst Test Mode	NFC	Channel	13.56M
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Horizontal



NO	Freq. [MHz]	Reading [dBuV/m]	Factor [dB]	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]
1	30.388	1.38	19.33	20.71	40.00	19.29	100	60
2	42.417	1.29	19.86	21.15	40.00	18.85	100	60
3	603.036	3.29	26.02	29.31	46.00	16.69	100	350
4	680.838	3.13	27.19	30.32	46.00	15.68	100	170
5	793.369	3.40	28.43	31.83	46.00	14.17	100	250
6	948.876	3.83	30.14	33.97	46.00	12.03	100	180

Remark: 1. Level (dBuV/m) = Reading (dBuV/m) + Factor (dB).
2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. Margin(dB) = Limit[dBμV/m] - Level [dBμV/m]
4. Emission level (dBuV/m) = 20 log Emission level (uV/m).



3.3 FREQUENCY TOLERANCE

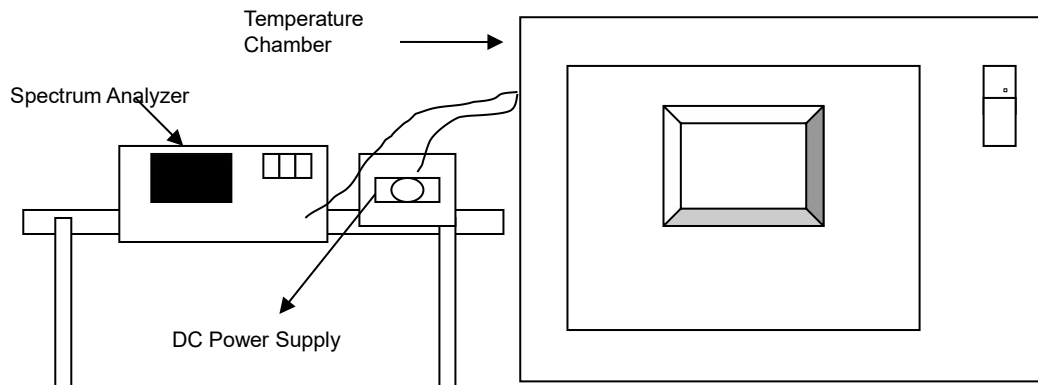
3.3.1 LIMIT OF FREQUENCY TOLERANCE

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ (100ppm) of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

3.3.2 TEST PROCEDURES

Refer to ANSI C63.10-2013

3.3.3 TEST SETUP





3.3.4 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
TEMP. (°C)	POWER SUPPLY (V)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	(ppm)	(MHz)	(ppm)	(MHz)	(ppm)	(MHz)	(ppm)
50	3.6	13.559901	-7.30	13.559903	-7.15	13.559904	-7.08	13.559897	-7.60
40	3.6	13.559906	-6.93	13.559903	-7.15	13.559903	-7.15	13.559893	-7.89
30	3.6	13.559898	-7.52	13.559905	-7.01	13.559904	-7.08	13.559902	-7.23
20	3.6	13.559905	-7.01	13.559908	-6.78	13.559907	-6.86	13.559892	-7.96
10	3.6	13.559902	-7.23	13.559898	-7.52	13.559900	-7.37	13.559895	-7.74
0	3.6	13.559901	-7.30	13.559901	-7.30	13.559899	-7.45	13.559902	-7.23
-10	3.6	13.559899	-7.45	13.559902	-7.23	13.559902	-7.23	13.559895	-7.74
-20	3.6	13.559902	-7.23	13.559905	-7.01	13.559901	-7.30	13.559901	-7.30
20	3.24	13.559896	-7.67	13.559906	-6.93	13.559902	-7.23	13.559899	-7.45
	3.96	13.559902	-7.23	13.559903	-7.15	13.559901	-7.30	13.559900	-7.37



3.4 20dB BANDWIDTH

3.4.1 LIMITS OF 20dB BANDWIDTH

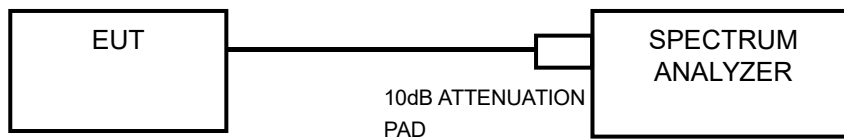
The 20dB bandwidth shall be specified in operating frequency band. (13.11MHz – 14.01MHz)

3.4.2 TEST PROCEDURE

- Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- The resolution bandwidth of 1kHz and the video bandwidth of 3kHz were used.
- Measured spectrum width with power higher than 20dB below carrier.

Note: Because the measured signal is CW or CW-like adjust the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately the RBW

3.4.3 TEST SETUP

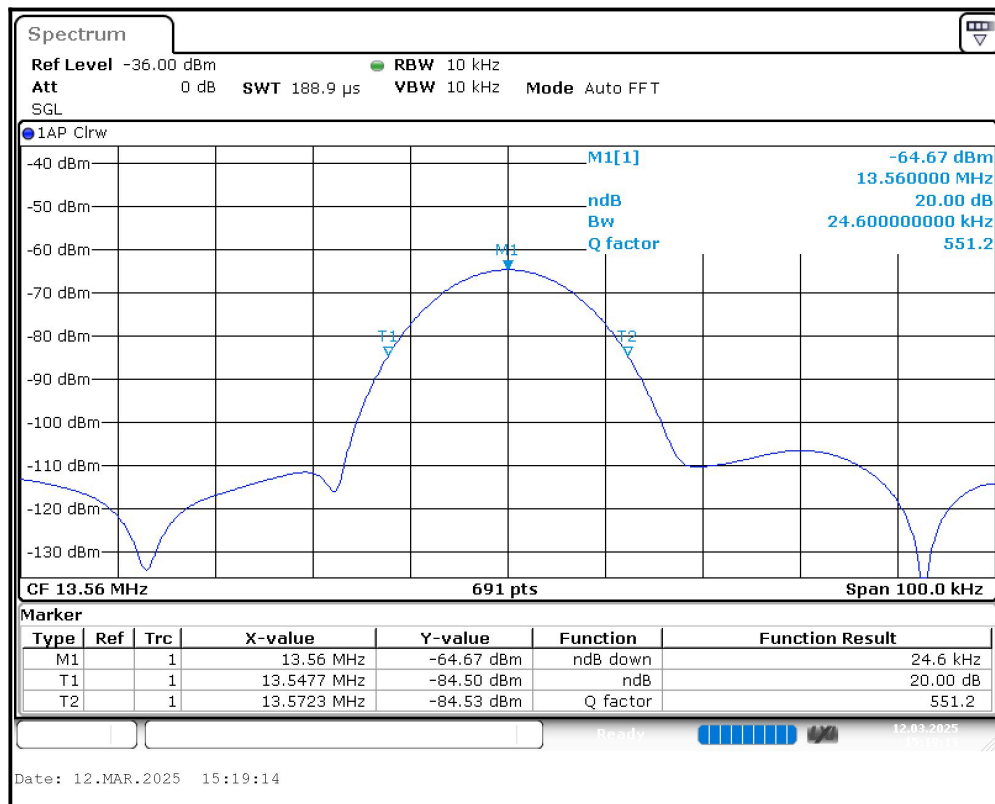




3.4.4 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (KHz)
1	13.56	24.6

Lower & Upper Test Frequency Point (MHz)	Test Frequency (MHz)	P/F
Lower	13.5477	PASS
Upper	13.5723	PASS





3.5 ANTENNA REQUIREMENT

3.5.1 LIMITS

For intentional device, according to FCC 47 CFR 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. And according to FCC 47 CFR Section 15.247 (b) , if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.5.2 ANTENNA ANTI-REPLACEMENT CONSTRUCTION

The antenna used for this product is Loop antenna and that no antenna other than that furnished by the responsible party shall be used with the device



4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Photos).



5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

Address: No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code: 518110 Tel: 0755-23763060-8805

Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn

<http://www.cvc.org.cn>