

FCC RADIO TEST REPORT FCC ID: 2ACEVF2NEOF30

Product: Mobile phone

Trade Name: F2 mobile

Model Number: NEO F30

Serial Model: N/A

Report No.: BZT140438F04

Prepared for

IED CONEXION VIRTUAL S.A. DE C.V.

Iztacalco MZ 146 LT 4 D Col. La Florida de Ciudad Azteca C.P. 55120. Municipio, Ecatepec de Morelos, Edo. De Mexico

Prepared by

BZT Testing Technology Co., Ltd.

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	TEST RE	SULT CE	RTIFICATION	
Applicant's name	Iztacalco M	Z 146 LT 4 D		Azteca C.P. 55120.
Manufacture's Name	Shenzhen I	Kaliho Techno	ology Development Limited	
Address	Rm1901, B Shenzhen,		tars Plaza, Huaqiang North	Rd., Futian District
Product description				
Product name	. Mobile pho	ne		
Model and/or type reference	NEO F30			
Serial Model:	N/A			
Ratings	DC 5V from	n Adapter AC	120V/60Hz	
Standards	FCC Part15	5.247		
Test procedure	. ANSI C63.4	1-2003		
	Γ) is in comp	liance with th	T, and the test results shown e FCC requirements. And it	
This report shall not be rep	produced ex	cept in full, wi	thout the written approval o	of BZT, this
•	or revised by	/ BZT, persor	al only, and shall be noted	in the revision of
the document.				
Date of Test			4 Mov 12 2014	
Date (s) of performance of				
Date of Issue			4	
Test Result		Pass		
Testing E	ngineer	:	Apple Huong	<u></u>
			(Apple Huang)	
Technical	Manager	:	Tom 2 hang	<u> </u>
			(Tom Zhang)	
Authorize	d Signatory	:	Govey Yang)	_
			(Dovoy raing)	



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

	FCC Part15 (15.247) , Subpart C				
Standard Section	Test Item	Judgment	Remark		
15.207	Conducted Emission	PASS			
15.247(a)(1)	Hopping Channel Separation	PASS			
15.247(b)(1)	Peak Output Power	PASS			
15.247(c)	Radiated Spurious Emission	PASS			
15.247(a)(iii)	Number of Hopping Frequency	PASS			
15.247(a)(iii)	Dwell Time	PASS			
15.247(a)(1)	Bandwidth	PASS			
15.205	Band Edge Emission	PASS			
15.203	Antenna Requirement	PASS			

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report





1.1 TEST FACILITY

BZT Testing Technology Co., Ltd

Add.: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District,

Report No.: BZT140438F04

Shenzhen P.R. China.

FCC Registration No.: 701733

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expended uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k=2}$, providing a level of confidence of approximately 95 % $^{\circ}$

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Mobile phone			
Trade Name	F2 mobile			
Model Name	NEO F30			
Serial Model	N/A			
Model Difference	N/A			
Product Description	exhibited in User's M ITE/Computing Devi- specification, please	Sociation Soci	PHSS GFSK 79 CH Please see Note 3. 1.0dBi 0.72 dBm (Max.) 2.11b/g/n 20:2412~2462 MHz K/OFDM/DBPSK/DAPSK 2.11b:11/5.5/2/1 Mbps 2.11g:54/48/36/24/18/12/9/6Mbps 2.11n(20MHz):300/150/144.44/130 7/115.56/104/86.67/78/52/6.5Mbp dbi n, features, or specification lal, the EUT is considered as an More details of EUT technical er to the User's Manual.	
Channel List	Please refer to the Note 2.			
Adapter	N/A			
Battery	Rated Voltage: 3.7V			
Connecting I/O Port(s)	Please refer to the U	lser'	s Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3. Table for Filed Antenna

	20.0 10.1 110.1110.1110.					
Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	FIFA Antenna	NA	1.0	BT Antenna

The EUT antenna is integral Antenna. no antenna other than that furnished by the responsible party shall be used with the device.



2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Report No.: BZT140438F04

Pretest Mode	Description
Mode 1	CH00
Mode 2	CH39
Mode 3	CH78

For Conducted Emission		
Final Test Mode Description		
Mode4	Link mode	

For Radiated Emission			
Final Test Mode	Description		
Mode 1	CH00		
Mode 2	CH39		
Mode 3	CH78		
Mode4	Link mode		

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

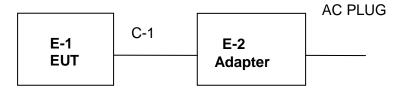
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Test program: ActivePerl			
Frequency	2402 MHz	2441 MHz	2480 MHz	
Parameters(1Mbps)	DEF	DEF	DEF	





2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Mobile phone	N/A	NEO F30	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.8m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length_"</code> column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2014
2	Test Receiver	R&S	ESPI	101318	Jul. 06. 2014
3	Bilog Antenna	TESEQ	CBL6111D	31216	Nov.23. 2014
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	Jul. 06. 2014
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	Jul. 06. 2014
6	Horn Antenna	EM	EM-AH-10180	2011071402	Nov.23. 2014
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Jul. 06. 2014
8	Amplifier	EM	EM-30180	060538	Jul. 06. 2014
9	Loop Antenna	ARA	PLA-1030/B	1029	Jul. 06. 2014
10	Power Meter	R&S	NRVS	100696	Jul. 06. 2014
11	Power Sensor (Peak)	R&S	NRV-Z31	0396.0101.1 9	Jul. 06. 2014

Conduction Test equipment

OUTIO	Conduction rest equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Test Receiver	R&S	ESCI	101160	Jul. 06. 2014		
2	LISN	R&S	ENV216	101313	Jul. 06. 2014		
3	LISN	EMCO	3816/2	00042990	Jul. 06. 2014		
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	Jul. 06. 2014		
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	Jul. 06. 2014		
6	Absorbing clamp	R&S	MOS-21	100423	Jul. 06. 2014		



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B	Standard	
FREQUENCT (MITZ)	Quasi-peak	Average	Quasi-peak	Average	Standard
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



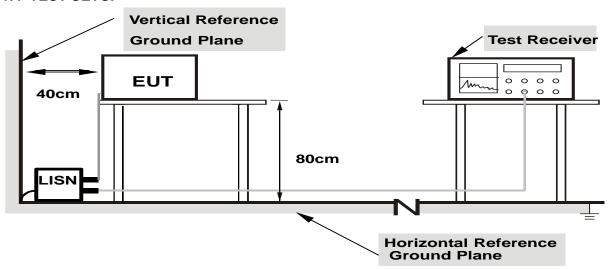
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



3.1.6 TEST RESULTS

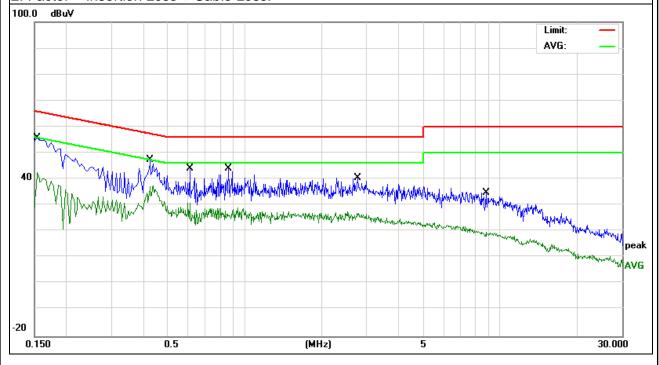
EUT:	Mobile phone	Model Name. :	NEO F30
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter with AC 120V/60Hz	Test Mode:	Mode 4

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Type
0.1539	46.21	9.65	55.86	65.78	-9.92	QP
0.1539	33.05	9.65	42.70	55.78	-13.08	AVG
0.4260	37.89	9.52	47.41	57.33	-9.92	QP
0.4260	27.89	9.52	37.41	47.33	-9.92	AVG
0.6100	34.45	9.53	43.98	56.00	-12.02	QP
0.6100	21.35	9.53	30.88	46.00	-15.12	AVG
0.8660	34.38	9.55	43.93	56.00	-12.07	QP
0.8660	16.99	9.55	26.54	46.00	-19.46	AVG
2.7659	30.98	9.58	40.56	56.00	-15.44	QP
2.7659	17.48	9.58	27.06	46.00	-18.94	AVG
8.8219	25.10	9.71	34.81	60.00	-25.19	QP
8.8219	10.13	9.71	19.84	50.00	-30.16	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







EUT : Mobile phone Model Name. : NEO F30

Temperature : 26 ℃ Relative Humidity : 54%

Pressure : 1010hPa Phase : L

Test Voltage : DC 5V from Adapter with AC 120V/60Hz

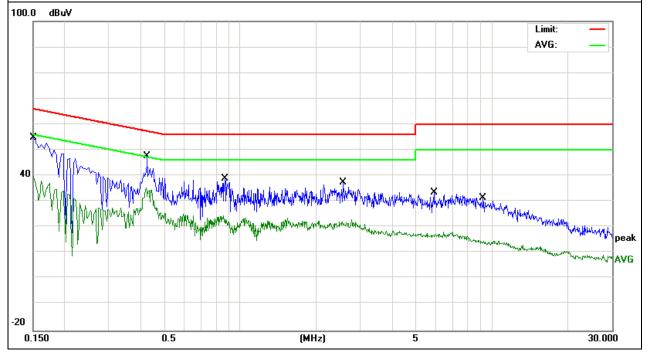
Test Mode : Mode 4

Report No.: BZT140438F04

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Type
0.1500	45.08	9.66	54.74	65.99	-11.25	QP
0.1500	30.54	9.66	40.20	55.99	-15.79	AVG
0.4260	38.24	9.52	47.76	57.33	-9.57	QP
0.4260	25.87	9.52	35.39	47.33	-11.94	AVG
0.8700	29.44	9.55	38.99	56.00	-17.01	QP
0.8700	14.90	9.55	24.45	46.00	-21.55	AVG
2.5620	28.00	9.57	37.57	56.00	-18.43	QP
2.5620	12.53	9.57	22.10	46.00	-23.90	AVG
5.8819	23.96	9.63	33.59	60.00	-26.41	QP
5.8819	8.05	9.63	17.68	50.00	-32.32	AVG
9.2418	21.75	9.73	31.48	60.00	-28.52	QP
9.2418	5.33	9.73	15.06	50.00	-34.94	AVG

Remark:

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

EDECLIENCY (MH-)	Class A (dBu	ıV/m) (at 3M)	Class B (dBuV/m) (at 3M)		
FREQUENCY (MHz)	PEAK AVERAGE		PEAK	AVERAGE	
Above 1000	80	60	74	54	

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower



Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted	1 MHz / 1 MHz for Dook 1 MHz / 10Hz for Average
band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
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

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

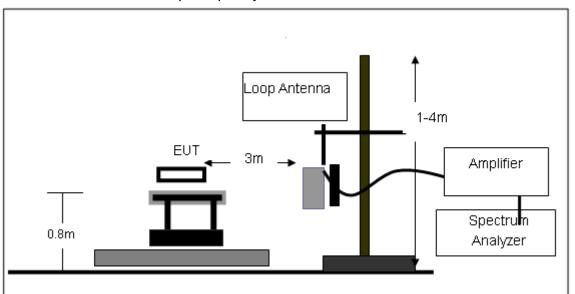
3.2.3 DEVIATION FROM TEST STANDARD

No deviation

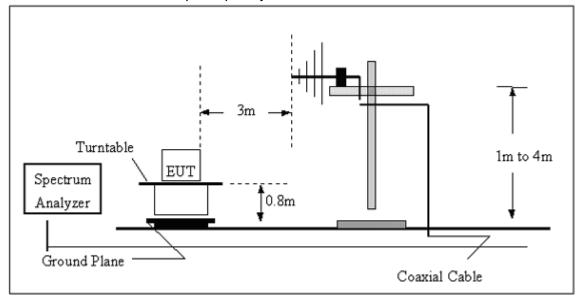


3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz

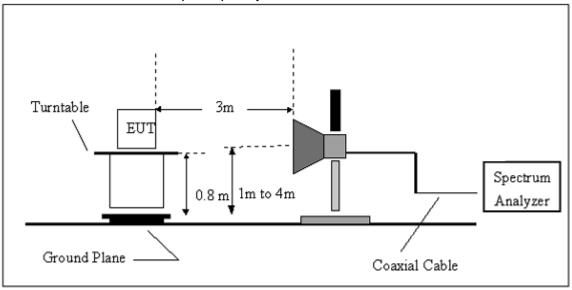


(B) Radiated Emission Test-Up Frequency 30MHz~1GHz





(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.6 TEST RESULTS (BELOW 30 MHZ)

EUT:	Mobile phone	Model Name :	NEO F30	
Temperature:	20 ℃	Relative Humidity:	48%	
Pressure:	1010 hPa	Polarization :		
Test Voltage :	DC 5V from Adapter AC 120V/60Hz			
Test Mode :	Link mode			

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				PASS
				PASS

NOTE:

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

Distance extrapolation factor =40 log (specific distance/test distance)(dB); Limit line = specific limits(dBuv) + distance extrapolation factor.



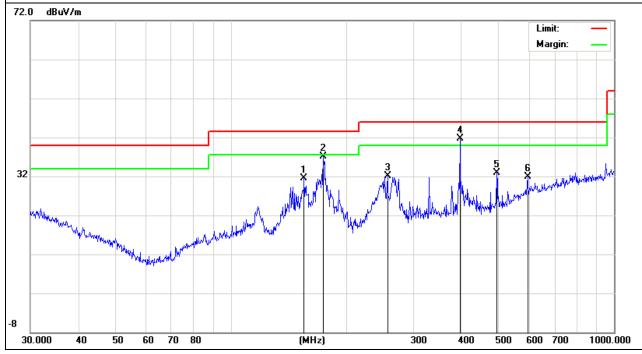
3.2.7 TEST RESULTS (BETWEEN 30M - 1000 MHZ)

EUT:	Mobile phone	Model Name :	NEO F30		
Temperature:	20 ℃	Relative Humidity:	48%		
Pressure:	1010 hPa	Polarization :	Horizontal		
Test Voltage :	DC 5V from Adapter AC 120V/60Hz				
Test Mode :	Link mode				

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
155.3642	20.72	10.76	31.48	43.5	-12.02	QP
174.4241	27	10.12	37.12	43.5	-6.38	QP
256.521	19.82	12.33	32.15	46	-13.85	QP
396.2412	24.3	17.37	41.67	46	-4.33	QP
494.1983	16.7	16.28	32.98	46	-13.02	QP
595.1326	12.16	19.76	31.92	46	-14.08	QP

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.







EUT: Mobile phone Model Name : NEO F30 Relative Humidity: Temperature: 20 ℃ 48% Pressure: 1010 hPa Polarization: Vertical Test Voltage : DC 5V from Adapter AC 120V/60Hz Test Mode : Link mode

Report No.: BZT140438F04

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
32.0667	9.67	18.02	27.69	40	-12.31	QP
45.3755	18.83	11.23	30.06	40	-9.94	QP
117.3602	19.98	12.72	32.7	40	-7.3	QP
156.4577	22.33	10.81	33.14	40	-6.86	QP
246.8148	17.15	10.52	27.67	47	-19.33	QP
595.1327	15.29	19.76	35.05	47	-11.95	QP

Remark:

1. Factor = Antenna Factor + Cable Loss - Pre-amplifier.





3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	LIEST VOITAGE .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	TX 2402MHz – CH 00(1Mbps)	Polarization:	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4804	51.24	-3.64	47.6	74	-26.4	peak
4804	45.27	-3.64	41.63	54	-12.37	AVG
7206	54.81	-0.95	53.86	74	-20.14	peak
7206	46.24	-0.95	45.29	54	-8.71	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	TIEST VANDAADE .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	TX 2402MHz – CH 00(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4804	49.29	-3.64	45.65	74	-28.35	peak
4804	42.18	-3.64	38.54	54	-15.46	AVG
7206	50.74	-0.95	49.79	74	-24.21	peak
7206	43.61	-0.95	42.66	54	-11.34	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Hest Vollage .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	TX 2441MHz – CH 39(1Mbps)	Polarization:	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882	59.29	-3.68	55.61	74	-18.39	peak
4882	51.07	-3.68	47.39	54	-6.61	AVG
7323	47.27	-0.82	46.45	74	-27.55	peak
7323	41.94	-0.82	41.12	54	-12.88	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	20 ℃	Relative Humidity:	48%
Pressure:	1010 hPa	1461 ///113/14	DC 5V from Adapter AC 120V/60Hz
Test Mode :	TX 2441MHz – CH 39(1Mbps)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotootor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882	54.76	-3.68	51.08	74	-22.92	peak
4882	45.82	-3.68	42.14	54	-11.86	AVG
7323	43.19	-0.82	42.37	74	-31.63	peak
7323	38.26	-0.82	37.44	54	-16.56	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.





EUT: Mobile phone Model Name : NEO F30 **20** ℃ Relative Humidity: Temperature: 48% DC 5V from Adapter Pressure: 1010 hPa Test Voltage : AC 120V/60Hz TX 2480MHz – CH 78(1Mbps) Polarization: Test Mode : Horizontal

Report No.: BZT140438F04

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4960	56.37	-3.59	52.78	74	-21.22	peak
4960	50.72	-3.59	47.13	54	-6.87	AVG
7440	45.27	-0.69	44.58	74	-29.42	peak
7440	39.82	-0.69	39.13	54	-14.87	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	1461 ///113/14	DC 5V from Adapter AC 120V/60Hz
Test Mode :	TX 2480MHz – CH 78(1Mbps)	Polarization :	Vertical

	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
ſ	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
	4960	46.84	-3.59	43.25	74	-30.75	peak
	4960	40.23	-3.59	36.64	54	-17.36	AVG
	7440	43.65	-0.69	42.96	74	-31.04	peak
	7440	38.26	-0.69	37.57	54	-16.43	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.



3.2.9 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

EUT:	Mobile phone	Model Name :	NEO F30				
Temperature:	25 ℃	Relative Humidity:	60%				
Pressure:	1012 hPa	Polarization:	Horizontal				
Test Voltage :	DC 5V from Adapter AC 120V/6	DC 5V from Adapter AC 120V/60Hz					
Test Mode :	GFSK						

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type	Comment
		G	FSK- non-hopp	ing			
2390	67.18	-12.99	54.19	74	-19.81	peak	Vertical
2390	59.29	-12.99	46.3	74	-27.7	peak	Horizontal
2483.5	60.22	-12.78	47.44	74	-26.56	peak	Vertical
2483.5	53.91	-12.78	41.13	74	-32.87	peak	Horizontal
			GFSK- hopping)			
2390	63.22	-12.99	50.23	74	-23.77	peak	Vertical
2390	54.39	-12.99	41.4	74	-32.6	peak	Horizontal
2483.5	56.97	-12.78	44.19	74	-29.81	peak	Vertical
2483.5	50.18	-12.78	37.4	74	-36.6	peak	Horizontal

NOTE: The result(PK) less than AV limite, No need shown AV result.



4. NUMBER OF HOPPING CHANNEL

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS		

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.1.1 TEST PROCEDURE

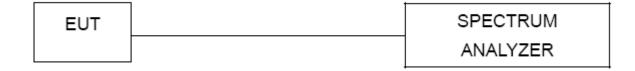
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



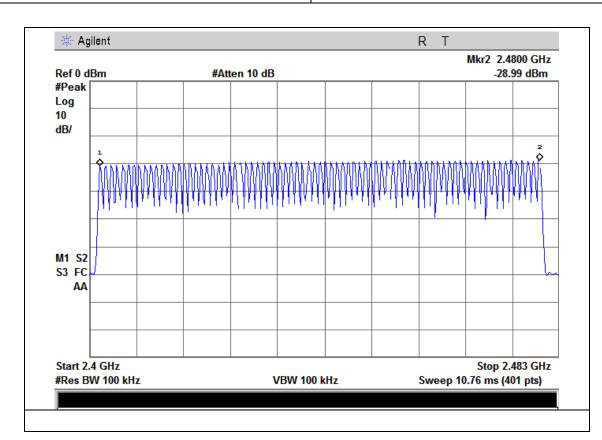


4.1.5 TEST RESULTS

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	25 ℃	Relative Humidity:	60%
Pressure :	1015 hPa	Test Voltage :	DC 5V from Adapter AC 120V/60Hz
Test Mode :	Hopping Mode for GFSK		

Number of Hopping Channel 79

Report No.: BZT140438F04





5. AVERAGE TIME OF OCCUPANCY

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. DH5 Packet permit maximum 1600/79/6 = 3.37 hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times $3.37 \times 31.6 = 106.6$ within 31.6 seconds.
- j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times $5.06 \times 31.6 = 160$ within 31.6 seconds.
- k. DH1 Packet permit maximum 1600 / 79 / 2 = 10.12 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times $10.12 \times 31.6 = 320$ within 31.6 seconds.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

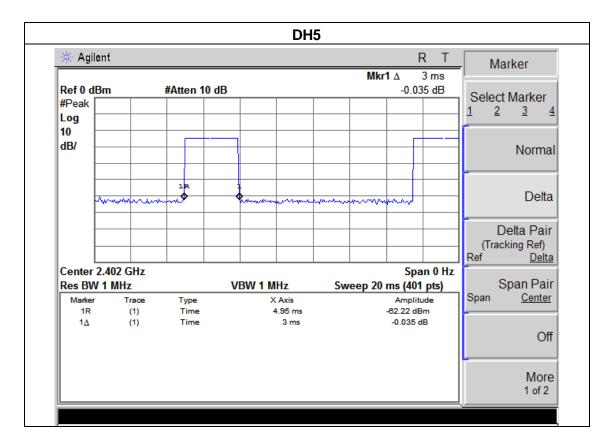
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



5.1.5 TEST RESULTS

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	LIEST VOITAGE .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	CH39- DH5		

Data Packet	Pulse Duration	Dwell Time	Limits
	(ms)	(s)	(s)
DH5	3	0.32	0.4000



NOTE: The dwell time is showed the maximum data of all data (DH1, DH3, DH5), DH5 of mode have the maximum dwell time.



6. HOPPING CHANNEL SEPARATION MEASUREMENT

6.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Report No.: BZT140438F04

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
VB 100 kHz (20dB Bandwidth) / 100 kHz (Channel Separa	
Detector	Peak
Trace Max Hold	
Sweep Time Auto	

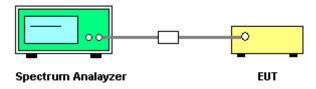
6.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- b. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for 20 dB bandwidth measurement.
- c. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.



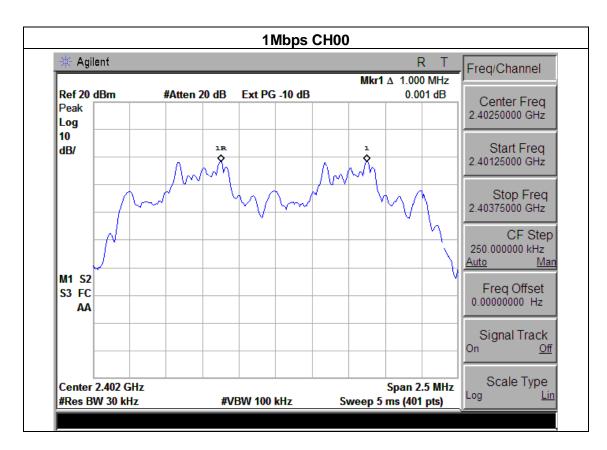
6.1.5 TEST RESULTS

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	25 ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Liest voltage .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	CH00 / CH39 /CH78 (1Mbps Mode)		

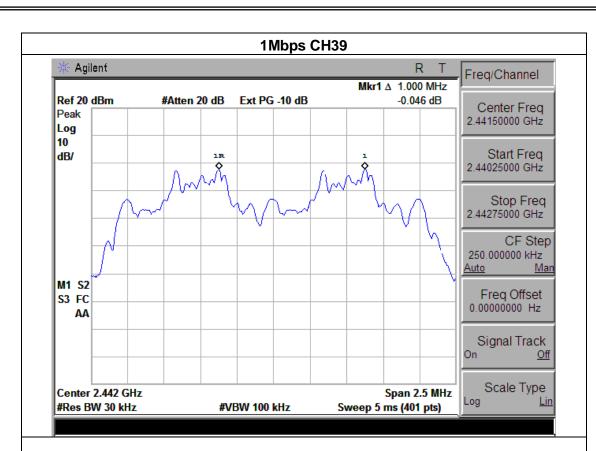
Frequency	Ch. Separation (MHz)	Result
2402 MHz	1.000	Complies
2441 MHz	1.000	Complies
2480 MHz	1.000	Complies

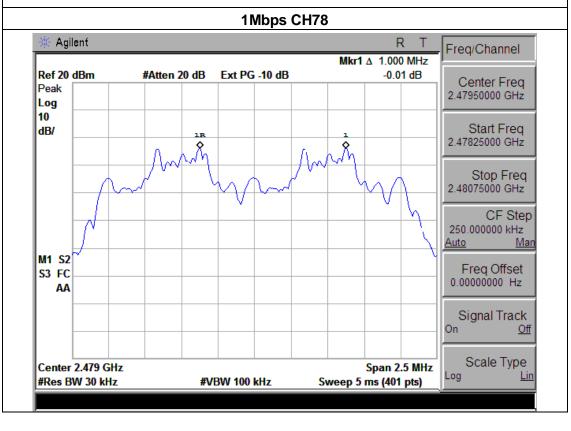
For GFSK:

Ch. Separation Limits: > 20dB bandwidth











7. BANDWIDTH TEST

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section Test Item Limit Frequency Range (MHz) Result				Result
15.247 (a)(1)	Bandwidth	(20dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	> Measurement Bandwidth or Channel Separation	
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)	
VB	100 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

7.1.4 EUT OPERATION CONDITIONS

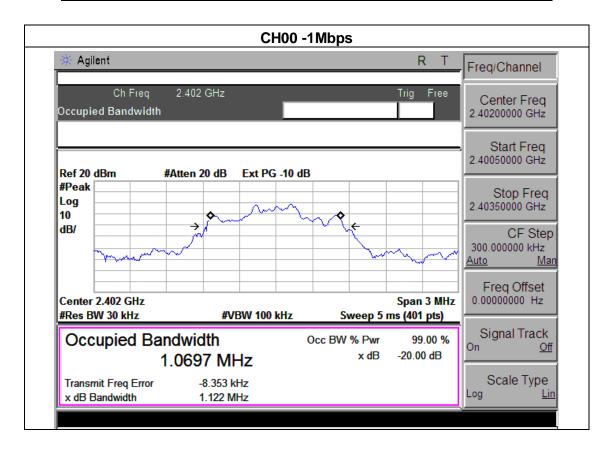
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



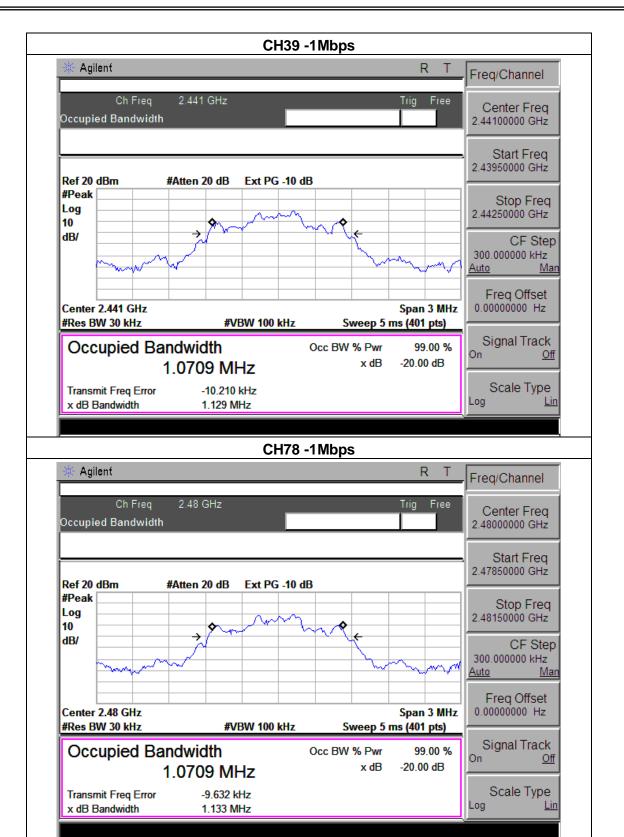
7.1.5 TEST RESULTS

EUT:	Mobile phone	Model Name :	NEO F30
Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	riest voltage .	DC 5V from Adapter AC 120V/60Hz
Test Mode :	CH00 / CH39 /C78 for GFSK		

Frequency	20dB Bandwidth (kHz)	Result
2402 MHz	1122	PASS
2441 MHz	1129	PASS
2480 MHz	1133	PASS









8. PEAK OUTPUT POWER TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (b)(i)	Peak Output Power	125 mw or 21dBm for GFSK	2400-2483.5	PASS		

8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.





8.1.5 TEST RESULTS

EUT:	Mobile phone	Model Name :	NEO F30	
Temperature:	25 ℃	Relative Humidity:	60%	
Pressure:	1012 hPa	LIEST VOITAGE .	DC 5V from Adapter AC 120V/60Hz	
Test Mode :	CH00/ CH39 /CH78 (1Mbps Mode) for GFSK			

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	Result
CH00	2402	0.56	21	PASS
CH39	2441	0.58	21	PASS
CH78	2480	0.72	21	PASS





9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

9.2 EUT ANTENNA

The EUT antenna is integral Antenna. It comply with the standard requirement.



10. EUT TEST PHOTO

Radiated Measurement Photos







Conducted Measurement Photos

Report No.: BZT140438F04

