

RF TEST REPORT

FCC ID:2BGNI-P30

Product Name : Smart POS Terminal
Test Model : P30
Brand Name : INATEL
Applicant : EPE INATEL SPA
Address : ZI Route de Chetouane BP 77, Tlemcen, Algeria.
Date of Receipt : May 09, 2024
Date of Test : May 09, 2024~June 02, 2024
Issued Date : June 03, 2024
Report Version : V1.0
Test Sample : Engineering Sample No.: AIT24042506001
Standard(s) : FCC Part 22H & 24E Rules;
ANSI C63.26:2015

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This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	June 03, 2024	Valid	Initial release

1. General Information

Manufacturer	INDUSTRIE ALGERIENNE DE LA TELEPHONIE (SPA)
Address	ZI Route de Chetouane BP 77, Tlemcen, Algeria.
Product Designation	Smart POS Terminal
Test Model	P30
Brand Name	INATEL
Serial model	N/A
Model Different	N/A
Power supply:	DC7.4V 2600mAh
Deviation	No any deviation from the test method.
Condition of Test Sample	Normal
Test Result	Pass

Note:

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

Basic Description of Equipment Under Test

Battery	DC7.4V 2600mAh	
Antenna Type:	FPC antenna	
Operating Temperature	-10~50°C	
Hardware Version	V1.00	
Software Version	V1.00	
EUT Stage	○Product Unit	●Final-Sample
Radio SystemType	LTE	
Operating Band	Band 5,Band 7,Band 38,Band 40,Band 41	

Note:

- 1.The measurement uncertainty is not included in the test result.
- 2.Antenna gain values are provided by the customer and are not claimed by the laboratory.

1.1 Technical Specification

Characteristics	Description	
Radio System Type	LTE	
Supported Frequency Range	LTE Band 5	Transmission (TX):824 to 849MHz
		Receiving (RX):869 to 894MHz
	LTE Band 7	Transmission (TX): 2500 to 2570 MHz
		Receiving (RX): 2620 to 2690 MHz
	LTE Band 38	Transmission (TX): 2570 to 2620 MHz
		Receiving (RX): 2570 to 2620 MHz
	LTE Band 40	Transmission (TX): 2305-2315 MHz /2350-2360 MHz
		Receiving (RX): 2305-2315 MHz /2350-2360 MHz
TX and RX Antenna Ports	TX & RX port:	1
		0
		1
ERP/EIRP TX Output Power	LTE Band 5: 22.28 dBm; LTE Band 7: 24.1dBm; LTE Band 38: 23.87dBm; LTE Band 40: 24.05dBm; LTE Band 41: 23.53dBm;	
Antenna Gain:	LTE Band 5: 0.5dBi; LTE Band 7: 0.69dBi; LTE Band 38: 0.72dBi; LTE Band 40: 0.71dBi;LTE Band 41: 0.91dBi;	
Supported Channel Bandwidth	LTE Band 5	1.4 MHz, 3 MHz, 5 MHz,10 MHz,15 MHz, 20 MHz
	LTE Band 7	5 MHz,10 MHz,15 MHz, 20 MHz
	LTE Band 38	5 MHz,10 MHz,15 MHz, 20 MHz
	LTE Band 40	5 MHz,10 MHz,15 MHz, 20 MHz
	LTE Band 41	5 MHz,10 MHz,15 MHz, 20 MHz
Designation of Emissions (Note: the necessary bandwidth of which is the worst value from the measured occupied bandwidths for each type of channel bandwidth configuration.)	LTE Band 5:	1M15G7D (1.4 MHz QPSK modulation), 1M13W7D (1.4 MHz 16QAM modulation) 2M74G7D (3 MHz QPSK modulation), 2M74W7D (3 MHz 16QAM modulation) 4M57G7D (5 MHz QPSK modulation), 4M56W7D (5 MHz 16QAM modulation) 9M10G7D (10 MHz QPSK modulation), 9M09W7D (10 MHz 16QAM modulation) 13M6G7D (15 MHz QPSK modulation), 13M6W7D (15 MHz 16QAM modulation) 18M2G7D (20 MHz QPSK modulation), 18M2W7D (20 MHz 16QAM modulation)
Designation of Emissions (Note: the necessary	LTE Band 7:	4M57G7D (5 MHz QPSK modulation), 4M56W7D (5 MHz 16QAM modulation)

Characteristics	Description	
bandwidth of which is the worst value from the measured occupied bandwidths for each type of channel bandwidth configuration.)		9M10G7D (10 MHz QPSK modulation), 9M09W7D (10 MHz 16QAM modulation) 13M6G7D (15 MHz QPSK modulation), 13M6W7D (15 MHz 16QAM modulation) 18M2G7D (20 MHz QPSK modulation), 18M2W7D (20 MHz 16QAM modulation)
	LTE Band 38:	4M57G7D (5 MHz QPSK modulation), 4M56W7D (5 MHz 16QAM modulation) 9M10G7D (10 MHz QPSK modulation), 9M09W7D (10 MHz 16QAM modulation) 13M6G7D (15 MHz QPSK modulation), 13M6W7D (15 MHz 16QAM modulation) 18M2G7D (20 MHz QPSK modulation), 18M2W7D (20 MHz 16QAM modulation)
	LTE Band 40:	4M57G7D (5 MHz QPSK modulation), 4M56W7D (5 MHz 16QAM modulation) 9M10G7D (10 MHz QPSK modulation), 9M09W7D (10 MHz 16QAM modulation) 13M6G7D (15 MHz QPSK modulation), 13M6W7D (15 MHz 16QAM modulation) 18M2G7D (20 MHz QPSK modulation), 18M2W7D (20 MHz 16QAM modulation)
	LTE Band 41:	4M57G7D (5 MHz QPSK modulation), 4M56W7D (5 MHz 16QAM modulation) 9M10G7D (10 MHz QPSK modulation), 9M09W7D (10 MHz 16QAM modulation) 13M6G7D (15 MHz QPSK modulation), 13M6W7D (15 MHz 16QAM modulation) 18M2G7D (20 MHz QPSK modulation), 18M2W7D (20 MHz 16QAM modulation)

2. Summary of Test Results

2.1 Application of Standard

47 CFR FCC Part 2

47 CFR FCC Part 22/24/27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI C63.26:2015

Band5 (824-849MHz paired with 869-894MHz)

TestItem	FCCRule No.	Requirements	TestResult	Verdict (Note1)
Effective (Isotropic) Radiated Power Output Data	Part 2.1046, 24.232	$EIRP \leq 2\text{ W}$	AppendixLTE	Pass
Peak-Average Ratio	Part 2.1046, 24.232	Limit $\leq 13\text{ dB}$	AppendixLTE	Pass
Bandwidth	Part 2.1049	OBW: No limit. EBW: No limit.	AppendixLTE	Pass
Band Edges Compliance	Part 2.1051, 24.238	$\leq -13\text{ dBm}/1\%*EBW$, in 1 MHz bands immediately outside and adjacent to the frequency block.	AppendixLTE	Pass
Spurious Emission at Antenna Terminals	Part 2.1051, 24.238	$\leq -13\text{ dBm}/1\text{ MHz}$, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	AppendixLTE	Pass
Field Strength of Spurious Radiation	Part 2.1053, 24.238	$\leq -13\text{ dBm}/1\text{ MHz}$.	AppendixLTE	Pass
Frequency Stability	Part 2.1055, 24.235	$\leq \pm 2.5\text{ ppm}$.	AppendixLTE	Pass

Note1: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

Band7 (2500-2570MHz paired with 2620-2690MHz)

TestItem	FCC Rule No.	Requirements	TestResult	Verdict (Note1)
Effective(Isotropic) RadiatedPower OutputData	Part 2.1046, 27.50(d)	$EIRP \leq 1W$	AppendixLTE	Pass
Peak-AverageRatio	Part 2.1046, 27.50(d)	Limit ≤ 13 dB	AppendixLTE	Pass
Bandwidth	Part 2.1049	OBW:No limit. EBW:No limit.	AppendixLTE	Pass
BandEdges Compliance	Part 2.1051, 27.53(h)	≤ -13 dBm/1%*EBW, in 1MHz bands immediately outside and adjacent to the frequency block.	AppendixLTE	Pass
Spurious Emissionat AntennaTerminals	Part 2.1051, 27.53(h)	≤ -13 dBm/1MHz, from 9 kHz to 10^{th} harmonics but outside authorized operating frequency ranges.	AppendixLTE	Pass
FieldStrengthof SpuriousRadiation	Part 2.1053, 27.53(h)	≤ -13 dBm/1MHz.	AppendixLTE	Pass
FrequencyStability	Part 2.1055, 27.54	$\leq \pm 2.5$ ppm.	AppendixLTE	Pass
Note1: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

Band38(2570-2620MHz)

TestItem	FCC Rule No.	Requirements	TestResult	Verdict (Note1)
Effective(Isotropic) RadiatedPower OutputData	Part 2.1046, 22.913(a)	$EIRP \leq 1W$	AppendixLTE	Pass
Peak-AverageRatio	--	Limit ≤ 13 dB	AppendixLTE	Pass
Bandwidth	Part 2.1049	OBW:No limit. EBW:No limit.	AppendixLTE	Pass
BandEdges Compliance	Part 2.1051, 22.917(a)	≤ -13 dBm/1%*EBW, in 1MHz bands immediately outside and adjacent to the frequency block.	AppendixLTE	Pass
Spurious Emissionat AntennaTerminals	Part 2.1051, 22.917(a)	≤ -13 dBm/1MHz, from 9 kHz to 10^{th} harmonics but outside authorized operating frequency ranges.	AppendixLTE	Pass
FieldStrengthof SpuriousRadiation	Part 2.1051,	≤ -13 dBm/1MHz.	AppendixLTE	Pass

	22.917(a)			
Frequency Stability	Part 2.1055, 22.355	$\leq \pm 2.5\text{ppm.}$	Appendix LTE	Pass
Note1: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

Band40 (2305-2315 MHz /2350-2360 MHz)

Test Item	FCC Rule No	Requirements	Test Result	Verdict (Note1)
Effective (Isotropic) Radiated Power Output Data	Part 27.50(c)	FCC: ERP ≤ 3 W.	Appendix LTE	Pass
Peak-Average Ratio	Part 2.1046, Part 27.50(c)	Limit ≤ 13 dB	Appendix LTE	Pass
Bandwidth	Part 2.1049	OBW: No limit. EBW: No limit.	Appendix LTE	Pass
Band Edges Compliance	Part 2.1051, Part 27.53(g) ,	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Appendix LTE	Pass
Spurious Emission at Antenna Terminals	Part 2.1051, 27.53(g)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Appendix LTE	Pass
Field Strength of Spurious Radiation	Part 2.1053, 27.53(g)	FCC: ≤ -13 dBm/100 kHz.	Appendix LTE	Pass
Frequency Stability	Part 2.1055 27.54	$\leq \pm 2.5\text{ppm.}$	Appendix LTE	Pass
Modulation Characteristics	Part 2.1047	Digital modulation	Appendix LTE	Pass
Note1: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

Band41 (2496-2690MHz)

Test Item	FCC Rule No	Requirements	Test Result	
Effective (Isotropic) Radiated Power Output Data	Part 2.1046, Part 27.50(b)	FCC: ERP $\leq$ 3 W.	AppendixLTE	
Peak-Average Ratio	Part 27.50	Limit $\leq$ 13 dB	AppendixLTE	
Bandwidth	Part 2.1049	OBW: No limit. EBW: No limit.	AppendixLTE	
Band Edges Compliance	Part 2.1051, Part 27.53(c) ,	$\leq$ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	AppendixLTE	
Spurious Emission at Antenna Terminals	Part 2.1051, Part 27.53(c) Part 27.53(f)	FCC: $\leq$ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	AppendixLTE	
Field Strength of Spurious Radiation	Part 2.1053, Part 27.53(c) Part 27.53(f)	FCC: $\leq$ -13 dBm/100 kHz. For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated	AppendixLTE	

		power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.		
Frequency Stability	Part 2.1055 27.54	$\leq \pm 2.5\text{ppm}$.	AppendixLTE	
Modulation Characteristics	Part 2.1047	Digital modulation	AppendixLTE	
Note1: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".				

3. General Test Frequency and Configuration

3.1 Test Modes

Test Mode	Test Modes Description
LTE/TM1	LTE system, QPSK modulation
LTE/TM2	LTE system, 16QAM modulation

3.2 Test Frequency

Band 5

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	20407	824.7	2407	869.7
	3	20415	825.5	2415	870.5
	5	20425	826.5	2425	871.5
	10	20450	829	2450	874
Mid Range	1.4/3/5/10	20525	836.5	2525	881.5
High Range	1.4	20643	848.3	2643	893.3
	3	20635	847.5	2635	892.5
	5	20625	846.5	2625	891.5
	10	20600	844	2600	889

Band 7

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20	20850	2510	2850	2630
Mid Range	5/10/15/20	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20	21350	2560	3350	2680

Band 38

Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Low Range	5	37775	2572.5
	10	37800	2575
	15	37825	2577.5
	20	37850	2580
Mid Range	5/10/15/20	38000	2595
High Range	5	38225	2617.5
	10	38200	2615
	15	38175	2612.5
	20	38150	2610

Band 40

Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Low Range	5	38675	2302.5
	10	38700	2305
	15	38725	2307.5
	20	38750	2310
Mid Range	5/10/15/20	39150	2350
High Range	5	39625	2397.5
	10	39600	2395
	15	39575	2392.5
	20	39550	2390

Band 41

Test Frequency ID	Bandwidth [MHz]	EARFCN	Frequency (UL and DL) [MHz]
Low Range	5	39675	2498.5
	10	39700	2501
	15	39725	2503.5
	20	39750	2506
Mid Range	5/10/15/20	40620	2593
High Range	5	41565	2687.5
	10	41540	2685
	15	41515	2682.5
	20	41490	2680

3.3 Test Environment

Applicable to	Environmental conditions	Input Power
Transmitter Conducted Power Output	24.5°C, 52 % RH	120Vac, 60Hz
Peak-Average Ratio	24.5°C, 52 % RH	120Vac, 60Hz
Modulation Characteristics	24.5°C, 52 % RH	120Vac, 60Hz
Bandwidth	24.5°C, 52 % RH	120Vac, 60Hz
Emission Mask	24.5°C, 52 % RH	120Vac, 60Hz
Spurious Emission at Antenna Terminals	24.5°C, 53 % RH	120Vac, 60Hz
Field Strength of Spurious Radiation	24.4°C, 53 % RH	120Vac, 60Hz
Frequency Stability	24.5°C, 52 % RH	120Vac, 60Hz

The applicant declare the operating environment of EUT as below:

Normal conditions: 3.87V DC, 15°C ~35°C

Extreme conditions: 3.483V DC~4.257V DC, -10°C ~50°C

VL= lower extreme test voltage, VN= nominal voltage, VH= upper extreme test voltage

TL= lower extreme test temperature, TN= normal temperature, TH= upper extreme test temperature

Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

3.5 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 142.08\text{KHz}$
RF power conducted	$\pm 0.74\text{dB}$
Band Edge Compliance	$\pm 1.24\text{dB}$
Frequency stability	$\pm 0.12\text{ ppm}$
Spurious emissions, radiated (0.009MHz~30MHz)	3.10dB
Spurious emissions, radiated (30MHz~1GHz)	3.75dB
Spurious emissions, radiated (1GHz~18GHz)	3.88dB
Spurious emissions, radiated (18GHz ~ 40GHz)	3.88dB
Humidity	$\pm 4.0\%$
Temperature	$\pm 0.5^{\circ}\text{C}$
Time	$\pm 1.20\%$

3.6 Test Location

Company:	Dongguan Yaxu (AiT) Technology Limited
Address:	No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan, Guangdong, China
A2LA Registration Number:	6317.01
FCC Accredited Lab. Designation Number:	CN1313
FCC Test Firm Registration Number:	703111

3.7 Deviation from Standards

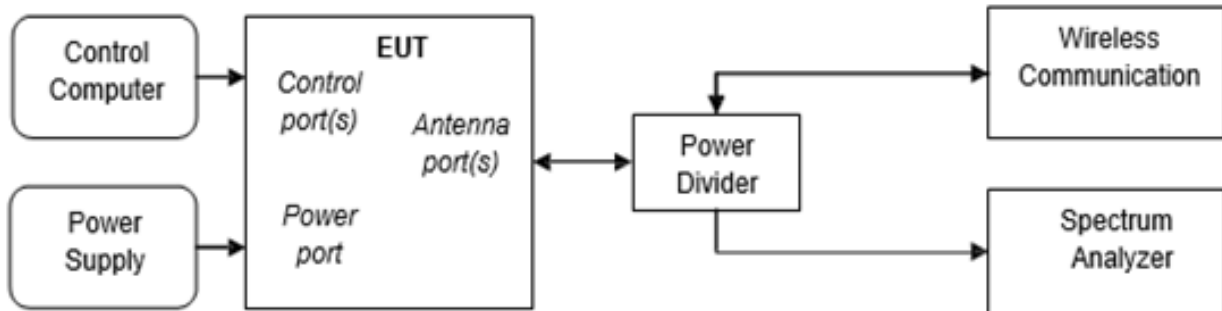
None

3.8 Abnormalities from Standard Conditions

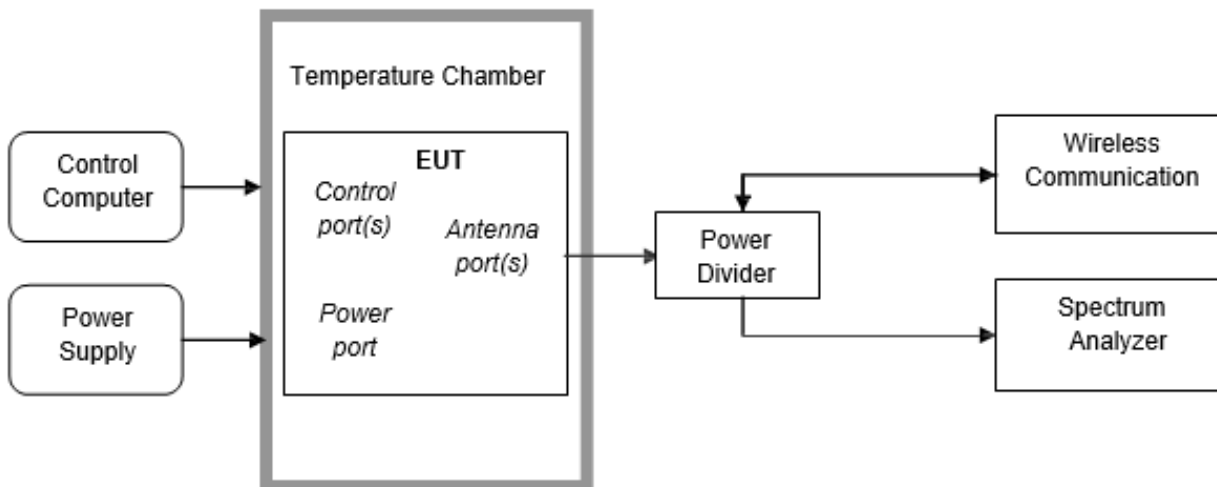
None

4. Test Setup and Conditions

4.1 Test Setup 1



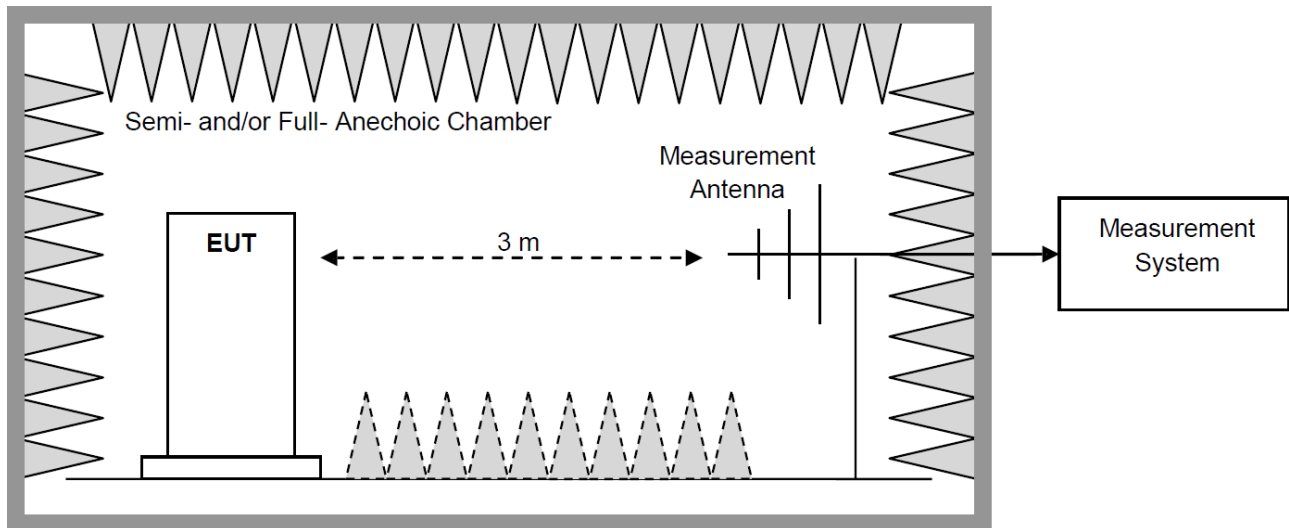
4.2 Test Setup 2



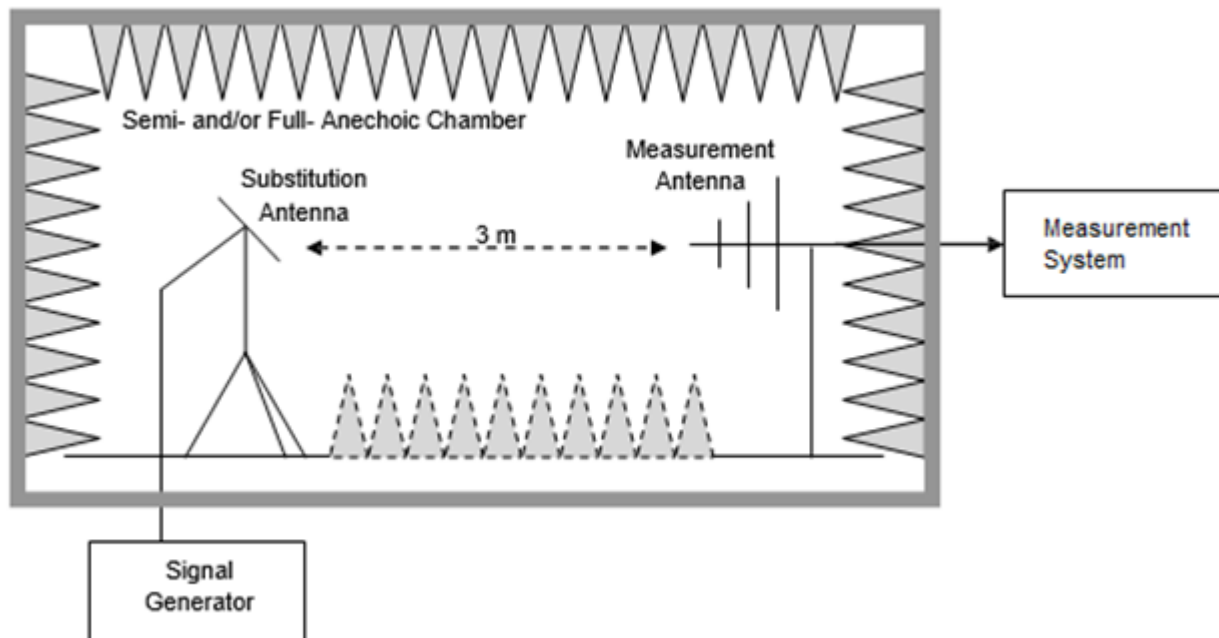
4.3 Test Setup 3

NOTE: Effective radiated power (ERP) and Equivalent Isotropic Radiated Power (EIRP) refers to the radiation power output of the EUT, assuming all emissions are radiated from half-wave dipole antennas.

Step 1: Pre-test



Step 2: Substitution method to verify the maximum ERP/EIRP



4.4 Test Conditions

Test Case		Test Conditions	
Transmit Output Power Data	Average Power, Total	Test Env.	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	LTE/TM1, LTE/TM2
	Average Power, Spectral Density (if required)	Test Env.	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	LTE/TM1,LTE/TM2
Peak-to-Average Ratio (if required)	Test Env.	Ambient Climate & Rated Voltage	
	Test Setup	Test Setup 1	
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
	Test Mode	LTE/TM1,LTE/TM2	
Bandwidth	Occupied Bandwidth	Test Env.	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	LTE/TM1,LTE/TM2
	Emission Bandwidth (if required)	Test Env.	Ambient Climate & Rated Voltage
		Test Setup	Test Setup 1
		RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
		Test Mode	LTE/TM1,LTE/TM2
Band Edges Compliance	Test Env.	Ambient Climate & Rated Voltage	
	Test Setup	Test Setup 1	
	RF Channels (TX)	L, H (L= low channel, M= middle channel, H= high channel)	
	Test Mode	LTE/TM1,LTE/TM2	
Spurious Emission at AntennaTerminals	Test Env.	Ambient Climate & Rated Voltage	
	Test Setup	Test Setup 1	
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
	Test Mode	LTE/TM1,LTE/TM2	
Field Strength of SpuriousRadiation	Test Env.	Ambient Climate & Rated Voltage	
	Test Setup	Test Setup 3	
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)	
	Test Mode	LTE/TM1, LTE/TM2 NOTE: If applicable, the EUT conf. that has maximum	

		power density (based on the equivalent power level) is selected.
Frequency Stability	Test Env.	(1) -30 °C to +50 °C with step 10 °C at Rated Voltage; (2) VL, VN and VH of Rated Voltage at Ambient Climate.
	Test Setup	Test Setup 2
	RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
	Test Mode	LTE/TM1, LTE/TM2

5. Description of Tests

5.1 Effective (Isotropic) Radiated Power

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

TRANSMITTER RADIATED POWER (EIRP/ERP)

Determining ERP and/or EIRP from conducted RF output power measurements according to ANSI C63.26 2015 Section 5.2.5.5.

In many cases, RF output power limits are specified in terms of the ERP or the EIRP. Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are defined as the product of the power supplied to the antenna and its gain (relative to a dipole antenna in the case of ERP, and relative to an isotropic antenna in the case of EIRP); however, when working in decibels (i.e., logarithmic scale), the ERP and EIRP represent the sum of the transmit antenna gain (in dBd or dBi, respectively) and the conducted RF output power (expressed in dB relative to watts or milliwatts).

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$\text{ERP or EIRP} = \text{PMeas} + \text{GT}$$

$$\text{ERP} = \text{EIRP} - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, e.g., dBm or dBW)

PMeas measured transmitter output power or PSD, in dBm or dBW

GT gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

For devices utilizing multiple antennas, see 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

The following equations demonstrate the mathematical relationship between ERP and EIRP:

a) $\text{ERP} = \text{EIRP} - 2.15$, where ERP and EIRP are expressed in consistent units.

b) $\text{EIRP} = \text{ERP} + 2.15$, where ERP and EIRP are expressed in consistent units.

Test Procedures Used

FCC KDB 971168 D01 V03r01 ; ANSI/ C63.26

Note: Reference test setup 3

Test Result

Please refer to AITSZ24050902W11_Appendix LTE.

5.2 Peak-Average Ratio

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

CCDF Procedure for PAPR :

1. Set resolution/measurement bandwidth $\geq$ signal' s occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
 - for continuous transmissions, set to 1 ms,
 - or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1%.

Test Procedures Used

FCC KDB 971168 D01 V03r01 Section 5.7.1

Note: Reference test setup 1

Test result

Please refer to AITSZ24050902W11_Appendix LTE.

5.3 Occupied Bandwidth

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel). The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Test Procedures Used:

FCC KDB 971168 D01 V03r01 Section 4.2

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

Note: Reference test setup 1.

Test Result

Please refer to AITSZ24050902W11_Appendix LTE.

5.4 Band Edge Compliance

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel). In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.

Test Procedures Used

FCC KDB 971168 D01 V03r01 Section 6.0

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1% of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time > (number of points in sweep) $\times$ (symbol period)
9. Sweep = Single

Note: Reference test setup 1.

Test Result

Please refer to AITSZ24050902W11_Appendix LTE.

5.5 Spurious and Harmonic Emissions at Antenna Terminal

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel). The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Test Procedures Used

FCC KDB 971168 D01 V03r01

1. RBW = 1 MHz
2. VBW $\geq$ 3 MHz
3. Detector = RMS
4. Trace Mode = Trace average
5. Sweep time > (number of points in sweep) $\times$ (symbol period)
6. Number of points in sweep $\geq$ 2 x Span / RBW
7. Sweep = Single

Note: Reference test setup 1.

Test Result:

Please refer to AITSZ24050902W11_Appendix LTE.

5.6 Field Strength of Spurious Radiation

PROVISIONS APPLICABLE:

(A) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P , in Watts) by at least $43 + 10 \log(P)$ dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm.

At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

(B) For specific criteria, please refer to the description in section 10.2 of the report for corresponding evaluation.

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 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. 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.

11). For spurious emissions above 1GHz, a horn antenna is substituted in place of the EUT.

The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The spurious emissions is calculated by the following formula;

$$\text{Result(dBm)} = \text{Pg(dBm)} + \text{Factor(dB)}$$

$$\text{Factor(dB)} = \text{Ant Gain(dB)} - \text{Cable Loss(dB)} + \text{Power Splitter(dB)} \text{ (Above 1GHz)}$$

$$\text{Factor(dB)} = \text{Ant Gain(dB)} - \text{Cable Loss(dB)} \text{ (Below 1GHz)}$$

Where: Pg is the generator output power into the substitution antenna.

If the fundamental frequency is below 1GHz, RF output power has been converted to EIRP.

$$\text{EIRP(dBm)} = \text{ERP(dBm)} + 2.15$$

Examples of Factor parameters for testing radiation spurious:

FrequencyRange(MHz)	Factor(dB)
30-500	6.18
500-1000	9.37
1000-1500	27.56
1500-2000	28.27
2000-3000	29.45
3000-5000	30.15
5000-10000	31.26
10000-15000	32.78
15000-20000	33.99
Above 20GHz	35.04

Test Procedures Used

FCC KDB 971168 D01 V03r01; ANSI/ C63.10

Note: Reference test setup 3.

Test Result:

LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1648.67	-34.50	9.56	9.72	-34.66	-13.00	-21.66	H
2473.37	-34.78	10.50	10.86	-35.14	-13.00	-22.14	H
3298.67	-32.51	12.78	11.57	-31.30	-13.00	-18.30	H
1648.67	-34.69	9.56	9.72	-34.85	-13.00	-21.85	V
2473.37	-34.27	10.50	10.86	-34.63	-13.00	-21.63	V
3298.67	-32.98	12.78	11.57	-31.77	-13.00	-18.77	V
LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.56	-33.58	9.56	9.72	-33.74	-13.00	-20.74	H
2509.30	-35.09	10.50	10.86	-35.45	-13.00	-22.45	H
3345.57	-32.47	12.78	11.57	-31.26	-13.00	-18.26	H
1672.56	-35.90	9.56	9.72	-36.06	-13.00	-23.06	V
2509.30	-34.72	10.50	10.86	-35.08	-13.00	-22.08	V
3345.57	-32.84	12.78	11.57	-31.63	-13.00	-18.63	V
LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1696.13	-33.57	9.56	9.72	-33.73	-13.00	-20.73	H
2544.61	-34.33	10.50	10.86	-34.69	-13.00	-21.69	H
3392.82	-33.30	12.78	11.57	-32.09	-13.00	-19.09	H
1696.13	-35.94	9.56	9.72	-36.10	-13.00	-23.10	V
2544.61	-35.04	10.50	10.86	-35.40	-13.00	-22.40	V
3392.82	-32.01	12.78	11.57	-30.80	-13.00	-17.80	V

LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1650.06	-34.83	9.56	9.72	-34.99	-13.00	-21.99	H
2476.12	-34.84	10.50	10.86	-35.20	-13.00	-22.20	H
3301.41	-32.89	12.78	11.57	-31.68	-13.00	-18.68	H
1650.06	-34.70	9.56	9.72	-34.86	-13.00	-21.86	V
2476.12	-34.80	10.50	10.86	-35.16	-13.00	-22.16	V
3301.41	-32.80	12.78	11.57	-31.59	-13.00	-18.59	V
LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.07	-33.66	9.56	9.72	-33.82	-13.00	-20.82	H
2509.15	-34.05	10.50	10.86	-34.41	-13.00	-21.41	H
3345.80	-33.22	12.78	11.57	-32.01	-13.00	-19.01	H
1672.07	-35.03	9.56	9.72	-35.19	-13.00	-22.19	V
2509.15	-33.99	10.50	10.86	-34.35	-13.00	-21.35	V
3345.80	-32.31	12.78	11.57	-31.10	-13.00	-18.10	V
LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1694.28	-34.20	9.56	9.72	-34.36	-13.00	-21.36	H
2542.13	-34.90	10.50	10.86	-35.26	-13.00	-22.26	H
3389.47	-33.62	12.78	11.57	-32.41	-13.00	-19.41	H
1694.28	-35.25	9.56	9.72	-35.41	-13.00	-22.41	V
2542.13	-34.45	10.50	10.86	-34.81	-13.00	-21.81	V
3389.47	-32.60	12.78	11.57	-31.39	-13.00	-18.39	V

LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1652.52	-34.65	9.56	9.72	-34.81	-13.00	-21.81	H
2478.84	-34.88	10.50	10.86	-35.24	-13.00	-22.24	H
3305.30	-33.30	12.78	11.57	-32.09	-13.00	-19.09	H
1652.52	-35.23	9.56	9.72	-35.39	-13.00	-22.39	V
2478.84	-33.94	10.50	10.86	-34.30	-13.00	-21.30	V
3305.30	-33.01	12.78	11.57	-31.80	-13.00	-18.80	V
LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.56	-34.84	9.56	9.72	-35.00	-13.00	-22.00	H
2508.64	-34.49	10.50	10.86	-34.85	-13.00	-21.85	H
3345.66	-32.73	12.78	11.57	-31.52	-13.00	-18.52	H
1672.56	-35.59	9.56	9.72	-35.75	-13.00	-22.75	V
2508.64	-34.19	10.50	10.86	-34.55	-13.00	-21.55	V
3345.66	-32.13	12.78	11.57	-30.92	-13.00	-17.92	V
LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1692.57	-33.61	9.56	9.72	-33.77	-13.00	-20.77	H
2538.63	-34.14	10.50	10.86	-34.50	-13.00	-21.50	H
3385.70	-33.28	12.78	11.57	-32.07	-13.00	-19.07	H
1692.57	-35.29	9.56	9.72	-35.45	-13.00	-22.45	V
2538.63	-35.00	10.50	10.86	-35.36	-13.00	-22.36	V
3385.70	-32.07	12.78	11.57	-30.86	-13.00	-17.86	V

LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1657.61	-33.89	9.56	9.72	-34.05	-13.00	-21.05	H
2486.51	-34.31	10.50	10.86	-34.67	-13.00	-21.67	H
3315.33	-32.96	12.78	11.57	-31.75	-13.00	-18.75	H
1657.61	-34.87	9.56	9.72	-35.03	-13.00	-22.03	V
2486.51	-34.07	10.50	10.86	-34.43	-13.00	-21.43	V
3315.33	-31.79	12.78	11.57	-30.58	-13.00	-17.58	V
LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.27	-34.10	9.56	9.72	-34.26	-13.00	-21.26	H
2508.67	-34.91	10.50	10.86	-35.27	-13.00	-22.27	H
3345.20	-32.60	12.78	11.57	-31.39	-13.00	-18.39	H
1672.27	-35.61	9.56	9.72	-35.77	-13.00	-22.77	V
2508.67	-34.41	10.50	10.86	-34.77	-13.00	-21.77	V
3345.20	-32.19	12.78	11.57	-30.98	-13.00	-17.98	V
LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1687.56	-33.54	9.56	9.72	-33.70	-13.00	-20.70	H
2531.41	-35.16	10.50	10.86	-35.52	-13.00	-22.52	H
3375.48	-32.90	12.78	11.57	-31.69	-13.00	-18.69	H
1687.56	-34.83	9.56	9.72	-34.99	-13.00	-21.99	V
2531.41	-34.28	10.50	10.86	-34.64	-13.00	-21.64	V
3375.48	-32.48	12.78	11.57	-31.27	-13.00	-18.27	V

LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5005.26	-34.65	12.66	15.86	-37.85	-25.00	-12.85	H
7507.78	-34.86	11.46	19.28	-42.68	-25.00	-17.68	H
10010.24	-32.37	12.79	23.19	-42.77	-25.00	-17.77	H
5005.26	-35.71	12.66	15.86	-38.91	-25.00	-13.91	V
7507.78	-33.91	11.46	19.28	-41.73	-25.00	-16.73	V
10010.24	-32.40	12.79	23.19	-42.80	-25.00	-17.80	V
LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5070.07	-33.60	12.72	15.86	-36.74	-25.00	-11.74	H
7604.71	-34.52	11.46	19.28	-42.34	-25.00	-17.34	H
10139.70	-32.53	12.09	23.19	-43.63	-25.00	-18.63	H
5070.07	-35.28	12.72	15.86	-38.42	-25.00	-13.42	V
7604.71	-34.47	11.46	19.28	-42.29	-25.00	-17.29	V
10139.70	-33.12	12.09	23.19	-44.22	-25.00	-19.22	V
LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5133.78	-33.65	12.76	15.86	-36.75	-25.00	-11.75	H
7701.35	-34.41	11.45	19.28	-42.24	-25.00	-17.24	H
10268.32	-32.85	12.28	23.19	-43.76	-25.00	-18.76	H
5133.78	-35.00	12.76	15.86	-38.10	-25.00	-13.10	V
7701.35	-34.61	11.45	19.28	-42.44	-25.00	-17.44	V
10268.32	-32.47	12.28	23.19	-43.38	-25.00	-18.38	V

LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5010.15	-34.31	12.66	15.86	-37.51	-25.00	-12.51	H
7515.34	-34.47	11.46	19.28	-42.29	-25.00	-17.29	H
10020.32	-33.28	12.79	23.19	-43.68	-25.00	-18.68	H
5010.15	-35.20	12.66	15.86	-38.40	-25.00	-13.40	V
7515.34	-34.82	11.46	19.28	-42.64	-25.00	-17.64	V
10020.32	-32.17	12.79	23.19	-42.57	-25.00	-17.57	V
LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5069.81	-34.90	12.72	15.86	-38.04	-25.00	-13.04	H
7604.84	-35.49	11.46	19.28	-43.31	-25.00	-18.31	H
10139.64	-32.17	12.09	23.19	-43.27	-25.00	-18.27	H
5069.81	-34.82	12.72	15.86	-37.96	-25.00	-12.96	V
7604.84	-34.99	11.46	19.28	-42.81	-25.00	-17.81	V
10139.64	-31.82	12.09	23.19	-42.92	-25.00	-17.92	V
LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5128.95	-34.03	12.76	15.86	-37.13	-25.00	-12.13	H
7693.72	-34.51	11.45	19.28	-42.34	-25.00	-17.34	H
10258.70	-32.64	12.28	23.19	-43.55	-25.00	-18.55	H
5128.95	-35.08	12.76	15.86	-38.18	-25.00	-13.18	V
7693.72	-34.03	11.45	19.28	-41.86	-25.00	-16.86	V
10258.70	-32.02	12.28	23.19	-42.93	-25.00	-17.93	V

LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest

Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5015.83	-33.88	12.66	15.86	-37.08	-25.00	-12.08	H
7524.24	-35.49	11.46	19.28	-43.31	-25.00	-18.31	H
10031.74	-33.53	12.79	23.19	-43.93	-25.00	-18.93	H
5015.83	-34.89	12.66	15.86	-38.09	-25.00	-13.09	V
7524.24	-34.92	11.46	19.28	-42.74	-25.00	-17.74	V
10031.74	-33.18	12.79	23.19	-43.58	-25.00	-18.58	V

LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle

Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5069.60	-33.90	12.72	15.86	-37.04	-25.00	-12.04	H
7604.86	-34.96	11.46	19.28	-42.78	-25.00	-17.78	H
10139.85	-32.47	12.09	23.19	-43.57	-25.00	-18.57	H
5069.60	-34.76	12.72	15.86	-37.90	-25.00	-12.90	V
7604.86	-35.00	11.46	19.28	-42.82	-25.00	-17.82	V
10139.85	-32.99	12.09	23.19	-44.09	-25.00	-19.09	V

LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest

Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5123.39	-34.22	12.76	15.86	-37.32	-25.00	-12.32	H
7524.00	-34.12	11.45	19.28	-41.95	-25.00	-16.95	H
10032.14	-32.70	12.28	23.19	-43.61	-25.00	-18.61	H
5123.39	-35.04	12.76	15.86	-38.14	-25.00	-13.14	V
7524.00	-35.12	11.45	19.28	-42.95	-25.00	-17.95	V
10032.14	-31.92	12.28	23.19	-42.83	-25.00	-17.83	V

LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5021.19	-34.54	12.66	15.86	-37.74	-25.00	-12.74	H
7531.06	-35.07	11.46	19.28	-42.89	-25.00	-17.89	H
10258.55	-33.45	12.79	23.19	-43.85	-25.00	-18.85	H
5021.19	-35.10	12.66	15.86	-38.30	-25.00	-13.30	V
7531.06	-34.66	11.46	19.28	-42.48	-25.00	-17.48	V
10258.55	-31.86	12.79	23.19	-42.26	-25.00	-17.26	V
LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5069.67	-33.77	12.72	15.86	-36.91	-25.00	-11.91	H
7604.71	-34.81	11.46	19.28	-42.63	-25.00	-17.63	H
10139.97	-33.54	12.09	23.19	-44.64	-25.00	-19.64	H
5069.67	-35.59	12.72	15.86	-38.73	-25.00	-13.73	V
7604.71	-34.81	11.46	19.28	-42.63	-25.00	-17.63	V
10139.97	-32.42	12.09	23.19	-43.52	-25.00	-18.52	V
LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5119.01	-34.88	12.76	15.86	-37.98	-25.00	-12.98	H
7678.01	-35.32	11.45	19.28	-43.15	-25.00	-18.15	H
10237.92	-32.69	12.28	23.19	-43.60	-25.00	-18.60	H
5119.01	-35.93	12.76	15.86	-39.03	-25.00	-14.03	V
7678.01	-34.95	11.45	19.28	-42.78	-25.00	-17.78	V
10237.92	-32.70	12.28	23.19	-43.61	-25.00	-18.61	V

LTE Band 38 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5115.20	-33.86	12.66	15.86	-37.06	-25.00	-12.06	H
7672.41	-34.16	11.46	19.28	-41.98	-25.00	-16.98	H
10230.07	-32.66	12.79	23.19	-43.06	-25.00	-18.06	H
4997.07	-35.34	12.66	15.86	-38.54	-25.00	-13.54	V
7495.50	-34.30	11.46	19.28	-42.12	-25.00	-17.12	V
9994.44	-33.04	12.79	23.19	-43.44	-25.00	-18.44	V
LTE Band 38 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5210.27	-33.71	12.72	15.86	-36.85	-25.00	-11.85	H
7815.34	-35.10	11.46	19.28	-42.92	-25.00	-17.92	H
10419.93	-32.23	12.09	23.19	-43.33	-25.00	-18.33	H
5210.27	-35.89	12.72	15.86	-39.03	-25.00	-14.03	V
7815.34	-34.03	11.46	19.28	-41.85	-25.00	-16.85	V
10419.93	-31.75	12.09	23.19	-42.85	-25.00	-17.85	V
LTE Band 38 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5305.18	-34.92	12.76	15.86	-38.02	-25.00	-13.02	H
7957.43	-35.14	11.45	19.28	-42.97	-25.00	-17.97	H
10609.95	-32.71	12.28	23.19	-43.62	-25.00	-18.62	H
5305.18	-35.11	12.76	15.86	-38.21	-25.00	-13.21	V
7957.43	-33.79	11.45	19.28	-41.62	-25.00	-16.62	V
10609.95	-32.96	12.28	23.19	-43.87	-25.00	-18.87	V

LTE Band 38 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5120.11	-33.91	12.66	15.86	-37.11	-25.00	-12.11	H
7680.13	-34.89	11.46	19.28	-42.71	-25.00	-17.71	H
10240.18	-32.91	12.79	23.19	-43.31	-25.00	-18.31	H
5120.11	-35.54	12.66	15.86	-38.74	-25.00	-13.74	V
7680.13	-34.11	11.46	19.28	-41.93	-25.00	-16.93	V
10240.18	-32.61	12.79	23.19	-43.01	-25.00	-18.01	V
LTE Band 38 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5210.15	-34.03	12.72	15.86	-37.17	-25.00	-12.17	H
7815.11	-34.48	11.46	19.28	-42.30	-25.00	-17.30	H
10420.23	-32.45	12.09	23.19	-43.55	-25.00	-18.55	H
5210.15	-35.26	12.72	15.86	-38.40	-25.00	-13.40	V
7815.11	-35.02	11.46	19.28	-42.84	-25.00	-17.84	V
10420.23	-32.69	12.09	23.19	-43.79	-25.00	-18.79	V
LTE Band 38 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5299.98	-33.91	12.76	15.86	-37.01	-25.00	-12.01	H
7950.16	-34.72	11.45	19.28	-42.55	-25.00	-17.55	H
10599.79	-33.05	12.28	23.19	-43.96	-25.00	-18.96	H
5299.98	-35.57	12.76	15.86	-38.67	-25.00	-13.67	V
7950.16	-34.88	11.45	19.28	-42.71	-25.00	-17.71	V
10599.79	-33.15	12.28	23.19	-44.06	-25.00	-19.06	V

LTE Band 38 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5125.23	-34.92	12.66	15.86	-38.12	-25.00	-13.12	H
7687.63	-35.16	11.46	19.28	-42.98	-25.00	-17.98	H
10250.37	-33.38	12.79	23.19	-43.78	-25.00	-18.78	H
5125.23	-35.50	12.66	15.86	-38.70	-25.00	-13.70	V
7687.63	-34.00	11.46	19.28	-41.82	-25.00	-16.82	V
10250.37	-32.22	12.79	23.19	-42.62	-25.00	-17.62	V
LTE Band 38 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5209.81	-34.55	12.72	15.86	-37.69	-25.00	-12.69	H
7815.34	-34.23	11.46	19.28	-42.05	-25.00	-17.05	H
10420.28	-32.93	12.09	23.19	-44.03	-25.00	-19.03	H
5209.81	-34.57	12.72	15.86	-37.71	-25.00	-12.71	V
7815.34	-34.90	11.46	19.28	-42.72	-25.00	-17.72	V
10420.28	-33.08	12.09	23.19	-44.18	-25.00	-19.18	V
LTE Band 38 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5297.84	-33.69	12.76	15.86	-36.79	-25.00	-11.79	H
7942.69	-34.43	11.45	19.28	-42.26	-25.00	-17.26	H
10590.04	-32.98	12.28	23.19	-43.89	-25.00	-18.89	H
5297.84	-35.88	12.76	15.86	-38.98	-25.00	-13.98	V
7942.69	-34.06	11.45	19.28	-41.89	-25.00	-16.89	V
10590.04	-32.55	12.28	23.19	-43.46	-25.00	-18.46	V

LTE Band 38 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5130.12	-33.62	12.66	15.86	-36.82	-25.00	-11.82	H
7694.98	-35.43	11.46	19.28	-43.25	-25.00	-18.25	H
10260.01	-32.39	12.79	23.19	-42.79	-25.00	-17.79	H
5130.12	-34.88	12.66	15.86	-38.08	-25.00	-13.08	V
7694.98	-33.85	11.46	19.28	-41.67	-25.00	-16.67	V
10260.01	-32.10	12.79	23.19	-42.50	-25.00	-17.50	V
LTE Band 38 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5210.16	-34.29	12.72	15.86	-37.43	-25.00	-12.43	H
7815.25	-34.27	11.46	19.28	-42.09	-25.00	-17.09	H
10419.97	-33.21	12.09	23.19	-44.31	-25.00	-19.31	H
5210.16	-35.26	12.72	15.86	-38.40	-25.00	-13.40	V
7815.25	-33.89	11.46	19.28	-41.71	-25.00	-16.71	V
10419.97	-32.81	12.09	23.19	-43.91	-25.00	-18.91	V
LTE Band 38 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5289.96	-34.35	12.76	15.86	-37.45	-25.00	-12.45	H
7935.30	-34.06	11.45	19.28	-41.89	-25.00	-16.89	H
10579.86	-32.81	12.28	23.19	-43.72	-25.00	-18.72	H
5289.96	-36.00	12.76	15.86	-39.10	-25.00	-14.10	V
7935.30	-33.86	11.45	19.28	-41.69	-25.00	-16.69	V
10579.86	-32.13	12.28	23.19	-43.04	-25.00	-18.04	V

2305-2315 MHz

LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4615.00	-45.52	12.91	12.95	-45.56	-40.00	-5.56	H
6922.32	-41.28	13.18	17.02	-45.12	-40.00	-5.12	H
9230.12	-36.48	12.45	21.78	-45.81	-40.00	-5.81	H
4615.00	-45.86	12.91	12.95	-45.90	-40.00	-5.90	V
6922.32	-41.58	13.18	17.02	-45.42	-40.00	-5.42	V
9230.12	-36.72	12.45	21.78	-46.05	-40.00	-6.05	V
LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4620.05	-44.65	12.91	12.95	-44.69	-40.00	-4.69	H
6929.91	-41.39	13.18	17.02	-45.23	-40.00	-5.23	H
9240.12	-35.71	12.45	21.78	-45.04	-40.00	-5.04	H
4620.05	-44.92	12.91	12.95	-44.96	-40.00	-4.96	V
6929.91	-41.82	13.18	17.02	-45.66	-40.00	-5.66	V
9240.12	-36.42	12.45	21.78	-45.75	-40.00	-5.75	V
LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4625.05	-45.52	12.91	12.95	-45.56	-40.00	-5.56	H
6937.29	-41.16	13.18	17.02	-45.00	-40.00	-5.00	H
9250.08	-36.52	12.45	21.78	-45.85	-40.00	-5.85	H
4625.05	-45.28	12.91	12.95	-45.32	-40.00	-5.32	V
6937.29	-42.23	13.18	17.02	-46.07	-40.00	-6.07	V
9250.08	-35.69	12.45	21.78	-45.02	-40.00	-5.02	V

LTE Band 40 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4619.90	-45.34	12.91	12.95	-45.38	-40.00	-5.38	H
6929.97	-42.24	13.18	17.02	-46.08	-40.00	-6.08	H
9240.29	-35.86	12.45	21.78	-45.19	-40.00	-5.19	H
4619.90	-45.92	12.91	12.95	-45.96	-40.00	-5.96	V
6929.97	-41.25	13.18	17.02	-45.09	-40.00	-5.09	V
9240.29	-36.13	12.45	21.78	-45.46	-40.00	-5.46	V

2350-2360 MHz

LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4704.92	-45.53	12.91	12.95	-45.57	-40.00	-5.57	H
7056.94	-41.56	13.18	17.02	-45.40	-40.00	-5.40	H
9409.87	-36.58	12.45	21.78	-45.91	-40.00	-5.91	H
4704.92	-45.20	12.91	12.95	-45.24	-40.00	-5.24	V
7056.94	-41.81	13.18	17.02	-45.65	-40.00	-5.65	V
9409.87	-35.56	12.45	21.78	-44.89	-40.00	-4.89	V
LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4710.13	-45.82	12.91	12.95	-45.86	-40.00	-5.86	H
7064.90	-42.15	13.18	17.02	-45.99	-40.00	-5.99	H
9419.88	-35.21	12.45	21.78	-44.54	-40.00	-4.54	H
4710.13	-45.81	12.91	12.95	-45.85	-40.00	-5.85	V
7064.90	-40.78	13.18	17.02	-44.62	-40.00	-4.62	V
9419.88	-35.90	12.45	21.78	-45.23	-40.00	-5.23	V
LTE Band 40 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4714.88	-45.24	12.91	12.95	-45.28	-40.00	-5.28	H
7072.04	-42.39	13.18	17.02	-46.23	-40.00	-6.23	H
9430.02	-35.85	12.45	21.78	-45.18	-40.00	-5.18	H
4714.88	-45.75	12.91	12.95	-45.79	-40.00	-5.79	V
7072.04	-41.01	13.18	17.02	-44.85	-40.00	-4.85	V
9430.02	-36.29	12.45	21.78	-45.62	-40.00	-5.62	V

LTE Band 40 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4709.99	-45.54	12.91	12.95	-45.58	-40.00	-5.58	H
7064.84	-41.44	13.18	17.02	-45.28	-40.00	-5.28	H
9420.27	-35.39	12.45	21.78	-44.72	-40.00	-4.72	H
4709.99	-45.13	12.91	12.95	-45.17	-40.00	-5.17	V
7064.84	-41.98	13.18	17.02	-45.82	-40.00	-5.82	V
9420.27	-35.81	12.45	21.78	-45.14	-40.00	-5.14	V

LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4997.32	-34.00	12.66	15.86	-37.20	-25.00	-12.20	H
7495.83	-34.39	11.46	19.28	-42.21	-25.00	-17.21	H
9994.06	-33.04	12.79	23.19	-43.44	-25.00	-18.44	H
4997.32	-34.71	12.66	15.86	-37.91	-25.00	-12.91	V
7495.83	-34.83	11.46	19.28	-42.65	-25.00	-17.65	V
9994.06	-31.90	12.79	23.19	-42.30	-25.00	-17.30	V
LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5185.89	-34.55	12.72	15.86	-37.69	-25.00	-12.69	H
7779.13	-34.55	11.46	19.28	-42.37	-25.00	-17.37	H
10372.08	-32.18	12.09	23.19	-43.28	-25.00	-18.28	H
5185.89	-34.85	12.72	15.86	-37.99	-25.00	-12.99	V
7779.13	-34.28	11.46	19.28	-42.10	-25.00	-17.10	V
10372.08	-32.68	12.09	23.19	-43.78	-25.00	-18.78	V
LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5375.17	-34.30	12.76	15.86	-37.40	-25.00	-12.40	H
8062.58	-34.11	11.45	19.28	-41.94	-25.00	-16.94	H
10750.36	-33.08	12.28	23.19	-43.99	-25.00	-18.99	H
5375.17	-35.48	12.76	15.86	-38.58	-25.00	-13.58	V
8062.58	-33.86	11.45	19.28	-41.69	-25.00	-16.69	V
10750.36	-32.27	12.28	23.19	-43.18	-25.00	-18.18	V

LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5001.74	-34.30	12.66	15.86	-37.50	-25.00	-12.50	H
7502.80	-34.31	11.46	19.28	-42.13	-25.00	-17.13	H
10003.91	-32.81	12.79	23.19	-43.21	-25.00	-18.21	H
5001.74	-35.52	12.66	15.86	-38.72	-25.00	-13.72	V
7502.80	-34.91	11.46	19.28	-42.73	-25.00	-17.73	V
10003.91	-32.08	12.79	23.19	-42.48	-25.00	-17.48	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5186.21	-34.75	12.72	15.86	-37.89	-25.00	-12.89	H
7778.89	-35.14	11.46	19.28	-42.96	-25.00	-17.96	H
10372.09	-32.86	12.09	23.19	-43.96	-25.00	-18.96	H
5186.21	-35.83	12.72	15.86	-38.97	-25.00	-13.97	V
7778.89	-34.14	11.46	19.28	-41.96	-25.00	-16.96	V
10372.09	-32.20	12.09	23.19	-43.30	-25.00	-18.30	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5369.89	-33.56	12.76	15.86	-36.66	-25.00	-11.66	H
8055.07	-35.10	11.45	19.28	-42.93	-25.00	-17.93	H
10739.97	-32.84	12.28	23.19	-43.75	-25.00	-18.75	H
5369.89	-35.60	12.76	15.86	-38.70	-25.00	-13.70	V
8055.07	-34.03	11.45	19.28	-41.86	-25.00	-16.86	V
10739.97	-32.08	12.28	23.19	-42.99	-25.00	-17.99	V

LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5006.97	-33.97	12.66	15.86	-37.17	-25.00	-12.17	H
7510.78	-34.80	11.46	19.28	-42.62	-25.00	-17.62	H
10014.37	-32.94	12.79	23.19	-43.34	-25.00	-18.34	H
5006.97	-35.90	12.66	15.86	-39.10	-25.00	-14.10	V
7510.78	-34.15	11.46	19.28	-41.97	-25.00	-16.97	V
10014.37	-33.06	12.79	23.19	-43.46	-25.00	-18.46	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5185.79	-34.94	12.72	15.86	-38.08	-25.00	-13.08	H
7779.32	-34.31	11.46	19.28	-42.13	-25.00	-17.13	H
10372.24	-33.00	12.09	23.19	-44.10	-25.00	-19.10	H
5185.79	-34.58	12.72	15.86	-37.72	-25.00	-12.72	V
7779.32	-34.68	11.46	19.28	-42.50	-25.00	-17.50	V
10372.24	-32.75	12.09	23.19	-43.85	-25.00	-18.85	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5365.24	-34.52	12.76	15.86	-37.62	-25.00	-12.62	H
8047.62	-34.64	11.45	19.28	-42.47	-25.00	-17.47	H
10729.94	-32.51	12.28	23.19	-43.42	-25.00	-18.42	H
5365.24	-34.92	12.76	15.86	-38.02	-25.00	-13.02	V
8047.62	-34.40	11.45	19.28	-42.23	-25.00	-17.23	V
10729.94	-32.27	12.28	23.19	-43.18	-25.00	-18.18	V

LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5011.97	-33.80	12.66	15.86	-37.00	-25.00	-12.00	H
7518.17	-34.54	11.46	19.28	-42.36	-25.00	-17.36	H
10023.91	-33.64	12.79	23.19	-44.04	-25.00	-19.04	H
5011.97	-35.92	12.66	15.86	-39.12	-25.00	-14.12	V
7518.17	-35.12	11.46	19.28	-42.94	-25.00	-17.94	V
10023.91	-32.20	12.79	23.19	-42.60	-25.00	-17.60	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5186.15	-33.66	12.72	15.86	-36.80	-25.00	-11.80	H
7778.91	-34.11	11.46	19.28	-41.93	-25.00	-16.93	H
10372.20	-33.60	12.09	23.19	-44.70	-25.00	-19.70	H
5186.15	-35.43	12.72	15.86	-38.57	-25.00	-13.57	V
7778.91	-34.37	11.46	19.28	-42.19	-25.00	-17.19	V
10372.20	-32.31	12.09	23.19	-43.41	-25.00	-18.41	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5359.89	-34.70	12.76	15.86	-37.80	-25.00	-12.80	H
8040.14	-34.31	11.45	19.28	-42.14	-25.00	-17.14	H
10720.14	-32.81	12.28	23.19	-43.72	-25.00	-18.72	H
5359.89	-34.62	12.76	15.86	-37.72	-25.00	-12.72	V
8040.14	-33.87	11.45	19.28	-41.70	-25.00	-16.70	V
10720.14	-32.28	12.28	23.19	-43.19	-25.00	-18.19	V

Note:1. Margin (dB) = Emission Level(dBm) -Limit(dBm)

Emission Level(dBm)=Measurement Reading(dBm)+Factor(dB)

Factor(dB) = ANT Gain -Cable Loss + Power Splitter

- The test refers to the value of Factor, please refer to the results listed in the test method in this section of the report.
- The radiated spurious emission has been tested with maximum bandwidth QPSK modulation, resource block size 1 and resource block offset 0.
- Below 30MHz, no spurious emission was found, and only the worst mode data above 30MHz is recorded in the report.

5.7 Frequency Stability / Temperature Variation

The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is varied from -10°C to +50°C in 10°C increments using an environmental chamber.
- b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer. Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -10°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Procedures Used

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01; ANSI/ C63.10

Note: Reference test setup 2.

Test Result

PASS

Please refer to AITSZ24050902W11_Appendix LTE.

(END OF REPORT)