SAN FRANCISCO
PLANNING DEPARTMENT

Letter of Determination

1650 Mission St.
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Information:
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December 21, 2016

Alex Morin
Permit-Me for AT&T Mobility
13 Sutro Court
Novato, CA 94947

Site Address:	**Citywide**
Assessor's Block/Lot:	**Various**
Zoning District:	**Various**
Staff Contact:	**Ashley Woods - (415) 575-9178 or Ashley.Woods@sfgov.org**
Record Number:	**2016-014490ZAD**

Dear Mr. Morin:

This letter is in response to your request for a Letter of Determination (LOD) as to whether minor upgrades may be made to existing AT&T Mobility Wireless Telecommunication Services (WTS) Facilities that were previously approved as Accessory Uses under Planning Code Section 204 and consistent with prior Letters of Determination.

On August 2, 2016, the Board of Supervisors adopted Ordinance No. 16-166 (Planning Code - Wireless Telecommunications Services Facilities) which, among other things, amended the Planning Code to add "Micro WTS Facilities" as a use category which is principally permitted in all zoning districts subject to specific limitations. Micro WTS Facilities is defined as follows:

Wireless Telecommunications Services (WTS) Facility, Micro. *The Zoning Administrator shall determine whether a proposed WTS Facility is a Micro WTS Facility. A Micro WTS Facility is generally characterized by*

(a) limited spatial effects;

(b) a small number of antennas (typically up to two);

(c) an absence of substantial cumulative effects on neighborhood character or aesthetics, when considered in conjunction with other WTS Facilities at the same project site; and

(d) a location that is not "disfavored" as specified in the Guidelines.

WTS Facilities which were previously authorized as Accessory Uses in prior Letters of Determination are generally considered to be Micro WTS Facilities provided they comply with all limitations outlined in previous determinations.

After reviewing previous determinations, relevant Planning Code provisions, example microcell site modifications provided during a Project Review meeting with Planning staff (2016-013298PRV), and the information submitted with your letter, it is my determination that the proposed upgrades to existing

facilities as described below would be consistent with the definition of Micro WTS Facilities based upon the following:

1. In areas considered Location Preferences 1 through 6, as outlined by the Wireless Telecommunication Services (WTS) Guidelines, installations may feature one of the following configurations:
    a. **Option 1 – Tri-Directional Antennas:** Up to two separate antennas measuring approximately 24" high with a maximum diameter of 16".
    b. **Option 2 – Micro Panel Antenna:** Up to two separate antennas measuring approximately 27.66" high x 13.78" wide x 6.05" deep.
2. Based on specifications submitted with your letter and example upgrades provided during the Project Review meeting (2016-013298PRV), the proposed installations must not have any adverse aesthetic or visual effect on the subject properties or the surrounding vicinities, and must adhere to the following:
    a. The new antennas shall not be façade mounted.
    b. The new antennas should be attached to an existing (where possible) pipe mount that is attached to a parapet wall or penthouse; if that is not feasible, the antenna should be placed on the flat-roof of a stair/elevator penthouse using a non-penetrating tripod mount.
    c. The new antennas shall not extend any more than necessary above the roofline of the subject building and shall have an appropriate setback from the roof edge.
    d. Associated coaxial cables, as needed, shall be sufficiently screened from public view.
    e. Where the new antennas would be screened within existing storefront elements (e.g. project signs or awnings) such elements are permitted, and have been determined to be in conformance with the Planning Code.
    f. The installation shall be painted to match the color of the existing building, concealed, screened and/or otherwise designed to blend with the existing architectural features, minimizing them from public view.
3. Individual emission calculations for each site shall be provided to the Department of Public Health for review.
4. Any proposed installation will undergo design review by the Planning Department and will only be approved once the Department's design standards are met.
5. Antennas that are proposed on a building of historical or architectural significance must undergo additional review by the Planning Department's Historic Preservation staff and/or Historic Preservation Commission.
6. For proposed facilities, AT&T Mobility must meet all requirements set forth within the Planning Department's WTS Facility Siting Guidelines and WTS Application Checklist for Micro WTS Facilities (pending).
7. This determination shall not apply to sites that feature an existing macro AT&T Mobility WTS Facility, or to installations within the public right-of-way.
8. This determination does not supersede previous site-specific AT&T Mobility Letters of Determination; however, in the event a removal permit is issued, this determination may be applied to such sites in-lieu of the previous site–specific LOD.

Alex Morin
Permit-Me for ATT Mobility
13 Sutro Court
Novato, CA 94947

December 21, 2016
Letter of Determination
AT&T Mobility

Please note that a Letter of Determination is a determination regarding the classification of uses and interpretation and applicability of the provisions of the Planning Code. This Letter of Determination is not a permit to commence any work or change occupancy. Permits from appropriate Departments must be secured before work is started or occupancy is changed.

APPEAL: If you believe this determination represents an error in interpretation of the Planning Code or abuse in discretion by the Zoning Administrator, an appeal may be filed with the Board of Appeals within 15 days of the date of this letter. For information regarding the appeals process, please contact the Board of Appeals located at 1650 Mission Street, Room 304, San Francisco, or call (415) 575-6880.

Sincerely,

Scott F. Sanchez
Zoning Administrator

cc: Ashley Woods, Planner
Citywide Neighborhood Group Mailing List

PERMITME

Permit Me, Inc. 3850 23rd Street San Francisco, CA 94114

R# 2016-014490ZAD
CK # 7738 $ 664. -
A. WOODS (WIRELESS)

October 20, 2016

Scott Sanchez
Zoning Administrator
1650 Mission Street, Suite 400
San Francisco, CA 94103

RE: ATT Letter of Determination Request- Microcell Facilities

Dear Mr. Sanchez:

ATT is currently in the process of upgrading a number of existing microcell antenna sites in San Francisco. ATT requests a Letter of Determination (LOD) that the wireless telecommunications facilities described below will continue to be considered an "accessory use" under section 204 of the Planning Code in Location Preferences 1 through 6 as set forth in Section 8.1 of the Wireless Telecommunications Services (WTS) Facilities Siting Guidelines. This request is consistent with similar accessory uses authorized by letters of determination issued to other wireless service providers and ATT.

ATT is requesting a LOD in order to allow it to install small-cell technology to improve its San Francisco network. A description of the two requested designs is as follows:

Tri-directional antenna- Two 24" high x 16" diameter antennas. See Exhibit A for additional antenna information.

Micro panel antenna- Two 27.66" high x 13.78 wide x 6.05" diameter antennas. See Exhibit B for additional antenna information.

As appropriate, all components shall be painted to match the color of the existing building to blend into the existing built environment or screened as necessary.

Each proposed facility shall comply with Planning Department design review. In compliance with the San Francisco Building Code, electrical and building permits shall be obtained prior to each installation.

Individual emissions calculations for each microcell will be provided to the Department of Public Health for review and approval.

We hope to streamline the permitting process to allow for this minor change rather than fully upgrading the wireless facilities and thus creating additional visual impacts by adding much more equipment to each site.

Please feel free to contact me with any questions that you may have regarding this request.

Sincerely,

Alex Morin
Agent for ATT Mobility
13 Sutro Court

Novato CA, 94947
530.219.8903
alex.morin@ymail.com

Exhibit A: Tri-directional antenna manufacturers specifications

Exhibit B: Micro panel antenna manufacturers specifications

Exhibit A- Tri directional Antenna Specs

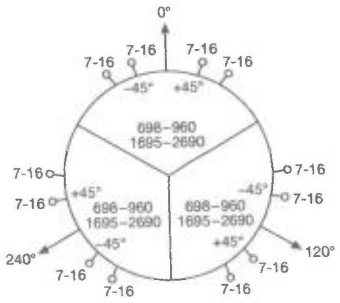
KATHREIN

12-Port Tri-Sector Antenna

Frequency Range	0°	120°	240°	0°	120°	240°
	698–960	698–960	698–960	1695–2690	1695–2690	1695–2690
Dual Polarization	X	X	X	X	X	X
HPBW	65°	65°	65°	65°	65°	65°
Fixed Electr. DT	2°	2°	2°	2°	2°	2°

12-Port Tri-Sector Antenna 698–960/1695–2690 65°/65° 11/13dBi 2°/2°T with GPS

Type No.		80010775		80010776
Radome Colour		Brown		Grey
Low band		**Electrical data per sector**		
		698–960		
Frequency range	MHz	698 – 824	824 – 894	880 – 960
Polarization	°	+45, –45	+45, –45	+45, –45
Gain	dBi	2 x 10.0	2 x 10.6	2 x 11.0
Horizontal Pattern:				
Half-power beam width	°	73	67	65
Front-to-back ratio, copolar	dB	> 26	> 26	> 30
Cross polar ratio Maindirection 0° Sector ±60°	dB	Typically: 19 > 10	Typically: 30 > 8	Typically: 30 > 8
Vertical Pattern:				
Half-power beam width	°	42	40	36
Electrical tilt	°	2, fixed		
Impedance	Ω	50		
VSWR		< 1.55		< 1.5
Isolation Intrasystem Intersystem	dB	> 25 > 26, typ. 30 (698–894 // 1695–2690)		> 25 > 23, typ. 30 (880–960 // 1695–2690)
Intermodulation IM3	dBc	< –153 (2 x 43 dBm carrier)		
Max. power per input	W	250 (at 50 °C ambient temperature)		
Max. power for the antenna	W	900 (at 50 °C ambient temperature)		



936.5092 Subject to alteration.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

12-Port Tri-Sector Antenna

KATHREIN

High band		Electrical data per sector				
				1695–2690		
Frequency range	MHz	1695 – 1880	1850 – 1990	1920 – 2180	2200 – 2490	2490 – 2690
Polarization	°	+45, –45	+45, –45	+45, –45	+45, –45	+45, –45
Gain	dBi	2 x 13.5	2 x 13.5	2 x 13.2	2 x 13.5	2 x 14.0
Horizontal Pattern:						
Half-power beam width	°	60	60	60	60	60
Front-to-back ratio, copolar	dB	> 30	> 30	> 30	> 30	> 30
Cross polar ratio Maindirection 0° Sector ±60°	dB	Typically: 25 > 9	Typically: 25 > 9	Typically: 25 > 8	Typically: 25 > 8	Typically: 25 > 8
Vertical Pattern:						
Half-power beam width	°	18	17.5	16.5	14.5	14
Electrical tilt	°	2, fixed				
Impedance	Ω	50				
VSWR		< 1.55			< 1.6	< 1.55
Isolation Intrasystem	dB	> 25			> 28	> 28
Isolation Intersystem	dB	> 30 (1695–2690 // 698–960)				
Intermodulation IM3	dBc	< –153 (2 x 43 dBm carrier)				
Max. power per input	W	200 (at 50 °C ambient temperature)				

GPS specifications		
Frequency range	MHz	1575.42 ± 3
LNA gain	dB	27 typical
Pre-amp filtering	dB	–30 at ± 100 MHz
Polarization		Right-hand circular
H-plane beam width		Omni
E-plane half-power beam width	°	105
Connector		N female
DC power	Vdc	+3–5.5, 18–25 mA Through N output connector
Temperature range	° C	–35 to +70

Mechanical specifications		
Input		12 x 7-16 connector female
Connector position		Bottom
Weight	kg lb	18.9 41.7
Wind load (at Rated Wind Speed: 150 km/h)	N lbf	138 32
Max. wind velocity	km/h mph	242 150
Packing size	mm inches	755 x 480 x 480 29.7 / 18.9 /18.9
Height / diameter	mm inches	626 / 407 24.6 / 16

936.5092 Subject to alteration.

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

Accessories
General Information

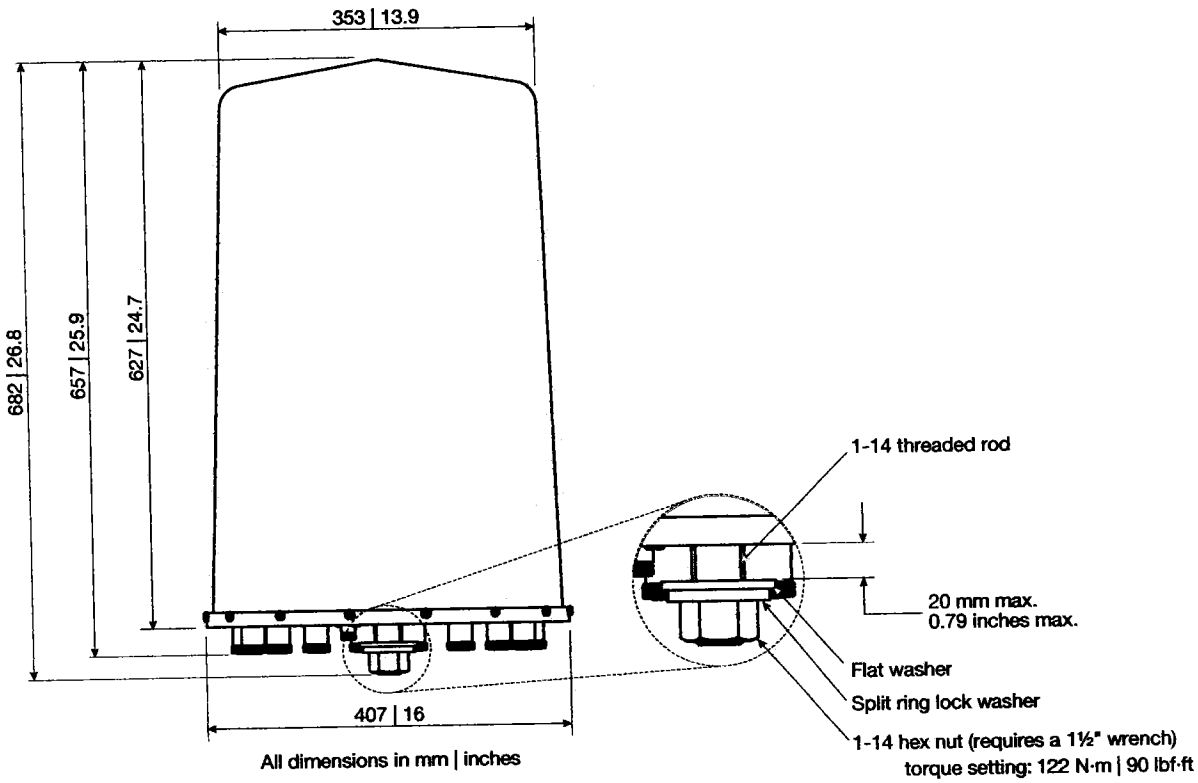
KATHREIN

Antenna area:

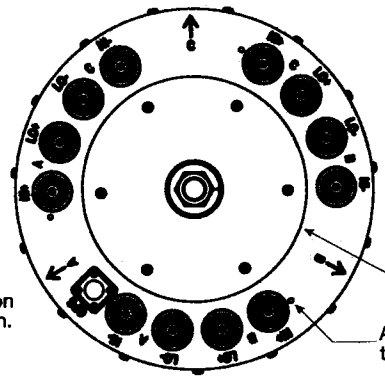
Reflector screen: Aluminum. **Radiator:** Tin plated zinc.
Cylindrical fiberglass radome: The max. radome diameter is 407 mm | 16 inches. Fiberglass material guarantees optimum performance with regards to stability, stiffness, UV resistance and painting.
Radome colour **80010775: Brown.**
80010776: Grey.

Mounting:

Designed to be mounted on top of a utility pole using a custom mounting bracket supplied by the customer.



All dimensions in mm | inches



Arrows indicate the direction of maximum signal strength.

Customer supplied mounting bracket must fit within a 254 mm | 10 inches circle.

Avoid obstructing the three drain holes.

936.5092 Subject to alteration.

Any previous data sheet issues have now become invalid.

All specifications are subject to change without notice.
The latest specifications are available at www.kathreinusa.com

Kathrein USA Greenway Plaza II, 2400 Lakeside Blvd., Suite 650, Richardson TX 75082
Phone: 214.238.8800 Fax: 214.238.8801 Email: info@kathrein.com

General Information about Panel Antennas

KATHREIN

Environmental conditions:

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E.
The antennas exceed this standard with regard to the following items:
– Low temperature: –55 °C
– High temperature (dry): +60 °C
For antennas equipped with FlexRET: The electrical downtilt adjusting is designed to operate under the environmental conditions as described in the valid data sheet of the FlexRET.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Environmental tests:

Kathrein antennas fulfil the stated specifications after completion of the environmental tests as defined in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families uses identical modules and materials.
Extensive tests have been performed on typical samples and modules. The vibration test has been adapted relating to frequency and acceleration to the conditions of mast mounted antennas.

Please note:

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4. Wind loads are calculated according to DIN 1055-4.
The antennas may be used at locations where the anticipated peak wind velocity or gust wind speed lies within the maximum wind speed listed in the data sheet. We warrant the mechanical safety and electrical functionality under such conditions. The wind speeds are defined in accordance with the DIN, EN or TIA standards. This warranty makes allowance for the partial safety factors specified in those standards.
Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of an antenna or even cause it to fall to the ground. These facts must be considered during the site planning process.

The details given in our data sheets have to be followed carefully when installing the antennas and accessories.
Site planning and installation must be carried out by qualified and experienced staff. All relevant national safety regulations must be upheld and respected. Incorrect site planning, faulty installation, as well as interfering surroundings on site, may lead to deviations in the electrical parameters compared to those specified in the respective data sheets.
The connectors on this product are only suitable for connecting to the compatible counterpart. Please ensure that the connected cable has been fitted with a connector of the same standard, otherwise damage may occur.

Our quality assurance system and our environmental management system apply to the entire company and are certified by TÜV according to EN ISO 9001 and EN ISO 14001.

Our products are compliant to the EU Directive RoHS as well as to other environmentally relevant regulations (e.g. REACH).

936.4694/b Subject to alteration.

Any previous data sheet issues have now become invalid.

All specifications are subject to change without notice.
The latest specifications are available at www.kathreinusa.com

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Exhibit B- Micro Panel Antenna Specs

P6T2BF-V1 — 6-Port, 65 Degree Ultra Wideband Base Station Sector Antenna

Filtronic Next Generation Base Station Antennas

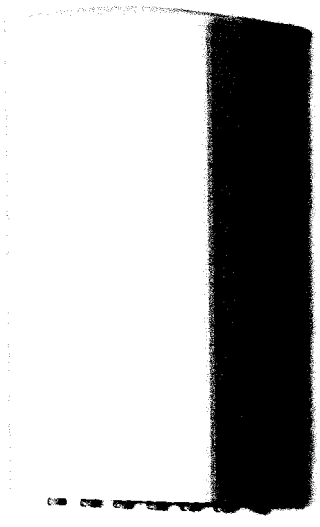
- *Innovative Ultra Wideband Slotted Disc Antenna Technology*
- *High Gain per Length*
- *Supports MIMO: 2x2 on Low Band and 4x4 on High Band*

698—960	1710—2690	1710—2690
X	X	X
65°	65°	65°
8°	4°	4°

Parameters on this data sheet follows the definitions and recommendations per NGMN P-Basta Release 9.6 (http://www.ngmn.org/)

ELECTRICAL SPECIFICATIONS								
Frequency Range [MHz]	698—793	792—862	880—960	1710—1880	1850-1990	1920-2170	2300—2500	2500—2690
Gain, average [dBi]	11.8	12.0	12.3	14.3	14.8	15.2	16.2	16.4
Gain, Over All Tilts [dBi]	11.8±0.5	12.0±0.5	12.3±0.5	14.3±0.5	14.8±0.5	15.2±0.5	16.2±0.5	16.4±0.5
Azimuth Beamwidth [°]	70.0±5.0	65.0±5.0	63.0±5.0	68.0±5.0	65.0±5.0	65.0±5.0	63.0±5.0	60.0±5.0
Elevation Beamwidth [°]	35.0±3.0	32.0±3.0	30.0±3.0	14.0±0.5	13.5±0.8	12.2±0.8	10.3±0.8	10.7±0.8
Electrical Downtilt [°]	8º			4º				
Elevation Downtilt Deviation [°]	1.5	1.5	1.5	0.8	0.8	0.8	0.8	0.8
Front-to-Back Ratio, Total Power, ±30° [dB]	22	25	25	25	25	25	25	25
Cross Polar Discrimination Over Sector [dB]	10	10	10	10	10	10	10	10
Cross Polar Discrimination Over 3dB Azimuth Beamwidth [dB]	20	20	20	15	15	15	15	15
First Upper Side Lobe Suppression [dB]	15	15	15	15	15	15	15	15
Upper Side Lobe Suppression [dB]	15	15	15	15	15	15	15	15
Polarization [°]	±45							
Impedance [Ω]	50							
VSWR	< 1.43:1							
Return Loss [dB]	< -15.0							
Cross Polar Isolation [dB]	> 35			> 30				
Interband Isolation [dB]	> 45							
Passive Intermodulation [dBc]	< -153			< -153				
Maximum Effective Power Per Port [W]	300			250				

MECHANICAL SPECIFICATIONS	
Antenna Dimensions: Length, Width, Depth [mm]	703 x 350 x 154 (2.3' x 13.8" x 6.1")
Packing Size: Length, Width, Depth [mm]	1000 x 500 x 300
Net Weight (antenna) [kg]	8.0 (17.7 lb)
Net Weight (mount) [kg]	5.0 (11.0 lb)
Shipping Weight [kg]	15.0 (33.0 lb)
Connector Type	7/16 DIN Female (long neck)
Connector Quantity	6
Connector Position	Bottom
Windload, Calculation [km/h]	150 (93.2 mph)
Windload, Maximum [N]	330
Windload, Frontal [N]	265
Windload, Lateral [N]	50
Survival Wind Speed [km/h]	241 (150 mph)
Radome Material	GRP
Radome Color [RAL]	7035 (Light gray)
Product Environmental Compliance	RoHS
Mechanical Distance between Mounting Points—Antenna [mm]	604.5
Mechanical Distance between Mounting Points—Pole [mm]	TBD
Lightning Protection	DC ground



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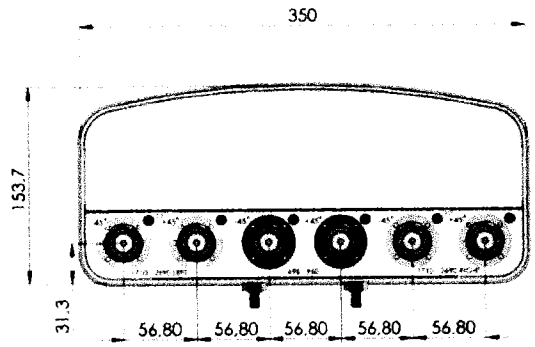
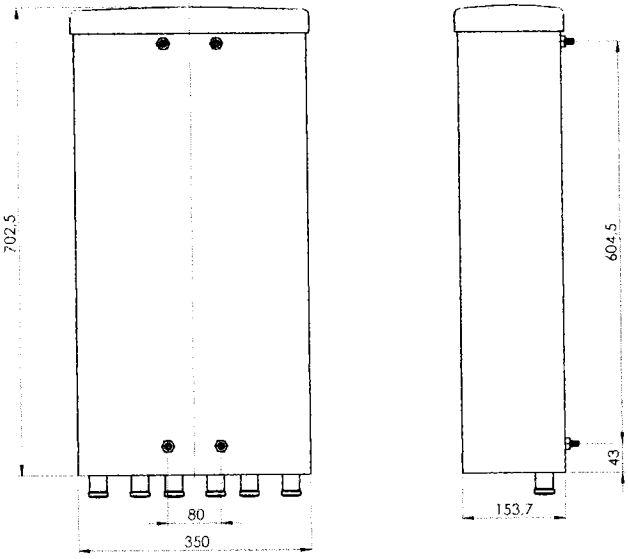
Filtronic

P6T2BF-V1 — 6-Port, 65 Degree Ultra Wideband Base Station Sector Antenna

LAYOUT OF INTERFACE (BOTTOM VIEW)



ANTENNA LAYOUT



Base Station Antenna Environmental Compliance	
ETSI EN300019-1-1 for storage	Class 1.2
ETSI EN300019-1-2 for transportation	Class 2.3
ETSI EN300019-1-4 for environmental conditions	Class 4.1E
Cold Temperatur Survival [°C]	-40 (-40 °F)
Hot Temperature Survival [°C]	+60 (+140 °F)

Accessories	Part No.
Fixed Mounting Bracket (1pcs)	KIT-000014
Tilt Mounting Bracket (1pcs)	KIT-000015

Part Numbers/Ordering	Part No.
6-Port, 65 Degree UB Antenna	P6T2BF01-V1

Network planning files, RET configurations files and data sheet in NGMN XML-format is available on request: *FWLSALES@FILTRONIC.COM*

All specifications are subject to change without notice. Revised: May 16th, 2014

ISO 9001
ISO 14001

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